

CHAPTER 31

Influenza and Pneumonia Deaths: Relation with Medical Radiation

Box 1 of Chap. 31

Summary: Regression Outputs, Influenza and Pneumonia Death Rates.

Below are the summary-results from all the regressions of MortRates upon PhysPops. MortRates are from Table 31-A, and PhysPops are from Table 3-A.

MALES

Year MortRate	Year PhysPop	R-squared	Constant	Coeff.	Std Err	Coeff/S.E
1940	1921	0.6012	210.1915	-0.9650	0.2971	-3.2484
1940	1923	0.6587	203.5890	-0.9417	0.2562	-3.6760
1940	1925	0.7054	194.8508	-0.9037	0.2207	-4.0936
1940	1927	0.7906	194.5443	-0.9166	0.1783	-5.1416
1940	1929	0.8198	191.9033	-0.9029	0.1600	-5.6424
1940	1931	0.8224	182.7948	-0.8248	0.1448	-5.6941
1940	1934	0.8575	172.9551	-0.7414	0.1143	-6.4890
1940	1936	0.8691	170.5428	-0.7178	0.1053	-6.8163
1940	1938	0.8672	165.4467	-0.6732	0.0996	-6.7622
1940	1940	0.8344	156.6889	-0.5944	0.1001	-5.9381
1950	1950	0.6466	59.1645	-0.2012	0.0562	-3.5791
1960	1960	0.2526	46.7471	-0.0620	0.0403	-1.5380
1970	1970	0.0560	29.8264	-0.0139	0.0216	-0.6442
1980	1980	0.4244	13.6382	0.0155	0.0068	2.2716

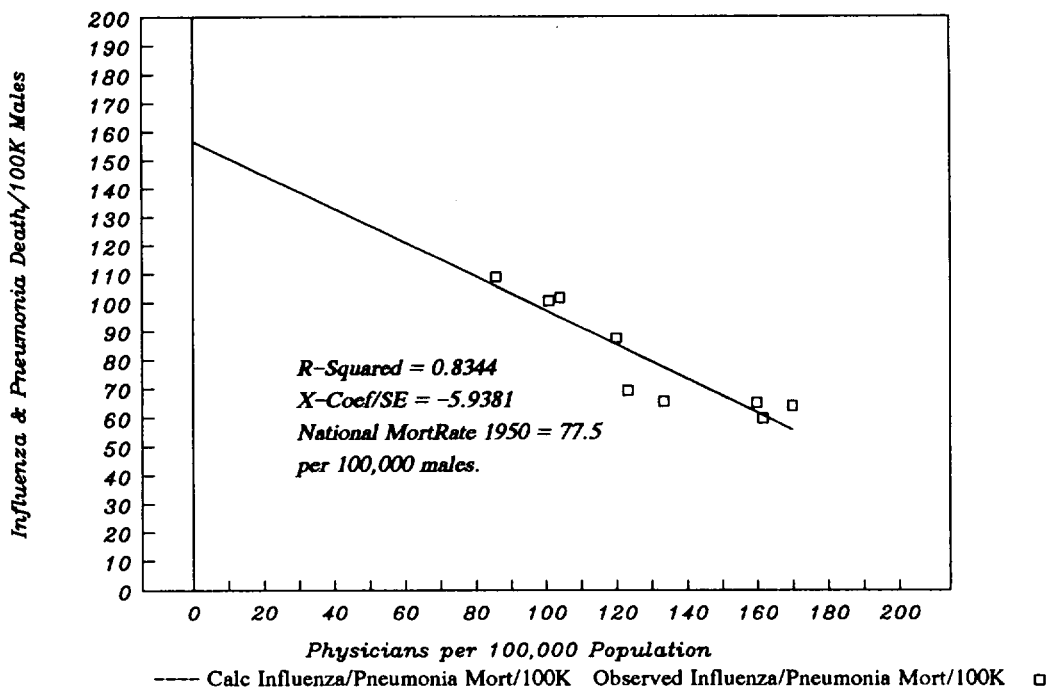
FEMALES

Year MortRate	Year PhysPop	R-squared	Constant	Coeff.	Std Err	Coeff/S.E
1940	1921	0.6377	208.1584	-1.0557	0.3007	-3.5104
1940	1923	0.7031	201.3472	-1.0334	0.2538	-4.0711
1940	1925	0.7482	191.3687	-0.9886	0.2168	-4.5602
1940	1927	0.8350	190.7638	-1.0006	0.1681	-5.9519
1940	1929	0.8711	188.2565	-0.9886	0.1437	-6.8779
1940	1931	0.8787	178.5869	-0.9056	0.1272	-7.1204
1940	1934	0.9067	167.2585	-0.8098	0.0982	-8.2465
1940	1936	0.9210	164.7357	-0.7849	0.0869	-9.0363
1940	1938	0.9172	159.0658	-0.7354	0.0835	-8.8054
1940	1940	0.8849	149.6160	-0.6503	0.0886	-7.3358
1950	1950	0.8227	56.4194	-0.2434	0.0427	-5.6987
1960	1960	0.4112	34.9403	-0.0697	0.0315	-2.2108
1970	1970	0.2203	20.8222	-0.0214	0.0152	-1.4065
1980	1980	0.4372	7.5330	0.0088	0.0038	2.3320

1940 MortRate, Males, Influenza & Pneumonia Deaths, versus
1940 PhysPop Values for the 9 Census Divisions, USA.

HIGHLY Significant INVERSE Relationship.

PhysPop is a surrogate for accumulated dose from medical irradiation.



Influenza and Pneumonia

Figure 31-B

1940 MortRate, Females, Influenza and Pneumonia Deaths, versus
1940 PhysPop Values for the 9 Census Divisions, USA.

Very Highly significant. INVERSE DIRECTION

PhysPop is a surrogate for accumulated dose from medical irradiation

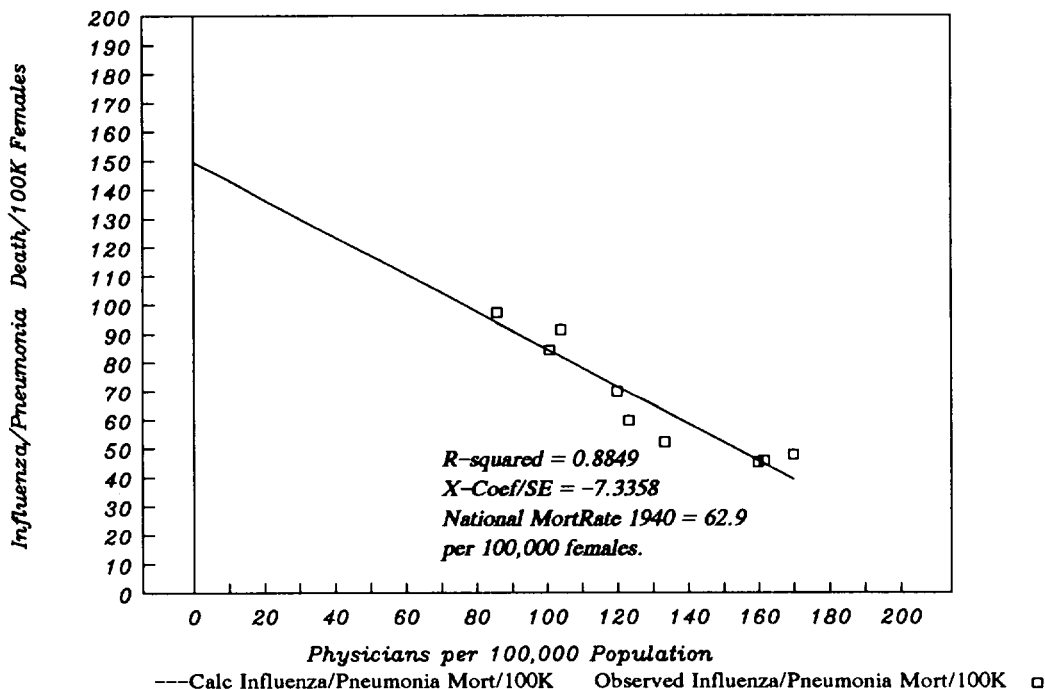


Table 31-A
Influenza and Pneumonia: Death Rates by Census Divisions and National.

Annual death-rates per 100,000 are age-adjusted to the 1940 reference year. There are no exclusions by color or "race." Entries for the Nine Census Divisions are population-weighted; the averages below them are not. "National Rates" for both sexes: Deaths per 100,000 population (males + females). Males: Deaths per 100,000 male population. Females: Deaths per 100,000 female population.

MALES						
Census Division	1940	1950	1960	1970	1980	1990
Pacific	65.0	27.7	35.4	25.8	16.1	--
New England	59.7	22.7	40.1	29.2	18.3	--
West North Central	69.2	30.1	36.4	26.0	15.6	--
Mid-Atlantic	63.9	30.7	35.6	26.7	17.7	--
East North Central	65.5	30.2	34.9	25.3	15.7	--
Mountain	87.6	43.1	40.8	28.6	16.3	--
West South Central	101.6	38.1	40.9	28.3	15.7	--
East South Central	108.9	43.9	41.9	29.3	16.7	--
South Atlantic	100.5	39.3	45.3	31.3	17.4	--
Average ALL	80.2	34.0	39.0	27.8	16.6	--
Average High-Five	64.7	28.3	36.5	26.6	16.7	--
Average Low-Four	99.7	41.1	42.2	29.4	16.5	--
Ratio (High/Low)	0.65	0.69	0.86	0.90	1.01	--
FEMALES						
	1940	1950	1960	1970	1980	1990
Pacific	45.2	17.5	22.9	16.3	9.6	--
New England	45.8	16.2	26.3	18.0	9.7	--
West North Central	59.7	24.5	24.8	17.0	9.1	--
Mid-Atlantic	47.7	20.1	23.4	16.7	9.9	--
East North Central	52.1	20.9	22.4	15.4	8.4	--
Mountain	70.0	31.2	27.3	18.6	9.8	--
West South Central	91.4	31.6	28.0	18.4	8.7	--
East South Central	97.3	38.7	31.6	20.4	9.1	--
South Atlantic	84.4	32.9	29.7	19.2	8.7	--
Average ALL	66.0	26.0	26.3	17.7	9.2	--
Average High-Five	50.1	19.8	24.0	16.7	9.3	--
Average Low-Four	85.8	33.6	29.2	19.1	9.1	--
Ratio (High/Low)	0.58	0.59	0.82	0.87	1.03	--
NATIONAL RATES						
	1940	1950	1960	1970	1980	1990
Both Sexes	70.2	28.9	31.6	21.9	12.2	--
Males	77.5	33.2	38.3	27.4	16.5	--
Females	62.9	24.8	25.6	17.4	9.1	--

- - 1940, 1950, 1960: All rates come from Grove 1968, Table 67, Pages 734-737, "Influenza and Pneumonia, except Pneumonia of Newborn (480-493)" ICD/7.
- - 1970 rates are interpolations (Chap. 4, Parts 2b, 2c).
- - 1980: All rates (ICD/9, 480-487) come from reference NatCtrHS 1980.
- - 1990: Omitted. These data are only marginally related to examination of Hypotheses 1+2, as noted in Chapter 4, Part 2c.