

REFERENCE PAPERS

WARTIME INFORMATION BOARD, OTTAWA

No. 30

November 27, 1944

THE WAR AND VITAL STATISTICS IN CANADA

Because the present war follows a period of pronounced economic depression, its immediate effect on Canadian vital statistics has been marked. During the war, employment opportunities and the national income have been high, and even the supply and consumption of food by the civilian population has been greater than in the pre-war period. Hence the effects of the war have chiefly been those associated with a period of prosperity. Canadian marriage and birth rates have reversed their previous downward trend, and in the case of the marriage rate rose in 1942 to the highest point since statistics have been collected. The long-term effect of the war will not be discernible for a number of years and may not be so favourable.

MARRIAGES

Short term changes in the marriage rate often reflect economic conditions so closely that economists regard them as a trade barometer. Immediately upon the declaration of war, an abnormal rise in the marriage rate was apparent in Canada and in many other countries.

An explanation of the terms used in discussing marriage rates is necessary for the proper understanding of the figures presented. The 'crude' marriage rate refers to the number of marriages per 1,000 population at any given period. It does not distinguish between first and later marriages and does not take into account the difference in age and sex distribution of the population, which varies considerably in different provinces in Canada and in different countries. The proportion of marriages at any given time clearly depends very greatly on the age composition of the population. For example a province where the age composition consists of a large proportion of aged will have a much lower marriage rate than a province where the age composition is young, but the marriage probability of a group of women at any specific age in both provinces might be the same.

For this reason, the crude marriage rate may be misleading. A 'true' or 'refined' marriage rate can be arrived at by taking the proportion of women who marry at least once out of a thousand girls alive at 15 years of age at any given time. Since it is only during census years that the exact number of girls of this age is known, the true or refined marriage rate can only be calculated for the census years. The gross nuptiality rate describes the probability of marriage in a group of girls, all of whom live to old age, while the net nuptiality rate takes into account the reduction of the spinster population by deaths as well as by marriages. Such tables are a measure of conditions prevailing only in the specific years to which they refer.

The crude marriage rate shows that between 1926 and 1942, marriages, after dropping sharply in 1930, reached their lowest point in 1932-33 at the depth of the depression. In 1933 and 1934 they started to rise. By 1937 they had regained the level of 1928-29, although there probably still remained a backlog of postponed marriages. With the outbreak of war, the rate rose sharply, and by 1942 had reached an unprecedented level of 10.9 marriages per

thousand population, an increase of 104% over the 1932 low point. At the end of 1942 a slight dropping off was noticed with 69,620 marriages in the last six months, as against 71,011 in the corresponding period of 1941. Preliminary returns for 1943 give a marriage rate of 9.4 marriages per thousand population. For 1944 the data are incomplete but registration filed with the Vital Statistics Branch of the Dominion Bureau of Statistics for cities and towns with populations of 10,000 and over showed that during the first five months of 1944, marriages amounted to 18,059, as compared with 21,703 in the corresponding period of 1943.

A much more accurate way of gauging the marriage rate is by a nuptiality rate which takes into account the differences in the age and sex distribution of the different provinces. In 1930-32 the net nuptiality rate was 0.82, that is to say, out of every 100 girls 15 years old, 82 would live to be married at least once according to the marriage and death rates of that period. This rate was low for Canada and showed the effect of the depression years and postponement of marriages. Ten years later the nuptiality rate (for the years 1940-1942) was 0.95, which meant that 95% of all girls would eventually marry, a rate so high that it could not continue for any length of time. These figures suggest that the wartime peak of marriages was largely made up of young women marrying earlier than they otherwise would have done, and the high level reached makes recession inevitable. It is probable that marriages are now down to about a normal level and that, if the war continues much longer, a postponement may again be noticeable, due to the absence of men from their homes. The true average age, derived from the nuptiality table, of women marrying for the first time in 1940-42, was 23.8 years, as compared with 25.3 years in 1930-32.

The least ambiguous data about conjugal condition are found in the proportions married by age groups at a census, although these data can only be ascertained at the ten year intervals when the census is taken. Considering women in three age groups, 15-19 years, 20-24 years and 25-34 years, it is found that the Census of 1911 showed the greatest proportion married among the women 15-19 years. In 1921, however, the two later age-groups showed the maximum proportions married, while in 1931, there were low proportions married in all the younger age groups. It would therefore appear that the period of greatest frequency of marriage for women was just prior to the last war. This was followed by a fairly continuous decline and low marriage rates prevailed until the late thirties. The 1941 Census showed that there were slightly more married women under 25 years of age than in 1931, but the proportion in this group was still below the 1921 level. The proportion married between 25 and 34 years of age was less than in 1931. Although by June 1941, the effects of the extremely low marriage rates of 1931-36 on younger women had been wiped out, marriage rates were still at a level lower than immediately after the last war.

A rough estimate of the proportions of women married at June 1942 suggests that by this time about as many women between the ages of 15 and 24 were married as in the peak years of 1911 and 1921. The proportion married between 25 and 34 years of age showed only a slight rise, as the war probably came too late to affect the marriage prospects of women now over 30. It would appear that by 1942 the maximum amount of marriage attainable under existing conditions had been reached and the recession in 1943 was a result of the elimination of the surplus of unmarried. At the present time conditions are still favourable to early marriage, but since many young men are overseas, their absence may accentuate the decline in the marriage rate due to the disappearance of surplus unmarried men. However, it is very probable that a good recovery will be made after demobilization, as happened after the war. Continuing the trend of previous years, the number of divorces per 100,000 population rose steeply in 1942 and 1943.

BIRTHS

Because most marriages are followed by a first birth fairly soon and many of these first births by a second, fluctuations in the birth rate follow changes in the marriage rate at an interval of about one year. Of recent years, this correspondence between the two rates has been closer because of the smaller size of families and the much higher proportion of births which is contributed by first and second births. In the 1942 Canada Year Book is a chart which shows the close correspondence between unemployment, marriages and births in Canada during the depression years. Although the birth rate fluctuates for different years, the long-term downward trend is marked.

The first effect of the rising marriage rate during the present war was to arrest the decline in the birth rate. A marked rise in the crude (unadjusted) birth rate was seen in 1940, following the marked rise in the marriage rate by one or two years, and continuing until the peak was reached about the middle of 1943. The preliminary rate for 1943 was 24.0 births per thousand population as compared with 20.5 births per thousand population for the four-year period from 1936 to 1940. However, the rate for the last quarter of 1943 was lower than for the same period in 1942. Returns are incomplete beyond this point, but examination of available registrations suggest that the turning point downward in births came towards the end of 1943, corresponding to the turning point in marriages in 1942.

The gross reproduction rate gives the average number of female children born to a married woman, and is independent of the age composition of the population. As would be expected, the reproduction rate is affected by the marriage rate and in the last few years has followed the same course as the crude birth rate. The correspondence between marriages and subsequent births is best seen in reproduction rates by order of birth, which in Canada are only available for legitimate births (including stillbirths). In the ten years 1931 to 1941, it can be seen that first births follow marriages fairly closely with a lag of about one year. From 1938 on there is a marked rise in the marriage rate and from 1939 on, in the first birth rate. The effect of this rising marriage rate is visible in the number of families with four children, but is an arrest of the downward trend rather than an actual rise. No effect at all is seen in sixth births and later births.

The connection between marriages and subsequent births could be studied more precisely if the length of time the couple had been married was recorded at the time of birth registration. In New Zealand, where this is done, the wartime increase in births has been spectacular. Since more births are occurring to older women, it would appear that a large number of them were postponed during the depression. The wartime rise has been mainly in first and second births with the rise greatest in marriages of three years or more duration. Up to the end of 1941, the effects of the worst years of the depression had been wiped out, and current fertility was probably about equal to what it was in 1932. An arrest of the downward trend was seen up to fourth births, as in Canada, but families with more than four children have continued to decrease. While the duration of marriage in relation to births is not known in Canada, a recent estimate of the relation of births to the marriages that produced them suggests that in general, marriages have resulted in continuously fewer and fewer births with a slight superimposed fall and compensatory rise in the last few years. In New Zealand, there has been only a negligible rise in the number of couples who have children during the first year of marriage, and this rate is still at a much lower level than in any year before 1939.

Current trends in wartime may be summed up as follows: (1) the greater part of the wartime rise in births is the result of the increasing numbers of marriages. (2) It is probable that the women who are now having first children, and, to a rapidly lessening degree, second, third and fourth children,

would have had them earlier if economic conditions had been more favourable. (3) It is also perhaps true that the total numbers of families who have one, two and three children are fairly stable, although there are fewer of them than before the 1914-18 war. (4) There is no evidence of any change in the continuous long-term reduction in the numbers of large families. In Canada where there is still a fair proportion of very large families, this trend is especially important.

One qualification is necessary to the view that there is no evidence of a change in the long-term trend in fertility. A recent Census study on the relation of age at marriage to size of family indicates that, while fertility has declined among women marrying at all ages, the family size of women marrying young is much larger than that of those marrying at older ages, and they are more resistant to influences favouring very small families. If, as seems to be the case during the war period, women married at younger ages than they otherwise would have done, it may be expected that the completed families of these women will be somewhat larger than if their marriages had been postponed. This factor may tend to stabilise reproduction rates. The importance of this trend can be seen from the fact that if the population is not ultimately to decline, about a quarter of all marriages should have four or more children. On the other hand, changes which have not yet made themselves felt, and which will probably have an adverse effect on fertility statistics, are taking place in the Canadian economy in wartime. The chief of these is the greatly intensified movement into the cities, where the birth rate is low, from the rural districts, where it is higher. Recent estimates of the Social Analysis Branch of the Dominion Bureau of Statistics show that this movement has been much greater during the war years than at any previous time. It is of course possible that farmers who have moved into the city may return to the farm when the war is over, but it seems more probable that if Canada continues on the path of rapid industrialisation and more urban ways of living, the small family is likely to become more and more fashionable. It is more likely that even though continued prosperity may avert any immediate catastrophic decline in births, in the end, the small family will only be entrenched more firmly.

MORTALITY (CIVILIAN)

The following report is for civilian mortality only; deaths from enemy action are not considered. Disregarding the effects of wars and their aftermath, the past century has seen a decline in the death rate in the countries of the white world. The crude death rate gives the actual mortality per 1,000 population. But since death rates in infancy and old age are much higher than in middle life, differences in the sex and age composition of the population in different communities make the use of the crude death rates unsatisfactory for purposes of comparison. The 'standardised' death rate shows the death rate for individual years calculated directly from proportions shown in each sex and age group at the various censuses.

It is much more difficult to demonstrate any specific effect of the war on civilian mortality than on the marriage and birth rate. The standardised death rate for Canada from the years 1926 - 1942 shows that mortality appeared to be stationary during the worst years of the depression but began to improve in 1938. 1941 was a bad year for epidemics and saw a rise in both the crude and the standardised death rate. The preliminary crude death rate for 1943 was 10.0 deaths per 1,000 population as compared with 9.7 deaths per 1,000 population in 1942.

A good index of the level of mortality in a community is afforded by the average expectation of life at birth. In the years 1930-32 that rate for all of Canada was 60.00 years for males, and 62.10 for females. In 1940-42, the rate was 62.95 years for males and 66.29 years for females, a very considerable improvement for 10 years. Since Quebec was not included in the registration area in 1921, comparable figures are not available for the previous decade. The reduction in death rates in this 10 year period corresponds pretty closely to European experience at the same level of mortality. Improvement was greater

at very young ages and for women in the child-bearing period, but was less for adult males, and older persons.

INFANT MORTALITY

The infant mortality rate (deaths of children under one year) from 1926 to 1942 shows a continuous improvement with the exception of the year 1937. There has not, however, been much progress during the war years, and the preliminary rate for 1943 was the same as for 1942, when there were 54 deaths per 1000 infants. The leading cause of death among infants under one year in Canada is prematurity. The downward trend from this cause since 1931 continued strongly through 1941 and 1942, but rose in 1943. The second most important cause of death is pneumonia, and there has been little improvement during the last 10 years or in the war years.

Diarrhoea and enteritis are diseases of infancy especially susceptible to social control, and the reduction in deaths from these causes since 1931 has been marked, though irregular, with a rapid fall from 1937 to 1940. In 1941 and 1942 the death rate rose, although the rates were still below the level of 1939. There was a further fall in 1943. Recent surveys have demonstrated that the death rate from congenital debility is greatly affected by the nutrition of the mother during pregnancy. The death rate from this cause has continually improved since 1926, and the improvement has continued during the war years, with the rate for 1942 well below any previously recorded.

It is significant that of all the causes of infant deaths, two which are much affected by the state of health of the mother during pregnancy, - congenital debility and prematurity - show the most favourable record during the war years. This would appear to show an improvement in nutrition during wartime. For other causes of death, where the causation is more complex, the picture is less favourable. In spite of the fact that high infant mortality rates are in a large part a result of poverty, there is a tendency for infant deaths to increase in prosperous times, possibly for the reason that more mothers are employed. It is important to note that the infant mortality rate in Quebec which was 94.5 deaths per 1,000 births in 1933 and 76 deaths per 1,000 births in 1941, dropped to 70 deaths per 1,000 births in 1942. Unfortunately, the Maritime province have not shared to the same extent in the general progress.

MATERNAL MORTALITY

The improvement in recent years in maternal mortality has been striking, and was particularly rapid during the war years. The preliminary figure for 1943 was 2.7 deaths per 1,000 live births. In view of the severe strain on hospital and medical facilities, and the greatly increased numbers of births among a highly mobile population, this record of progress is especially gratifying. In the three years preceding the war, the reduction in maternal mortality was 25% and in the first three war years, it was 30%. It would seem that a new phase in the history of maternal mortality was inaugurated in 1937. For many years the maternal death rate had shown little sign of improvement in Canada but in the seven years between 1936 and 1943 it was halved. A similar change took place in other countries, and it is generally believed that the introduction of the sulfa drugs played a major role in this striking change. However, Dr. Ernest Couture of the federal Department of Health and Welfare, writing in the Canadian Journal of Public Health, points out that the improvement has been greatest in the death rate from toxæmias and considers that improved nutrition has been an important factor in reducing maternal mortality. He also attaches some importance to recent

educational campaigns.

Maternal death risks vary greatly with age of mother and order of birth of child, with death rates lowest for mothers between 20 and 30 years of age. In recent years, the proportion of births to mothers of these ages has been increasing, and so has tended to lower the total death rate. The fall in the death rate among mothers 20-24 years of age from 1936 to 1942 was greater than in the total death rate. It fell by 56.6% during these years. The fall was also great among mothers 25-34 years of age, but less among very young and older mothers. Death rates by age for other than census years are subject to a considerable margin of error, due to possible errors in estimates of the population by age, but it seems clear that a more favourable age distribution of mothers can have played only a very minor role in the recent fall.

Statistics for maternal death rates by order of birth are not collected in Canada, but they probably vary in the same way as elsewhere. According to New South Wales experience, maternal death rates for first births were about twice those for second or succeeding births. For mothers of all ages, the death rate dropped sharply from the first to the second birth, then rose gradually. The level of the first birth death rate was not reached again until after the tenth birth. Among older women in Canada, there has been a rise in the proportion of first births (where there is a higher death rate), but there has also been a reduction in the number of large families (where there is also a higher death rate) and the rise in the one has compensated for the fall in the other. Therefore changes in the order of births have not had much effect on the maternal death rate.

But in the age group 20-24 years, the proportion of first births to all births increased from 1936 to 1942, the proportion of second and third births decreased, while the numbers of fourth and later births were too small for changes to be significant. If then, mortality by order of birth follows the same course in Canada as elsewhere, maternal mortality among younger mothers fell in recent years in spite of an increasing risk of death associated with greater numbers of first confinements.

STILLBIRTHS

The stillbirth rate has also been on the decline since 1929. Following is a table showing the stillbirth rate per 1,000 live births in Canada from 1926 to 1943.

TABLE I

Rate per 1,000 live births, Canada

Average	1926-30.....	31.5
	1931-35.....	30.3
	1936-40.....	28.0
	1941.....	27.0
	1942.....	26.2
	1943.....	24.0

Unlike maternal mortality, the stillbirth rate is low for first births. Hence, since there is an increasing proportion of first and second births, with a continuing diminution in large families, the current situation is in all ways favourable to a decline in the number of stillbirths.

Mortality from 10 Leading Causes of Death

The following table shows the 10 leading causes of death with the rating

for each year and the crude death rate per 100,000 population, from 1933 to 1942

TABLE II
Ten Leading Causes of Death in Canada (1) 1933-42

Year	Diseases of the Heart	Cancer (all forms)	Accidental or Violent Deaths	Nephritis	Diseases of the Arteries
1933	1 145.2	2 99.9	7 58.3	8 51.7	4 65.2
1934	1 151.3	2 97.9	6 59.8	8 52.2	3 68.3
1935	1 147.1	2 102.2	5 63.2	8 56.6	3 76.0
1936	1 149.1	2 106.2	4 67.8	8 58.1	3 82.7
1937	1 151.6	2 107.7	5 66.3	8 58.8	3 86.5
1938	1 155.2	2 107.5	5 64.4	7 58.0	3 89.1
1939	1 164.3	2 109.7	4 63.5	6 57.9	3 96.3
1940	1 178.3	2 117.2	4 65.2	5 60.1	3 103.3
1941	1 231.5	2 116.8	3 73.5	4 64.4	5 58.6
1942	1 236.4	2 117.2	3 69.8	4 62.1	5 56.0

Year	Diseases peculiar to the first year of life	Tuberculosis (all forms)	Pneumonia (all forms)	Intracranial lesions of vascular origin	Influenza (all forms)
1933	3 68.8	5 65.1	6 60.8	10 30.0	9 37.7
1934	4 64.2	7 59.5	5 60.4	9 28.9	10 18.5
1935	6 63.0	7 60.4	4 67.9	10 23.1	9 31.1
1936	7 60.0	6 61.4	5 66.4	10 20.4	9 28.3
1937	7 59.8	6 60.0	4 69.6	10 18.1	9 47.4
1938	6 58.9	8 54.7	4 66.4	10 18.0	9 21.1
1939	7 54.6	8 52.9	5 58.4	10 18.2	9 35.0
1940	6 55.6	8 50.9	7 53.9	10 20.2	9 24.5
1941	6 54.4	7 52.8	8 51.8	9 39.7	10 21.0
1942	6 51.7	7 51.5	8 49.6	9 38.4	10 10.5

(1) Exclusive of Yukon and the North West.

Changes in the classification of causes of death affect the figures for tuberculosis, diseases of the heart, diseases peculiar to the first year of life, and cardio-vascular causes. Table abbreviated from "State of Health of the People of Canada in 1942", Heagarty and Marshall.

Because of the gradual aging of the population, it is not surprising that there is a gradual increase in the crude death rate from cardio-vascular and renal diseases and from cancer. The decrease in the pneumonia death rate appears to indicate beneficial effects of new methods of treatment. Accidental deaths in 1941 and 1942 increased from the preceding five-year average. Automobile accidents were numerous in 1940 and 1941, but in 1942, as a result of the gasoline and rubber shortages, the death rate from this cause was below the average for 1926-40. As frequently happens, the number of suicides declined continuously during the war years.

MORTALITY AND MORBIDITY FROM COMMUNICABLE DISEASES

All important communicable diseases are reportable in Canada. Complete accuracy is impossible to attain, but it is believed that the standard of completeness in reporting has shown continuous improvement. This has

been responsible, in part, for the increase in the number of cases of communicable diseases registered. The following table shows the principal communicable diseases together, the number of cases, the number of deaths, the fatality case rate, and the death rate per 100,000 population.

TABLE III

Principal Communicable Diseases, Cases, Deaths, Death per 100 cases, and deaths per 100,000 population.

Year	Cases	Deaths	Deaths per 100 cases	Death Rate per 100,000 population
1939	146,709	18,312	12.5	160.0
1940	161,574	16,455	10.2	144.6
1941	255,031	16,523	6.5	148.6
1942	178,418	14,844	8.3	127.6

Throughout the war years, both the total crude death rate from communicable diseases and the fatality case rate were lower than in the last pre-war year, with the exception of 1941, which was an epidemic year. Conditions in wartime have not been altogether favourable to the control of communicable disease, because of the increased mobility of the population, overcrowding and poor housing conditions, and the shortage of medical and nursing personnel. There has not, however, been any major set-back in the health record. The following table shows the figures for the fourteen principal communicable diseases separately.

TABLE IV

Cases and Death Rates per 100,000 Population for the Principal Communicable Diseases in Canada, 1933-1943.

Cause	1933	1936	1939	1940	1941	1942	1943
Measles.....	13,569	55,724	44,477	45,851	81,051	26,258	60,466
Rubella.....	835	69,401	1,799	4,621	56,777	4,511	4,531
Chickenpox.....	23,343	25,436	25,325	32,758	27,867	30,914	30,453
Smallpox.....	100	62	198	11	26	6	6
Mumps.....	8,080	3,368	5,844	13,498	22,936	52,344	48,804
Scarlet fever.....	10,009	21,232	15,179	13,712	16,966	20,648	18,659
Diphtheria.....	2,377	2,032	2,897	2,335	2,866	2,955	2,804
Whooping cough.....	14,622	16,319	17,972	19,878	16,647	18,384	19,062
Acute poliomyelitis and polioencephalitis.....	253	978	359	192	1,881	687	527
Acute infectious encephalitis.....	34	24	40	32	1,133	81	45
Cerebrospinal meningitis.....	121	138	162	374	1,465	765	516
Influenza.....	8,181	6,796	18,395	13,704	9,656	3,397	16,856
Tuberculosis.....	8,447	8,638	10,182	10,226	10,475	12,015	12,361
Typhoid and paratyphoid fever..	2,340	1,823	1,317	1,570	1,550	1,142	1,154

Death Rates per 100,000 Population

Measles.....	1.6	3.4	1.7	1.5	2.8	1.1	1.1
Rubella.....	-	0.3	-	(2)	-	-	-
Chickenpox.....	0.3	0.3	0.2	0.2	0.16	0.24	0.24
Smallpox.....	0.1	(2)	(2)	-	-	-	-
Mumps.....	(1)	(1)	0.1	0.2	0.2	0.4	0.4
Scarlet fever.....	1.5	2.2	1.5	1.1	1.0	1.1	1.1
Diphtheria.....	2.2	2.3	3.0	1.9	2.1	2.2	2.2

Death Rates per 100,000 Population

Cause	1933	1936	1939	1940	1941	1942	1943
Whooping cough	5.2	5.4	4.8	5.5	3.8	4.8
Acute poliomyelitis and polioencephalitis	0.7	0.9	0.5	0.4	0.6	0.5
Acute infectious encephalitis	0.5	0.5	0.4	0.6	1.6	0.6
Cerebrospinal meningitis	1.0	0.9	0.7	0.9	1.8	1.3
Influenza	37.7	28.3	35.0	24.5	21.0	10.5
Tuberculosis	65.1	61.4	52.9	50.9	52.8	51.5
Typhoid and paratyphoid fever..	2.7	2.3	1.6	2.0	1.4	0.9

X: Abbreviated from "A" Statistical Survey of Public Health in Canada", 1941-43 added.
 (1) Not tabulated separately (2) Less than 0.1 per 100,000 population.

On the whole, 1940 showed a decrease in mortality from communicable diseases, in spite of some increase in the number of reported cases. Whooping cough showed an increase and a higher death rate than in previous years. Beneficial results of new methods of treatment were seen in the particularly marked reduction in the death rate from pneumonia.

During the epidemic year, 1941, cases of simple measles were almost double the average over the preceding five years, and the incidence of mumps and rubella was also high. Manitoba and Saskatchewan experienced an epidemic of two virus diseases, poliomyelitis and encephalitis. An epidemic of poliomyelitis also occurred in New Brunswick. The case incidence and the death rate from diphtheria showed an increase, but a marked decrease was seen in the influenza and pneumonia death rates. There was an upward trend in mortality from tuberculosis, diarrhoea and enteritis.

No major epidemics occurred in 1942, with the exception of localised outbreaks of diphtheria and scarlet fever. Increases were seen in the incidence of chicken-pox and whooping cough, and decreases in such diseases as measles, typhoid fever, and influenza. Death rates from tuberculosis and pneumonia continued to decrease.

In December 1943, influenza reached epidemic proportions, with 9,900 cases reported. The first six months of the same year saw 21,300 reported cases of measles. This outbreak, which lasted from March to July, accounted for 47,600 cases. The peak in most provinces occurred in May, when 16,341 cases were reported. In the last three months of that year, there was also an increased incidence concentrated primarily in Quebec and Ontario. But with these two exceptions, influenza and measles, there was, on the whole, an encouraging improvement in the state of health of the people, as reflected by the number of cases of communicable diseases reported. Slight decreases occurred in the number of reported cases of chicken-pox, diphtheria, dysentery, mumps and scarlet fever, while appreciable decreases were apparent for infectious encephalitis, erysipelas and meningitis. No change occurred in the number of typhoid and paratyphoid cases when considered as a group. The number of poliomyelitis cases (infantile paralysis) was more than cut in half from 1942 to 1943, and septic sore throat cases declined more than 35%. On the other hand, a slight increase in the number of tuberculosis cases and whooping cough cases was noted. On the basis of reported cases, the venereal diseases both gonorrhoea and syphilis, increased appreciably.

Death rates from most of the leading causes of death are markedly affected by changes in the age and sex composition of the population. Tuberculosis, still a leading cause of death, affects certain age groups much more than others. The last 10 years have seen a great reduction in the crude death rate from tuberculosis, but in the war years 1941 and 1942, progress

1943
 60,485
 4,531
 30,453
 48,304
 18,639
 2,804
 19,082
 327
 516
 16,859
 12,361
 1,154

slowed down. The number of female deaths from tuberculosis by age from 1932 to 1942 suggests that the fall in mortality among younger women from 15 to 29 years has been greater than appears from the crude death rate. In each of the five-year age groups - (15-19, 20-24, 25-29, 30-34, 35-39) the death rate fell by about a third in the 10 years ending 1942. In the group from 20 to 29 years, mortality (1941-42) was well below any previous year, but in the group from 15 to 20 years, the death rate was about stationary from 1940 to 1942. It is possible that greater employment opportunities and longer hours of work for very young women have been responsible for slowing down the rate of progress in stamping out tuberculosis which had been achieved in previous years.

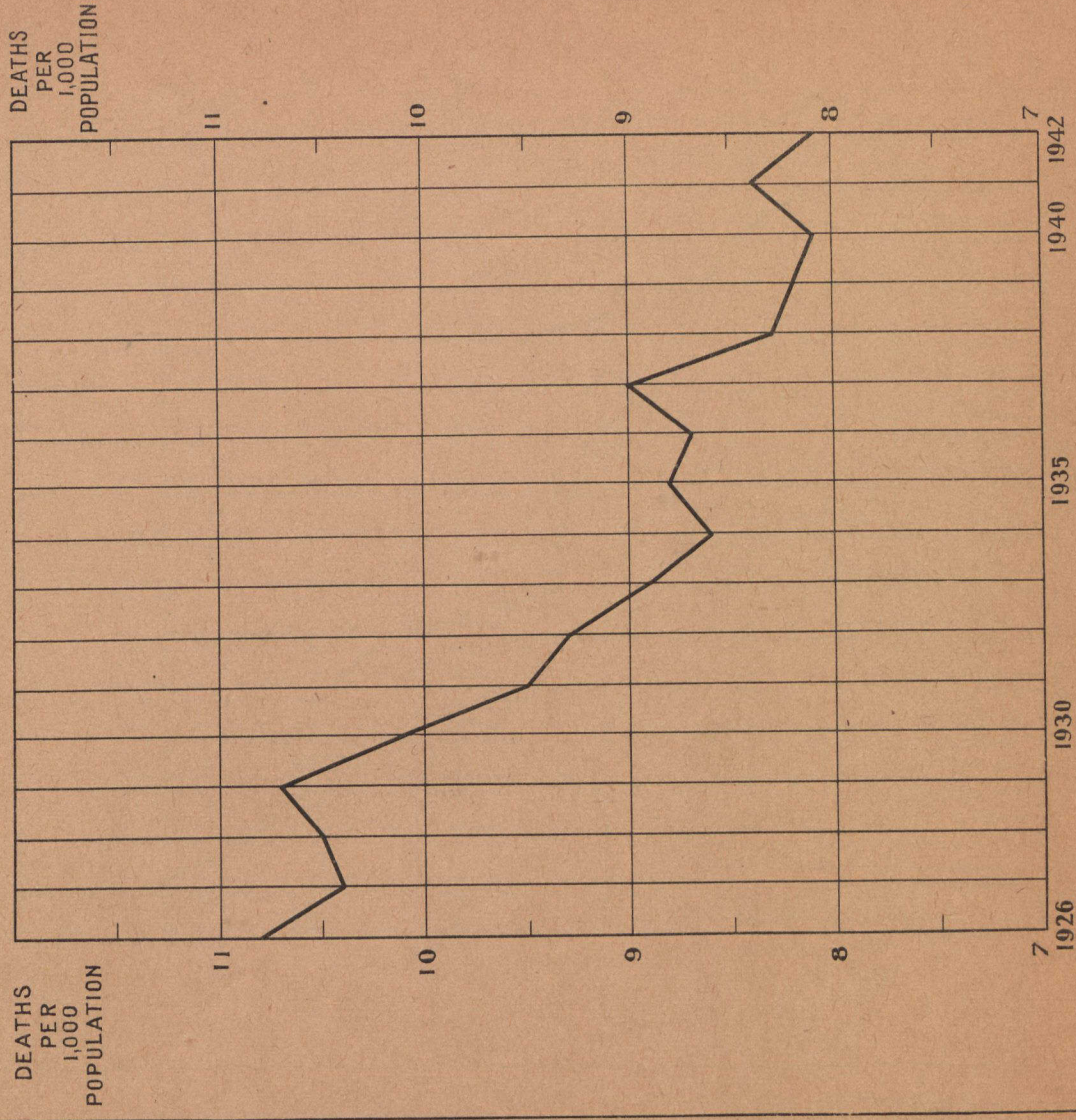
(g) SUMMARY

The most outstanding feature of the war years has been the increase in marriages and in consequence, in first and second births. Increase in employment opportunities would in any event have seen many marriages taking place which were postponed during the depths of the depression. The first stages of full mobilisation for war effort provided additional stimulus to earlier marriages. While there is some evidence of a temporary slackening in the rate of fall in family size, there is no reason to believe there has been any pronounced change in the trend towards smaller families. Marriages and births have already passed their peak, the former in 1942 and the latter in 1943.

The decade preceding the war saw a marked improvement in the health of the Canadian people as evidenced in the mean expectation of life in 1940-42. On the whole the improvement has continued during the war years. Improvement has been greatest in maternal mortality, some aspects of infant mortality, and mortality from pneumonia and influenza. Two contributory factors are believed to have been (a) improved nutrition of mothers during pregnancy, (b) recent advances in medical methods. Deaths from enemy action have not been dealt with in the present article. Inconsiderable during the first years of the war, they increased sharply during 1942 and 1943 and are likely to be high while the war is being carried into enemy territory. As regards other aspects of the mortality and morbidity record, it is evident that there is no room for any slackening in public health programmes if Canada is to continue to progress towards the mortality level of the most advanced countries.

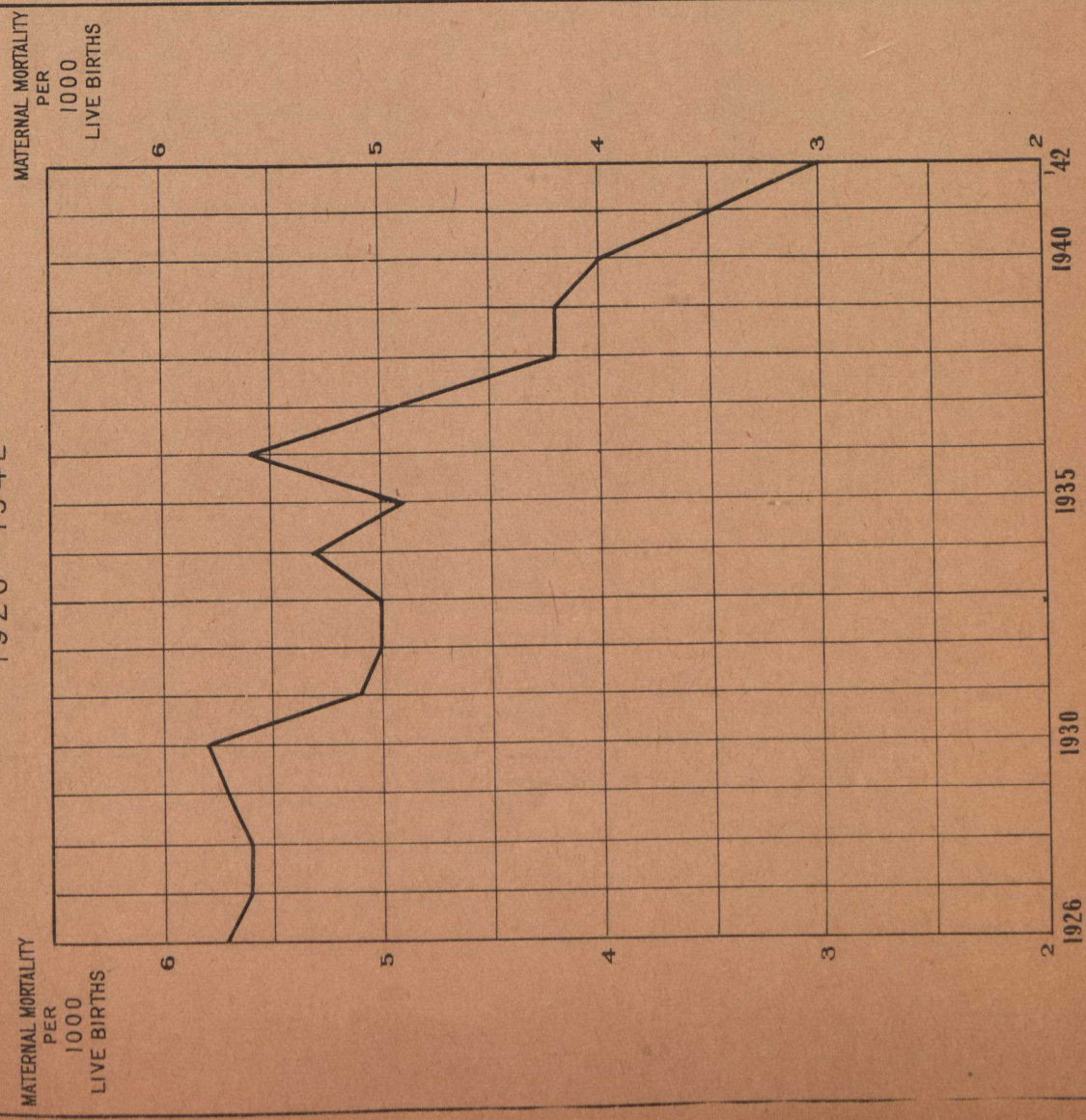
Standardised Death Rates

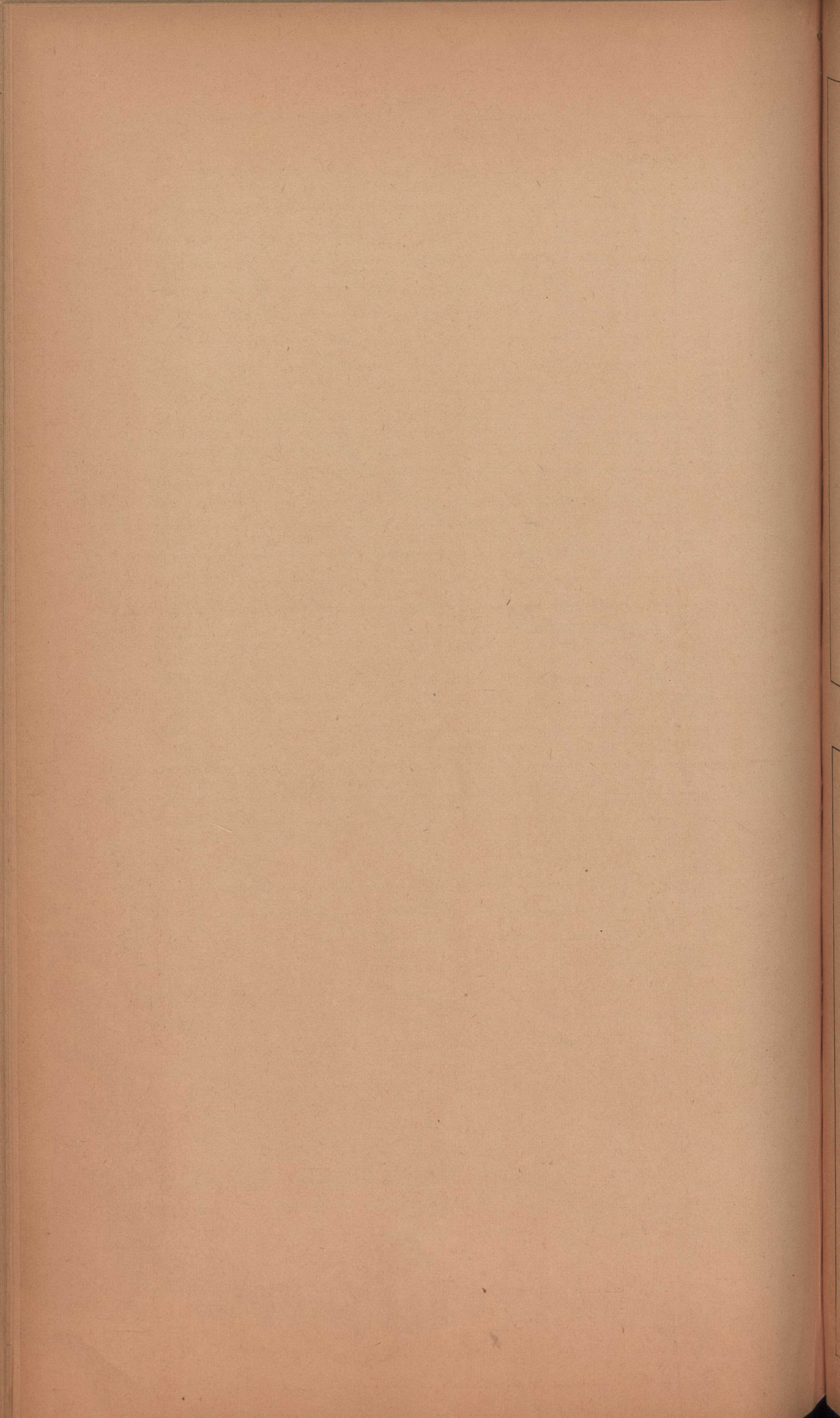
CANADA
1926 - 1942



Maternal Mortality Rates

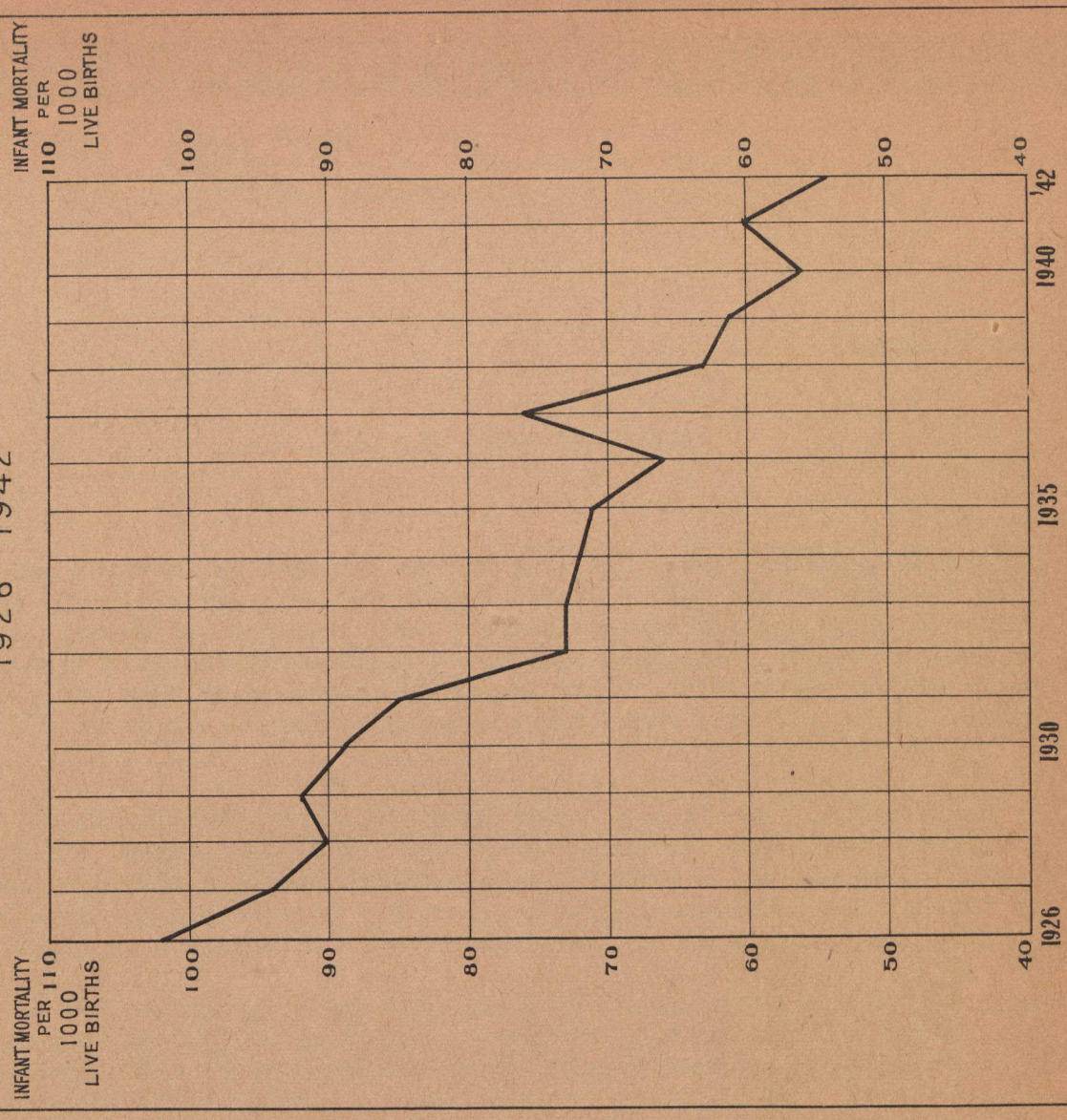
CANADA
1926 - 1942





Infant Mortality Rates

CANADA
1926 - 1942



Crude Marriage Rates and Birth Rates

CANADA
1926 - 1943

