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THE REGISTRAR-GENERAL'S DECENNIAL SUPPLEMENT

ENGLAND AND WALES

1921

PART I. LIFE TABLES

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PREFACE.

In addition to those subjects which are regularly examined and discussed in the annual publication of this Department there are certain aspects of the vital statistics of the country which it has been customary to reserve for consideration at decennial intervals owing either to their greater range or complexity or to the fact that they involve material derivable only from the decennial census enumerations. These occasional enquiries were at first included in the Annual Reports themselves, but since 1861 (inclusive) they have, with minor exceptions, formed the subject of separate publications issued as supplements* to certain Annual Reports. Since, however, the term " Annual Report " was discontinued after the 1920 issue (the 83rd of its series) in favour of the more precise designation " The Registrar-General's Statistical Review," some slight change in the title of the supplementary series becomes necessary, and it is proposed that these shall be styled in future " The Registrar-General's Decennial Supplement," the name under which the earlier volumes of the series are familiarly known to users of these publications.

The Registrar-General's Decennial Supplement, 1921, of which this volume is the first part, is thus the seventh of its series, the first having been prepared after the Census of 1861 and published in 1864. Its contents will be similar in character to those of its predecessors, and it will be issued in sections comprising, in addition to the present volume of life tables, a general review of the vital statistics of the decennium and statistics of occupational fertility and mortality.

The present volume relates primarily to Life Tables, the principal object of the work being the production of English Life Table No. 9 which is now published—for males and females separately—in Table 1 of the Appendix IV (pages 58–61). The table is based upon the mortality experienced in England and Wales as a whole during the three years 1920–1922, and is, therefore, similar in character to, and closely comparable with, its immediate predecessor, English Life Table No. 8, which was based upon the experience of the three years 1910–1912 and published in Part I of the Supplement to the 75th Annual Report.

No table has been constructed in respect of the combined mortality experience of the ten years 1911–1920, and a break is thus made in the continuity of a practice which has been followed for several decades. This was in any case inevitable, as explained in the report itself, in view of the events of the decennium. The omission is not, however, necessarily a subject for regret, since it will be clear on general considerations that a decennial table which in effect relates to a point of time five years before the latest census is bound to be of less practical value than one relating to the date of the census itself. While the omission on this occasion involves no commitment as to future policy, it is obvious that the general considerations alluded to are not restricted in application to the past. It may, at any rate, be confidently stated that, so long as life tables continue to be based upon the principles at present in favour, that type of life table which relates to the more recent conditions (English Life Tables Nos. 8 and 9) will by its obvious advantages command a prior place in the contents of future publications in this series. It will be a question for future consideration whether, having regard to the purposes for which life tables are designed, it is necessary or desirable to include also tables of the older type (English Life Tables Nos. 3–7) which, from the moment of their appearance, would in a sense be obsolete.

Commencing with the notable work of Dr. William Farr of this Office, who initiated the series of national life tables relating to this country, the periodical revisions and the progressive development of the principles and methods of construction were carried out within the Department itself in respect of the tables issued prior to the Census of 1911. During the decennium 1901–11 some important contributions to this branch of statistical work had been published in the Journal of the Institute of Actuaries under the authorship of Mr. George King, who had been a Vice-President of the Institute, and when the results of the 1911 Census became available it was decided to have recourse to his professional services in connection with the preparation of the further life tables which the occasion demanded. His report was duly incorporated in the Registrar-General's Supplement to the 75th Annual Report.

* Supplements to the 25th, 35th, 45th, 55th, 65th and 75th Annual Reports of the Registrar-General.

On the present occasion Sir Alfred Watson, K.C.B., Government Actuary and past President of the Institute of Actuaries, was similarly invited to assist the General Register Office by undertaking the consideration of the scope of the present enquiry and the preparation of the new life tables. This he consented to do ; and the Registrar-General can do no less than place upon record his appreciation of the attention which Sir Alfred Watson has devoted to the subject and of the extremely valuable report embodying his conclusions, which is now presented to the public.

It will be observed that, in addition to the principal English Life Table No. 9 referred to above, life tables have been prepared in a similar degree of completeness for only one subdivision of the country, viz., Greater London, the area comprised by the combined City of London and the Metropolitan Police District, and representing approximately a circle of about 15 miles radius measured from Charing Cross. On the other hand, the mortality experience of 26 sections of the country, differentiated by geographical position and density of population, is examined in considerable detail at various age periods, and in respect of five of these, representing experiences of defined types, graduated rates of mortality (q_x) by individual years of age are given, thus facilitating the calculation of the conventional life table functions, should these be desired. The separate experiences of single, married, and widowed females are also discussed, and graduated rates of mortality by single years of age provided in a form comparable with the q_x of the normal life table.

Report on Life Tables

by

The Government Actuary.

Government Actuary's Department,
Treasury Chambers,
Whitehall, S.W.1.
30*th April*, 1927.

To S. P. VIVIAN, Esq., C.B.,
Registrar-General,
Somerset House, W.C.2.

SIR,

In compliance with your request I have examined the question, in connection with the Census of 1921, of the construction of Life Tables representative of the mortality experience of the population of England and Wales, and have prepared such tables, for males and females respectively, on the basis of that census and the deaths of the three years 1920, 1921 and 1922. The circumstances which have led me to select these data for the preparation of the National Life Tables on the present occasion are explained in the following report.

I.—INTRODUCTORY.

The first census of England and Wales was taken in March, 1801. Since then enumerations of the population have been made at regular decennial intervals. Following upon the census of 1841, Dr. Farr prepared mortality tables, for males and females respectively, based on the returns of that census and on the records of deaths for the same year. This was the first English Life Table and inaugurated a series of National Life Tables which has since been regularly continued, all the tables having the common characteristic that they have been based on the returns of one or more censuses and on the deaths of a suitably related period.

The most recently published English Life Tables were No. 7 and No. 8. These tables were constructed by Mr. George King, F.I.A., F.F.A., in accordance with principles expounded by him in a series of papers published in the Journal of the Institute of Actuaries during the years 1907–1909, and summarised very clearly and concisely in his report on the Tables published as Part I of the Supplement to the 75th Annual Report of the Registrar-General (Cd. 7512). In each of these tables use was made of the enumeration of the population in 1911, No. 7 being based, in accordance with the custom that had become fairly well-established, on a mean population derived from the two most recent censuses, those of 1901 and 1911, and on the deaths recorded during what was virtually the intercensal period, the ten calendar years 1901 to 1910.

The data used for the compilation of the English Life Table No. 8 were the census of 1911 alone and the deaths recorded in the three years 1910 to 1912.

The reasons which led to the preparation of a table based on data relating to the comparatively restricted period of three years are explained in the letter of the Registrar-General to the President of the Local Government Board which precedes Mr. King's Report, and appear fully to justify what is there described as an innovation but was really, in substance, a reversion to the procedure which Dr. Farr had, perforce, to adopt in his earlier tables.

When the results of the 1921 census became available, and the preparation of new English Life Tables fell to be considered, it was obvious that on this occasion there were grave objections to the construction of the tables on the data provided by the two most recent censuses and the deaths recorded in the intervening period. During a large part of this period the normal life of the nation had been disorganised by the Great War, and the reactions on the vital statistics of the community were very pronounced. In particular

the absence from the country on war service of a large proportion of the men of military age and a not inconsiderable number of young women, with the temporary return to the Mother Country, for varying periods, of British subjects from overseas, had set up conditions which made it impossible to calculate the necessary "mean population" with any degree of reliability, with the result that tables resting on such a basis would be lacking in authority.

Consideration had also to be given to the possible effects of war conditions upon the death rates among the civilian population. It was felt that whatever might be the weight that properly should be assigned to this element it could not be dismissed as unimportant, and that the judgment of those who were competent to express an opinion upon the point would be adverse to the presentation, as indicative of normal conditions, of life tables based in large part upon the mortality experience of the civilian population during the years from 1914 onwards.

A more general question of considerable importance also arose. It was clear that for a long series of years the duration of life among the population of England and Wales had been increasing, and that a life table based upon two censuses and the deaths of the intervening ten years would be devoid of value as to the conditions prevailing at the time—necessarily some years after the second of the two censuses was taken—at which it was issued. This was clearly seen by comparing the English Life Tables No. 7 and No. 8 published in the same volume in the year 1914. The No. 7 Table could be regarded as relating to a point in time about 5 years earlier than that to which the No. 8 Table might similarly be held to apply. The rate of mortality shown by the later of these tables was definitely lower at all ages than that exhibited by the earlier, and over a long span of ages the difference was pronounced. There was thus a strong presumption, if indeed the evidence was not conclusive, that in relation to the conditions prevailing when it was issued to the public the No. 7 Table had already become out of date, and the question presented itself as to whether tables compiled upon this basis, and subject to this disadvantage, could serve a sufficiently useful purpose to justify their continuance. While recognising that tables so constructed would continue a symmetrical series, beginning with the third National Life Table, from which the death rates at particular periods of life could be directly compared chronologically, it was felt that with little adjustment this purpose could be equally served by the employment of a series the later tables in which were prepared from data such as that providing the basis of the English Life Table No. 8, and that no loss of scientifically valuable information would be experienced hereafter if the present tables were limited to such as could be prepared from material of this form.

In these circumstances, it was decided to use the census of 1921 alone for an estimate of the population, and to relate to it the deaths occurring in the years in close juxtaposition to it. The census was taken on the night of 19–20th June, 1921, and obviously the deaths recorded in 1921 were a material factor in any estimate of rates of mortality based on an "exposed to risk" consisting merely of the population enumerated in that year. To confine the observations so far as regards deaths to the records of one year alone was, however, deemed inadmissible as giving undue weight to any influences of a temporary nature that might have affected the figures for the year in question. It was, therefore, decided to make use of the mortality returns of a brief period on either side of the census year.

To have gone back to 1919 for this purpose would undoubtedly have introduced an appreciable element of war mortality, and that year was rejected on this ground, quite apart from the fact that it might be held to be somewhat remote from the census date. The latter consideration applied equally to 1923, while the inclusion of that year without 1919 would have involved the further complication of projecting the census population to the mid-point of a four years period. It was concluded, on consideration of all the facts, that the most satisfactory basis would be obtained by relating to the population, as returned in the 1921 census, the average number of the deaths recorded in the three years 1920, 1921 and 1922. This basis was accordingly adopted, and incidentally it secured that the new table, to be known henceforth as the English Life Table No. 9, followed the precedent adopted in the case of its immediate predecessor.

Certain sectional tables were also prepared, the appropriate data in each case being derived from the same sources as those of the National Tables. The selection of the sections of the population whose mortality was specially investigated was determined by considerations which will be made apparent later.

In all instances separate tables were prepared for males and females, the bases and methods employed being identical for each sex.

II.—NATIONAL LIFE TABLES.

(1) Data.

It will be convenient at this stage to describe in greater detail the data that were available and actually used in the construction of the National Life Tables.

(*a*) *Population.*—The numbers of persons of each sex in England and Wales at each age last birthday as ascertained by the census of 1921 are shown in Table 32 on pages 127 and 128 of the volume "Census of England and Wales, 1921, General Tables." These figures are reproduced in Table 1 of Appendix II to this Report.

The 1911 Census was taken on 2nd April, 1911, and for the purposes of the English Life Table No. 8, Mr. King found it necessary to adjust the enumerated population to bring it down to 1st July, 1911, the central point of the three years 1910, 1911, and 1912. Between the census date in 1921 and the central point of the three years 1920, 1921 and 1922, there was an interval of only 11 days, and it was decided that in the circumstances no error of moment would be involved in taking the census figures without modification.

It has long been recognised, and is indeed evident when regard is had to the well-known fact that the risk of death is at its maximum at birth and rapidly declines throughout infancy, that at infantile ages rates of mortality derived directly from census returns and records of deaths are unreliable.

To obtain a more accurate "exposed to risk" at these ages, recourse must be had to the annual or quarterly records of births and deaths. For the purpose of the present investigation the numbers of births in each quarter of the years 1914 to 1922, reduced by the related numbers of deaths, were used in computing the rates of mortality at the earliest ages. The numbers of births in each quarter are published in Table D of the annual Statistical Review of the Registrar-General of England and Wales (Part II. Civil). Those which have contributed to the experience under review are shown in Table 3 of Appendix II.

(*b*) *Deaths.*—The numbers of deaths at each year of age registered in England and Wales in 1920 and earlier years are published in the Annual Reports of the Registrar-General, and in 1921 and subsequent years in the Registrar-General's Statistical Review (Part I. Medical). The numbers upon which the new life tables have been based are shown in Tables 2 and 4 of Appendix II.

(2) Unadjusted Rates of Mortality.

The basis of the investigation having been thus determined, it was possible to obtain directly from the data a measure of the mortality experienced in the country during the period at each age (other than infantile ages) by means of the ratio :—

$$\frac{\frac{1}{3}\text{ (Deaths in 1920, 1921 and 1922)}}{\text{Population at the 1921 census.}}$$

This function is generally known to actuaries and other workers in this field as "the central death-rate", and for any age x is represented by the symbol m_x. The more usual expression, "rate of mortality," is popularly applied to any measure of mortality, but in technical language its use is restricted to denote the ratio, represented symbolically by q_x, of the number of deaths in a particular year of age x to $x + 1$ to the number of persons entering upon that year of age. It is this function which is now universally adopted for tabulation in a life table, and throughout this report the term "rate of mortality" is to be construed as bearing this particular signification.

The values of q_x and m_x are connected by the relation, $q_x = \frac{2m_x}{2 + m_x}$, and the values of m_x having been ascertained, it is possible to pass to the corresponding values of q_x. The successive values of q_x can, however, be more easily derived directly from the original data by means of the formula, $q_x = \frac{d_x}{P_x + \frac{1}{2}d_x}$ where d_x represents the average number of

deaths per annum in the years 1920, 1921 and 1922 in the year of age x to $x+1$, and P_x represents the number of persons enumerated at the census as having been aged x at their last birthday.

It is reasonable to assume that if the recorded numbers which are the subject of operation were free both from fluctuations and from errors, the rates of mortality directly derived by the use of the formula would, if plotted graphically, be represented by a smooth curve. As, however, the numbers recorded, both of the population and the deaths, are marked by variations from age to age, the result of one or both of the causes indicated, it is necessary to subject the data to a process of adjustment technically known as graduation, with a view to obtaining a regular series of rates of mortality, which it is believed will represent, more faithfully than the unadjusted values, the real trend of the experience.

(3) Graduation.

The graduation of rates of mortality based upon population statistics has been widely discussed, and while various methods have been advocated, and indeed employed, it may be said that no particular method has been so generally accepted as to vest it with a degree of authority to which competing methods cannot lay claim. While in the circumstances I have felt free to review the whole subject, I have been assisted in coming to a conclusion by the undoubted success of Mr. King's graduation of the last English Life Table (No. 8). Mr. King laid down as the *desiderata* of the process to be employed that it should be "simple in theory, easy in application, . . . would produce curves of smooth graduation, and curves which would adhere closely to the original data," and it is generally agreed that in the case with which he was dealing, that of population statistics, the method which he proceeded to use satisfied these requirements. I myself accept this summary of the conditions to which a successful adjustment of the crude mortality rates should conform, and have felt, after giving due consideration to the points involved, that on the present occasion, the most advantageous course will be to adhere (subject to modification in details) to the process developed and used by Mr. King. In so deciding, I have been much influenced by the consideration that the facility of application which Mr. King has claimed for the method has been practically demonstrated, in that it has attracted to the study of the subject a number of officials of local authorities and others who might have been discouraged by more abstruse mathematical processes. It is in the public interest that those who are engaged in the administration of the health services of the country should be practised in the application of the less elaborate methods of statistical analysis to the conditions with which they have to deal, and there is much to be said, therefore, for the plea that the National Life Tables, which must necessarily be the model for local workers, should be constructed and graduated by the simplest processes of which the conditions admit.

The choice of a method of graduation was restricted on the present occasion by another consideration and one which will claim attention for a long period in future investigations of the kind. This is the effect of the Great War on population statistics. Such effect is clearly discernible in the 1921 census returns relating to males. Owing to the large number of deaths on active service of men of military age, the total number of males between the ages of 20 and 45 is depressed and the natural sequence of the numbers enumerated at individual ages is correspondingly interrupted, thus rendering it difficult, if not, indeed, impossible, accurately to express the numbers of the male population by any process of mathematical curve-fitting.

This was the first occasion, since the compilation of National Life Tables was instituted, on which such an extensive and well-defined modification of the normal age distribution had to be dealt with. At future censuses it will reappear at correspondingly older ages, though probably with diminished force, but many years will pass before it will be a negligible element in the problem under discussion.

In connection with the general question of graduation, I have given much consideration to the possibility of introducing some intermediate process directed to the rectification of errors in the computed rates of mortality resulting from mis-statements of age. After considering the observations on this subject in the General Report on the Census, pp. 72–80 (relating to the enumerated population) and in the Registrar-General's Statistical Review for 1923 (Text), pp. 36–38 (relating to deaths), no doubt can remain that such errors exist, although it is satisfactory to have the opinion that, so far as casual errors are concerned, some progress in the direction of improvement has been achieved. The mis-statements

referred to are of two types: (1) local errors, such as the preference for digits ending in 0, which for the most part consist of comparatively small inaccuracies, and (2) deliberate or biased errors such as those to which, in particular, a proportion of the female population at certain periods of life appears to be addicted, and which are believed to be fairly considerable in extent. So far as the registered deaths are concerned, it would seem probable that errors of the first type are, relatively to the census, more numerous than those of the second. However this may be, the fact that local errors exist in the death registrations as well as in the enumerated population, and at the same points, goes some way towards the diminution of disturbing effects upon the computed rate of mortality at particular ages, while the application of any good method of graduation must reduce the residual effects to insignificance. In the case of the larger errors, unfortunately, the case is otherwise, and I concur in the opinion expressed in the General Report on the Census that errors of this type "will not be corrected, as local or unbiased errors may be, by passing a graduated curve through the crude frequencies given by the enumeration returns." I am not disposed to attribute to these errors any profound influence upon the rates of mortality brought out by comparing the deaths at the ages affected with the corresponding enumerated populations, nor do I think that such effect as they produce in this direction is other than a decreasing one—regard being had to the growth of education and to the development of other conditions tending to discourage the personal irrationalities of which the feature under discussion is a manifestation. However this may be, instructed opinion would appear to accept the view that these larger mis-statements of age have always existed in the census enumerations, and that consequently there is no foundation on which to construct any process of elimination by which their influence on a particular census might be removed.

The method of graduation having been fully explained and the various actuarial terms and symbols defined by Mr. King, no explanation in regard to these subjects is required in the present report. On one or two points of detail, however, it was found necessary to deviate to some extent from the working process employed on the last occasion, and it will be convenient here to refer to these points.

(*a*) *Quinquennial Pivotal Values.*

For the greater part of his tables Mr. King obtained rates of mortality by osculatory interpolation between quinquennial pivotal values of q_x derived from graduated quinquennial pivotal values of the populations and deaths respectively. He found that for the English Life Table No. 8 the most accurate results would be obtained by quinquennial grouping for the age periods 4 to 8, 9 to 13, &c., up to 99 to 103.

In the General Report of the Registrar-General on the 1921 Census, p. 75, however, it is suggested that in the case of the male population the most satisfactory quinary grouping to counteract the influence of minor mis-statement of age and other statistical inaccuracies would be one composed of a series of five year groups centred round the ages ending in digits 4 and 9, and that a similar grouping would be suitable also in the case of the female population. In the Registrar-General's Statistical Review for 1923 (Text), p. 38, the question of mis-statement of age in the case of the deaths in 1920, 1921 and 1922 is discussed, and the conclusion arrived at is that generally the irregularities correspond with those in the census returns.

Experiments confirmed the impression thus produced that the adoption of the grouping suggested for the population would produce a minimum of distortion in the case of the deaths. For the new tables, therefore, it was decided to adopt the grouping 2-6, 7-11, 12-16 . . . &c., for the purpose of obtaining the graduated pivotal values of both population and deaths, and from these values pivotal rates of mortality were calculated and the tables completed by osculatory interpolation.

It may here be stated that, without departing from the method of graduation by osculatory interpolation, an alternative course might have been adopted in its application. The population and deaths were available for individual ages. Instead, therefore, of deriving quinquennial pivotal values of q_x from graduated pivotal values obtained separately for the population and for the deaths, the crude values of q_x at each age might have been calculated, and by taking quinary groups of these values, the formula could have been applied to give directly graduated quinquennial pivotal values of the rate of mortality.

The conditions which justify the adoption of this procedure are evidently present in the case of a National Life Table, where the unadjusted statistics are sufficiently extensive to yield comparatively stable rates of mortality at each age, and such irregularities as are

known to exist can, to some extent, be dispersed by suitable grouping. In favour, moreover, of this plan of direct graduation is the fact that throughout the whole process the function operated on is that for which the graduated results are ultimately required.

As a matter of experiment, the main parts of the males and females tables were graduated by this alternative process, the pivotal values in each instance being derived from the series of age groups 5-9, 10-14, &c., a grouping which appeared likely, in relation to this series, to be as effective as any other in dispersing irregularities in the unadjusted values. As might have been anticipated, the results obtained by the two methods are very similar, and as a matter of interest the respective rates of mortality at every fifth age are shown in the following table.

These figures lead to the conclusion that either series of values might have been adopted for the new National Tables. There appeared, however, to be advantages in retaining the rates of mortality derived by the process employed in the previous set of National Tables and with which, as previously indicated, statistical workers in this field have become familiar.

Comparison of rates of mortality derived from —

(*a*) *Separate graduation of population and deaths* (*English Life Table No.* 9).

(*b*) *Direct graduation of the unadjusted rates.*

In the column headed "Difference," where the rates from (*a*) are in excess of those derived from (*b*), the figures are shown in italics, and where the converse is the case, in Roman type.

Age.	Males.			Females.		
	English Life Table No. 9. q_x.	Graduation of unadjusted rates. q_x.	Difference.	English Life Table No. 9. q_x.	Graduation of unadjusted rates. q_x.	Difference.
15	·00218	·00231	*·00013*	·00227	·00226	*·00001*
20	·00349	·00347	*·00002*	·00306	·00304	*·00002*
25	·00398	·00393	*·00005*	·00350	·00354	·00004
30	·00434	·00440	·00006	·00392	·00392	—
35	·00553	·00550	*·00003*	·00451	·00450	*·00001*
40	·00688	·00687	*·00001*	·00532	·00534	·00002
45	·00881	·00871	*·00010*	·00668	·00667	*·00001*
50	·01179	·01203	·00024	·00915	·00927	·00012
55	·01755	·01740	*·00015*	·01319	·01301	*·00018*
60	·02561	·02597	·00036	·01897	·01935	·00038
65	·03975	·03899	*·00076*	·02992	·02929	*·00063*
70	·05997	·06071	·00074	·04646	·04696	·00050
75	·09379	·09403	·00024	·07594	·07598	·00004
80	·14002	·14070	·00068	·11766	·11923	·00157
85	·19974	·19823	*·00151*	·17465	·17474	·00009

(*b*) *Ages under* 14 *and over* 84.

Mr. King obtained rates of mortality for children under age 6 from the returns of births and deaths, the numbers of births taken being those for the appropriate calendar years. In the years preceding the 1921 census the numbers of births fluctuated widely, not merely from year to year, but also from quarter to quarter, and in deriving the rates of mortality at infantile ages it was decided to operate on the number of births for each quarter instead of on those for each calendar year. The resulting formulæ are set out in Appendix I wherein are also demonstrated the methods by which the tables were completed by the calculation of rates of mortality for ages 6 to 13 and for ages 85 and upwards.

This method may perhaps be criticised on the ground that it gives no effect to the element of migration. It is not, however, unreasonable to assume that at infantile ages migration cannot be a factor of material significance. In any case no information on this point is available.

(4) Life Tables and Tabulated Functions.

In recent English Life Tables the values of q_x have been given to 7 places of decimals. In constructing the new tables it has been thought inadvisable to go beyond the fifth place, and the "radix" (l_0, the number born) has been taken as 100,000, and not 1,000,000 as in the previous tables.

The graduated values of q_x have been tested by comparing the expected deaths as computed by the tables with the actual deaths recorded in the original data. The rates of mortality for ages 0 to 5, having been obtained directly from the records of births and deaths, must produce an exact agreement in the expected and actual deaths and have therefore been excluded from the comparison. At individual ages from 6 onwards the differences between the expected and actual deaths, having regard to the variations in the unadjusted figures, are in no case unduly large, and, as they should, show frequent changes in sign from positive to negative.

In the following table (Table A) the results of the comparison have been summarised, in seven-year groups, this arrangement having been adopted in order to secure that the deviations between the actual and expected deaths should be presented in a form which would not be biased by correspondence with the groups selected for the determination of the pivotal values.

It will be seen that in the case of both males and females, the group deviations are comparatively small and frequently change sign, and that at no point does the accumulated deviation attain any material significance. It may, therefore, be concluded that the tables satisfactorily represent the rates of mortality yielded by the data.

Table A.

English Life Table No. 9.

Comparison of Actual with Expected Deaths.

Males.

Age Group.	Expected Deaths.	Actual Deaths.	Deviation.		Accumulated Deviation.
			Expected Less Actual Deaths.		
			Positive.	Negative.	
6–12	5,678	5,704	—	26	— 26
13–19	6,169	6,246	—	77	— 103
20–26	7,553	7,539	14	—	— 89
27–33	8,117	8,113	4	—	— 85
34–40	10,862	10,874	—	12	— 97
41–47	14,061	14,027	34	—	— 63
48–54	18,380	18,522	—	142	— 205
55–61	23,141	22,989	152	—	— 53
62–68	28,292	28,278	14	—	— 39
69–75	29,259	29,367	—	108	— 147
76–82	21,951	21,952	—	1	— 148
83–89	8,755	8,685	70	—	— 78
90 and over	1,602	1,531	71	—	— 7
Total	183,820	183,827	359	366	— 7

Females.

6–12	5,601	5,463	138	—	+ 138
13–19	6,145	6,219	—	74	+ 64
20–26	7,878	7,883	—	5	+ 59
27–33	8,598	8,600	—	2	+ 57
34–40	10,006	9,957	49	—	+ 106
41–47	11,721	11,799	—	78	+ 28
48–54	15,153	15,260	—	107	— 79
55–61	18,778	18,668	110	—	+ 31
62–68	24,835	24,885	—	50	— 19
69–75	30,726	30,711	15	—	— 4
76–82	27,997	27,988	9	—	+ 5
83–89	14,289	14,375	—	86	— 81
90 and over	3,480	3,329	151	—	+ 70
Total	185,207	185,137	472	402	+ 70

The English Life Table No. 9, for males and females respectively, is given in Appendix IV., Table 1, pages 58 to 61. The functions tabulated are :—

l_x =the number of persons surviving at exact age x,

d_x=the deaths in the year of age x to $x + 1$ among the l_x persons who enter on that year,

p_x=the probability of a person aged x living a year,

q_x=the probability of a person aged x dying within a year,

$\mathring{e}_x$=the "complete expectation of life," or the total future lifetime which, on the average, will be passed through by a person aged exactly x.

(5) Comparison with Earlier National Life Tables.

In investigations of mortality experience for which comparison with previous enquiries relating to similar bodies of lives has been possible, the later investigations have brought out, as a rule, progressive improvement in the vitality of the population under observation. This feature is generally exhibited in the new tables. There are several methods by which the mortality experience disclosed by different investigations may be compared, and the following criteria have been chosen :—

(*a*) The rates of mortality at selected ages throughout the table.

(*b*) The number of survivors at selected ages out of a stated number of births.

(*c*) The expectation of life at selected ages.

(*d*) The probability of surviving an indicated period, say ten years, from the attainment of selected ages.

Each of these methods has had its advocates. In my own opinion (*d*), of which (*b*) may be regarded as a variant, is the best criterion of the characteristics of a mortality experience, while (*a*), though less conclusive than (*d*), is definitely superior to (*c*). The "expectation of life" has, however, so long been a familiar element in the functions exhibited in the life table that it would be impossible to omit it from the instruments of comparison without disappointment to many persons who are interested in the subject; and despite the criticism to which this function has been subjected in recent years it has accordingly been decided to give it a place in the present review. This decision has been arrived at the more readily in that the expectation of life will be admitted, even by the more severe of its critics, to provide comparative material of a very generalised form from which sound impressions as to the results of a progressive policy regarding sanitation, etc., may be conveyed to the minds of those who have no occasion to burden themselves with exact statistical knowledge of the subject.

The following tables give the comparison for English Life Tables No. 7, No. 8, and No. 9 (Tables B, C, D and E). English Life Table No. 7 may be regarded, generally, as indicative of the mortality prevailing in 1906, No. 8 of that in 1911, and No. 9 of that in 1921.

Table B.

Rates of Mortality, q_x.

Males.

Age.	English Life Table, No. 7.	English Life Table, No. 8.	English Life Table, No. 9.
0	·14434	·12044	·08996
10	·00182	·00193	·00181
20	·00378	·00348	·00349
30	·00566	·00478	·00434
40	·00931	·00811	·00688
50	·01657	·01482	·01179
60	·03262	·03042	·02561
70	·06708	·06470	·05997
80	·14163	·14299	·14002
90	·29566	·27395	·26752

Females.

Age.	English Life Table, No. 7.	English Life Table, No. 8.	English Life Table, No. 9.
0	·11743	·09767	·06942
10	·00199	·00196	·00180
20	·00325	·00295	·00306
30	·00484	·00411	·00392
40	·00766	·00660	·00532
50	·01267	·01140	·00915
60	·02539	·02310	·01897
70	·05643	·05259	·04646
80	·12429	·12419	·11766
90	·25781	·23826	·23852

Table C.

Numbers of Survivors, l_x, at the specified ages out of 100,000 *Births.*

Males.

Age.	English Life Table, No. 7.	English Life Table, No. 8.	English Life Table, No. 9.
0	100,000	100,000	100,000
10	78,083	81,241	85,693
20	76,112	79,344	83,748
30	72,741	76,223	80,549
40	67,668	71,673	76,294
50	59,903	64,333	69,916
60	47,564	52,110	58,804
70	29,898	33,431	39,526
80	10,608	12,194	15,035
90	1,117	1,361	1,710

Females.

Age.	English Life Table, No. 7.	English Life Table, No. 8.	English Life Table, No. 9.
0	100,000	100,000	100,000
10	80,756	83,598	87,909
20	78,756	81,681	85,938
30	75,779	78,954	83,019
40	71,308	74,988	79,381
50	64,742	68,881	74,246
60	54,157	58,660	65,202
70	37,646	41,688	48,401
80	15,544	18,086	22,295
90	2,158	2,764	3,447

Table D.

Expectation of Life (Years), $\mathring{e}_x$.

Males.

Age.	English Life Table, No. 7.	English Life Table, No. 8.	English Life Table, No. 9.
0	48·53	51·50	55·62
10	51·81	53·08	54·64
20	43·01	44·21	45·78
30	34·76	35·81	37·40
40	26·96	27·74	29·19
50	19·76	20·29	21·36
60	13·49	13·78	14·36
70	8·39	8·53	8·75
80	4·86	4·90	4·93
90	2·56	2·87	2·82

Females.

Age.	English Life Table, No. 7.	English Life Table, No. 8.	English Life Table, No. 9.
0	52·38	55·35	59·58
10	54·53	55·91	57·53
20	45·77	47·10	48·73
30	37·36	38·54	40·26
40	29·37	30·30	31·86
50	21·81	22·51	23·69
60	15·01	15·48	16·22
70	9·25	9·58	9·95
80	5·36	5·49	5·56
90	2·94	3·16	3·13

TABLE E.

Probability of surviving 10 *years,* ${}_{10}p_x$.

Males.

Age.	English Life Table, No. 7.	English Life Table, No. 8.	English Life Table, No. 9.
0	·78083	·81241	·85693
10	·97477	·97664	·97730
20	·95570	·96067	·96180
30	·93027	·94031	·94718
40	·88525	·89760	·91640
50	·79401	·81001	·84107
60	·62859	·64154	·67217
70	·35479	·36474	·38038
80	·10526	·11160	·11373

Females.

0	·80756	·83598	·87909
10	·97524	·97707	·97758
20	·96220	·96660	·96603
30	·94100	·94977	·95618
40	·90792	·91856	·93531
50	·83650	·85161	·87819
60	·69512	·71066	·74232
70	·41291	·43385	·46063
80	·13883	·15283	·15461

It is unnecessary to discuss these figures in great detail. Looked at broadly it will be seen that, apart from a few exceptions of minor significance, they confirm the generally accepted view that the vitality of the nation has been steadily improving. The improvement is specially marked at the youngest ages. The probability of a child dying in the first year of age is shown (Table B) to have decreased by about 40 per cent. during the 15 years, say between 1906 and 1921, which separate the mid-way points of the periods to which Tables No. 7 and No. 9 respectively relate.

At the ages of adolescence the improvement appears to have been but slight.

From ages 20 to 30, the new rates of mortality do not differ greatly from those of the No. 8 Table. In the case of males, though no marked improvement is indicated, there is no evidence of any deterioration. An obvious suggestion of the apparent arrest of improvement at those ages is that some of the deaths in the years 1920-22 were those of men whose health had been impaired by the rigours of war service, and that but for these the latest table would exhibit much the more favourable mortality. This theory might have been accepted with some confidence but for the fact that at the age of 20—the feature extends in fact to the ages between 18 and 27 (inclusive)—the rate of mortality for females is shown to be appreciably higher in the English Life Table No. 9 than in the English Life Table No. 8. This section of the full tables, as given in Appendix IV, exhibits a feature which was present also in previous tables, namely, a retardation in the progression of the rates of mortality from age to age. This characteristic will be discussed in another connection at a later stage.

In the main part of the tables, from ages 30 to 80, the vitality of both sexes is shown to have increased very considerably. At the advanced ages but little progress is indicated. Mr. King has suggested that, owing to mis-statement of age on the part of old people, national tables have invariably understated the rate of mortality among this section of the population. If this be so, it may be assumed that with the advance in education the statistics have tended to become more reliable, and that the latest tables are the least inaccurate. It is difficult to believe that persons of an advanced age have not participated, to some extent, with other classes in the general amelioration of the conditions of life, and that their longevity has not been extended.

III.—LIFE TABLES OF WOMEN WITH REFERENCE TO MARITAL CONDITION.

In the previous report sectional life tables were prepared in respect of women according to marital condition, viz. :—single, married, or widowed. Whilst there appears to be full justification for deriving the rates of mortality, q_x, for each of these classes, the legitimacy of a life table showing the number of survivors at each age in an l_x column must be regarded as doubtful. The rate of mortality which has prevailed among spinsters of middle age is no doubt ascertainable with exactitude, but cannot be regarded as the rate to which the survivors of those who are just entering womanhood will be subject—even assuming no improvement in mortality to be experienced in the intervening period—in 20 or 30 years' time. In the interval a large proportion of the present youthful spinsters will have entered the married section of the population, and on the reasonable assumption that marriage is a selective force the effects of which will be seen in an enhanced rate of mortality among those remaining in the spinster class, the utmost that can be said for a table of the rates of mortality among spinsters is that it shows the course of the death rate among a body which is continuously being depleted by two forces, death and marriage, the first of which is withdrawing the worse, and the second the better lives. In regard to such a body a life table in the ordinary form appears to have no definite meaning. Similar considerations apply in respect of separate life tables for married women and widows.

This section of the work has, therefore, been limited to the computation of the rates of mortality at each age for each of the three classes, single women, married women, and widows (with whom have been included divorced women).

As in the case of the National Tables, the population enumerated at the 1921 census and the deaths in the three years 1920, 1921 and 1922, formed the basis of the inquiry. The census returns give the numbers of women at each age according to marital status, and the records of deaths are available in the same form. It was, therefore, possible to arrange the data in the same age groups, and to employ the same method of obtaining the graduated rates of mortality, as were adopted in the construction of the English Life Table No. 9. The population figures, and the corresponding deaths in age groups, are given in Tables 1 and 5 of Appendix II.

The limitations of the data rendered it impossible to derive a pivotal value of q_x for an earlier age than 24 in the case both of married women and of widows. The earliest age at which any married women were enumerated in the census was, however, 15, and several deaths were recorded at age 16. Thereafter the numbers both of the enumerated and of the deaths increased rapidly from age to age, and by age 19 or 20 had attained to such dimensions that it would be difficult to justify the omission of rates of mortality for married women of these young ages merely on the ground that they did not emerge in final form from the method of graduation adopted for the remainder of the table.

The unadjusted rates yielded directly by the data were, therefore, calculated. The rates for the individual ages 16, 17 and 18 fluctuated widely, but the average rate for the three ages was ·00446. The unadjusted rate for age 19 was found to be ·00418. From age 20 to age 24 the successive unadjusted rates varied but slightly, the figures being ·00366, ·00375, ·00355, ·00369 and ·00363. The average rate for these ages was ·00365, precisely the same as the pivotal rate for age 24. It was therefore decided to insert ·00446 as the rate for each of the ages 16, 17 and 18, ·00418 for age 19, and ·00365 for each of the ages from 20 to 24. Further refinement in regard to the rates at these ages was considered unnecessary.

There were only 42 deaths of widows recorded during the three years 1920, 1921 and 1922 at ages below 24. It appeared, therefore, that in the case of widows no reliance could be placed on such rates of mortality as might be obtained for the early ages.

At advanced ages the data, especially as regards married women, were too meagre to furnish reliable results, and it was therefore decided not to extend the table beyond age 84.

The rates of mortality for the three classes are shown in Table 2 of Appendix IV.

An examination of these rates reveals several interesting features.

At the youngest ages for which comparison is possible, the lightest rates are those for single women. It has been pointed out on page 10 that between the ages of 18 and 27 the rates of mortality for females are appreciably higher in the English Life Table No. 9 than in the English Life Table No. 8, and it is worthy of observation that, although this

feature is exhibited also in the table for single women, it does not appear in that for married women. The rates of the two classes, single and married, show a tendency to converge rapidly, and at age 24 the difference amounts to no more than ·00041. Thereafter it steadily decreases until at age 37 the rate for single women goes above that for married women. In the tables based on the 1911 census, it was not until age 44 that the rate of mortality for single women exceeded that for married women, and up to that point the differences between the rates for the two classes were much more marked than those now disclosed.

From age 37 to age 64 the rates for married women remain below those for single women. At age 65 the latter show the lighter mortality, and continue to do so till age 72. Over this section of the table, however, the differences in the rates are comparatively small. The similarity of the two experiences continues until age 78, after which the rates for married women begin to fall definitely below those for single women, the differences becoming more substantial as the age increases.

The rates of mortality for widows are throughout heavier than those for single women or wives, and for the greater part of the table the excess is considerable, amounting at some ages to more than 20 per cent. of the rates for married women.

IV.—SECTIONAL LIFE TABLES.

(1) Nature of Inquiry.

After the census of 1911 sectional life tables for males and females were prepared for—

(*a*) The Administrative County of London,
(*b*) The Aggregate of County Boroughs,
(*c*) The Aggregate of Urban Districts,
(*d*) The Aggregate of Rural Districts.

This form of classification raises a wide question. The rate of mortality is evidently influenced by many factors, and general observation has led to the conviction that there are, at any rate, three elements of variation, the concurrent effects of which should, if possible, be surveyed—namely, geographical distribution, density of population, and occupation. In previous investigations the latter two elements had been brought under review, but had been the subjects of wholly independent inquiries, no attempt having been made, presumably because the material available was not in the requisite form, to trace the inter-relation of the two. This inter-relation is a point of potential importance, as may be seen from consideration of abstract cases. If it be assumed, for instance, that a certain occupation involves a heavy rate of mortality and that the great majority of persons engaged in that occupation are resident in urban localities, an excess in the rate of mortality in the occupational group in question may be partly due to density of population and only partly to the occupational influences to which, on the results of an investigation directed solely to the operation of this element, it might be wholly attributed. Difficulties of this kind permeate all investigations with reference to particular elements of variability taken in isolation from other elements with which they may be concurrently operating, and it was thought that on the present occasion an endeavour should be made to carry the process of analysis further than had previously been attempted. Taking the three elements named above as those in respect of which statistical research of the type discussed in this report is possible, the ideal arrangement may be suggested as one under which the population would be divided into sections on a geographical basis, the numbers at each age in each section being then divided into classes with reference to density of population, these classes being in turn divided with regard to the personal occupations of the component individuals. So far as the living population is concerned such a distribution, elaborate as it would prove to be, would present no great difficulties. The position is otherwise with regard to the deaths, and a scheme of investigation on these ambitious lines is not at present practicable. But a geographical distribution of the deaths is feasible, and within the resulting divisions the data may be subdivided into three groups according to their local sources—namely, County Boroughs, Municipal Boroughs and Urban Districts, and Rural Districts. The materials thus exist to ascertain the rates of mortality at particular age groups in different parts of the country and to form some idea as to the extent to which within each division mortality varies with the element of density of population or factors associated therewith. A somewhat full investigation on these lines has accordingly been made.

For the purpose of this work the statistics relating to the County Boroughs, Urban Districts, and Rural Districts in each county were available, the population at each age at the 1921 census being given in the several county volumes, and the numbers of deaths in each of the first five years of age, in each quinary age group from age 5 to age 84, and in one group over age 85, being published in the annual reviews of the Registrar-General.

(2) Classification according to Geographical Area and Density of Population.

The classification adopted was as follows :—

Geographical Divisions.

Northern Counties.
(*a*) Cheshire and Lancashire.
(*b*) West Riding of Yorkshire.
(*c*) Durham and Northumberland.
(*d*) Yorkshire, East Riding and North Riding, Cumberland, Westmorland.

Central Counties.
Derby, Nottingham, Stafford, Shropshire, Leicester, Northampton, Warwick, Worcester, Hereford, Gloucester, Oxford, Buckingham, Bedford, Hertford.

Southern Counties.
Berkshire, Wiltshire, Sussex, Hampshire, Dorset, Somerset, Devon, Cornwall, Kent. Surrey (except County Borough of Croydon).

Eastern Counties.
Lincoln, Rutland, Huntingdon, Cambridge, Norfolk, Suffolk, Essex (except County Boroughs of East Ham and West Ham).

Wales.
(*a*) South Wales (Monmouth, Glamorgan, Carmarthen, Brecknock).
(*b*) North and West Wales (Wales other than the counties in (*a*)).

Greater London.
The City of London and Metropolitan Police Districts.

Separate investigations were carried out under each heading for—

(i)	County Boroughs	Males.
(ii)	Ditto	Females.
(iii)	Other Urban Districts	Males.
(iv)	Ditto	Females.
(v)	Rural Districts	Males.
(vi)	Ditto	Females.

The only exceptions were " Greater London," which forms a single division, and " North and West Wales," in which there are no County Boroughs.

It was impossible in the classification to avoid a small amount of overlapping as regards Greater London and the adjacent counties, while it was necessary to accept certain incongruities such as the inclusion, in the same section, of the Rural Districts of North Lancashire, which are largely agricultural, with the other Rural Districts of Lancashire (and Cheshire) which to a great extent are industrial. Further, while in the census population of each area, non-civilians as well as civilians were enumerated, the sectional records of deaths do not include those of men in the Forces, which are incorporated only in the totals for the country. To relate the recorded deaths to the recorded population in a section which comprised a considerable proportion of serving men would consequently lead to an under-statement of the rate of mortality that might be material in the case of certain age groups and not entirely negligible for the section as a whole. On investigating this point with the help of the census County volumes, which give, in age groups, the number of men occupied in Defence, it was found that the districts with the largest proportion of men in the Forces at the 1921 census were the County Boroughs, Urban Districts and Rural Districts of the Southern Counties, where the non-civilian population represented 7·72, 3·98, and 3·15 per cent. respectively of the total population. In no other section did the non-civilian population exceed $1\frac{1}{2}$ per cent. of the total, and in most districts it was quite insignificant. It appeared therefore that no appreciable error would be involved if the point were disregarded except in the case of the three sections of the Southern Counties.

The age distribution of persons in the County Boroughs of Portsmouth and Plymouth, who were shown as occupied in Defence, has been taken as supplying an approximately accurate estimate of the distribution of the non-civilian population in any district, thus providing the material for the adjustments necessary to a comparison of the actual and expected deaths of civilians only. This adjustment was made in the case of the three sections specified, and the figures relating to these sections in the present report refer accordingly to civilians.

Another element on which the classification is in theory susceptible to criticism is that in consequence of the census having been taken in the month of June the population of the areas with a coastal border was swollen by visitors from the inland districts. In the Registrar-General's Report on the Census considerable prominence is given to this question, and some of the percentages of inflation quoted therein are very large. On the other hand, the holiday season was not sufficiently far advanced to suggest that this tide of migration had reached any considerable height, and examination of the census figures bearing on the point led to the conclusion that, though in the case of certain towns the inflation was considerable, its significance would be relatively unimportant when the populations of these towns were absorbed in the aggregates of the areas proposed for this investigation. It was therefore decided that, in this connection, such refinements as would be involved in any correction of the unadjusted enumerated populations were unnecessary.

The population figures for Greater London which were not readily obtainable from the census volumes were furnished by the Registrar-General.

All the data relevant to the investigation are given in Table 6 of Appendix II.

(3) Comparative Mortality Experience of Groups.

To have carried out the scheme of classification to its ultimate development would have entailed the construction of 54 complete Life Tables, an obviously prohibitive task. It was, therefore, decided in the first instance (1) to ignore the infantile ages, and (2) to calculate from the census populations and the rates of mortality shown in the new English Life Table No. 9 the number of "expected deaths" in each of the 54 groups and to compare these with the recorded numbers of actual deaths. The work was minimised by restricting the calculations by individual ages to age groups 5–9, 10–14, 80–84, and 85 and over, and applying in the other groups the rate for the mid-age of the group to the total population of the group. Steps were taken to verify the assumption that the error introduced by this procedure was inappreciable.

The results of the comparison of the actual and expected deaths are summarised in the following table F.

Table F (Males).

Mortality Experience according to Geographical Distribution and Density of Population (1921 *Census and* 1920–21–22 *Deaths*).

C.B. = County Boroughs; U. = Other Urban Districts; R. = Rural Districts.

(The figures given relate to all ages from 5 upwards.)

——	Population, 1921.	Average annual number of deaths, 1920–22. "Expected" by the English Life Table No. 9.	Average annual number of deaths, 1920–22. Actual.	Ratio of Actual to Expected Deaths.
Northern Counties—				
(*a*) Cheshire and Lancashire—				
C.B.	1,531,998	15,057·0	18,912·3	1·256
U.	836,922	8,747·0	9,594·7	1·097
R.	192,792	2,318·2	2,069·7	·893
Total	2,561,712	26,122·2	30,576·7	1·171
(*b*) West Riding of Yorkshire—				
C.B.	761,494	7,876·9	9,284·3	1·179
U.	494,120	5,194·9	5,441·0	1·047
R.	170,492	1,874·8	1,705·3	·910
Total	1,426,106	14,946·6	16,430·6	1·099
(*c*) Durham and Northumberland—				
C.B.	380,164	3,704·9	4,809·7	1·298
U.	358,229	3,498·1	3,936·7	1·125
R.	248,432	2,539·7	2,404·7	·947
Total	986,825	9,742·7	11,151·1	1·145
(*d*) Yorkshire, East Riding and North Riding, Cumberland and Westmorland—				
C.B.	207,598	2,095·3	2,454·7	1·172
U.	173,272	2,096·8	2,026·3	·966
R.	168,887	2,333·3	1,892·7	·811
Total	549,757	6,525·4	6,373·7	·977
Central Counties—				
C.B.	1,280,225	13,426·0	14,137·0	1·053
U.	1,012,780	11,442·0	10,679·0	·933
R.	937,262	12,231·0	10,006·7	·818
Total	3,230,267	37,099·0	34,822·7	·939
Southern Counties—				
C.B.	471,415	6,135·7	5,666·3	·923
U.	1,078,546	14,110·0	12,165·0	·862
R.	859,189	12,524·0	9,727·0	·777
Total	2,409,150	32,769·7	27,558·3	·841
Eastern Counties—				
C.B.	217,013	2,569·1	2,344·3	·912
U.	503,012	6,008·1	5,171·3	·861
R.	509,879	7,657·4	5,693·7	·744
Total	1,229,904	16,234·6	13,209·3	·814
Wales—				
(*a*) South Wales—				
C.B.	239,552	2,371·8	2,753·0	1·161
U.	456,028	4,130·5	4,534·3	1·098
R.	188,887	2,019·0	1,879·3	·931
Total	884,467	8,521·3	9,166·6	1·076
(*b*) North and West Wales—				
C.B.	—	—	—	—
U.	121,167	1,559·0	1,506·3	·966
R.	190,031	2,585·6	2,461·0	·952
Total	311,198	4,144·6	3,967·3	·957
Greater London	3,149,023	34,454·3	35,593·7	1·033
Rest of England and Wales—				
Total C.B.	5,089,459	53,236·7	60,361·6	1·134
,, U.	5,034,076	56,786·4	55,054·6	·970
,, R.	3,465,851	46,083·0	37,840·1	·821
Grand Total, England and Wales	16,738,409	190,560·4	188,850·0	·991*

* The deficiency of ·009 is accounted for by (*a*) the small amount of duplication between Greater London and other groups, (*b*) exclusion of non-civilian deaths from group data and (*c*) calculation of expected deaths 15–79 in 5-year groups.

Table F (Females).

Mortality Experience according to Geographical Distribution and Density of Population (1921 *Census and* 1920–21–22 *Deaths*).

C.B. = County Boroughs; U. = Other Urban Districts; R. = Rural Districts.

(The figures given relate to all ages from 5 upwards.)

——	Population, 1921.	Average annual number of Deaths, 1920–22. "Expected" by the English Life Table No. 9.	Average annual number of Deaths, 1920–22. Actual.	Ratio of Actual to Expected Deaths.
Northern Counties—				
(*a*) Cheshire and Lancashire—				
C.B.	1,733,114	15,426·0	18,657·7	1·209
U.	943,524	8,836·0	10,153·7	1·149
R.	206,473	2,130·3	2,089·3	·981
Total	2,883,111	26,392·3	30,900·7	1·171
(*b*) West Riding of Yorkshire—				
C.B.	849,904	7,888·0	9,160·0	1·161
U.	538,108	5,047·8	5,524·3	1·094
R.	169,342	1,617·5	1,635·7	1·011
Total	1,557,354	14,553·3	16,320·0	1·121
(*c*) Durham and Northumberland—				
C.B.	401,713	3,369·8	4,343·3	1·289
U.	356,139	2,893·4	3,558·3	1·230
R.	241,365	2,016·8	2,300·3	1·141
Total	999,217	8,280·0	10,201·9	1·232
(*d*) Yorkshire, East Riding and North Riding, Cumberland and Westmorland—				
C.B.	217,028	1,908·0	2,251·0	1·180
U.	198,717	2,121·4	2,092·0	·986
R.	173,272	2,028·1	1,859·7	·917
Total	589,017	6,057·5	6,202·7	1·024
Central Counties—				
C.B.	1,443,411	13,713·0	14,020·7	1·022
U.	1,114,071	11,486·0	10,880·0	·947
R.	967,632	11,446·0	10,070·3	·880
Total	3,525,114	36,645·0	34,971·0	·954
Southern Counties—				
C.B.	613,200	7,409·4	6,596·0	·890
U.	1,363,614	16,603·0	13,876·7	·836
R.	950,434	12,234·0	10,023·3	·819
Total	2,927,248	36,246·4	30,496·0	·841
Eastern Counties—				
C.B.	254,391	2,767·2	2,500·7	·904
U.	568,187	6,204·6	5,372·7	·866
R.	515,802	6,977·8	5,844·3	·838
Total	1,338,380	15,949·6	13,717·7	·860

Table F (Females)—*continued.*

——	Population, 1921.	Average annual number of deaths, 1920-22. "Expected" by the English Life Table No. 9.	Average annual number of deaths, 1920-22. Actual.	Ratio of Actual to Expected Deaths.
Wales—				
(*a*) South Wales—				
C.B.	240,462	2,079·9	2,402·7	1·155
U.	427,280	3,259·7	3,973·0	1·219
R.	183,429	1,713·5	1,867·0	1·090
Total	851,171	7,053·1	8,242·7	1·169
(*b*) North and West Wales—				
C.B.	—	—	—	—
U.	148,800	1,714·4	1,632·0	·952
R.	195,673	2,407·4	2,606·3	1·083
Total	344,473	4,121·8	4,238·3	1·028
Greater London	3,709,875	37,580·0	36,145·7	·962
Rest of England and Wales—				
Total C.B.	5,753,223	54,561·3	59,932·1	1·098
,, U.	5,658,440	58,166·3	57,062·7	·981
,, R.	3,603,422	42,571·4	38,296·2	·900
Grand Total, England and Wales	18,724,960	192,879·0	191,436·7	·993*

* The deficiency of ·007 is accounted for by (*a*) the small amount of duplication between Greater London and other groups and (*b*) calculation of expected deaths 15–79 in 5-year groups.

The ratios of the actual to the expected deaths in each quinary age group are shown in Tables 1 (*a*), (*b*), (*c*) and (*d*), of Appendix III. To facilitate comparison, the ratios are also shown in four extended groups of ages 5–19, 20–49, 50–69, 70 and over. In each division except Greater London the ratios for the County Boroughs and Urban Districts have been compared with those for the Rural Districts, and the results are shown in Tables 2 and 3 of the same Appendix.

In the final column of Table F the ratio of actual to expected deaths for all ages from 5 upwards is given for each section of the data. These ratios may be used for the purpose of comprehensive comparison, but uncertainty as to their comparability might be felt by some investigators to arise on the question of differences in age distribution between the populations on which they are respectively computed. To eliminate this element of possible doubt, the ratios have been re-worked by comparing the number of deaths among the population of England and Wales from age 5 upwards with the number that would have occurred (estimated as closely as possible) had such population been subject in turn to the several rates of mortality shown by the sectional experiences. The ratios so obtained are shown in Table G, in which the sections have been ranged as far as possible in the order of magnitude of the ratios brought out.

Table G.

Ratios of Population Death Rates in the several Geographical Divisions and Sub-divisions to the corresponding Rates for England and Wales (ages 5 and upwards) computed throughout on a Standard Age-distribution—namely, Population of England and Wales, Census 1921.

Geographical Division.	Males.				Females.			
	County Boroughs.	Urban Districts.	Rural Districts.	Whole Division.	County Boroughs.	Urban Districts.	Rural Districts.	Whole Division.
Northumberland and Durham	1·29	1·13	·94	1·14	1·28	1·23	1·14	1·23
Cheshire and Lancashire	1·25	1·10	·89	1·17	1·21	1·15	·98	1·17
Yorks (West Riding)	1·18	1·06	·91	1·10	1·17	1·10	1·01	1·12
South Wales	1·15	1·10	·93	1·07	1·14	1·20	1·09	1·16
Yorks (East Riding and North Riding), etc.	1·17	·97	·79	·98	1·18	·99	·91	1·02
North and West Wales	—	·96	·95	·95	—	·95	1·09	1·03
Central Counties	1·05	·93	·81	·94	1·02	·95	·88	·95
Southern Counties	·93	·86	·77	·84	·89	·83	·82	·84
Eastern Counties	·91	·86	·73	·81	·90	·86	·83	·86
Greater London	—	—	—	1·03	—	—	—	·96

The figures in the columns headed " Whole Division " show what may be called the standardised ratio (for males and females separately) of the population death-rate in each of the geographical divisions to that of the country as a whole, without adjustment for the removal of the disturbing effect of differences in the proportions in which the populations of County Boroughs, Urban Districts, and Rural Districts enter respectively into the divisional data. This factor is of small importance so far as concerns the comparison of the several divisional figures with each other ; it can be immediately measured by comparing the average of the three sectional ratios for each division with the ratio for the " Whole Division," and is seen to be of any significance in two divisions only (Cheshire and Lancashire, and Yorkshire, West Riding). Disregarding this point, therefore, it may be said without qualification that the differences between the population death-rates of the several geographical divisions of England and Wales as delimited for the purpose of this enquiry are strongly marked, the highest population death-rates (Cheshire and Lancashire in the case of males, and Northumberland and Durham in the case of females) being about 50 per cent. greater than the lowest, which in the case of both sexes are found in the Eastern and Southern Counties.

Turning now to the sectional columns of Table G and looking first at the evidence afforded by the tables in regard to female lives, in the case of which the disturbing effect of the occupational factor is presumably at a minimum, the following conclusions would seem to be established :—

(*a*) The rate of mortality varies universally both with the geographical distribution of the people and the density of population.

(*b*) If it may be accepted that the effects of density of population are adequately measured by comparisons limited to the three broad administrative groups, County Boroughs, Urban Districts and Rural Districts, it would appear that definitely greater variation in the death-rate from the general average of the whole community is attributable to the geographical element than to density of population. Still confining attention to the section of the table relating to female lives, it will be seen that the " range " of the figures from highest to lowest taken vertically, is considerably greater than the corresponding range of the figures taken laterally. This also is universally true.

When the ratios in regard to male lives are examined, it is found that the " range " as between County Boroughs, Urban Districts, and Rural Districts is much greater than among female lives. Taking, for instance, the important division of Cheshire and Lancashire, it is found that the ratios of the several population death-rates to the standard are as follows :—

	County Boroughs.	Urban Districts.	Rural Districts.
Males	1·25	1·10	0·89
Females ..	1·21	1·15	0·98

It will be seen that among male lives in this division the population death-rate is about 40 per cent. higher in the County Boroughs than it is in the Rural Districts, while among female lives the corresponding excess is under 25 per cent. Nearly all the divisions show the same feature, though naturally the figures vary. If such a difference could be attributed to the greater strain of occupational and industrial conditions as affecting the male lives resident in County Boroughs compared with the female lives, it might pass, perhaps, without comment. This is not, however, the position. The ratio of the population death-rate of the County Boroughs to that of the whole community is not, in any division, appreciably greater among males than it is among females. It would thus appear that whatever differences there may be among the particular forces which are operating to affect the vitality of the populations of these sections of the community, taking the sexes separately, their aggregate effect is much the same in the case of each sex. The difference between the sexes seems to lie, in fact, in the relatively favourable mortality experience of the male population in rural areas. Probably this, to a large extent, is a factor of occupation, since environment, apart from population, is the same for both males and females resident in the same area—whether that be urban or rural. Tables 1 (*a*), (*b*), (*c*), and (*d*) of Appendix III may be studied with advantage in this connection. They confirm the impression given by the summarised results embodied in Table G that, whatever the cause, that part of the male population which is resident in the Rural Districts is subject to a specially low death-rate, and this whether the comparison be made with the female population resident in the same districts or with the male population of the other parts of the country.

It is possible that the relative excess in the death rates of females, as compared with those of males, in the Rural Districts is attributable to some extent to the migration of healthy young women from the country to the towns. The differences between the female mortality rates of County Boroughs and Rural Districts in the Central Counties at the ages 16 to 28, shown in Table 3 (Females) of Appendix IV, would seem to support such a theory, the death rate of the Rural Districts at these ages being higher than that of the County Boroughs. A similar migratory movement is occurring, no doubt, among men, but the population figures of Table 6 of Appendix II suggest that it is on a much smaller scale and therefore insufficient to produce such results upon the death-rates as are found in the case of women. The tendency of migration, if that is a cause of the phenomenon, seems, nevertheless, to be traceable in the case of men, for it will be seen on reference to Table 3 (Males) of Appendix IV that, in the Central Counties, the rate of mortality in the Rural Districts approaches steadily towards that of the County Boroughs until age 24 is reached, the difference thereafter gradually widening.

If, however, migration be a contributing factor to the relatively unfavourable mortality of women in the Rural Districts it still remains probable that the main cause of the difference in this respect between the sexes is the occupational advantage—so far as conditions affecting health are concerned—enjoyed by the men in these districts. The effects of migration would be expected to be lost in the general average at a comparatively early age, whereas the feature under discussion persists, in practically every geographical division, until the advanced ages are reached.

(4) Life Tables for Groups with Heaviest and Lightest Mortality Experience.

It was impossible, as previously indicated, to undertake the preparation of a Life Table for each of the 54 sections into which the data had been divided with reference to the elements of geographical situation and density of population, but it appeared to me that the preparation of such tables for the sections showing respectively the highest and the lowest death rates would be of interest and might indeed be of definite value to those engaged with problems of public health. I accordingly decided to construct Life Tables based on the experience of the following sections :—

Northumberland and Durham (County Boroughs) .. .. Males.
Do. do. do. .. .. Females.
Eastern Counties (Rural Districts) .. .. Males.
Do. do. .. .. Females.

These tables were prepared on the same lines as the main tables, with one exception necessitated by the limitations of the available statistics. In the case of England and Wales as a whole, the populations and deaths are given for individual ages. For subdivisions of the country, however, although the populations at each age are obtainable from the census county volumes, the deaths are scheduled in the Registrar-General's Annual Review according to individual ages for the first five years of life only, then in quinary age groups, 5–9, 10–14, . . . 80–84 and in one final group 85 and over. The data, therefore, permitted no choice in the determination of the quinquennial pivotal values, which had perforce to be taken at ages 12, 17, etc.

The rates of mortality for infantile ages were computed from the returns of births and deaths for calendar years, and for ages 5 to 11 and the advanced ages the rates were derived by reference (using this term in its technical sense) to the graduated values given by the new National Life Tables.

The rates of mortality, at individual ages up to 84, of the selected sections are given in Table 3 of Appendix IV. Tables H, J, K, and L, which follow, provide, in summary form, the material required for a comparison of these experiences with each other and with the experience of the country as a whole.

Table H.

Rates of Mortality, q_x.

Males.

Age.	Northumberland and Durham (County Boroughs.)	English Life Table No. 9.	Eastern Counties (Rural Districts).
0	·11471	·08996	·07002
10	·00231	·00181	·00134
20	·00503	·00349	·00272
30	·00583	·00434	·00371
40	·00949	·00688	·00453
50	·01500	·01179	·00718
60	·03333	·02561	·01638
70	·07920	·05997	·04306
80	·17489	·14002	·12355

Females.

0	·08995	·06942	·05221
10	·00226	·00180	·00126
20	·00350	·00306	·00339
30	·00515	·00392	·00361
40	·00735	·00532	·00434
50	·01230	·00915	·00738
60	·02553	·01897	·01432
70	·06230	·04646	·03652
80	·14348	·11766	·10469

Table J.

Numbers of Survivors, l_x, at the specified ages out of 100,000 *Births.*

Males.

Age.	Northumberland and Durham (County Boroughs).	English Life Table No. 9.	Eastern Counties (Rural Districts).
0	100,000	100,000	100,000
10	81,007	85,693	90,295
20	78,472	83,748	88,672
30	74,397	80,549	85,630
40	69,030	76,294	82,346
50	61,642	69,916	77,933
60	49,261	58,804	69,867
70	29,532	39,526	53,307
80	8,533	15,035	24,894
90	785	1,710	3,521

Females.

0	100,000	100,000	100,000
10	83,819	87,909	91,930
20	81,509	85,938	90,076
30	78,074	83,019	86,863
40	73,492	79,381	83,649
50	67,165	74,246	79,189
60	56,463	65,202	71,853
70	38,176	48,401	56,954
80	14,416	22,295	30,301
90	1,513	3,447	5,124

TABLE K.

Expectation of Life (Years), $\mathring{e}_x$.

Males.

Age.	Northumberland and Durham (County Boroughs).	English Life Table No. 9.	Eastern Counties (Rural Districts).
0	49·59	55·62	62·33
10	50·85	54·64	58·87
20	42·30	45·78	49·84
30	34·35	37·40	41·42
40	26·60	29·19	32·87
50	19·16	21·36	24·43
60	12·60	14·36	16·60
70	7·47	8·75	10·01
80	4·36	4·93	5·36

Females.

0	53·90	59·58	64·33
10	53·97	57·53	59·82
20	45·35	48·73	50·93
30	37·11	40·26	42·63
40	29·09	31·86	34·08
50	21·33	23·69	25·70
60	14·35	16·22	17·77
70	8·63	9·95	10·95
80	4·80	5·56	5·85

TABLE L.

Probability of Surviving 10 Years, $_{10}p_x$.

Males.

Age.	Northumberland and Durham (County Boroughs).	English Life Table No. 9.	Eastern Counties (Rural Districts).
0	·81007	·85693	·90295
10	·96871	·97730	·98203
20	·94807	·96180	·96569
30	·92786	·94718	·96165
40	·89298	·91640	·94641
50	·79915	·84107	·89650
60	·59951	·67217	·76298
70	·28893	·38038	·46699
80	·09196	·11373	·14144

Females.

0	·83819	·87909	·91930
10	·97244	·97758	·97983
20	·95786	·96603	·96433
30	·94131	·95618	·96300
40	·91391	·93531	·94668
50	·84066	·87819	·90736
60	·67612	·74232	·79264
70	·37762	·46063	·53202
80	·10493	·15461	·16910

From the general results already obtained, it was realised that significant differences would be disclosed by comparison in detail for the sections of the population showing respectively the heaviest and lightest mortality rates, but, even so, the results yielded by these tables are very striking.

Taking the numbers of survivors at selected ages as the first standard of comparison, it is found that out of 100,000 births the number of males who attain age 20 in the County Boroughs of Northumberland and Durham is 78,472, and in the Rural Districts of the Eastern Counties, 88,672, about 13 per cent. more. For females, the respective numbers are 81,509, and 90,076, giving an excess of between 10 and 11 per cent. At age 50, the figures are respectively, for males, 61,642, 77,933, and 26 per cent., and for females, 67,165, 79,189, and 18 per cent.

If the criterion be the expectation of life, we find that in the one section the expectation, at birth, in the case of a male child is 49·59 years, and in the other section, 62·33 years, a difference between the two sections of over $12\frac{1}{2}$ years. In the case of a female, the expectations are respectively 53·90, and 64·33, a difference of about $10\frac{1}{2}$ years. At age 20, the difference is approximately $7\frac{1}{2}$ years in the case of males and $5\frac{1}{2}$ years in the case of females, the corresponding figures for age 50 being $5\frac{1}{4}$ and $4\frac{1}{3}$ years.

An indication of the difference between the experiences of the two bodies of lives, in the immediate neighbourhood of a selected age, is afforded by an examination of the relative probabilities of surviving 10 years, the values of $_{10}p_x$. This function is tabulated in Table L, but its complement $(1 - {}_{10}p_x)$, which denotes the probability of dying within 10 years, may be usefully invoked in the present series of comparisons. At birth the probability of a male child dying within the first 10 years of its life is ·190 in the County Boroughs of Northumberland and Durham, but only ·097, or little more than one-half this figure, in the Rural Districts of the Eastern Counties. For a female life, the comparable figures are ·162 and ·081. At age 20, the probability of a male dying within 10 years is in the County Boroughs of Northumberland and Durham ·052, and in the Rural Districts of the Eastern Counties ·034. The corresponding probabilities for a female are ·042 and ·036. At age 50, the respective probabilities are ·201 and ·104 for a male and ·159 and ·093 for a female, while at age 70 they are ·711 and ·533 for a male, and ·622 and ·468 for a female.

From the examples quoted, it appears that the differences between the mortality experience of the "best" and "worst" districts are definitely greater in the case of males than in the case of females. This feature is present even at the juvenile ages. It is pronounced at the adult ages, and appears to provide further evidence of the healthful conditions of the occupations of the male populations of the rural areas to which I have referred on page 19. The point is well illustrated by Table K, which gives the expectations of life at selected ages in the sections of the population now under examination. Taking for instance the age of 40, the expectation of a man in the County Boroughs of Northumberland and Durham is 26·60 years, while that of a woman is 29·09 years, or 2·49 years more. In the case of England and Wales as a whole—the intermediate column of the table—the difference is 2·67 years in favour of a woman, and the close agreement between the two differences may be taken to show that the conditions of life in this northern section of the country have no special effect in the case of the one sex which is not reflected in the vitality of the other sex. When, however, the final column of the table is examined, it is seen that the expectation of a man of 40 in the Rural Districts of the Eastern Counties is 32·87 years, against 34·08 years in the case of a woman, a difference of only 1·21 years. In the case of a man, moreover, the expectation is 3·68 years in excess of the average of the whole country, while the corresponding excess for a woman is 2·22 years only. As the evidence otherwise afforded suggests that the duration of female life in these particular Rural Districts is practically at the maximum for the whole country, the feature to which attention is here directed must be attributed to conditions having a specially beneficial effect in the case of men. As already indicated, I incline to the belief that such conditions are occupational.

It will be convenient to mention here that in the course of the compilation of these sectional tables a curious and somewhat difficult feature emerged. This was the irregular sequence of the graduated rates of mortality between ages 20 and 35. In both of the male experiences and in the female experience of the Eastern Counties (Rural Districts), the rates of mortality rose to a maximum, declined for a few ages, and increased thereafter. The maximum point was at age 23 in the Northumberland and Durham (County Boroughs)

male experience, and at age 27 in the Eastern Counties (Rural Districts) experience ; in the female experience of the latter section the maximum occurred at age 23. In this table, also, there was a further point of inflexion at age 33. In view of the fact that this feature is absent from the main tables—the English Life No. 9—in which a different grouping of the statistics has been adopted, it might be suggested that the irregularities are due, to some extent, to the arrangement of the statistics in the particular quinary age groups of which the central ages are 7, 12, 17, &c. It is improbable, however, that statistical processes can to any significant extent be responsible for such irregularities. Although, as just indicated, the same feature does not present itself in the graduated English Life Tables No. 9, a marked retardation in the increase of the rate of mortality is apparent in these tables at the ages under discussion, thus suggesting the existence, at this period of life, of some phenomenon of which no grouping of the data can dispose, and which, indeed, no legitimate method of graduation ought to conceal. I conclude that at the ages in question one or more influences must be operating, and with varying intensity in different parts of the country, to disturb the normal course of the rate of mortality with advance of age.

It is possible that tuberculosis is such an influence. This disease is responsible for a large proportion of the deaths at the younger adult ages, and an investigation as to its incidence in the years 1920–22 suggests that so far as regards the country as a whole the death rate from this cause was decreasing with age in the age groups 25 to 30 in the case of males and 20 to 30 in the case of females. It will at once be seen that even if the death rate from other causes is rising steadily (with reference to age) the rate of increase in the corresponding aggregate death rate must be retarded if a declining rate is experienced in respect of a factor which accounts for something like 40 per cent. of the deaths at the ages concerned. But while this may explain the relative arrest in the growth of the rate of mortality shown by the National Life Tables at these ages it is not to be expected that the same cause would produce the same results on the sectional life tables ; it is, at least, improbable that the relationship of the tuberculosis death rate to the death rate from other causes is the same, age by age, throughout the several geographical sections of the country and their individual sub-sections. In this connection a very suggestive Table (XXXV) is to be found in the Registrar-General's Statistical Review for 1925 (Text). It is evident from this table (in the construction of which the element of geographical distribution has been carried a certain distance) that there are considerable variations in tuberculosis experience between different parts of the country, and that strongly marked differences are to be found with regard to the element of density of population ; there are definite indications, moreover, that the ages of maximum and minimum mortality from tuberculosis constitute another element of variability. There is strong evidence, therefore, to support the presumption that the incidence of tuberculosis accounts for the variations between the sectional tables in the progress of the rate of mortality at the younger adult ages. If this be accepted it follows that the root cause of the apparent check to the progress of the rate of mortality, from age to age, which is discovered in the portion of the National Life Tables covering the ages concerned, may be nothing more than the mechanical process of aggregating sectional data which in this one important respect are not homogeneous.

It will not, perhaps, be out of place to add that, while it would be foreign to the purpose of the present report to examine the tuberculosis death rate in detail, I am satisfied, on the evidence afforded by Table XXXV of the Review for 1925, that in this direction statistical enquiry on a considerable scale would be likely to bring out results of great importance to the public welfare.

(5) Life Tables for County Boroughs, Urban Districts, and Rural Districts.

There remains for consideration the question of expressing in the form of life tables the differences between the results of the conditions affecting the duration of human life in town and country districts. For this purpose there are available the data in respect of County Boroughs, Urban Districts (including the Municipal Boroughs), and Rural Districts. Differences of experience arising on this particular type of division of the data have been conventionally ascribed to the element of density of population, but as I have taken occasion to suggest in earlier paragraphs, they are probably the resultant of various causes of which density, though probably important, is only one. It seems evident, regard being had to the results of the geographical division of the data with which

I have dealt at some length, that aggregation of the experiences of all County Boroughs, Urban Districts, and Rural Districts respectively would not provide the best measure of the effects of the elements now under consideration, and Table G suggests that a certain divergence of results with reference to density (using this expression for convenience) in different parts of the country would follow if sectional life tables were prepared from the experiences of County Boroughs, Urban Districts, and Rural Districts respectively in the several geographical divisions of the data. The labour of preparing so great a range of tables would, in any case, as previously stated, be prohibitive, a consideration which requires, in dealing with this element of diversity, either that a selection be made, or that such a process of averaging be adopted as would give equal weight, in respect of each age group, to the population in each geographical area. It was decided to adopt the first of these alternatives, the second being open to objection on the ground that, although the differences between the life tables derived by its use would no doubt give a fair representation of the net effect upon human life of the differences between town and country conditions, each of the three tables which it would yield (and from which these differences would be discovered) would, taken by itself, be useless as an expression of the experience of a definite and homogeneous section of the community.

In these circumstances it was decided to prepare the sectional life tables with reference to density from the data given by the Central Counties division. This division was chosen for the purpose as its experience appeared in its principal features to be characteristic of that of the country generally, and to be sufficiently extensive to provide authoritative results.

The rates of mortality for individual ages up to 84 are given in Table 3 of Appendix IV., but for the purpose of comparison the results have been summarised in the following tables. (Tables M, N, and O.)

It will be observed that these sectional tables also exhibit, in a greater or less degree, irregularities in the rates of mortality between ages 20 and 35, a circumstance which lends support to the theory advanced on page 24 that these irregularities are not accidental or confined to any particular section, but are symptomatic of one or more general influences, such as tuberculosis mortality, the incidence of which with reference to age may vary with local circumstances.

It is worthy of note that among females the rates of mortality between the ages of 17 and 27 are greatest in the Rural Districts and lowest in the County Boroughs. Among males, the rates of the three sections in the neighbourhood of age 25 are more nearly equal than at any other period of life. As previously suggested, this feature may be connected with the migration of healthy young lives from the country districts to the industrial centres.

Throughout the greater part of the tables, however, the rates of mortality for the Rural Districts are lower than those for the Urban Districts, and these in turn are well below those for the County Boroughs. This result was, of course, foreshadowed in the tables of ratios given earlier in this report, and calls for no special comment.

TABLE M.

Central Counties.

Rate of Mortality, q_x.

Males.

Age.	County Boroughs.	Urban Districts.	Rural Districts.
0	·09835	·08581	·07318
10	·00180	·00159	·00151
20	·00325	·00314	·00285
30	·00428	·00404	·00351
40	·00746	·00590	·00514
50	·01273	·01032	·00847
60	·02819	·02411	·01939
70	·06449	·05958	·05000
80	·14953	·13962	·12888

Females.

0	·07567	·06667	·05544
10	·00176	·00154	·00146
20	·00280	·00288	·00308
30	·00389	·00368	·00360
40	·00556	·00462	·00475
50	·00943	·00840	·00756
60	·02051	·01813	·01541
70	·04838	·04533	·04033
80	·12387	·11769	·10901

TABLE N.

Central Counties.

Expectation of Life (Years), $\mathring{e}_x$.

Males.

Age.	County Boroughs.	Urban Districts.	Rural Districts.
0	54·28	57·28	60·40
10	53·94	55·68	57·68
20	45·05	46·72	48·65
30	36·56	38·29	40·14
40	28·33	29·91	31·58
50	20·66	21·84	23·30
60	13·90	14·59	15·65
70	8·42	8·82	9·34
80	4·78	4·95	5·08

Females.

0	58·75	60·84	63·10
10	57·29	58·34	59·20
20	48·40	49·44	50·34
30	39·84	40·95	41·94
40	31·48	32·46	33·45
50	23·37	24·14	25·11
60	15·95	16·49	17·27
70	9·76	10·10	10·58
80	5·45	5·70	5·80

TABLE O.

Central Counties.

Probability of Surviving 10 years, $_{10}p_x$.

Males.

Age.	County Boroughs.	Urban Districts.	Rural Districts.
0	·84511	·86889	·88983
10	·97764	·97975	·98190
20	·96365	·96358	·96690
30	·94596	·95308	·96010
40	·90809	·92723	·93878
50	·82319	·85485	·88294
60	·65410	·68360	·73255
70	·35527	·38656	·42248
80	·10847	·11635	·11413

Females.

0	·86974	·88742	·90945
10	·97896	·97945	·97928
20	·96786	·96706	·96570
30	·95481	·95942	·96053
40	·93230	·94144	·94442
50	·87347	·88805	·90060
60	·73421	·75227	·77937
70	·44780	·46617	·50272
80	·15117	·16930	·16832

(6) LIFE TABLES FOR GREATER LONDON.

In the foregoing examination of the mortality experience of the various sections of England and Wales, no reference has been made to that of Greater London, although figures relating thereto have been included in the summary tables F and G.

Simultaneously with the preparation of the English Life Tables No. 7 and No. 8, life tables for males and females in the Administrative County of London were constructed by Mr. King from the population estimated as in the middle of each of the years 1911 and 1912, and from the deaths in these two years.

As successive censuses indicate that the population dependent upon the commerce and industries of London has gradually encroached upon the surrounding districts, it was considered that, in order to obtain a more appropriate measure of the mortality associated with the conditions of residence and occupation in the neighbourhood of the Metropolis, the experience of a larger area than that administered by the County Council should be brought under review. In the circumstances the area selected was that designated "Greater London" in the Registrar-General's classification, which comprises the City, the Administrative County of London, and the surrounding districts commonly known as the "Outer Ring." Apart from the interest which attaches to the locality in which the capital of the country is situated, this area calls for special consideration on account of the magnitude of its population, the number of persons enumerated in it at the 1921 census having been not far short of 7½ millions, or about one-fifth of the total population of England and Wales.

Complete life tables for males and females respectively have accordingly been prepared for this section and are given in Appendix IV (Table 4). The statistics relating to the deaths for ages over 5 are available only in age groups, and therefore the same methods of deriving the graduated rates of mortality have been adopted as in the case of the other sectional tables.

In order to facilitate comparison between the mortality experience of Greater London and that of the whole country, the results have been summarised in the following table. (Table P.)

Table P.

Comparison of the Mortality Experience of Greater London with that of England and Wales.

Males.

Age x.	Rate of Mortality, q_x.		Number of Survivors at age x, l_x.		Expectation of Life (years), $\mathring{e}_x$.		Probability of Surviving 10 Years, ${}_{10}p_x$.	
	Greater London.	English Life Table No. 9.	Greater London.	English Life Table No. 9.	Greater London.	English Life Table No. 9.	Greater London.	English Life Table No. 9.
0	·08167	·08996	100,000	100,000	55·34	55·62	·85783	·85693
10	·00194	·00181	85,783	85,693	54·22	54·64	·97677	·97730
20	·00339	·00349	83,790	83,748	45·37	45·78	·96348	·96180
30	·00432	·00434	80,730	80,549	36·90	37·40	·94644	·94718
40	·00705	·00688	76,406	76,294	28·68	29·19	·91050	·91640
50	·01338	·01179	69,568	69,916	20·97	21·36	·82817	·84107
60	·02749	·02561	57,614	58,804	14·19	14·36	·66520	·67217
70	·06155	·05997	38,325	39,526	8·66	8·75	·37271	·38038
80	·14206	·14002	14,284	15,035	4·93	4·93	·11586	·11373
90	·26555	·26752	1,655	1,710	2·82	2·82	—	—

Females.

0	·06371	·06942	100,000	100,000	60·00	59·58	·87729	·87909
10	·00186	·00180	87,729	87,909	58·13	57·53	·97794	·97758
20	·00275	·00306	85,794	85,938	49·32	48·73	·96960	·96603
30	·00350	·00392	83,186	83,019	40·70	40·26	·95991	·95618
40	·00501	·00532	79,851	79,381	32·18	31·86	·93692	·93531
50	·00911	·00915	74,814	74,246	23·98	23·69	·87851	·87819
60	·01881	·01897	65,725	65,202	16·54	16·22	·75163	·74232
70	·04455	·04646	49,401	48,401	10·19	9·95	·47610	·46063
80	·11516	·11766	23,520	22,295	5·67	5·56	·16254	·15461
90	·23461	·23852	3,823	3,447	3·17	3·13	—	—

A general survey of the experience, and in this connection the expectation of life may be taken as a convenient criterion, indicates that the vitality of Greater London approximates fairly closely to that of England and Wales, that of the males being slightly inferior and that of the females slightly superior to the general average.

At birth the probability of an infant, whether male or female, surviving for one year is definitely greater in Greater London than in England and Wales regarded as a whole, but thereafter throughout childhood and adolescence the experience of the section does not differ materially from that of the whole country.

From age 18 to age 30 the rates of mortality for males in Greater London are lower than those for England and Wales, but the total effect of the differences, as revealed by the values of ${}_{10}p_{20}$, is inconsiderable. From age 31 until the advanced ages the Metropolitan rate of mortality for males is invariably in excess of that of the whole country.

The females' table discloses a marked difference between the Metropolitan and the National series of rates during the years of young womanhood. At age 16 the Metropolitan rates of mortality fall below those of England and Wales, and thereafter the difference increases so rapidly that within four years, *i.e.*, at age 20, it amounts to as much as 10 per cent. Between the ages of 20 and 30 the same order of difference persists, but thereafter the rates for Greater London tend to converge to those of the country as a whole.

The depression of the rates of mortality apparent amongst young women in Greater London would seem to be a general feature of the mortality experience of populous areas. It has been observed that in the Central Counties the rates of mortality for females between the ages of 17 and 27 were highest in the Rural Districts and lowest in the County Boroughs. The suggestion was put forward that the migration of healthy young women from the country districts to the towns might be responsible for the phenomenon. Whatever be the influences at work to account for this special feature of female mortality experience, the theory that migration is one of them appears to gain some support from the experience of the Metropolitan area, the population of which is being continuously recruited by the accession of young people from other districts. The same feature that is found in the case of women at the younger ages under discussion is discernible also in the case of men, and that it is less strongly marked among men is probably attributable to the fact that among women, presumably as a result of the demand for domestic help, a greater proportion of the youth of the rural districts is drawn into the urban centres than is the case with the other sex.

During the years of middle life and at advanced ages the rates of mortality for females are invariably rather lighter in Greater London than in England and Wales generally. In this respect the experience is the converse of that of males.

V.—CONCLUSION.

In conclusion, it must be emphasised that the rates of mortality shown in the National Tables are the results of the aggregation of data relating to a number of sections with widely-varying characteristics, and that the circumstances of any one particular area may not be at all accurately reflected at any point in the general experience to which it has contributed.

I am, Sir,

Your obedient Servant,

ALFRED W. WATSON.

APPENDIX I.

Methods adopted in Obtaining Graduated Rates of Mortality at Early and Advanced Ages.

The following is a description of the steps taken to obtain graduated rates of mortality over those sections of the tables where it was found necessary to introduce deviations from the principal method.

(*a*) *Infantile Ages.*

Mr. King obtained rates of mortality for children under age 6 from the returns of births and deaths, the numbers of births employed being those for the appropriate calendar years.

In the years preceding the 1921 census the numbers of births fluctuated widely, not merely from year to year, but also from quarter to quarter, and in deriving the rates of mortality at infantile ages it was decided that it would be more accurate to work with the births for each quarter than with those for each calendar year. This procedure makes the formulæ for computing the values of q_x rather more complicated than those employed by Mr. King, but they are really self-evident.

$$q_0 = \left\{\begin{array}{c}\text{Deaths at age 0 to 1}\\ \text{in the years}\\ \text{1920, 1921 and 1922}\end{array}\right\} \div \left\{\begin{array}{l}\frac{1}{8}(\beta_1^{19} + 3\beta_2^{19} + 5\beta_3^{19} + 7\beta_4^{19})\\ + \text{total births in 1920 and 1921}\\ + \frac{1}{8}(7\beta_1^{22} + 5\beta_2^{22} + 3\beta_3^{22} + \beta_4^{22})\end{array}\right\}$$

where β_1^{19} represents the number of births in the first quarter of 1919
β_2^{19} represents the number of births in the second quarter of 1919
etc.

$$q_1 = \left\{\begin{array}{c}\text{Deaths at age 1 to 2}\\ \text{in the years}\\ \text{1920, 1921 and 1922}\end{array}\right\} \div \left\{\begin{array}{l}\frac{1}{8}(\beta_1^{18} + 3\beta_2^{18} + 5\beta_3^{18} + 7\beta_4^{18})\\ + \text{total births in 1919 and 1920}\\ + \frac{1}{8}(7\beta_1^{21} + 5\beta_2^{21} + 3\beta_3^{21} + \beta_4^{21})\\ - \text{deaths at age 0 to 1 in 1919, 1920 and 1921}\end{array}\right\}$$

The values of q_2, q_3, q_4, and q_5 were obtained by similar formulæ.

$$\text{Thus } q_5 = \left\{\begin{array}{c}\text{Deaths at age 5 to 6}\\ \text{in the years}\\ \text{1920, 1921 and 1922}\end{array}\right\} \div \left\{\begin{array}{l}\frac{1}{8}(\beta_1^{16} + 3\beta_2^{16} + 5\beta_3^{16} + 7\beta_4^{16})\\ + \text{total births in 1915 and 1916}\\ + \frac{1}{8}(7\beta_1^{17} + 5\beta_2^{17} + 3\beta_3^{17} + \beta_4^{17})\\ - \text{deaths at age 0 to 1 in 1915, 1916 and 1917}\\ - \text{deaths at age 1 to 2 in 1916, 1917 and 1918}\\ - \text{deaths at age 2 to 3 in 1917, 1918 and 1919}\\ - \text{deaths at age 3 to 4 in 1918, 1919 and 1920}\\ - \text{deaths at age 4 to 5 in 1919, 1920 and 1921}\end{array}\right\}$$

(*b*) *Ages 6 to 13.*

Mr. King's procedure for obtaining rates at infantile ages and pivotal values gave him directly the values of q_x at ages 4, 5, 11, 16 and 17, and from these he obtained intervening values by Lagrange's method of interpolation. In the new tables the available values were q_x for ages 4, 5, 9, 14 and 15. After various experiments it was decided to take the four values q_5, q_9, q_{14} and q_{15} already found, and to obtain from these the intervening values by means of the third difference formula :—

$$q_x = a + bx + \tfrac{1}{2}cx(x-1) + \tfrac{1}{6}dx(x-1)(x-2).$$

It may be of interest to reproduce the actual working in the case of the males table.

Let $u_y = a + by + \frac{1}{2}c(y)(y-1) + \frac{1}{6}dy(y-1)(y-2)$
and let $u_o = q_9$

Then

$$\begin{array}{lll} q_5 = u_{-4} = a - 4b + 10c - 20d & = & \cdot00417 \\ q_9 = u_0 \quad = a & = & \cdot00199 \\ q_{14} = u_5 \quad = a + 5b + 10c + 10d & = & \cdot00199 \\ q_{15} = u_6 \quad = a + 6b + 15c + 20d & = & \cdot00218 \end{array}$$

There are thus four equations by which the values of a, b, c and d may be determined. The values are :—

$$\begin{array}{ll} a = & + \cdot00199 \\ b = & - \cdot000184 \\ c = & + \cdot0001095 \\ d = & - \cdot0000173 \end{array}$$

The working is completed in columnar form as follows :—

y.	u_y	Δu_y ($\Delta u_o = b$).	$\Delta^2 u_y$ ($\Delta^2 u_o = c$).	$\Delta^3 u_y$ ($\Delta^3 u_o = d$).
− 4	·0041700	− ·0007960	+ ·0001788	
− 3	·0033740	− ·0006172	+ ·0001615	
− 2	·0027568	− ·0004557	+ ·0001442	
− 1	·0023013	− ·0003115	+ ·0001268	
0	·0019900	− ·0001847	+ ·0001095	− ·0000173
+ 1	·0018055	− ·0000748	+ ·0000922	
+ 2	·0017306	+ ·0000173	+ ·0000748	
+ 3	·0017480	+ ·0000922	+ ·0000575	
+ 4	·0018402	+ ·0001497	+ ·0000402	
+ 5	·0019900	+ ·0001900	+ ·0000228	
+ 6	·0021800			

The resulting rates $q_6 = \cdot00337$, $q_7 = \cdot00276$, etc., while conforming to the required smoothness of progression, were found to give a close agreement with the crude rates derived directly from the population and deaths at each age.

(*c*) *Advanced Ages.*

Following Mr. King's procedure an attempt was made to obtain rates for the advanced ages by means of a fourth difference formula, using the values q_{86}, q_{87}, q_{88}, q_{89}, and q_{94}, but it was found that above age 100 the resulting values of q_x began to decrease. Another series of rates was obtained by interpolation, using q_{87}, q_{88}, q_{89}, q_{94}, and $\left\{\begin{array}{l} q_{105} = 1 \text{ for males.} \\ q_{107} = 1 \text{ for females.}\end{array}\right.$

This method was subsequently discarded, there being no statistical evidence for the final assumed values. It was ultimately decided to adopt a" Gompertz " graduation to obtain values of q_{85} and upwards, it having been observed that the ratio $\frac{log_{10} p_{89}}{log_{10} p_{84}}$ was approximately equal to the ratio $\frac{log_{10} p_{94}}{log_{10} p_{89}}$. Taking $\frac{log_{10} p_{94}}{log_{10} p_{84}} = r$, and applying the derived value $r^{\frac{1}{10}}$ to $log_{10} p_{84}$, values of q_x for ages 85 and upwards were obtained. As the ratios above referred to were not exactly equal, the use of $r^{\frac{1}{10}}$ brought out for q_{89} a slightly different value from the originally calculated pivotal value for that age. The values by the Gompertz graduation have been adopted for all ages above 84.

APPENDIX II.

ENGLAND

Census 19–20th June, 1921.

Age last Birthday.	Total Males.	Females.					Age last Birthday.
		Total Females.	Single.	Married.	Widowed.	Divorced.	
0	404,510	390,964	390,964	—	—	—	0
1	419,387	406,729	406,729	—	—	—	1
2	279,429	272,999	272,999	—	—	—	2
3	269,978	266,725	266,725	—	—	—	3
4	308,135	302,847	302,847	—	—	—	4
5	330,361	324,761	324,761	—	—	—	5
6	354,581	352,753	352,753	—	—	—	6
7	362,521	362,232	362,232	—	—	—	7
8	361,061	360,026	360,026	—	—	—	8
9	358,036	352,594	352,594	—	—	—	9
10	359,632	356,442	356,442	—	—	—	10
11	366,500	362,583	362,583	—	—	—	11
12	372,744	369,282	369,282	—	—	—	12
13	373,527	371,241	371,241	—	—	—	13
14	364,722	363,153	363,153	—	—	—	14
15	359,731	358,967	358,887	77	3	—	15
16	356,400	359,329	358,991	323	12	3	16
17	340,819	351,672	349,783	1,867	18	4	17
18	343,868	355,645	347,780	7,807	49	9	18
19	327,005	349,618	328,450	21,071	84	13	19
20	308,270	341,737	299,568	41,866	274	29	20
21	305,630	348,086	279,997	67,547	508	34	21
22	282,554	335,966	244,121	90,934	872	39	22
23	277,753	338,611	219,308	117,609	1,617	77	23
24	274,178	338,667	194,157	141,833	2,566	111	24
25	267,618	329,927	167,859	158,080	3,819	169	25
26	271,001	329,651	147,606	176,465	5,375	205	26
27	266,904	320,763	129,562	184,298	6,703	200	27
28	270,155	325,512	117,486	199,355	8,404	267	28
29	264,282	314,437	101,679	202,788	9,722	248	29
30	271,763	330,518	98,227	220,352	11,658	281	30
31	247,562	289,533	79,034	198,976	11,306	217	31
32	256,537	305,314	78,361	213,439	13,217	297	32
33	254,392	298,083	71,215	212,857	13,741	270	33
34	251,066	296,201	67,628	213,914	14,386	273	34
35	252,525	297,585	65,906	216,114	15,280	285	35
36	255,743	296,929	62,461	218,657	15,539	272	36
37	247,812	283,988	56,889	211,253	15,571	275	37
38	259,334	303,075	59,863	225,676	17,242	294	38
39	257,907	290,336	55,414	217,587	17,067	268	39
40	265,392	306,008	58,249	227,815	19,587	357	40
41	237,932	263,384	47,410	198,799	16,959	216	41
42	247,838	282,611	50,370	212,207	19,787	247	42
43	237,739	266,903	46,355	201,246	19,079	223	43
44	234,153	259,215	44,743	195,042	19,243	187	44
45	246,387	266.145	47,204	196,941	21,758	242	45
46	232,056	248,672	42,000	185,659	20,865	148	46
47	230,673	242,939	40,336	180,357	22,043	203	47
48	231,803	251,551	41,307	185,066	24,991	187	48
49	221,239	234,661	38.000	171,100	25,412	149	49
50	224,590	246,187	40,855	174,481	30,651	200	50
51	190,418	196,345	31,691	140,239	24,302	113	51

TABLE 1.

AND WALES.

Populations Enumerated.

Age last Birthday.	Total Males.	Females.					Age last Birthday.
		Total Females.	Single.	Married.	Widowed.	Divorced.	
52	194,032	208,759	32,328	146,970	29,307	154	52
53	183,343	196,901	30,689	136,310	29,795	107	53
54	178,638	194,938	30,347	132,201	32,275	115	54
55	164,315	177,691	27,888	118,334	31,337	132	55
56	167,736	178,889	28,113	116,178	34,496	102	56
57	153,299	165,417	25,659	105,980	33,708	70	57
58	155,090	172,329	26,249	107,669	38,299	112	58
59	141,168	154,791	23,832	93,860	37,001	98	59
60	146,169	165,817	26,157	95,104	44,468	88	60
61	119,348	129,785	20,090	74,793	34,851	51	61
62	117,841	133,290	19,848	74,350	39,036	56	62
63	110,739	127,808	18,754	67,914	41,084	56	63
64	107,138	124,068	17,677	63,282	43,055	54	64
65	106,022	123,957	17,779	59,678	46,447	53	65
66	92,481	109,197	15,434	50,941	42,776	46	66
67	85,342	101,188	14,291	44,299	42,562	36	67
68	85,371	103,480	13,856	43,240	46,343	41	68
69	80,147	98,877	13,365	38,644	46,841	27	69
70	72,511	94,587	13,489	34,513	46,539	46	70
71	56,780	74,306	10,626	25,743	37,912	25	71
72	56,953	76,684	10,606	24,820	41,241	17	72
73	49,646	67,856	9,231	20,048	38,556	21	73
74	44,601	62,887	8,504	17,257	37,111	15	74
75	40,978	58,643	7,984	14,519	36,127	13	75
76	37,070	54,201	7,177	12,362	34,655	7	76
77	31,293	47,009	6,108	9,708	31,188	5	77
78	26,559	40,116	5,236	7,614	27,258	8	78
79	22,640	34,069	4,583	5,818	23,662	6	79
80	20,061	32,214	4,278	4,900	23,026	10	80
81	15,245	24,809	3,286	3,543	17,977	3	81
82	12,771	22,170	2,848	2,744	16,575	3	82
83	10,136	17,873	2,376	1,996	13,496	5	83
84	8,784	15,791	2,072	1,550	12,166	3	84
85	6,762	12,423	1,587	1,058	9,772	6	85
86	4,907	9,737	1,230	766	7,740	1	86
87	3,766	7,699	990	556	6,153	—	87
88	2,915	5,927	751	341	4,834	1	88
89	1,981	4,221	575	221	3,425	—	89
90	1,451	3,394	402	154	2,833	5	90
91	965	2,253	326	106	1,817	4	91
92	680	1,623	225	67	1,330	1	92
93	488	1,175	168	49	958	—	93
94	323	817	124	28	664	1	94
95	217	604	94	30	480	—	95
96	140	401	59	17	325	—	96
97	113	282	39	17	226	—	97
98	60	184	25	7	152	—	98
99	41	141	26	9	106	—	99
100 & over	30	80	13	2	63	2	100 & over
All Ages	18,075,239	19,811,460	10,591,477	7,590,007	1,621,758	8,218	All Ages

Appendix II. Table 2.

ENGLAND AND WALES.

Deaths Registered in each of the Three Years 1920, 1921, and 1922.

Males.

Age last Birthday.	1920.	1921.	1922.	1920–22.	Age. last Birthday.	1920.	1921.	1922.	1920–22.
0	44,199	40,381	34,808	119,388	55	2,756	2,781	2,864	8,401
1	7,784	8,356	9,984	26,124	56	3,184	3,087	3,297	9,568
2	3,151	2,627	4,507	10,285	57	3,034	3,188	3,383	9,605
3	2,279	1,614	1,908	5,801	58	3,200	3,402	3,659	10,261
4	1,981	1,316	1,189	4,486	59	3,347	3,309	3,750	10,406
5	1,806	1,296	1,146	4,248	60	3,613	3,563	3,541	10,717
6	1,440	1,149	1,037	3,626	61	3,048	3,338	3,624	10,010
7	1,070	1,009	867	2,946	62	3,591	3,611	4,315	11,517
8	901	795	764	2,460	63	3,733	3,580	4,121	11,434
9	792	718	662	2,172	64	3,824	3,887	4,286	11,997
10	759	617	620	1,996	65	4,169	4,067	4,542	12,778
11	694	650	621	1,965	66	3,747	3,880	4,167	11,794
12	704	652	590	1,946	67	3,840	3,992	4,385	12,217
13	670	670	624	1,964	68	4,204	4,149	4,749	13,102
14	703	645	722	2,070	69	4,459	4,395	4,864	13,718
15	833	856	720	2,409	70	4,140	4,313	4,645	13,098
16	987	916	866	2,769	71	3,567	3,869	4,402	11,838
17	1,029	963	974	2,966	72	3,932	4,228	4,888	13,048
18	1,123	1,098	1,032	3,253	73	3,804	4,002	4,535	12,341
19	1,098	1,081	1,128	3,307	74	3,764	3,831	4,545	12,140
20	1,047	1,014	1,161	3,222	75	3,748	3,783	4,385	11,916
21	1,119	1,089	1,079	3,287	76	3,626	3,904	4,128	11,658
22	1,136	1,012	1,146	3,294	77	3,354	3,533	4,041	10,928
23	1,176	1,038	1,053	3,267	78	3,206	3,288	3,911	10,405
24	1,126	1,018	1,127	3,271	79	2,990	3,155	3,483	9,628
25	1,072	1,061	1,008	3,141	80	2,712	2,919	3,143	8,774
26	1,104	981	1,051	3,136	81	2,150	2,479	2,785	7,414
27	1,163	1,019	1,072	3,254	82	2,094	2,210	2,747	7,051
28	1,186	1,059	1,123	3,368	83	1,758	1,936	2,164	5,858
29	1,125	1,070	1,160	3,355	84	1,645	1,819	1,959	5,423
30	1,245	1,104	1,073	3,422	85	1,293	1,417	1,531	4,241
31	1,158	1,009	1,132	3,299	86	1,100	1,195	1,302	3,597
32	1,356	1,247	1,245	3,848	87	843	993	1,047	2,883
33	1,370	1,197	1,221	3,788	88	676	834	785	2,295
34	1,404	1,277	1,362	4,043	89	548	571	636	1,755
35	1,525	1,293	1,378	4,196	90	395	452	458	1,305
36	1,500	1,422	1,452	4,374	91	297	301	355	953
37	1,564	1,407	1,511	4,482	92	226	246	281	753
38	1,691	1,619	1,677	4,987	93	172	177	186	535
39	1,798	1,664	1,765	5,227	94	125	116	130	371
40	1,814	1,735	1,763	5,312	95	78	91	84	253
41	1,700	1,676	1,711	5,087	96	46	49	63	158
42	1,930	1,873	2,081	5,884	97	33	34	38	105
43	1,949	1,795	1,918	5,662	98	17	18	27	62
44	2,000	1,822	1,978	5,800	99	15	13	15	43
45	2,178	2,152	2,225	6,555	100 and over ...	16	21	18	55
46	2,131	2,099	2,201	6,431					
47	2,195	2,160	2,309	6,664					
48	2,450	2,303	2,486	7,239	All Ages	240,302	234,291	247,221	721,814
49	2,520	2,410	2,637	7,567					
50	2,603	2,494	2,629	7,726					
51	2,325	2,363	2,531	7,219					
52	2,834	2,683	2,972	8,489					
53	2,821	2,739	2,962	8,522					
54	2,865	2,952	2,989	8,806					

Appendix II. Table 2—(*continued*).

ENGLAND AND WALES.

Deaths Registered in each of the Three Years 1920, 1921, and 1922.

Females.

Age last Birthday.	1920.	1921.	1922.	1920–22.	Age last Birthday.	1920.	1921.	1922.	1920–22.
0	32,353	29,869	25,313	87,535	55	2,144	2,284	2,343	6,771
1	6,957	7,280	8,964	23,201	56	2,509	2,481	2,677	7,667
2	2,949	2,367	4,171	9,487	57	2,436	2,429	2,716	7,581
3	2,201	1,563	1,750	5,514	58	2,594	2,737	3,006	8,337
4	1,884	1,268	1,168	4,320	59	2,718	2,675	3,012	8,405
5	1,805	1,316	1,138	4,259	60	2,852	2,830	3,129	8,811
6	1,298	1,062	948	3,308	61	2,658	2,764	3,007	8,429
7	1,073	953	833	2,859	62	3,024	3,097	3,598	9,719
8	903	726	688	2,317	63	3,119	3,118	3,540	9,777
9	711	683	647	2,041	64	3,182	3,366	3,853	10,401
10	738	629	635	2,002	65	3,526	3,607	4,097	11,230
11	688	606	572	1,866	66	3,241	3,465	3,731	10,437
12	714	636	649	1,999	67	3,409	3,433	4,062	10,904
13	755	726	698	2,179	68	3,919	3,908	4,358	12,185
14	830	727	764	2,321	69	3,968	4,137	4,537	12,642
15	884	884	815	2,583	70	3,998	4,266	4,762	13,026
16	947	900	892	2,739	71	3,706	3,903	4,520	12,129
17	977	972	896	2,845	72	3,935	4,340	5,146	13,421
18	1,005	984	951	2,940	73	4,250	4,209	5,038	13,497
19	996	1,038	1,016	3,050	74	4,196	4,501	4,862	13,559
20	1,055	1,052	1,093	3,200	75	4,279	4,509	5,070	13,858
21	1,165	1,044	1,093	3,302	76	4,360	4,548	4,995	13,903
22	1,055	1,057	1,093	3,205	77	3,855	4,301	4,911	13,067
23	1,161	1,176	1,073	3,410	78	4,027	4,109	4,737	12,873
24	1,149	1,189	1,145	3,483	79	3,783	3,914	4,333	12,030
25	1,278	1,113	1,141	3,532	80	3,610	3,957	4,020	11,587
26	1,203	1,184	1,128	3,515	81	3,013	3,453	3,916	10,382
27	1,286	1,107	1,199	3,592	82	3,029	3,166	3,927	10,122
28	1,311	1,126	1,224	3,661	83	2,760	2,953	3,225	8,938
29	1,312	1,231	1,198	3,741	84	2,523	2,875	3,160	8,558
30	1,263	1,136	1,242	3,641	85	2,119	2,306	2,548	6,973
31	1,235	1,081	1,209	3,525	86	1,781	2,004	2,241	6,026
32	1,411	1,209	1,233	3,853	87	1,582	1,764	1,859	5,205
33	1,318	1,196	1,276	3,790	88	1,253	1,365	1,510	4,128
34	1,340	1,230	1,313	3,883	89	1,009	1,050	1,239	3,298
35	1,426	1,337	1,339	4,102	90	764	869	959	2,592
36	1,385	1,323	1,381	4,089	91	559	685	721	1,965
37	1,404	1,396	1,383	4,183	92	454	517	562	1,533
38	1,537	1,466	1,548	4,551	93	353	392	418	1,163
39	1,576	1,396	1,508	4,480	94	261	263	334	858
40	1,566	1,505	1,515	4,586	95	185	221	221	627
41	1,504	1,508	1,543	4,555	96	133	165	172	470
42	1,687	1,641	1,762	5,090	97	99	84	122	305
43	1,578	1,575	1,655	4,808	98	57	63	86	206
44	1,666	1,673	1,644	4,983	99	31	53	44	128
45	1,666	1,759	1,746	5,171	100 and over ...	39	38	59	136
46	1,674	1,746	1,842	5,262					
47	1,890	1,754	1,883	5,527					
48	1,969	1,940	2,061	5,970	All Ages	225,828	224,338	239,559	689,725
49	2,054	2,029	2,187	6,270					
50	2,096	2,013	2,284	6,393					
51	1,846	1,952	2,171	5,969					
52	2,284	2,287	2,497	7,068					
53	2,249	2,223	2,447	6,919					
54	2,259	2,321	2,612	7,192					

Appendix II. Table 3.

ENGLAND AND WALES.

Births in each quarter in years 1914-1922.

Year.	March.	June.	September.	December.
	Males.			
1914	110,376	115,127	115,327	106,354
1915	112,432	108,755	100,350	93,668
1916	99,847	107,079	101,346	93,865
1917	91,197	88,506	82,982	78,676
1918	82,836	87,005	86,182	83,089
1919	74,466	76,269	90,083	115,423
1920	138,994	127,197	117,668	107,111
1921	107,228	115,697	110,070	101,900
1922	106,340	102,476	100,368	90,275
	Females.			
1914	107,038	111,025	111,911	101,938
1915	109,091	104,354	96,151	89,813
1916	95,118	101,927	96,961	89,377
1917	87,532	84,902	79,544	75,007
1918	79,423	83,207	82,245	78,674
1919	70,323	72,492	85,224	108,158
1920	131,971	121,419	112,117	101,305
1921	102,351	109,604	104,736	97,228
1922	101,199	98,048	95,350	86,068

Appendix II. Table 4.

ENGLAND AND WALES.

Deaths of Infants in years 1915-1919.

Year.	0–1.	1–2.	2–3.	3–4.	4–5.
	Males.				
1915	51,013	15,944	6,552	3,836	2,774
1916	41,016	10,410	4,468	2,881	2,074
1917	36,733	10,686	5,053	3,033	2,231
1918	36,593	13,518	7,505	5,081	3,820
1919	35,625	7,575	3,953	2,747	2,328
	Females.				
1915	38,367	14,335	5,930	3,662	2,574
1916	30,630	9,590	4,143	2,684	2,070
1917	27,750	9,610	4,671	3,019	2,208
1918	27,793	12,929	7,450	5,427	4,037
1919	26,090	6,549	3,705	2,722	2,345

Appendix II. Table 5.

ENGLAND AND WALES.

Deaths of Females registered in each of the Three Years 1920, 1921, and 1922, according to Marital Condition.

Age Group.	Single.				Married.				Widowed.*				Age Group.
	1920.	1921.	1922.	Total.	1920.	1921.	1922.	Total.	1920.	1921.	1922.	Total.	
17–21	4,620	4,564	4,533	13,717	571	525	512	1,608	7	1	4	12	17–21
22–26	3,093	3,176	3,155	9,424	2,676	2,489	2,379	7,544	77	54	46	177	22–26
27–31	1,998	1,853	1,977	5,828	4,187	3,628	3,924	11,739	222	200	171	593	27–31
32–36	1,498	1,424	1,544	4,466	5,007	4,526	4,682	14,215	375	345	316	1,036	32–36
37–41	1,495	1,432	1,433	4,360	5,596	5,336	5,577	16,509	496	503	487	1,486	37–41
42–46	1,549	1,626	1,616	4,791	5,921	5,957	6,239	18,117	801	811	794	2,406	42–46
47–51	1,791	1,699	1,925	5,415	6,755	6,660	7,377	20,792	1,309	1,329	1,284	3,922	47–51
52–56	1,887	1,877	2,110	5,874	7,300	7,455	8,058	22,813	2,258	2,264	2,408	6,930	52–56
57–61	1,940	2,015	2,291	6,246	7,577	7,708	8,516	23,801	3,741	3,712	4,063	11,516	57–61
62–66	2,261	2,344	2,522	7,127	7,687	8,063	9,237	24,987	6,144	6,246	7,060	19,450	62–66
67–71	2,494	2,513	2,818	7,825	7,002	7,259	8,445	22,706	9,504	9,875	10,976	30,355	67–71
72–76	2,645	2,811	3,117	8,573	5,210	5,504	6,464	17,178	13,165	13,792	15,530	42,487	72–76
77–81	2,229	2,449	2,589	7,267	2,948	3,081	3,438	9,467	13,111	14,204	15,890	43,205	77–81
82–86	1,551	1,700	1,855	5,106	1,042	1,156	1,278	3,476	9,619	10,448	11,968	32,035	82–86
87–91	673	756	799	2,228	199	235	269	703	4,295	4,742	5,220	14,257	87–91
92–96	210	201	225	636	23	27	20	70	1,153	1,330	1,462	3,945	92–96
97 and over	29	35	40	104	5	1	3	9	192	202	268	662	97 and over
Total	31,963	32,475	34,549	98,987	69,706	69,610	76,418	215,734	66,469	70,058	77,947	214,474	

* The deaths of divorced women are included with the deaths of widows.

APPENDIX II.

ENGLAND AND WALES—

Population Enumerated at 1921 Census, and Deaths Registered in the three years 1920, 1921, and 1922.—MALES.

Northern Counties: (*a*) Cheshire and Lancashire.

Age Group.	County Boroughs.		Urban Districts.		Rural Districts.	
	Population at 1921 Census.	Deaths, 1920–21–22.	Population at 1921 Census.	Deaths, 1920–21–22.	Population at 1921 Census.	Deaths, 1920–21–22.
5–9	166,592	1,720	84,391	861	18,763	165
10–14	173,910	1,115	90,017	571	20,530	92
15–19	162,042	1,567	86,384	734	21,133	149
20–24	138,372	1,763	75,479	775	17,108	171
25–29	130,520	1,750	70,628	801	15,559	164
30–34	125,312	2,123	68,749	992	14,835	192
35–39	122,843	2,881	67,620	1,285	15,084	233
40–44	118,163	3,645	66,062	1,428	14,471	275
45–49	112,486	4,370	62,755	1,922	13,600	325
50–54	91,525	5,088	51,506	2,266	11,503	367
55–59	70,001	5,614	40,660	2,851	9,793	485
60–64	51,133	6,302	30,246	3,302	7,716	629
65–69	35,522	6,414	21,533	3,575	5,597	740
70–74	19,545	5,606	12,027	3,143	3,776	757
75–79	9,609	3,992	5,956	2,396	2,106	742
80–84	3,456	2,001	2,207	1,300	898	464
85 and over	967	786	702	582	320	259
Total	1,531,998	56,737	836,922	28,784	192,792	6,209

Northern Counties: (*b*) West Riding of Yorkshire.

5–9	77,744	739	52,847	496	19,857	196
10–14	81,232	472	53,937	328	20,373	98
15–19	77,236	739	51,272	454	19,147	155
20–24	68,912	747	44,675	483	14,939	141
25–29	64,607	803	40,350	432	13,305	133
30–34	60,476	962	39,271	539	12,849	152
35–39	61,513	1,289	39,199	692	13,055	229
40–44	60,965	1,646	38,529	773	12,763	224
45–49	58,456	1,989	36,444	1,012	11,618	233
50–54	47,930	2,450	30,290	1,144	9,142	310
55–59	37,369	2,767	23,771	1,467	7,511	432
60–64	27,290	3,005	17,639	1,812	5,995	488
65–69	19,371	3,421	12,979	2,134	4,602	631
70–74	10,828	3,061	7,512	1,920	2,815	615
75–79	5,201	2.225	3,647	1,468	1,619	525
80–84	1,838	1,108	1,392	826	662	359
85 and over	526	430	366	343	240	195
Total	761,494	27,853	494,120	16,323	170,492	5,116

Northern Counties: (*c*) Durham and Northumberland.

5–9	45,458	506	43,621	436	29,980	290
10–14	45,593	330	44,523	305	31,531	178
15–19	41,449	502	40,490	439	30,242	290
20–24	35,243	571	33,294	425	23,543	265
25–29	32,568	514	30,394	418	20,261	232
30–34	30,287	592	28,176	446	18,909	249
35–39	29,034	738	26,985	511	17,800	282
40–44	27,836	856	25,337	559	16,294	306
45–49	26,365	974	23,893	722	15,594	366
50–54	20,614	1,097	18,609	858	12,698	462
55–59	16,194	1,301	14,807	1,008	10,452	567
60–64	11,894	1,418	11,141	1,150	8,165	719
65–69	8,724	1,597	8,232	1,389	6,075	808
70–74	5,140	1,506	4,962	1,342	3,769	820
75–79	2,541	1,097	2,527	1,001	2,040	720
80–84	944	605	949	566	792	441
85 and over	280	225	289	235	287	219
Total	380,164	14,429	358,229	11,810	248,432	7,214

TABLE 6.

GEOGRAPHICAL DIVISIONS.

Northern Counties: (*d*) Yorkshire, East Riding and North Riding, Cumberland and Westmorland.

Age Group.	County Boroughs.		Urban Districts.		Rural Districts.	
	Population at 1921 Census.	Deaths, 1920–21–22.	Population at 1921 Census.	Deaths, 1920–21–22.	Population at 1921 Census.	Deaths, 1920–21–22.
5–9	24,047	232	19,350	179	17,110	131
10–14	24,240	156	19,635	117	17,881	62
15–19	21,787	212	17,022	154	19,539	136
20–24	19,397	251	14,879	187	14,987	139
25–29	17,640	263	13,717	158	12,827	132
30–34	16,566	307	13,467	202	12,126	158
35–39	16,517	355	13,826	237	11,906	154
40–44	15,490	424	12,789	299	11,567	169
45–49	14,324	543	11,755	321	10,813	223
50–54	11,822	609	9,888	362	9,648	265
55–59	9,005	635	8,198	463	8,623	408
60–64	6,636	718	6,676	554	7,405	464
65–69	4,928	851	5,494	746	6,090	708
70–74	2,927	769	3,498	793	4,239	783
75–79	1,448	565	1,954	650	2,491	768
80–84	625	305	828	433	1,163	607
85 and over	199	169	296	224	472	371
Total	207,598	7,364	173,272	6,079	168,887	5,678

Central Counties.

5–9	140,892	1,284	111,942	842	99,873	687
10–14	145,853	802	117,696	563	104,283	474
15–19	134,133	1,087	110,346	842	103,401	654
20–24	115,314	1,218	89,555	929	82,219	801
25–29	107,861	1,256	81,831	976	72,113	759
30–34	102,196	1,448	77,334	980	67,833	738
35–39	100,756	1,925	77,155	1,247	68,439	923
40–44	97,733	2,449	74,470	1,439	65,398	1,106
45–49	91,624	3,002	71,006	1,843	63,036	1,320
50–54	75,090	3,347	57,611	2,091	53,906	1,609
55–59	58,573	3,946	46,536	2,657	46,712	2,077
60–64	43,451	4,269	36,155	3,148	37,840	2,693
65–69	32,522	4,979	27,937	3,863	30,465	3,461
70–74	18,856	4,441	17,396	3,806	20,667	3,891
75–79	10,014	3,704	9,964	3,371	12,905	4,119
80–84	3,962	2,166	4,241	2,193	5,909	2,821
85 and over	1,395	1,088	1,605	1,247	2,263	1,887
Total	1,280,225	42,411	1,012,780	32,037	937,262	30,020

Southern Counties.

5–9	51,519	374	115,032	846	88,694	494
10–14	54,368	235	123,370	547	96,610	417
15–19	47,103	353	109,396	794	91,734	531
20–24	33,398	405	80,493	886	65,912	652
25–29	35,080	449	79,393	867	59,754	665
30–34	33,212	506	77,629	1,027	58,108	697
35–39	36,534	652	82,455	1,244	61,247	871
40–44	34,378	724	80,543	1,554	58,829	1,006
45–49	34,999	1,033	79,154	1,979	59,778	1,282
50–54	30,065	1,182	68,223	2,397	53,490	1,535
55–59	25,796	1,481	57,157	2,991	48,055	2,118
60–64	19,694	1,706	44,925	3,480	39,554	2,580
65–69	15,379	1,951	34,212	4,073	31,689	3,359
70–74	10,107	1,965	23,303	4,495	22,270	3,829
75–79	6,031	1,867	14,187	4,369	14,189	3,984
80–84	2,650	1,312	6,407	2,976	6,477	3,008
85 and over	1,102	804	2,667	1,970	2,799	2,153
Total	471,415	16,999	1,078,546	36,495	859,189	29,181

APPENDIX II.

ENGLAND AND WALES—

Population Enumerated at 1921 Census, and Deaths Registered in the Three Years 1920, 1921, and 1922.—MALES.

Eastern Counties.

Age Group.	County Boroughs.		Urban Districts.		Rural Districts.	
	Population at 1921 Census.	Deaths, 1920–21–22.	Population at 1921 Census.	Deaths, 1920–21–22.	Population at 1921 Census.	Deaths, 1920–21–22.
5–9	23,331	127	54,159	410	53,619	301
10–14	24,008	125	58,154	247	54,989	250
15–19	21,063	179	51,889	384	55,890	363
20–24	17,627	204	43,195	438	41,171	381
25–29	17,647	200	39,313	446	35,394	416
30–34	17,313	218	38,265	463	35,241	381
35–39	17,678	284	38,892	558	36,250	456
40–44	16,901	317	37,558	706	34,577	505
45–49	15,440	411	35,642	879	33,870	626
50–54	13,104	481	29,988	1,068	30,298	765
55–59	10,530	584	24,389	1,233	27,505	1,107
60–64	8,342	668	19,041	1,511	23,314	1,380
65–69	6,372	857	14,067	1,723	18,654	1,901
70–74	4,001	834	9,408	1,828	13,604	2,179
75–79	2,322	716	5,605	1,718	9,139	2,621
80–84	976	550	2,464	1,172	4,405	2,036
85 and over	358	278	983	730	1,959	1,413
Total	217,013	7,033	503,012	15,514	509,879	17,081

Wales: (*a*) South Wales.

5–9	26,172	269	56,384	522	22,126	184
10–14	26,408	140	55,817	302	21,761	115
15–19	25,066	271	50,550	530	20,908	191
20–24	23,026	307	42,441	528	17,374	217
25–29	22,545	349	39,823	486	16,083	188
30–34	20,573	369	37,284	536	15,064	205
35–39	19,372	404	36,321	682	14,623	230
40–44	17,336	485	32,305	809	13,316	277
45–49	16,246	587	31,276	902	12,822	341
50–54	13,452	711	24,901	1,152	10,305	380
55–59	10,593	750	18,611	1,337	8,038	438
60–64	7,707	841	12,706	1,414	6,039	504
65–69	5,420	829	8,869	1,401	4,760	602
70–74	3,159	811	4,952	1,353	3,006	652
75–79	1,645	628	2,499	935	1,656	513
80–84	611	363	984	507	747	383
85 and over ...	221	145	305	207	259	218
Total ...	239,552	8,259	456,028	13,603	188,887	5,638

Wales: (*b*) North and West Wales.

5–9	—	—	11,961	98	19,864	198
10–14	—	—	12,340	61	20,468	119
15–19	—	—	12,148	114	20,207	157
20–24	—	—	10,441	131	16,578	206
25–29	—	—	9,723	124	14,404	188
30–34	—	—	9,158	124	13,479	194
35–39	—	—	9,122	155	13,328	176
40–44	—	—	9,210	178	13,037	263
45–49	—	—	8,714	219	13,110	331
50–54	—	—	7,825	302	11,554	421
55–59	—	—	6,417	345	10,007	550
60–64	—	—	5,184	454	8,286	681
65–69	—	—	3,988	519	6,737	883
70–74	—	—	2,547	575	4,496	991
75–79	—	—	1,440	554	2,744	993
80–84	—	—	703	395	1,288	646
85 and over	—	—	246	171	444	386
Total	—	—	121,167	4,519	190,031	7,383

TABLE 6 (*continued*).

GEOGRAPHICAL DIVISIONS.

in the Three Years 1920, 1921, and 1922.—MALES.

Greater London.

Age Group.	Population at 1921 Census.	Deaths, 1920–21–22.
5–9...	341,349	3,250
10–14	351,928	1,964
15–19	322,161	2,745
20–24	270,132	2,931
25–29	260,294	2,971
30–34	252,123	3,650
35–39	250,393	4,657
40–44	242,585	5,733
45–49	229,664	7,441
50–54	192,555	8,988
55–59	148,808	9,763
60–64	113,913	11,146
65–69	81,007	11,629
70–74	49,204	11,162
75–79	27,501	9,685
80–84	11,389	5,924
85 and over	4,017	3,142
Total	3,149,023	106,781

APPENDIX II:

ENGLAND AND WALES—

Population Enumerated at 1921 Census, and Deaths Registered

Northern Counties: (*a*) Cheshire and Lancashire.

Age Group.	County Boroughs.		Urban Districts.		Rural Districts.	
	Population at 1921 Census.	Deaths, 1920-21-22.	Population at 1921 Census.	Deaths, 1920-21-22.	Population at 1921 Census.	Deaths, 1920-21-22.
5–9	167,447	1,599	84,815	753	18,774	128
10–14	174,387	1,154	90,587	522	19,505	87
15–19	172,829	1,609	90,292	735	19,928	122
20–24	168,938	1,772	89,641	875	19,036	150
25–29	161,322	2,043	86,767	1,018	18,348	200
30–34	150,421	2,119	81,724	1,000	17,232	191
35–39	145,308	2,433	79,171	1,226	17,136	213
40–44	136,863	2,791	75,809	1,477	16,166	251
45–49	120,648	3,260	68,330	1,639	14,587	308
50–54	98,138	3,930	56,580	2,072	12,283	371
55–59	76,926	4,514	45,303	2,386	10,249	423
60–64	60,350	5,300	35,365	2,950	8,288	538
65–69	45,091	5,975	26,944	3,538	6,305	749
70–74	28,805	6,524	17,050	3,775	4,333	797
75–79	16,501	5,720	9,727	3,305	2,599	787
80–84	6,793	3,486	3,990	2,160	1,215	564
85 and over	2,347	1,744	1,429	1,030	489	389
Total	1,733,114	55,973	943,524	30,461	206,473	6,268

Northern Counties: (*b*) West Riding of Yorkshire.

5–9	77.676	680	52,470	441	19,474	161
10–14	81,707	559	54,186	327	19,508	106
15–19	84,349	744	52,800	418	16,626	124
202–4	84,343	847	51,564	488	14,773	137
25–29	78,519	876	48,129	515	14,275	182
30–34	71,707	1,019	44,858	534	13,976	193
35–39	70,117	1,096	43,841	677	13,410	194
40–44	67,394	1,294	41,644	732	12,680	205
45–49	60,908	1,503	38,094	888	11,012	243
50–54	49,624	1,865	30,976	1,065	9,031	290
55–59	39,997	2,109	25,232	1,241	7,358	320
60–64	31,042	2,530	20,007	1,614	6,059	425
65–69	23,699	3,105	15,526	1,941	4,792	529
70–74	15,159	3,306	9,874	2,038	3,223	580
75–79	8,653	2,971	5,674	1,843	1,926	567
80–84	3,766	2,000	2,415	1,184	853	391
85 and over	1,244	976	818	627	366	260
Total	849,904	27,480	538,108	16,573	169,342	4,907

Northern Counties: (*c*) Durham and Northumberland.

5–9	44,777	482	43,314	466	29,696	307
10–14	45,908	334	43,707	345	29,956	195
15–19	44,964	429	39,064	352	26,682	197
20–24	40,696	460	34,523	449	23,109	264
25–29	36,688	532	32,331	444	21,319	274
30–34	33.368	543	29,298	466	19,457	349
35–39	31,248	623	27,633	503	18,389	322
40–44	29,069	694	24,901	538	16,409	336
45–49	25,488	761	22,192	604	14,956	375
50–54	20,017	861	17,213	631	11,981	382
55–59	16,183	978	13,750	774	9,509	492
60–64	12,360	1,135	10,574	897	7,329	583
65–69	9,218	1,287	7,841	1,038	5,539	663
70–74	6,098	1,413	5,221	1,088	3,650	713
75–79	3,534	1,200	2,853	1,014	2,027	656
80–84	1,525	828	1,202	706	991	472
85 and over	572	470	522	360	366	321
Total	401,713	13,030	356,139	10,675	241,365	6,901

TABLE 6 (*continued*).

GEOGRAPHICAL DIVISIONS.

in the Three Years 1920, 1921, and 1922.—FEMALES.

Northern Counties: (*d*) Yorkshire, East Riding and North Riding, Cumberland and Westmorland.

Age Group.	County Boroughs.		Urban Districts.		Rural Districts.	
	Population at 1921 Census.	Deaths, 1920–21–22.	Population at 1921 Census.	Deaths, 1920–21–22.	Population at 1921 Census.	Deaths, 1920–21–22.
5–9	24,007	233	19,235	160	16,579	98
10–14	24,312	155	19,556	112	16,872	92
15–19	22,319	224	18,842	147	16,699	112
20–24	21,594	260	18,102	173	14,660	146
25–29	19,985	266	17,386	191	14,399	156
30–34	18,125	275	16,630	191	13,848	167
35–39	17,441	311	16,222	229	13,495	179
40–44	16,208	355	15,061	275	12,580	177
45–49	13,926	367	13,275	274	11,646	228
50–54	11,258	388	11,423	352	10,239	268
55–59	8,746	538	9,428	396	9,061	357
60–64	6,838	571	8,018	541	7,710	495
65–69	5,293	638	6,385	697	6,278	624
70–74	3,568	714	4,507	818	4,376	664
75–79	2,078	674	2,838	739	2,818	735
80–84	958	485	1,289	582	1,372	606
85 and over	372	299	520	399	640	475
Total	217,028	6,753	198,717	6,276	173,272	5,579

Central Counties.

5–9	141,324	1,236	110.817	866	98,274	635
10–14	146,952	790	115,879	559	100,459	487
15–19	147,976	1,092	114,933	882	89,191	693
20–24	144,782	1,306	106,567	978	82,598	823
25–29	134,101	1,420	98,094	1,073	79,559	879
30–34	121,693	1,526	90,342	1,024	76,139	831
35–39	116,670	1,773	87,382	1,185	74,274	982
40–44	109,230	1,983	82,344	1,222	70,568	1,073
45–49	96,897	2,303	74,294	1,578	64,838	1,233
50–54	79,321	2,587	61,537	1,771	56,157	1,461
55–59	63,141	3,025	50,279	2,110	48,380	1,770
60–64	49,463	3,639	40,428	2,668	40,212	2,258
65–69	38,928	4,273	32,919	3,396	33,640	3,099
70–74	26,066	4,709	23,163	3,924	24,901	3,750
75–79	16,065	4,672	14,508	4,051	16,246	4,126
80–84	7,547	3,471	7,282	3,157	8,220	3,357
85 and over	3,255	2,257	3,303	2,196	3,976	2,754
Total	1,443,411	42,062	1,114,071	32,640	967,632	30,211

Southern Counties

5–9	50,639	389	113,133	841	86,578	451
10–14	54,830	262	121,699	584	90,272	381
15–19	56,022	395	123,337	799	80,660	540
20–24	53,605	465	118,886	947	74,835	676
25–29	52,644	557	116,594	1,043	75,831	760
30–34	51,508	568	113,682	1,127	76,123	785
35–39	50,585	672	112,660	1,361	75,421	894
40–44	47,440	735	106,642	1,499	71,566	1,024
45–49	43,751	941	97,682	1,925	67,400	1,163
50–54	38,342	1,126	85,159	2,244	60,594	1.548
55–59	32,159	1,320	71,264	2,617	52,352	1,823
60–64	26,342	1,605	58,497	3,137	44,028	2,290
65–69	21,084	1,931	47,508	4,140	36,254	3,097
70–75	15,911	2,384	35,641	5,070	26,944	3,782
75–79	10,413	2,577	23,189	5,597	17,712	4,234
80–84	5,293	2,087	11,968	4,649	9,224	3,556
85 and over	2,632	1,774	6,073	4,050	4,640	3,066
Total	613,200	19,788	1,363,614	41,630	950,434	30,070

APPENDIX II.

ENGLAND AND WALES

Population Enumerated at 1921 Census, and Deaths Registered in the Three Years 1920, 1921, and 1922.—FEMALES.

Eastern Counties.

Age Group.	County Boroughs.		Urban Districts.		Rural Districts.	
	Population at 1921 Census.	Deaths, 1920–21–22.	Population at 1921 Census.	Deaths, 1920–21–22.	Population at 1921 Census.	Deaths, 1920–21–22.
5–9	23,531	183	53,314	421	52,306	304
10–14	24,578	121	57,181	313	53,776	243
15–19	24,596	186	56,148	384	44,404	335
20–24	23,860	250	52,587	475	39,180	440
25–29	22,202	225	49,112	490	39,283	416
30–34	21,326	249	46,694	513	39,388	439
35–39	21,043	294	45,803	566	38,959	447
40–44	19,216	310	42,944	610	36,826	534
45–49	17,006	348	38,970	728	34,586	634
50–54	14,793	393	32,740	860	31,153	784
55–59	11,986	456	26,718	1,003	27,478	906
60–64	10,153	590	21,479	1,269	23,233	1,232
65–69	7,986	725	17,258	1,543	20,020	1,717
70–74	5,874	895	12,705	1,896	15,638	2,122
75–79	3,683	957	8,347	2,032	10,758	2,532
80–84	1,774	733	4,142	1,681	5,758	2,302
85 and over	784	587	2,045	1,334	3,056	2,146
Total	254,391	7,502	568,187	16,118	515,802	17,533

Wales: (*a*) South Wales.

5–9	26,191	236	55,415	536	21,869	188
10–14	26,477	185	55,582	345	21,384	120
15–19	26,042	291	47,943	492	19,414	183
20–24	25,054	309	41,082	566	17,284	259
25–29	23,272	337	39,649	598	16,316	241
30–34	20,339	327	35,222	566	14,806	224
35–39	18,744	326	32,849	630	14,194	238
40–44	17,087	325	29,215	648	12,690	258
45–49	14,985	419	25,663	683	11,422	271
50–54	12,326	507	20,202	815	9,427	325
55–59	9,797	489	15,102	832	7,275	370
60–64	7,310	612	11,032	969	5,916	450
65–69	5,424	640	8,081	1,050	4,647	537
70–74	3,664	736	5,143	1,156	3,248	582
75–79	2,240	697	3,102	990	2,114	584
80–84	1,036	469	1,439	665	973	457
85 and over	474	303	559	378	450	314
Total	240,462	7,208	427,280	11,919	183,429	5,601

Wales: (*b*) North and West Wales.

5–9	—	—	12,058	87	19,347	164
10–14	—	—	12,929	66	20,087	126
15–19	—	—	14,169	113	17,689	192
20–24	—	—	13,726	114	15,817	210
25–29	—	—	12,776	150	15,577	217
30–34	—	—	12,089	128	15,000	230
35–39	—	—	11,939	148	14,803	262
40–44	—	—	11,522	208	14,288	290
45–49	—	—	10,697	235	13,445	322
50–54	—	—	9,433	274	11,869	413
55–59	—	—	7,943	308	10,392	497
60–64	—	—	6,595	427	8,706	583
65–69	—	—	5,272	481	7,153	805
70–74	—	—	3,773	613	5,428	979
75–79	—	—	2,304	661	3,441	1,099
80–84	—	—	1,118	544	1,845	833
85 and over	—	—	457	339	786	597
Total	—	—	148,800	4,896	195.673	7,819

TABLE 6 (*continued*).

—GEOGRAPHICAL DIVISIONS.

in the Three Years 1920, 1921, and 1922.—FEMALES.

Greater London.

Age Group.	Population at 1921 Census.	Deaths, 1920–21–22.
5–9...	338,803	3,153
10–14	354,435	2,090
15–19	361,462	2,720
20–24	363,608	3,153
25–29	343,945	3,378
30–34	321,107	3,583
35–39	310,035	4,148
40–44	286,261	4,765
45–49	257,434	5,742
50–54	214,510	6,811
55–59	168,698	7,682
60–64	133,464	8,919
65–69	103,238	10,606
70–74	73,571	12,167
75–79	46,056	12,470
80–84	22,643	9,698
85 and over	10,605	7,352
Total	3,709,875	108,437

APPENDIX III.

ENGLAND AND WALES—GEOGRAPHICAL DIVISIONS—COUNTY BOROUGHS.

Ratio of Actual Deaths to Expected Deaths as computed by English Life Table No. 9.

Summary of Results in Age Groups.—MALES.

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	South Wales.	Total.
	Cheshire and Lancashire.	Yorks., West Riding.	Durham and North-umberland	Yorks, E.R. and N.R., Cumber-land and West-morland.					
5–9 ...	1·186	1·095	1·274	1·107	1·046	·838	·625	1·182	1·086
10–14 ...	1·170	1·061	1·322	1·176	1·004	·789	·952	·971	1·071
15–19 ...	1·160	1·147	1·452	1·167	·971	·898	1·019	1·296	1·111
20–24 ...	1·133	·964	1·439	1·151	·940	1·078	1·029	1·185	1·077
25–29 ...	1·106	1·026	1·302	1·230	·961	1·057	·935	1·277	1·075
30–34 ...	1·178	1·105	1·357	1·287	·984	1·058	·875	1·245	1·117
35–39 ...	1·297	1·160	1·407	1·190	1·058	·988	·890	1·155	1·168
40–44 ...	1·352	1·183	1·347	1·198	1·097	·922	·822	1·226	1·188
45–49 ...	1·332	1·166	1·266	1·298	1·122	1·011	·912	1·238	1·196
50–54 ...	1·323	1·216	1·266	1·226	1·061	·935	·873	1·257	1·173
55–59 ...	1·315	1·214	1·317	1·156	1·104	·941	·909	1·161	1·176
60–64 ...	1·317	1·177	1·274	1·156	1·049	·925	·856	1·165	1·148
65–69 ...	1·265	1·237	1·282	1·210	1·073	·889	·942	1·071	1·142
70–74 ...	1·278	1·259	1·305	1·170	1·049	·866	·928	1·143	1·134
75–99 ...	1·183	1·218	1·230	1·111	1·054	·882	·878	1·087	1·086
80–84 ...	1·125	1·171	1·245	·943	1·057	·950	1·096	1·153	1·081
85 and over	1·027	1·044	1·020	1·046	·997	·912	·991	·817	·984
5–19 ...	1·173	1·105	1·348	1·145	1·009	·846	·845	1·170	1·091
20–49 ...	1·258	1·120	1·345	1·231	1·046	1·006	·899	1·221	1·150
50–69 ...	1·303	1·211	1·285	1·187	1·072	·919	·898	1·157	1·158
70 and over	1·202	1·215	1·247	1·095	1·047	·894	·953	1·094	1·094
5 and over	*1·256*	*1·179*	*1·298*	*1·172*	*1·053*	*·923*	*·912*	*1·161*	*1·134*

TABLE 1 (*a*).

DIVISIONS—COUNTY BOROUGHS.

as computed by English Life Table No. 9.

Summary of Results in Age Groups.—FEMALES.

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	South Wales.	Total.
	Cheshire and Lancashire	Yorks., West Riding.	Durham and North-umberland.	Yorks., E.R. and and N.R., Cumber-land and West-morland.					
5–9 ...	1·120	1·025	1·254	1·136	1·022	·900	·909	1·052	1·061
10–14 ...	1·149	1·184	1·260	1·107	·929	·827	·854	1·212	1·065
15–19 ...	1·188	1·126	1·218	1·281	·943	·901	·966	1·426	1·096
20–24 ...	1·073	1·027	1·155	1·232	·922	·887	1·071	1·261	1·030
25–29 ...	1·154	1·016	1·320	1·213	·963	·964	·923	1·318	1·078
30–34 ...	1·131	1·141	1·307	1·219	1·008	·885	·938	1·291	1·090
35–39 ...	1·165	1·088	1·387	1·242	1·057	·924	·972	1·210	1·112
40–44 ...	1·177	1·109	1·379	1·265	1·049	·895	·931	1·098	1·108
45–49 ...	1·200	1·095	1·325	1·169	1·055	·955	·908	1·242	1·117
50–54 ...	1·248	1·171	1·340	1·073	1·015	·915	·828	1·281	1·121
55–59 ...	1·299	1·167	1·338	1·361	1·060	·909	·842	1·105	1·148
60–64 ...	1·266	1·175	1·323	1·203	1·060	·878	·838	1·206	1·130
65–69 ...	1·232	1·218	1·298	1·121	1·020	·851	·844	1·097	1·102
70–74 ...	1·287	1·239	1·317	1·137	1·027	·851	·866	1·141	1·118
75–79 ...	1·216	1·204	1·191	1·138	1·020	·868	·911	1·091	1·081
80–84 ...	1·176	1·214	1·235	1·154	1·049	·895	·944	1·034	1·078
85 and over	1·078	1·141	1·204	1·143	·993	·943	1·039	·902	1·028
5–19 ...	1·152	1·104	1·243	1·177	·969	·881	·915	1·226	1·075
20–49 ...	1·156	1·083	1·317	1·222	1·015	·921	·952	1·233	1·093
50–69 ...	1·259	1·186	1·322	1·186	1·038	·882	·839	1·165	1·123
70 and over	1·217	1·211	1·245	1·142	1·024	·884	·926	1·064	1·085
5 and over	*1·209*	*1·161*	*1·289*	*1·180*	*1·022*	*·890*	*·904*	*1·155*	*1·098*

APPENDIX III.

ENGLAND AND WALES—GEOGRAPHICAL DIVISIONS—URBAN DISTRICTS.

Ratio of Actual Deaths to Expected Deaths as computed by English Life Table No. 9.

Summary of Results in Age Groups.—MALES.

Age Group	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	Wales.		Total.
	Cheshire and Lancashire.	Yorks., West Riding.	Durham and Northumberland.	Yorks., E.R. and N.R., Cumberland and Westmorland.				South Wales.	North and West Wales.	
5–9 ...	1·167	1·078	1·148	1·064	·867	·847	·872	1·062	·937	·981
10–14 ...	1·152	1·113	1·254	1·089	·879	·809	·776	·990	·902	·966
15–19 ...	1·021	1·062	1·299	1·085	·915	·872	·887	1·258	1·124	1·007
20–24 ...	·912	·961	1·135	1·116	·923	·977	·901	1·106	1·115	·978
25–29 ...	·937	·883	1·134	·951	·982	·900	·936	1·007	1·051	·958
30–34 ...	1·003	·953	1·100	1·042	·881	·919	·840	·998	·939	·948
35–39 ...	1·052	·978	1·049	·950	·897	·837	·795	1·039	·942	·935
40–44 ...	·946	·879	·966	1·025	·847	·845	·823	1·097	·846	·900
45–49 ...	1·049	·951	1·035	·935	·889	·857	·845	·988	·861	·931
50–54 ...	1·046	·898	1·097	·871	·864	·836	·847	1·101	·919	·927
55–59 ...	1·149	1·012	1·116	·926	·937	·858	·829	1·178	·881	·978
60–64 ...	1·166	1·098	1·103	·887	·930	·827	·848	1·189	·936	·978
65–69 ...	1·163	1·152	1·182	·951	·969	·834	·858	1·107	·912	·991
70–74 ...	1·164	1·138	1·204	1·010	·975	·859	·865	1·217	1·006	1·002
75–79 ...	1·146	1·146	1·128	·948	·964	·877	·873	1·066	1·096	·981
80–84 ...	1·142	1·158	1·156	1·012	·997	·895	·913	·995	1·091	·993
85 and over ...	1·060	1·193	1·033	·947	·977	·920	·927	·887	·888	·962
5–19 ...	1·109	1·081	1·228	1·078	·888	·846	·852	1·112	·998	·986
20–49 ...	·993	·934	1·058	·994	·896	·876	·848	1·037	·934	·936
50–69 ...	1·136	1·053	1·129	·914	·931	·838	·847	1·144	·913	·972
70 and over ...	1·146	1·148	1·156	·983	·976	·881	·886	1·099	1·039	·989
5 and over	*1·097*	*1·047*	*1·125*	*·966*	*·933*	*·862*	*·861*	*1·098*	*·966*	*·970*

TABLE 1 (*b*).

Summary of Results in Age Groups.—FEMALES.

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	Wales.		Total.
	Cheshire and Lancashire.	Yorks, West Riding.	Durham and Northumberland	Yorks, E.R. and N.R., Cumberland and Westmorland.				South Wales.	North and West Wales.	
5–9 ...	1·041	·982	1·259	·973	·915	·872	·922	1·130	·841	·982
10–14 ...	1·000	1·046	1·371	·995	·834	·833	·949	1·079	·884	·963
15–19 ...	1·038	1·011	1·150	·996	·980	·826	·874	1·311	1·019	·989
20–24 ...	1·000	·968	1·331	·978	·939	·814	·924	1·409	·850	·984
25–29 ...	1·066	·974	1·251	1·002	·997	·815	·909	1·374	1·068	1·004
30–34 ...	·982	·956	1·277	·923	·909	·797	·882	1·291	·851	·947
35–39 ...	1·079	1·075	1·267	·982	·943	·841	·860	1·335	·862	·993
40–44 ...	1·126	1·015	1·248	1·055	·857	·813	·820	1·281	1·042	·968
45–49 ...	1·064	1·035	1·208	·916	·943	·875	·829	1·182	·975	·975
50–54 ...	1·142	1·071	1·142	·960	·897	·821	·818	1·257	·905	·966
55–59 ...	1·166	1·089	1·246	·930	·929	·813	·831	1·219	·859	·974
60–64 ...	1·202	1·162	1·222	·972	·951	·773	·851	1·266	·933	·984
65–69 ...	1·220	1·162	1·230	1·014	·959	·810	·831	1·208	·848	·988
70–74 ...	1·258	1·173	1·184	1·031	·962	·808	·848	1·277	·923	·989
75–79 ...	1·191	1·139	1·246	·913	·979	·847	·854	1·119	1·006	·978
80–84 ...	1·239	1·125	1·345	1·025	·987	·880	·924	1·056	1·108	1·001
85 and over ...	1·039	1·106	1·006	1·091	·938	·930	·931	·962	1·064	·963
5–19 ...	1·029	1·009	1·253	·987	·917	·845	·912	1·174	·920	·980
20–49 ...	1·058	1·009	1·259	·975	·929	·830	·864	1·304	·948	·978
50–69 ...	1·188	1·129	1·214	·975	·939	·803	·834	1·236	·883	·980
70 and over ...	1·207	1·144	1·211	1·001	·969	·860	·882	1·134	1·012	·984
5 and over	*1·149*	*1·094*	*1·230*	*·986*	*·947*	*·836*	*·866*	*1·219*	*·952*	*·981*

APPENDIX III.

ENGLAND AND WALES—GEOGRAPHICAL DIVISIONS—RURAL DISTRICTS.

Ratio of Actual Deaths to Expected Deaths as computed by English Life Table No. 9.

Summary of Results in Age Groups.—MALES.

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	Wales.		Total.
	Cheshire and Lancashire.	Yorks, West Riding.	Durham and Northumberland	Yorks, E.R. and N.R., Cumberland and Westmorland.				South Wales.	North and West Wales.	
5–9 ...	1·011	1·126	1·111	·876	·787	·645	·645	·950	1·142	·821
10–14 ...	·819	·881	1·031	·630	·832	·785	·831	·967	1·064	·849
15–19 ...	·847	·972	1·150	·834	·760	·694	·779	1·096	·931	·824
20–24 ...	·888	·839	1·000	·824	·867	·875	·823	1·109	1·105	·899
25–29 ...	·869	·823	·944	·849	·869	·921	·970	·965	1·077	·915
30–34 ...	·899	·822	·914	·905	·755	·832	·751	·945	1·000	·828
35–39 ...	·855	·971	·877	·717	·748	·786	·697	·872	·732	·782
40–44 ...	·833	·769	·823	·640	·741	·748	·640	·911	·884	·753
45–49 ...	·819	·688	·804	·706	·718	·734	·633	·911	·864	·738
50–54 ...	·759	·806	·866	·653	·710	·683	·601	·877	·867	·718
55–59 ...	·812	·943	·889	·776	·728	·723	·660	·894	·901	·759
60–64 ...	·871	·870	·941	·669	·760	·697	·632	·892	·878	·751
65–69 ...	·926	·960	·932	·814	·796	·743	·714	·886	·918	·800
70–74 ...	·893	·973	·969	·823	·838	·765	·713	·966	·982	·822
75–79 ...	1·003	·923	1·005	·878	·909	·800	·817	·882	1·031	·873
80–84 ...	·998	1·048	1·074	1·008	·920	·896	·888	·985	·963	·928
85 and over ...	1·019	·998	·969	·992	1·048	·955	·910	1·054	1·103	·984
5–19 ...	·899	1·009	1·105	·800	·788	·699	·741	1·007	1·044	·829
20–49 ...	·853	·806	·880	·754	·769	·795	·721	·941	·920	·801
50–69 ...	·854	·903	·912	·740	·756	·716	·661	·888	·895	·763
70 and over ...	·963	·974	1·000	·902	·906	·832	·816	·953	1·007	·883
5 and over	*·893*	*·910*	*·947*	*·811*	*·818*	*·777*	*·744*	*·931*	*·952*	*·821*

TABLE 1 (*c*).

DIVISIONS—RURAL DISTRICTS.

as computed by English Life Table No. 9.

Summary of Results in Age Groups.—FEMALES.

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	Wales.		Total.
	Cheshire and Lancashire.	Yorks, West Riding.	Durham and Northumberland	Yorks, E.R. and N.R., Cumberland and Westmorland.				South Wales.	North and West Wales.	
5–9 ...	·791	·962	1·209	·689	·757	·610	·678	1·003	·986	·784
10–14 ...	·773	·944	1·128	·950	·839	·730	·784	·973	1·091	·856
15–19 ...	·781	·952	·944	·858	·991	·853	·964	1·203	1·385	·962
20–24 ...	·805	·948	1·169	1·019	1·019	·922	1·149	1·533	1·357	1·053
25–29 ...	·991	1·163	1·171	·987	1·007	·910	·965	1·345	1·268	1·026
30–34 ...	·890	1·109	1·441	·969	·877	·829	·895	1·217	1·233	·958
35–39 ...	·865	1·008	1·218	·923	·919	·825	·798	1·166	1·231	·927
40–44 ...	·897	·933	1·183	·813	·880	·826	·838	1·175	1·174	·909
45–49 ...	·937	·979	1·113	·870	·844	·767	·814	1·052	1·062	·870
50–54 ...	·941	1·001	·993	·816	·810	·796	·784	1·073	1·084	·856
55–59 ...	·913	·963	1·145	·872	·809	·772	·730	1·125	1·059	·846
60–64 ...	·936	1·011	1·146	·925	·810	·750	·764	1·096	·965	·842
65–69 ...	1·104	1·026	1·113	·924	·857	·794	·797	1·074	1·046	·882
70–74 ...	1·045	1·022	1·110	·862	·856	·798	·771	1·018	1·025	·865
75–79 ...	1·062	1·032	1·135	·915	·891	·838	·825	·969	1·120	·901
80–84 ...	1·048	1·040	1·083	1·016	·929	·873	·905	1·067	1·028	·935
85 and over ...	1·109	1·013	1·269	1·061	·978	·922	·986	·981	1·075	·983
5–19 ...	·783	·954	1·100	·817	·857	·724	·797	1·061	1·146	·863
20–49 ...	·901	1·016	1·209	·917	·913	·834	·887	1·229	1·200	·944
50–69 ...	·986	1·004	1·105	·895	·826	·778	·772	1·091	1·033	·859
70 and over ...	1·060	1·028	1·132	·947	·906	·851	·864	1·007	1·062	·914
5 and over	*·981*	*1·011*	*1·141*	*·917*	*·880*	*·819*	*·838*	*1·090*	*1·083*	*·900*

APPENDIX III.

ENGLAND AND WALES—GEOGRAPHICAL DIVISIONS.—

Ratio of Actual Deaths to Expected Deaths

Summary of Results in Age Groups.—MALES.

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties	Wales.		Total (excluding "Greater London.")	"Greater London"
	Cheshire and Lancashire.	Yorks, West Riding.	Durham and Northumberland.	Yorks, E.R. and N.R., Cumberland and Westmorland.				South Wales.	North and West Wales.		
5–9 ...	1·168	1·093	1·187	1·028	·916	·775	·735	1·068	1·065	·980	1·095
10–14 ...	1·139	1·056	1·222	·990	·915	·797	·829	·980	1·003	·975	1·020
15–19 ...	1·091	1·095	1·315	1·031	·890	·811	·862	1·233	1·003	·997	1·022
20–24 ...	1·042	·948	1·217	1·041	·914	·958	·892	1·128	1·108	·996	·964
25–29 ...	1·034	·954	1·153	1·033	·942	·939	·949	1·076	1·067	·994	·942
30–34 ...	1·101	1·020	1·155	1·099	·889	·916	·812	1·057	·975	·985	1·005
35–39 ...	1·184	1·076	1·148	·978	·921	·850	·774	1·036	·817	·988	1·030
40–44 ...	1·179	1·031	1·085	·981	·920	·827	·752	1·093	·868	·976	1·035
45–49 ...	1·201	1·040	1·073	1·009	·936	·846	·773	1·039	·863	·986	1·110
50–54 ...	1·189	1·063	1·108	·938	·899	·802	·750	1·097	·888	·967	1·111
55–59 ...	1·218	1·114	1·138	·956	·937	·825	·768	1·112	·893	·991	1·076
60–64 ...	1·227	1·113	1·126	·895	·920	·796	·750	1·114	·900	·972	1·045
65–69 ...	1·200	1·173	1·154	·978	·948	·809	·803	1·041	·916	·984	1·006
70–74 ...	1·198	1·178	1·178	·979	·950	·823	·798	1·128	·990	·984	1·010
75–79 ...	1·149	1·148	1·129	·958	·970	·846	·844	1·019	1·053	·972	1·003
80–84 ...	1·113	1·145	1·163	·994	·982	·905	·922	1·033	1·008	·990	1·005
85 and over	1·037	1·082	1·008	·990	1·013	·934	·924	·923	1·027	·977	·981
5–19 ...	1·132	1·084	1·241	1·020	·906	·794	·804	1·104	1·027	·985	1·050
20–49 ...	1·141	1·021	1·128	1·017	·922	·874	·808	1·068	·926	·986	1·030
50–69 ...	1·209	1·121	1·133	·943	·929	·808	·771	1·089	·902	·979	1·054
70 and over	1·154	1·155	1·144	·977	·970	·863	·857	1·055	1·018	·981	1·004
5 and over ...	*1·171*	*1·099*	*1·145*	*·977*	*·939*	*·841*	*·814*	*1·076*	*·957*	*·982*	*1·033*

TABLE 1 (*d*)

COMBINED DATA.

as computed by English Life Table No. 9.

Summary of Results in Age Groups.—FEMALES.

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	Wales.		Total (excluding "Greater London.")	"Greater London."
	Cheshire and Lancashire.	Yorks, West Riding.	Durham and Northumberland.	Yorks, E.R. and N.R., Cumberland and Westmorland.				South Wales.	North and West Wales.		
5–9 ...	1·072	1·002	1·245	·960	·914	·787	·820	1·083	·930	·963	1·089
10–14 ...	1·076	1·106	1·268	1·027	·874	·797	·866	1·091	1·009	·976	1·022
15–19 ...	1·112	1·068	1·128	1·066	·967	·851	·924	1·321	1·222	1·025	·961
20–24 ...	1·031	·999	1·220	1·090	·951	·863	1·030	1·390	1·121	1·017	·887
25–29 ...	1·114	1·017	1·260	1·079	·985	·876	·931	1·351	1·178	1·038	·895
30–34 ...	1·066	1·074	1·328	1·047	·942	·826	·898	1·275	1·062	1·005	·896
35–39 ...	1·116	1·075	1·304	1·061	·984	·854	·860	1·263	1·066	1·024	·931
40–44 ...	1·140	1·059	1·287	1·063	·943	·834	·848	1·205	1·135	1·009	·962
45–49 ...	1·135	1·063	1·233	·993	·962	·857	·838	1·171	1·024	1·004	·990
50·54 ...	1·189	1·119	1·186	·954	·920	·832	·807	1·223	1·005	·997	·989
55–59 ...	1·223	1·119	1·259	1·049	·944	·819	·791	1·163	·972	1·005	1·008
60–64 ...	1·218	1·153	1·245	1·026	·949	·786	·812	1·207	·951	·999	·963
65–69 ...	1·218	1·177	1·229	1·014	·949	·813	·818	1·140	·962	·998	·955
70–74 ...	1·256	1·191	1·220	1·002	·949	·813	·816	1·166	·983	·996	·940
75·79 ...	1·194	1·161	1·196	·974	·962	·848	·850	1·068	1·074	·988	·950
80–84 ...	1·184	1·162	1·229	1·056	·987	·880	·918	1·052	1·058	1·003	·975
85 and over	1·069	1·110	1·149	1·091	·970	·929	·974	·949	1·071	·988	·977
5–19 ...	1·087	1·053	1·211	1·014	·922	·812	·868	1·164	1·054	·988	1·025
20–49 ...	1·106	1·051	1·271	1·051	·961	·851	·890	1·267	1·087	1·015	·933
50–69 ...	1·213	1·147	1·232	1·014	·942	·810	·809	1·180	·969	·999	·975
70 and over	1·199	1·166	1·205	1·019	·965	·862	·880	1·077	1·043	·994	·957
5 and over ...	*1·171*	*1·121*	*1·232*	*1·024*	*·954*	*·841*	*·860*	*1·169*	*1·028*	*1·000*	*·962*

Appendix III.

ENGLAND AND WALES—

RELATIVE DEATH RATES OF COUNTY

MALES.

$$\left\{\frac{\text{Actual Deaths}}{\text{Expected Deaths}} \text{ in County Boroughs}\right\} \div \left\{\frac{\text{Actual Deaths}}{\text{Expected Deaths}} \text{ in Rural Districts}\right\}$$

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	South Wales.	Total.
	Cheshire and Lancs.	Yorks., West Riding.	Durham and Northumberland.	Yorks, E.R. and N.R., Cumberland and Westmorland.					
5–9 ...	1·173	·972	1·147	1·264	1·329	1·299	·969	1·244	1·323
10–14 ...	1·429	1·204	1·282	1·867	1·207	1·005	1·146	1·004	1·261
15–19 ...	1·370	1·180	1·263	1·399	1·278	1·294	1·308	1·182	1·348
20–24 ...	1·276	1·149	1·439	1·397	1·084	1·232	1·250	1·069	1·198
25–29 ...	1·273	1·247	1·379	1·449	1·106	1·148	·964	1·323	1·175
30–34 ...	1·310	1·344	1·485	1·422	1·303	1·272	1·165	1·317	1·349
35–39 ...	1·517	1·195	1·604	1·660	1·414	1·257	1·277	1·325	1·494
40–44 ...	1·623	1·538	1·637	1·872	1·480	1·233	1·284	1·346	1·578
45–49 ...	1·626	1·695	1·575	1·839	1·563	1·377	1·441	1·359	1·621
50–54 ...	1·743	1·509	1·462	1·877	1·494	1·369	1·453	1·433	1·634
55–59 ...	1·619	1·287	1·481	1·490	1·516	1·302	1·377	1·299	1·549
60–64 ...	1·512	1·353	1·354	1·728	1·380	1·327	1·354	1·306	1·529
65–69 ...	1·366	1·289	1·376	1·486	1·348	1·197	1·319	1·209	1·428
70–74 ...	1·431	1·294	1·347	1·422	1·252	1·132	1·302	1·183	1·380
75–79 ...	1·179	1·320	1·224	1·265	1·160	1·102	1·075	1·232	1·244
80–84 ...	1·127	1·117	1·159	·936	1·149	1·060	1·234	1·171	1·165
85 and over	1·008	1·046	1·053	1·054	·951	·955	1·089	·775	1·000
5–19 ...	1·305	1·095	1·220	1·431	1·280	1·210	1·140	1·162	1·316
20–49 ...	1·475	1·390	1·528	1·633	1·360	1·265	1·247	1·298	1·436
50–69 ...	1·526	1·341	1·409	1·604	1·418	1·284	1·359	1·303	1·518
70 and over	1·248	1·247	1·247	1·214	1·156	1·075	1·168	1·148	1·239
5 and over	*1·406*	*1·296*	*1·371*	*1·444*	*1·287*	*1·188*	*1·227*	*1·247*	*1·381*

Table 2.

GEOGRAPHICAL DIVISIONS.

BOROUGHS AND RURAL DISTRICTS.

FEMALES.

$$\left\{\frac{\text{Actual Deaths}}{\text{Expected Deaths}} \text{ in County Boroughs}\right\} \div \left\{\frac{\text{Actual Deaths}}{\text{Expected Deaths}} \text{ in Rural Districts.}\right\}$$

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	South Wales.	Total.
	Cheshire and Lancs.	Yorks., West Riding.	Durham and Northumberland.	Yorks, E.R. and and N.R., Cumberland and Westmorland.					
5–9 ...	1·416	1·065	1·037	1·649	1·350	1·475	1·341	1·049	1·353
10–14 ...	1·486	1·254	1·117	1·165	1·107	1·133	1·089	1·246	1·244
15–19 ...	1·521	1·183	1·290	1·493	·952	1·056	1·002	1·185	1·139
20–24 ...	1·333	1·083	·988	1·209	·905	·962	·932	·823	·978
25–29 ...	1·164	·874	1·127	1·229	·956	1·059	·956	·980	1·051
30–34 ...	1·271	1·029	·907	1·258	1·149	1·068	1·048	1·061	1·138
35–39 ...	1·347	1·079	1·139	1·346	1·150	1·120	1·218	1·038	1·200
40–44 ...	1·312	1·189	1·166	1·556	1·192	1·084	1·111	·934	1·219
45–49 ...	1·281	1·118	1·190	1·344	1·250	1·245	1·115	1·181	1·284
50–54 ...	1·326	1·170	1·349	1·315	1·253	1·149	1·056	1·194	1·310
55–59 ...	1·423	1·212	1·169	1·561	1·310	1·177	1·153	·982	1·357
60–64 ...	1·353	1·162	1·154	1·301	1·309	1·171	1·097	1·100	1·342
65–69 ...	1·116	1·187	1·166	1·213	1·190	1·072	1·059	1·021	1·249
70–74 ...	1·232	1·212	1·186	1·319	1·200	1·066	1·123	1·121	1·292
75–79 ...	1·145	1·167	1·049	1·244	1·145	1·036	1·104	1·126	1·200
80–84 ...	1·122	1·167	1·140	1·136	1·129	1·025	1·043	·969	1·153
85 and over	·972	1·126	·949	1·077	1·015	1·023	1·054	·919	1·046
5–19 ...	1·471	1·157	1·130	1·441	1·131	1·217	1·148	1·156	1·246
20–49 ...	1·283	1·066	1·089	1·333	1·112	1·104	1·073	1·003	1·158
50–69 ...	1·277	1·181	1·196	1·325	1·257	1·134	1·087	1·068	1·307
70 and over	1·148	1·178	1·100	1·206	1·130	1·039	1·072	1·057	1·187
5 and over	*1·233*	*1·148*	*1·130*	*1·287*	*1·161*	*1·087*	*1·079*	*1·060*	*1·220*

APPENDIX III.

ENGLAND AND WALES—

RELATIVE DEATH RATES OF

MALES.

$$\left\{\frac{\text{Actual Deaths}}{\text{Expected Deaths}} \text{ in Urban Districts}\right\} \div \left\{\frac{\text{Actual Deaths}}{\text{Expected Deaths}} \text{ in Rural Districts}\right\}$$

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	Wales.		Total.
	Cheshire and Lancs.	Yorks., West Riding.	Durham and Northumberland	Yorks., E.R. and N.R., Cumberland and Westmorland.				South Wales.	North and West Wales.	
5–9 ...	1·154	·957	1·033	1·215	1·102	1·313	1·352	1·118	·820	1·195
10–14 ...	1·407	1·263	1·216	1·729	1·056	1·031	·934	1·024	·848	1·138
15–19 ...	1·205	1·093	1·130	1·301	1·204	1·256	1·139	1·148	1·207	1·222
20–24 ...	1·027	1·145	1·135	1·354	1·065	1·117	1·095	·997	1·009	1·088
25–29 ...	1·078	1·073	1·201	1·120	1·130	·977	·965	1·044	·976	1·047
30–34 ...	1·116	1·159	1·204	1·151	1·167	1·105	1·119	1·056	·939	1·145
35–39 ...	1·230	1·007	1·196	1·325	1·199	1·065	1·141	1·192	1·287	1·196
40–44 ...	1·136	1·143	1·174	1·602	1·143	1·130	1·286	1·204	·957	1·195
45–49 ...	1·281	1·382	1·287	1·324	1·238	1·168	1·335	1·085	·997	1·262
50–54 ...	1·378	1·114	1·267	1·334	1·217	1·224	1·409	1·255	1·060	1·291
55–59 ...	1·415	1·073	1·255	1·193	1·287	1·187	1·256	1·318	·978	1·289
60–64 ...	1·339	1·262	1·172	1·326	1·224	1·187	1·342	1·333	1·066	1·302
65–69 ...	1·256	1·200	1·268	1·168	1·217	1·122	1·202	1·249	·993	1·239
70–74 ...	1·303	1·170	1·243	1·227	1·163	1·123	1·213	1·260	1·024	1·219
75–79 ...	1·143	1·242	1·122	1·080	1·061	1·096	1·069	1·209	1·063	1·124
80–84 ...	1·144	1·105	1·076	1·004	1·084	·999	1·028	1·010	1·133	1·070
85 and over	1·040	1·195	1·066	·955	·932	·963	1·019	·842	·805	·978
5–19 ...	1·234	1·071	1·111	1·348	1·127	1·210	1·150	1·104	·956	1·189
20–49 ...	1·164	1·159	1·202	1·318	1·165	1·102	1·176	1·102	1·015	1·169
50–69 ...	1·330	1·166	1·238	1·235	1·231	1·170	1·281	1·288	1·020	1·274
70 and over	1·190	1·179	1·156	1·090	1·077	1·059	1·086	1·153	1·032	1·120
5 and over	*1·228*	*1·151*	*1·188*	*1·191*	*1·142*	*1·109*	*1·157*	*1·179*	*1·015*	*1·181*

TABLE 3.

GEOGRAPHICAL DIVISIONS.

URBAN DISTRICTS AND RURAL DISTRICTS.

FEMALES.

$$\left\{\frac{\text{Actual Deaths}}{\text{Expected Deaths}} \text{ in Urban Districts.}\right\} \div \left\{\frac{\text{Actual Deaths}}{\text{Expected Deaths}} \text{ in Rural Districts.}\right\}$$

Age Group.	Northern Counties.				Central Counties.	Southern Counties.	Eastern Counties.	Wales.		Total.
	Cheshire and Lancs.	Yorks., West Riding.	Durham and Northumberland.	Yorks, E. R. and and N.R., Cumberland and Westmorland.				South Wales.	North and West Wales.	
5–9 ...	1·316	1·021	1·041	1·412	1·209	1·430	1·360	1·127	·853	1·253
10–14 ...	1·294	1·108	1·215	1·047	·994	1·141	1·210	1·109	·810	1·125
15–19 ...	1·329	1·062	1·218	1·161	·989	·968	·907	1·090	·736	1·028
20–24 ...	1·242	1·021	1·139	·960	·921	·883	·805	·919	·626	·934
25–29 ...	1·076	·837	1·068	1·015	·990	·896	·942	1·022	·842	·979
30–34 ...	1·103	·862	·886	·953	1·036	·961	·985	1·061	·690	·989
35–39 ...	1·247	1·066	1·040	1·064	1·026	1·019	1·078	1·145	·700	1·071
40–44 ...	1·255	1·088	1·055	1·298	·974	·984	·979	1·090	·888	1·065
45–49 ...	1·136	1·057	1·085	1·053	1·117	1·141	1·018	1·124	·918	1·121
50–54 ...	1·214	1·070	1·150	1·176	1·107	1·031	1·043	1·171	·835	1·129
55–59 ...	1·277	1·131	1·088	1·067	1·148	1·053	1·138	1·084	·811	1·151
60–64 ...	1·284	1·149	1·066	1·051	1·174	1·031	1·114	1·155	·967	1·169
65–69 ...	1·105	1·133	1·105	1·097	1·119	1·020	1·043	1·125	·811	1·120
70–74 ...	1·204	1·148	1·067	1·196	1·124	1·013	1·100	1·254	·900	1·143
75–79 ...	1·121	1·104	1·098	·998	1·099	1·011	1·035	1·155	·898	1·085
80–84 ...	1·182	1·082	1·242	1·009	1·062	1·008	1·021	·990	1·078	1·071
85 and over	·937	1·092	·793	1·028	·959	1·009	·944	·981	·990	·980
5–19 ...	1·314	1·058	1·139	1·208	1·070	1·167	1·144	1·107	·803	1·136
20–49 ...	1·174	·993	1·041	1·063	1·018	·995	·974	1·061	·790	1·036
50–69 ...	1·205	1·125	1·099	1·089	1·137	1·032	1·080	1·133	·855	1·141
70 and over	1·139	1·113	1·070	1·057	1·070	1·011	1·021	1·126	·953	1·077
5 and over	*1·171*	*1·082*	*1·078*	*1·075*	*1·076*	*1·021*	*1·033*	*1·118*	*·879*	*1·090*

Appendix IV.

ENGLISH LIFE TABLE

Age. x	l_x	d_x	p_x	q_x	$\mathring{e}_x$	Age. x
0	100,000	8,996	·91004	·08996	55·62	0
1	91,004	2,129	·97661	·02339	60·07	1
2	88,875	933	·98950	·01050	60·50	2
3	87,942	572	·99350	·00650	60·14	3
4	87,370	415	·99525	·00475	59·53	4
5	86,955	363	·99583	·00417	58·81	5
6	86,592	292	·99663	·00337	58·05	6
7	86,300	238	·99724	·00276	57·25	7
8	86,062	198	·99770	·00230	56·41	8
9	85,864	171	·99801	·00199	55·53	9
10	85,693	155	·99819	·00181	54·64	10
11	85,538	148	·99827	·00173	53·74	11
12	85,390	149	·99825	·00175	52·84	12
13	85,241	157	·99816	·00184	51·93	13
14	85,084	169	·99801	·00199	51·02	14
15	84,915	185	·99782	·00218	50·12	15
16	84,730	208	·99754	·00246	49·23	16
17	84,522	235	·99722	·00278	48·35	17
18	84,287	260	·99692	·00308	47·48	18
19	84,027	279	·99668	·00332	46·63	19
20	83,748	292	·99651	·00349	45·78	20
21	83,456	303	·99637	·00363	44·94	21
22	83,153	311	·99626	·00374	44·10	22
23	82,842	317	·99617	·00383	43·27	23
24	82,525	323	·99608	·00392	42·43	24
25	82,202	327	·99602	·00398	41·60	25
26	81,875	328	·99599	·00401	40·76	26
27	81,547	329	·99597	·00403	39·92	27
28	81,218	331	·99592	·00408	39·08	28
29	80,887	338	·99582	·00418	38·24	29
30	80,549	350	·99566	·00434	37·40	30
31	80,199	365	·99545	·00455	36·56	31
32	79,834	382	·99521	·00479	35·72	32
33	79,452	400	·99496	·00504	34·89	33
34	79,052	418	·99471	·00529	34·07	34
35	78,634	435	·99447	·00553	33·25	35
36	78,199	450	·99424	·00576	32·43	36
37	77,749	466	·99400	·00600	31·61	37
38	77,283	485	·99373	·00627	30·80	38
39	76,798	504	·99344	·00656	29·99	39
40	76,294	525	·99312	·00688	29·19	40
41	75,769	547	·99278	·00722	28·39	41
42	75,222	570	·99242	·00758	27·59	42
43	74,652	595	·99203	·00797	26·79	43
44	74,057	621	·99161	·00839	26·01	44
45	73,436	647	·99119	·00881	25·22	45
46	72,789	671	·99078	·00922	24·44	46
47	72,118	698	·99032	·00968	23·66	47
48	71,420	731	·98976	·01024	22·89	48
49	70,689	773	·98907	·01093	22·12	49
50	69,916	824	·98821	·01179	21·36	50
51	69,092	884	·98720	·01280	20·61	51
52	68,208	949	·98609	·01391	19·87	52
53	67,259	1,016	·98490	·01510	19·14	53
54	66,243	1,082	·98367	·01633	18·43	54

Table 1.

NO. 9.—MALES.

Age. x	l_x	d_x	p_x	q_x	$\mathring{e}_x$	Age. x
55	65,161	1,144	·98245	·01755	17·73	55
56	64,017	1,203	·98121	·01879	17·04	56
57	62,814	1,264	·97987	·02013	16·35	57
58	61,550	1,333	·97835	·02165	15·68	58
59	60,217	1,413	·97654	·02346	15·01	59
60	58,804	1,506	·97439	·02561	14·36	60
61	57,298	1,607	·97196	·02804	13·73	61
62	55,691	1,711	·96928	·03072	13·11	62
63	53,980	1,814	·96640	·03360	12·51	63
64	52,166	1,911	·96337	·03663	11·93	64
65	50,255	1,998	·96025	·03975	11·36	65
66	48,257	2,074	·95702	·04298	10·81	66
67	46,183	2,146	·95353	·04647	10·27	67
68	44,037	2,218	·94963	·05037	9·75	68
69	41,819	2,293	·94518	·05482	9·24	69
70	39,526	2,370	·94003	·05997	8·75	70
71	37,156	2,444	·93423	·06577	8·27	71
72	34,712	2,504	·92785	·07215	7·82	72
73	32,208	2,544	·92100	·07900	7·39	73
74	29,664	2,557	·91380	·08620	6·98	74
75	27,107	2,542	·90621	·09379	6·59	75
76	24,565	2,504	·89808	·10192	6·22	76
77	22,061	2,439	·88943	·11057	5·87	77
78	19,622	2,350	·88023	·11977	5·54	78
79	17,272	2,237	·87048	·12952	5·22	79
80	15,035	2,105	·85998	·14002	4·93	80
81	12,930	1,957	·84864	·15136	4·65	81
82	10,973	1,792	·83666	·16334	4·39	82
83	9,181	1,613	·82431	·17569	4·15	83
84	7,568	1,424	·81188	·18812	3·92	84
85	6,144	1,227	·80026	·19974	3·72	85
86	4,917	1,042	·78802	·21198	3·52	86
87	3,875	871	·77514	·22486	3·33	87
88	3,004	716	·76160	·23840	3·15	88
89	2,288	578	·74738	·25262	2·98	89
90	1,710	457	·73248	·26752	2·82	90
91	1,253	354·8	·71687	·28313	2·66	91
92	898·2	269·0	·70055	·29945	2·51	92
93	629·2	199·1	·68352	·31648	2·37	93
94	430·1	143·8	·66576	·33424	2·24	94
95	286·3	101·0	·64728	·35272	2·12	95
96	185·3	68·9	·62810	·37190	2·00	96
97	116·4	45·6	·60821	·39179	1·89	97
98	70·8	29·2	·58765	·41235	1·78	98
99	41·6	18·0	·56643	·43357	1·68	99
100	23·6	10·7	·54458	·45542	1·59	100
101	12·9	6·2	·52216	·47784	1·50	101
102	6·7	3·4	·49921	·50079	1·42	102
103	3·3	1·7	·47579	·52421	1·34	103
104	1·6	·9	·45196	·54804	1·27	104
105	·7	·4	·42780	·57220	1·20	105

Appendix IV. Table

ENGLISH LIFE TABLE

Age. x	l_x	d_x	p_x	q_x	$\mathring{e}_x$	Age. x
0	100,000	6,942	·93058	·06942	59·58	0
1	93,058	1,989	·97863	·02137	62·99	1
2	91,069	902	·99009	·00991	63·35	2
3	90,167	568	·99370	·00630	62·98	3
4	89,599	417	·99535	·00465	62·38	4
5	89,182	378	·99576	·00424	61·67	5
6	88,804	296	·99667	·00333	60·93	6
7	88,508	235	·99734	·00266	60·13	7
8	88,273	194	·99780	·00220	59·29	8
9	88,079	170	·99807	·00193	58·42	9
10	87,909	158	·99820	·00180	57·53	10
11	87,751	158	·99820	·00180	56·63	11
12	87,593	164	·99813	·00187	55·74	12
13	87,429	175	·99800	·00200	54·84	13
14	87,254	187	·99786	·00214	53·95	14
15	87,067	198	·99773	·00227	53·06	15
16	86,869	211	·99757	·00243	52·18	16
17	86,658	226	·99739	·00261	51·31	17
18	86,432	241	·99721	·00279	50·44	18
19	86,191	253	·99706	·00294	49·58	19
20	85,938	263	·99694	·00306	48·73	20
21	85,675	271	·99684	·00316	47·87	21
22	85,404	278	·99675	·00325	47·02	22
23	85,126	283	·99667	·00333	46·18	23
24	84,843	290	·99658	·00342	45·33	24
25	84,553	296	·99650	·00350	44·48	25
26	84,257	302	·99642	·00358	43·64	26
27	83,955	306	·99635	·00365	42·79	27
28	83,649	312	·99627	·00373	41·95	28
29	83,337	318	·99618	·00382	41·10	29
30	83,019	325	·99608	·00392	40·26	30
31	82,694	332	·99598	·00402	39·41	31
32	82,362	341	·99586	·00414	38·57	32
33	82,021	349	·99575	·00425	37·73	33
34	81,672	358	·99562	·00438	36·89	34
35	81,314	367	·99549	·00451	36·05	35
36	80,947	376	·99536	·00464	35·21	36
37	80,571	385	·99522	·00478	34·37	37
38	80,186	396	·99506	·00494	33·53	38
39	79,790	409	·99488	·00512	32·70	39
40	79,381	422	·99468	·00532	31·86	40
41	78,959	437	·99447	·00553	31·03	41
42	78,522	452	·99425	·00575	30·20	42
43	78,070	470	·99398	·00602	29·37	43
44	77,600	491	·99367	·00633	28·55	44
45	77,109	515	·99332	·00668	27·73	45
46	76,594	541	·99294	·00706	26·91	46
47	76,053	569	·99252	·00748	26·10	47
48	75,484	601	·99204	·00796	25·29	48
49	74,883	637	·99149	·00851	24·49	49
50	74,246	679	·99085	·00915	23·69	50
51	73,567	726	·99013	·00987	22·91	51
52	72,841	775	·98936	·01064	22·13	52
53	72,066	827	·98853	·01147	21·36	53
54	71,239	879	·98766	·01234	20·61	54

1. (*continued*).

No. 9.—FEMALES.

Age. x	l_x	d_x	p_x	q_x	$\mathring{e}_x$	Age. x
55	70,360	928	·98681	·01319	19·86	55
56	69,432	974	·98597	·01403	19·12	56
57	68,458	1,023	·98505	·01495	18·38	57
58	67,435	1,081	·98397	·01603	17·65	58
59	66,354	1,152	·98264	·01736	16·93	59
60	65,202	1,237	·98103	·01897	16·22	60
61	63,965	1,331	·97919	·02081	15·53	61
62	62,634	1,432	·97713	·02287	14·85	62
63	61,202	1,536	·97490	·02510	14·18	63
64	59,666	1,639	·97253	·02747	13·53	64
65	58,027	1,736	·97008	·02992	12·90	65
66	56,291	1,827	·96754	·03246	12·29	66
67	54,464	1,919	·96477	·03523	11·68	67
68	52,545	2,017	·96161	·03839	11·09	68
69	50,528	2,127	·95791	·04209	10·51	69
70	48,401	2,249	·95354	·04646	9·95	70
71	46,152	2,375	·94855	·05145	9·41	71
72	43,777	2,495	·94301	·05699	8·90	72
73	41,282	2,600	·93703	·06297	8·40	73
74	38,682	2,680	·93072	·06928	7·93	74
75	36,002	2,734	·92406	·07594	7·49	75
76	33,268	2,764	·91692	·08308	7·06	76
77	30,504	2,768	·90926	·09074	6·66	77
78	27,736	2,745	·90102	·09898	6·27	78
79	24,991	2,696	·89214	·10786	5·90	79
80	22,295	2,623	·88234	·11766	5·56	80
81	19,672	2,527	·87153	·12847	5·23	81
82	17,145	2,400	·86000	·14000	4·93	82
83	14,745	2,240	·84806	·15194	4·65	83
84	12,505	2,049	·83614	·16386	4·39	84
85	10,456	1,826	·82535	·17465	4·16	85
86	8,630	1,606	·81393	·18607	3·93	86
87	7,024	1,392	·80186	·19814	3·72	87
88	5,632	1,188	·78911	·21089	3·51	88
89	4,444	997	·77566	·22434	3·32	89
90	3,447	822	·76148	·23852	3·13	90
91	2,625	665	·74657	·25343	2·95	91
92	1,960	527	·73090	·26910	2·79	92
93	1,433	409	·71446	·28554	2·63	93
94	1,024	310	·69723	·30277	2·47	94
95	714·0	229	·67922	·32078	2·33	95
96	485·0	164·7	·66041	·33959	2·20	96
97	320·3	115·0	·64082	·35918	2·07	97
98	205·3	77·9	·62045	·37955	1·95	98
99	127·4	51·0	·59932	·40068	1·84	99
100	76·4	32·3	·57746	·42254	1·73	100
101	44·1	19·6	·55490	·44510	1·63	101
102	24·5	11·5	·53167	·46833	1·53	102
103	13·0	6·4	·50784	·49216	1·44	103
104	6·6	3·4	·48347	·51653	1·36	104
105	3·2	1·7	·45863	·54137	1·28	105
106	1·5	·8	·43340	·56660	1·20	106
107	·7	·4	·40788	·59212	1·12	107

APPENDIX IV.

ENGLAND

RATES OF MORTALITY (q_x).—SPINSTERS, MARRIED

Based on 1921 Census, and

Age. x	Spinsters.	Married Women.	Widows.	All Female Lives.
16	·00241	·00446	—	·00243
17	·00258	·00446	—	·00261
18	·00274	·00446	—	·00279
19	·00287	·00418	—	·00294
20	·00297	·00365	—	·00306
21	·00304	·00365	—	·00316
22	·00310	·00365	—	·00325
23	·00317	·00365	—	·00333
24	·00324	·00365	·00396	·00342
25	·00333	·00368	·00396	·00350
26	·00341	·00372	·00397	·00358
27	·00351	·00376	·00397	·00365
28	·00360	·00381	·00398	·00373
29	·00371	·00387	·00399	·00382
30	·00382	·00395	·00408	·00392
31	·00393	·00405	·00420	·00402
32	·00404	·00416	·00434	·00414
33	·00417	·00427	·00450	·00425
34	·00431	·00439	·00466	·00438
35	·00446	·00451	·00480	·00451
36	·00461	·00464	·00493	·00464
37	·00478	·00477	·00509	·00478
38	·00498	·00491	·00528	·00494
39	·00521	·00507	·00555	·00512
40	·00548	·00523	·00591	·00532
41	·00579	·00539	·00636	·00553
42	·00613	·00557	·00684	·00575
43	·00650	·00578	·00734	·00602
44	·00690	·00605	·00781	·00633
45	·00732	·00637	·00822	·00668
46	·00777	·00672	·00859	·00706
47	·00824	·00712	·00897	·00748
48	·00877	·00758	·00943	·00796
49	·00935	·00810	·01000	·00851
50	·01001	·00870	·01072	·00915
51	·01075	·00936	·01155	·00987
52	·01152	·01008	·01246	·01064
53	·01231	·01085	·01342	·01147
54	·01308	·01167	·01440	·01234
55	·01375	·01248	·01536	·01319
56	·01433	·01329	·01631	·01403
57	·01495	·01417	·01733	·01495
58	·01574	·01521	·01850	·01603
59	·01684	·01649	·01987	·01736

TABLE 2.

AND WALES.

WOMEN, AND WIDOWS; AND ALL FEMALE LIVES.

Deaths in 1920, 1921, and 1922.

Age. x	Spinsters.	Married Women.	Widows.	All Female Lives.
60	·01830	·01804	·02148	·01897
61	·02005	·01983	·02327	·02081
62	·02203	·02181	·02526	·02287
63	·02415	·02396	·02742	·02510
64	·02633	·02625	·02976	·02747
65	·02848	·02863	·03219	·02992
66	·03064	·03114	·03472	03246
67	·03298	·03385	·03750	·03523
68	·03571	·03687	·04070	·03839
69	·03900	·04028	·04449	·04209
70	·04301	·04415	·04904	·04646
71	·04766	·04843	·05430	·05145
72	·05285	·05313	·06014	·05699
73	·05845	·05824	·06642	·06297
74	·06431	·06374	·07296	·06928
75	·07034	·06977	·07975	·07594
76	·07666	·07642	·08693	·08308
77	·08348	·08354	·09459	·09074
78	·09103	·09098	·10281	·09898
79	·09957	·09854	·11168	·10786
80	·10957	·10650	·12149	·11766
81	·12105	·11502	·13228	·12847
82	·13360	·12370	·14379	·14000
83	·14671	·13203	·15569	·15194
84	·15971	·13946	·16759	·16386

APPENDIX IV.

ENGLAND AND WALES—

RATES OF MORTALITY (q_x) BASED ON 1921

Age. x	Northumberland and Durham County Boroughs.	Eastern Counties Rural Districts.	Central Counties.		
			County Boroughs.	Urban Districts.	Rural Districts.
0	·11471	·07002	·09835	·08581	·07318
1	·03956	·00956	·02636	·01911	·01433
2	·01568	·00415	·01090	·00899	·00710
3	·00797	·00347	·00666	·00552	·00433
4	·00599	·00285	·00511	·00428	·00334
5	·00531	·00269	·00436	·00362	·00328
6	·00429	·00217	·00353	·00292	·00265
7	·00352	·00178	·00289	·00239	·00217
8	·00293	·00148	·00241	·00199	·00181
9	·00254	·00128	·00208	·00173	·00157
10	·00231	·00134	·00180	·00159	·00151
11	·00223	·00140	·00173	·00152	·00146
12	·00230	·00147	·00175	·00153	·00146
13	·00248	·00153	·00187	·00162	·00153
14	·00275	·00163	·00205	·00176	·00163
15	·00305	·00177	·00226	·00195	·00176
16	·00347	·00197	·00249	·00223	·00192
17	·00405	·00216	·00270	·00255	·00209
18	·00438	·00233	·00288	·00275	·00231
19	·00472	·00252	·00307	·00293	·00257
20	·00503	·00272	·00325	·00314	·00285
21	·00529	·00291	·00341	·00332	·00310
22	·00546	·00310	·00354	·00348	·00329
23	·00549	·00330	·00363	·00361	·00340
24	·00540	·00351	·00368	·00373	·00346
25	·00527	·00371	·00372	·00382	·00348
26	·00517	·00387	·00377	·00391	·00349
27	·00519	00396	·00386	·00398	·00351
28	·00533	·00394	·00398	·00402	·00352
29	·00556	·00384	·00412	·00403	·00351
30	·00583	·00371	·00428	·00404	·00351
31	·00615	·00360	·00446	·00408	·00353
32	·00647	·00356	·00469	·00418	·00359
33	·00682	·00362	·00496	·00436	·00371
34	·00722	·00373	·00528	·00460	·00387
35	·00764	·00388	·00562	·00486	·00407
36	·00806	·00404	·00598	·00514	·00427
37	·00845	·00418	·00634	·00538	·00448
38	·00881	·00430	·00670	·00557	·00469
39	·00915	·00441	·00708	·00574	·00491
40	·00949	·00453	·00746	·00590	·00514
41	·00983	·00466	·00787	·00611	·00538
42	·01019	·00483	·00830	·00638	·00562
43	·01051	·00503	·00875	·00673	·00584
44	·01080	·00525	·00922	·00712	·00605
45	·01112	·00550	·00971	·00756	·00627
46	·01155	·00579	·01025	·00806	·00655
47	·01216	·00611	·01085	·00859	·00691
48	·01296	·00645	·01146	·00914	·00736
49	·01391	·00679	·01205	·00970	·00788

TABLE 3.

SECTIONAL TABLES.—MALES.

CENSUS, AND DEATHS IN 1920, 1921, AND 1922.

Age. x	Northumberland and Durham County Boroughs.	Eastern Counties Rural Districts.	Central Counties.		
			County Boroughs.	Urban Districts.	Rural Districts.
50	·01500	·00718	·01273	·01032	·00847
51	·01623	·00767	·01358	·01106	·00913
52	·01758	·00830	·01468	·01197	·00986
53	·01907	·00910	·01614	·01308	·01064
54	·02072	·01005	·01792	·01435	·01146
55	·02251	·01110	·01988	·01576	·01237
56	·02444	·01221	·02187	·01728	·01341
57	·02650	·01333	·02373	·01889	·01464
58	·02865	·01436	·02533	·02054	·01606
59	·03090	·01532	·02674	·02226	·01764
60	·03333	·01638	·02819	·02411	·01939
61	·03602	·01768	·02991	·02619	·02132
62	·03904	·01938	·03213	·02858	·02344
63	·04238	·02159	·03493	·03130	·02571
64	·04600	·02421	·03820	·03432	·02813
65	·05000	·02716	·04187	·03764	·03079
66	·05445	·03031	·04586	·04129	·03379
67	·05949	·03354	·05010	·04527	·03720
68	·06531	·03665	·05456	·04963	·04104
69	·07195	·03972	·05933	·05440	·04528
70	·07920	·04306	·06449	·05958	·05000
71	·08683	·04701	·07015	·06516	·05527
72	·09456	·05194	·07641	·07114	·06120
73	·10224	·05818	·08348	·07754	·06807
74	·11007	·06565	·09136	·08441	·07595
75	·11824	·07408	·09994	·09181	·08457
76	·12701	·08317	·10900	·09978	·09361
77	·13664	·09250	·11836	·10838	·10267
78	·14799	·10219	·12817	·11790	·11137
79	·16110	·11259	·13863	·12840	·11994
80	·17489	·12355	·14953	·13962	·12888
81	·18807	·13489	·16060	·15123	·13878
82	·19908	·14640	·17153	·16282	·15033
83	·20591	·15799	·18191	·17421	·16436
84	·20921	·16977	·19184	·18563	·18078

APPENDIX IV.

ENGLAND AND WALES—

RATES OF MORTALITY (q_x) BASED ON 1921

Age. x	Northumberland and Durham County Boroughs.	Eastern Counties Rural Districts.	Central Counties.		
			County Boroughs.	Urban Districts.	Rural Districts.
0	·08995	·05221	·07567	·06667	·05544
1	·03371	·00947	·02310	·01789	·01304
2	·01507	·00480	·01100	·00879	·00613
3	·00863	·00351	·00678	·00601	·00416
4	·00604	·00293	·00495	·00440	·00349
5	·00532	·00287	·00433	·00388	·00321
6	·00418	·00226	·00340	·00305	·00252
7	·00334	·00180	·00272	·00243	·00201
8	·00276	·00149	·00225	·00201	·00167
9	·00242	·00131	·00194	·00173	·00150
10	·00226	·00126	·00176	·00154	·00146
11	·00227	·00135	·00168	·00146	·00150
12	·00236	·00146	·00172	·00153	·00156
13	·00254	·00166	·00184	·00167	·00170
14	·00272	·00186	·00201	·00188	·00187
15	·00286	·00207	·00218	·00217	·00210
16	·00301	·00228	·00232	·00241	·00241
17	·00318	·00252	·00246	·00257	·00260
18	·00330	·00279	·00258	·00270	·00277
19	·00340	·00309	·00269	·00280	·00293
20	·00350	·00339	·00280	·00288	·00308
21	·00361	·00364	·00290	·00296	·00321
22	·00375	·00380	·00300	·00305	·00333
23	·00394	·00384	·00310	·00317	·00343
24	·00418	·00377	·00320	·00331	·00352
25	·00442	·00367	·00330	·00345	·00360
26	·00466	·00356	·00341	·00357	·00365
27	·00485	·00351	·00352	·00366	·00369
28	·00498	·00352	·00364	·00370	·00369
29	·00507	·00356	·00376	·00370	·00365
30	·00515	·00361	·00389	·00368	·00360
31	·00525	·00367	·00402	·00369	·00357
32	·00539	·00371	·00417	·00374	·00360
33	·00559	·00372	·00433	·00386	·00371
34	·00583	·00370	·00450	·00403	·00386
35	·00610	·00369	·00468	·00421	·00405
36	·00637	·00371	·00487	·00439	·00423
37	·00663	·00378	·00505	·00453	·00440
38	·00687	·00392	·00522	·00460	·00453
39	·00711	·00411	·00539	·00461	·00464
40	·00735	·00434	·00556	·00462	·00475
41	·00761	·00458	·00576	·00469	·00487
42	·00791	·00482	·00601	·00487	·00504
43	·00822	·00504	·00631	·00518	·00523
44	·00853	·00525	·00664	·00560	·00544
45	·00888	·00548	·00702	·00608	·00568
46	·00931	·00574	·00742	·00658	·00596
47	·00986	·00606	·00788	·00707	·00629
48	·01056	·00645	·00836	·00752	·00667
49	·01138	·00689	·00887	·00794	·00709

TABLE 3 (*continued*).

SECTIONAL TABLES.—FEMALES.

CENSUS, AND DEATHS IN 1920, 1921, AND 1922.

Age. x	Northumberland and Durham County Boroughs.	Eastern Counties Rural Districts.	Central Counties.		
			County Boroughs.	Urban Districts.	Rural Districts.
50	·01230	·00738	·00943	·00840	·00756
51	·01327	·00787	·01006	·00891	·00807
52	·01427	·00836	·01079	·00952	·00862
53	·01525	·00878	·01161	·01021	·00919
54	·01623	·00914	·01249	·01095	·00978
55	·01728	·00954	·01348	·01178	·01043
56	·01848	·01007	·01458	·01273	·01118
57	·01991	·01082	·01583	·01384	·01207
58	·02158	·01181	·01724	·01512	·01307
59	·02346	·01298	·01881	·01655	·01417
60	·02553	·01432	·02051	·01813	·01541
61	·02779	·01582	·02234	·01986	·01682
62	·03022	·01746	·02428	·02175	·01847
63	·03274	·01925	·02623	·02375	·02036
64	·03537	·02120	·02821	·02585	·02246
65	·03825	·02333	·03037	·02817	·02480
66	·04157	·02565	·03288	·03078	·02738
67	·04552	·02817	·03590	·03379	·03024
68	·05035	·03079	·03953	·03723	·03333
69	·05603	·03352	·04371	·04107	·03666
70	·06230	·03652	·04838	·04533	·04033
71	·06885	·04000	·05348	·05004	·04444
72	·07532	·04417	·05895	·05524	·04912
73	·08137	·04915	·06481	·06105	·05449
74	·08722	·05487	·07116	·06753	·06055
75	·09331	·06132	·07805	·07460	·06724
76	·10014	·06845	·08552	·08216	·07448
77	·10830	·07619	·09363	·09011	·08219
78	·11840	·08475	·10274	·09864	·09044
79	·13032	·09429	·11295	·10791	·09939
80	·14348	·10469	·12387	·11769	·10901
81	·15719	·11581	·13505	·12771	·11926
82	·17054	·12744	·14590	·13765	·13009
83	·18300	·13983	·15635	·14738	·14146
84	·19505	·15322	·16599	·15616	·15321

Appendix IV.

GREATER LONDON

Based on 1921 Census, and

Age. x	l_x	d_x	p_x	q_x	$\mathring{e}_x$	Age. x
0	100,000	8,167	·91833	·08167	55·34	0
1	91,833	2,154	·97654	·02346	59·21	1
2	89,679	1,281	·98572	·01428	59·62	2
3	88,398	758	·99143	·00857	59·48	3
4	87,640	474	·99459	·00541	58·99	4
5	87,166	398	·99543	·00457	58·31	5
6	86,768	320	·99631	·00369	57·58	6
7	86,448	261	·99698	·00302	56·79	7
8	86,187	217	·99748	·00252	55·96	8
9	85,970	187	·99782	·00218	55·10	9
10	85,783	166	·99806	·00194	54·22	10
11	85,617	155	·99819	·00181	53·32	11
12	85,462	151	·99823	·00177	52·42	12
13	85,311	157	·99816	·00184	51·51	13
14	85,154	172	·99798	·00202	50·60	14
15	84,982	200	·99765	·00235	49·71	15
16	84,782	224	·99736	·00264	48·82	16
17	84,558	241	·99715	·00285	47·95	17
18	84,317	256	·99696	·00304	47·08	18
19	84,061	271	·99678	·00322	46·23	19
20	83,790	284	·99661	·00339	45·37	20
21	83,506	295	·99647	·00353	44·53	21
22	83,211	303	·99636	·00364	43·68	22
23	82,908	307	·99630	·00370	42·84	23
24	82,601	306	·99630	·00370	42·00	24
25	82,295	304	·99631	·00369	41·15	25
26	81,991	303	·99630	·00370	40·30	26
27	81,688	308	·99623	·00377	39·45	27
28	81,380	318	·99609	·00391	38·60	28
29	81,062	332	·99590	·00410	37·75	29
30	80,730	349	·99568	·00432	36·90	30
31	80,381	367	·99544	·00456	36·06	31
32	80,014	384	·99520	·00480	35·22	32
33	79,630	402	·99495	·00505	34·39	33
34	79,228	421	·99469	·00531	33·56	34
35	78,807	441	·99441	·00559	32·74	35
36	78,366	460	·99413	·00587	31·92	36
37	77,906	481	·99383	·00617	31·10	37
38	77,425	500	·99354	·00646	30·29	38
39	76,925	519	·99325	·00675	29·49	39
40	76,406	539	·99295	·00705	28·68	40
41	75,867	561	·99260	·00740	27·88	41
42	75,306	588	·99219	·00781	27·09	42
43	74,718	619	·99172	·00828	26·30	43
44	74,099	651	·99121	·00879	25·51	44
45	73,448	687	·99064	·00936	24·73	45
46	72,761	727	·99001	·00999	23·96	46
47	72,034	771	·98929	·01071	23·20	47
48	71,263	821	·98848	·01152	22·45	48
49	70,442	874	·98759	·01241	21·70	49
50	69,568	931	·98662	·01338	20·97	50
51	68,637	988	·98560	·01440	20·25	51
52	67,649	1,047	·98453	·01547	19·53	52
53	66,602	1,102	·98346	·01654	18·83	53
54	65,500	1,155	·98237	·01763	18·14	54

Table 4.

LIFE TABLE.—MALES.

Deaths in 1920, 1921, and 1922.

Age. x	l_x	d_x	p_x	q_x	$\mathring{e}_x$	Age. x
55	64,345	1,210	·98120	·01880	17·46	55
56	63,135	1,270	·97989	·02011	16·78	56
57	61,865	1,338	·97837	·02163	16·12	57
58	60,527	1,415	·97662	·02338	15·46	58
59	59,112	1,498	·97466	·02534	14·82	59
60	57,614	1,584	·97251	·02749	14·19	60
61	56,030	1,669	·97022	·02978	13·58	61
62	54,361	1,752	·96778	·03222	12·98	62
63	52,609	1,826	·96529	·03471	12·40	63
64	50,783	1,893	·96272	·03728	11·83	64
65	48,890	1,959	·95993	·04007	11·26	65
66	46,931	2,029	·95677	·04323	10·71	66
67	44,902	2,106	·95309	·04691	10·17	67
68	42,796	2,192	·94877	·05123	9·65	68
69	40,604	2,279	·94388	·05612	9·14	69
70	38,325	2,359	·93845	·06155	8·66	70
71	35,966	2,425	·93257	·06743	8·19	71
72	33,541	2,472	·92630	·07370	7·75	72
73	31,069	2,500	·91955	·08045	7·33	73
74	28,569	2,508	·91221	·08779	6·92	74
75	26,061	2,493	·90433	·09567	6·54	75
76	23,568	2,451	·89599	·10401	6·18	76
77	21,117	2,381	·88727	·11273	5·84	77
78	18,736	2,285	·87806	·12194	5·52	78
79	16,451	2,167	·86825	·13175	5·22	79
80	14,284	2,029	·85794	·14206	4·93	80
81	12,255	1,872	·84727	·15273	4·67	81
82	10,383	1,699	·83641	·16359	4·42	82
83	8,684	1,515	·82549	·17451	4·18	83
84	7,169	1,330	·81443	·18557	3·96	84
85	5,839	1,150	·80303	·19697	3·75	85
86	4,689	980	·79107	·20893	3·55	86
87	3,709	822	·77828	·22172	3·36	87
88	2,887	680	·76440	·23560	3·17	88
89	2,207	552	·74979	·25021	2·99	89
90	1,655	439	·73445	·26555	2·82	90
91	1,216	342·5	·71834	·28166	2·66	91
92	873·5	260·8	·70147	·29853	2·51	92
93	612·7	193·7	·68382	·31618	2·37	93
94	419·0	140·2	·66541	·33459	2·23	94
95	278·8	98·6	·64622	·35378	2·11	95
96	180·2	67·3	·62627	·37373	1·98	96
97	112·9	44·5	·60556	·39444	1·87	97
98	68·4	28·4	·58413	·41587	1·76	98
99	40·0	17·5	·56202	·43798	1·66	99
100	22·5	10·4	·53923	·46077	1·57	100
101	12·1	5·9	·51583	·48417	1·48	101
102	6·2	3·2	·49187	·50813	1·39	102
103	3·0	1·6	·46742	·53258	1·31	103
104	1·4	·8	·44258	·55742	1·24	104
105	·6	·3	·41741	·58259	1·17	105

APPENDIX IV.

GREATER LONDON

BASED ON 1921 CENSUS, AND

Age x	l_x	d_x	p_x	q_x	$\mathring{e}_x$	Age. x
0	100,000	6,371	·93629	·06371	60·00	0
1	93,629	2,082	·97776	·02224	63·05	1
2	91,547	1,284	·98597	·01403	63·48	2
3	90,263	691	·99235	·00765	63·37	3
4	89,572	456	·99491	·00509	62·86	4
5	89,116	412	·99538	·00462	62·18	5
6	88,704	322	·99637	·00363	61·46	6
7	88,382	256	·99710	·00290	60·68	7
8	88,126	212	·99760	·00240	59·86	8
9	87,914	185	·99790	·00210	59·00	9
10	87,729	163	·99814	·00186	58·13	10
11	87,566	160	·99817	·00183	57·23	11
12	87,406	166	·99810	·00190	56·34	12
13	87,240	176	·99798	·00202	55·44	13
14	87,064	189	·99783	·00217	54·55	14
15	86,875	200	·99770	·00230	53·67	15
16	86,675	209	·99759	·00241	52·79	16
17	86,466	217	·99749	·00251	51·92	17
18	86,249	224	·99740	·00260	51·05	18
19	86,025	231	·99732	·00268	50·18	19
20	85,794	236	·99725	·00275	49·32	20
21	85,558	241	·99718	·00282	48·45	21
22	85,317	247	·99711	·00289	47·59	22
23	85,070	253	·99703	·00297	46·72	23
24	84,817	258	·99696	·00304	45·86	24
25	84,559	263	·99689	·00311	45·00	25
26	84,296	269	·99681	·00319	44·14	26
27	84,027	275	·99673	·00327	43·28	27
28	83,752	281	·99665	·00335	42·42	28
29	83,471	285	·99658	·00342	41·56	29
30	83,186	291	·99650	·00350	40·70	30
31	82,895	298	·99641	·00359	39·84	31
32	82,597	306	·99630	·00370	38·98	32
33	82,291	314	·99618	·00382	38·13	33
34	81,977	325	·99604	·00396	37·27	34
35	81,652	336	·99589	·00411	36·42	35
36	81,316	347	·99573	·00427	35·56	36
37	80,969	360	·99556	·00444	34·71	37
38	80,609	372	·99538	·00462	33·87	38
39	80,237	386	·99519	·00481	33·02	39
40	79,851	400	·99499	·00501	32·18	40
41	79,451	416	·99476	·00524	31·34	41
42	79,035	435	·99449	·00551	30·50	42
43	78,600	457	·99419	·00581	29·67	43
44	78,143	480	·99386	·00614	28·84	44
45	77,663	506	·99349	·00651	28·01	45
46	77,157	534	·99308	·00692	27·19	46
47	76,623	566	·99261	·00739	26·38	47
48	76,057	602	·99209	·00791	25·57	48
49	75,455	641	·99151	·00849	24·77	49
50	74,814	682	·99089	·00911	23·98	50
51	74,132	726	·99021	·00979	23·20	51
52	73,406	773	·98947	·01053	22·42	52
53	72,633	821	·98869	·01131	21·65	53
54	71,812	871	·98787	·01213	20·90	54

TABLE 4 (*continued*).

LIFE TABLE.—FEMALES.

DEATHS IN 1920, 1921, AND 1922.

Age x	l_x	d_x	p_x	q_x	$\mathring{e}_x$	Age. x
55	70,941	924	·98698	·01302	20·15	55
56	70,017	980	·98601	·01399	19·41	56
57	69,037	1,040	·98493	·01507	18·67	57
58	67,997	1,104	·98377	·01623	17·95	58
59	66,893	1,168	·98254	·01746	17·24	59
60	65,725	1,236	·98119	·01881	16·54	60
61	64,489	1,310	·97969	·02031	15·84	61
62	63,179	1,391	·97798	·02202	15·16	62
63	61,788	1,477	·97609	·02391	14·49	63
64	60,311	1,566	·97404	·02596	13·84	64
65	58,745	1,658	·97177	·02823	13·19	65
66	57,087	1,758	·96921	·03079	12·56	66
67	55,329	1,864	·96631	·03369	11·94	67
68	53,465	1,976	·96305	·03695	11·34	68
69	51,489	2,088	·95944	·04056	10·76	69
70	49,401	2,201	·95545	·04455	10·19	70
71	47,200	2,312	·95101	·04899	9·64	71
72	44,888	2,420	·94608	·05392	9·11	72
73	42,468	2,525	·94055	·05945	8·61	73
74	39,943	2,621	·93439	·06561	8·12	74
75	37,322	2,701	·92763	·07237	7·65	75
76	34,621	2,758	·92033	·07967	7·21	76
77	31,863	2,787	·91253	·08747	6·79	77
78	29,076	2,790	·90406	·09594	6·39	78
79	26,286	2,766	·89477	·10523	6·02	79
80	23,520	2,709	·88484	·11516	5·67	80
81	20,811	2,613	·87444	·12556	5·34	81
82	18,198	2,478	·86382	·13618	5·04	82
83	15,720	2,310	·85303	·14697	4·75	83
84	13,410	2,120	·84191	·15809	4·49	84
85	11,290	1,915	·83039	·16961	4·23	85
86	9,375	1,703	·81840	·18160	4·00	86
87	7,672	1,489	·80587	·19413	3·77	87
88	6,183	1,279	·79310	·20690	3·56	88
89	4,904	1,081	·77961	·22039	3·36	89
90	3,823	897	·76539	·23461	3·17	90
91	2,926	730	·75038	·24962	2·99	91
92	2,196	583	·73460	·26540	2·82	92
93	1,613	455	·71803	·28197	2·65	93
94	1,158	346·7	·70063	·29937	2·50	94
95	811·3	257·7	·68242	·31758	2·35	95
96	553·6	186·3	·66339	·33661	2·21	96
97	367·3	130·9	·64353	·35647	2·08	97
98	236·4	89·1	·62289	·37711	1·96	98
99	147·3	58·7	·60144	·39856	1·84	99
100	88·6	37·3	·57922	·42078	1·74	100
101	51·3	22·8	·55628	·44372	1·63	101
102	28·5	13·3	·53265	·46735	1·54	102
103	15·2	7·5	·50838	·49162	1·45	103
104	7·7	4·0	·48355	·51645	1·36	104
105	3·7	2·0	·45823	·54177	1·28	105
106	1·7	1·0	·43250	·56750	1·20	106
107	·7	·4	·40649	·59351	1·12	107

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