

RECENT STATISTICS

ON DIABETES

FOREWORD

The section on Diabetes Statistics is carried over from *Diabetes Abstracts*, in which it appeared regularly beginning with the tenth issue of that journal (Volume 3, Number 2) for April 1944. The section was started on the suggestion of Herbert H. Marks to Dr. William Muhlberg, then Treasurer of the American Diabetes Association and Chairman of its Committee on Statistical Investigation and Corporate Membership.

The original proposal was for a regular page on current statistics of the disease, with particular emphasis on mortality statistics. Gradually, other types of statistical data on diabetes and on the characteristics of the diabetic population were added. For a period of several years, the section consisted merely of a series of statistical tables. It was proposed in 1946 to enhance the value of this section by adding a short interpretive text with regard to the statistics contained in the tables, and this was done beginning with the first issue of Volume 6 of *Diabetes Abstracts*.

The Statistical Section of *Diabetes Abstracts* contained from the beginning the latest available data on diabetes mortality in the United States as a whole, for selected states and cities, and among Industrial policy-

holders of the Metropolitan Life Insurance Company, who represent a good cross-section of wage-earning families. In addition, the latest figures for two Canadian cities, for London Administrative County and for England and Wales were presented regularly; more recently current regional data for the United States were added. Credit and thanks are due to the National Office of Vital Statistics, to the health departments of the various cities and states and to the Registrar General of England and Wales for the prompt submission of their current figures on diabetes mortality. The other material presented in the Statistical Section, which has covered many aspects of diabetes, has been suggested or submitted by the members of the Committee on Statistics, although occasionally suggestions were received from other sources.

By agreement with the Editor, the Committee on Statistics of the Association plans to present new data on diabetes statistics in three or four issues of *DIABETES* each year. The Committee would like to remind Association members and other readers of the Journal that it welcomes suggestions or actual material suitable for these pages.

—Herbert H. Marks, *Chairman*
Committee on Statistics

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TABLE 1. *Diabetes Deaths and Death Rates, January—September 1950 and 1951*

Area	Death Rates per 100,000		Number of Deaths	
	1951	1950	1951	1950
United States (10% samples)	16.4	16.5	1,881	1,859
Metropolitan Life Insurance Company				
Industrial Policyholders	15.2	15.2	2,127	2,158
New York State	20.0	20.7	2,248	2,297
New York City	19.4	19.8	1,159	1,175
Maryland	19.9	18.3	359	322
Baltimore	21.6	21.3	154	151
Boston, Resident	25.2	26.8	153	160
Philadelphia	24.9	25.2	389	391
Toronto	15.3	17.2	76	86
Montreal, Resident	14.7	17.3	121	139
London (Administrative County)				
(first 48 weeks)			292	241
England and Wales (January-June)				
Total			2,100	1,948
Males			702	656
Females			1,398	1,292

Note: Deaths ascribed to diabetes classified according to the Sixth Revision of the International List of Diseases, Injuries, and Causes of Death. Rates for the states and cities are based upon local estimates of population. United States data based upon the returns from a 10 per cent sample of death certificates received in vital statistics offices, as published in *Current Mortality Analysis*, a monthly report of the National Office of Vital Statistics, U. S. Public Health Service.

TABLE 2. *Number of Deaths and Death Rates for Diabetes by Geographic Division, United States Reporting Area for the 10 Per Cent Sample, January-September 1949, 1950 and 1951*

Geographic Division	Death Rates per 100,000			Number of Deaths		
	1951	1950	1949	1951	1950	1949
U. S. reporting area	16.4	16.5	16.0	1,881	1,859	1,775
New England	25.4	21.2	20.4	170	147	141
Middle Atlantic	18.1	20.8	20.2	415	476	453
East North Central	20.8	21.2	19.4	480	485	439
West North Central	18.2	17.5	15.9	195	187	168
South Atlantic	13.0	13.8	14.2	209	210	214
East South Central	10.6	9.4	11.8	93	80	99
West South Central	13.1	10.7	11.9	145	117	128
Mountain	10.1	7.8	10.9	39	28	37
Pacific	12.3	11.6	9.1	135	129	96

Note: Deaths ascribed to diabetes classified according to the Sixth Revision of the International List of Diseases, Injuries, and Causes of Death. These data from the 10 per cent sample are subject to sampling error. The number of deaths, as given, does not cover the entire United States for each month, but is limited by the completeness of the reporting area. The size of the reporting area is indicated by the footnote on page 3 of each monthly issue of the *Current Mortality Analysis*.

Source: Data furnished by National Office of Vital Statistics of the U. S. Public Health Service.

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TABLE 3.

*Death Rates from Diabetes Mellitus by Color, Sex, and Age
Metropolitan Life Insurance Company, Industrial Department, 1926 to 1950*

Age Period Years	Death Rates per 100,000							Percentage Change 1946-1950 Since 1926-1930
	1946- 1950	1950	1949	1948	1947	1946	1926- 1930	
Total Persons								
1-74*	15.8	16.5	15.9	14.7	15.8	16.1	18.4	-14
White Males								
1-74*	10.6	11.8	11.2	9.2	10.4	10.6	13.3	-20
1-4	0.4	0.5	0.5	-	0.2	0.6	1.2	-67
5-14	0.4	0.3	0.2	0.4	0.4	0.7	1.6	-75
15-24	1.0	0.5	1.1	1.2	1.2	1.0	3.0	-67
25-44	3.6	3.9	3.9	2.8	3.6	3.8	5.2	-31
45-64	32.2	35.8	35.4	25.8	33.4	30.7	40.8	-21
65-74	123.3	141.4	123.4	117.2	110.5	124.0	126.4	-2
White Females								
1-74*	20.5	20.5	20.2	19.5	20.9	21.2	23.4	-12
1-4	0.6	1.0	0.2	0.8	0.6	0.5	1.3	-54
5-14	0.8	1.0	0.6	0.8	0.5	1.1	2.0	-60
15-24	1.4	1.1	1.4	1.0	1.9	1.8	2.9	-52
25-44	3.0	2.6	2.7	2.5	3.5	3.8	5.8	-48
45-64	61.2	62.4	58.3	57.7	63.5	64.2	79.5	-23
65-74	278.3	277.5	288.0	273.0	276.8	276.0	238.9	+16
Colored Males								
1-74*	10.4	12.4	9.9	8.9	10.3	10.5	11.9	-13
1-4	0.4	-	-	-	2.0	-	3.2	-88
5-14	1.0	0.7	0.7	2.9	-	0.7	1.2	-17
15-24	1.8	2.3	0.5	1.6	1.1	3.3	2.8	-36
25-44	4.6	5.4	4.5	3.3	4.8	5.1	6.4	-28
45-64	30.9	38.0	28.5	28.1	31.6	28.3	38.1	-19
65-74	106.1	125.3	114.0	76.1	105.1	109.9	86.7	+22
Colored Females								
1-74*	23.0	24.8	23.6	24.2	20.9	21.4	23.2	-1
1-4	0.4	-	-	-	2.0	-	1.4	-71
5-14	0.9	0.6	0.6	1.4	-	1.9	2.2	-59
15-24	2.2	2.6	2.8	1.5	2.9	1.2	2.8	-21
45-64	7.7	8.8	7.1	6.6	7.9	8.0	13.5	-43
25-44	82.7	85.1	92.3	89.1	70.1	77.0	84.0	-2
65-74	210.4	244.1	190.8	227.2	201.3	188.7	144.0	+46

* Death rates standardized for age.

Note: Rates italicized are based upon fewer than 10 deaths.

Source: *Health Progress Among Industrial Policyholders, 1946 to 1950*, by Louis I. Dublin and Mortimer Spiegelman. Society of Actuaries Transactions, Vol. III, p. 294, Sept. 1951.

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TABLE 4. *Death Rates per 100,000 from Diabetes by Sex, Ages Under 45 and Ages 45 and Over. United States (White) and Selected Countries, Postwar Experience*

Country	Year	Males		Females	
		Under 45	45 and Over	Under 45	45 and Over
United States*	1948	1.9	67.7	2.0	111.6
England and Wales	1948	0.9	14.0	1.0	25.2
Scotland	1948	1.3	15.3	1.3	36.1
Australia	1948	1.1	42.2	1.6	78.8
New Zealand	1949	0.9	45.4	0.8	86.7
Canada	1948	2.1	55.6	1.7	91.5
Ireland	1948	1.5	15.9	1.7	15.3
South Africa	1947	1.2	35.0	1.7	50.9
Denmark	1949	1.9	52.5	1.8	71.9
Finland	1949	3.4	9.7	2.5	18.7
France	1949	1.3	18.2	1.5	27.4
Italy	1949	0.8	23.4	0.8	29.1
Netherlands	1949	0.6	20.5	0.6	45.3
Norway	1948	1.3	24.9	1.5	46.9
Portugal	1949	1.4	16.5	1.0	20.0
Sweden	1947	1.0	16.7	1.9	29.5
Switzerland	1948	1.3	23.4	1.5	39.2

* White persons.

Note: The death rates are not strictly comparable for the various countries because of differences in medical practice, in certification of causes of death and in classification procedures.

Source: *Statistical Bulletin*, Metropolitan Life Insurance Company, Vol. 32, p. 6, Oct. 1951. Abstract of paper by Louis I. Dublin, "Factors in the Higher Mortality of Our Older Age Groups."

TABLE 5. *Underlying Cause of Death Where the Death Certificate Contained a Mention of Diabetes Mellitus, but Diabetes Mellitus Was not Coded as the Underlying Cause of Death Iowa, 1950*

Underlying Cause	Number of Deaths	Per cent of Total
Total	498	100.0
Pulmonary tuberculosis	4	0.8
Malignant neoplasms	47	9.4
Vascular lesions affecting central nervous system	87	17.5
Heart diseases	235	47.2
Hypertension (without mention of heart) and general arteriosclerosis	26	5.2
Pneumonia and influenza	19	3.8
Hernia and intestinal obstruction	4	0.8
Cirrhosis of liver	4	0.8
Nephritis (chronic and unspecified)	12	2.4
Hyperplasia of prostate	4	0.8
Accidents	21	4.2
All others	35	7.0

Source: Iowa State Department of Health, Division of Vital Statistics. Supplement of Morbidity Report for week ending Saturday, Sept. 24, 1951.

COMMENT

The recorded death rate from diabetes in the United States, on the basis of the Sixth Revision of the International List, shows little change in the first 9 months of 1951 from the corresponding period of 1950. Official data, derived from the 10 per cent sample of death certificates, show a reduction of 1 per cent, while the experience among Industrial policyholders of the Metropolitan Life Insurance Company shows identical rates for the first 9 months of both years. Local statistics for the few states and cities for which data are collected likewise indicate no significant change in the diabetes death rate in 1951 from the previous year. The two Canadian cities, Montreal and Toronto, from which data are received, show a sizable reduction—15 per cent and 11 per cent, respectively—in the rate for the 9 months of 1951 as compared with 1950. These findings are not statistically significant because the total number of deaths is relatively small.

The English data show a rather appreciable increase in the number of deaths from diabetes during 1951. The rise in the reported number of deaths in London Administrative County is particularly sharp. This may be, in part, a local situation, but the number of deaths from the disease recorded in England has been rising now for two or three years.

Regional data on diabetes mortality in the United States during the first 9 months of 1950 and 1951, based on the 10 per cent sample, show no consistent pattern, even for those areas in which the number of deaths in the sample is fairly large. In the Middle Atlantic region the death rate in 1951 is appreciably lower than in 1950 and in the East North Central states it is slightly but not significantly lower than in 1950. As for the other areas, the variations may reflect either the size of the sample or other limitations of the data to which reference is made in the footnote of the table.

Dublin and Spiegelman have recently reviewed the mortality experience from major causes among Industrial policyholders of the Metropolitan Life Insurance Company during the five-year period 1946 to 1950. The third table, derived from their paper, gives the death rates from diabetes by color, sex and age during this period, as well as a comparison with the quinquennium 1926 to 1930. Except for 1948, the age-adjusted death rate for the aggregate experience has been fairly stable

during 1946-1950. The rate in 1948 was exceptionally low, actually the lowest in the last three decades. The death rates in 1946-1950 are uniformly lower than in 1926-1930, except at ages 65 to 74 among white females and among colored persons of both sexes. The reduction in the death rates is especially marked at the younger ages. In fact, the reductions in this 20-year interval exceed 50 per cent among both white males and white females at ages under 25 and is not much less at ages 25 to 44.

Dublin has assembled postwar data on mortality in the United States and several other countries in a study designed to ascertain why this country's mortality record for persons in middle and later life is comparatively less favorable than at the younger ages. The facts for diabetes are shown in the fourth table. Care must be taken in interpreting these data, first, because they are crude rates, and second, because of differences between the various countries with respect to medical practice, certification of causes of death, and classification procedures. Nevertheless, there are several interesting features in this table. For example, it is clear that at ages 45 and over the death rates from diabetes among men and women in this country are well above those of all other countries. Another major fact emerging from the table is that except for Ireland the death rates among older women are higher than those for older men. In some countries the female rate at these ages is more than double that for males.

The Division of Vital Statistics of the State of Iowa has tabulated all deaths in 1950 in which mention of diabetes appeared on the death certificate. The total was 969, or 3.6 per cent of all death certificates filed during the year. Of this total 471, or just under half, were assigned to diabetes as the underlying cause of death, in accordance with the procedure of the Sixth Revision of the International List of Diseases, Injuries and Causes of Death. This proportion held for males and females.

A tabulation was also made of the underlying cause for the 498 cases in which diabetes was mentioned on the certificate as a contributory or associated cause. As the last table shows, the cardiovascular-renal diseases accounted for nearly three-fourths of the 498 cases.

A notable feature of this Iowa experience is the high median age of those dying with or from diabetes—70.1 years.

Committee on Statistics, American Diabetes Association; submitted by Herbert H. Marks, Metropolitan Life Insurance Company, New York.