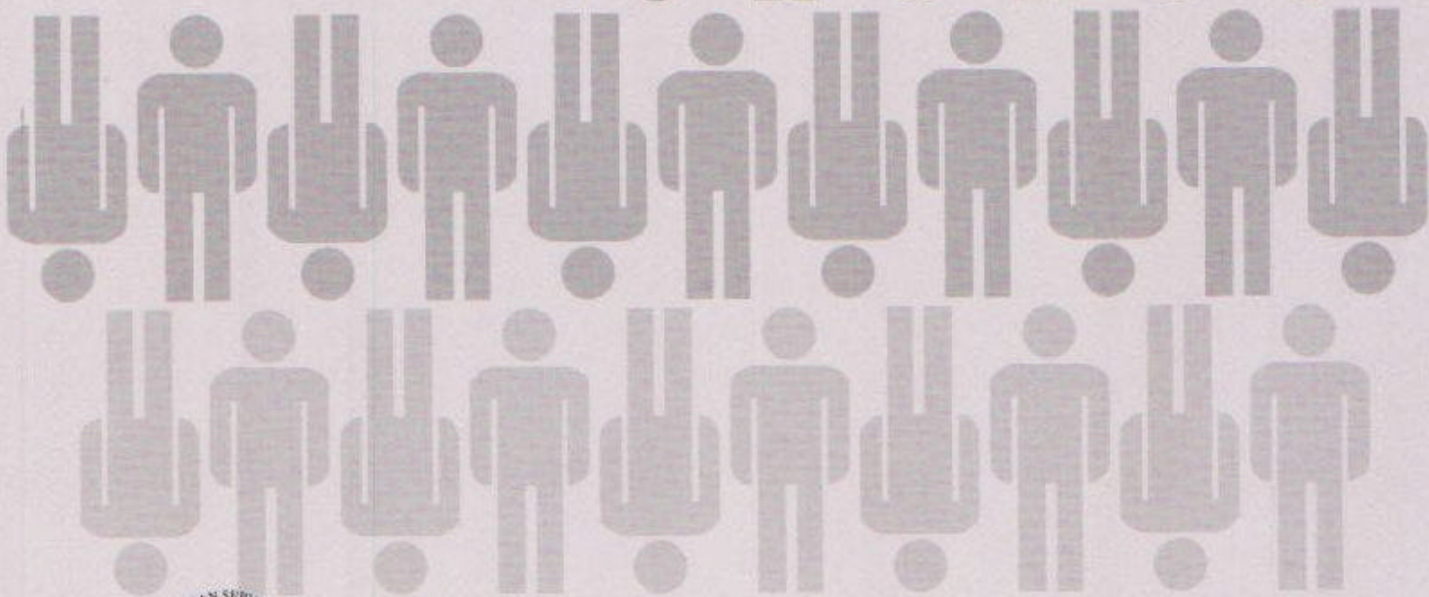


NIOSH

Occupational Mortality in Washington State 1950-1989



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

CDC
CENTERS FOR DISEASE CONTROL
AND PREVENTION

OCCUPATIONAL MORTALITY IN WASHINGTON STATE

1950-1989

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ABSTRACT

The occupational and cause-of-death information on 588,090 Washington State male deaths for 1950-1989 and 88,071 female deaths for 1974-1989 was analyzed using an age and year-of-death standardized proportionate mortality ratio program. A detailed cause-of-death analysis (161 causes) is published for each of 219 occupational categories for males and for each of 68 occupational categories for females.

The occupational mortality findings are compared with those of the Registrar General and with the published occupational mortality literature. The Washington State mortality pattern is, in general, consistent with both the Registrar General's results and with the published literature. Some of the new occupational mortality findings published in the 1950-1971 report and in the updated version have been confirmed.

The previous finding of a leukemia increase in workers exposed to electric and magnetic fields is confirmed in this report.

Acknowledgement:

This series of studies spanning 20 years was made possible only with the help and hard work of many people. I, therefore, would like to personally thank all those who helped me.

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Introduction

This study is the second update of *Occupational Mortality in Washington State, 1950-1971*, originally published by NIOSH in 1976 (1). The first update published in 1983 covered the years 1950-1979 (2). This study covers 588,090 white male deaths 1950-1989 and 88,071 white female deaths 1974-1989, exclusive of 134,569 housewives.

One new table (Table 4) has been added to this report. It is a table of female mortality by cause in the same format as male mortality by cause (Table 3). These tables rank occupations by Proportionate Mortality Ratio (PMR) for each cause of death. Table 4 in the 1950-1979 update which listed significant causes of death within each occupation has been eliminated, since the same information is available in Table 1.

This study had its beginnings in a case control study (3) of Hodgkin's disease which used the upstate New York death record file for occupational and cause of death information. The study showed an excess of woodworking occupations in the Hodgkin's disease group as compared to matched controls. When an interview study (4) and a population-based study (5) confirmed this finding, I decided to examine the occupational pattern in other selected cause of death groupings. An unpublished case-control study of male bladder cancer death certificates in Washington State was able to identify the same occupations with increased risk as previous clinical and interview studies (6-9). Also, a study (10) of leukemia death certificates in Washington State and Oregon was able to confirm and extend a previously reported (11) association of leukemia with farming occupations.

The accuracy and completeness of the death certificate occupational statement on the Washington State death certificate was seen to be quite good. The occupational item on the death certificate asks for "Usual occupation during most of lifetime" (Exhibit 1, item 13a). Over 97% of adult male death certificates contained a usable occupation statement, i.e., only 3% had a blank or "retired" or "unknown" in the item 13a space. The death record industrial statement was too poorly reported for use.

The accuracy of death certificate occupational statements was examined for three different cancers. For men dying of Hodgkin's disease (4) and urinary bladder cancer, interviews with next of kin indicated that the death certificate occupational statement was identical to that obtained by interview in 75% of cases, gave a related occupation in 10% of cases, and was completely different in only 15% of cases. An example of "related" occupational statements is "plywood mill worker" vs "millworker."

In a study of community arsenic exposure near a copper smelter (12), county death records alone were able to identify 24 of 25 smelter workers dying of bronchogenic carcinoma. Ascertainment of bronchogenic carcinoma records yielded only one more death, an out of county resident. Of 100 Boeing engineers' deaths ascertained through union records, 98 were coded to the Boeing engineer category.

With this experience and confidence in the occupational information on the Washington State death record, I thought it appropriate to examine the mortality pattern for all occupational groups. The rationale behind this approach was that new occupational/cause of death associations would be revealed and could be followed up in cohort studies. The great appeal of identifying specific occupational causes of mortality is that, technically, all are preventable by environmental manipulation.

The decision to update the file now was based on a number of facts:

1. Death records for all male deaths had been routinely coded to occupation in this office, starting with 1972 deaths. Female deaths had also been coded to occupation starting with 1974 deaths.

2. A number of findings of the 1950-1971 study had been substantiated in population based studies (13-15).
3. The 1950-1971 and 1950-1979 tables had proven useful in a number of areas, but were not as current as was possible.
4. NIOSH was working with various states to promote this sort of analysis and expressed an interest in supporting a second update of this study.
5. Since 40 consecutive years of data were present, I hoped that time trends in occupational mortality would now be discernable. The large increase (158,000 male deaths) in file size had also made it possible to check on earlier findings based on small numbers of deaths.
6. I wanted to do a final update and analysis before I retired.

This report is made up of four sets of tables:

Table 1 Male mortality by occupation

Table 2 Female mortality by occupation

Table 3 Male occupations ranked by PMR within selected causes of death

Table 4 Female occupations ranked by PMR within selected causes of death

The tabular format has been changed in that mortality is now shown for two 13 year periods and one 14 year period: 1950-1962, 1963-1975, and 1976-1989.

Method

Punch cards containing death record information were available for the years 1950-1971. Death certificate numbers of all male resident deaths in Washington State, age 20+, for the years 1950-1971 were listed in certificate number order within year of death. The death record occupation statements were abstracted and coded using a modification of the 1960 U.S. Census Bureau code (Exhibit 2). The death certificate numbers and the occupation codes were keyed into a deck of cards and these cards were then matched to the original death cards on year and death certificate number. For matching cards, the occupation code was punched into the initial death card. Non-matches were resolved clerically. The completed cards were read onto magnetic tape.

For male deaths 1972-1986 and female deaths 1974-1986, occupation was manually coded routinely on a monthly basis and added to the ordinarily prepared computer record of death. These records were added to the existing 1950-1971 file. Occupational and industry literals were keyed in the death records from 1987-1989 and were computer coded since then with a manual backup.

Since the study period included two International Classification of Diseases code changes, ninth and eighth revision codes were translated to seventh revision codes with a translation table. The causes of death given in this study are according to the seventh revision ICD codes with one exception; Acquired Immune Deficiency Syndrome (AIDs) is 9th ICD numbers 042-044 starting with 1987 deaths. In the years 1983-1986, AIDs was coded to 9th ICD 279.1, deficiency of cell-mediated immunity

Since non-white deaths made up less than 3% of the total file, they were omitted from the basic tables of this study, for the sake of homogeneity. All tables presented are for white deaths only. Out of state resident deaths were also eliminated from the file.

A computer program which performed an age and year of death standardized PMR analysis was written and run (see Exhibit 3). For each occupation, observed and expected deaths and a PMR are presented by detailed cause of death, grouped years of death, and age. Expected deaths are generated for each year of the study based on that year's mortality experience. Expectations are then summed over years of death into the appropriate cells of the table. Expected deaths are, therefore, specific for five-year age classes as well as year of death.

Expected death frequencies are rounded to the nearest whole number before printing; however, exact fractional expected frequencies are totaled into grouped years and grouped ages, so that these totals may be slightly different than the sum of the expected frequencies by five-year age classes. A minus sign (-) is printed for PMR values generated by division by an expected value less than one (to avoid large meaningless PMRs). An asterisk (*) after a PMR value indicates that the observed and expected values for that PMR are significantly different at the 5% level (χ^2 3.84; p .05). A double asterisk (**) indicates that the observed and expected deaths are significantly different at the 1% level (χ^2 6.64; p .01). PMRs are calculated using exact expected values. Statistical testing was done only on observed values of six or greater and in the grouped years of death and age 20-64 columns. Cause of death lines are printed only if there is an observed or expected death.

The occupation code used in the 1950-1971 study was refined to eliminate as much misclassification as possible. For example, telephone installers and repairmen were separated from telephone linemen, and body and fender repairmen were separated from automobile mechanics and repairmen.

For the years 1988-1989, a smoking question has been asked on the Washington state death certificate. The question asks whether the decedent smoked in the 15 years prior to death. It is answered with a yes or no. This information is used in the interpretation of the results, to help sort out the contribution of smoking to mortality by occupation. For comparison figures, the all male smoking prevalence is 46.3%, while the all female smoking prevalence is 29.7%.

In generating the female mortality tables, female specific causes of death were added. Since the housewives rubric (908) is so large (134,569 deaths), female PMRs were run without the housewives rubric. A mortality table for housewives is available on request.

The major flaw of the PMR is that it says nothing about total force of mortality for a given occupation (see Exhibit 3 for PMR calculation). All occupations have a total PMR of 100. Also, since the cause of death specific PMRs must sum to 100, a very high or low PMR in a common cause of death group will affect the other PMRs for that occupation. Although the method has had numerous critics, I know of no body of data which has been able to discredit the PMR method by systematic comparison with denominator-based statistics. In one case in which such testing was done (16), the PMR seemed to accurately reflect the mortality pattern derived using a population-based statistic [standardized mortality ratio (SMR)].

Results

The basic occupational mortality data are found in the accompanying four sets of tables: Table 1, Male Mortality; Table 2, Female Mortality; Table 3, Occupations Ranked by PMR within each Cause of Death for males; and Table 4, Occupations Ranked by PMR within each Cause of Death for females.

The male and female mortality tables (Tables 1 and 2) are presented in occupation code number order (see Exhibit 2) and the commentary is in the same order. The listing in Exhibit 4 indicates how individual occupations are grouped for analysis. The commentary for Tables 3 and 4 is in cause of death order (7th ICD).

It is reassuring that all the intuitive or well-known occupational mortality associations show up in this study: airplane pilots die in plane crashes, loggers are struck by falling objects, roofers fall, telephone and power linemen are electrocuted, etc.

The associations between cause of death and occupation seen in this study are statistical associations. Some will, of course, be chance associations, but many will be real. These associations are clues or starting points for more definitive studies.

The commentary reflects the author's biases, and it is possible that different inferences may be drawn from the same data by others.

Commentary on Table 1 (Male Mortality, 1950-1989)

This commentary consists of a description of the mortality pattern seen in each of the occupation groupings and compares this pattern to what has been published by the Registrar General (17) for the same occupation group. Frequently, comparison is impossible because of lack of occupation code comparability or because of difference in cause of death groupings. Where other published work is applicable it is cited. Occupation groups with less than 200 deaths are not described unless an interesting mortality pattern or known occupational hazard exists. A few groups with more than 200 deaths are not described, if the mortality pattern is not unusual and no known occupational hazard exists. Unless specified, the PMRs described are for the entire study period (1950-1989).

Accountants, Auditors, and Assessors

Occupation Code 000

Total Deaths 5,461

AIDs has a PMR of 304 based on 16 deaths since 1987. Cancers of the esophagus, large intestine, gallbladder, and liver show significant mortality increases as does malignant melanoma. Asthma, diseases of other endocrine glands, avitaminoses, diseases of blood forming organs, cerebral embolism and thrombosis, multiple sclerosis, amyotrophic lateral sclerosis (ALS), chronic rheumatic heart disease, bronchiectasis and nephritis also show significant excess deaths.

Airplane Pilots and Navigators

Occupation Code 012

Total Deaths 762

Significant excess deaths are seen for cancers of the rectum and kidney. The kidney cancer excess is supported by a study of Canadian airline pilots (18). Death due to aircraft accidents (239 observed to 9 expected) had a PMR of over 2600. A similar excess is seen in the Registrar General's data. Connective tissue cancers and leukemia also show nonsignificant PMR increases. Pilots and plane crews are exposed to cosmic radiation, especially at high altitudes in the northern hemisphere (19).

Architects

Occupation Code 013

Total Deaths 625

AIDs, multiple myeloma, chronic rheumatic heart disease, paralysis agitans, and accidental falls show mortality increases based on small numbers of deaths.

Artists and Art Teachers

Occupation Code 014

Total Deaths 636

Elevated PMRs are seen for AIDs, lymphosarcoma, multiple sclerosis, cirrhosis of the liver, and suicide. A 1985 study of artistic artists (20) does not closely match this mortality pattern.

Commentary on Table 1 (Male Mortality, 1950-1989)

Chemists

Occupation Code 021

Total Deaths 396

The mortality increase due to pancreatic cancer seen in deaths before 1975 is not seen in 1976-1989. Cancer of the colon has a significant increase in men age 20-64. The other lymphoma, myeloma and leukemia rubrics show small number nonsignificant PMR increases. Deaths due to accidental falls are increased.

The American Chemical Society study (21) showed increased mortality from cancer of the pancreas and malignant lymphoma. A study of Swedish chemistry graduates (22) showed excess mortality due to lymphatic and hematopoietic cancers and malignant brain tumors. A study of Dupont chemists (23) showed an SMR of 50 for all malignant neoplasms, but cancer of the intestine, Hodgkin's disease, and leukemia had SMRs >100.

Chiropractors

Occupation Code 022

Total Deaths 245

Rectal cancer and hypertensive disease have excess deaths.

Clergymen

Occupation Code 023

Total deaths 2,926

Very low PMRs are seen for lung cancer, respiratory diseases and cirrhosis of the liver, reflecting abstinence from alcohol and tobacco. Significant excess deaths are seen for cancer of the large intestine, malignant melanoma of skin, malignant brain tumors, lymphosarcoma and reticulosarcoma, Hodgkin's disease, the other lymphomas, and multiple myeloma, Diabetes mellitus, diseases of the blood forming organs; diseases of the circulatory system, diseases of veins, pulmonary embolism and bronchiectasis, all show significantly elevated PMRs.

A cohort study of Lutheran ministers (24) and studies of Catholic priests (25, 26) support this pattern. The Catholic priests also show an SMR increase for malignant melanoma.

Professors and Instructors

Occupation Code 060

Total Deaths 1,221

Malignant neoplasms of large intestine, malignant melanoma, reticulosarcoma, other lymphomas, multiple myeloma, tumors of brain, cerebral embolisms and thrombosis, paralysis agitans, chronic rheumatic heart disease, infections of the kidney and suicide have elevated PMRs. Lung cancer has a low PMR of 53.

Commentary on Table 1 (Male Mortality, 1950-1989)

Dentists

Occupation Code 071

Total Deaths 1,264

Significant PMR elevations are seen for cancer of the pancreas, lymphomas, aircraft accidents, and suicide. The suicide excess has been reported elsewhere (27), and is seen in the Registrar General's data.

Draftsmen

Occupation Code 074

Total Deaths 502

Increased mortality is seen for diabetes mellitus and multiple sclerosis.

Newspaper Owners, Publishers, and Managers

Occupation Code 076

Total Deaths 584

Lymphosarcoma has a significantly elevated PMR based on 6 deaths.

Aeronautical Engineers

Occupation Code 080

Total Deaths 2,051

Most of these men are employed by the Boeing Company in Seattle. There are significant PMR excesses for the following cancers: large intestine, prostate, testis, brain, the other lymphomas, multiple myeloma, and acute leukemia. Subarachnoid hemorrhage, ALS, and aircraft accidents also show significant PMR elevations. The ALS excess is particularly interesting in that the two other Boeing occupational groups

[Boeing workers, occupation code 557 and Aircraft Mechanics and Repairmen, occupation code 471] have significantly elevated ALS PMRs.

Lung cancer, cirrhosis of the liver and non-malignant respiratory diseases have low PMRs.

Chemical Engineers

Occupation Code 081

Total Deaths 203

Cancer of the pancreas has a PMR of 281 based on 7 deaths. Chemical company workers (occupational code 985) also show a pancreatic cancer increase (PMR=208 based on 17 deaths). Chemists (occupational code 021) showed a pancreas cancer excess in deaths 1950-1975. Brain cancer has a PMR of 308 based on 4 deaths.

Civil Engineers

Occupation Code 082

Total Deaths 2,010

Cancer of the large intestine and the other lymphomas have elevated PMRs. The lymphosarcoma/reticulosarcoma rubric also has a significant PMR elevation for men age 20-64.

Commentary on Table 1 (Male Mortality, 1950-1989)

Electrical Engineers Occupation Code 083 Total Deaths 1,312

Malignant neoplasms of prostate, malignant melanoma, the other lymphomas (age 20-64), multiple myeloma, asthma and aircraft accidents have significantly elevated PMRs.

Mechanical Engineers Occupation Code 085 Total Deaths 621

Cancer of the pancreas has a PMR of 241 based on 17 deaths. Malignant tumors of the brain and aircraft accidents also show increased mortality.

Marine Engineers Occupation Code 086 Total Deaths 846

Cancers of esophagus, liver (secondary and unspecified) and lung have PMR increases. Cirrhosis of the liver (age 20-64) has a PMR of 258 based on 6 deaths. Asbestosis has a very high PMR based on 4 deaths, suggesting that some of these men were employed at Puget Sound Naval Shipyard.

Mining Engineers Occupation Code 091 Total Deaths 323

Cancer of the large intestine has an elevated PMR, while lung cancer has a low PMR. Nonmalignant respiratory diseases, including emphysema without bronchitis, and pneumonia have excess deaths suggesting that occupational exposures, not cigarette smoking are responsible for respiratory diseases in these men. This is supported by the fact that mining engineers' smoking prevalence from 1988-1990 was 37.5%, compared to a smoking prevalence of 46.7% for all men.

Engineers NEC Occupation Code 093 Total Deaths 4,609

Cancers of oral mesopharynx, esophagus (age 20-64), large intestine, and brain have elevated PMRs. Malignant melanoma, lymphosarcoma (age 20-64), benign neoplasms, ulcer of duodenum, and aircraft accidents also have excess deaths.

Construction Engineers Occupation Code 094 Total Deaths 526

Chronic rheumatic heart disease and construction accidents have increased deaths.

Commentary on Table 1 (Male Mortality, 1950-1989)

Operating Engineers Occupation Code 096 Total Deaths 1,437

Lung cancer, the other lymphomas, and motor vehicle accidents have excess deaths.

Foresters and Conservationists Occupation Code 103 Total Deaths

The total malignant neoplasm excess seen in deaths 1950-1975 is not seen in deaths since 1976. Cancer of the prostate (1976-1989), reticulum cell sarcoma and acute leukemia have PMR increases based on small numbers of deaths. The reticulum cell sarcoma increase is supported by a non-Hodgkin's lymphoma increase in forest and soil conservationists (28).

Funeral Directors and Embalmers Occupation Code 104 Total Deaths 449

These men have a leukemia PMR of 305 based on 11 deaths. This is supported by a study of mortality in Ontario undertakers (29) and California embalmers (30). The PMR for deaths due to psychoses is 458 based on 5 deaths. No PMR increase is seen for malignant or non-malignant respiratory diseases, suggesting that the high concentrations of formaldehyde that these men inhale do not cause cancers or damage to the respiratory tract.

Lawyers and Judges Occupation Code 105 Total Deaths 2,349

AIDs has a PMR of 217 based on 9 deaths since 1987. Cancers of the pharynx, malignant melanoma (1976-1989), brain cancer, Hodgkin's disease and myeloid leukemia have significantly elevated PMRs. Paralysis agitans, chronic rheumatic heart disease, hyperplasia of the prostate and aircraft accidents also show significant PMR increases.

Musicians and Music Teachers Occupation Code 120 Total Deaths 1,283

Cancers of the buccal cavity and pharynx, cirrhosis of the liver and diseases of the pancreas, diseases associated with alcohol ingestion have elevated PMRs. Homicide also shows significant PMR increase.

Pharmacists and Druggists Occupation Code 160 Total Deaths 1,504

AIDs has a PMR of 361 based on 4 deaths. The other lymphoma category, leukemia (age 20-64) and acute pancreatitis have PMR increases. The acute pancreatitis is probably not due to alcohol ingestion since the cirrhosis PMR is low.

Commentary on Table 1 (Male Mortality, 1950-1989)

Photographers
Occupation Code 161
Total Deaths 748

Multiple myeloma and diseases of the blood forming organs have significantly elevated PMRs.

Physicians
Occupation Code 162
Total Deaths 2,195

The mortality pattern for physicians is changing over time. Colon cancer which had an elevated PMR before 1976 has a normal PMR since then. Cancers of the liver, lymphatic and hematopoietic tissues, the other lymphomas, myeloid and acute leukemias all have PMR increases in deaths since 1976. Diseases of the blood forming organs, paralysis agitans, aircraft accidents and suicide have PMR increases. The Registrar General's study supports the PMR increase for the lymphatic and hematopoietic tissue cancers and the suicide increase. Other studies support the suicide increase (31, 32).

Statisticians, Actuaries, Analysts, and Computer Programmers
Occupation Code 174
Total Deaths 480

The makeup of this group has shifted to a higher proportion of computer programmers among recent deaths. AIDs has a significant PMR increase based on 10 deaths. Malignant melanoma, the lymphatic and hematopoietic tissues, lymphosarcoma and reticulosarcoma, leukemia and acute leukemia have significant PMR increases.

Surveyors
Occupation Code 181
Total Deaths 502

Malignant neoplasms of the buccal cavity, pharynx, and pancreas (age 20-64) have elevated PMRs.

School Teachers
Occupation Code 184
Total Deaths 4,600

AIDs has a PMR of 296 based on 20 deaths. Malignant neoplasms of large intestine, pleura, prostate, malignant melanoma, brain tumors, and lymphatic and hematopoietic tissues malignancies have elevated PMRs. Lymphosarcoma, Hodgkin's disease, other lymphomas, multiple myeloma and leukemia all have significantly elevated PMRs. Benign neoplasms, vascular lesions of CNS, paralysis agitans, ASHD, and chronic nephritis (age 20-64) have excess deaths. Malignant and nonmalignant respiratory diseases and accidents have very low PMRs. The leukemia and melanoma increases are supported in the Registrar General's data.

Medical and Dental Technicians
Occupation Code 185
Total Deaths 488

Infective and parasitic diseases, cancer of the pancreas and cirrhosis of the liver without alcoholism have PMR elevations.

Commentary on Table 1 (Male Mortality, 1950-1989)

Electrical and Electronic Technicians

Occupation Code 190

Total Deaths 905

Malignant melanoma, brain cancer (age 20-64), ASHD and suicide (age 20-64) have significantly elevated PMRs.

Veterinarians

Occupation Code 194

Total Deaths 289

Malignant neoplasms of the large intestine, leukemia and suicide have excess deaths. A PMR study of US veterinarians supports this pattern (33).

Students (20 and over)

Occupation Code 196

Total Deaths 1,868

Tuberculosis, cancers of the testis, brain, bone connective tissue, Hodgkin's disease, acute leukemia, multiple sclerosis, accidental falls, and suicide have PMR increases. Clusters of Hodgkin's disease have been reported in high school students (34).

Farmers NEC

Occupation Code 200

Total Deaths 37,168

Very low PMRs are seen for respiratory cancers and cirrhosis of the liver. Stomach cancer, multiple myeloma, lymphatic leukemia, and diabetes mellitus have PMR increases. Rheumatoid arthritis, motor vehicle and machinery accidents at work have elevated PMRs. Electrocution deaths are in excess due to metal irrigation pipes coming in contact with overhead power lines while being moved (35). The other mortality findings in farmers are supported by US studies (10, 36, 37).

Orchardists

Occupation Code 201

Total Deaths 4,301

Cancers of the lung, urinary bladder and lymphosarcoma (age 20-64) have increased PMRs. The lung cancer increase is interesting, since the other farming rubrics show low PMRs. The non-malignant respiratory disease PMRs are low, suggesting that cigarette smoking is not the cause of the lung cancer increase. Until 1940, lead arsenate insecticides were used heavily in orchards. Lung cancer is increased in workers who manufacture arsenical-based pesticides (38, 39). Orchardists have a smoking prevalence of 36.7%, as compared to a prevalence of 46.3% for all men.

Cerebral embolism and thrombosis, ASHD, diseases of the skin, aircraft and machinery accidents also show mortality increases.

Commentary on Table 1 (Male Mortality, 1950-1989)

Nurserymen

Occupation Code 202

Total Deaths 691

Pancreatic cancers show a mortality increase. Tuberculosis PMRs are elevated, but there have been no TB deaths since 1975.

Ranchers (cattle, sheep, etc.)

Occupation Code 203

Total Deaths 5,128

Prostate and kidney cancer have increased PMRs, but mortality due to these causes has not been increased since 1976.

Leukemia and acute leukemia (age 20-64), chronic bronchitis, motor vehicle and work related accidents also have PMR increases.

Dairy Farmers

Occupation Code 204

Total Deaths 3,704

Stomach cancer, multiple myeloma, ASHD, and machinery related accidents have elevated PMRs.

Wheat and Grain Farmers

Occupation Code 205

Total Deaths 4,985

A number of causes of death with mortality increases have had no deaths or low PMRs since 1976, suggesting that these mortality patterns have changed. These causes are: cancers of the testis and kidney, ulcerative colitis and hyperplasia of prostate. Lymphatic leukemia, cerebral hemorrhage, motor vehicle, aircraft, and machinery accidents have elevated PMRs.

Egg and Poultry Farmers and Distributors

Occupation Code 206

Total Deaths 906

The leukemia PMR elevations seen in earlier years are not present since 1975.

Florists

Occupation Code 249

Total Deaths 494

These men have an AIDs PMR of 664 based on 8 deaths since 1987. Malignant neoplasms of rectum and acute leukemia also have PMR elevations.

Commentary on Table 1 (Male Mortality, 1950-1989)

Store Buyers and Department Heads

Occupation Code 250

Total Deaths 597

Leukemia and paralysis agitans have increased deaths.

Railroad Conductors

Occupation Code 252

Total Deaths 1,338

Tumors of the buccal cavity and pharynx, large intestine (age 20-64), lung (age 20-64), prostate and kidney have high PMRs. The kidney cancer PMR is reduced in the time period 1976-1989. Railroad accidents are also increased, as expected.

Credit Men

Occupation Code 253

Total Deaths 488

Brain cancer, malignant lymphoma, leukemia, and cerebral embolism and thrombosis have elevated PMRs.

City and Civil Service Employees

Occupation Code 255

Total Deaths 3,911

Cancer of the large intestine, cancer of the pancreas, diabetes mellitus, and appendicitis have elevated PMRs.

Ships' Officers, Pilots, Pursers, and Engineers

Occupation Code 265

Total Deaths 1,607

Cancers of the stomach and prostate have elevated PMRs. In the time period 1976-1989, the lymphosarcoma/reticulosarcoma PMR is 400 based on 7 deaths. Hypertensive disease and intestinal obstruction show excess deaths, but the hypertensive disease PMR has not been increased since 1975.

Public Administrators and Officials NEC

Occupation Code 270

Total Deaths 1,346

Malignant neoplasms of rectum and pancreas, malignant melanoma of skin and coronary heart disease have elevated mortality.

Lodge/Society/Union Officials

Occupation Code 275

Total Deaths 1,011

Myeloid leukemia has a PMR of 355 based on 6 deaths, but there have been no deaths since 1975.

Commentary on Table 1 (Male Mortality, 1950-1989)

Postmasters
Occupation Code 280
Total Deaths 701

PMRs are elevated for malignant neoplasm of prostate, lymphosarcoma and myeloid leukemia.

Purchasing Agents and Buyers NEC, Sales Managers
Occupation Code 285
Total Deaths 1,796

Cancers of the large intestine, malignant melanoma, connective tissue cancers, leukemia, diseases of the blood forming organs, ASHD, diseases of the pancreas and aircraft accidents show increased deaths.

Managers, Officials, and Proprietors NEC
Occupation Code 290
Total Deaths 12,638

Cancers of the large intestine, rectum, pancreas, testis, and brain have significantly elevated PMRs. Lymphatic, myeloid and acute leukemia as well as diseases of blood forming organs, amyotrophic lateral sclerosis and aircraft accidents all have elevated mortality.

Gas Station/Garage Owners and Attendants
Occupation Code 291
Total Deaths 3,742

The diabetes and duodenal ulcer PMR increases seen previously are not present in the 1976-1989 time period. Monocytic leukemia has a PMR of 308 based on 5 deaths. ASHD has a significant PMR increase.

Lumber Company Managers, Owners, and Workers
Occupation Code 292
Total Deaths 1,661

Elevated PMRs are seen for malignant neoplasms of buccal cavity and pharynx, myeloid leukemia, cerebral hemorrhage, and ASHD.

Boeing Officials, Managers, and Supervisors
Occupation Code 294
Total Deaths 1,450

Urinary bladder cancer, lymphosarcoma, myeloid and acute leukemia and aircraft accidents have PMR increases.

Fuel Oil Dealers and Workers
Occupation Code 295
Total Deaths 2,171

The other lymphoma rubric, paralysis agitans, and silicosis have high PMRs.

Commentary on Table 1 (Male Mortality, 1950-1989)

Furniture Store Owners, Managers, and Clerks

Occupation Code 297

Total Deaths 1,077

Cancers of biliary passages and liver, leukemia, diabetes mellitus, and chronic rheumatic heart disease (before 1976) have elevated PMRs.

Grocers and Grocery Clerks

Occupation Code 298

Total Deaths 5,562

Cancer of the bone (before 1976), cerebral hemorrhage, and coronary heart disease have slightly elevated PMRs. Homicide shows no mortality excess after 1975.

Bankers, Bank Clerks, and Managers

Occupation Code 305

Total Deaths 2,170

AIDs has a PMR of 303 based on 9 deaths. Cancers of esophagus, large intestine, prostate, testis, brain, malignant melanoma, connective tissue cancer, Hodgkin's disease, lymphatic and acute leukemia all have high PMRs.

Bookkeepers, Cashiers, and Payroll Clerks

Occupation Code 310

Total Deaths 1,612

Cancers of buccal cavity and pharynx, lymphosarcoma, avitaminoses and metabolic diseases, diseases of the respiratory system, and suicide have increased mortality. There are excess deaths ascribed to tuberculosis and old poliomyelitis, and to non-malignant respiratory diseases, suggesting self-selection into this occupation of chronically ill men.

Vehicle Dispatchers and Starters and Traffic Managers

Occupation Code 314

Total Deaths 1,128

Cancer of the stomach (age 20-64), cerebral embolism and thrombosis and coronary heart disease have increased deaths.

Mail Carriers

Occupation Code 323

Total Deaths 1,904

Cancer of the prostate, urinary bladder (age 20-64), and hypertensive disease (age 20-64) have elevated PMRs.

Commentary on Table 1 (Male Mortality, 1950-1989)

Postal Clerks

Occupation Code 340

Total Deaths 2,123

Cancer of the small intestine, lymphosarcoma and reticulosarcoma, and multiple myeloma have elevated PMRs. Disease of blood forming organs (aplastic anemia) and hyperplasia of the prostate (before 1976) also have increased PMRs.

Shipping and Receiving Clerks

Occupation Code 343

Total Deaths 1,182

Intestinal obstruction, duodenal ulcer, and chronic interstitial pneumonia had PMR elevations before 1976, but not afterwards.

Stock Clerks and Storekeepers

Occupation Code 350

Total Deaths 1,609

Cancer of the large intestine, lung (age 20-64) malignant melanoma and asthma have increased PMRs.

Telegraph and Radio Operators

Occupation Code 352

Total Deaths 805

Cancers of the buccal cavity and pharynx and cirrhosis of the liver, diseases associated with alcoholism, have increased PMRs. Hodgkin's disease and the other lymphomas have PMR increases also.

Ticket, Station, Express, and Travel Agents

Occupation Code 354

Total Deaths 1,102

Hypertensive disease (before 1976), chronic bronchitis and bronchitis with emphysema have elevated PMRs.

Railroad Clerks

Occupation Code 361

Total Deaths 1,198

The brain cancer PMR is quite high, but there have been no deaths since 1971. Other diseases of the lung have an increased PMR.

Boeing Clerks

Occupation Code 362

Total Deaths 320

Cerebral embolism and thrombosis have a PMR increase.

Commentary on Table 1 (Male Mortality, 1950-1989)

Public Utility Workers

Occupation Code 363

Total Deaths 2,164

The unspecified leukemia category and accidental electrocution have PMRs over 250 based on 4 deaths in each group.

Public Utility Supervisors and Officials

Occupation Code 364

Total Deaths 1,438

Cancers of large intestine, brain, leukemia, and acute leukemia, ASHD, and accidental electrocution have significantly elevated PMRs.

Clerks NEC

Occupation Code 370

Total Deaths 1,619

AIDs, malignant neoplasms of buccal cavity and pharynx, malignant neoplasm of lymphatic and hematopoietic tissues; diabetes (age 20-64), psychoses and emphysema without bronchitis show increased mortality.

Traveling Salesmen and Sales Representatives

Occupation Code 380

Total Deaths 6,732

Malignant neoplasms of the floor of the mouth, testis, kidney, urinary bladder, connective tissue, reticulum cell sarcoma, Hodgkin's disease, the other lymphomas, ulcerative colitis, and falls from ladders have elevated mortality.

Lumber Salesmen

Occupation Code 384

Total Deaths 585

Cancer of the large intestine has an increased PMR.

Insurance Agents, Brokers, Underwriters, Appraisers

Occupation Code 385

Total Deaths 3,966

Malignant neoplasms of small intestine, rectum, prostate, brain, and bone have PMR elevations. Malignant melanoma, multiple sclerosis, duodenal ulcer, cholelithiasis and falls on the same level also show excess deaths.

Car Salesmen

Occupation Code 386

Total Deaths 2,880

Cancer of testis, reticulum cell sarcoma, diabetes mellitus, ASHD, and aircraft accidents have raised PMRs.

Commentary on Table 1 (Male Mortality, 1950-1989)

Newsboys

Occupation Code 390

Total Deaths 271

Hypertensive disease (1950-1975) and motor vehicle accidents have increased deaths.

Real Estate Agents, Brokers, Developers, Appraisers

Occupation Code 393

Total Deaths 5,319

Cancer of the tongue and kidney, lymphosarcoma, multiple myeloma, diabetes mellitus, ASHD, and aircraft accidents have high PMRs.

Stocks and Bonds Salesmen

Occupation Code 395

Total Deaths 592

Paralysis agitans has a high PMR (456 based on 9 deaths), as does aircraft accidents.

Sales Clerks NEC

Occupation Code 396

Total Deaths 6,946

AIDs has a PMR of 245 based on 13 deaths. Cancers of the buccal cavity and pharynx, biliary passages and liver, larynx, acute leukemia, chronic rheumatic heart disease and cirrhosis of the liver have excess mortality.

Carpet Makers and Layers

Occupation Code 400

Total Deaths 277

Suicide (age 20-64) and aircraft accidents have elevated mortality ratios.

Bakers

Occupation Code 401

Total Deaths 1,881

Cancers of buccal cavity and pharynx, diabetes mellitus, psychoses, hernia of abdominal cavity, and senility and ill defined diseases have elevated PMRs.

Blacksmiths

Occupation Code 402

Total Deaths 1,412

Only 182 of 1412 (12.8%) of deaths occurred in the 1976-1989 time period and nearly half of the blacksmiths were age 80+ at death. Elevated PMRs are seen for cancers of esophagus, large intestine, other diseases of heart, hypertensive disease and suicide.

Commentary on Table 1 (Male Mortality, 1950-1989)

Boilermakers

Occupation Code 403

Total Deaths 1,963

Pulmonary tuberculosis, lung cancer, pulmonary emphysema, cirrhosis of the liver, asbestosis, and silicosis have increased PMRs. Accidental falls also have increased deaths. A cohort mortality study of a boilermakers' union in this state supports these findings (40).

Brickmasons, Stonemasons, and Tile Setters

Occupation Code 405

Total Deaths 2,079

Cancer of the stomach, lung, bone, avitaminoses and metabolic diseases, non-malignant respiratory diseases, motor vehicle accidents and accidental falls have increased deaths. The lung cancer excess is seen in the Registrar General's data.

Building and Construction Contractors and Foremen

Occupation Code 406

Total Deaths 6,407

Cancers of stomach, small intestine, pleura, multiple myeloma, lymphatic leukemia (age 20-64), myeloid leukemia, aircraft accidents, falls, machinery accidents, and electrocution all have high PMRs.

Boatbuilders

Occupation Code 407

Total Deaths 565

Stomach cancer has a high PMR.

Cabinetmakers

Occupation Code 410

Total Deaths 1,734

Stomach cancer, malignant melanoma, and ALS have PMR elevations.

Carpenters

Occupation Code 411

Total Deaths 21,861

Cancer of the floor of the mouth, stomach, Hodgkin's disease (before 1976), monocytic leukemia (age 20-64), emphysema, accidental falls and suicide have significantly elevated PMRs. Accidental falls are increased in the Registrar General's data.

Fabric Workers

Occupation Code 412

Total Deaths 489

Chronic rheumatic heart disease (before 1976) showed increased deaths.

Commentary on Table 1 (Male Mortality, 1950-1989)

Cement and Concrete Finishers

Occupation Code 413

Total Deaths 1,813

Rectal cancer, accidental falls, machinery accidents, electrocution and homicide have PMR elevations. The electrocutions are caused when concrete pumping equipment contacts overhead power lines.

Cranemen, Derrickmen, and Hoistmen

Occupation Code 415

Total Deaths 930

Asthma, falls, machinery accidents and electrocution have high PMRs.

Oil Well Drillers

Occupation Code 416

Total Deaths 272

Infectious diseases and pulmonary emphysema have mortality increases.

Decorators and Window Dressers

Occupation Code 420

Total Deaths 270

Cancers of buccal cavity and pharynx and accidental falls have elevated PMRs.

Electricians

Occupation Code 421

Total Deaths 6,704

Brain Cancer, Hodgkin's disease, acute leukemia, pulmonary emphysema, falls from ladders and electrocutions have increased mortality.

Road Graders, Pavers, Machine Operators and Excavators

Occupation Code 425

Total Deaths 7,266

Lung cancer, subarachnoid hemorrhage, silicosis, and accidents due to motor vehicles, machinery, falling objects, and electrocution show high PMRs.

Water Well Drillers

Occupation Code 426

Total Deaths 385

Malignant brain tumors and work-related accidents have increased deaths.

Commentary on Table 1 (Male Mortality, 1950-1989)

Railroad Foremen
Occupation Code 427
Total Deaths 1,198

Multiple myeloma and railway accidents have elevated PMRs.

Foremen NEC
Occupation Code 430
Total Deaths 956

Cancer of the large intestine, lung, and prostate show mortality increases.

Glaziers
Occupation Code 434
Total Deaths 518

Malignant diseases of the digestive organs has a significant PMR increase, because stomach, large intestine, rectum, liver, and pancreas malignancies all have PMR elevations. Multiple myeloma and acute leukemia also have increased deaths.

Smelter Workers
Occupation Code 435
Total Deaths 1,686

Most of these men were employed at the American Smelting and Refining Company copper smelter in Tacoma, Washington. This smelter specialized in refining arsenic rich copper ores. A population based study (41) in this group of workers corroborates the lung cancer increase seen in these workers and relates it to inhaled arsenic trioxide.

Railroad Inspectors
Occupation Code 447
Total Deaths 459

Asthma, nephritis, and railway accidents have increased mortality.

Inspectors NEC
Occupation Code 450
Total Deaths 875

Cancers of the biliary passages and liver, brain and nervous system and diabetes mellitus have increased deaths.

Jewelers, Watchmakers, Gold and Silversmiths, Locksmiths
Occupation Code 451
Total Deaths 1,381

Cancer of the stomach (1976-1989) intestinal obstruction and accidental falls on the same level have significantly elevated PMRs.

Commentary on Table 1 (Male Mortality, 1950-1989)

Telegraph/Telephone/Power Linemen

Occupation Code 453

Total Deaths 1,594

Cancer of the larynx, the other lymphomas, leukemia, ALS, duodenal ulcer, accidental falls and electrocution have more deaths than expected.

Locomotive Engineers

Occupation Code 454

Total Deaths 2,430

Cancer of the large intestine, ASHD, and railway accidents have elevated PMRs.

Telephone Installers and Repairers

Occupation Code 459

Total Deaths 721

Cancer of large intestine, brain cancer, acute leukemia, and subarachnoid hemorrhage have more deaths than expected.

Locomotive Firemen

Occupation Code 460

Total Deaths 395

Infective and parasitic diseases and paralysis agitans have increased PMRs based on small numbers. With only 85 deaths after 1975, this occupation is being phased out with the disappearance of the steam locomotive.

Manufacturing Workers

Occupation Code 462

Total Deaths 609

Cancer of the large intestine has an increased PMR.

Machinists NEC

Occupation Code 465

Total Deaths 7,708

Primary lung cancer and myeloid leukemia (age 20-64) have more deaths than expected.

Railroad Workers NEC

Occupation Code 469

Total Deaths 6,636

Respiratory tuberculosis, disorders of character, behavior, and intelligence, pneumonia, cirrhosis of the liver, railway accidents caused by fire and explosion have elevated PMRs.

Commentary on Table 1 (Male Mortality, 1950-1989)

Air Conditioning/Heating/Refrigeration Mechanics and Repairmen

Occupation Code 470

Total Deaths 1,058

Suicide has a significantly elevated PMR.

Airplane Mechanics and Repairmen

Occupation Code 471

Total Deaths 1,478

Cancers of the kidney, urinary bladder and brain, as well as Hodgkin's disease show significant PMR excesses. ALS, chronic enteritis, and aircraft accidents also have high PMRs.

Auto Mechanics and Repairmen

Occupation Code 472

Total Deaths 6,417

Lung cancer, diabetes mellitus (age 20-64), subarachnoid hemorrhage, paralysis agitans (age 20-64), emphysema, hyperplasia of prostate, and motor vehicle accidents have increased mortality.

Office Machine Mechanics and Repairmen

Occupation Code 473

Total Deaths 259

Kidney cancer, diseases of veins, and cirrhosis of the liver have excess deaths.

Radio/Television Mechanics and Repairmen

Occupation Code 474

Total Deaths 520

Acute leukemia has a PMR of 268 based on 6 deaths. Pulmonary emphysema and suicide also have high PMRs.

Railroad/Car Shop Mechanics and Repairmen

Occupation Code 475

Total Deaths 1,092

Cancers of stomach, rectum, cerebral embolism and thrombosis, paralysis agitans, ulcer of the stomach and railway accidents have increased mortality.

Tire Recappers and Repairers, and Rubber Welders

Occupation Code 477

Total Deaths 506

Lung cancer and pulmonary emphysema have increased deaths.

Commentary on Table 1 (Male Mortality, 1950-1989)

Body and Fender Repairmen and Auto Painters

Occupation Code 479

Total Deaths 912

Laryngeal cancer, lung cancer, paralysis agitans, diseases of arteries and motor vehicle accidents have elevated PMRs.

Mechanics and Repairmen NEC

Occupation Code 480

Total Deaths 5,798

Lung cancer, myeloid leukemia, subarachnoid hemorrhage, non-malignant respiratory diseases, ulcer of stomach, appendicitis, acute pancreatitis, and machinery related accidents have high PMRs.

Grain/Flour/Feed Mill Workers

Occupation Code 490

Total Deaths 766

Cancer of the rectum and kidney, paralysis agitans, chronic rheumatic heart disease, other diseases of the heart, and accidental falls have excess mortality.

Millwrights

Occupation Code 491

Total Deaths 1,792

Hodgkin's disease, accidental falls, and machinery-related accidents have elevated PMRs.

Metal Molders

Occupation Code 492

Total Deaths 546

Tuberculosis of the respiratory system, non-malignant respiratory diseases, silicosis and cirrhosis of the liver have extra deaths.

Motion Picture Projectionists

Occupation Code 493

Total Deaths 263

Cancer of the pancreas and other diseases of intestine have significant mortality increases.

Paper/Pulp Mill Workers

Occupation Code 500

Total Deaths 5,675

Cancer of gallbladder (age 20-64), prostate (age 20-64), Hodgkin's disease, multiple myeloma, neoplasms of unspecified nature, diseases of the blood forming organs, arteriosclerosis, heart disease and machinery accidents all show increased mortality. This pattern is supported by other studies (42, 43).

Commentary on Table 1 (Male Mortality, 1950-1989)

Paper Hangers and Decorators (Painters)

Occupation Code 501

Total Deaths 947

AIDs has a high PMR based on 8 deaths observed to less than 1 expected. Lung cancer, lymphosarcoma and reticulosarcoma, and ulcer of stomach have elevated PMRs.

Plasterers and Lathers

Occupation Code 505

Total Deaths 1,071

Stomach, lung and pleural cancer have elevated PMRs. Subarachnoid hemorrhage, and emphysema also have excess deaths. The lung and pleural cancer increase may be due to asbestos exposure.

Shipyard Workers, Shipwrights, and Shipfitters

Occupation Code 507

Total Deaths 8,802

Peritoneal, lung, and pleural cancers all have PMR increases due to asbestos exposures. Interestingly, 31 of 34 pleural and 6 of 7 peritoneal cancer deaths occurred after 1975, suggesting that the long latency period since the World War II shipbuilding boom has been spanned. The benign neoplasm increase is due to mesothelioma deaths not specified as being malignant. Asbestosis, as expected, has a very high PMR. Accidental falls also show excess deaths. Asbestosis has been studied in other shipyards (44).

Plumbers and Pipefitters

Occupation Code 510

Total Deaths 5,871

Cancers of esophagus, lung, and pleura have increased PMRs. The pleural cancer excess is due to asbestos exposure. Pulmonary emphysema and death due to fire and explosion also have high PMRs. The lung and esophageal cancer excesses are supported in a U.S. plumbers union study (45). The pleural cancer excess is supported in a study of California plumbers and pipefitters (46).

Printing Pressmen, Plate Printers, and Typesetters

Occupation Code 512

Total Deaths 2,775

Cancers of the tongue, oral mesopharynx, rectum, and lung have high PMRs. A cohort study (47) of newspaper pressmen supports the lung cancer increase, and a PMR study of printing pressmen (48) supports the rectal cancer increase. Unspecified falls also are in excess.

Roofers and Slaters

Occupation Code 514

Total Deaths 1,057

Respiratory tuberculosis, cancer of the tongue, and lung, asthma (before 1976), pulmonary emphysema, cirrhosis of the liver, accidental falls, and homicide all have increased mortality. Hot tar roofing exposes these men to inhaled carcinogens.

Commentary on Table 1 (Male Mortality, 1950-1989)

Shoemakers, Shoe Repairers, and Leather Workers

Occupation Code 515

Total Deaths 1,201

Cancer of the esophagus has a PMR of 233 based on 10 deaths.

Stationary Engineers and Firemen

Occupation Code 520

Total Deaths 1,922

Lung cancer has a significant PMR increase.

Stonecutters, Stonecarvers, and Sandblasters

Occupation Code 521

Total Deaths 320

Respiratory tuberculosis, cancer of the pancreas, silicosis and homicide have elevated PMRs.

Structural Metal Workers

Occupation Code 523

Total Deaths 3,200

Cancers of the tongue, lung, disease of the blood forming organs, cerebral embolism, motor vehicle accidents, accidental falls, and blows from falling objects have elevated PMRs.

Tailors

Occupation Code 524

Total Deaths 808

Elevated PMRs are seen for urinary bladder cancer, hypertensive disease, intestinal obstruction, and hyperplasia of prostate.

Tinsmiths, Coppersmiths, and Sheet Metal Workers

Occupation Code 525

Total Deaths 3,010

Lung cancer, pleural cancer, cerebral embolism, and thrombosis, and other chronic interstitial pneumonia have excess deaths.

Aluminum Workers

Occupation Code 526

Total Deaths 2,300

Lung cancer, kidney cancer (age 20-64), the other lymphomas, acute leukemia, ASHD, and machinery-related accidents at work have elevated PMRs. These findings are supported by a cohort mortality study in a Spokane aluminum reduction plant (14), and by a multiplant U.S. study of aluminum reduction plants (49).

Commentary on Table 1 (Male Mortality, 1950-1989)

Cannery and Food Processing Workers

Occupation Code 527

Total Deaths 2,070

Cancer of the esophagus, liver, the other lymphomas, and motor vehicle accidents have high PMRs.

Floor Workers (Covering, Hardwood, Linoleum, etc.)

Occupation Code 528

Total Deaths 397

The other lymphomas and hypertensive disease have high PMRs.

Tool and Die Makers and Setters

Occupation Code 530

Total Deaths 699

Suicide has a high PMR.

Upholsterers

Occupation Code 535

Total Deaths 659

AIDs, urinary bladder cancer, brain cancer, and chronic rheumatic heart disease (before 1976) have elevated PMRs.

Armed Forces

Occupation Code 551

Total Deaths 11,846

PMRs are probably artificially elevated for a number of causes of death (including lung cancer and cirrhosis of the liver) because of referral of ill servicemen to the large military medical centers in this state. Also, men retired for medical reasons are more likely to take up residence near the military medical facilities in the state. These populations have a high risk of dying and inflate the PMR for this occupational class.

Aircraft accidents are elevated because of flight training and flight activities associated with air bases in the state.

Brain cancer (1976-1989), cancer of bone, and ASHD have significant PMR elevations. The myeloma increases seen in previous analyses is not seen.

Boeing Workers NEC

Occupation Code 557

Total Deaths 6,931

This is a residual group for Boeing workers who do not fit a more specific category. Kidney cancer, Hodgkin's disease, benign neoplasms, ALS, ASHD, and kidney infections have high PMRs.

Commentary on Table 1 (Male Mortality, 1950-1989)

Atomic Energy Workers NEC

Occupation Code 558

Total Deaths 2,583

Cancers of stomach, pancreas, and kidney each have a significantly elevated PMR in the 20-64 age group.

Asbestos and Insulation Workers

Occupation Code 630

Total Deaths 325

Respiratory tuberculosis, cancer of the liver, lung and other and unspecified sites have very high PMRs. Asbestosis has 17 deaths observed to less than 5 expected.

Blasters and Powdermen

Occupation Code 634

Total Deaths 273

Explosion related deaths have high PMRs.

Railroad Brakemen

Occupation Code 640

Total Deaths 1,865

Diseases of arteries, pulmonary emphysema and railway accidents have PMR elevations.

Bus Drivers

Occupation Code 641

Total Deaths 2,189

Diseases of blood forming organs, fatal anemias, and ALS have significant PMR elevations.

Deliverymen and Routemen

Occupation Code 650

Total Deaths 1,352

Cancer of the esophagus and pancreas have elevated PMRs.

Dairy Workers, Ice Cream and Cheesemakers

Occupation Code 655

Total Deaths 1,175

Cancers of the kidney and urinary bladder, lymphatic and hematopoietic tissues, leukemia, myeloid leukemia, chronic rheumatic heart disease and chronic enteritis have elevated PMRs.

Milk Route Deliverymen

Occupation Code 656

Total Deaths 490

Hypertensive disease has an elevated PMR.

Commentary on Table 1 (Male Mortality, 1950-1989)

Laundry/Dry Cleaning Operatives

Occupation Code 674

Total Deaths 1,652

Cancers of buccal cavity and pharynx and connective tissues have elevated PMRs. Subarachnoid hemorrhage also has an elevated PMR.

Meatcutters and Butchers

Occupation Code 675

Total Deaths 3,979

Cancer of the pharynx and esophagus, asthma (1976-1989), and interstitial pneumonia have elevated PMRs. The interstitial pneumonia and asthma PMRs may be related to meat wrappers asthma. The pharyngeal cancer excess is also seen in a Baltimore, Maryland meatcutters union (50).

Mine Operators and Laborers

Occupation Code 685

Total Deaths 4,729

Respiratory tuberculosis has a very high PMR as has silicosis and anthrasilicosis. Stomach and lung cancer, aplastic anemia, the non-malignant respiratory diseases and work related accidents also have elevated PMRs. This pattern agrees well with the published literature on miners mortality (51-53).

Oilers and Greasers, except Auto

Occupation Code 692

Total Deaths 410

Lung cancer, machinery related accidents and electrocution have elevation PMRs.

Painters

Occupation Code 694

Total Deaths 6,944

Cancers of buccal cavity and pharynx, lung cancer, pulmonary emphysema, cirrhosis of the liver, cholelithiasis (before 1976) and accidental falls, especially from ladders, have high PMRs. The lung cancer excess is seen in a painters union study (54).

Power Station Operators

Occupation Code 701

Total Deaths 596

Lymphosarcoma, reticulosarcoma and the other lymphomas all have elevated PMRs. Fatal anemias and ASHD also have elevated PMRs.

Commentary on Table 1 (Male Mortality, 1950-1989)

Sailors, Deckhands, and Seamen NEC

Occupation Code 703

Total Deaths 4,251

Respiratory tuberculosis, cancer of the esophagus, liver and lung, disorders of character, cirrhosis of the liver, acute pancreatitis, accidental falls, and homicide have excess deaths.

Plywood Workers

Occupation Code 706

Total Deaths 3,193

Cancer of the stomach, other and unspecified sites, myeloid and acute leukemia, psychoneurotic disorders, multiple sclerosis, paralysis agitans, and suicide have increased mortality.

Railroad Switchmen

Occupation Code 713

Total Deaths 820

Cancer of the lung. Diseases of arteries, cirrhosis of the liver and railway accidents have increased mortality.

Taxicab Drivers and Chauffeurs

Occupation Code 714

Total Deaths 1,349

Cancer of the larynx, urinary bladder, hypertensive disease, pulmonary emphysema, duodenal ulcer, cirrhosis of the liver, and homicide have elevated PMRs.

Truck and Tractor Drivers

Occupation Code 715

Total Deaths 12,710

Cancers of tongue and lung, chronic bronchitis, pulmonary emphysema, cirrhosis of the liver and motor vehicle accidents have elevated PMRs. The lung cancer excess is supported by a teamster's union study (55).

Fuel Oil Truck Drivers

Occupation Code 716

Total Deaths 516

Cancers of esophagus, stomach and large intestine, diseases of arteries and motor vehicle accidents have increased deaths.

Lumber/Log/Sawmill Truck Drivers

Occupation Code 718

Total Deaths 1275

Asthma, motor vehicle accidents, and blows from falling objects (logs) show excess deaths.

Commentary on Table 1 (Male Mortality, 1950-1989)

Welders and Flame Cutters

Occupation Code 721

Total Deaths 3,168

Cancers of the lung and kidney, hypertensive disease, chronic bronchitis, chronic interstitial pneumonitis and deaths due to fire and explosion have increased mortality.

Tree Farmers, Forest Service and Parks Department Workers

Occupation Code 724

Total Deaths 1,541

Lymphatic leukemia, accidental falls, deaths caused by fire and explosion and machinery related accidents have increased PMRs.

Hospital/Institution Attendants

Occupation Code 810

Total Deaths 710

Tuberculosis, diabetes mellitus, chronic rheumatic heart disease, and pulmonary emphysema have extra deaths.

Recreation/Amusement Attendants (Cardroom, Poolhall, Carnival)

Occupation Code 812

Total Deaths 723

Tuberculosis, AIDs, cancer of urinary bladder (before 1976), multiple myeloma, cirrhosis of the liver and infections of the kidney have elevated PMRs.

Barbers

Occupation Code 814

Total Deaths 3,705

The multiple myeloma, asthma, and nephritis excess seen in deaths before 1976 has disappeared. Cirrhosis of the liver, chronic enteritis, and suicide have increased deaths throughout the study.

Bartenders

Occupation Code 815

Total Deaths 3,419

Alcohol related causes have high PMRs: i.e., cancer of the buccal cavity and pharynx, biliary passages and liver, larynx, and cirrhosis of the liver. Other causes with PMR elevations are AIDs, diabetes mellitus (before 1976), other diseases of the lung, duodenal ulcer, intestinal obstruction and homicide.

Commentary on Table 1 (Male Mortality, 1950-1989)

Restaurant Owners, Managers, and Workers

Occupation Code 817

Total Deaths 2,854

Like the bartenders, these men show increased deaths due to AIDs, cancer of the larynx, cirrhosis of the liver, diabetes mellitus, and homicide. Other causes with increased deaths are cancer of oral mesopharynx, and cholelithiasis.

Brewery Workers

Occupation Code 818

Total Deaths 630

Cancer of the liver has a PMR of 471 based on 6 deaths. Cancer of the urinary bladder and suicide (after 1962) also have excess deaths. The liver cancer excess is supported in a Danish brewery worker study (56).

Hotel/Motel Owners and Managers

Occupation Code 819

Total Deaths 3,931

Respiratory tuberculosis had high PMRs 1950-1962, but not since. AIDs, multiple myeloma, avitaminoses and metabolic diseases, cirrhosis of the liver, cholelithiasis and homicide have elevated PMRs.

Cooks, Candymakers, and Chefs

Occupation Code 825

Total Deaths 6,707

Respiratory tuberculosis (before 1976), AIDs, cancer of buccal cavity and pharynx, esophagus, avitaminosis and metabolic diseases, disorders of character, pneumonia, chronic bronchitis, emphysema, cirrhosis of the liver, accidental falls and homicide have high PMRs. This mortality pattern is reflected in the Registrar General's data.

Window Cleaners and Wall Washers

Occupation Code 833

Total Deaths 251

Cancers of buccal cavity and pharynx, cerebral embolism and thrombosis, pneumonia, and accidental falls have high PMRs.

Janitors, Maintenance Men, and Sextons

Occupation Code 834

Total Deaths 8,748

Lymphosarcoma, diseases of other endocrine glands, and pneumonia have increased mortality.

Commentary on Table 1 (Male Mortality, 1950-1989)

School Custodians
Occupation Code 836
Total Deaths 2,885

Cancer of the rectum, prostate, urinary bladder, the other lymphomas and circulatory diseases have excess deaths.

Hairdressers and Cosmetologists
Occupation Code 843
Total Deaths 203

AIDs has a PMR of 798 based on 17 deaths. Cancer of the large intestine, avitaminoses and metabolic diseases, and homicide have elevated PMRs.

Firemen and Fire Protection Workers
Occupation Code 850
Total Deaths 2,266

Malignant melanoma, cancer of the brain (age 20-64), lymphosarcoma, acute leukemia, bronchiectasis, and deaths due to fire and explosion have increased PMRs. The leukemia excess has been reported elsewhere (57, 58). The Registrar General's data support this mortality pattern.

Guards, Watchmen, and Doorkeepers
Occupation Code 851
Total Deaths 3,252

Diabetes mellitus and suicide have high PMRs.

Policemen, Sheriffs, and Marshals
Occupation Code 853
Total Deaths 3,199

Cancer of the large intestine, ASHD, and homicide have increased PMRs.

Waiters
Occupation Code 875
Total Deaths 414

Respiratory tuberculosis, AIDs, and cancer of the esophagus show high PMRs.

Garbage Collectors
Occupation Code 891
Total Deaths 408

Cirrhosis of the liver and homicide have high PMRs.

Commentary on Table 1 (Male Mortality, 1950-1989)

Junk Dealers, Secondhand Store and Salvage Workers

Occupation Code 892

Total Deaths 644

Cirrhosis of the liver and homicide have high PMRs.

Farm Laborers, Wage Workers

Occupation Code 902

Total Deaths 5,630

Respiratory tuberculosis, disorders of character, other diseases of the heart, pneumonia, other diseases of the lung, gastric ulcer, senility and ill-defined diseases, motor vehicle accidents, machinery accidents, deaths due to fire and explosion and homicide all have significantly elevated PMRs. Poor medical certification of cause of death, dangerous work and low social class is probably responsible for most of the mortality pattern seen here.

Fishermen and Oystermen

Occupation Code 962

Total Deaths 6,134

Cancer of the stomach, disorders of character, cirrhosis of the liver, accidental drowning, and death due to fire and explosion have increased deaths.

Landscape Gardeners, Groundskeepers, and Greenskeepers

Occupation Code 964

Total Deaths 3,594

AIDs, avitaminosis and metabolic diseases, subarachnoid hemorrhage (before 1976), pneumonia, and accidental falls (1976-1989) have elevated PMRs.

Longshoremen and Stevedores

Occupation Code 965

Total Deaths 4,732

Psychoneurotic disorders, disorders of character, cirrhosis of the liver and accidental falls (age 20-64) have PMR elevations.

Produce/Seed/Feed/Grain Company Workers

Occupation Code 966

Total Deaths 935

Cancer of prostate, other and unspecified sites and ASHD have increased PMRs.

Loggers

Occupation Code 970

Total Deaths 20,915

Cancer of the prostate, disorders of character, motor vehicle and logging accidents have high PMRs. Accidents related to falling objects, machinery, fire, and explosion all are increased.

Commentary on Table 1 (Male Mortality, 1950-1989)

Warehousemen
Occupation Code 973
Total Deaths 3,131

Intestinal obstruction and accidental falls have raised PMRs.

Wood/Lumber/Sawmill Workers
Occupation Code 974
Total Deaths 19,395

Cancer of the lip, testis (before 1976), asthma, circulatory and hypertensive disease, motor vehicle accidents and work related accidents have high PMRs.

Fruit Warehousemen
Occupation Code 975
Total Deaths 844

Lung cancer, hypertension (before 1976), and unspecified falls have elevated PMRs.

Laborers NEC
Occupation Code 980
Total Deaths 20,327

Respiratory tuberculosis, cancers of buccal cavity and pharynx, psychoses, disorders of character, other heart diseases, pneumonia, emphysema, cirrhosis of the liver, railway accidents, accidental falls, deaths due to fire, explosion, and homicide all have PMR increases.

Construction Laborers NEC
Occupation Code 982
Total Deaths 7,094

Respiratory tuberculosis, cancer of hypopharynx, liver, larynx, lung, urinary bladder, disorders of character; emphysema, cirrhosis of the liver, motor vehicle accidents, work-related accidents, and homicide have PMR increases.

Orchard Laborers
Occupation Code 983
Total Deaths 1,432

Cancer of larynx, psychoses, disorders of character, ulcer of stomach, railway, motor vehicle, other accidents and homicide have high PMRs.

Chemical Company Workers
Occupation Code 985
Total Deaths 735

Cancer of pancreas, lymphomas (after 1976-1989), asthma, ALS, and motor vehicle accidents have high PMRs. The lymphoma excess has been reported in chemical manufacturing workers (59).

Commentary on Table 1 (Male Mortality, 1950-1989)

Disabled, Retarded, Institutionalized, Unemployable Persons

Occupation Code 997

Total Deaths 2,288

Tuberculosis, psychoses, disorders of character, behavior and intelligence, cerebral hemorrhage, multiple sclerosis, pneumonia, other diseases of respiratory system, ulcer of the stomach, intestinal obstruction, urinary disease, and infections of the kidney have high PMRs. Very low PMRs are seen for motor vehicle and work-related accidents, presumably because these men do not drive or work.

The pattern of mortality reflects causes of death common in bedridden men and the diseases which cause institutionalization.

Not Stated or Unknown

Occupation Code 999

Total Deaths 10,945

Respiratory tuberculosis, diabetes mellitus, avitaminosis and metabolic diseases, psychoses, disorders of character, behavior and intelligence, other diseases of heart, pneumonia, silicosis, rheumatoid arthritis, other diseases of intestine, cirrhosis of the liver, infections of kidney, senility, railway accidents, unspecified falls, and deaths due to fire and explosion have increased PMRs. This pattern of mortality is similar to that of laborers (code 980)

Commentary on Table 2 (Female Mortality, 1974-1989)

Accountants, Auditors, and Assessors

Occupation Code 000

Total Deaths 1,229

Cancer of the digestive organs (grouped) has an elevated PMR due to elevated PMRs for esophageal, stomach and pancreatic cancers. Breast cancer, corpus uteri, brain cancers and Hodgkin's disease also have PMR elevations.

Artists and Art Teachers

Occupation Code 014

Total Deaths 343

Cancer of the breast has a significantly elevated PMR.

Authors

Occupation Code 020

Total Deaths 111

Cancer of the breast and suicide have increased mortality.

Clergy

Occupation Code 023

Total Deaths 137

Cancer of the breast and other heart diseases have PMR elevations. Nearly 60% of the deaths in this group occurred at age 80+.

Professors and Instructors

Occupation Code 060

Total Deaths 273

Breast cancer and brain cancer have elevated PMRs.

Dietitians and Nutritionists

Occupation Code 073

Total Deaths 349

Rectal cancer has a PMR of 407 based on 7 deaths. PMRs over 200 are seen for cancer of the cervix and the other lymphoma category.

Editors and Reporters

Occupation Code 075

Total Deaths 169

Elevated PMRs are seen for cerebral hemorrhage, hypertensive disease and suicide.

Commentary on Table 2 (Female Mortality, 1974-1989)

Librarians

Occupation Code 111

Total Deaths 698

The total cancer group has increased deaths due to an excess of breast and ovarian cancers. Diseases of veins also has an elevated PMR.

Musicians and Music Teachers

Occupation Code 120

Total Deaths 805

Breast cancer, disorders of character, and ALS have high PMRs.

Nurses

Occupation Code 150

Total Deaths 5,167

Breast and ovarian cancer, lymphatic and acute leukemia, ALS, motor vehicle accidents, aircraft accidents, and suicide have significant PMR increases.

Religious Workers

Occupation Code 170

Total Deaths 191

Breast cancer and diseases of veins have excess deaths.

Social and Welfare Workers

Occupation Code 171

Total Deaths 640

Esophageal cancer and acute leukemia have increased PMRs.

School Teachers

Occupation Code 184

Total Deaths 8,574

Lung cancer and cirrhosis of the liver have very low PMRs, but cancers of the breast, corpus uteri, ovary, brain, bone, malignant melanoma, lymphosarcoma, other lymphomas, multiple sclerosis, paralysis agitans, other chronic interstitial pneumonia, bronchiectasis, motor vehicle accidents and accidental falls all have elevated PMRs.

Medical and Dental Technicians

Occupation Code 185

Total Deaths 457

Breast Cancer, ovarian cancer, cancer of other and unspecified sites, and suicide have PMR increases.

Commentary on Table 2 (Female Mortality, 1974-1989)

Electrical/Electronic Technicians

Occupation Code 190

Total Deaths 136

Lung cancer, other diseases of lung, and suicide have elevated PMRs.

Students

Occupation Code 196

Total Deaths 391

Hodgkin's disease, avitaminosis and metabolic diseases, and suicide have raised PMRs.

Farmers

Occupation Code 200

Total Deaths 730

The other accidental death category and homicide have PMR increases.

Florists

Occupation Code 249

Total Deaths 282

Lung cancer (age 20-64), and breast cancer have high PMRs.

Store Buyers and Department Heads

Occupation Code 250

Total Deaths 591

Breast cancer (age 20-64), ovarian cancer (age 20-64), lymphosarcoma, and chronic enteritis have PMR elevations.

City/Civil Service Employees

Occupation Code 255

Total Deaths 998

Breast cancer, cancer of the lymphatic and hematopoietic tissues, fatal anemias, and stomach ulcers have high PMRs.

Managers, Officials, and Proprietors NEC

Occupation Code 290

Total Deaths 1,698

Lung cancer, urinary bladder cancer, leukemia and acute leukemia, subarachnoid hemorrhage, and aircraft accidents and accidental falls have more deaths than expected.

Commentary on Table 2 (Female Mortality, 1974-1989)

Grocers and Grocery Clerks

Occupation Code 298

Total Deaths 1,314

Urinary bladder cancer, and lymphosarcoma have high PMRs.

Attendants, Physicians' and Dentists' Offices

Occupation Code 303

Total Deaths 576

Cancer of pancreas and breast have excess deaths.

Bankers, Bank Clerks, and Managers

Occupation Code 305

Total Deaths 949

Cancers of buccal cavity, rectum, breast, corpus uteri, and ovary all have elevated PMRs.

Bookkeepers, Cashiers, and Payroll Clerks

Occupation Code 310

Total Deaths 3,877

Cancers of lung, breast, and urinary bladder and inflammatory diseases of the central nervous system have increased deaths.

Postal Workers

Occupation Code 340

Total Deaths 657

Cancers of buccal cavity and pharynx, breast, brain, and other diseases of lung and pleural cavity have elevated PMRs.

Secretaries

Occupation Code 342

Total Deaths 5,838

Cancer of the breast, corpus uteri, ovary, and brain, fatal anemias, multiple sclerosis, and motor vehicle accidents have increased deaths.

Shipping and Receiving Clerks

Occupation Code 343

Total Deaths 427

Cancer of the breast, malignant melanoma, and motor vehicle accidents have high PMRs.

Commentary on Table 2 (Female Mortality, 1974-1989)

Telephone Operators
Occupation Code 353
Total Deaths 1358

Cancer of the esophagus and large intestine and pneumonia have increased PMRs.

Boeing Clerks
Occupation Code 362
Total Deaths 551

Lung cancer and brain cancer have increased PMRs.

Public Utility Workers
Occupation Code 363
Total Deaths 431

Cancer of the breast (age 20-64) and lymphatic and hematopoietic cancers (age 20-64) have elevated PMRs.

Clerks NEC
Occupation Code 370
Total Deaths 3,522

Cancers of breast, ovary and other and unspecified sites have raised PMRs as do deaths due to psychoses.

Traveling Sales Representatives
Occupation Code 380
Total Deaths 342

Significant excess deaths are seen for the other lymphomas, the leukemias, and motor vehicle accidents.

Insurance Agents, Brokers, Underwriters and Appraisers
Occupation Code 385
Total Deaths 772

Cancer of the lung, urinary bladder and pulmonary emphysema have elevated PMRs.

Real Estate Agents, Brokers, Developers, and Appraisers
Occupation Code 393
Total Deaths 843

Cancers of lung, breast and ovary have elevated PMRs. ALS and homicide also have high PMRs.

Sales Clerks NEC
Occupation Code 396
Total Deaths 4,976

Cancer of the large intestine, pancreas, lung, corpus uteri and lymphatic leukemia have high PMRs. ALS and homicide also have PMR elevations.

Commentary on Table 2 (Female Mortality, 1974-1989)

Bakers

Occupation Code 401

Total Deaths 286

Diseases of the blood forming organs and the other urinary diseases category have extra deaths.

Fabric Workers

Occupation Code 412

Total Deaths 741

Lung cancer has a significant PMR excess.

Paper and Pulp Mill Workers

Occupation Code 500

Total Deaths 339

The grouped digestive organ cancer rubric has an elevated PMR due to PMR elevations for bowel, rectum, and pancreas cancers. Lung cancer also has an elevated PMR.

Shipyard Workers and Shipfitters

Occupation Code 507

Total Deaths 405

Cancer of the large intestine and hypertensive have increased mortality.

Printers and Typesetters

Occupation Code 512

Total Deaths 153

Cancer of the large intestine and vascular lesions of the CNS have more deaths than expected.

Cannery Workers/Food Processing Workers

Occupation Code 527

Total Deaths 957

Cancer of the esophagus and acute leukemia (age 20-64) have PMR elevations.

Boeing Workers

Occupation Code 557

Total Deaths 801

Lung cancer, multiple myeloma, psychosis, chronic rheumatic heart disease, and motor vehicle accidents have increased deaths.

Commentary on Table 2 (Female Mortality, 1974-1989)

Atomic Energy Workers

Occupation Code 558

Total Deaths 199

Cancer of the breast and other diseases of the respiratory system have PMR elevations.

Dressmakers and Seamstresses, except factory

Occupation Code 651

Total Deaths 1,584

Cancer of the urinary bladder and leukemia have increased mortality.

Laundry/Dry Cleaning Operatives

Occupation Code 674

Total Deaths 1,233

Diseases of the arteries and pulmonary emphysema have elevated PMRs. The emphysema excess may not be due to cigarette smoking, since the lung cancer PMRs are not elevated.

Meatcutters and Wrappers

Occupation Code 675

Total Deaths 272

Cirrhosis of the liver and motor vehicle accidents have increased deaths.

Hospital/Institution Attendants

Occupation Code 810

Total Deaths 1,579

Cancer of the gallbladder ducts and ampulla avitaminosis and metabolic diseases, disorders of character, pulmonary emphysema, and senility and ill-defined diseases have elevated PMRs.

Bartenders

Occupation Code 815

Total Deaths 305

Lung cancer, pulmonary emphysema, cirrhosis of the liver, motor vehicle accidents and homicide have increased mortality.

Cocktail Bar/Tavern Owners/Operators/Managers/Workers

Occupation Code 816

Total Deaths 288

The mortality pattern of these women is similar to that of bartenders. Excess deaths are seen due to cancers of the buccal cavity and pharynx, lung, and cervix. Pulmonary emphysema, cirrhosis of the liver, motor vehicle accidents, and homicide are also increased.

Commentary on Table 2 (Female Mortality, 1974-1989)

Restaurant Owners and Managers and Workers

Occupation Code 817

Total Deaths 1,458

Cancer of the liver and lung, pulmonary emphysema, and homicide have extra deaths.

Hotel/Motel Owners and Managers

Occupation Code 819

Total Deaths 1,122

Cancers of buccal cavity and pharynx, liver, lung, psychosis, pulmonary emphysema, and suicide have elevated PMRs.

Charwomen and Cleaners

Occupation Code 824

Total Deaths 136

Cancer of pancreas has PMR of 272, based on 5 deaths.

Cooks, Candymakers, and Chefs

Occupation Code 825

Total Deaths 3,937

Cancer of stomach and lung, and diabetes mellitus have elevated PMRs. Circulatory diseases and the other pulmonary disease category have slight PMR increases.

Housekeepers and Stewards (in private households)

Occupation Code 832

Total Deaths 781

Unspecified uterine cancer and intestinal obstruction have small number PMR increases.

Janitors

Occupation Code 834

Total Deaths 589

The other urinary disease rubric and motor vehicle accidents have PMR increases.

Kitchen Workers (not private household)

Occupation Code 835

Total Deaths 699

Malignant neoplasms of brain and unspecified falls have high PMRs.

Nurses, Practical

Occupation Code 842

Total Deaths 2,112

Cancer of the liver, diabetes mellitus, avitaminoses, and homicide (age 20-64) have elevated PMRs.

Commentary on Table 2 (Female Mortality 1974-1989)

Hairdressers and Cosmetologists

Occupation Code 843

Total Deaths 1,469

Cancer of stomach, malignant melanoma (age 20-64), psychoses, chronic bronchitis with emphysema, cirrhosis of the liver and accidents caused by fire and explosion have high PMRs. Japanese beauticians have increased stomach cancer mortality (60).

Waitresses

Occupation Code 875

Total Deaths 2,800

Cancers of buccal cavity and pharynx, esophagus, larynx, lung, cervix, other female genital organs, pulmonary emphysema, cirrhosis of the liver, motor vehicle accidents, accidents caused by fire and explosion and homicide all have elevated PMRs.

Nuns

Occupation Code 909

Total Deaths 245

Cancers of breast and ovary have high PMRs.

Fruit Warehousewomen

Occupation Code 975

Total Deaths 695

Malignant neoplasm of brain, diseases of blood forming organs, cerebral embolism and thrombosis and cirrhosis of the liver (age 20-64) have increased mortality.

Unemployable Women

Occupation Code 997

Total Deaths 447

Infective and parasitic diseases, disorders of character, behavior and intelligence, cerebral hemorrhage, pulmonary embolism and pneumonia have high PMRs.

Not stated and unknown

Occupation Code 999

Total Deaths 1,674

Cancer of uterus (unspecified), disorders of character, behavior and intelligence, paralysis agitans, pneumonia, duodenal ulcer, other disorders of peritoneum, intestinal obstruction, and other accidents have elevated PMRs.

Commentary on Table 3 (Male Mortality By Occupation Within Cause of Death Groups 1950-1989)

This table examines mortality by cause of death, showing occupations with statistically significant elevations or reductions in PMR. The commentary that follows is for selected causes of death. The commentary and the table are in cause of death (Seventh Revision International Classification of Diseases) code number order. Organizing the mortality data in this way allows common exposure patterns or other common denominators to be seen which might explain an increase or decrease in mortality due to a particular cause of death.

Respiratory Tuberculosis (ICD 001-008)

The occupations with exposure to siliceous dusts and therefore to silicotuberculosis are stonecutters, miners, metal molders, and boilermakers. Hospital/institution attendants are occupationally exposed to tuberculosis, and the other occupations reflect low social class, income, and education. The successful chemotherapy of tuberculosis has markedly reduced the numbers of deaths from this cause after 1962.

AIDs (9th ICD 040-042)

These deaths are available only for the years 1987-1989. The occupations with high AIDs PMRs probably reflect those with a high proportion of homosexual men.

Malignant Neoplasm of the Buccal Cavity and Pharynx (ICD 140-148)

Malignant Neoplasm of the Tongue (ICD 141)

Malignant Neoplasm of the Oral Mesopharynx (ICD 145)

These cancers have been associated with the ingestion of alcoholic beverages. Each occupational class represented with a high PMR from these causes has, with rare exception, elevated mortality due to alcoholic cirrhosis of the liver. The laundry and dry cleaning operatives, however, are also occupationally exposed to solvents.

Malignant Neoplasm of the Esophagus (ICD 150)

Alcohol ingestion is also associated with cancers of the upper cervical esophagus. This could account for high PMRs in sailors and cooks.

Malignant Neoplasm of the Stomach (ICD 151)

Carpenters, cabinetmakers, and plywood workers are exposed to wood dusts. A national study of carpenters (5) supports the stomach cancer excess. Brickmasons, plasterers, and metal molders are exposed to stone, cement, and metal-bearing dusts. Fishermen and oystermen and men in occupation code group 265 (officers, pilots, pursers, engineers, ship) work on ships. The agent responsible for their gastric cancer increase remains to be determined.

Malignant Neoplasm of the Large Intestine (ICD 153)

This cause of death is more common in upper social classes, presumable due to dietary habits. This would account for the high PMRs seen in veterinarians, physicians, bankers, and engineers. This cannot, however, account for the increased PMRs seen in many of the other occupational groups.

Commentary on Table 3 (Male Mortality By Occupation Within Cause of Death Groups 1950-1989)

Malignant Neoplasm of the Rectum (ICD 154)

Occupations having high PMRs due to rectal cancer are a curious mixture with no obvious common denominator. The excess in printers has been reported elsewhere (44).

Malignant Neoplasm of the Biliary Passages and Liver (ICD 155)

Malignant Neoplasm of the Gallbladder, Bile Ducts and Ampulla of Vater (ICD 155.1)

These cancers have also been related to alcohol ingestions. This would seem to account for the high PMR seen in brewery workers for ICD 155. Men in the accountants rubric show an increased mortality from these causes over time while their alcoholic cirrhosis PMRs have fallen over time.

Malignant Neoplasm of the Pancreas (ICD 157)

Nurserymen have pesticide exposures. Motion picture projectionists are exposed to coal tar pitch volatiles released when anode binder material is burned. Chemical engineers and chemical company workers are exposed to chemicals.

Malignant Neoplasm of the Respiratory System (ICD 160-165)

With the exception of the two military code groups, and possibly window dressers (code 420), all the occupations having high PMRs due to respiratory cancer are employed in dusty, blue collar jobs, most of which have exposure to known carcinogens. Cigarette smoking is probably also involved. Exposure to known respiratory carcinogens is seen in asbestos and insulation workers and shipyard workers (asbestos), smelter workers and orchardists (arsenic), roofers and slaters (benzopyrene). Body and fender repairmen are exposed to paints and solvents. Boilermakers, miners, plumbers, metal workers, and welders are exposed to metallic fumes, dusts, and ores.

Malignant Neoplasm of the Larynx (ICD 161)

Cancer of the larynx has been related to both cigarette smoking and alcohol ingestion. Both factors are probably operating in the occupational groups with high PMRs due to laryngeal cancer, i.e., bartenders.

Malignant Neoplasm of the Pleura (ICD 162.2)

This cancer has a high PMR in shipyard workers dying since 1976. These men are exposed to asbestos, and the recent emergence of a high PMR probably reflects the World War II shipbuilding boom and a long latent period.

Brain Cancer (ICD 193.0)

Three occupations with electric and magnetic field (EMF) exposure are in this group: Telephone installers and repairers, public utility supervisors, and electricians.

Hodgkin's Disease (ICD 201)

Millwrights, paper and pulp mill workers, and carpenters all show significant excess deaths due to Hodgkin's disease. This association has been reported previously (3,42).

Commentary on Table 3 (Male Mortality By Occupation Within Cause of Death Groups 1950-1989)

Acute Leukemia (ICD 204.3)

Four occupations in this group are exposed to electric and magnetic fields: Radio and TV mechanics, telephone installers and repairers, public utility supervisors and electricians.

Benign Neoplasms (ICD 210-229)

Two of the six occupations with elevated PMRs due to benign neoplasms have known exposure to asbestos (asbestos and insulation workers and shipyard workers). Examination of the death certificates reveals that the excess seen in asbestos and insulation workers and shipyard workers is due to pulmonary and/or abdominal mesothelioma, i.e., "malignant mesothelioma" is coded to 162.2, while "mesothelioma" is coded to a benign neoplasm rubric.

Paralysis Agitans (ICD 350)

Three of this group of occupations have solvent exposures: fuel oil dealers and workers, body and fender repairmen and auto painters, and railroad/car shop mechanics and repairmen.

Amyotrophic Lateral Sclerosis (ALS) (ICD 356.1)

Three Boeing code group occupations are present in this group: aeronautical engineers, airplane mechanics and repairmen, and Boeing Workers.

Diseases of the Respiratory System (ICD 470-527)

Cigarette smoking and exposure to asbestos, silica, metal fumes, and other toxic inhalants can cause these diseases. The occupations with high PMRs reflect this.

Silicosis (ICD 523.0)

Metal molders, stonecutters and stonecarvers, miners, and road graders are all exposed to free crystalline silica.

Asbestosis (ICD 523.2)

Shipyard workers and asbestos and insulation workers are exposed to asbestos fibers.

Cirrhosis of the Liver without Alcoholism (ICD 581.0)

Cirrhosis of the Liver with Alcoholism (ICD 581.1)

Ulcer of the Stomach (ICD 540)

Acute Pancreatitis (ICD 587.0)

These causes of death are all related to excessive ingestion of alcohol. Alcoholism is probably an occupational hazard of bartenders and restaurant and cafe workers. Men in the other occupations with high PMRs due to these causes probably suffer alcoholism due to lifestyle, not occupation.

Commentary on Table 3 (Male Mortality By Occupation Within Cause of Death Groups 1950-1989)

Aircraft Accidents (ICD 860-866)

Airplane pilots and navigators, aeronautical engineers, and airplane mechanics and repairmen are, of course, at increased risk of dying in plane crashes. The other occupational classes with high PMRs due to aircraft accidents may represent those men with enough money to own or fly in small aircraft.

Accidental Falls (ICD 900-904)

Men whose occupations require them to work in elevated places (linemen, roofers, painters, carpenters, construction laborers, structural metal workers) have high PMRs.

Blow from falling object (ICD 910)

Loggers and logging truck drivers are at increased risk of being struck by trees during the logging operation.

Accident caused by electric current (ICD 914)

Electricians, linemen, and public utility workers are occupationally exposed to electricity. The crane men are electrocuted when conductive booms accidentally contact high-tension lines. Building contractors and painters are frequently electrocuted when aluminum ladders accidentally contact high-tension lines. The contractors are also electrocuted by defective power tools. Farmers are electrocuted when metal irrigation pipes contact powerlines (35).

Suicide (ICD 970-979)

Although the etiology of suicide is complex, the elevated PMR seen in sheepherders may be due to the fact that these men are alone for long periods of time in remote areas. Dentists, veterinarians, physicians, and medical and dental technicians have access to drugs used in suicide and the knowledge to use them effectively.

Homicide (ICD 980-985)

Policemen and detectives are at increased risk of homicide due to the nature of their work. Taxi drivers and bartenders are at increased risk of homicide incidental to robbery attempts. The other occupational classes are at increased risk of homicide due to lifestyle.

Commentary on Table 4 Female Mortality By Occupation Within Cause of Death Groups. (Same as Table 3)

Malignant neoplasms (ICD 140-205)

Upper social class occupations lead this list primarily due to the contribution of breast cancer.

Malignant neoplasm of buccal cavity and pharynx (ICD 140-148)

Malignant neoplasm of tongue (ICD 141)

Malignant neoplasm of oral mesopharynx(ICD 145)

The waitresses, bartenders, and hotel/motel owners are probably on these lists (MN of buccal cavity and pharynx, tongue, and oral mesopharynx) because of alcohol ingestion. The situation with the postal workers is not as clear.

Malignant neoplasm of esophagus (ICD 150)

This tumor is also associated with alcohol ingestion, accounting for the high esophageal cancer PMRs in waitresses.

Malignant neoplasms of stomach (ICD 151)

Hairdressers and cooks both inhale and swallow potentially carcinogenic particles at work.

Malignant neoplasms of large intestine except rectum (ICD 153)

This tumor is ordinarily associated with upper social class occupations in men. That is not the situation with female occupations. Printers and typesetters and shipyard workers have occupational exposures which could be responsible for the cancer excess seen here.

Malignant neoplasms of biliary passages and liver (ICD 155)

Both hospital attendants and practical nurses are at increased risk of hepatitis B infection, a risk factor for primary liver cancer.

Malignant neoplasm of bronchus and lung (ICD 162)

Cigarette smoking is responsible for most of the occupations which are on this list. The electronic technicians have a high smoking prevalence of 63.3% in deaths 1988-1990, accounting for their inclusion on this list with bartenders and waitresses.

Malignant neoplasms of breast (ICD 170)

Upper social class occupations and occupations in which women usually don't get pregnant lead the breast cancer list. Seven of the 40 breast cancer deaths in medical and dental technicians occurred below age 35. Ionizing radiation exposure from medical and dental x-ray machines might account for this.

Commentary on Table 4 Female Mortality By Occupation Within Cause of Death Groups. (Same as Table 3)

**Malignant neoplasms of ovary, fallopian tube and broad ligament
(ICD 175)**

This list of occupations closely parallels the breast cancer list, suggesting that both cancers have the same etiology.

Cirrhosis of the liver (ICD 581)

This is a list of occupations in alcohol serving environments.

Discussion:

1. AIDs: Acquired Immune Deficiency Syndrome:

This cause of death is available for the years 1987-1989 only. In that time period, there were 563 deaths coded to AIDs (9th ICD 042-044) among 50,115 total deaths.

A number of occupational titles with high AIDs PMRs are not shown in the mortality tables because of small numbers of deaths. Occupations with over 5% AIDs deaths are shown below.

**OCCUPATIONS WITH 5% OR MORE AIDs DEATHS (ICD 040-042)
WASHINGTON STATE WHITE MALE DEATHS 1987-1989**

Occ Code	Occupations	Total Deaths	AIDs Deaths	% AIDs
070	Dancers	44	19	43.2
843	Hairdressers & Cosmetologists	42	16	38.1
009	Flight Attendants	11	4	36.4
325	Office Machine Operators	18	4	22.2
249	Florists	42	8	19.0
501	Paperhangers and Decorators (Painters)	43	8	18.6
010	Actors	33	5	15.2
111	Librarians	14	2	14.3
842	Nurses (LPNs)	17	2	11.7
150	Nurses (Professional)	36	4	11.1
014	Artists, Art Teachers	124	12	9.7
171	Social Workers	78	7	8.9
173	Psychiatrists, Psychologists	35	3	8.5
535	Upholsterers	75	5	6.7
825	Cooks	373	20	6.2

2. Leukemia in workers exposed to electric and magnetic fields:

Since I reported excess leukemia mortality in Washington state electrical workers in 1982 (61), a large number of reports confirming this finding have been published (62). Telephone installers and repairers (Occupation code 459) and public utility workers and supervisors (occupation code 363 and 364) have been added to the analysis because of the results of recent studies of New York Telephone Company employees (Matinoski, G.-in press) and because the utility workers had high electrocution PMRs. There are a number of utility workers with no EMF exposure (water, sewage, and gas workers), so inclusion of utility workers introduces a conservative bias into the analysis. Ten of 12 EMF-exposed worker occupations had elevated leukemia PMRs and eleven of 12 EMF-exposed worker occupations had elevated acute leukemia PMRs, suggesting that some facet of exposure to EMFs causes leukemia. The Registrar General's data support the electrical workers, leukemia association (see page 61, reference 17).

Leukemia mortality in men occupationally exposed to electric and magnetic fields. Washington state white male deaths 1950-1989

Occ Code	Occupation	All Leukemia (ICD 204)			Acute Leukemia (ICD 204.3)		
		OBS	EXP	PMR	OBS	EXP	PMR
190	Electronic Technician	14	9	161	8	5	175
352	Radio and Telegraph Operators	6	6	95	4	2	184
363	Public Utility Workers	18	17	104	7	6	111
364	Public Utility Supervisor	19	12	161*	10	5	221*
421	Electricians	70	57	123	33	23	145*
453	Power and Telephone Linemen	22	14	160*	10	5	183
459	Telephone Installers and Repairers	8	7	119	8	3	264**
474	Television and Radio Repairmen	7	5	143	6	2	268*
493	Motion Picture Projectionists	4	2	185	1	1	---
526	Aluminum Workers	30	21	145*	18	9	191*
701	Power Station Operators	8	5	158	3	2	146
721	Welders	25	28	89	11	13	87
TOTAL:		231	183	126**	119	76	156**

* =p ≤ .05

**=p ≤ .01

3. Chemical Workers: Chemists, (Occupation code 021), Chemical Engineers (occupation code 081), and chemical company workers (occupation code 985) have elevated mortality due to cancers of the pancreas and lymphatic and hematopoietic systems, suggesting that chemical carcinogens are operating in all three work environments.

Occ Code	Title	Deaths Due to Cancer of Pancreas			Deaths Due to Malignant Neoplasms of Lymphatic & Hematopoietic Tissues		
		OBS	EXP	PMR	OBS	EXP	PMR
021	Chemists	7	4	160	13	8	158
081	Chemical Engineers	7	2	281*	5	4	113
985	Chemical Workers	18	9	206**	23	16	141
TOTAL:		32	15.6	205**	41	28.9	142*

* = $p \leq .05$

** = $p \leq .01$

4. Amyotrophic Lateral Sclerosis (ALS) in Boeing workers.

There were 12,609 deaths in 12 distinguishable Boeing-related occupational codes. With 1,071 ALS deaths among the 588,090 total deaths in the study $1,071 \div 588,090 \times 12,609 = 22.9$ ALS deaths would have been expected among the Boeing workers, while 58 were observed. Boeing occupations with relatively high ALS PMRs are: engineers, mechanics, inspectors, parts finishers, and draftsmen.

Occ Code	Title	Total Deaths	ALS Deaths
080	Aeronautical Engineers	380	4
089	Draftsmen	119	2
097	Boeing Engineers	1,671	12
294	Supervisors and Managers	1,450	4
362	Clerks	320	1
419	Electricians	379	2
446	Inspectors	531	3
466	Machinists	1,649	4
468	Maintenance Workers	299	1
471	Airplane Mechanics	1,478	8
557	Boeing Workers NEC	3,871	14
657	Parts Finishers	462	3
TOTAL:		12,609	58

Conclusion:

In the interval since the publication of the 1950-1979 analysis, the association between occupational exposure to electric and magnetic fields and leukemia reported in that analysis has been substantiated in a number of other studies (62).

The recent availability of keyed occupational and industrial literals has made retrieval of the death certificate less necessary. The literals also provide access to a level of occupation and industry detail which coding inevitably obscures.

The recent availability of decedent smoking information has made the analysis of the occupational component of mortality possible in those causes of death related to cigarette smoking. In the future, it should be possible to calculate occupational PMRs for smokers and non-smokers.

An inescapable conclusion of this study and the previous 2 analyses of these data published by NIOSH, is that the proportionate mortality ratio method is appropriate for this type of analysis.

Recommendations:

My experience with computer coding of keyed occupation/industry (I/O) literals in Washington State has convinced me that this technology can support a national occupational mortality surveillance system.

I, therefore, recommend that NIOSH/NCHS fund the states to key the occupation/industry literals on death certificates as part of the State Vital Statistics Cooperative programs. Central computer coding of the I/O literals from all the states would form the basis of a national occupational mortality surveillance system.

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Exhibit 1 - Death Certificate

Exhibit 1 - Death Certificate

EXHIBIT 1

STATE OF WASHINGTON DEPARTMENT OF SOCIAL AND HEALTH SERVICES
VITAL RECORDS

CERTIFICATE OF DEATH

LOCAL FILE NUMBER _____ STATE FILE NUMBER **146-80**

1. NAME - FIRST, MIDDLE, LAST _____ 2. SEX _____ 3. DEATH DATE (MO DAY YR) _____

4. RACE (WHITE, BLACK, AM. IND. S. AGE - LAST BIRTH - 5. UNDER 1 YEAR 6. BIRTHDATE (MO DAY YR) 7. UNDER 1 DAY 8. COUNTY OF DEATH _____

10. CITY, TOWN OR LOCATION OF DEATH _____ 11. PLACE OF DEATH - CHECK TYPE OF PLACE THEN GIVE ADDRESS OR INST NAME AT SCENE 3. IN 4. FURFNG ROOM 5. HOSPITAL 6. NURSING HOME _____ 12. RECEIVED EMERGENCY CARE (BY NURSE, PHLEBOT, PARAMED) YES/NO _____

13. BIRTH STATE (IF NOT IN USA GIVE COUNTRY) _____ 14. CITIZEN OF WHAT COUNTRY _____ 15. MARRIED, NEVER MARRIED, 16. SPOUSE (IF WIFE GIVE MAIDEN NAME) WIDOWED DIVORCED _____ 17. WAS DECEDENT EVER IN U.S. ARMED FORCES? (YES/NO) _____

18. SOCIAL SECURITY NO. _____ 19. USUAL OCCUPATION (GIVE KIND OF WORK DONE DURING MOST OF WORKING LIFE EVEN IF RETIRED.) _____ 20. KIND OF BUSINESS OR INDUSTRY _____

21. RESIDENCE - NUMBER AND STREET _____ 22. CITY/TOWN OR LOCATION 23. INSIDE CITY LIMITS (YES/NO) 24. COUNTY _____ 25. STATE _____

26. FATHER - NAME FIRST, MIDDLE, LAST _____ 27. MOTHER - MAIDEN NAME FIRST, MIDDLE, LAST _____

28. INFORMANT - NAME _____ 29. MAILING ADDRESS STREET OR RFD NO. CITY OR TOWN STATE ZIP _____

30. BURIAL, CREMATION, REMOVAL, OTHER (SPECIFY) _____ 31. DATE (MO DAY YR) _____ 32. CEMETERY/CREMATORY NAME _____ 33. LOCATION - CITY/TOWN, STATE _____

34. FUNERAL DIRECTOR SIGNATURE _____ 35. NAME OF FACILITY _____

TO BE COMPLETED ONLY BY CERTIFYING PHYSICIAN **TO BE COMPLETED ONLY BY MEDICAL EXAMINER OR CORONER**

37. TO THE BEST OF MY KNOWLEDGE, DEATH OCCURRED AT THE TIME, DATE, AND PLACE AND DUE TO THE CAUSE(S) STATED. SIGNATURE _____ TITLE _____ 41. ON THE BASIS OF EXAMINATION AND/OR INVESTIGATION, IN MY OPINION DEATH OCCURRED AT THE TIME, DATE AND PLACE AND DUE TO THE CAUSE(S) STATED. SIGNATURE _____ TITLE _____

38. DATE SIGNED (MO DAY YR) _____ 39. HOUR OF DEATH (24 HRS) _____ 42. DATE SIGNED (MO DAY YR) _____ 43. HOUR OF DEATH (24 HRS) _____

40. NAME OF ATTENDING PHYSICIAN IF OTHER THAN CERTIFIER (TYPE OR PRINT) _____ 44. PRONOUNCED DEAD (M YR) _____ 45. HOUR PRONOUNCED DEAD (24 HRS) _____

46. NAME AND ADDRESS OF CERTIFIER/ PHYSICIAN, MEDICAL EXAMINER OR CORONER (TYPE OR PRINT) _____

47. IMMEDIATE CAUSE - ENTER ONLY ONE CAUSE PER LINE FOR (A), (B), AND (C) _____ INTERVAL BETWEEN ONSET AND DEATH _____

(A) DUE TO, OR AS A CONSEQUENCE OF: _____ INTERVAL BETWEEN ONSET AND DEATH _____

(B) DUE TO, OR AS A CONSEQUENCE OF _____ INTERVAL BETWEEN ONSET AND DEATH _____

(C) DUE TO, OR AS A CONSEQUENCE OF _____ INTERVAL BETWEEN ONSET AND DEATH _____

48. OTHER SIGNIFICANT CONDITIONS-CONDITIONS CONTRIBUTING TO DEATH BUT NOT RELATED TO CAUSE GIVEN ABOVE. 49. AUTOPSY? (YES/NO) _____ 50. WAS CASE REFERRED TO MEDICAL EXAMINER OR CORONER? (YES/NO) _____

51. ACC. SUICIDE, HON., UNDET., OR PENDING INVEST. (SPECIFY) _____ 52. INJURY DATE (MO DAY YR) _____ 53. HOUR OF INJURY (24 HRS.) _____ 54. DESCRIBE HOW INJURY OCCURRED. _____

55. INJURY AT WORK? (YES/NO) 56. PLACE OF INJURY - AT HOME, FARM, STREET, FACTORY, OFFICE BLDG, PTE. (SPECIFY) _____ 57. LOCATION - STREET OR RFD NO., CITY/TOWN, STATE _____

58. REGISTRAR SIGNATURE _____ 59. DATE RECEIVED (MO DAY YR) _____

OR STATE REGISTRAR SIGNATURE ONLY _____

ITEM _____ DOCUMENTARY EVIDENCE: REVIEWED BY: DATE: _____ DOCUMENTARY EVIDENCE: REVIEWED BY: DATE: _____

DSHS B-150 (REV. 1-80)

DOH 01-003 (7/74)

THIS IS A CERTIFIED COPY OF THE RECORD ON FILE WITH CENTER FOR HEALTH STATISTICS. CERTIFIED COPIES MUST BE OBTAINED FROM THE OFFICE OF THE REGISTRAR.



Exhibit 2 - Occupation Codes

Professional, Technical and Kindred Workers

000	Accountants, Auditors, Assessors		
007	Atomic Energy Accountants		
009	Flight Attendants, Airline		
010	Actors, Actresses, Radio Announcers		
011	Air Traffic Controllers		
012	Airplane Pilots and Navigators		
013	Architects		
014	Artists and Art Teachers		
015	Athletes, Athletic Coaches		
016	Chiropodists		
020	Authors		
021	Chemists		
022	Chiropractors		
023	Clergymen		
030	College Presidents and Deans		
031	Professors/Instructors		Agricultural Sciences
032	"	"	Biological
034	"	"	Chemistry
035	"	"	Economics
040	"	"	Engineering
041	"	"	Geology and Geophysics
042	"	"	Mathematics
043	"	"	Medical Sciences
045	"	"	Physics
050	"	"	Psychology
051	"	"	Statistics

Exhibit 2 - Occupation Codes

052	"	"	Natural Sciences NEC
053	Professors/Instructors		Social Sciences NEC
054	"	"	Non-Scientific Subjects
055	"	"	Forestry
060	"	"	Subject not specified
070	Dancers and Dancing Teachers		
071	Dentists		
072	Designers		
073	Dietitians and Nutritionists		
074	Draftsmen		
088	Draftsmen, Atomic Energy		
089	Draftsmen, Boeing		
075	Editors and Reporters		
076	Newspaper Owners, Publishers, Managers, etc.		
080	Engineers,	Aeronautical	
081	"	Chemical	
082	"	Civil	
083	"	Electrical	
084	"	Industrial	
085	"	Mechanical	
086	"	Marine	
087	"	Nuclear	
090	"	Metallurgical	
091	"	Mining	
092	"	Sales	
094	"	Construction	
095	"	Refrigeration	
096	"	Operating	
097	"	Boeing	

Exhibit 2 - Occupation Codes

099	Engineers, Steam
093	" NEC, including Aides
101	Entertainers NEC
102	Farm and Home Management Advisers
103	Foresters and Conservationists
104	Funeral Directors and Embalmers
105	Lawyers and Judges
106	Court Reporters
111	Librarians
120	Musicians and Music Teachers
130	Agricultural Scientists
131	Biological Scientists
134	Geologists and Geophysicists
135	Mathematicians
140	Physicists
141	Meteorologists
145	Miscellaneous Natural Scientists
150	Nurses, Professional
151	Nurses, Student Professional
152	Optometrists
153	Osteopaths
154	Personnel and Labor Relations Workers
160	Pharmacists, Druggists
161	Photographers
162	Physicians and Surgeons
163	Public Relations Men and Publicity Writers
164	Radio Operators
165	Recreation and Group Workers

Exhibit 2 - Occupation Codes

170	Religious Workers
171	Social and Welfare Workers, except group
172	Economists
173	Psychologists, Psychiatrists
174	Statisticians and Actuaries, Analysts
175	Miscellaneous Social Scientists
176	Sanitarians
180	Sports Instructors and Officials
181	Surveyors
182	Teachers, Elementary and Secondary Schools
183	" High School and NEC
184	Teachers and Administrators NEC
185	Technicians, Medical and Dental
186	" X-ray, Medical Radiologists
190	" Electrical and Electronic
191	" other Engineering and Physical Sciences
192	" Laboratory NEC
193	Therapists and Healers NEC
194	Veterinarians
195	Professional, Technical, and Kindred Workers NEC
196	Students

Farmers and Farm Managers

200	Farmers, Owners and Tenants
201	Orchardists
202	Nurserymen
203	Ranchers
204	Dairy Farmers
205	Wheat and Grain Farmers

Exhibit 2 - Occupation Codes

206	Egg and Poultry Farmers, Distributors
207	Bee Keepers
222	Farm Managers
387	Mink Ranchers, Fur Traders
901	Farm Foremen
902	Farm Laborers, Wage Workers
903	Unpaid Family Farm Workers
904	Farm Caretakers
905	Self-Employed Farm Service
906	Itinerant Laborers
907	Shepherders, Wool Workers

Managers, Officials, Proprietors (Except Farm)

249	Florists
250	Buyers and Department Heads, Store
251	Buyers and Shippers, Farm Products, Produce Brokers
252	Conductors, Railroad
253	Credit Men
254	Floor Men and Floor Managers, Store
255	City, Civil Service Employees
260	Inspectors, Public Administration
261	Lighthouse Keepers
262	Managers and Superintendents, Building
265	Officers, Pilots, Pursers, Engineers, Ship
270	Officials and Administrators NEC, Public Administration
275	Officials, Lodge, Society, Union, etc.
280	Postmasters
285	Purchasing Agents and Buyers NEC, Sales Managers
289	Aircraft Managers, etc.

Exhibit 2 - Occupation Codes

- 290 Managers, Officials and Proprietors NEC
- 291 Owners, Attendants, Gas Station/Garage; Car Wash, Parking
- 292 Lumber Company Managers, Owners, and Workers
- 294 Boeing Officials, Managers, Supervisors
- 295 Fuel Oil Dealers, Workers
- 296 Pet Shop Owners, Workers
- 297 Furniture Store Owners, Managers, Clerks
- 298 Grocers, Grocery Clerks

Clerical

- 301 Agents NEC
- 302 Attendants and Assistants, Library
- 303 Attendants, Physician/Dentist's Office
- 304 Baggage men, Transportation
- 305 Bankers, Bank Clerks, Managers
- 310 Bookkeepers
- 312 Cashiers
- 313 Collectors, Bill and Account
- 314 Dispatchers and Starters, Vehicle; Traffic Managers
- 315 Express Messengers, Railroad Mail Clerks
- 320 File Clerks
- 321 Adjusters, Examiners, Investigators, Inspectors
- 323 Mail Carriers
- 324 Messengers and Office Boys
- 325 Office Machine Operators
- 333 Payroll and Timekeeping Clerks
- 340 Postal Clerks
- 341 Receptionists
- 342 Secretaries

Exhibit 2 - Occupation Codes

343	Shipping and Receiving Clerks
345	Stenographers
350	Stock Clerks and Storekeepers
351	Telegraph Messengers
352	Telegraph Operators
353	Telephone Operators
354	Ticket, Station, Express, and Travel Agents
360	Typists
361	Railroad Clerks
362	Boeing Clerks
363	Public Utility Workers
364	Public Utility Supervisors and Officials, etc.
370	Clerks NEC

Sales Workers

380	Traveling Salesmen, Sales Representatives, Advertising Agents
381	Auctioneers
382	Demonstrators
383	Hucksters, Peddlers, Promoters
384	Lumber Salesmen
385	Insurance Agents, Brokers, Underwriters, Appraisers
386	Car Salesmen
388	Chemical Salesmen
390	Newsboys
393	Real Estate Agents, Brokers, Developers, Appraisers
395	Stocks and Bonds Salesmen
396	Sales Clerk NEC

Craftsmen, Foremen and Kindred

400	Carpet Makers, Carpet Layers
-----	------------------------------

Exhibit 2 - Occupation Codes

401	Bakers
402	Blacksmiths
403	Boilermakers
404	Bookbinders
405	Brickmasons, Stonemasons, Tile Setters
406	Building Contractors, Construction Contractors
407	Boatbuilders
408	Railroad Contractors
409	Shipwrights
410	Cabinetmakers
411	Carpenters
412	Canvas Makers, Sailmakers, Awning Sales and Service and Fabric Workers
413	Cement and Concrete Finishers
414	Compositors and Typesetters
415	Cranemen, Derrickmen and Hoistmen
416	Oilwell Drillers
417	Oil Refinery Workers
420	Decorators and Window Dressers
421	Electricians
418	Electricians, Atomic Energy
419	" Boeing or Airplane
422	" Shipyard
423	Electrotypers and Stereotypers
424	Engravers, except Photoengravers
425	Excavating, Grading, Road Machinery Operators, Pavers, Highway Maintenance
426	Water Well Drillers
427	Railroad Foremen
429	Construction Foremen NEC

Exhibit 2 - Occupation Codes

430	Foremen NEC
431	Forgemen and Hammermen
434	Glaziers
435	Smelter Workers, Heat Treaters, Annealers, Temperers (ASARCO)
436	Fiberglass, Bathtub, and Boat Workers
444	Inspectors, Scalers, Graders--Log and Lumber; Timber Cruisers
445	Inspectors, Machinery
446	" Boeing
447	" Railroad
448	" Construction
450	" NEC
976	" Fruit
260	" Public Administration
451	Jewelers, Watchmakers, Goldsmiths, Silversmiths, Locksmiths
452	Jobsetters, Metal
453	Linemen and Servicemen, Telegraph, Telephone, Power
454	Locomotive Engineers, Railroad
455	Logging Engineers
459	Telephone Installers, Repairmen
460	Locomotive Firemen, Railroad
461	Military Machinists
462	Manufacturing Workers
464	Logging Machinists and Mechanics
465	Machinists NEC
466	Machinists, Boeing
467	Machinists, Shipyard
468	Maintenance Workers, Boeing
469	" " Railroad

Exhibit 2 - Occupation Codes

476	Maintenance Workers, Lumber, Plywood, Veneer, etc.
470	Mechanics and Repairmen, Air Conditioning, Heating, Refrigeration
471	" " Airplane
472	" " Automobile
473	" " Office Machines
474	" " Radio, Television-- (Manufacturing, etc.)
475	" " Railroad and Car Shop
480	" " NEC
477	Tire Recappers and Repairers, Rubber Welders
479	Auto Body and Fender/Car Painters
490	Millers, Grain, Flour, Feed, etc.
491	Millwrights
492	Molders, Metal
493	Motion Picture Projectionists
494	Opticians, Lens Grinders, and Polishers
495	Painters, Construction and Maintenance
496	County-City Road Construction and Maintenance
500	Paper, Pulp Mill Workers
501	Paperhangers and Decorators (Painters)
502	Pattern and Model Makers, except paper
504	Piano and Organ Tuners and Repairmen
505	Plasterers and Lathers
507	Shipyard Workers, Shipfitters
508	Steamfitters
509	Atomic Steamfitters, Pipefitters
510	Plumbers and Pipefitters
512	Pressmen and Plate Printers, Printing
513	Rollers and Roll Hands, Metal

Exhibit 2 - Occupation Codes

514	Roofers and Slaters
515	Shoemakers and Repairers (except factory), Leather Workers, Tanners
520	Stationary Engineers
521	Stonecutters and Stone Carvers
523	Structural Metal Workers
524	Tailors
525	Tinsmiths, Coppersmiths, and Sheet Metal Workers
526	Aluminum Workers
527	Cannery and Food Processing Workers
528	Floor Workers (Covering, Waxing, Hardwood, Linoleum, etc.)
530	Tool and Die Makers and Setters, Toolmakers, etc.
535	Upholsterers
545	Craftsmen and Kindred Workers NEC
548	Officers and Enlisted Men, Coast Guard
549	" " Marine Corps
550	" " Air Force
551	" " Navy
552	" " Army
555	" " Armed Forces NEC
553	Merchant Marines
554	Civilian Employees of the Armed Forces
557	Boeing Workers NEC
558	Atomic Energy Workers NEC
559	Nuclear Workers, not Hanford
Operatives	
601	Apprentice, Auto Mechanics
602	Apprentice, Bricklayers and Masons
604	" Electricians

Exhibit 2 - Occupation Codes

605	"	Machinists and Toolmakers
610	"	Mechanics, except Auto
612	"	Plumbers and Pipefitters
613	"	Building Trades NEC
614	"	Metalworking Trades NEC
615	"	Printing Trades
620	"	other specified trades
621		Apprentice, trade not specified
630		Asbestos and Insulation Workers
631		Assemblers, Factory Workers
634		Blasters and Powdermen
635		Boatmen, Canalmen and Lock Keepers
640		Railroad Brakemen, Carmen
641		Bus Drivers
642		Chainmen, Rodmen and Axmen, Surveying
643		Checkers, Examiners and Inspectors, Manufacturing
645		Conductors, Bus and Street Railway
650		Deliverymen and Routemen
651		Dressmakers and Seamstresses, except factory
652		Dyers
653		Metal Filers, Grinders, and Polishers
654		Graders and Packers (except factory) Fruit, Nut, Vegetable
655		Creamery, Ice Cream and Cheesemakers, and Dairy Workers
656		Milk Route Deliverymen
657		Parts Finishers, Boeing
670		Furnacemen, Smeltermen and Pourers
671		Heaters, Metal
672		Other Smelter Workers

Exhibit 2 - Occupation Codes

673	Knitters, Loopers and Toppers, Textile
674	Laundry and Dry Cleaning Operatives
675	Meatcutters (except Slaughter and Packing House) and Butchers
676	Heavy Equipment Operators
677	Slaughterhouse Butchers
680	Milliners
685	Mine Operatives and Laborers NEC
690	Motormen, Mine, Factory, etc.
691	Motormen, Street, Subway, Elevated Railway
692	Oilers and Greasers, except Auto
693	Packers and Wrappers NEC
694	Painters, Sign (except Construction and Maintenance)
695	Photographic Process Workers
701	Power Station Operators
702	Divers
703	Sailors, Deckhands, and Seamen NEC
704	Sawyers, Sawmill Workers and Saw Filers
705	Sewers, Stitchers, and Cutters, Manufacturing
706	Plywood Workers
710	Spinners, Textile
711	Rope Makers
712	Stationary Firemen
713	Railroad Switchmen
714	Taxicab Drivers and Chauffeurs
715	Truck and Tractor Drivers
716	Fuel Oil Truck Drivers
717	Sawmill Truck Drivers
718	Lumber and Logging Truck Drivers

Exhibit 2 - Occupation Codes

719	Moving, Transfer, and Storage Truck Drivers and Workers
720	Weavers, Textile
721	Welders and Flame Cutters
722	Operatives and Kindred Workers NEC
724	Tree Farmers, Forest Service and Parks Department Workers
725	Sandblasters
726	Ordnance Plant Workers

Service Workers

810	Attendants, Hospital and Institutions
811	Nursing Home, Convalescent Center, Hospital Managers, Owners, etc.
812	Attendants, Professional and Personal Service NEC
813	Attendants, Recreation and Amusement (Cardroom, Poolhall, Carnival)
814	Barbers
815	Bartenders
816	Cocktail Bars and Tavern Owners, Operators, Managers, Workers NEC
817	Restaurant and Cafe Owners, Operators, Managers, Workers
818	Brewery Workers
819	Hotel, Motel, Resort, Apartment House, Dude Ranch Owners, Managers, etc.
820	Bootblacks and Shoeshine Operators
821	Boarding, Lodging, Hospital Housekeepers; Motel/Hotel Maids
822	Babysitters, Preschool, Nursery, Day Care
824	Charwomen and Cleaners
825	Cooks, Candymakers & Chefs (except private household)
826	Dishwashers
827	Lumber Camp Cooks
830	Counter and Fountain Workers
831	Elevator Operators
832	Housekeepers and Stewards in private household (maids)

Exhibit 2 - Occupation Codes

833	Window Cleaners, Wall Washers
834	Janitors, Maintenance Men, Sextons
835	Kitchen Workers, Restaurant Employees NEC (not private household)
836	School Custodians
840	Midwives
841	Porters
842	Practical Nurses
843	Hairdressers and Cosmetologists
849	Fumigation Employees
850	Firemen and Fire Protection Workers
851	Guards, Watchmen and Doorkeepers
852	Marshals and Constables
853	Policemen and Detectives
854	Sheriffs and Bailiffs
855	Watchmen, Lumber/Logging
856	Watchmen and Guards, Atomic Energy Plants
860	Watchmen, Crossing and Bridge Tenders
874	Ushers, Recreation and Amusement
875	Waiters and Waitresses
890	Service Workers NEC (except private household)
891	Garbage Collectors

Laborers (except Farm and Mine)

892	Junk Dealers, Secondhand Store and Salvage Workers
960	Carpenter Helpers, except Logging and Mining
962	Fishermen and Oystermen
964	Gardeners (except farm), Groundskeepers, Greenskeepers, Landscapers
965	Longshoremen and Stevedores
966	Produce, Seed, Feed, Grain Company Workers

967	Flour Mill Employees
970	Lumbermen, Raftsmen, Woodchoppers, Lumberjacks, Woodsmen, Loggers
971	Teamsters
972	Truck Driver Helpers
973	Warehousemen NEC
974	Woodworkers (Yardworkers): Mill, Pole, Match, Shingle Weavers, Sash-Door, Furniture Finishers
975	Fruit Warehousemen
976	Fruit Inspectors
980	Laborers NEC
981	Railroad Laborers NEC
982	Construction Laborers NEC
983	Orchard Laborers, Brush Pickers
984	Hod Carriers
985	Chemical Company Employees
986	Pest Control Employees
Other	
908	Housewife/Homemaker (her own home)
909	Nuns
996	Children under 18
997	Institutionalized, Retarded, Disabled War Veterans; Unemployable
998	Unemployed
999	Not stated or unknown

Exhibit 3 - PMR Calculation

Table B. Computation of Proportionate Mortality Ratios for Tuberculosis, all forms, for white miners: United States, 1950

$$\text{Proportionate Mortality Ratio} = \frac{\text{Tabulated deaths for an occupation-cause-color group}}{\text{Expected deaths for an occupation-cause-color group}} \times 100$$

Age	Percent tuberculosis deaths of all deaths all occupations (1)	Deaths from all causes for white miners (2)	Expected deaths from tuberculosis all forms for white miners (3) = (1) x (2)	Tabulated deaths from tuberculosis all forms for white miners (4)
20-24 years	6.28	292	18.34	10
25-29 years	8.30	357	29.63	20
30-34 years	9.01	341	30.72	22
35-44 years	7.78	1,095	85.19	98
45-54 years	5.19	1,784	92.59	174
55-59 years	3.68	1,554	57.19	112
60-64 years	2.77	2,051	56.81	104
Total:				
25-59 years	295.32	426
20-64 years	370.47	540

Proportionate mortality ratio:
 25-59 years: $426 \div 295 \times 100 = 146$
 20-64 years: $540 \div 370 \times 100 = 144$

Reference: Guralnick, L. "Mortality by Occupation and Cause of Death Among Men 20-64 Years of Age: United States 1950." Vital Statistics--Special Reports, Vol. 53, No. 3, 1963.

Exhibit 4 - Occupation Groupings For Men

Grouped Code	Occupation Code	Occupation Title
000	000	Accountants, Auditors, and Assessors
012	012	Airplane Pilots and Navigators
013	013	Architects
014	014	Artists and Art Teachers
021	021	Chemists
022	022	Chiropractors
023	023	Clergymen
060	060	Professors and Instructors
	031	Professors and Instructors, Agricultural Sciences
	032	Professors and Instructors, Biological
	034	Professors and Instructors, Chemistry
	035	Professors and Instructors, Economics
	040	Professors and Instructors, Engineering
	041	Professors and Instructors, Geology and Geophysics
	042	Professors and Instructors, Mathematics
	043	Professors and Instructors, Medical Sciences
	045	Professors and Instructors, Physics
	050	Professors and Instructors, Psychology
	051	Professors and Instructors, Statistics
	052	Professors and Instructors, Natural Sciences NEC
	053	Professors and Instructors, Social Sciences NEC
	054	Professors and Instructors, Non- scientific subjects
	055	Professors and Instructors, Forestry
071	071	Dentists
074	074	Draftsmen
075	075	Editors and Reporters

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
076	076	Newspaper Owners, Publishers, and Managers
080	080	Aeronautical Engineers
	097	Engineers, Boeing
081	081	Chemical Engineers
082	082	Civil Engineers
083	083	Electrical Engineers
085	085	Mechanical Engineers
086	086	Marine Engineers
091	091	Mining Engineers
093	093	Engineers NEC
	084	Engineers, Industrial
	090	Engineers, Metallurgical
	092	Engineers, Sales
	094	Construction Engineers
	095	Engineers, Refrigeration
	099	Engineers, Steam
096	096	Operating Engineers
103	103	Foresters and Conservationists
104	104	Funeral Directors and Embalmers
105	105	Lawyers and Judges
120	120	Musicians and Music Teachers
152	152	Optometrists
154	154	Personnel and Labor Relations Workers
160	160	Pharmacists and Druggists
161	161	Photographers
	695	Photographic Process Workers
162	162	Physicians

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
	153	Osteopaths
174	174	Statisticians, Actuaries, Computer Programmers
	135	Mathematicians
181	181	Surveyors
	642	Chainmen, Rodmen, Axmen, Surveying
184	184	School Teachers
	182	Teachers, Elementary and Secondary Schools
	183	Teachers, High School, NEC
185	185	Medical and Dental Technicians
186	186	X-Ray Technicians
190	190	Electrical and Electronic Technicians
194	194	Veterinarians
195	195	Professional and Technical Workers NEC
196	196	Students
200	200	Farmers NEC
201	201	Orchardists
202	202	Nurserymen
203	203	Ranchers (Cattle, Sheep, etc.)
204	204	Dairy Farmers
205	205	Wheat and Grain Farmers
206	206	Egg/Poultry Farmers and Distributors
249	249	Florists
250	250	Store Buyers and Department Heads
251	251	Buyers and Shippers of Farm Products and Produce Brokers
252	252	Railroad Conductors
253	253	Credit Men
255	255	City and Civil Service Employees

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
260	260	Public Administration Inspectors
262	262	Building Managers and Superintendents
265	265	Ships' Officers, Pilots, Pursers, and Engineers
270	270	Public Administrators and Officials NEC
275	275	Lodge/Society/Union Officials
280	280	Postmasters
285	285	Purchasing Agents and Buyers NEC, Sales Managers
290	290	Managers, Officials, and Proprietors NEC
291	291	Gas Station/Garage Owners and Attendants
292	292	Lumber Company Managers, Owners, and Workers
294	294	Boeing Officials, Managers, and Supervisors
295	295	Fuel Oil Dealers and Workers
297	297	Furniture Store Owners, Managers, and Clerks
298	298	Grocers and Grocery Clerks
304	304	Transportation Baggage men
305	305	Bankers, Bank Clerks, and Managers
310	310	Bookkeepers, Cashiers, and Payroll Clerks
	312	Cashiers
	333	Payroll and Timekeeping Clerks
314	314	Vehicle Dispatchers and Starters, and Traffic Managers
321	321	Adjusters and Examiners
323	323	Mail Carriers
340	340	Postal Clerks
343	343	Shipping and Receiving Clerks
350	350	Stock Clerks and Storekeepers
352	352	Telegraph Operators and Radio Operators
	164	Radio Operators

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
354	354	Ticket, Station, Express, and Travel Agents
361	361	Railroad Clerks
362	362	Boeing Clerks
363	363	Public Utility Workers
364	364	Public Utility Supervisors and Officials
370	370	Clerks NEC
380	380	Travelling Salesmen and Sales Representatives
	382	Demonstrators
	383	Hucksters, Peddlers, Promoters
384	384	Lumber Sales
385	385	Insurance Agents, Brokers, Underwriters, and Appraisers
386	386	Car Salesmen
390	390	Newsboys
393	393	Real Estate Agents, Brokers, Developers, and Appraisers
395	395	Stocks and Bonds Salesmen
396	396	Sales Clerks NEC
400	400	Carpet Makers and Layers
401	401	Bakers
402	402	Blacksmiths
403	403	Boilermakers
405	405	Brickmasons, Stonemasons, and Tile Setters
	602	Apprentice Bricklayers and Masons
406	406	Building and Construction Contractors and Foremen
	408	Railroad Contractors
	429	Construction Foremen, etc. NEC
	613	Apprentice Building Trades NEC
407	407	Boatbuilders

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
410	410	Cabinetmakers
411	411	Carpenters
	960	Carpenter's Helpers, except Logging and Mining
412	412	Fabric Workers
	652	Dyers
	673	Knitters, Loopers, Toppers
	705	Sewers, Stitchers, Cutters
	710	Spinners
	711	Rope Makers
	720	Weavers
413	413	Cement and Concrete Finishers
414	414	Compositors and Typesetters
415	415	Cranemen, Derrickmen, and Hoistmen
416	416	Oil Well Drillers
417	417	Oil Refinery Workers
420	420	Decorators and Window Dressers
421	421	Electricians
	419	Boeing Electricians
	604	Apprentice Electricians
425	425	Road Graders, Pavers, Machine Operators, and Excavators
	496	County and City Road Construction and Maintenance Workers
	676	Heavy Equipment Operators
426	426	Water Well Drillers
427	427	Railroad Foremen
430	430	Foremen NEC
434	434	Glaziers
435	435	Smelter Workers

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
	431	Forgemen and Hammermen
	670	Furnacemen, Smelters, and Pourers
	671	Heaters, Metal
	672	Other Smelter Workers
444	444	Log/Lumber Inspectors, Scalers, Graders, and Timber/Cruisers
447	447	Railroad Inspectors
450	450	Inspectors NEC
	445	Inspectors, Machinery
	448	Inspectors, Construction
	643	Checkers, Examiners and Inspectors, Manufacturing
451	451	Jewelers, Watchmakers, Gold and Silversmiths, Locksmiths
453	453	Telegraph/Telephone/Power Linemen
454	454	Locomotive Engineers
459	459	Telephone Installers and Repairers
460	460	Locomotive Firemen
462	462	Manufacturing Workers
465	465	Machinists NEC
	461	Military Machinist
	605	Apprentice Machinists and Toolmakers
469	469	Railroad Workers NEC
	981	Railroad Laborers
470	470	Air Conditioning/Heating/Refrigeration Mechanics and Repairmen
471	471	Airplane Mechanics and Repairmen
472	472	Automobile Mechanics and Repairmen
	601	Apprentice Auto Mechanics
473	473	Office Machine Mechanics and Repairmen

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
474	474	Radio/Television Mechanics and Repairmen
475	475	Railroad/Car Shop Mechanics and Repairmen
477	477	Tire Recappers and Repairers, and Rubber Welders
479	479	Body and Fender Repairmen and Auto Painters
480	480	Mechanics and Repairmen and Auto Painters
	610	Apprentice Mechanics, Except Automobile
490	490	Grain/Flour/Feed Mill Workers
	967	Flour Mill Employees
491	491	Millwrights
492	492	Metal Molders
493	493	Motion Picture Projectionists
500	500	Paper/Pulp Mill Workers
501	501	Paper Hangers and Decorators (Painters)
502	502	Pattern and Model Makers, except paper
505	505	Plasterers and Lathers
507	507	Shipyard Workers, Shipwrights, and Shipfitters
	409	Shipwrights
	422	Electricians, Shipyard
	467	Machinists, Shipyard
510	510	Plumbers and Pipefitters
	508	Steamfitters
	612	Apprentice Plumbers and Pipefitters
512	512	Printing Pressmen, Plate
	414	Compositors and Typesetters
	423	Electrotypers and Stereotypers
	615	Apprentice Printing Trades
514	514	Roofers and Slaters

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
515	515	Shoemakers, Shoe Repairers, and Leather Workers
520	520	Stationary Engineers and Firemen
	712	Stationary Firemen
521	521	Stonecutters and Stonecarvers and Sandblasters
	725	Sandblasters
523	523	Structural Metal Workers
	452	Jobsetters, Metal
	614	Apprentice Metalworking Trades NEC
	653	Filers, Grinders and Polishers, Metal
524	524	Tailors
525	525	Tinsmiths, Coppersmiths, and Sheet Metal Workers
	513	Rollers and Roll Hands, Metal
526	526	Aluminum Workers
527	527	Cannery and Food Processing Workers
528	528	Floor Workers (Covering, Hardwood, Linoleum, etc.)
530	530	Tool and Die Makers and Setters
535	535	Upholsterers
545	545	Craftsmen and Kindred Workers NEC
551	551	Navy/Coast Guard Officers and Enlisted Men
	548	Officers and Enlisted Men, Coast Guard
	549	Officers and Enlisted Men, Marine Corps
	550	Officers and Enlisted Men, Air Force
	552	Officers and Enlisted Men, Army
557	555	Army/Air Force/Marine Corps Officers and Enlisted Men
	557	Boeing Workers NEC
	089	Draftsmen, Boeing

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
	446	Inspectors, Boeing
	466	Machinists, Boeing
	468	Maintenance Workers, Boeing
	657	Parts Finishers, Boeing
558	558	Atomic Energy Workers NEC
	007	Atomic Energy Accountants
	087	Engineers, Nuclear
	088	Draftsmen, Atomic Energy
	418	Atomic Energy Electrician
	509	Atomic Steamfitters, Pipefitters, etc.
	559	Nuclear Workers, Not Hanford
	856	Atomic Energy Plants Watchmen and Guards
630	630	Asbestos and Insulation Workers
634	634	Blasters and Powdermen
640	640	Railroad Brakemen
641	641	Bus Drivers
	691	Street, Subway, Elevated Railway Motormen
650	650	Deliverymen and Routemen
655	655	Dairy Workers, Ice Cream and Cheesemakers
656	656	Milk Route Deliverymen
674	674	Laundry/Dry Cleaning Operatives
675	675	Meatcutters and Butchers
	677	Slaughter House Butchers
685	685	Mine Operatives and Laborers
692	692	Oilers and Greasers, except Auto
693	693	Packers and Wrappers NEC
694	694	Painters

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
	495	Painters, Construction, and Maintenance
701	701	Power Station Operators
703	703	Sailors, Deckhands, and Seamen NEC
	553	Merchant Marine
706	706	Plywood Workers
713	713	Railroad Switchmen
714	714	Taxicab Drivers and Chauffeurs
715	715	Truck and Tractor Drivers
	719	Moving, Transfer and Storage Workers and Truck Drivers
	971	Teamsters
	972	Truck Driver Helpers
716	716	Fuel Oil Truck Drivers
718	718	Lumber/Log/Sawmill Truck Drivers
	717	Sawmill Truck Drivers
721	721	Welders and Flame Cutters
724	724	Tree Farmers, Forest Service and Parks Department Workers
726	726	Ordnance Plant Workers
810	810	Hospital/Institution Attendants
812	812	Recreation/Amusement Attendants (Cardroom, Poolhall, Carnival)
814	814	Barbers
815	815	Bartenders
	816	Cocktail Bar/Tavern Owner, Operators, and Workers
817	817	Restaurant Owners, Managers, and Workers
818	818	Brewery Workers
819	819	Hotel/Motel Owners and Managers
825	825	Cooks, Candymakers, and Chefs

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
	827	Lumber Camp Cooks
	835	Kitchen Workers, Restaurant Employees, NEC except private household
826	826	Dishwashers
833	833	Window Cleaners and Wall Washers
834	834	Janitors, Maintenance Men, and Sextons
836	836	School Custodians
841	841	Porters
843	843	Hairdressers and Cosmetologists
850	850	Firemen and Fire Protection Workers
851	851	Guards, Watchmen, and Doorkeepers
	860	Bridge Tenders and Crossing Watchmen
853	853	Policemen, Sheriffs, and Marshals
	852	Marshals and Constables
	854	Sheriffs and Bailiffs
875	875	Waiters
891	891	Garbage Collectors
892	892	Junk Dealers, Secondhand Store and Salvage Workers
902	902	Farm Laborers, Wage Workers
	222	Farm Managers
	901	Farm Foremen
	903	Unpaid Family Farm Workers
	904	Farm Caretakers
	905	Self-Employed Farm Service
	906	Itinerant Laborers
907	907	Shepherders and Wool Workers
962	962	Fishermen and Oystermen

Exhibit 4 - Occupation Groupings For Men (continued)

Grouped Code	Occupation Code	Occupation Title
964	964	Landscape Gardeners, Groundskeepers, and Greenskeepers
965	965	Longshoremen and Stevedores
966	966	Produce/Seed/Feed/Grain Company Workers
970	970	Loggers
	455	Logging Engineers
	464	Logging Machinists and Mechanics
	855	Watchmen, Maintenance, Logging
973	973	Warehousemen
974	974	Wood/Lumber/Sawmill Workers
	476	Maintenance--Lumber, Plywood, Veneer, etc.
	704	Sawyers, Sawmill Workers and Saw Filers
975	975	Fruit Warehousemen
	654	Fruit/Nut/Vegetable Graders and Packers
	976	Fruit Inspectors
980	980	Laborers NEC
982	982	Construction Laborers NEC
	984	Hod Carriers
983	983	Orchard Laborers
985	985	Chemical Company Workers
997	997	Disabled, Retarded, Institutionalized, Unemployable Persons
999	999	Not Stated or Unknown
	998	Unemployed

Exhibit 4 - Occupation Groupings For Women

Grouped Code	Occupation Code	Occupation Title
000	000	Accountants, Auditors, and Assessors
014	014	Artists and Art Teachers
020	020	Authors
023	023	Clergy
060	060	Professors and Instructors
	031	Professors and Instructors, Agricultural Science
	032	Professors and Instructors, Biological Science
	034	Professors and Instructors, Chemistry
	035	Professors and Instructors, Economics
	042	Professors and Instructors, Mathematics
	043	Professors and Instructors, Medical Sciences
	050	Professors and Instructors, Psychology
	051	Professors and Instructors, Statistics
	052	Professors and Instructors, Natural Sciences NEC
	053	Professors and Instructors, Social Sciences NEC
	054	Professors and Instructors, Non-Scientific Subjects
073	073	Dietitians and Nutritionists
075	075	Editors and Reporters
111	111	Librarians
	302	Library Assistants
120	120	Musicians and Music Teachers
150	150	Nurses
	151	Nurses, Student Professional
170	170	Religious Workers
171	171	Social and Welfare Workers
184	184	School Teachers
	182	Elementary School Teachers

Exhibit 4 - Occupation Groupings For Women (continued)

Grouped Code	Occupation Code	Occupation Title
	183	High School Teachers
185	185	Medical and Dental Technicians
190	190	Electrical and Electronic Technicians
196	196	Students
200	200	Farmers
	201	Orchardists
	202	Nurserywomen
	203	Ranchers, Cattle, Sheep (Horse Trainers, Grooms, Rodeo Performers)
	204	Farmers, Dairy
	205	Farmers, Wheat, Grain
	206	Egg, Poultry Farmers, Distributors
249	249	Florists
250	250	Store Buyers and Department Heads
	285	Purchasing Agents
255	255	City and Civil Service Employees
290	290	Managers, Officials, and Proprietors NEC
298	298	Grocers and Grocery Clerks
303	303	Attendants, Physicians and Dentists Offices
305	305	Bankers, Bank Clerks, and Managers
310	310	Bookkeepers, Cashiers, and Payroll Clerks
	312	Cashiers
	333	Payroll and Timekeeping Clerks
340	340	Postal Workers
	280	Postmasters
342	342	Secretaries
	345	Stenographers
343	343	Shipping and Receiving Clerks

Exhibit 4 - Occupation Groupings For Women (continued)

Grouped Code	Occupation Code	Occupation Title
	350	Stock Clerks
	973	Warehousewomen
353	353	Telephone Operators
362	362	Boeing Clerks
	294	Boeing Supervisors
363	363	Public Utility Workers
364	364	Public Utility Supervisors
370	370	Clerks NEC
	320	File Clerks
	321	Adjusters and Examiners
	325	Office Machine Operators
	341	Receptionists
	360	Typists, Data Entry Operators
	361	Railroad Clerks
380	380	Traveling Sales Representatives
	382	Demonstrators
	383	Peddlers, Hucksters, Promoters
385	385	Insurance Agents, Brokers, Underwriters, and Appraisers
393	393	Real Estate Agents, Brokers, Developers, and Appraisers
396	396	Sales Clerks NEC
401	401	Bakers
412	412	Fabric Workers
	652	Dyers
	673	Knitters, Loopers, Toppers
	705	Sewer, Stitcher, Cutter
	710	Spinner
	711	Rope Maker

Exhibit 4 - Occupation Groupings For Women (continued)

Grouped Code	Occupation Code	Occupation Title
	720	Weavers
500	500	Paper/Pulp Mill Workers
507	507	Shipyards Workers and Shipfitters
	409	Shipwrights
	422	Shipyards Electricians
	467	Shipyards Machinists
512	512	Printers and Typesetters
	414	Compositors and Typesetters
527	527	Cannery/Food Processing Workers
557	557	Boeing Workers
	089	Boeing Draftswomen
	419	Boeing Electrician
	446	Boeing Inspector
	466	Boeing Machinist
	468	Boeing Maintenance
	657	Boeing Parts Finisher
558	558	Atomic Energy Workers NEC
	007	Atomic Energy Accountants
	087	Engineers, Nuclear
	088	Draftswomen, Atomic
	559	Nuclear Workers not Hanford
631	631	Assemblers, Factory Workers
641	641	Bus Drivers
651	651	Dressmakers and Seamstresses, except factory
	524	Tailors
674	674	Laundry/Dry Cleaning Operatives
675	675	Meatcutters and Wrappers

Exhibit 4 - Occupation Groupings For Women (continued)

Grouped Code	Occupation Code	Occupation Title
	677	Slaughterhouse Butchers
810	810	Hospital/Institution Attendants
815	815	Bartenders
816	816	Cocktail Bar/Tavern Owners, Operators, and Workers
817	817	Restaurant Owners, Managers, and Workers
819	819	Hotel/Motel Owners, Managers, and Workers
821	821	Hotel/Motel Maids and Housekeepers
824	824	Charwomen and Cleaners
825	825	Cooks, Candymakers, and Chefs
832	832	Housekeepers and Stewards (in private household)
834	834	Janitors
	836	School Custodians
835	835	Kitchen Workers (not private household)
842	842	Nurses, Practical
843	843	Hairdressers and Cosmetologists
875	875	Waitresses
909	909	Nuns
974	974	Wood/Lumber/Sawmill Workers
	476	Mill Maintenance
	704	Sawyers
	706	Plywood Workers
975	975	Fruit Warehousemen
	654	Fruit/Nut/Vegetable Graders & Packers
	976	Fruit Inspectors
980	980	Laborers
997	997	Unemployable Women
999	999	Not Stated or Unknown

Exhibit 4 - Occupation Groupings For Women (continued)

Grouped Code	Occupation Code	Occupation Title
	998	Unemployed

Index of Occupations For Men

Grouped Code (Column 3) supersedes Occupation Code (Column 2) when listed. An asterisk (*) indicates that no occupation mortality table is printed (data available on request).

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Accountants	5461	000	---	7
Accountants, Atomic Energy	45	007	558	30
Actors	179	010*	---	---
Actuaries	358	174	---	12
Adjusters	513	321*	---	---
Administrators, Public	1346	270	---	15
Administrators, School	1469	184	---	12
Advertising Agents	6577	380	---	19
Advisers, Farm and Home Management	52	102*	---	---
Aeronautical Engineers	380	080	---	9
Agents, Advertising	6577	380	---	19
Agents, Express	1102	354	---	18
Agents, Insurance	3966	385	---	19
Agents NEC	153	301*	---	---
Agents, Purchasing	1796	285	---	16
Agents, Real Estate	5319	393	---	20
Agents, Station and Ticket	1102	354	---	18
Agents, Travel	1438	354	---	18
Agricultural Science Professors	31	031	060	8
Agricultural Scientists	156	130*	---	---
Air Conditioning Repairmen	1058	470	---	25
Aircraft Managers	69	289*	---	---
Air Force Officers & Enlisted Men	2223	550	551	29

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Airplane Electricians	379	419	421	22
Airplane Mechanics and Repairmen	1478	471	---	25
Airplane Navigators	762	012	---	7
Airplane Pilots	762	012	---	7
Air Traffic Controllers	98	011*	---	---
Aluminum Workers	2300	526	---	28
Amusement Attendants (Cardroom, Pool Hall, Carnival)	723	812	---	33
Analysts	358	174	---	12
Annealers	956	435	---	23
Announcers, Radio	179	010*	---	---
Apartment House Owners, Managers	3931	819	---	34
Appraisers, Insurance	3966	385	---	19
Appraisers, Real Estate	5319	393	---	20
Apprentice Auto Mechanics	8	601	472	25
Apprentice Bricklayers & Masons	10	602	405	21
Apprentice, Building Trades NEC	19	613	406	21
Apprentice Electricians	17	604	421	22
Apprentice Machinists and Toolmakers	44	605	465	24
Apprentice Mechanics except Auto	4	610	480	26
Apprentice, Metal Working Trades NEC	15	614	523	28
Apprentice, other specified trades	9	620*	---	---
Apprentice Plumbers and Pipefitters	14	612	510	27
Apprentice, Printing Trades	7	615	512	27
Apprentice, trade not specified	1	621*	---	---
Architects	625	013	---	7
Armed Forces Civilian Employees	403	554*	---	---
Armed Forces Officers and Enlisted men NEC	979	555	551	29

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Army Officers and Enlisted Men	4505	552	551	29
Artists	636	014	---	7
Art Teachers	636	014	---	7
Asbestos and Insulation Workers	325	630	---	30
Assemblers	217	631*	---	---
Assessors	5461	000	---	7
Assistants, Library	15	302*	---	---
Athletes	203	015*	---	---
Atomic Energy Accountants	45	007	558	30
Atomic Energy Draftsmen	16	088	558	30
Atomic Energy Electricians	96	418	558	30
Atomic Energy Plant Watchmen and Guards	179	856	558	30
Atomic Energy Steamfitters and Pipefitters	116	509	558	30
Atomic Energy Workers NEC	1853	558	---	30
Attendants, Flight	30	009*	---	---
Attendants, Gas Station/Garage	3742	291	---	16
Attendants, Hospital/Institution	710	810	---	33
Attendants, Library	15	302*	---	---
Attendants, Physicians' and Dentists' Offices	22	303*	---	---
Attendants, Recreation and Amusement	723	812	---	33
Auctioneers	82	381*	---	---
Auditors	5461	000	---	7
Authors	183	020*	---	---
Auto Greasers and Washers	3742	291	---	16
Auto Mechanic Apprentices	8	601	472	25
Auto Mechanics	6409	472	---	25
Auto Painters	912	479	---	26
Auto Service Attendants	3742	291	--	16

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Awning Sales and Service Workers	89	412	---	21
Axmen, Surveying	28	642	181	12
Baggagemen, Transportation	183	304*	---	---
Bailiffs and Sherrifs	609	854	853	35
Bakers	1881	401	---	20
Bankers, Bank Clerks, Managers	2170	305	---	17
Barbers	3705	814	---	33
Bartenders	1884	815	---	33
Beekeepers	85	207*	---	---
Biological Science Professors	9	032	060	8
Biological Scientists	139	131*	---	---
Blacksmiths	1412	402	---	20
Blasters and Powdermen	273	634	---	30
Boarding/Lodging Housekeepers	40	821*	---	---
Boatbuilders	565	407	---	21
Boatmen	251	635*	---	---
Boat Workers, Fiberglass	103	436*	---	---
Body/Fender Repairmen	912	479	---	26
Boeing Clerks	320	362	---	18
Boeing Draftsmen	119	089	557	29
Boeing Electricians	379	419	421	22
Boeing Engineers	1671	097	080	9
Boeing Inspectors	531	446	557	29
Boeing Machinists	1649	466	557	29
Boeing Maintenance Workers	299	468	557	29
Boeing Managers	1450	294	---	16
Boeing Officials	1450	294	---	16
Boeing Parts Finishers	462	657	557	29

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Boeing Supervisors	1450	294	---	16
Boeing Workers NEC	3871	557	---	29
Boilermakers	1963	403	---	21
Bonds Salesmen	592	395	---	20
Bookbinders	133	404*	---	---
Bookkeepers	1234	310	---	17
Bootblacks	115	820*	---	---
Brakemen, Railroad	1865	640	---	30
Brewery Workers	630	818	---	34
Bricklayer Apprentices	10	602	405	21
Brickmasons	2069	405	---	21
Bridge Tenders	392	860	851	35
Brokers, Insurance	3966	385	---	19
Brokers, Produce/Farm Products	1123	251*	---	---
Brokers, Real Estate	5319	393	---	20
Brush Pickers	1432	983	---	37
Building Contractors	5230	406	---	21
Building Managers/Superintendents	395	262*	---	---
Building Trade Apprentices NEC	19	613	406	21
Bus & Street Railway Conductors	108	645*	---	---
Bus Drivers	1922	641	---	30
Butchers, except Slaughterhouse	2926	675	---	31
Butchers, Slaughterhouse	1053	677	675	31
Buyers, Farm Products	1123	251*	---	---
Buyers NEC	1796	285	---	16
Buyers, Store	597	250	---	15
Cabinetmakers	1734	410	---	21
Cafe/Restaurant Owners Managers and Workers	2854	817	---	34

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Canalmen	251	635*	---	---
Candymakers and Cooks	5775	825	---	34
Cannery Workers	2070	527	---	29
Canvasmakers	89	412	---	21
Carmen, Railroad	1865	640	---	30
Carpenters	21844	411	---	21
Carpenter Helpers, except Logging and Mining	17	960	411	21
Carpet Layers and Makers	277	400	---	20
Car Salesmen	2880	386	---	19
Car Shop/Railroad Mechanics	1092	475	---	25
Car Washers	3742	291	---	16
Cashiers	204	312	310	17
Cement Finishers	1813	413	---	22
Chainmen, Surveying	28	642	181	12
Chauffeurs	1349	714	---	32
Checkers, Manufacturing	118	643	450	23
Cheesemakers	1175	655	---	30
Chefs	5775	825	---	34
Chemical Company Employees	735	985	---	37
Chemical Engineers	203	081	093	10
Chemical Salesmen	175	388*	---	---
Chemistry Professors	23	034	060	8
Chemists	396	021	---	8
Chiropodists	28	016*	---	---
Chiropractors	245	022	---	8
City/County Road Construction & Maintenance Workers	2095	496	425	22
City Employees	3911	255	---	15

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Civil Engineers	2010	082	---	9
Civil Service Employees	3911	255	---	15
Cleaners	40	824*	---	---
Clergymen	2926	023	---	8
Clerks, Bank	2170	305	---	17
Clerks, Boeing	320	362	---	18
Clerks, File	30	320*	---	---
Clerks, Furniture Store	1077	297	---	17
Clerks, Grocery Store	5562	298	---	17
Clerks, NEC	1619	370	---	19
Clerks, Payroll & Timekeeping	174	333	310	17
Clerks, Postal	2123	340	---	18
Clerks, Railroad	1198	361	---	18
Clerks, Sales NEC	6946	396	---	20
Clerks, Shipping & Receiving	1182	343	---	18
Clerks, Stock	1609	350	---	18
Coaches, Athletic	203	015*	---	---
Coast Guard Officers/Enlisted Men	477	548	551	29
Cocktail Bar Owners/Operators Managers, & Workers	1535	816	815	33
Collectors, Bill & Account	145	313*	---	---
College Presidents & Deans	109	030*	---	---
Compositors	518	414	512	27
Comptrollers	5461	000	---	7
Computer Programmers	358	174	---	12
Concrete Finishers	1813	413	---	22
Conductors, Bus/Street Railway	108	645*	---	---
Conductors, Railroad	1338	252	---	15

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Conservationists	348	103	---	11
Constables & Marshals	123	852	853	35
Construction Contractors	5230	406	---	21
Construction, City/County Roads	2095	496	425	22
Construction Engineers	526	094	093	10
Construction Foremen	1119	429	406	21
Construction Inspectors	235	448	450	23
Construction Laborers NEC	6564	982	---	37
Construction Painters	6354	495	694	31
Contractors, Building/Construction	5230	406	---	21
Contractors, Railroad	39	408	406	21
Controllers, Air Traffic	98	011*	---	---
Cooks, Chefs, Candymakers	5775	825	---	34
Cooks, Lumber Camp	158	827	825	34
Coppersmiths	2977	525	---	28
Cosmetologists	203	843	---	35
County/City Road Construction & Maintenance Workers	2095	496	425	22
Court Reporters	48	106*	---	---
Craftsmen NEC	435	545*	---	---
Cranemen	930	415	---	22
Creamery Workers	1175	655	---	30
Credit Men	488	253	---	15
Crossing Watchmen	392	860	851	35
Custodians, School	2885	836	---	35
Cutters/Sewers, Manufacturing	168	705	412	21
Dairy Farmers	3704	204	---	14
Dairy Workers	1175	655	---	30

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Dancers	36	070*	---	---
Dancing Teachers	36	070*	---	---
Deans, College	109	030*	---	---
Deckhands	2306	703	---	32
Decorators (Home Interior)	947	501	---	27
Decorators (Window Dressers)	270	420	---	22
Deliverymen	1352	650	---	30
Deliverymen, Milk Route	490	656	---	30
Demonstrators	18	382	380	19
Dental Technicians	488	185	---	12
Dentists	1264	071	---	9
Dentist Office Attendants	22	303*	---	---
Department Heads	597	250	---	15
Derrickmen	930	415	---	22
Designers	184	072*	---	---
Detectives & Policemen	2467	853	---	35
Developers, Real Estate	5319	393	---	20
Dietitians	31	073*	---	---
Dishwashers	343	826	825	34
Dispatchers, Vehicle	1128	314	---	17
Distributors, Egg & Poultry	906	206	---	14
Divers	45	702*	---	---
Doorkeepers, Guards, Watchmen	2860	851	---	35
Draftsmen	502	074	---	9
Draftsmen, Atomic Energy	16	088	558	30
Draftsmen, Boeing	119	089	557	29
Dressmakers, except Factory	12	651*	---	---
Drillers, Oil Well	272	416	---	22

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Drillers, Water	385	426	---	22
Drivers, Bus	1922	641	---	30
Drivers, Fuel Oil Trucks	516	716	---	32
Drivers, Lumber & Log Trucks	1246	718	---	32
Drivers, Moving/Transfer Trucks	1115	719	715	32
Drivers, Sawmill Trucks	29	717	718	32
Drivers, Taxicab	1349	714	---	32
Drivers, Truck & Tractor	11050	715	---	32
Druggists	1504	160	---	11
Dry Cleaning Operatives	1652	674	---	31
Economics Professors	13	035	060	8
Economists	41	172*	---	---
Editors	476	075*	---	---
Egg Farmers	906	206	---	14
Electrical/Electronic Technicians	905	190	---	13
Electrical Engineers	1312	083	---	10
Electricians	6308	421	---	22
Electrician Apprentices	17	604	421	22
Electricians, Atomic Energy	96	418	558	30
Electricians, Boeing/Airplane	379	419	421	22
Electricians, Shipyard	558	422	507	27
Electrotypers	115	423	512	27
Elevator Operators	186	831*	---	---
Embalmers	449	104	---	11
Engineering Professors	48	040	060	8
Engineers, Aeronautical	380	080	080	9
Engineers, Boeing	1671	097	080	9
Engineers, Chemical	203	081	080	9

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Engineers, Civil	2010	082	---	9
Engineers, Construction	100	092	093	10
Engineers, Electrical	1312	083	---	10
Engineers, Industrial	166	084	093	10
Engineers, Locomotive	2430	454	---	24
Engineers, Logging	351	455	970	36
Engineers, Marine	846	086	---	10
Engineers, Mechanical	621	085	---	10
Engineers, Metallurgical	110	090	093	10
Engineers, Mining	323	091	---	10
Engineers NEC (including Aides)	3546	093	---	10
Engineers, Nuclear	240	087	558	30
Engineers, Operating	1437	096	---	11
Engineers, Railroad	2430	454	---	24
Engineers, Refrigeration	239	095	093	10
Engineers, Sales	100	092	093	10
Engineers, Ship	1607	265	---	15
Engineers, Stationary	1418	520	---	28
Engineers, Steam	448	099	093	10
Engravers	68	424*	---	---
Entertainers	105	101*	---	---
Examiners	513	321*	---	---
Examiners, Manufacturing	118	643	450	23
Excavating Machine Operators	1709	425	---	22
Express Agents	1102	354	---	18
Fabric Workers	89	412	---	21
Factory Motormen	26	690*	---	---
Farm Caretakers	11	904	902	36

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Farmers, Bee	85	207*	---	---
Farmers, Cattle	5128	203	---	14
Farmers, Dairy	3704	204	---	14
Farmers, Egg	906	206	---	14
Farmers, Grain	4985	205	---	14
Farmers, Mink	343	387*	---	---
Farmers, Nursery	691	202	---	14
Farmers, Poultry	906	206	---	14
Farmers, Sheep	5128	203	---	14
Farmers, Tree	1541	724	---	33
Farmers, Wheat	4985	205	---	14
Farm Foremen	110	901	902	36
Farm Laborers	5302	902	---	36
Farm Laborers, Itinerant	60	906	902	36
Farm Laborers, Orchard	1432	983	---	37
Farm Managers	95	222	902	36
Farm Management Advisers	52	102*	---	---
Farm Owners NEC	37168	200	---	13
Farm Products Buyers & Shippers	1123	251*	---	---
Farm Service (Self-Employed)	605	905	902	36
Farm Workers, Family	5	903	902	36
Feed/Grain Company Workers	935	966	---	36
Feed Mill Workers	250	490	---	26
Fender/Body Repairmen	912	479	---	26
Fiberglass Workers	103	436*	---	---
File Clerks	30	320*	---	---
Filers, Metal	199	653	523	28
Filers, Saw	4357	704	974	37

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Firemen/Fire Protection Workers	2266	850	---	35
Firemen, Locomotive	395	460	---	24
Firemen, Stationary	504	712	520	28
Fishermen	6134	962	---	36
Flame Cutters	3168	721	---	33
Flight Attendants, Airline	30	009*	---	---
Floor Workers (Covering, Hardwood)	397	528	---	29
Floor Men & Managers,Store	166	254*	---	---
Florists	494	249	---	14
Flour Mill Employees	935	967	490	26
Food Processing Workers	2070	527	---	29
Foremen, Construction	1119	429	406	21
Foremen, Farm	110	901	902	36
Foremen, Garage	3742	291	---	16
Foremen NEC	956	430	---	23
Foremen, Railroad	1198	427	---	23
Foresters	348	103	---	11
Forest Service Workers/ Lookouts	1541	724	---	33
Forgemen	21	431	435	23
Foundry, Furnacemen	509	670	435	23
Fountain/Counter Workers	48	830*	---	---
Fruit/Nut Graders & Packers	147	654	975	37
Fruit Inspectors	90	976	975	37
Fruit Warehouse Workers	607	975	---	37
Fuel Oil Dealers/Workers	2171	295	---	16
Fuel Oil Truck Drivers	516	716	---	32
Fumigation Workers	8	849*	---	---
Funeral Directors	449	104	---	11

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Furnacemen	509	670	435	23
Furniture Finishers	14850	974	---	37
Furniture Store Owners, Managers, Clerks	1077	297	---	17
Fur Traders	343	387*	---	---
Game Department Workers	1541	724	---	33
Garage Laborers, Car Washer	3742	291	---	16
Garage Owners	3742	291	---	16
Garbage Collectors	408	891	---	35
Gardeners, Landscape (not Farm)	3594	964	---	36
Gas Station Attendants	3742	291	---	16
Gas Station Owners	3742	291	---	16
Geologists & Geophysicists	94	134*	---	---
Geology/Geophysics Professors	11	041	060	8
Glaziers	518	434	---	23
Goldsmiths	1381	451	---	23
Grader Operators, Road	1709	425	---	22
Graders, Log & Lumber	1477	444*	---	---
Graders/Packers, Fruit/Vegetables	147	654	975	37
Grain/Feed Company Workers	935	966	---	36
Grain Farmers	4985	205	---	14
Grain, Flour/Feed Mill Workers	250	490	---	26
Greasers, Auto	3742	291	---	16
Greasers, except Auto	410	692	---	31
Greenskeepers	3594	964	---	36
Grinders, Metal	199	653	523	28
Grocers	5562	298	---	17
Groundskeepers	3594	964	---	36
Group Workers	107	165*	---	---

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Guards, Atomic Energy Plant	179	856	558	30
Guards, Watchmen/Doorkeepers	2860	851	---	35
Hairdressers	203	843	---	35
Hammermen	21	431	435	23
Hardwood Floor Workers	397	528	---	29
Healers, Therapists	270	193*	---	---
Heaters, Metal	41	671	435	23
Heating Repairmen	1058	470	---	25
Heat Treaters	956	435	---	23
Heavy Equipment Operators	3462	676	425	22
Highway Maintencemen	1709	425	---	22
Hod Carriers	530	984	982	37
Hoistmen	930	415	---	22
Home Management Advisers	52	102*	---	---
Hospital Attendants	710	810	---	33
Hospital Managers	283	811*	---	---
Hotel Owners & Managers	3931	819	---	34
Housekeepers & Stewards (private household)	221	832*	---	---
Housekeepers, Lodging	40	821*	---	---
Hucksters	137	383	380	19
Ice Cream Manufacturers	1175	655	---	30
Industrial Engineers	166	084	093	10
Inspectors, Boeing	531	446	557	29
Inspectors, Construction	235	448	450	23
Inspectors, Fruit	90	976	975	37
Inspectors, Log & Lumber	1477	444*	---	---
Inspectors, Machinery	79	445	450	23
Inspectors, Manufacturing	118	643	450	23

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Inspectors NEC	443	450	---	23
Inspectors, Public Administration	704	260*	---	---
Inspectors, Railroad	459	447	---	23
Institution Attendants	710	810	---	33
Institutionalized	2288	997	---	38
Instructors, Sports	76	180*	---	---
Insulation Workers	325	630	---	30
Insurance Agents, Brokers, Underwriters, Appraisers	3966	385	---	19
Janitors	8748	834	---	34
Janitors, School	2885	836	---	35
Jewelers	1381	451	---	23
Jobsetters, Meta	10	452	523	28
Judges	2349	105	---	11
Junk Dealers	644	892	---	36
Kitchen/Restaurant Workers NEC	431	835	825	34
Knitters, Textile	73	673	412	21
Laborers, Construction NEC	6564	982	---	37
Laborers, Farm	5302	902	---	36
Laborers, Garage	3742	291	---	16
Laborers, Itinerant Farm	47	906	902	36
Laborers, Mine	4729	685	---	31
Laborers NEC	20327	980	---	37
Laborers, Orchard	1432	983	---	37
Laborers, Railroad NEC	5783	981	469	24
Labor Relations Workers	365	154*	---	---
Landscapers	3594	964	---	36
Lathers	1071	505	---	27

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Laundry Operatives	1652	674	---	31
Lawyers	2349	105	---	11
Leather Workers	1201	515	---	28
Lens Grinders & Polishers	157	494*	---	---
Librarians	71	111*	---	---
Library Attendants & Assistants	15	302*	---	---
Lighthouse Keepers	44	261*	---	---
Linemen, Telegraph/Telephone/Power	1594	453	---	24
Linoleum Floor Workers	397	528	---	29
Lockkeepers, Canal	251	635*	---	---
Locksmiths	1381	451	---	23
Locomotive Engineers	2430	454	---	24
Locomotive Firemen	395	460	---	24
Lodge Officials	1011	275	---	15
Lodging Housekeepers	40	821*	---	---
Log/Lumber Inspectors, Scalers, Graders	1477	444*	---	---
Loggers	19788	970	---	36
Logging Engineers	351	455	970	36
Logging Machinists & Mechanics	342	464	970	36
Log Truck Drivers	1246	718	---	32
Longshoremen	3594	965	---	36
Loopers, Textile	73	673	412	21
Lumber/Logging Maintenance & Watchmen	434	855	970	36
Lumber Camp Cooks	158	827	825	34
Lumber Company Owners, Managers, & Workers	1661	292	---	16
Lumbermen (Loggers)	19788	970	---	36
Lumber/Plywood/Veneer Maintenance	188	476	974	37

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Lumber Salesmen	585	384	---	19
Lumber Truck Drivers	1246	718	---	32
Lumberyard Workers	14850	974	---	37
Machine Operators, Road	1709	425	---	22
Machinery Inspectors	79	445	450	23
Machinist Apprentices	44	605	465	24
Machinists, Boeing	1649	466	557	29
Machinists, Logging	342	464	970	36
Machinists, Military	26	461	465	24
Machinists NEC	7638	465	---	24
Machinists, Shipyard	973	467	507	27
Mail Carriers	1904	323	---	17
Maintenance, Boeing	299	468	557	29
Maintenance, Highway	1709	425	---	22
Maintenance, Lumber/Plywood/Veneer	188	476	974	37
Maintenance, Lumber & Logging	434	855	970	36
Maintenance Men, Janitors	8748	834	---	34
Maintenance, Railroad	853	469	---	24
Managers, Bank	2170	305	---	17
Managers, Boeing	1450	294	---	16
Managers, Building	395	262*	---	---
Managers, Cocktail Bars/Tavern	1535	816	815	33
Managers, Farm	95	222	902	36
Managers, Furniture Store	1077	297	---	17
Managers, Hospitals/Nursing Homes	283	811*	---	---
Managers, Hotel/Motel/Resort/Apartment House	3931	819	---	34
Managers, Lumber Company	1661	292	---	16
Managers NEC	12638	290	---	16

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Managers, Newspaper	584	076	---	9
Managers, Restaurant & Cafe	2854	817	---	34
Managers, Sales	1796	285	---	16
Managers, Traffic	1128	314	---	17
Manufacturing Workers	609	462	---	24
Manufacturing Checkers, Examiners, & Inspectors	118	643	450	23
Marine Corps Officers/Enlisted Men	302	549	551	29
Marine Engineers	846	086	---	10
Markers, Manufacturing	118	643	450	23
Markers, Store	166	254*	---	---
Marshals & Constables	123	852	853	35
Masons, Brick & Stone	2069	405	---	21
Mathematicians	7	135	174	12
Mathematics Professors	25	042	060	8
Meatcutters, except Slaughterhouse	2926	675	---	31
Mechanical Engineers	621	085	---	10
Mechanics/Repairmen, Air Cond. Heating, Refrigeration	1058	470	---	25
Mechanics/Repairmen, Airplane	1478	471	---	25
Mechanics/Repairmen, Auto	6409	472	---	25
Mechanics/Repairmen NEC	5794	480	---	26
Mechanics/Repairmen, Office Machines	259	473	---	25
Mechanics/Repairmen, Radio & Television	520	474	---	25
Mechanics/Repairmen, Railroad & Car Shop	1092	475	---	25
Mechanic Apprentices, Auto	8	601	472	25
Mechanic Apprentices, except Auto	4	610	480	26
Mechanics, Logging	342	464	970	36
Medical Sciences Professors	21	043	060	8

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Medical Technicians	488	185	---	12
Merchant Marines	1945	553	703	32
Messengers	62	324*	---	---
Messengers, Telegraph	44	351*	---	---
Metal Filers, Grinders, Polishers	199	653	523	28
Metal Heaters	41	671	435	23
Metal Jobsetters	10	452	523	28
Metallurgical Engineers	110	090	093	10
Metal Molders	546	492	---	26
Metal Rollers & Roll Hands	33	513	525	28
Metal Workers, Structural	2976	523	---	28
Metal Workers, Tin, Copper, Sheet	2977	525	---	28
Metal Working Trades Apprentices NEC	15	614	523	28
Meteorologists	60	141*	---	---
Milk Route Deliverymen	490	656	---	30
Millers, Grain, Flour, Feed	250	490	---	26
Milliners	27	680*	---	---
Mill Workers, Paper/Pulp	5675	500	---	26
Mill Workers, Sash-Door/Pole	14850	974	---	37
Millwrights	1792	491	---	26
Mine Motormen	26	690*	---	---
Mine Operatives & Laborers NEC	4729	685	---	31
Mining Engineers	323	091	093	10
Mink Ranchers	343	387*	---	---
Model Makers, except Paper	182	502*	---	---
Molders, Metal	546	492	---	26
Motel Owners & Managers	3931	819	---	34
Motion Picture Projectionist	263	493	---	26

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Motormen, Mine & Factory	26	690*	---	---
Motormen, Street/Subway/Elevated Railway	267	691	641	30
Musicians	1283	120	---	11
Music Teachers	1283	120	---	11
Navigators, Airplane	762	012	---	7
Navy Officers & Enlisted Men	3360	551	---	29
Natural Sciences Professors	28	052	060	8
Newsboys	271	390	---	20
Newspaper Owners	584	076	---	9
Non-Scientific Professors	111	054	060	8
Nuclear Engineers	240	087	558	30
Nurserymen	691	202	---	14
Nurses, Practical	77	842*	---	---
Nurses, Professional	188	150*	---	---
Nurses, Student Professional	11	151*	---	---
Nursing Home Managers	283	811*	---	---
Nutritionists	31	073*	---	---
Office Boys	62	324*	---	---
Office Machine Operators	117	325*	---	---
Office Machine Repairmen	259	473	---	25
Officers, Ships	1607	265	---	15
Officials, Boeing	1450	294	---	16
Officials, Lodge	1011	275	---	15
Officials, Public Administration	1346	270	---	15
Officials, Public Utility	1438	364*	---	---
Officials NEC	12638	290	---	16
Officials, Society	1011	275	---	15
Officials, Sports	76	180*	---	---

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Officials, Union	101	275	---	15
Oilers, except Auto	410	692	---	31
Oil Refinery Workers	208	417*	---	---
Oil Well Drillers	272	416	---	22
Operating Engineers	1437	096	---	11
Operatives NEC	162	722*	---	---
Operators, Heavy Equipment	3462	676	425	22
Operators, Power Station	596	701	---	31
Operators, Radio	238	164	352	18
Operators, Telegraph	567	352	---	18
Operators, Telephone	76	353*	---	---
Opticians	157	494*	---	---
Optometrists	242	152*	---	---
Orchardists	4301	201	---	13
Orchard Laborers	1432	983	---	37
Ordnance Plant Workers	466	726*	---	---
Organ Tuners and Repairmen	135	504*	---	---
Osteopaths	83	153	162	12
Owners, Furniture Store	1077	297	---	17
Owners, Garage	3742	291	---	16
Owners, Lumber Company	1661	292	---	16
Owners, Newspaper	584	076	---	9
Owners, Pet Shop	110	296*	---	---
Oystermen	6134	962	---	36
Packers, Fruit & Vegetables	147	654	975	37
Packers NEC	233	693*	---	---
Painters, Auto	912	479	---	26
Painters, Construction/Maintenance	6354	495	694	31

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Painters, Sign	590	694	---	31
Paperhangers/Decorators	947	501	---	27
Paper Mill Workers	5675	500	---	26
Parking Attendants	3742	291	---	16
Parks Department Workers	1541	724	---	33
Parts Finishers, Boeing	462	657	557	29
Pattern Makers, except Paper.	182	502*	---	---
Pavers, Road	1709	425	---	22
Payroll Clerks	174	333	310	17
Peddlers	137	383	380	19
Personnel Workers	365	154*	---	---
Pest Control Employees	90	986*	---	---
Pet Store Owners	110	296*	---	---
Pharmacists	1504	160	---	11
Photographers	140	161	---	12
Photographic Process Workers	140	695	161	12
Physicians	2112	162	---	12
Physicians' Office Attendant	22	303*	---	---
Physicists	44	140*	---	---
Physics Professors	23	045	060	8
Piano Tuners & Repairmen	135	504*	---	---
Pilots, Airplane	762	012	---	7
Pilots, Ship	1607	265	---	15
Pipefitters, Atomic Energy	116	509	558	30
Plasterers & Lathers	1071	505	---	27
Plastic Workers	103	436*	---	---
Plumber/Pipefitter Appren.	14	612	510	27
Plumbers	4801	510	---	27

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Plywood Workers	3193	706	---	32
Policemen & Detectives	2467	853	---	35
Polishers, Metal	199	653	523	28
Porters	199	841*	---	---
Postal Clerks	2123	340	---	18
Postmasters	701	280	---	16
Poultry Farmers	906	206	---	14
Pourers, Furnacemen	509	670	435	23
Powdermen & Blasters	273	634	---	30
Power Linemen	1594	453	---	24
Power Station Operators	596	701	---	31
Presidents, College	109	030*	---	---
Pressmen	2135	512	---	27
Printers, Plate	2135	512	---	27
Printing Trade Apprentices	7	615	512	27
Produce Brokers	1123	251*	---	---
Produce/Seed/Grain Company Workers	935	966	---	36
Professional/Technical Workers NEC	347	195*	---	---
Professors/Instructors, Agricultural Sciences	35	031	060	8
Professors, Instructors, Biological	9	032	060	8
Professors, Instructors, Chemistry	23	034	060	8
Professors/Instructors, Economics	13	035	060	8
Professors/Instructors, Engineering	48	040	060	8
Professors/Instructors, Geology & Geophysics	11	041	060	8
Professors/Instructors, Mathematics	25	042	060	8
Professors/Instructors, Medical Sciences	21	043	060	8
Professors/Instructors, Natural Sciences	28	052	060	8
Professors/Instructors NEC	817	060	---	8

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Professors/Instructors, Non-Scientific Subjects	111	054	060	8
Professors/Instructors, Physics	23	045	060	8
Professors/Instructors, Psychology	14	050	060	8
Professors/Instructors, Social Sciences NEC	21	053	060	8
Programmers, Computer	358	174	---	12
Projectionists, Motion Picture	546	493	---	26
Promoters	137	383	380	19
Proprietors NEC	12638	290	---	16
Psychiatrists	154	173*	---	---
Psychologists	154	173*	---	---
Psychology Professors	14	050	060	8
Public Administration Inspectors	704	260*	---	---
Public Administration Officials	1346	270	---	15
Publicity Writers	304	163*	---	---
Public Relations Men	304	163*	---	---
Public Utility Officials & Supervisors	1438	364	---	19
Public Utility Workers	2164	363	---	19
Publishers, Newspaper	584	076	---	9
Pulp Mill Workers	6575	500	---	26
Purchasing Agents	1796	285	---	16
Pursers, Ship	1607	265	---	15
Radio Announcers	179	010*	---	---
Radio Operators	238	164	352	18
Radio Repairmen	520	474	---	25
Raftsmen (Loggers)	19788	970	---	36
Railroad Brakemen & Carmen	1865	640	---	30
Railroad Clerks	1198	361	---	18
Railroad Conductors	1338	252	---	15

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Railroad Contractors	39	408	406	21
Railroad Engineers	2430	454	---	24
Railroad Firemen	395	460	---	24
Railroad Foremen	1198	427	---	23
Railroad Inspectors	459	447	---	23
Railroad Laborers NEC	5783	981	469	24
Railroad (and Car Shop) Mechanics	1092	475	---	25
Railroad Switchmen	820	713	---	32
Railroad Workers NEC	853	469	---	24
Ranchers, Cattle & Sheep	5128	203	---	14
Ranchers, Mink	343	387*	---	---
Real Estate Agents, Brokers, Developers, Appraisers	5319	393	---	20
Receiving Clerks	1182	343	---	18
Receptionists	8	341*	---	---
Recreation Attendants (Cardrm., Pool Hall, Carnival	723	812	---	33
Recreation/Amusement Ushers	10	874*	---	---
Recreation Workers	107	165*	---	---
Refrigeration Engineers	239	095	093	10
Refrigeration Repairmen	1058	470	---	25
Religious Workers	164	170*	---	---
Reporters	476	075*	---	---
Representatives, Sales	6577	380	---	19
Resort Owners & Managers	3931	819	---	34
Restaurant/Cafe Owners, Managers & Workers	2854	817	---	34
Restaurant/Kitchen Workers NEC	431	835	825	34
Retarded & Disabled	2288	997	---	38
Road Construction, City/County	2095	496	425	22

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Road Graders, Machine Operators	1709	425	---	22
Rodmen, Surveying	28	642	181	12
Rollers/Roll Hands, Metal	33	513	525	28
Roofers & Slaters	1057	514	---	27
Rope Makers	26	711	412	21
Routemen	1352	650	---	30
Rubber Welders	506	477	---	25
Sailmakers	89	412	---	21
Sailors	2306	703	---	32
Sales Clerks NEC	6946	396	---	20
Sales Engineers	100	092	093	10
Sales, Lumber	585	384	---	19
Sales Managers	1796	285	---	16
Salesmen, Car	2880	386	---	19
Salesmen, Chemical	175	388*	---	---
Salesmen, Stocks & Bonds	592	395	---	20
Salesmen, Travelling	6577	380	---	19
Sales Representatives	6577	380	---	19
Salvage/Secondhand Store Workers	644	892	---	36
Sandblasters	110	725	521	28
Sanitarians	106	176*	---	---
Saw Filers	4357	704	974	37
Sawmill Truck Drivers	29	717	718	32
Sawmill Workers	4357	704	974	37
Sawyers	4357	704	974	37
Scalers, Log & Lumber	1477	444*	---	---
School Custodians	2885	836	---	35
Scientists, Agricultural	156	130*	---	---

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Scientists, Biological	139	131*	---	---
Scientists, Natural NEC	93	145*	---	---
Scientists, Social NEC	20	175*	---	---
Seamen NEC	2306	703	---	32
Secretaries	184	342*	---	---
Seed Company Workers	935	966	---	36
Servicemen, Telegraph/Telephone/Power Linemen	1594	453	---	24
Sextons	8748	834	---	34
Sewers, Stitchers, Cutters, Manufacturing	168	705	412	21
Shepherders	406	907*	---	---
Sheet Metal Workers	2977	525	---	28
Sheriffs & Bailiffs	609	854	853	35
Shingle Weavers	14850	974	---	37
Shipfitters	6845	507	---	27
Shippers, Farm Products	1123	251*	---	---
Shipping Clerks	1182	343	---	18
Ships' Officers, Pilots, Pursers, Engineers	1607	265	---	15
Shipwrights	426	409	507	27
Shipyards Electricians	558	422	507	27
Shipyards Machinists	973	467	507	27
Shipyards Workers NEC	6845	507	---	27
Shoemakers & Repairers	1201	515	---	28
Shoeshine Operators	115	820*	---	---
Sign Painters	590	694	---	31
Silversmiths	1381	451	---	23
Slaters	1057	514	---	27
Slaughterhouse Butchers	1053	677	675	31
Smelter Workers	956	435	---	23

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Smelter Workers NEC	159	672	435	23
Social Science Professors	40	053	060	8
Social Scientists	20	175*	---	---
Social Workers	472	171*	---	---
Society Officials	1011	275	---	15
Spinners, Textile	3168	710	412	21
Sports Instructors & Officials	76	180*	---	---
Starters, Vehicle	1128	314	---	17
Station Agents	1102	354	---	18
Stationary Engineers	1418	520	---	28
Stationary Firemen	504	712	520	28
Statisticians	358	174	---	12
Steam Engineers	448	099	093	10
Steamfitters	1056	508	510	27
Steamfitters, Atomic Energy	116	509	558	30
Stenographers	23	345*	---	---
Stenotypers	115	423	512	27
Stevedores	4732	965	---	36
Stewards & Housekeepers	221	832*	---	---
Stock Clerks & Storekeepers	1609	350	---	18
Stocks Salesmen	592	395	---	20
Stonecutters & Stonecarvers	210	521	---	28
Stonemasons	2069	405	---	21
Storage Workers & Truck Drivers	1115	719	715	32
Store Buyers	597	250	---	15
Structural Metal Workers	2976	523	---	28
Students 18 & Over	1868	196	---	13
Superintendents, Building	395	262*	---	---

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Supervisors, Boeing	1450	294	---	16
Supervisors, Public Utility	1438	364	---	19
Surgeons	2112	162	---	12
Surveying Chainmen, Rodmen, Axmen	28	642	181	12
Surveyors	474	181	---	12
Switchmen, Railroad	820	713	---	32
Tailors	808	524	---	28
Tanners	1201	515	---	28
Tavern Owners & Operators	1535	816	815	33
Taxicab Drivers	1349	714	---	32
Teachers & Administrators	1469	184	---	12
Teachers, Art	636	014	---	7
Teachers, Dancing	36	070*	---	---
Teachers, Elementary	790	182	184	12
Teachers, High School & NEC	2341	183	184	12
Teachers, Music	1283	120	---	11
Teachers, Secondary	790	182	184	12
Technical Workers NEC	347	195*	---	---
Technicians, Electrical/Electronic	905	190	---	13
Technicians, Engineering & Physical Sciences	145	191*	---	---
Technicians, Medical/Dental	488	185	---	12
Technicians NEC	225	192*	---	---
Technicians, X-ray	117	186*	---	---
Telegraph Linemen	1594	453	---	24
Telegraph Messengers	44	351*	---	---
Telegraph Operators	567	352	---	18
Telephone Installers/Repairers	721	459	---	24
Telephone Linemen	1594	453	---	24

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Telephone Operators	76	353*	---	---
Television Repairmen	520	474	---	25
Temperers	956	435	---	23
Textile Knitters/Loopers/Toppers	73	673	412	21
Textile Spinners	32	710	412	21
Textile Weavers	60	720	412	21
Therapists	270	193*	---	---
Ticket Agents	1102	354	---	18
Tile Setters	2069	405	---	21
Timber Cruisers	1477	444*	---	---
Timekeeping Clerks	174	333	310	17
Tinsmiths	2977	525	---	28
Tire Recappers/Repairers	506	477	---	25
Tool & Die Makers/Setters	699	530	---	29
Toppers, Textile Manufacturing	73	673	412	21
Traders, Fur	343	387*	---	---
Traffic Managers	1128	314	---	17
Transfer Workers/Truck Drivers	1115	719	715	32
Transportation Baggage-men	183	304*	---	---
Travel Agents	1102	354	---	18
Travelling Salesmen	6577	380	---	19
Tree Farmers	1541	724	---	33
Truck/Tractor Drivers	11050	715	---	32
Truck Drivers, Fuel Oil	516	716	---	32
Truck Driver Helpers	47	972	715	32
Truck Drivers, Lumber/Log	1246	718	---	32
Truck Drivers, Moving/Transfer/Storage	1115	719	715	32
Truck Drivers, Sawmill	29	717	718	32

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Tuners, Piano & Organ	135	504*	---	---
Typesetters	518	414	512	27
Typists	38	360*	---	---
Underwriters, Insurance	3966	385	---	19
Unemployable	2288	997	---	38
Unemployed	733	998	999	38
Union Officials	1011	275	---	15
Unknown	10212	999	---	38
Upholsterers	659	535	---	29
Ushers, Recreation, Amusement	10	874*	---	---
Vegetable Graders/Packers	147	654	975	37
Vehicle Dispatchers	1128	314	---	17
Veterinarians	289	194	---	13
Waiters	414	875	---	35
Wall Washers	251	833	---	34
Warehousemen, Fruit	607	975	---	37
Warehousemen NEC	3131	973	---	37
Watchmakers	1381	451	---	23
Watchmen, Atomic Energy Plant	179	856	558	30
Watchmen, Crossing	392	860	851	35
Watchmen, Guards/Doorkeeper	2860	851	---	35
Watchmen, Lumber/Logging	434	855*	---	---
Water Well Drillers	385	426	---	22
Weavers, Textile	60	720	412	21
Welders	3168	721	---	33
Welders, Rubber	506	477	---	25
Welfare Workers	472	171*	---	---
Well Drillers, Oil	272	416	---	22

Index of Occupations For Men

Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Well Drillers, Water	385	426	---	22
Wheat Farmers	4985	205	---	14
Window Cleaners	251	833	---	34
Window Dressers	270	420	---	22
Woodchoppers/Woodsmen (Loggers)	19788	970	---	36
Woodworkers	14850	974	---	37
Wool Workers	406	907*	---	---
Wrappers NEC	233	693*	---	---
Writers, Publicity	304	163*	---	---

Index of Occupations For Women

Number of deaths is given if no occupation mortality table is printed or when the occupation is analyzed with others in a group. Grouped Code (column 3) supersedes Occupation Code (Column 2) when listed. As asterisk (*) indicates that no occupation mortality table is printed (data available on request).

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Accountants	1229	000	---	39
Accountants, atomic energy	15	007*	---	---
Actresses	50	010*	---	---
Actuaries & statisticians	92	174*	---	---
Adjusters	64	321	370	43
Administrators, public	215	270*	---	---
Administrators, school	144	184	---	40
Advertising agents	301	380	---	43
Advisers, farm & home management	20	102*	---	---
Agents, advertising	301	380	---	43
Agents, insurance	772	385	---	43
Agents NEC	1	301*	---	---
Agents, purchasing	255	285	250	41
Agents, travel/ticket/station/express	159	354*	---	---
Agricultural science professors	1	031*	---	---
Agricultural scientists	13	130*	---	---
Air conditioning repairwomen	8	470*	---	---
Aircraft managers	6	289*	---	---
Air force officers/enlisted women	48	550*	---	---
Airplane mechanics	50	471*	---	---
Air traffic controllers	7	011*	---	---
Aluminum workers	34	526*	---	---
Analysts	92	174*	---	---

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Occupations	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Announcers, radio	50	010*	---	---
Appraisers, insurance	772	385	---	43
Apprentices, metal working trades	1	614*	---	---
Apprentices, other specified trades	1	620*	---	---
Apprentices, trade not specified	1	621*	---	---
Architects	12	013*	---	---
Armed forces NEC	23	555*	---	---
Army officers & enlisted women	77	552*	---	---
Artists	343	014	---	39
Art teachers	343	014	---	39
Assemblers, factory workers	151	631*	---	---
Assessors	1229	000	---	39
Athletes	19	015*	---	---
Attendants, flight	34	009*	---	---
Attendants, gas station/garage	84	291*	---	---
Attendants, hospital/institution	1579	810	---	45
Attendants, library	95	302	111	40
Attendants, physicians' & dentists' offices	576	303	---	42
Attendants, recreation/amusement	76	812*	---	---
Atomic energy accountants	15	007*	---	---
Atomic energy workers	172	558	---	45
Attorneys	67	105*	---	---
Auditors	1229	000	---	39
Authors	111	020	---	39
Auto mechanics	21	472*	---	---
Auto painters	5	479*	---	---
Auto saleswomen	29	386*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Awning sales & service workers	14	412	---	44
Babysitters, preschool/ day care workers	290	822*	---	---
Baggagewomen	5	304*	---	---
Bailiffs	27	854*	---	---
Bakers	2	401*	---	---
Bank clerks	949	305	---	42
Bankers & bank managers	949	305	---	42
Barbers	55	814*	---	---
Bartenders	305	815	---	45
Beekeepers	3	207*	---	---
Bill collectors	90	313*	---	---
Biological scientists	24	131*	---	---
Biology professors/ instructors	2	032*	---	---
Blacksmiths	2	402*	---	---
Body/fender repairwomen	5	479*	---	---
Boeing clerks	422	362	---	43
Boeing draftswomen	29	089	557	44
Boeing electricians	58	419	557	44
Boeing engineers	24	097*	---	---
Boeing inspectors	31	446	557	44
Boeing machinists	27	466	557	44
Boeing maintenance worker	32	468	557	44
Boeing officials/managers/ supervisors	129	294	362	43
Boeing parts finishers	54	657	557	44
Boeing workers NEC	593	557	---	44
Bookbinders	112	404*	---	---
Bookkeepers	3360	310	---	42
Brakewomen, railroad	4	640*	---	---
Brewery workers	6	818*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Brickmasons	4	405*	---	---
Brokers, insurance	772	385	---	43
Building contractors	26	406*	---	---
Building managers/ superintendents	21	262*	---	---
Bus drivers	151	641*	---	---
Butchers, slaughterhouse	54	677	675	45
Buyers/shippers, farm products	21	251*	---	---
Buyers, store	336	250	---	41
Cabinetmakers	16	410*	---	---
Candy makers	3937	825	---	46
Cannery workers	957	527	---	44
Canvasmakers	14	412	---	44
Carpenter helpers	1	960*	---	---
Carpenters	17	411*	---	---
Cashiers	383	312	310	42
Cement/concrete finishers	10	413*	---	---
Charwomen	136	824	---	46
Cheese & ice cream makers	45	655*	---	---
Chefs	3937	825	---	46
Chemical company workers	49	985*	---	---
Chemical saleswomen	10	388*	---	---
Chemistry professors	3	034*	---	---
Chemists	16	021*	---	---
Chiropodists	1	016*	---	---
Chiropractors	28	022*	---	---
City/civil service employees	998	255	---	41
Civil engineers	5	082*	---	---
Civilian employees of armed forces	78	554*	---	---
Civil service employees	998	255	---	41

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Cleaners & charwomen	136	824	---	46
Cleaners, windows & walls	28	833*	---	---
Clergywomen	137	023	170	40
Clerical NEC	2330	370	---	43
Clerks, bank	949	305	---	42
Clerks, Boeing	422	362	---	43
Clerks, file	96	320	370	43
Clerks, furniture store	172	297*	---	---
Clerks, grocery store	1314	298	---	42
Clerks, payroll/timekeeping	134	333	310	42
Clerks, postal	455	340	---	42
Clerks, railroad NEC	220	361	370	43
Clerks, railway mail	112	314*	---	---
Clerks, sales	4976	396	---	43
Clerks, shipping & receiving	179	343	---	42
Clerks, stock	151	350	343	42
Coaches, athletic	19	015*	---	---
Coast Guard officers/ enlisted women	4	548*	---	---
Cocktail bar owners/operators/managers/ workers	288	816	---	45
Collectors, bill & account	90	313*	---	---
College presidents & deans	69	030*	---	---
Compositors & typesetters	31	414*	---	---
Computer programmers	92	174*	---	---
Conductors, bus/street railway	1	645*	---	---
Conservationists	12	103*	---	---
Construction contractors	26	406*	---	---
Construction, city/county roads	2	496*	---	---
Construction engineers	3	094*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Construction laborers	37	982*	---	---
Contractors, building/ construction	26	406*	---	---
Contractors, railroad	4	408*	---	---
Controllers, air traffic	7	011*	---	---
Cooks	3937	825	---	46
Cooks, lumber camp	19	827*	---	---
Cosmetologists	1469	843	---	47
Counter/fountain workers	23	830*	---	---
Court reporters	43	106*	---	---
Craftswomen NEC	41	545*	---	---
Creamery workers/pasteurizers	45	655*	---	---
Credit women	169	253*	---	---
Cutters, garment factory	580	705	412	44
Cutters, meat	54	675	---	45
Dairy farmers	83	204	200	41
Dancers	48	070*	---	---
Dancing teachers	48	070*	---	---
Day care/pre-school workers	290	822*	---	---
Deans, college	69	030*	---	---
Decorators/window dressers	37	420*	---	---
Decorators, interior	94	501*	---	---
Deliverywomen & routewomen	40	650*	---	---
Demonstrators	26	382*	---	---
Dental technicians	457	185	---	40
Dentists	18	071*	---	---
Dentists' office attendant	576	303	---	42
Department heads/store buyers	336	250	---	41
Designers	69	072*	---	---
Dietitians	349	073	---	39

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Disabled & retarded	447	997	---	47
Dishwashers	68	826*	---	---
Dispatchers	112	314*	---	---
Draftswomen	46	074*	---	---
Draftswomen, Boeing	29	089	557	44
Dressmakers & seamstresses, except factory	1444	651	---	45
Drivers, bus	151	641*	---	---
Drivers, fuel truck	5	716*	---	---
Drivers, moving/transfer trucks	1	719*	---	---
Drivers, taxicab	34	714*	---	---
Drivers, truck	41	715*	---	---
Druggists	162	160*	---	---
Dry cleaning operatives	1233	674	---	45
Dyers	8	652	412	44
Economists	19	172*	---	---
Editors	169	075	---	39
Egg farmers/distributors	86	206	200	41
Electrical/electronic technicians	136	190	---	41
Electrical engineers	8	083*	---	---
Electricians	19	421*	---	---
Electricians, Boeing	58	419	557	44
Electricians, shipyard	5	422	507	44
Elevator operators	71	831*	---	---
Embalmers	33	104*	---	---
Engineering technicians	28	191*	---	---
Engineers, Boeing	24	097*	---	---
Engineers, civil	5	082*	---	---
Engineers, electrical	8	083*	---	---
Engineers, logging	1	455*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Engineers NEC	25	093*	---	---
Engineers, stationary	1	520*	---	---
Engravers, except photoengravers	5	424*	---	---
Entertainers	19	101*	---	---
Examiners	64	321	370	43
Fabric Workers	14	412	---	44
Farm advisers	20	102*	---	---
Farmers, cattle	88	203	200	41
Farmers, dairy	83	204	200	41
Farmers, egg	86	206	200	41
Farmers, grain	50	205	200	41
Farmers NEC	226	200	---	41
Farmers, nursery	108	202	200	41
Farmers, orchard	89	201	200	41
Farmers, poultry	86	206	200	41
Farmers, sheep	88	203	200	41
Farmers, wheat	50	205	200	41
Farm foremen	10	901*	---	---
Farm laborers	83	902*	---	---
Farm laborers, itinerant/migrant	11	906*	---	---
Farm products buyers/shippers	21	251*	---	---
Farm service(self-employed)	5	905*	---	---
Farm workers, unpaid family	6	903*	---	---
Feed/grain company workers	24	966*	---	---
Fiberglass & plastics workers	16	436*	---	---
File clerks	96	320	370	43
Finishers, cement & concrete	10	413*	---	---
Firemen/fire protection	9	850*	---	---
Fisherwomen	58	962*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Flight attendants, airline	34	009*	---	---
Floor/linoleum workers	6	528*	---	---
Floor women & managers, store	105	254*	---	---
Florists	1282	249	---	41
Flour mill workers	17	967*	---	---
Food processing workers	957	527	---	44
Foremen, farm	10	901*	---	---
Foremen NEC	24	430*	---	---
Foresters	1	103*	---	---
Forest service/parks/game department workers	43	724*	---	---
Foundry workers	4	670*	---	---
Fruit inspectors	5	976	975	47
Fruit/nut/vegetable graders & packers	538	654	975	47
Fruit warehousewomen	152	975	---	47
Fuel oil dealers/workers	100	295*	---	---
Fuel oil truck drivers	5	716*	---	---
Funeral directors	33	104*	---	---
Furniture store owners, managers, clerks	172	297*	---	---
Furriers	65	387*	---	---
Garage owners & attendants	84	291*	---	---
Gardeners, landscape (not farm)	39	964*	---	---
Garment factory sewers, stitchers, cutters	580	705	412	44
Gas station owners/attendants	84	291*	---	---
Glaziers	14	434*	---	---
Graders, fruit/nut/vegetables	538	654	975	47
Grain farmers	50	205	200	41
Grocers & clerks	1314	298	---	42
Group & recreation Leaders	220	165*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Guards & watchwomen	92	851*	---	---
Hairdressers	1469	843	---	47
Heating repairwomen	8	470*	---	---
Home management advisers	20	102*	---	---
Hospital attendants	1579	810	---	45
Hospital/nursing home managers & owners	291	811*	---	---
Hotel/motel maids/ housekeepers	889	821*	---	---
Hotel/motel owners & managers	1122	819	---	46
Housekeepers, hotel & motel	889	821*	---	---
Housekeepers in private household	781	832	---	46
Housemothers	220	165*	---	---
Housewives	134569	908*	---	---
Inspectors/markers, manufacturers	22	643*	---	---
Inspectors, Boeing	31	446	557	44
Inspectors, fruit	5	976	975	47
Inspectors, machinery	3	445*	---	---
Inspectors NEC	60	450*	---	---
Inspectors, public administration	26	260*	---	---
Inspectors, railroad	3	447*	---	---
Inspectors/scalers/graders, lumber	10	444*	---	---
Installers/repairers, telephone	39	459*	---	---
Institutionalized	447	997	---	47
Instructors, sports	11	180*	---	---
Insurance agents/brokers/underwriters/ appraisers	772	385	---	43
Janitors	475	834	---	46
Janitors, school	114	836	834	46
Jewelers & watchmakers	95	451*	---	---
Judges	67	105*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Junk dealers/secondhand store workers	29	892*	---	---
Keypunchers & typists	361	360	370	43
Kitchen workers, not private household	699	835	---	46
Knitters, textile	58	673	412	44
Laboratory technicians	212	192*	---	---
Laborers, construction	37	982*	---	---
Laborers NEC	173	980*	---	---
Laborers, orchard	64	983*	---	---
Laborers, railroad NEC	26	981*	---	---
Labor relations/personnel workers	161	154*	---	---
Landscapers & gardeners	39	964*	---	---
Laundry operatives	1233	674	---	45
Lawyers	67	105*	---	---
Leather workers	45	515*	---	---
Librarians	603	111	---	40
Library attendants/assistants	95	302	111	40
Linemen, telegraph/telephone/power	3	453*	---	---
Lodge officials	128	275*	---	---
Loggers	19	970*	---	---
Logging engineers	1	455*	---	---
Longshorewomen	4	965*	---	---
Loopers, textile	58	673	412	44
Lumber camp cooks	19	827*	---	---
Lumber company maintenance workers	4	476*	---	---
Lumber company owners, managers, & workers	174	292*	---	---
Lumber inspectors/scalers/graders	10	444*	---	---
Lumber/logging watchwomen	3	855*	---	---
Lumber saleswomen	9	384*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Machinery inspectors	3	445*	---	---
Machinists, Boeing	27	466	557	44
Machinists NEC	83	465*	---	---
Machinists, shipyard	8	467	507	44
Maids, hotel/motel	889	821*	---	---
Mail Carriers	67	323*	---	---
Maintenance, Boeing	32	468	557	44
Maintenance, lumber company	4	476*	---	---
Maintenance, railroad	35	469*	---	---
Managers, aircraft	6	289*	---	---
Managers, bank	949	305	---	42
Managers/floor women, store	105	254*	---	---
Managers, furniture store	172	297*	---	---
Managers, hotel/motel	1122	819	---	46
Managers, lumber company	174	292*	---	---
Managers NEC	1698	290	---	41
Managers, newspaper	57	076*	---	---
Managers/owners, nursing home & hospital	291	811*	---	---
Managers, sales	255	285*	---	---
Managers/superintendents, building	21	262*	---	---
Managers, traffic	112	314*	---	---
Manufacturing checkers/ inspectors/markers	22	643*	---	---
Manufacturing workers	75	462*	---	---
Marine Corps officers/enlisted women	6	549*	---	---
Markers/inspectors, manufacturing	22	643*	---	---
Masons, brick & stone	4	405*	---	---
Mathematicians	0	135*	---	---
Meatcutters, packers/wrappers	218	675	---	45

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Mechanics/repairwomen, air conditioning, heating, refrigeration	8	470*	---	---
Mechanics/repairwomen, airplane	50	471*	---	---
Mechanics/repairwomen, auto	21	472*	---	---
Mechanics/repairwomen NEC	17	480*	---	---
Mechanics/repairwomen, office machines	5	473*	---	---
Mechanics/repairwomen, radio & television	9	474*	---	---
Mechanics/repairwomen, railroad & car shop	4	475*	---	---
Medical radiologists	75	186*	---	---
Medical sciences professors & instructors	6	043*	---	---
Medical technicians	457	185	---	40
Merchant marines	4	553*	---	---
Messengers, express	112	314*	---	---
Messengers, telegraph	151	350*	---	---
Milliners	111	680*	---	---
Millwrights	2	491*	---	---
Moving/storage truck drivers	10	719*	---	---
Musicians	805	120	---	40
Music teachers	805	120	---	40
Natural sciences professors	5	052*	---	---
Navy officers & enlisted women	77	551*	---	---
Newsgirls	21	390*	---	---
Newspaper owners/ publishers/managers	57	076*	---	---
Nuns	245	909	---	47
Nurserywomen	108	202	200	41
Nurses, practical	2112	842	150	40
Nurses, professional	5155	150	---	40
Nurses, student prof.	12	151	150	40
Nursing home/hospital managers & owners	291	811*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Nutritionists	349	073	---	39
Office machine operators	153	325	370	43
Office machine repairwomen	5	473*	---	---
Officers, ship	21	265*	---	---
Officials, lodge/society/union	125	275*	---	---
Officials NEC	1698	290	---	41
Officials, public administration	215	270*	---	---
Officials, sports	11	180*	---	---
Oilers & greasers, except auto	1	692*	---	---
Operatives NEC	19	722*	---	---
Operators, elevator	71	831*	---	---
Operators, heavy equipment	26	676*	---	---
Operators, office machine	153	325	370	43
Operators, radio	16	164*	---	---
Operators, road machinery	14	425*	---	---
Operators, telegraph	106	352*	---	---
Operators, telephone	1358	353	---	43
Opticians & lens grinders	12	494*	---	---
Optometrists	8	152*	---	---
Orchardists	89	201	200	41
Ordnance plant workers	20	726*	---	---
Osteopaths	5	153*	---	---
Owners, cocktail bar/tavern	288	816	---	45
Owners, furniture store	172	297*	---	---
Owners, gas station/garage	84	291*	---	---
Owners, hotel/motel	1122	819	---	46
Owners, lumber company	174	292*	---	---
Owners, newspapers	57	076*	---	---
Owners, pet shop	52	296*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Owners, restaurant	1458	817	---	46
Oysterwomen	58	962*	---	---
Packers, fruit/nut/vegetables	538	654	975	47
Packers/wrappers NEC	122	693*	---	---
Packers, meat	218	675	---	45
Painters, auto	5	479*	---	---
Painters, construction/maintenance	21	495*	---	---
Painters, sign	12	694*	---	---
Paperhangers/decorators (painters)	94	501*	---	---
Paper mill workers	339	500	---	44
Parts finishers, Boeing	31	657	557	44
Pattern/model makers, not paper	1	502*	---	---
Pavers, road	14	425*	---	---
Payroll clerks	134	333	310	42
Peddlers & Promoters	15	383*	---	---
Personnel/labor relations workers	161	154*	---	---
Pet Shop owners	52	296*	---	---
Pharmacists	162	160*	---	---
Photographers	101	161*	---	---
Photographic process workers	70	695*	---	---
Physicians	76	162*	---	---
Physicians' office attendants	576	303	---	42
Piano & organ tuners	2	504*	---	---
Pilots, ship	21	265*	---	---
Plastics/fiberglass workers	16	436*	---	---
Plywood workers	87	706*	---	---
Policewomen	73	853*	---	---
Postal clerks	455	340	---	42
Postmasters	202	280	370	43

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Poultry farmers/distributors	86	206	200	41
Power/telephone linewomen	3	453*	---	---
Presswomen & plate printers	122	512	---	44
Produce brokers	21	251*	---	---
Professional workers NEC	100	195*	---	---
Professors/instructors, agricultural sciences	1	031*	---	---
Professors/instructors, biology	2	032*	---	---
Professors/instructors, chemistry	3	034*	---	---
Professors/instructors, medical sciences	6	043*	---	---
Professors/instructors, natural sciences NEC	5	052*	---	---
Professors/instructors NEC	206	060	---	39
Professors/instructors, non-scientific subjects	32	054*	---	---
Professors/instructors, social sciences NEC	9	053*	---	---
Professors/instructors, statistics	2	051*	---	---
Programmers, computer	92	174*	---	---
Proprietors NEC	1698	290	---	41
Psychiatrists	72	173*	---	---
Psychologists	72	173*	---	---
Public administration inspectors	26	260*	---	---
Public administrators	215	270*	---	---
Publicity writers	85	163*	---	---
Public relations workers	85	163*	---	---
Public utility supervisors	207	364	363	43
Public utility workers	224	363	---	43
Publishers, newspaper	57	076*	---	---
Pulp mill workers	339	500	---	44
Purchasing agents	255	285	250	41
Pursers, ship	21	265*	---	---
Radio & television, mechanics/repairwomen	9	474*	---	---

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Radio announcers	50	010*	---	---
Radiologists, medical	75	186*	---	---
Radio operators	16	164*	---	---
Railroad brakewomen/carwomen	4	640*	---	---
Railroad clerks NEC	220	361	370	43
Railroad contractors	4	408*	---	---
Railroad inspectors	3	447*	---	---
Railroad laborers NEC	26	981*	---	---
Railroad workers NEC	35	469*	---	---
Railroad switchwomen	1	713*	---	---
Ranchers	159	203	200	41
Receiving clerks	134	343	---	42
Receptionists	298	341	370	43
Recreation & group leaders	220	165*	---	---
Religious workers	191	170	---	40
Reporters	169	075	---	39
Reporters, court	0	106*	---	---
Restaurant/cafe owners, managers & workers	1458	817	---	46
Roofers & slaters	6	514*	---	---
Rubber welders & tire recappers	14	477*	---	---
Sailmakers	14	412	---	44
Sailors & seawomen	10	703*	---	---
Sales clerks	4976	396	---	43
Sales managers	255	285*	---	---
Saleswomen, auto	29	386*	---	---
Saleswomen, chemical	10	388*	---	---
Saleswomen, lumber	9	384*	---	---
Saleswomen, stocks & bonds	52	395	380	43
Saleswomen, travelling	301	380	---	43

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Sales representatives	301	380	---	43
Sandblasters	1	725*	---	---
Sanitarians	4	176*	---	---
Sawyers & sawmill workers	28	704*	---	---
School administrators	144	184	---	40
School janitors	114	836	834	46
Scientists, agricultural	13	130*	---	---
Scientists, biological	24	131*	---	---
Scientists, social	16	175*	---	---
Seamstresses/dressmakers except factory	1444	651	---	45
Secondhand store workers & junk dealers	29	892*	---	---
Secretaries	5479	342	---	42
Sewers, garment factory	580	705	412	44
Shepherders	19	907*	---	---
Sheet metal workers, tinsmiths, & coppersmiths	40	525*	---	---
Sheriffs	27	854*	---	---
Shipfitters	389	507	---	44
Shipping clerks	179	343	---	42
Ships' officers/pilots/pursers	21	265*	---	---
Shipyards electricians	5	422	507	44
Shipyards machinists	8	467	507	44
Shipyards workers NEC	389	507	---	44
Shoemakers/leather workers	45	515*	---	---
Smelter workers	5	435*	---	---
Social science professors & instructors NEC	9	053*	---	---
Social scientists	16	175*	---	---
Social workers	640	171	---	40
Spinners, textile	22	710	412	44

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Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Sports instructors & officials	11	180*	---	---
Stationary engineers	1	520*	---	---
Statisticians & actuaries	92	174*	---	---
Statistics professors/instructors	2	051*	---	---
Stenographers	359	345	342	42
Stewards in priv. household	781	832	---	46
Stitchers, garment factory	580	705	412	44
Stocks & bonds saleswomen	52	395*	---	---
Stock clerks & storekeepers	151	350	343	42
Stonecutters & stonecarvers	4	521*	---	---
Students	391	196	---	41
Supervisors, Boeing	129	294	362	43
Surgeons	76	162*	---	---
Surveying chainwomen & rodwomen	1	642*	---	---
Switchwomen, railroad	1	713*	---	---
Tailors	140	524	651	45
Tavern owners/operators/workers	288	816	---	45
Taxicab drivers	34	714*	---	---
Teachers, art	343	014	---	39
Teachers, dancing	48	070*	---	---
Teachers, elementary/secondary	2721	182	184	40
Teachers, high school	5709	183	184	40
Technicians	21	195*	---	---
Technicians, dental	457	185	---	40
Technicians, electrical/electronic	136	190	---	41
Technicians, engineering	28	191*	---	---
Technicians, laboratory	212	192*	---	---
Technicians, medical	457	185	---	40
Technicians, physical sciences	28	191*	---	---

Index of Occupations For Women

Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Technicians, x-ray	75	186*	---	---
Telegraph messengers	19	351*	---	---
Telegraph operators	106	352*	---	---
Telephone installers/ repairers	39	459*	---	---
Telephone operators	1358	353	---	43
Telephone/power linewomen	3	453*	---	---
Television repairwomen	9	474*	---	---
Textile knitters/loopers/toppers	58	673	412	44
Textile spinners	22	710	412	44
Textile weavers	54	720	412	44
Therapists	159	193*	---	---
Ticket agents	159	354*	---	---
Tile setters/brickmasons	4	405*	---	---
Timekeeping clerks	134	333	310	42
Tinsmiths/coppersmiths/sheetmetal workers	40	525*	---	---
Tire recappers & rubber welders	14	477*	---	---
Tool & die makers	5	530*	---	---
Toppers, textile	58	673	412	44
Traffic managers	112	314*	---	---
Travel agents	159	354*	---	---
Travelling saleswomen	301	380	---	43
Truck drivers	41	715*	---	---
Tuners, piano & organ	2	504*	---	---
Typesetters & compositors	31	414*	---	---
Typists & keypunchers	361	360	370	43
Underwriters, insurance	772	385	---	43
Unemployable	447	997	---	47
Unemployed	186	998*	---	---

Index of Occupations For Women

Occupation	Number of Deaths	Occu Code	Grouped Code	Commentary Page
Union officials	128	275*	---	---
Unknown	1488	999	---	47
Upholsterers	74	535*	---	---
Ushers, recreation/amusement.	2	874*	---	---
Veterinarians	17	194*	---	---
Waitresses	2800	875	---	47
Warehousewomen	97	973	343	42
Warehousewomen, fruit	152	975	---	47
Watchmakers & jewelers	95	451*	---	---
Watchwomen & guards	92	851*	---	---
Watchwomen, lumber & logging	3	855*	---	---
Weavers, textile	54	720	412	44
Welders	17	721*	---	---
Welfare workers	640	171	---	40
Wheat farmers	50	205	200	41
Woodworkers	220	974*	---	---
Wrappers, meat	218	675	---	45
Writers, publicity	85	163*	---	---
X-Ray technicians	75	186*	---	---

Microfiche Tables
Table 1, Male Mortality

Grouped Code	Occupational Title	Microfiche	Column
000	Accountants, Auditors, and Assessors	1	A1-N1
012	Airplane Pilots and Navigators	"	A2-K2
013	Architects	"	A3-K3
014	Artists and Art Teachers	"	A4-K4
021	Chemists	"	A5-J5
022	Chiropractors	"	A6-I6
023	Clergymen	"	A7-N7
060	Professors and Instructors	"	A8-M8
071	Dentists	"	A9-M9
074	Draftsmen	"	A10-K10
075	Editors and Reporters	"	A11-J11
076	Newspaper Owners, Publishers, and Managers	"	A12-K12
080	Aeronautical Engineers	"	A13-M13
081	Chemical Engineers	"	A14-H14
082	Civil Engineers	"	A15-M15
083	Electrical Engineers	"	A16-M16
085	Mechanical Engineers	"	A17-K17
086	Marine Engineers	"	A18-K18
091	Mining Engineers	2	A1-I1
093	Engineers NEC	"	A2-N2
094	Construction Engineers	"	A3-K3
096	Operating Engineers	"	A4-M4
103	Foresters and Conservationists	"	A5-J5
104	Funeral Directors and Embalmers	"	A6-J6
105	Lawyers and Judges	"	A7-N7
120	Musicians and Music Teachers	2	A8-M8
152	Optometrists	"	A9-I9

Microfiche Tables
Table 1, Male Mortality

Grouped Code	Occupational Title	Microfiche	Column
154	Personnel and Labor Relations Workers	"	A10-J10
160	Pharmacists and Druggists	"	A11-M11
161	Photographers	"	A12-L12
162	Physicians	"	A13-N13
174	Statisticians, Actuaries, Analysts, and Computer Programmers	"	A14-K14
181	Surveyors	"	A15-K15
184	School Teachers	"	A16-N16
185	Medical and Dental Technicians	"	A17-J17
186	X-Ray Technicians	"	A18-F18
190	Electrical and Electronic Technicians	3	A1-L1
194	Veterinarians	"	A2-J2
195	Professional and Technical Workers NEC	"	A3-J3
196	Students (18 and over)	"	A4-K4
200	Farmers NEC	"	A5-N5
201	Orchardists	"	A6-N6
202	Nurserymen	"	A7-K7
203	Ranchers (Cattle, Sheep, etc.)	"	A8-N8
204	Dairy Farmers	"	A9-N9
205	Wheat and Grain Farmers	"	A10-N10
206	Egg/Poultry Farmers and Distributors	"	A11-L11
249	Florists	"	A12-K12
250	Store Buyers and Department	"	A13-K13
251	Buyers and Shippers of Farm Products and Produce Brokers	"	A14-L14
252	Railroad Conductors	"	A15-L15
253	Credit Men	"	A16-K16
255	City and Civil Service Employees	3	A17-N17

Microfiche Tables
Table 1, Male Mortality

Grouped Code	Occupational Title	Microfiche	Column
260	Public Administration Inspectors	"	A18-L18
262	Building Managers and Superintendents	4	A1-J1
265	Ships' Officers, Pilots Pursers, and Engineers	"	A2-M2
270	Public Administrators and Officials NEC	"	A3-M3
275	Lodge/Society/Union Officials	"	A4-L4
280	Postmasters	"	A5-K5
285	Purchasing Agents and Buyers NEC, Sales Managers	"	A6-M6
290	Managers, Officials, and Proprietors NEC	"	A7-N7
291	Gas Station/Garage Owners and Attendants	"	A8-N8
292	Lumber Company Managers, Owners, and Workers	"	A9-M9
294	Boeing Officials, Managers, and Supervisors	"	A10-M10
295	Fuel Oil Dealers and Workers	"	A11-N11
297	Furniture Store Owners, Managers, and Clerks	"	A12-L12
298	Grocers and Grocery Clerks	"	A13-N13
304	Transportation Baggage men	"	A14-H14
305	Bankers, Bank Clerks, and Managers	"	A15-M15
310	Bookkeepers, Cashiers, and Payroll Clerks	"	A16-M16
314	Vehicle Dispatchers and Starters, and Traffic Managers	"	A17-M17
321	Adjusters and Examiners	"	A18-K18
323	Mail Carriers	5	A1-M1
340	Postal Clerks	"	A2-N2
343	Shipping and Receiving Clerks	"	A3-M3
350	Stock Clerks and Storekeepers	"	A4-M4
352	Telegraph Operators and Radio Operators	"	A5-L5
354	Ticket, Station, Express, and Travel Agents	"	A6-M6
361	Railroad Clerks	"	A7-L7
362	Boeing Clerks	5	A8-J8

Microfiche Tables
Table 1, Male Mortality

Grouped Code	Occupational Title	Microfiche	Column
363	Public Utility Workers	"	A9-N9
364	Public Utility Supervisors and Officials	"	A10-M10
370	Clerks NEC	"	A11-M11
380	Travelling Salesmen and Sales Representatives	"	A12-N12
384	Lumber Salesmen	"	A13-K13
385	Insurance Agents, Brokers, Underwriters, and Appraisers	"	A14-N14
386	Car Salesmen	"	A15-N15
390	Newsboys	"	A16-I16
393	Real Estate Agents, Brokers, Developers, and Appraisers	"	A17-N17
395	Stocks and Bonds Salesmen	"	A18-K18
396	Sales Clerks NEC	6	A1-N1
400	Carpet Makers and Layers	"	A2-I2
401	Bakers	"	A3-M3
402	Blacksmiths	"	A4-L4
403	Boilermakers	"	A5-N5
405	Brickmasons, Stonemasons, and Tile Setters	"	A6-N6
406	Building and Construction Contractors and Foremen	"	A7-N7
407	Boatbuilders	"	A8-K8
410	Cabinetmakers	"	A9-M9
411	Carpenters	"	A10-N10
412	Fabric Workers	"	A11-K11
413	Cement and Concrete Finishers	"	A12-M12
415	Cranemen, Derrickmen, and Hoistmen	"	A13-L13
416	Oil Well Drillers	"	A14-I14
417	Oil Refinery Workers	"	A15-H15
420	Decorators and Window Dressers	"	A16-I16

Microfiche Tables
Table 1, Male Mortality

Grouped Code	Occupational Title	Microfiche	Column
421	Electricians	"	A17-N17
425	Road Graders, Pavers, Machine Operators, and Excavators	"	A18-N18
426	Water Well Drillers	7	A1-J1
427	Railroad Foremen	"	A2-M2
430	Foremen NEC	"	A3-L3
434	Glaziers	"	A4-K4
435	Smelter Workers	"	A5-M5
444	Log/Lumber Inspectors, Scalers, Graders, and Timber/Cruisers	"	A6-M6
447	Railroad Inspectors	"	A7-J7
450	Inspectors NEC	"	A8-L8
451	Jewelers, Watchmakers, Gold and Silversmiths, Locksmiths	"	A9-M9
453	Telegraph/Telephone/Power Linemen	"	A10-M10
454	Locomotive Engineers	"	A11-N11
459	Telephone Installers and Repairers	"	A12-L12
460	Locomotive Firemen	"	A13-J13
462	Manufacturing Workers	"	A14-K14
465	Machinists NEC	"	A15-N15
469	Railroad Workers NEC	"	A16-N16
470	Air Conditioning/Heating/Refrigeration Mechanics and Repairmen	"	A17-L17
471	Airplane Mechanics and Repairmen	"	A18-M18
472	Automobile Mechanics and Repairmen	8	A1-N1
473	Office Machine Mechanics and Repairmen	"	A2-I2
474	Radio/Television Mechanics and Repairmen	"	A3-K3
475	Railroad/Car Shop Mechanics and Repairmen	"	A4-L4
477	Tire Recappers and Repairers, and Rubber Welders	"	A5-K5

Microfiche Tables
Table 1, Male Mortality

Grouped Code	Occupational Title	Microfiche	Column
479	Body and Fender Repairmen and Auto Painters	"	A6-L6
480	Mechanics and Repairmen and Auto Painters	8	A7-N7
490	Grain/Flour/Feed Mill Workers	"	A8-L8
491	Millwrights	"	A9-M9
492	Metal Molders	"	A10-K10
493	Motion Picture Projectionists	"	A11-I11
500	Paper/Pulp Mill Workers	"	A12-N12
501	Paper Hangers and Decorators (Painters)	"	A13-L13
502	Pattern and Model Makers, except paper	"	A14-H14
505	Plasterers and Lathers	"	A15-L15
507	Shipyards Workers, Shipwrights, and Shipfitters	"	A16-N16
510	Plumbers and Pipefitters	"	A17-N17
512	Printing Pressmen, Plate	"	A18-N18
514	Roofers and Slaters	9	A1-L1
515	Shoemakers, Shoe Repairers, and Leather Workers	"	A2-M2
520	Stationary Engineers and Firemen	"	A3-M3
521	Stonecutters and Stonecarvers and Sandblasters	"	A4-J4
523	Structural Metal Workers	"	A5-N5
524	Tailors	"	A6-K6
525	Tinsmiths, Coppersmiths, and Sheet Metal Workers	"	A7-N7
526	Aluminum Workers	"	A8-M8
527	Cannery and Food Processing Workers	"	A9-M9
528	Floor Workers (Covering, Hardwood, Linoleum, etc.)	"	A10-J10
530	Tool and Die Makers and Setters	"	A11-L11
535	Upholsterers	"	A12-K12
545	Craftsmen and Kindred Workers NEC	"	A13-J13

Microfiche Tables
Table 1, Male Mortality

Grouped Code	Occupational Title	Microfiche	Column
551	Armed Forces	"	A14-N14
557	Boeing Workers NEC	"	A15-N15
558	Atomic Energy Workers NEC	"	A16-N16
630	Asbestos and Insulation Workers	9	A17-J17
634	Blasters and Powdermen	"	A18-I18
640	Railroad Brakemen	10	A1-M1
641	Bus Drivers	"	A2-N2
650	Deliverymen and Routemen	"	A3-M3
655	Dairy Workers, Ice Cream and Cheesemakers	"	A4-L4
656	Milk Route Deliverymen	"	A5-J5
674	Laundry/Dry Cleaning Operatives	"	A6-M6
675	Meatcutters and Butchers	"	A7-N7
685	Mine Operatives and Laborers	"	A8-N8
692	Oilers and Greasers, except Auto	"	A9-J9
693	Packers and Wrappers NEC	"	A10-I10
694	Painters	"	A11-N11
701	Power Station Operators	"	A12-K12
703	Sailors, Deckhands, and Seamen NEC	"	A13-N13
706	Plywood Workers	"	A14-N14
713	Railroad Switchmen	"	A15-L15
714	Taxicab Drivers and Chauffeurs	"	A16-M16
715	Truck and Tractor Drivers	"	A17-N17
716	Fuel Oil Truck Drivers	"	A18-K18
718	Lumber/Log/Sawmill Truck Drivers	11	A1-M1
721	Welders and Flame Cutters	"	A2-N2
724	Tree Farmers, Forest Service and Parks Department Workers	"	A3-M3

Microfiche Tables
Table 1, Male Mortality

Grouped Code	Occupational Title	Microfiche	Column
726	Ordnance Plant Workers	"	A4-J4
810	Hospital/Institution Attendants	"	A5-L5
812	Recreation/Amusement Attendants (Cardroom, Poolhall, Carnival)	"	A6-L6
814	Barbers	"	A7-N7
815	Bartenders	11	A8-N8
817	Restaurant Owners, Managers, and Workers	"	A9-N9
818	Brewery Workers	"	A10-K10
819	Hotel/Motel Owners and Managers	"	A11-N11
825	Cooks, Candymakers, and Chefs	"	A12-N12
833	Window Cleaners and Wall Washers	"	A13-I13
834	Janitors, Maintenance Men, and Sextons	"	A14-N14
836	School Custodians	"	A15-N15
841	Porters	"	A16-H16
843	Hairdressers and Cosmetologists	"	A17-H17
850	Firemen and Fire Protection Workers	"	A18-N18
851	Guards, Watchmen, and Doorkeepers	12	A1-N1
853	Policemen, Sheriffs, and Marshals	"	A2-N2
875	Waiters	"	A3-K3
891	Garbage Collectors	"	A4-K4
892	Junk Dealers, Secondhand Store and Salvage Workers	"	A5-K5
902	Farm Laborers, Wage Workers	"	A6-N6
907	Sheepherders and Wool Workers	"	A7-J7
962	Fishermen and Oystermen	"	A8-N8
964	Landscape Gardeners, Groundskeepers, and Greenskeepers	"	A9-N9
965	Longshoremen and Stevedores	"	A10-N10

Microfiche Tables
Table 1, Male Mortality

Grouped Code	Occupational Title	Microfiche	Column
966	Produce/Seed/Feed/Grain Company Workers	"	A11-L11
970	Loggers	"	A12-N12
973	Warehousemen	"	A13-N13
974	Wood/Lumber/Sawmill Workers	"	A14-N14
975	Fruit Warehousemen	"	A15-L15
980	Laborers NEC	"	A16-N16
982	Construction Laborers NEC	12	A17-N17
983	Orchard Laborers	"	A18-M18
985	Chemical Company Workers	13	A1-L1
997	Disabled, Retarded, Institutionalized, Unemployable Persons	"	A2-M2
999	Not Stated or Unknown	"	A3-N3

Microfiche Tables
Table 2, Female Mortality

Grouped Code	Occupational Title	Microfiche	Column
000	Accountants, Auditors, and Assessors	14	A1-M1
014	Artists and Art Teachers	"	A2-J2
020	Authors	"	A3-F3
023	Clergywomen	"	A4-F4
060	Professors and Instructors	"	A5-H5
073	Dietitians and Nutritionists	"	A6-I6
075	Editors and Reporters	"	A7-G7
111	Librarians	"	A8-K8
120	Musicians and Music Teachers	"	A9-K9
150	Nurses	"	A10-N10
170	Religious Workers	"	A11-G11
171	Social and Welfare Workers	"	A12-K12
184	School Teachers	"	A13-N13
185	Medical and Dental Technicians	"	A14-J14
190	Electrical and Electronic Technicians	"	A15-H15
196	Students (18 and over)	"	A16-I16
200	Farmers NEC	"	A17-L17
249	Florists	"	A18-I18
250	Store Buyers and Department Heads	15	A1-K1
255	City and Civil Service Employees	"	A2-L2
290	Managers, Officials, and Proprietors NEC	"	A3-M3
298	Grocers and Grocery Clerks	"	A4-M4
303	Attendants, Physicians and Dentists Offices	"	A5-K5
305	Bankers, Bank Clerks, and Managers	"	A6-L6
310	Bookkeepers, Cashiers, and Payroll Clerks	"	A7-N7
340	Postal Clerks	"	A8-K8
342	Secretaries	"	A9-N9
343	Shipping and Receiving Clerks	"	A10-J10
353	Telephone Operators	15	A11-L11

Microfiche Tables
Table 2, Female Mortality

Grouped Code	Occupational Title	Microfiche	Column
362	Boeing Clerks	"	A12-K12
363	Public Utility Workers	"	A13-K13
370	Clerks NEC	"	A14-N14
380	Travelling Saleswomen and Sales Representatives	"	A15-J15
385	Insurance Agents, Brokers, Underwriters, and Appraisers	"	A16-L16
393	Real Estate Agents, Brokers, Developers, and Appraisers	"	A17-L17
396	Sales Clerks NEC	"	A18-N18
401	Bakers	16	A1-I1
412	Fabric Workers	"	A2-K2
500	Paper/Pulp Mill Workers	"	A3-J3
507	Shipyard Workers, Shipwrights, and Shipfitters	"	A4-J4
512	Printers and Typesetters	"	A5-G5
527	Cannery and Food Processing Workers	"	A6-L6
557	Boeing Workers NEC	"	A7-L7
558	Atomic Energy Workers NEC	"	A8-I8
631	Assemblers, Factory Workers	"	A9-H9
641	Bus Drivers	"	A10-G10
651	Dressmakers and Seamstresses, except factory	"	A11-L11
674	Laundry/Dry Cleaning Operatives	"	A12-L12
675	Meatcutters and Butchers	"	A13-H13
810	Hospital/Institution Attendants	"	A14-M14
815	Bartenders	"	A15-I15
816	Cocktail Bar/Tavern Owner, Operators, and Workers	"	A16-I16
817	Restaurant Owners, Managers, and Workers	"	A17-L17
819	Hotel/Motel Owners and Managers	"	A18-M18
821	Hotel/Motel Maids and Housekeepers	17	A1-L1
824	Charwomen and Cleaners	17	A2-G2
825	Cooks, Candymakers, and Chefs	"	A3-M3

Microfiche Tables
Table 2, Female Mortality

Grouped Code	Occupational Title	Microfiche	Column
832	Housekeepers and Stewards (in private household)	"	A4-K4
834	Janitors, Maintenance Women, and Sextons	"	A5-K5
835	Kitchen Workers (not private household)	"	A6-K6
842	Nurses, Practical	"	A7-M7
843	Hairdressers and Cosmetologists	"	A8-M8
875	Waitresses	"	A9-N9
909	Nuns	"	A10-H10
974	Wood, Lumber, Sawmill Workers	"	A11-I11
975	Fruit Warehousewomen	"	A12-K12
980	Laborers NEC	"	A13-H13
997	Unemployable Persons	"	A14-K14
999	Not Stated or Unknown	"	A15-M15

Microfiche Tables
Table 3, Male Occupational Mortality by Cause of Death

ICD No.	Cause of Death	Microfiche	Column
001-138	Infective and Parasitic Diseases	18	A1-E1
001-019	Tuberculosis (Total)	"	F1-H1
001-008	Tuberculosis of Respiratory	"	I1-K1
042-044	AIDS	"	L1-M1
140-205	Malignant Neoplasms(MN) (Total)	"	N1-C2
140-148	MN Buccal Cavity and Pharynx	"	D2-E2
140	MN Lip	"	F2
141	MN Tongue	"	G2
143	MN Floor of Mouth	"	H2
144	MN Other Parts of Mouth	"	I2
145	MN Oral Mesopharynx	"	J2
146	MN Nasopharynx	"	K2
147	MN Hypopharynx	"	L2
148	MN Pharynx, Unspecified	"	M2
150-159	MN Digestive Organs and Peritoneum	"	N2-C3
150	MN Esophagus	"	D3-E3
151	MN Stomach	"	F3-H3
152	MN Small Intestine, including Duodenum	"	I3
153	MN Large Intestine, except Rectum	"	J3-M3
154	MN Rectum	"	N3-A4
155	MN Biliary Passages and Liver (Primary)	"	B4
155.0	MN Liver	"	C4
155.1	MN Gallbladder, Ducts and Ampulla of Vater	"	D4
156	MN Liver (Secondary and Unspecified)	"	E4
157	MN Pancreas	"	F4-G4
159	MN Unspecified Digestive Organs	"	H4

Microfiche Tables
Table 3, Male Occupational Mortality by Cause of Death

ICD No.	Cause of Death	Microfiche	Column
160-165	MN of Respiratory System	"	I4-N4
161	MN Larynx	"	A5-B5
162	MN Bronchus, Trachea, Lung Primary	18	C5-H5
162.1, 163	MN Bronchus and Lung	"	I5-M5
162.2	MN Pleura	"	N5
165	MN Thoracic Organs (Secondary)	"	A6
177	MN Prostate	"	B6-D6
178	MN Testis	"	E6
180	MN Kidney	"	F6-G6
181	MN Bladder and Other	"	H6-I6
190	Malignant Melanoma of Skin	"	J6-K6
193	MN Brain and Nervous System	"	L6-N6
193.0	MN Brain	"	A7-C7
195	MN Other Endocrine Glands	"	D7
196	MN Bone	"	E7
197	MN Connective Tissue	"	F7
199	MN Other and Unspecified Sites	"	G7-H7
200-205	MN Lymphatic and Hematopoietic Tissues	"	I7-M7
200.0-200.1	Lymphosarcoma and Reticulosarcoma	"	N7-A8
200.0	Reticulum Cell Sarcoma	"	B8
200.1	Lymphosarcoma	"	C8-D8
201	Hodgkin's Disease	"	E8-F8
202,200.2	Other Lymphomas	"	G8-H8
203	Multiple Myeloma	"	I8-J8
204	Leukemia and Aleukemia	"	K8-N8
204.0	Lymphatic Leukemia	"	A9
204.1	Myeloid Leukemia	"	B9-C9
204.2	Monocytic Leukemia	"	D9
204.3	Acute Leukemia	"	E9-F9

Microfiche Tables
Table 3, Male Occupational Mortality by Cause of Death

ICD No.	Cause of Death	Microfiche	Column
204.4	Other and Unspecified Leukemia	"	G9
210-229	Benign Neoplasms	"	H9
230-239	Neoplasms of Unspecified Nature	18	I9
241	Asthma	"	J9
260	Diabetes Mellitus	"	K9-M9
270-277	Diseases of Other Endocrine Gland	"	N9
280-289	Avitaminoses and Metabolic Diseases	"	A10
290-299	Diseases of Blood and Blood-forming organs	"	B10-C10
292	Other Anemias of Specified Type	"	D10
292.4	Aplastic Anemia	"	E10
294	Polycythemia	"	F10
297	Agranulocytosis	"	G10
300-309	Psychoses	"	H10
310-318	Psychoneurotic Disorders	"	I10
320-326	Disorders of Character, Behavior and Intelligence	"	J10-L10
330-334	Vascular Lesions Affecting Central Nervous System	"	M10-N10
330	Subarachnoid Hemorrhage	"	A11-B11
331,334	Cerebral Hemorrhage and Other Vascular Lesions	"	C11-D11
332	Cerebral Embolism and Thrombosis	"	E11-F11
340-345	Inflammatory Diseases of Central Nervous System	"	G11
345	Multiple Sclerosis	"	H11
350	Paralysis Agitans	"	I11-J11
356.1	Amyotrophic Lateral Sclerosis	"	K11
400-468	Diseases of Circulatory System	"	L11-N11
410-416	Chronic Rheumatic Heart Disease	"	A12-C12
420	Arteriosclerotic Heart Disease, including Coronary Disease	"	D12-G12
430-434	Other Diseases of Heart	"	H12-J12
440-447	Hypertensive Disease	"	K12-M12

Microfiche Tables
Table 3, Male Occupational Mortality by Cause of Death

ICD No.	Cause of Death	Microfiche	Column
450-456	Diseases of Arteries	"	M12-A13
460-468	Diseases of Veins, etc.	"	B13
465	Pulmonary Embolism and Infarction	18	C13
470-527	Diseases of Respiratory System	"	D13-I13
490-493	Pneumonia	"	J13-L13
502	Chronic Bronchitis	"	M13
502.0	Bronchitis with Emphysema	"	N13
510-527	Other Diseases of Respiratory System	"	A14-E14
523.0	Silicosis	"	F14
523.1	Anthracosilicosis	"	G14
523.2	Asbestosis	"	H14
523.3	Other Pneumoconiosis	"	I14
525	Other Chronic Interstitial Pneumonia	"	J14
526	Bronchiectasis	"	K14
527	Other Diseases of Lung and Pleural Cavity	"	L14-A15
527.1	Emphysema without Bronchitis	"	B15-E15
540	Ulcer of Stomach	"	F15
541	Ulcer of Duodenum	"	G15
550-553	Appendicitis	"	15
560-561	Hernia of Abdominal Cavity	"	I15
570-578	Other Diseases of Intestine and Peritoneum	"	J15
570	Intestinal Obstruction, without Hernia	"	K15
572	Chronic Enteritis, Ulcerative Colitis	18	L15
580	Acute Yellow Atrophy of Liver	"	M15
581	Cirrhosis of Liver	"	N15-D16
581.0	Cirrhosis of Liver without Alcoholism	"	E16-G16
581.1	Cirrhosis of Liver with Alcoholism	"	H16-I16
584	Cholelithiasis	"	J16
587	Diseases of Pancreas	"	K16

Microfiche Tables
Table 3, Male Occupational Mortality by Cause of Death

ICD No.	Cause of Death	Microfiche	Column
587.0	Acute Pancreatitis	"	L16
590-594	Nephritis and Nephrosis	"	M16
592	Chronic Nephritis	"	N16
600-609	Other Diseases of Urinary System	"	A17
600	Infections of Kidney	"	B17
602	Calculi of Kidney and Ureter	"	C17
610-617	Disease of Male Genital Organs	"	D17
610	Hyperplasia of Prostate	"	E17
690-716	Diseases of Skin, Cellular Tissue	"	F17
722.0	Rheumatoid Arthritis	"	G17
730-738	Osteomyelitis, Diseases of Bone and Joint	"	H17
790-795	Senility and Ill-defined Diseases	"	I17
800-999	Accidents, Poisonings and Violence	"	J17-A18
800-802	Railway Accidents	"	B18-C18
810-835	Motor Vehicle Accidents (Total)	"	D18-G18
860-866	Aircraft Accidents	"	H18-J18
900-904	Accidental Falls	"	K18-N18
901	Falls from Ladders	19	A1
902	Other Falls from One Level to Another	"	B1-C1
903	Falls on Same Level	"	D1
904	Unspecified Falls	19	E1-F1
910-936	Other Accidents	"	G1-M1
910	Blows from Falling Object	"	N1-A2
912	Accidents caused by Machinery	"	B2-C2
914	Accidents caused by Electric Current	"	D2
916	Accidents caused by Fire and Explosion	"	E2-F2
970-979	Suicide	"	G2-I2
980-985	Homicide	"	J2-L2

Microfiche Tables
Table 4, Female Occupational Mortality by Cause of Death

ICD No.	Cause of Death	Microfiche	Column
001-138	Infective and Parasitic Diseases	20	A1
140-205	Malignant Neoplasms(MN) (Total)	"	B1-D1
140-148	MN Buccal Cavity and Pharynx	"	E1
141	MN Tongue	"	F1
145	MN Oral Mesopharynx	"	G1
147	MN Hypopharynx	"	H1
150-159	MN Digestive Organs and Peritoneum	"	I1
150	MN Esophagus	"	J1
151	MN Stomach	"	K1
153	MN Large Intestine, except Rectum	"	L1
154	MN Rectum	"	M1
155	MN Biliary Passages and Liver (Primary)	"	N1
155.0	MN Liver	"	A2
155.1	MN Gallbladder, Ducts and Ampulla of Vater	"	B2
156	MN Liver (Secondary and Unspecified)	"	C2
157	MN Pancreas	"	D2
159	MN Unspecified Digestive Organs	"	E2
160-165	MN of Respiratory System	"	F2-G2
161	MN Larynx	"	H2
162	MN Bronchus, Trachea,	"	I2-J2
162.1,163	MN Bronchus and Lung	"	K2
170-181	MN Breast & Genito-Urinary Organs	"	L2-M2
170	MN Breast	"	N2-B3
171	MN Cervix Uteri	"	C3
172	MN Corpus Uteri	"	D3
174	MN Uterus Unspecified	20	E3
175	MN Ovary, Fallopian Tube & Broad Ligament	"	F3
176	MN Other Female Genital Organs	"	G3
181	MN Bladder and Other Urinary Organs	"	H3

Microfiche Tables
Table 4, Female Occupational Mortality by Cause of Death

ICD No.	Cause of Death	Microfiche	Column
190	Malignant Melanoma of Skin	"	I3
191	Other MN of Skin	"	J3
192	MN Eye	"	K3
193	MN Brain and Nervous System	"	L3
193.0	MN Brain	"	M3
196	MN Bone	"	N3
199	MN Other and Unspecified Sites	"	A4
200-205	MN Lymphatic and Hematopoietic Tissues	"	B4
200.0-200.1	Lymphosarcoma and Reticulosarcoma	"	C4
200.0	Reticulum Cell Sarcoma	"	D4
200.1	Lymphosarcoma	"	E4
201	Hodgkin's Disease	"	F4
202,200.2	Other Lymphomas	"	G4
203	Multiple Myeloma	"	H4
204	Leukemia and Aleukemia	"	I4
204.0	Lymphatic Leukemia	"	J4
204.3	Acute Leukemia	"	K4
260	Diabetes Mellitus	"	L4
280-289	Avitaminoses and Metabolic Diseases	"	M4
290-299	Diseases of Blood and Blood-forming Organs	"	N4
292	Other Anemias of Specified Type	"	A5
292.4	Aplastic Anemia	"	B5
300-309	Psychoses	"	C5
320-326	Disorders of Character, Behavior and Intelligence	20	D5
330-342	Vascular Lesions Affecting Central Nervous System	"	E5
330	Subarachnoid Hemorrhage	"	F5
331,334	Cerebral Hemorrhage and Other Vascular Lesions	"	G5
332	Cerebral Embolism and Thrombosis	"	H5
340-345	Inflammatory Diseases of Central Nervous System	"	I5

Microfiche Tables
Table 4, Female Occupational Mortality by Cause of Death

ICD No.	Cause of Death	Microfiche	Column
345	Multiple Sclerosis	"	J5
350	Paralysis Agitans	"	K5
356.1	Amyotrophic Lateral Sclerosis	"	L5
400-468	Diseases of Circulatory System	"	M5
410-416	Chronic Rheumatic Heart Disease	"	N5
420	Arteriosclerotic Heart Disease, including Coronary Disease	"	A6-B6
430-434	Other Diseases of Heart	"	C6
440-447	Hypertensive Disease	"	D6
450-456	Diseases of Arteries	"	E6
460-468	Diseases of Veins, etc.	"	F6
465	Pulmonary Embolism and Infarction	"	G6
470-527	Diseases of Respiratory System	"	H6-I6
490-493	Pneumonia	"	J6
502	Chronic Bronchitis	"	K6
502.0	Bronchitis with Emphysema	"	L6
510-527	Other Diseases of Respiratory System	"	M6
523.0	Silicosis	"	N6
525	Other Chronic Interstitial Pneumonia	"	A7
526	Bronchiectasis	"	B7
527	Other Diseases of Lung and Pleural Cavity	"	C7-D7
527.1	Emphysema without Bronchitis	20	E7
540	Ulcer of Stomach	"	F7
541	Ulcer of Duodenum	"	G7
560-561	Hernia of Abdominal Cavity	"	H7
570-578	Other Diseases of Intestine and Peritoneum	"	I7
570	Intestinal Obstruction, without Hernia	"	J7
581	Cirrhosis of Liver	"	K7
581.0	Cirrhosis of Liver without Alcoholism	"	L7

Microfiche Tables
Table 4, Female Occupational Mortality by Cause of Death

ICD No.	Cause of Death	Microfiche	Column
600-609	Other Diseases of Urinary System	"	M7
640-649	Deliveries & Complications Pregnancy & Puerperium	"	N7
722.0	Rheumatoid Arthritis	"	A8
730-738	Osteomyelitis, Diseases of Bone and Joint	"	B8
790-795	Senility and Ill-defined Diseases	"	C8
800-999	Accidents, Poisonings and Violence	"	D8
810-835	Motor Vehicle Accidents (Total)	"	E8
860-866	Aircraft Accidents	"	F8
900-904	Accidental Falls	"	G8
904	Unspecified Falls	"	H8
910-936	Other Accidents	"	I8
916	Accidents caused by Fire and Explosion	"	J8
970-979	Suicide	"	K8
980-985	Homicide	"	L8