

doctor visiting the patient's home before admitting him to hospital will at once gain valuable information on which the whole treatment, course, and prognosis may be planned. It is possible to see how the patient was managing to cope with his everyday life before his illness, or, in some cases, despite his illness. Further, the relatives and others helping the patient will nearly always be at hand, and all the circumstances of the case can be discussed with them. The relatives must never be given the impression that "granny is going away for good"; the idea should be inculcated that the stay in hospital is only likely to be temporary, so that granny's room is not given up the moment she goes out of it. Also the strain the illness is throwing on those helping can be judged. This is an important point in assessing the necessity for admission. Incontinence, bed-sores, and restless confusion at night are all conditions imposing on the relatives a nursing burden that very few can support.

Finally, it is useful from the standpoint of prognosis to know the details of the patient's home—the number of stairs, the situation of water and lavatory, the proximity of shops, and the willingness of relatives to help. On these facts one may often predict whether the patient will be able to return home once hospital treatment is finished.

4. *To make contact with general practitioners.*—Whereas formerly the plight of many old people was brought to our notice by such bodies as the Family Welfare Association, we now find that general practitioners seek our help in the first instance. The general practitioner is, we hope, reassured to feel that he is not having to deal unaided with his aged sick, who are often among his most exacting patients. By discussion with him the patient's management can be unified, and the usual dichotomy between home care and hospital care avoided. Moreover, the bond between the general practitioner and his local hospital, which is rapidly weakening elsewhere, is in this particular service strengthened.

RESULTS OF HOME VISITS

The following figures show the care arranged as a result of 127 domiciliary visits between June 1, 1949, and May 31, 1950.

The condition of some of these patients was investigated because they had been on the E.B.S. "chronic" waiting-list for some time. When the visits were made a few were found to have been admitted elsewhere or to have died.

<i>Disposal</i>	<i>No. of patients</i>
Admitted immediately	35
Admitted subsequently	20
Awaiting admission	4
Admitted elsewhere	18
Admitted elsewhere by our arrangement	5
Outpatient and domiciliary treatment	21
Nothing needed	11
Died	10
Refused treatment	3
Total ..	127

We do not intend, in this paper, to analyse these results at any length. Two interesting points, however, may be mentioned. Of the 55 patients admitted after being seen in their homes, 7 had conditions which we think might have been prevented by earlier medical treatment at home. If these 7 patients had seen a doctor earlier they would not have reached the state of neglect which finally necessitated their admission to hospital. Moreover, a further 9 patients need not have come into hospital if better social services—such as the provision of night sitters-in, more domestic help, and a laundry service—had been available. Another 4 patients were admitted while aged relatives on whom they were

dependent were themselves undergoing hospital treatment. We should also like to emphasise that in no case was a patient's admission to hospital refused when his medical condition was so serious as to demand it.

Further Development of the Service

In order to prevent such states of affairs, and to improve the geriatric service, Dr. D. H. Geffen, medical officer of health of the borough, has started a St. Pancras Association for the Care of the Aged. A club for old people has also been formed, which a doctor from the hospital is to attend, so that those who seek medical advice can readily obtain it. Welfare workers will visit old people who are incapacitated in their homes, especially those living alone. At the same time there will be a close link with the geriatric outpatient department and the outpatient services of the hospital. These measures, it is hoped, will ensure that the plight of many old people will become known to the medical authorities earlier; and granny will not be found to have "gone" while waiting for a hospital bed to be found for her.

We wish to acknowledge with gratitude the coöperation we have received in our work from Dr. D. H. Geffen, and from Major F. Hannan of the Emergency Bed Service.

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MORTALITY FROM CIRCULATORY DISEASES IN NORWAY 1940–1945

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IN recent decades the proportion of deaths attributed to diseases of the circulatory system has increased greatly, and in civilised communities this group of diseases is now the most important cause of death. Some of this increase is certainly more apparent than real, owing to the greater average length of life, more attendance on doctors, and more accurate diagnosis; and there may have been some shift in diagnoses from other groups to the circulatory group (Moriyama 1948, Woolsey and Moriyama 1948). But the possibility that there may also be a true rise in the mortality from this group of diseases, and notably from diseases of the coronary arteries, cannot be dismissed.

One explanation of the supposed increase in prevalence of these diseases is that this is connected with an increased consumption of foods containing fats and cholesterol. If this is proved correct, ideas both on treatment and on the composition of an optimal dietary will be profoundly affected.

SCOPE OF INVESTIGATION

During the late war national dietaries were greatly changed in most European countries occupied by the enemy. Food became scarce, and the shortage was primarily of foods containing fat and cholesterol. At the same time there was increased nervous strain, which has also been held to provoke circulatory diseases. In view of these facts we have investigated the mortality

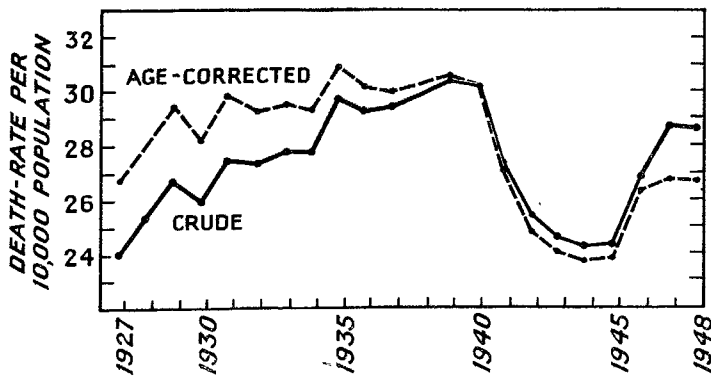


Fig. 1—Mortality from circulatory diseases in Norway in 1927-48. Standard population = population of Norway in 1940.

from these diseases in Norway in the period 1927-48. 1927 was chosen as the first year to be studied because it was then that Norway adopted the inter-Scandinavian nomenclature of causes of death. However, in 1941 the Statistical Central Bureau, which handles the figures for causes of death, adopted the international nomenclature. It has therefore been necessary to regroup the diagnoses of causes of death for the years 1941-48 so that they tally as closely as possible with the diagnoses according to the inter-Scandinavian nomenclature; this regrouping was made in accordance with directions given by the Statistical Central Bureau. Table I shows the synonymous diagnoses of the two nomenclatures.

MORTALITY FIGURES

Fig. 1 shows that until 1940 there was a steady rise in mortality from circulatory diseases. This rise was smaller with correction for age than without such correction—a feature which reflects the influence of the changing age-distribution of the community. From 1941 onwards there was a sharp fall in mortality, which was lowest in 1943-45. When the war ended mortality rose sharply. The rise before the war, the decline during the war, and the subsequent rise are equally pronounced for each sex. Expressing the mortality in 1938-40 as 100 (with correction for age), the comparable figure for 1943-45 was 78.7 for men and 78.6 for women, and for 1946-48 it was 87.3 for men and 88.1 for women.

This decline began in the year that the inter-Scandinavian nomenclature was replaced by the international nomenclature. We have concluded, however, that the change-over can account for no more than a

TABLE I—CAUSES OF DEATH ACCORDING TO THE INTERNATIONAL AND THE INTER-SCANDINAVIAN NOMENCLATURES

International	Inter-Scandinavian
Pericarditis	Pericarditis
Endocarditis acuta et subacuta	Endocarditis acuta
Endocarditis chronica (vitium organicum cordis). Alii morbi cordis	Endocarditis chronica (vitium cordis)
Myocarditis acuta et chronica, degeneratio myocardii, infarctum cordis	Myocarditis chronica
Arteriosclerosis universalis. Arteriosclerosis cordis, embolia, thrombosis, aneurysma arteriae coronariae, angina pectoris	Arteriosclerosis
Embolia et thrombosis cerebri. Congestio pulmonum, oedema, embolia, infarctum, thrombosis pulmonum	Embolia
Aneurysma (sine aorta)	Aneurysma (sine aorta)
Gangraena	Gangraena senilis
Morbi venarum	Morbi venarum
Alii morbi organ. circulat.	Alii morbi organ. circulat.
Hæmorrhagia cerebri, apoplexia	Apoplexia
Nephritis chronica	Nephritis chronica

small part of the war-time decline; and the subsequent rapid rise to the pre-war level strongly suggests that the decline was real.

Throughout the period from 1927 to 1948 the mortality from these diseases was highest in the oldest age-groups. Before the war the increase in mortality was confined to those over 60 years of age, and was greatest among those aged 80 years or more. The decline during the war affected all age-groups, but was greatest in the youngest groups. Expressing mortality in 1938-40 as 100, then in 1943-45 it was 69 among those aged 20-39 years, 71 in those aged 40-59 years, 75 in those aged 60-79 years, and 89 in those aged 80 years or more (table II). The post-war rise involved all ages over 40.

In estimating the number of deaths from each separate cause between 1927 and 1948, we are hampered by the big changes during this time both in diagnostic criteria and in the system of statistical registration; and thus we must be most cautious in drawing conclusions. Throughout the period, however, there were four main causes of death according to the inter-Scandinavian nomenclature: apoplexy, arteriosclerosis, chronic myocarditis, and chronic endocarditis (valvular disease of

TABLE II—MORTALITY IN 1943-45(a) AND 1946-48(b) RELATED TO MORTALITY IN 1938-40 WHICH IS EXPRESSED AS 100

Causes of death	Age-groups (years)									
	20-39		40-59		60-79		80 and over		All ages	
	a	b	a	b	a	b	a	b	a	b
Apoplexy .. ..	..	..	67	73	80	89	96	102	85	95
Arteriosclerosis ..	..	..	57	71	52	57	61	65	60	65
Chronic myocarditis ..	..	..	86	100	83	104	104	112	92	112
Chronic endocarditis ..	75	75	92	105	98	126	151	191	112	143
Chronic nephritis ..	50	50	47	43	51	46	50	41	50	46
All causes	69	58	71	77	75	88	89	97	81	93

the heart). Chronic nephritis was a rather less important cause; and the other causes, both individually and collectively, played a minor part.

During the whole period, apoplexy was the most important cause. The mortality from this cause rose somewhat before the war, but only among those aged 80 years or more. During the war there was a distinct, but not very well-marked, decline for all age-groups, and this was most evident in the youngest groups (see table II). Since the war there has been a definite rise in all age-groups.

Arteriosclerosis was for a long time the next most common cause; but from the middle 30s deaths from this cause declined considerably (fig. 2). The decline was certainly not due to this disease having become more rare; it is attributable rather to the change in nomenclature, the main effect of which was an increase in notifications of death from chronic myocarditis, under which heading cardiac infarction is now registered (see table I). The decline in mortality from arteriosclerosis was accentuated during the war; but since then deaths from this cause have definitely increased.

The greatest rise was in deaths from chronic myocarditis, the rise being most prominent in the oldest age-group (fig. 3). However, deaths from this cause also declined during the war, and after the war again rose.

It is more difficult to judge mortality from chronic endocarditis because since 1941 this cause has been included with "other diseases of the heart." The figures from 1941 onwards are therefore misleadingly high (table II).

The most striking features of the chronic-nephritis figures (table II) are the conspicuous decline during the war and the comparatively moderate rise after the war.

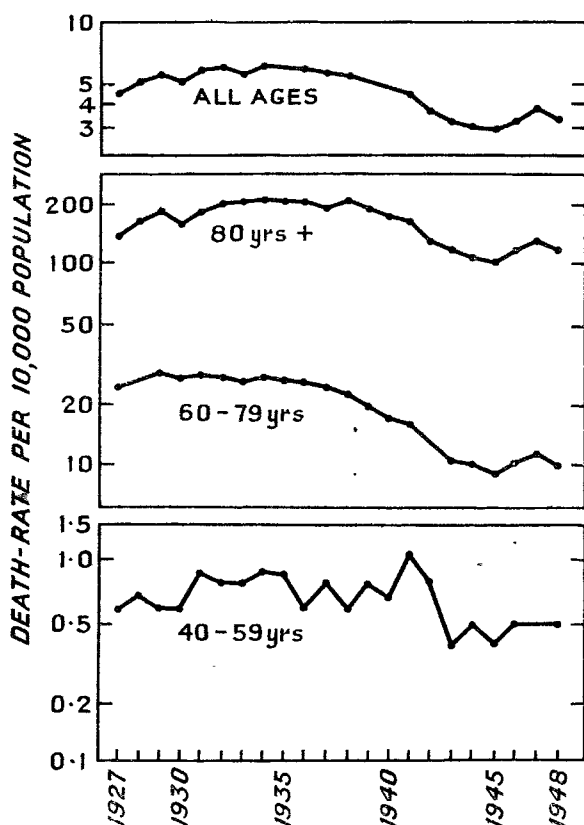


Fig. 2—Mortality from arteriosclerosis in Norway in 1927-48, by age-groups.

The following conclusions can be drawn :

1. During the war one or more factors brought about a definite decline in mortality from diseases of the circulatory system in Norway. These factors have in the main not operated since the war, and mortality has again risen.
2. These factors affected all the most important causes of death from circulatory diseases, for both sexes and every age-group.

CHANGES IN DIET

It is natural to seek a solution in the dietary changes, which began before mortality from circulatory diseases started to decline. Comparison of the dietaries of working-class families in Oslo before and during the war

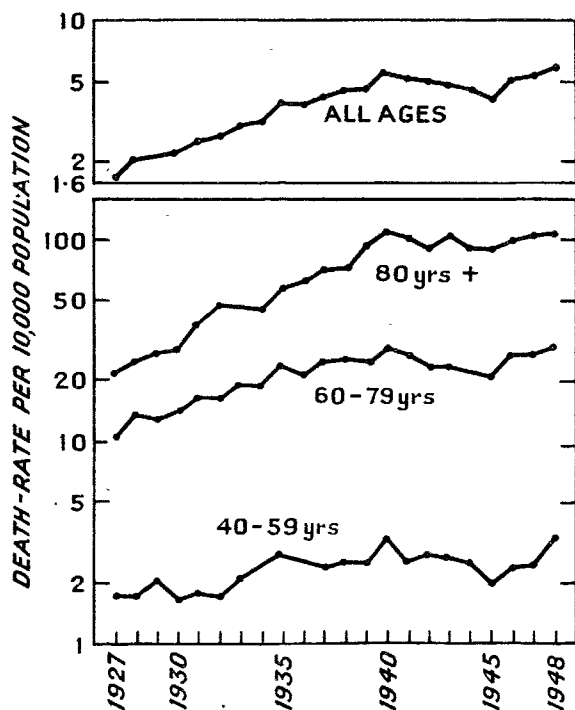


Fig. 3—Mortality from chronic myocarditis in Norway in 1927-48, by age-groups.

(Strøm 1948) shows that during the war there was a considerable decline in the consumption of meat and meat products, whole milk, cream, margarine and other fats (but not butter), cheese, eggs, fruit and berries, sugar, and coffee. On the other hand, there was a rise in the consumption of fish, skimmed milk, cereals, potatoes, and vegetables. The average calorie content of the food eaten fell from 3470 per man value per day in 1936-37 to 2850 in 1942-45. This led to widespread loss of weight. The calorie reduction was chiefly in the fat component, which fell from 159 to 71 g. per day; and the cholesterol content was reduced accordingly. The average protein content of the diet fell from 115 to 93 g. per day, while the consumption of carbohydrates rose from 395 to 429 g.

We have obtained from the ministry of supplies data on the estimated annual consumption between 1938 and 1948 of the main sources of cholesterol—milk, cream, butter, cheese, and eggs. These figures are approximate; but, as fig. 4 shows, there is close correlation between the curve for consumption of fat contained in these foods and the curve for mortality from circulatory diseases, with correction for age. We must, however, beware of regarding this evidence as decisive. Similar correlation could undoubtedly be demonstrated between mortality and trends in other commodities, such as sugar, coffee, tobacco, textiles, and footwear; yet the last two of these can hardly have exerted any influence on mortality.

TOWN AND COUNTRY

If the changes in the dietary account for the lessened mortality, the decline should be greater in urban than in rural areas. The food restrictions, though applying throughout the country, made themselves felt most in the towns. Indeed, in some rural areas the diet of the population improved during the war, because the farmers consumed more of their own produce.

To our surprise we found that the mortality declined just as much in the rural as in the urban areas. In the period 1938-40 the mortality in the urban areas was 33.5 per 10,000 population, while in the rural areas 28.6. The corresponding figures for 1943-45 were 26.9 and 23.3. Expressing mortality in 1938-40 as 100, in 1943-45 it was 80.3 in the urban areas and 81.5 in the rural areas—an insignificant difference between the two areas.

However, comparison of the behaviour of each cause of death in town and in country gives a different result. Table III shows that mortality from apoplexy declined somewhat less in the urban than in the rural areas, while mortality from chronic nephritis declined about equally in the two areas; but mortality from arteriosclerosis and chronic myocarditis (combined because of the change in nomenclature) fell much more in town than in country. Expressing the mortality from these two diseases in 1938-40 as 100, in 1943-45 it was 69.4 in the urban areas and 77.7 in the rural areas. It is precisely these diseases that might decrease most with reduction in the supply of fats and cholesterol.

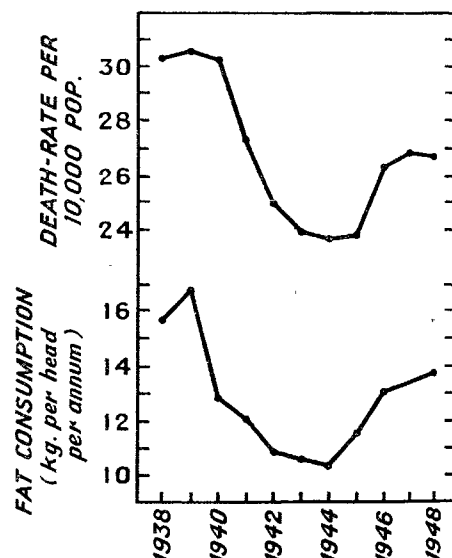


Fig. 4—Mortality from circulatory diseases, corrected for age; consumption of fat in form of butter, milk, cheese, and eggs.

TABLE III—MORTALITY FROM APOPLEXY, CHRONIC NEPHRITIS, AND ARTERIOSCLEROSIS PLUS CHRONIC MYOCARDITIS, IN URBAN AND RURAL AREAS IN 1938-40 AND 1943-45

Areas	Apoplexy		Chronic nephritis		Arterio-sclerosis plus chronic myocarditis	
	1938-40	1943-45	1938-40	1943-45	1938-40	1943-45
<i>Urban:</i>						
No. of deaths	2771	2467	693	351	2876	2012
Deaths per 10,000 pop. per year..	11.1	9.6	2.8	1.4	11.5	7.8
Relative mortality ..	100.0	87.1	100.0	50.0	100.0	69.4
<i>Rural:</i>						
No. of deaths	6171	5437	1402	768	6225	5039
Deaths per 10,000 pop. per year ..	9.8	8.3	2.2	1.2	9.9	7.7
Relative mortality ..	100.0	84.6	100.0	52.5	100.0	77.7

Lacking data on the sex and age distribution of the population in urban and rural areas, we have been obliged to limit our further comparisons to Oslo on the one hand and the whole of Norway on the other. In Oslo before the war, the adjustment of the dietary to modern standards, with a plentiful supply of "protective" foods, was fairly far advanced; and the war-time food restrictions were more severe in this city than in the country as a whole. Table IV shows that, for both sexes and for all ages combined, the decline was somewhat *smaller* in Oslo than in the whole country. This is not in keeping with the hypothesis that food restrictions lessened mortality; but close study of the table shows that the comparatively small decline in Oslo was chiefly among women aged 80 and over. Among younger women and among men in all age-groups, the decline was greater in Oslo than in the whole country, and we are tempted to ask: Was not the factor responsible for the decline in mortality really more effective in Oslo than in the country as a whole, this feature being obscured by more accurate diagnoses in Oslo during the later years in the case of the oldest women?

Comparing the causes of death, one by one, we find that the mortality from apoplexy and chronic nephritis declined somewhat less in Oslo than in the whole country, whereas mortality from arteriosclerosis plus chronic myocarditis declined almost equally in the two areas. However, under the age of 80 the decline in mortality from arteriosclerosis and myocarditis was greater in Oslo than in all Norway. Here again, the over-80 age-group forces up the total figure for Oslo, and we must again ask whether more accurate diagnosis in this age-group during the later years did not play a part, camouflaging a decline.

TABLE IV—MORTALITY FROM CIRCULATORY DISEASES IN ALL NORWAY AND IN OSLO IN 1943-45, RELATED TO MORTALITY IN 1938-40 WHICH IS EXPRESSED AS 100

Age (yr.)	Men		Women		Both sexes	
	All Norway	Oslo	All Norway	Oslo	All Norway	Oslo
40-59	80.9	68.1	73.0	54.7	76.2	63.1
60-79	77.6	66.8	75.7	76.5	76.9	72.1
80+	87.8	85.0	91.3	107.3	88.9	99.5
<i>All ages:</i>						
Direct calculation ..	83.3	81.1	83.8	90.4	83.4	86.5
Standardised calculation	78.7	75.4	78.6	84.5	78.6	81.1

The standard population is that of Norway in 1940. The "direct calculation" is computed from crude death-rates, and the "standardised calculation" from the standardised death-rates.

CONCLUSION

More definite conclusions are impossible. Our investigations have yielded, not certain proof, but several pieces of evidence for the dietary hypothesis. We have, moreover, been unable to find an alternative explanation of this remarkable decline.

SUMMARY

Before the late war mortality from diseases of the circulatory system was rising each year in Norway. This rise ceased during the war, and from 1941 to 1943-45 there was a well-marked fall in mortality from these diseases. Since the war there has been a rapid rise in mortality towards the pre-war level.

The war-time decline in mortality was equally evident for both sexes and all ages; and it involved all the most important causes of death from circulatory diseases. This also applies to the post-war rise.

The war-time decline coincided with severe dietary restrictions. The supply of calories was reduced, and this reduction was principally of foods containing fat, including those rich in cholesterol.

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LATERALLY PLACED CERVICAL DISCS

REVIEW OF TWELVE CASES

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Stookey (1928) drew attention to certain syndromes resulting from pressure on the spinal cord or its attached roots by nodular tumours taking origin from the intervertebral discs in the cervical region. These tumours, which he believed were neoplastic, he designated ventral extradural chondromas. Arising usually in or near the midline they impinged on the cord from its anterior surface, thereby dislocating it backwards. The clinical picture was commonly one of total cord compression, though at times it resembled that of the Brown-Séquard syndrome. Very rarely the tumour might be placed so far laterally as to damage nerve-roots while leaving the cord unharmed.

Earlier workers had described such tumours under different titles, such as chondromata, fibrochondromata, osteochondromata, enchondromata, chondrochordomata, and so on. For example, Gowers (1886), discussing compression of the spinal cord, refers to enchondroma "springing from the bones or intervertebral tissues" as a possible cause, and Oppenheim (1911) mentions just such a case, in which a spinal chondroma had been removed during life. More recently Elsberg (1916, 1925) and Adson (1925) reported finding a chondroma at exploratory operation in cases believed to be due to intrinsic spinal neoplasms.

Following Stookey's (1928) paper, other reports soon began to appear. Elsberg (1931) stated that he had found ventral extradural chondromata in 15 cases out of 200 explored for spinal tumour. He drew attention to the important work of Schmorl (1929) and Andrae (1929) on the pathological anatomy of the intervertebral discs, and commented on the close histological resemblance between the ventral chondromata and intervertebral discs. He felt nevertheless that there was not a complete identity, for the former showed unmistakable hyperplasia and in that sense were to be regarded as neoplasms, though of admittedly limited activity. Bucy (1930) and Alpers et al. (1933) had also taken them to be true neoplasms, but it shortly came to be widely accepted