

Recent Statistics on Diabetes

The death rate from diabetes up to the end of September 1953 shows divergent trends in various population groups as compared with the corresponding period of 1952. This is evident from Table 1. The provisional data for the United States based upon the 10 per cent sample of death certificates show a very small decline. In contrast, figures for the urban wage-earning population, represented by the Industrial policyholders of the Metropolitan Life Insurance Company, show a sharp rise. Increases are reported likewise in all the States and local areas for which the figures are regularly collected, except in Maryland and Baltimore. The two Canadian cities, Toronto and Montreal, also show an increase in the death rate from diabetes in the first nine months of 1953 over the same period a year earlier.

Figures for the first half of 1952 and of 1953 showed a moderate rise between the two years in the United States, and a somewhat larger rise among the insured group. For the most part, the changes in the rates between the first six months of 1952 and 1953 for the individual areas are somewhat smaller than those recorded for the first nine months.

The rise in diabetes death rates recorded in many areas in 1953 reflects primarily a relatively severe outbreak of respiratory disease earlier in the year and the sustained heat wave that blanketed a great part of the country during late August and early September. Both of these circumstances favor a temporary but significant increase in mortality among persons with chronic disease, and the older persons in the group are particularly affected. It is difficult to understand why the preliminary statistics for the country as a whole for the first nine months showed no increase because the general death rate for the country was higher in this period of the year as compared with 1952; for September alone the increase was 3.4 per cent. Perhaps the failure for an increase in mortality among diabetics to be reflected in the death rate from the disease may be due to normal variations in the 10 per cent sample or to the classification of an unduly large proportion of these deaths under

other chronic diseases, particularly the cardiovascular-renal group, or under heat exhaustion.

Figures for England and Wales are available only up through June of 1953. The death rates from diabetes both among males and females for the first six months of the year show a moderate rise from the previous year. This increase was all incurred in the early part of the year, when England also was experiencing the effects of a severe influenza outbreak. In contrast, diabetes mortality in the second quarter was low, and the margin between the two years was considerably reduced by the end of the second quarter. Figures for the first nine months of 1953 for London Administrative County show a decrease in diabetes deaths from the similar period of 1952. This is a distinct reversal of the situation earlier in the year.

Regional data for the United States for the first six months and the first nine months of 1953 are shown in comparison with the figures for corresponding periods of the two preceding years (Table 2). The trends by region between 1952 and 1953 for the first nine months are rather mixed. Moderate increases in rates occurred in the South Atlantic and West South Central areas. Figures for other areas show either relatively modest changes, or the number of deaths is too small to attach much significance to the variations. As compared with two years ago, there has been a significantly large decrease in the death rate in New England. In contrast, the adjoining Middle Atlantic States show a rather sizable rise over the same period.

Final data on death rates from diabetes in individual states are now available for 1950. These data together with those for 1949 are given in Table 3. As against a modest decline in the death rate between 1949 and 1950 for the country as a whole, there were sizable reductions in several States, notably, four of the New England States, Illinois, Michigan, South Dakota, West Virginia, Alabama and Montana. On the other hand, Pennsylvania experienced a rather substantial increase in its rate. For the remainder, the changes were either minimal or the number of deaths too small for the variations to be significant.

Submitted by the Committee on Statistics, Herbert H. Marks, Chairman. The Committee welcomes suggestions or actual material suitable for this section in future issues from Association members and other readers of the Journal.

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TABLE 1

Recent data on diabetes mortality—deaths and death rates—first six and first nine months of 1952 and 1953

Area	Death Rates per 100,000				Number of Deaths			
	Jan.-Sept. 1953 1952		Jan.-June 1953 1952		Jan.-Sept. 1953 1952		Jan.-June 1953 1952	
United States (10% sample)	16.0	16.2	17.0	16.6	1,896	1,877	1,332	1,276
Metropolitan Life Ins. Co. Industrial Policyholders	15.4	14.0	15.7	14.4	2,129	1,949	1,439	1,325
New York State	21.1	20.6	20.9	21.2	2,450	2,361	1,610	1,612
New York City	21.0	20.5	20.7	20.7	1,277	1,235	840	835
Maryland, resident	16.7	19.1	17.3	20.0	313	351	216	245
Baltimore, resident	21.0	24.3	23.3	24.6	151	174	111	118
Boston	25.4	25.0	30.0	28.6	154	150	121	114
Philadelphia	30.0	27.0	30.0	29.2	475	426	315	307
Toronto	17.6	15.2	19.3	14.5	88	76	64	48
Montreal, resident	18.4	17.3	18.6	17.0	145	134	98	88
London (Administrative County)	8.1	8.8	9.2	9.4	203	221	154	158
	Jan.-June		Jan.-Mar.		Jan.-June		Jan.Mar.	
England and Wales	8.4	8.1	9.7	8.9	1,829	1,777	1,062	961
Total	5.8	5.6	6.8	6.3	612	589	356	327
Males	10.7	10.5	12.4	11.3	1,217	1,188	706	634
Females								

Rates for the states and cities are based upon local estimates of population. United States data are 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 of the U. S. Public Health Service.

TABLE 2

Number of deaths and death rates from diabetes in geographic division; United States reporting area for the 10 per cent sample; first six and first nine months of 1951, 1952 and 1953

Geographic Division	Death Rates per 100,000*			Number of Deaths*		
	January—September			January—June		
	1953	1952	1951	1953	1952	1951
U. S. reporting area	16.0	16.2	16.4	1,896	1,877	1,881
New England	17.2	20.0	25.4	124	142	170
Middle Atlantic	22.4	22.0	18.1	526	510	415
East North Central	20.2	19.5	20.8	481	458	480
West North Central	16.8	17.7	18.2	183	192	195
South Atlantic	12.8	11.8	13.0	214	193	209
East South Central	8.6	9.9	10.6	74	87	93
West South Central	11.2	9.9	13.1	129	111	145
Mountain	11.4	15.5	10.1	47	61	39
Pacific	10.0	11.2	12.3	118	123	135
	1953	1952	1951	1953	1952	1951
U. S. reporting area	17.0	16.6	17.0	1,332	1,276	1,288
New England	18.3	20.9	26.4	87	98	119
Middle Atlantic	22.9	23.1	18.3	356	356	278
East North Central	21.1	20.8	22.2	333	324	339
West North Central	18.2	17.5	20.3	131	126	144
South Atlantic	14.1	11.7	13.1	156	127	140
East South Central	8.9	10.7	9.9	51	63	57
West South Central	13.6	9.3	12.2	103	69	89
Mountain	12.1	14.6	11.7	33	38	30
Pacific	10.4	10.4	12.6	82	75	92

*Excludes armed forces overseas.

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 7 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 per 100,000 from diabetes in the United States by geographic region and state, 1949-1950

Region and State	1950	1949	Region and State	1950	1949
United States	16.2	16.9			
New England	21.0	21.8	South Atlantic (con't)		
Maine	16.9	19.1	West Virginia	12.2	15.5
New Hampshire	20.1	23.3	North Carolina	9.8	10.2
Vermont	15.9	22.3	South Carolina	13.4	12.4
Massachusetts	20.5	20.2	Georgia	12.0	11.0
Rhode Island	35.9	38.7	Florida	12.7	13.3
Connecticut	19.3	19.3			
Middle Atlantic	20.5	20.1	East South Central	10.2	10.8
New York	19.0	19.8	Kentucky	11.9	12.2
New Jersey	19.7	20.9	Tennessee	9.5	9.0
Pennsylvania	23.0	20.2	Alabama	8.9	11.0
			Mississippi	10.8	11.3
East North Central	20.6	23.3	West South Central	11.6	11.6
Ohio	22.5	22.5	Arkansas	9.4	10.6
Indiana	17.9	18.2	Louisiana	12.5	13.3
Illinois	19.5	26.4	Oklahoma	13.4	14.2
Michigan	21.9	25.7	Texas	11.3	10.6
Wisconsin	19.5	18.9			
West North Central	17.9	17.7	Mountain	10.3	11.5
Minnesota	17.0	17.0	Montana	11.5	18.1
Iowa	17.4	16.3	Idaho	14.1	11.7
Missouri	18.5	17.7	Wyoming	11.4	11.2
North Dakota	17.6	18.4	Colorado	10.9	12.7
South Dakota	17.8	20.6	New Mexico	5.6	6.8
Nebraska	19.5	18.2	Arizona	8.4	8.8
Kansas	17.9	19.1	Utah	11.3	10.3
			Nevada	10.6	14.5
South Atlantic	12.6	13.0	Pacific	10.0	10.2
Delaware	27.0	26.0	Washington	14.2	14.3
Maryland	17.0	18.3	Oregon	11.2	12.5
Dist. of Columbia	15.1	14.2	California	8.8	8.9
Virginia	11.0	11.8			

Based on Sixth Revision of the International List. Excludes Armed Forces overseas.
Source: National Office of Vital Statistics of the U. S. Public Health Service.

TABLE 4

Hospital discharges with a primary diagnosis of diabetes mellitus, number and average annual rate per 1,000 beneficiaries, 1950-1952, Saskatchewan Hospital Services Plan

Age	Annual Rate per 1,000 Beneficiaries			Aggregate Number of Discharges		
	Both Sexes	Males	Females	Both Sexes	Males	Females
All Ages	2.38	1.75	3.06	5,545	2,116	3,429
Under 1						
1-4	.25	.28	.22	55	31	24
5-14	.57	.53	.61	244	116	128
15-24	.82	.64	1.00	298	114	184
25-44	1.06	1.11	1.00	678	358	320
45-64	4.77	2.90	7.07	2,032	678	1,354
65-69	11.66	7.21	18.17	952	349	603
70 & over	11.40	7.33	16.76	1,286	470	816

Source: Statistics from personal communication with Dr. Murray S. Acker, Assistant to the Deputy Minister, Department of Public Health, Province of Saskatchewan.

Rhode Island maintained its record of having the highest death rate from diabetes in the United States. Second rank continued to be held by Delaware. In general, the rates continued to be above the average in the industrialized areas of the North and East, and to be well below average in the South and Far West.

There is relatively little information on the rate of hospitalization for diabetes. It is difficult to assemble such information because there are no systematic collections of data on a wide scale on hospital admissions for a group of hospitals serving a specific population group of which the size and composition is known. In addition, it is not feasible to obtain causes of hospital admission as of the time of admission. A distinct contribution to this field are the data of the Saskatchewan Hospital Services Plan, which now covers more than

TABLE 5
Number and rate per 1,000 population of insulin-treated diabetics in Germany by province

Province or State	Number	Rate per 1,000 Population	Province or State	Number	Rate per 1,000 Population
Total Germany	58,921	.89	Hamburg*	2,500	1.67
Saxony-Anhalt	2,294	.55	Bremen	451	.82
Thuringia	1,665	.57	North Rhine Westphalia*	10,000	.85
Saxony*	10,000	1.78	Rhineland-Palatinate**	2,500	.90
Brandenburg	1,357	.54	Hesse	4,146	.96
Mecklenburg	1,905	.89	Wurttemberg-Baden*	3,000	.82
Berlin-East	2,114	1.80	Wurttemberg-Hohenzollern	689	.62
Berlin-West	3,262	1.54	South Baden	660	.55
Lower Saxony	6,202	.89	Bavaria	3,476	.38
Schleswig-Holstein*	2,700	1.0			

*Approximate figures

**Estimated

Source: Georg von Knorre, Die gegenwertige Diabetesmorbidity in Deutschland unter besonderer Berucksichtigung Sachsen-Anhalts. Ztschr. ges. Inn. Med., Jahrg. 6, 23-24: 725, 1951.

90 per cent of the population of the Province.* Figures on the annual rate of hospital discharges in which the primary diagnosis was diabetes mellitus are given in Table 4. The average annual rates per 1,000 beneficiaries during the period 1950 to 1952 are shown by sex and age. The figures give only a general picture of the situation because some patients are admitted more than once and because cases in which diabetes is a contributory cause of admission would not be included in the total diabetic discharges. Nevertheless, certain features of this experience are informative. For beneficiaries of both sexes the annual rate of discharge with primary diagnosis of diabetes was 2.38 per 1,000. The rate for females was 75 per cent greater than that of males. The rate increased steadily with age, accelerating between ages 45 and 70. After age 70, the rate showed little change. The differences in the rate between the sexes were most marked after age 45, when the female rate was consistently more than double that for males.

The method of insulin distribution in Germany makes it possible to ascertain the number of diabetics using insulin in the various civil divisions of the country. The data which have been assembled and published in an

*For fuller details on the program and facts on its utilization, see the article, "Health Services for the Aging in Saskatchewan," by L. S. Rosenfeld, F. D. Mott, and M. G. Taylor, *Illness and Health Services in an Aging Population*, Public Health Service Publication No. 170, Federal Security Agency, Washington, 1952.

article by von Knorre are shown in Table 5. The dates of observation for the individual areas were between 1948 and 1950, about half of them in the latest year. The number of insulin-treated diabetics per 1,000 population shows a considerable range, from a low of .38 in Bavaria to a high of 1.80 in Eastern Berlin. These figures, however, can be accepted only to a very limited degree as indicative of the regional variations in the prevalence of diabetes. They reflect differences also in the composition of the population, in clinical usage of insulin, perhaps also in its availability and cost as well as in the completeness of reporting.

Certainly the proportion of diabetics using insulin differs widely from place to place. This is brought out in other data in von Knorre's article which give facts on the total diabetics and insulin-using diabetics in smaller civil divisions of Saxony-Anhalt. It is interesting to compare this author's data on the two sectors of Berlin with the more recent figures on the total diabetic population reported by Schliack*. The latter gives the total number of diabetics in the Eastern sector of Berlin as 4,094 and 11,294 in the Western sector of the city, as against 2,114 and 3,262 insulin-using patients respectively reported by von Knorre. It is doubtful that the proportion of patients on insulin treatment differs in the two sectors as much as the figures from the two sources would indicate.

*Volker Schliack, Die Diabetespopulation Berlins, Manifestations-und Lebensalter. Ztschr. Klin. Med., 150:326, 1953.