

HOSPITAL AND COMMUNITY

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PREFACE

THE demand for hospital care continues to expand and hospital care becomes increasingly expensive in money and in highly skilled manpower. It has been found in two 'mixed' Scottish counties, with a combined population of half a million, that one person in every seven receives hospital treatment—in-patient, out-patient or both—in the course of a year: and there is reason to believe that hospital load is heavily coloured by social and environmental factors.

Some of these factors are discussed in this book, of which the major part is devoted to a study of an unselected group of 705 men treated in one or other of our 'acute' medical units in the west of Scotland—two in teaching units in city hospitals, two in key provincial hospitals. The men were seen with the physician concerned while still in hospital and, with the co-operation of their family doctors, they were seen in their own homes 3 months and again 2 years after leaving hospital. Their social background, their progress, and their difficulties have been studied, and the findings here presented may serve as a basis for discussion, and perhaps for controversy, in connexion with the best use of available hospital resources. Many of these patients had, from the nature of their illness, little prospect of full restoration to health and fitness for work. But within the limitations imposed by the severity of an illness, the permanence of benefit derived from hospital treatment depends largely on the nature of conditions, at home and at work, to which the patient returns on leaving hospital. It seems clear that further breakdown is sometimes precipitated by the transition—often sudden and dramatic—from the protective care of the modern medical ward to spartan conditions outside. Hospital treatment is usually only an episode in the general care of the patient; and the health services cannot stand in isolation from other social services. There is a limit to what Medicine can do to preserve fitness in the face of bad conditions of living and working.

The integration of health services which receives so much lip-service nowadays—but often little place in practice—is urgently necessary, not as a matter of mere administrative tidiness, but because, given effective social care to supplement

medical effort, many—like men seen in the course of this study—could be helped to a fuller measure of health and working capacity. It is surely wasteful to spend large sums on expensive hospital care, only to return a man to living and working conditions that are almost certain to drive him back to hospital in a few months. What do we really want of our hospital service?

Whether these findings from the industrial west of Scotland hold good in other types of community and in other parts of the country—or for other types of illness—only further study along these lines can show. It is vitally necessary for the rational and effective development of health and social services that such information should be available.

This study could not have been carried through without the encouragement and help of the four senior physicians in charge of the wards in which the men were treated while in hospital—Dr. W. A. Snodgrass, Dr. J. H. Wright, Dr. T. K. Maclachlan, and Dr. J. Gibson Graham—or without the very helpful co-operation of the family doctors concerned. To them, and to the social workers inside and outside the hospitals who helped in the course of the study, we gratefully acknowledge our indebtedness. As will be clear from the context, the major part of the field work on which Chapter II is based was carried out by the almoning staff of the hospital concerned, the Western Infirmary of Glasgow, of which at that time Miss L. G. Price was Head Almoner. Our thanks are due to Mr. W. B. Fletcher and our colleagues of the Glasgow Bureau of Health and Sickness Records, who undertook much of the machining of the statistical material.

In writing the story we have been greatly indebted to Miss J. Duff of the University Department of Social Medicine, who has had to bear the brunt of many of the venture's growing pains; and to Mr. W. A. Sanderson, of the Nuffield Provincial Hospitals Trust, who has piloted the manuscript through the press.

We gladly pay tribute to the stimulating papers of earlier workers in this field—especially to Professor L. J. Witts of Oxford and his co-workers and to Dr. J. Greenwood Wilson and his associates in Cardiff, whose pioneer work did so much to demonstrate the value of after-care.

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I

Introductory

At its best, the standard of hospital care in this country commands general respect; the traditional devotion of its doctors and nurses, their skill, and the general atmosphere of protective care fostered by the social service departments, contrast sharply with the stresses and strains of everyday life, the bad conditions at home and at work, from which many patients have come to hospital and to which many return on the completion of treatment. Though not all take kindly to the hospital régime, the great majority of patients leave hospital well aware that they have derived benefit from their treatment; chiefly, doubtless, because of the skilled care which they have received, but partly also because of the respite from conditions which had, in many cases, aggravated their condition.

Broadly speaking, two groups of patients compete for admission to the necessarily limited number of hospital beds. There are those who are suffering from advanced disease from which any permanent recovery is impossible and where all that can be done is to patch up the patient as well as possible, perhaps to give him a period of comparative freedom from symptoms, perhaps to enable him to return to work, if only for a limited time. Many such patients have to be admitted to hospital repeatedly in the course of a few years; often they cannot be nursed at home: some have no home in the ordinary sense of the term. In the aggregate, a few of those patients, with recurrent breakdown, may occupy a considerable proportion of available beds. Obviously they must be cared for, and looked after as well as possible; but clearly it is important that when they leave hospital everything possible should be done to minimize the risk of an early recurrence of breakdown, partly in their own interest and partly because it is urgently necessary to obtain the greatest possible measure of permanent benefit from hospital care, which has become increasingly expensive in terms of manpower and money.

The other group comprises those who are suffering from less

advanced disease, often not so gravely ill on admission to hospital; those whose prospect of ultimate recovery is better, with a reasonable probability of restoration to a measure of health that will enable them to return to their work and, given a reasonable chance, to continue in work for a long time. Sometimes, because their illness is not so immediately compelling as the other, these patients find it difficult to obtain admission to hospital; they may have to continue with a remediable disability for months, perhaps at the cost of interference with working capacity, and, consequently, limitation of industrial output. It is important that these 'early' cases should receive treatment as soon as possible; but it may be no easy matter to balance competing claims for admission to hospital. Even where treatment in hospital can bring about long-term relief, it may be important that the patient should secure some change in living or working conditions when he returns home from hospital if the good work done there is not to be rapidly undone. The transition is sudden and the contrast severe between the protective care of hospital and the stresses and strains of everyday life.

In this study it is proposed first to sketch briefly the growth of hospital care, taking Scotland as an example, and then to look at a cross-section of the cases treated in hospital under present-day conditions, noting some directions in which the burden of hospital care is influenced by social and environmental conditions. From that point the intention is to pass to a study of a group of male patients treated in the general medical wards of four 'acute' general hospitals in the west of Scotland in 1950-1, considering, on the one hand, the circumstances of the illness for which they were treated in hospital and the results of treatment there; and, on the other, how the patients fared after they left hospital, as estimated by their circumstances three months after leaving hospital and, again, two years after leaving. Some of the factors influencing the success of these men after they left hospital will be considered and a short account given of an experimental approach to the placement in suitable work of patients who left hospital with some residual disability calling for modification of employment.

The Growth of Hospital Care

I

Isolation in the medieval epidemics

IN early times hospitals were apt to be places for the rigorous isolation of those with whom their fellow-citizens shunned contact rather than centres of healing—places of unhappy memory. In many parts of the country there were to be found lazarett-houses into which lepers were required to withdraw from society, with drastic regulations governing their conduct: the inmates were bound to observe these rules under penalty of death, and some hospitals went so far as to encourage compliance by erecting gallows for execution of offenders.

More extensive measures had to be improvised for dealing with the outbreaks of plague that swept the country in the Middle Ages. So great was the panic with which these epidemics were viewed that families in which a case occurred were compelled to remove with all their goods to common lands, where they were lodged in wretched huts, hastily erected. They were visited and supervised by magistrates; there was an official one of whose main functions was to 'take notice of the graves'.

2

Monastic benevolence

But already some efforts were being made to care for the sick and the impotent. In pre-Reformation days such care lay very largely in the hands of the Church. Most monasteries possessed *hospitia* situated either at the monastery or on a route frequented by pilgrims and travellers. Monks specially skilled in medicine cared for the sick and wounded, and for those persons in the district who required medical attention. These early hospitals did not cater so much for acute sickness as do the hospitals of modern times. They were more concerned with chronic invalidity and with the impotence of advancing years, usually

continuing to look after 'sick and decayed persons' for the remainder of their lives. Already before the Reformation some of these *hospitia* were falling into disuse, and others were having increasing difficulty in finding funds to continue their work.

With the Reformation, monastic benevolence came to an end and, as there was no other agency with resources for the purpose, the care of the sick and aged was largely neglected; for a long time there was little organized provision for their care.

3

The Town's Hospital in Glasgow

The Town's Hospital in Glasgow had as its primary aim the gradual extinction of pauperism 'by the profitable employment, the virtuous education, and the frugal maintenance of the inmates'. The hospital was erected by public subscription and opened in 1733. Its maintenance was undertaken by representatives of the town council, the Merchant House, the Trades House, and the general Kirk Session, these bodies contributing in specified proportions. It was also helped by benefactions from individuals and corporations and by a small tax on the citizens.

Living conditions in the hospital appear to have been Spartan. The diet was simple in the extreme and there were many regulations, inevitably irksome. The aversion of the poor to such institutions was pronounced. Though the hospital was designed to cater mainly for the young, the aged, and the impotent, and was not a hospital in the modern sense of professing to provide active medical care for all the inmates, there had always been a number of sick people in the house. As early as 1766 the Faculty of Physicians and Surgeons, on being asked for a donation to help to extend the hospital, had insisted that at least twenty beds should be fitted up 'in a clean and decent manner, twelve of them for the sick poor from the hospital, the other eight to be occupied by the sick poor put in by the physician and surgeon, without any restriction to persons who belonged to the town or had resided in it for any particular time'. But the provision of sick beds in the Town's Hospital was unsatisfactory, and dissatisfaction with it led in time to the movement which culminated in the opening of Glasgow Royal Infirmary.

The first of the voluntary hospitals in Scotland

In 1729 the Edinburgh Infirmary, the first of the Scottish voluntary hospitals, was opened with six beds in Robertson's Close, 'one of several steep, narrow alleys on the southern slope of the Cowgate gorge'. The bedsteads in the new infirmary were of wood, the mattresses of straw, the sheets of cotton covered with quilts. Lighting was by candle. A matron and one servant constituted the entire domestic staff. In the first year of its existence the hospital received patients from Caithness, Mull, and Peterhead, as well as places nearer Edinburgh. The length of stay ranged up to three months; of the thirty-five patients treated, nineteen were discharged as cured, and five as 'recovered so as to go about their ordinary Affairs and requiring only some Time to confirm their Health, and to restore their Strength fully'. Five were dismissed, either as incurable or because of misbehaviour. One died (from consumption) and at the end of the year five remained in the infirmary. It was noted in the first Report that besides those thirty-five patients, 'who were all maintained in bed, board and medicines in the hospital, several out-patients were attended by the physicians and surgeons, who also gave their advice daily to all sick who came to the Infirmary at the hours of Visiting'.

With such a wide area to serve, the demands on the hospital were great and a new building designed for 228 sick people, 'each in a distinct bed', was opened in 1731. On the ground floor were twelve cells for mad people. The rising of 1745 threw much additional work on the infirmary, and many sick and wounded soldiers were treated there. The nursing establishment of the hospital about the end of the nineteenth century comprised 'ordinary' and 'supernumerary' nurses. Each ward was in the charge of an 'ordinary' nurse, whose duties were to clean the ward before nine o'clock in the morning, make the beds, attend generally to the patients, and carry the medicine bottles to and from the apothecary's shop. Nurses' salaries were £5 per annum. There was no 'ordinary' nurse on night duty.

In time, hospitals of a similar type began to be erected up and down the country. Many of the new hospitals had their origin in dispensaries established to provide outdoor medical

assistance for the necessitous poor; it was usually found that there were many patients who could not be treated successfully as out-patients and for whom a 'house of recovery' had to be provided.

5

The attitude of the people to the new hospitals

Though the hospitals did not lack for patients, many poor people were still unwilling to enter their gates, partly because of a natural reluctance to trust themselves to places which were still too often regarded as the last resorts of hopeless cases, partly because there was a widespread belief that the nurses were unkind to their patients. As late as 1840 Dr. Allison, the doctor in Tranent, reported that in his parish most poor people were unwilling to enter hospital; he explained that this disinclination arose from the distance—the nearest hospital being ten miles away—the expense and fatigue of travelling, and 'the feeling of mistrust in respect to good usage from the nurses, who bear a very bad character among the poor classes'. About this time, or a little later, it was recognized by the managers of the Edinburgh Infirmary that the nursing arrangements were bad, and the managers accepted an offer whereby an Association for the Training of Nurses undertook to provide the nurses (and their salaries), the managers providing rations and accommodation. The association proposed to provide each nurse with two quart bottles of ale daily, if the managers were not prepared to do so: but after a conference it was decided 'that in future every nurse should have an imperial pint of good table beer daily, to be drawn off from the cask at the time of its being consumed, a slightly milder Prestonpans beer being ordered'.

6

High fever-prevalence in the nineteenth century

The accommodation in the new voluntary hospitals, which had been provided primarily to deal with the ordinary illnesses of the community, was soon severely taxed by successive waves of major epidemic disease which swept the country in the first half of the nineteenth century, with a resulting influx of cases

whose care was expensive alike in beds and money. Thus the Royal Infirmary of Glasgow, which had been opened at the end of 1794, had no great difficulty in balancing its accounts until a typhus epidemic occurred in 1818. Of 2,336 patients admitted during that year, 1,371 suffered from fever. But the very alarm at the prevalence of fever soon stimulated contributions to the hospital and it was decided to build a fever hospital with 220 beds in association with the Infirmary, 'and besides this permanent fever accommodation it was on various occasions found necessary to provide temporary hospital accommodation, and to appropriate within the Infirmary rooms never intended for fever patients'. In an attempt to stem the flow of fever cases seeking treatment at the hospital the directors themselves took steps to have the patients' houses cleaned and fumigated, 'hoping thus to stay the contagion'.

7

Official views on responsibility for provision of hospital care

About this time considerable discussion arose in Glasgow (and doubtless elsewhere) about the responsibility for fever hospital provision. A committee appointed to consider the future of the Town's Hospital—essentially a mixed poorhouse—considered the matter but concluded that the provision of a fever ward would not be a legitimate use of their funds, and that such an institution, if necessary after the Royal Infirmary could take no more cases, should be dependent on private benevolence. Many years were to elapse before *ad hoc* fever hospitals of a permanent nature were erected by the local authorities.

The same committee considered the questions of the need for further institutional accommodation for the general sick and for the insane. They were satisfied that it was not possible to rely for the treatment of the kind of sick patients then in the Town's Hospital on the recently established Royal Infirmary, 'which is a general receptacle for recovery—not of paupers, whose age and ailments admit of no hope of ultimate cure—but of patients to whom relief may be successfully administered for the purpose of restoring them to health and ability for exertion'. The committee concluded that they should provide in their institution 120 sick beds of the total 500. On the question of provision for

lunatics, the committee recommended that, where there was 'a rational prospect of cure', a fair trial should be made of treatment in a mental hospital; but, activated doubtless by motives of economy, the directors were equally certain that 'when this object appears hopeless, they should immediately be brought back to the [poorhouse] Hospital'.

8

The work of the dispensaries

Meanwhile, the dispensaries which had been established in many centres of population were undertaking a good deal of out-patient medical care, often in close collaboration with the young voluntary hospitals. The report of the Montrose Dispensary for the year ending 1 June 1840 prided itself, with some justification, on the statistical presentation of the work done during the year: the work of the dispensary was probably typical of its kind. Altogether 418 patients were treated, 162 males and 256 females, many of them coming from the surrounding countryside. Ninety-six of the patients were under 10 years of age, 135 between 10 and 30, and 58 over 60. Sixty of the patients were classified as cases of skin disease; 45 as suffering from 'common or typhus fever'; 40 from catarrh or influenza; 27 from abscesses, boils, &c.; 25 from injuries; 20 from diarrhoea, dysentery, &c.; 18 from apoplexy or palsy; 17 from female complaints; 17 from dropsy; 15 from consumption or debility; and 9 each from rheumatism, inflammation of the lungs, diseases of the eyes, and 'teething and worms'. Of the patients treated, 286 were described as 'cured' and 34 as 'relieved'. Eleven were 'transferred to infirmary', 22 died, and the remainder were under treatment at the end of the year.

There were many dispensaries of this kind and they did a great deal of valuable work for the relief of the sick poor. It was said of the Edinburgh dispensary at the end of the eighteenth century that such was the state of improvement to which the institution had been brought that better provision for the indigent sick could not be found in any other town in Europe: and it was added that not only was appropriate medicinal treatment given, but that 'Flannel also is given to infants when in need of clothing; steel bandages presented to ruptured

patients who would otherwise be unable to earn their bread', an interesting attempt to secure that the patient was treated to the point of fitness for return to work.

9

Growth of hospitals in the second half of the nineteenth century

The second half of the nineteenth century saw a great development of hospitals of varying size and function in provincial centres all over the country. This growth was encouraged by the new possibilities for operative surgery opened up by Lister's application of antiseptics and by advances in medical treatment. The hospitals began to admit an earlier type of case and to obtain correspondingly better results. With the decline in hospital mortality and with improvement in the standard of nursing, the attitude of the people to these institutions began to change; there was no longer the same reluctance to enter hospital.

10

The genesis of a typical provincial hospital

Many of these new ventures started in a humble way as cottage hospitals, often with a bias to surgical treatment. It may be worth while to trace the growth of a typical 'district hospital'. Falkirk Cottage Hospital, which was opened in 1889, originally had nine or ten beds, preference being given to surgical cases and those arising from accidents. From the beginning difficulty was experienced in accommodating all the patients who sought admission: the pressure was greatest on male beds. The surgical operations performed were chiefly amputations, doubtless often following foundry accidents. Soon there began to arise a demand for the admission of medical cases as well as surgical: in the seventh annual report it was stated that of the 120 cases dealt with during that year, forty-six were medical and seventy-four surgical. The Medical Officer made a strong appeal for extension of the hospital. He pointed out that, in the treatment of serious accidents occurring in the district, the cottage hospital was bound to be superior to any institution, no matter how well equipped, situated at a greater distance: 'In such cases prompt

action, after careful removal for a short distance, is often successful in saving a life, which would be lost in the hands of the most skilful surgeon after the delay, and the shaking, and perhaps the loss of blood, that must occur in a journey of 20 miles.' But he also pointed out that there were many other cases that could hardly recover at home, yet were refused admission to the larger infirmaries as being too chronic or too slight; and that there were many others where the home surroundings were fatal to the hope of speedy cure, and yet where removal to a distance would put the patient out of touch with his or her family, with results harmful to both. In the local hospital, he pointed out, a mother could see her children frequently and could hear how they were taken care of in her absence: parents could have their minds kept at rest about a sick child, without incurring the expense of a journey to one of the larger towns; and 'the many sufferers from tubercular diseases could not only have their minds at rest, but could recover in an atmosphere which was a good deal better for them than that which was to be had in the best ventilated wards of the large hospitals'.

Meanwhile the district and its industry were developing rapidly. Big extensions to the hospital were completed in 1900, and in 1904 it was resolved to change its name: 'In view of the size of the hospital, and of the greatly increased importance of the work which is now done there, the managers resolved that hence forth the hospital shall be called "The Falkirk Infirmity".' Not only was the volume of work growing; its whole picture was changing. The report of 1909 stated that in that year, for the first time, no major amputations had been performed; but there had been thirty-eight operations for the radical cure of hernia and twenty-six for the removal of the appendix; and succeeding reports told with obvious relish of essays in the newer surgery.

II

The impact of new health services

About this time the managers began to be concerned over the effect on the hospital of the development of the new public medical services. They had noted a considerable increase in the number of cases treated, and particularly in the number of out-patients, as a result of the introduction of the medical examina-

tion of schoolchildren; and they had found the School Board unwilling, or unable, to pay for the treatment of those patients. Naturally, the managers of the infirmary regarded with some anxiety the possible effect of the new National Health Insurance Act on the work of the infirmary. In their report for 1913 they said that while it was yet premature to estimate the ultimate effect, there seemed no probability of any appreciable diminution in the work of the hospital, and that voluntarily-supported infirmaries would be as necessary in the future as they had been in the past; and that, indeed, the fulfilment of the aims of the Act would not be possible without such institutions. In the report for the following year it was stated that the number of out-patients treated at the infirmary had decreased since the passing of the Act by some 10 per cent., whereas the number of operations had materially increased.

During the war of 1914-18 the infirmary undertook the treatment of military patients, and a large hut was erected in the grounds to supplement the available accommodation. After the war the extended accommodation—about 65 beds in all—continued to be overtaxed by ordinary civilian requirements. It was realized that the existing hospital site could not well accommodate further buildings, and the managers resolved to build elsewhere an entirely new modern hospital. This new hospital, subsequently named Falkirk and District Royal Infirmary, was ready in 1931; it had 205 beds, twenty of them forming a maternity unit, and there was provision for various specialisms in addition to general medical and surgical work.

12

Steady increase in number of patients treated and change in type of case

Records have been kept of patients treated in the hospital since its inception. The number has continued to grow year by year: between 1889 and 1894 the annual average was 61 in-patients and 1 out-patient; during the period 1899-1904, 257 in-patients and 112 out-patients; during the period 1909-14, 472 in-patients and 620 out-patients. By 1946-7 the average annual number of in-patients had risen to 4,076 and that of out-patients to 10,751. The territory served by the hospital has widened and the hospital has become much less an accident hospital. The

ratio of female to male cases treated increased greatly between 1914 and 1946, largely as a result of the development of obstetric and gynaecological work.

Unfortunately the records preserved for the first three years are not in the precise form adopted thereafter: but of the 137 patients treated during this period, sixty-one suffered from injuries of one sort or another, often sustained in the local iron works, nineteen from diseases of the skin and cellular tissues, and nineteen from respiratory disease.

Since the early days there has been a pronounced fall in the proportion of cases of infective disease, partly accounted for by the fact that a considerable number of cases of pulmonary tuberculosis were treated in the hospital. There have been increases in the proportion of diseases of the digestive system—most marked in the period 1908–14, which saw a notable increase in the number of patients admitted to hospital for surgical treatment of hernia and appendicitis—and in the proportion of diseases of the genito-urinary system.

Before 1914 approximately 85 per cent. of the patients treated in the hospital for injuries were males; nowadays the proportion is about 73 per cent. Perhaps the most striking feature that emerges, when the type of injury that compelled admission in pre-1914 days is compared with that prevailing nowadays, is the reduction in burning accidents. This fall in the relative proportion of cases of burning accidents is a feature of each of the principal occupational groups treated in the hospital—coal-miners, transport workers, iron-moulders, and other metal-workers; it has been particularly striking among metal-workers, where burns used to occur for quite one in three of all cases admitted to the hospital as against the present figure of about one in eight. The proportion of injuries involving fracture has changed but little.

Of all cases of accident admitted to the hospital between 1893 and 1914, 11·7 per cent. died; the corresponding figure in 1946–7 was 3·7 per cent.

There has been a marked reduction in duration of stay in hospital; during the period 1893–1907, 38 per cent. of the patients treated remained in hospital for upwards of one month; in 1946–7 the figure had fallen to 17 per cent. This reduction in duration of stay has mainly affected old people and children

and has been noticeable in varying degree in most of the major clinical groups. The transfer of patients from one hospital to another was a rare event before the First World War and most of the few patients transferred were suffering from injuries and infectious diseases.

In general, case mortality has fallen with the years. This has held good for the majority of the important disease groups; fall in case mortality has been most striking among patients suffering from infectious disease and diseases of digestion.

13

More recent events in hospital history

In 1929, as part of the effort to remove the stigma of poor relief, many hospitals which had been administered under the Public Assistance powers of local authorities were transferred to their health committees and became 'public health' hospitals, very much as were the hospitals for infectious diseases. Under this new direction the local authority hospitals made considerable advance and some came to be used as teaching hospitals, but it would be idle to deny that, in general, there was still a considerable gap between the attitudes and standards of the two sets of hospitals, voluntary and statutory, a gap not entirely bridged even by some interchange of medical staff; and this gap was reflected—perhaps exaggerated—in the attitude of the public to the two sets of hospitals.

Between the wars a great deal of thought had been given to the reorganization of hospital services. In Scotland, for instance, repeated commissions of inquiry considered the subject and the report of the Committee on Scottish Health Services,¹ which was concerned with the formulation of machinery for securing 'an adequate hospital service on co-ordinated lines' had endorsed the need for development of hospital services on a regional basis; it referred expressly to the need for follow-up work, believing that this would continue to grow 'and that it will involve, among other things, the development of co-operation with general practitioners, the increased employment of almoners, or other officials who are qualified to advise patients, and the development of facilities for convalescence'. On the

¹ *Report of the Committee on Scottish Health Services*. H.M.S.O., 1936 (Cmd. 5204).

question of convalescence, the committee was greatly impressed by the evidence submitted to it on the value of convalescent treatment, both for the full recovery of patients and for the relief of pressure in the hospital. In this connexion it drew attention to the work of the Astley Ainslie Institution which had been founded in 1923 and to the work of which further reference will be made later.

Meanwhile public concern had been stirred by the report of a British Medical Association committee¹ which (in 1935) showed that patients who had sustained fractures as a result of accident often appeared to be off work for a longer period than might have been expected. Following this the Government of the day set up an Inter-Departmental Committee on the Rehabilitation of Persons Injured by Accidents, and the final report² of that committee, concerned as it was almost exclusively with fractures, recognized that the principles applicable to fracture treatment might be applied to other surgical conditions. The committee came to the conclusion that there was not then in existence an effective service designed to keep in touch with fracture cases right up to the point of successful return to work. It was recommended that hospital treatment should be continued until restoration of working capacity had been effected to the fullest possible extent, and that an important duty of the service should lie in follow-up and after-care after the patient left hospital. Already the experience of some of the Employers' Mutual Assurance Associations, especially in the mining industry, had shown that it was possible, by intensive supervision, to shorten appreciably the duration of absence from work following accidents. During the war the experience of the Services afforded ample confirmation of this: so much so that civilian hospitals were encouraged to adopt the methods of these 'rehabilitation' or 'fitness' centres as a means of restoring their patients to working capacity at the earliest possible moment; and these centres undoubtedly did a great deal of valuable work, not only in surgical conditions, but in a wide range of medical disabilities as well.

¹ *Report of Committee on Fractures*. British Medical Association, 1935.

² *Final Report of the Inter-Departmental Committee on the Rehabilitation of Persons Injured by Accidents*. H.M.S.O., 1939.

The whole question of hospital care and rehabilitation was brought into prominence in the report of Sir William Beveridge on Social Insurance and Allied Services.¹ The Beveridge plan for social security accepted that no satisfactory scheme could be devised except on three broad assumptions, of which one (B) was that a comprehensive health and rehabilitation service for the prevention and cure of disease and restoration of capacity for work would be available to all members of the community. This was taken to cover the provision of a National Health Service for the prevention and cure of disease and disability by medical treatment and also rehabilitation and 'fitting for employment' by treatment which would be both medical and 'post-medical'—an unfortunate term, for some degree of medical care is necessary right up to the point of fitness for return to work. Sir William Beveridge believed that, as a logical corollary to the receipt of high benefits and disability payments, the individual should recognize the duty to be well and to cooperate in all steps which might lead to diagnosis of disease in the early stages, 'when it can be prevented'. Discussing the factors which operated to delay recourse to hospital after that had become desirable, Sir William thought it possible that the main practical reasons were not difficulties about paying for treatment, but rather deficiency of hospital accommodation and unwillingness or inability to give up work or household duties in order to be treated. Of rehabilitation, he wrote that 'it must be continued from the medical through the post-medical stage till the maximum of ordinary capacity is restored' and that 'a service for this purpose should be available for all disabled persons who can profit by it, irrespective of the cause of their disability'.

At the same time attention was being focused on some of the major problems in hospital administration and, among them, the question of how best to undertake the treatment of the chronic sick. The report of the Committee on Post-war Hospital Problems in Scotland² said on that subject that, while

¹ *Social Insurance and Allied Services*. Report by Sir William Beveridge. H.M.S.O., 1942 (Cmd. 6404).

² *Report of the Committee on Post-war Hospital Problems in Scotland*. H.M.S.O., 1943 (Cmd. 6472).

appreciating the stimulus to medical standards of active hospital work and sympathizing with the claims of the municipal hospitals in the matter, the committee had come to the conclusion that the solution of the problems of the treatment of the chronic sick should not be sought through any large-scale redistribution of chronics between local authority and voluntary hospitals, considering that the right course in the interests both of the chronic sick themselves and of the hospitals would be to develop special institutions for their care, 'much of which is only in the most elementary degree of a medical character'. The committee realized that there were practical difficulties in the way of the creation of special institutions for the care of the chronic sick and that such places were scarcely likely to make a wide public appeal.

Particularly during the war years, when so much depended on the maintenance of industrial output, there was a growing recognition of the need to utilize hospital resources, so far as possible, in the treatment of 'early' cases and to seek to cut short incapacity for work. A good deal of experimental work along these lines was carried out in Scotland at that time, and some of it will be referred to in greater detail later.

16

The introduction in 1948 of the National Health Service, and the other elements in the social security programme, marked the opening of a new chapter in hospital history. Already in 1944 the passing of the Disabled Persons (Employment) Act had provided official machinery for helping disabled persons to obtain suitable work; and, among other things, the new Health Service Acts laid on local authorities responsibility for the care and after-care of patients who required it on the score of age or disability.

Whether the hospital service has made the measure of progress that might have been expected in the five years since the passing of the Act is a moot point: certainly much elaborate and costly administrative machinery has been created. The service is inevitably much more expensive than it was; and this very expensiveness makes it doubly important to see that it is made to yield the greatest possible return in terms of permanent benefit to the community.

3

The Extent of Hospital Care in two 'Mixed' Scottish Counties

I

Lack of information about the illnesses of the people

It has been shown that, with the growth of hospital resources and the changing attitude of the people to hospital care, the nature and volume of sickness treated in hospital began to take new shape. There is no single comprehensive index of the illnesses current in a community. Information about causes of death has long been published in the annual reports of the Registrar General, but there has not been any comparable source of information presenting an adequate picture of the prevalence of illness. The conditions chiefly responsible for incapacity for work are not the same as the chief causes of death. For long some information has been available about particular types of sickness, notably the infectious diseases, and for the years from 1930 to 1938 valuable reports¹ were prepared about the nature and volume of incapacitating sickness among the Scottish insured population; but these figures, in the nature of things, dealt only with particular diseases or particular groups of the population. Some indication of the number and type of cases treated used to appear in many hospital annual reports, but they were concerned with the practice of individual hospitals rather than with the incidence of sickness in the community as a whole.

2

Studies carried out in Stirlingshire and Ayrshire

In 1946 it occurred to the committee of the Glasgow Bureau of Health and Sickness Records (of which one of the present

¹ *Incapacitating Sickness in the Insured Population*. Department of Health for Scotland. H.M.S.O., 1932-8.

authors was Director) that it would be worth while to try to obtain a comprehensive picture of hospital-treated sickness of all types occurring among the inhabitants of a representative area of known population, whether the illness arising among the inhabitants of the area was actually treated in hospitals within it or in hospitals elsewhere. The counties of Stirling and Ayr were selected for investigation along these lines and reports on these studies have been published by the Nuffield Provincial Hospitals Trust.¹ Caution is necessary in drawing wide inference from the results of these studies, for they necessarily reflect facilities actually available and used, as distinct from the hospital needs of the community; and the official hospital survey reports published a few years ago by H.M. Stationery Office made it plain that the two are by no means the same. It was estimated in the report on the western region of Scotland² that in Stirlingshire, for instance, there was a deficiency of some hundreds of hospital beds.

Doctors practising in these two counties were asked whether they had difficulty in securing admission to hospital for their patients, and of 100 who replied nearly all—well over 90 per cent.—reported that they were experiencing some difficulty in securing hospital admission for one type of patient or another: 87 per cent. in securing admission for chronic or infirm cases, which often presented very great difficulty; 25 per cent. in securing admission for cases of tuberculosis; 15 per cent. for gynaecological cases; 11 per cent. for cases of disease of the ear, nose, and throat; and 8 per cent. each for neurological and ophthalmic cases. Some reported that, though acute cases could usually be admitted without delay, 'waiting-list' cases of a general medical or surgical nature were apt to have to wait too long; and a few doctors, especially those practising in outlying areas, had difficulty in securing hospital treatment for special types of cases—e.g. maternity and orthopaedic cases and patients suffering from skin diseases.

Any imperfections in the basic hospital records must inevitably

¹ *Hospital and Community. I. Hospital-Treated Sickness amongst the People of Stirlingshire.* Nuffield Provincial Hospitals Trust, 1948; *Hospital and Community. II. Hospital-Treated Sickness amongst the People of Ayrshire.* Nuffield Provincial Hospitals Trust, 1950.

² *Scottish Hospitals Survey: Report on the Western Region.* Department of Health for Scotland, 1946.

be reflected in their analysis. Further, many factors tend to influence, and perhaps distort, the picture of hospital-treated sickness in an area: geographical and social considerations, the prestige of individual hospitals and the extent to which they select cases for admission, the personal associations of individual doctors with particular hospitals, the extent of provision for special types of cases, to mention only a few; and, perhaps as important as any, the extent and type of hospital out-patient departments in the area. In making these studies in Stirlingshire and Ayrshire no cognizance was taken of patients treated in private nursing homes.

It may be argued that, with all the possibilities of error, little is to be gained from studies of this kind—the more so because, in view of the dependence of the number of patients treated on the number and nature of available beds, the results will be liable to vary greatly from area to area. But even when all these possibly disturbing factors were taken into account, it was felt that a comprehensive picture of illness of all kinds treated in hospital, as in-patient and as out-patient, from a population of known size and mixed interests should be of value in shaping an approach to broad administrative problems of hospital policy, in throwing into relief the general pattern of hospital-treated sickness, and in suggesting further lines of medical or administrative research. These were the considerations that prompted the Stirlingshire and Ayrshire studies, undertaken with a due appreciation of the difficulties involved and in the belief that investigations of this kind might break new ground by trying to explore, in a tentative way, the influence of social background in shaping the general load of hospital-treated sickness in a community. It is not proposed to give in this chapter a detailed account of the Stirlingshire and Ayrshire studies—reports dealing with them have been published separately—but rather to summarize the main points that emerged, and some of the problems which they raised. So far as is known these studies were the first of their kind to be made in Britain.

3

The hospital resources of the two counties

The counties of Stirling and Ayr have much in common. Both are mixed counties with large mining, industrial, and agricul-

tural elements. Each has within its bounds considerable hospital provision, with ready access to city facilities in supplement of local resources. When these studies were carried out the extended population of Stirlingshire (including the 'large burghs' of Falkirk and Stirling) was 183,000; the population of Ayrshire, including the burghs of Ayr and Kilmarnock, was 315,500. The population of Ayrshire was slightly 'older' than that of Stirlingshire; 10·2 per cent. of its inhabitants were over 65 years of age as compared with 8·7 per cent. in Stirlingshire, but this should not greatly influence the picture of hospital-treated sickness in the area.

It was estimated that throughout the year of the survey the number of effective hospital beds within Stirlingshire, apart from beds for mental patients, was equal to some 5·5 per 1,000 of the population. In Ayrshire the comparable ratio was 5·9 per 1,000 of the population.

4

Volume of sickness treated in hospital

Records were obtained from fifty-eight Scottish hospitals of the case reports of 11,130 patients discharged from in-patient treatment and of 20,233 out-patients who had their homes in Stirlingshire—equal respectively to 67·5 and 110·5 per 1,000 of the population. Similarly records were obtained from fifty-three Scottish hospitals and one English hospital in respect of 25,216 in-patients and 34,950 out-patients domiciled in Ayrshire—equal respectively to 79·9 and 110·8 per 1,000 of the population. The Ayrshire figures for in-patients and patient-bed-days were higher than those for Stirlingshire, but the out-patient rates were practically identical. When the two areas were considered together, it was found that from their combined population of 499,000 the number of cases treated in the course of a year was approximately seventy-three in-patients per 1,000 of the population; the number of patient-bed-days was 2,275 per 1,000 of the population; and the number of out-patients treated was 110 per 1,000 of the population.

These figures do not represent the actual number of individual patients receiving hospital treatment, for some patients received both in-patient and out-patient treatment, and, of the in-

patients, some were admitted on transfer from other hospitals, and some were subsequently readmitted for further treatment during the year of the survey. So far as can be ascertained, the actual number of separate individuals receiving hospital care, in-patient or out-patient or both, in the course of a year worked out at 140 per 1,000 of the population in Stirlingshire and 151 per 1,000 in Ayrshire, or 147 per 1,000 in the two counties combined: equal to fully one person in every seven of the population. The results of these studies, based on a year's observation of areas with a combined population of nearly half a million, should afford a reasonably accurate picture of the hospital load in mixed county areas of this kind, with hospital resources of the order indicated above and with easy access to city hospitals. Similar studies carried out in large cities or in remote rural counties might, of course, produce very different results.

5

Type of sickness and duration of stay in hospital

The total volume of sickness receiving hospital treatment and the proportion of cases of different types per 1,000 of population in the combined counties is shown in Table 1.

The pattern of hospital-treated sickness among females is profoundly influenced by pregnancy, childbirth, and their complications; under this heading the proportion of patients treated, and of patient-bed-days, was about one-third higher in Ayrshire than in Stirlingshire. Apart from maternity cases, the clinical conditions most frequently responsible for admission to hospital were, in both sexes, the group of digestive diseases; nervous (and mental) diseases were responsible for the largest number of days of hospital treatment; and injuries accounted for the largest group of out-patients.

The average duration of stay in hospital was 31.2 days; but duration of stay varied widely from one disease-group to another and was related to the age and sex of the patients treated. The very large number of patient-bed-days attributed to diseases of the nervous system was mainly due to the inclusion in the group of patients suffering from mental illness: the 262 patients completing treatment in mental hospitals accounted for a total of

*The Extent of Hospital Care in*TABLE 1. *Volume and nature of hospital-treated sickness per 1,000 of population. Stirlingshire and Ayrshire combined*

<i>Clinical group</i>	<i>Per 1,000 of population</i>		
	<i>In-patients</i>	<i>Patient-bed-days</i>	<i>Out-patients</i>
Infective diseases	5·7	433	2·4
Neoplasms	3·0	75	2·9
General diseases (chiefly diabetes and thyroid conditions)	1·1	30	1·5
Diseases of nervous system and sense organs	3·3	741	11·6
Diseases of circulatory system	2·2	112	3·0
Diseases of respiratory system	2·8	65	3·4
Diseases of digestive system	14·3	173	11·1
Diseases of genito-urinary system and breast	4·2	68	5·1
Diseases of skin and cellular tissue	1·5	33	6·9
Diseases of bones and organs of movement	1·7	55	7·2
Ill-defined conditions and symptoms	1·5	28	13·5
Injuries and acute poisoning	5·0	109	32·8
Other defined diseases	2·5	62	8·0
	48·8	1,984	109·4
Pregnancy, child-birth, and complications	14·0	186	1·2
Infants born in hospital	10·1	105	—
	24·1	291	1·2
Total	72·9	2,275	110·6

360,149 days. The chief contributor to the volume of hospital sickness attributable to infective diseases was tuberculosis; and the 929 patients completing in-patient treatment for this disease had been in hospital for a total of 150,715 days.

6

Geographical factors in relation to the extent of hospital treatment

In an attempt to ascertain the influence of urbanization on hospital load, the amount of hospital-treated sickness in the four 'large burghs' in the counties covered by the studies (Falkirk and Stirling in Stirlingshire, Ayr and Kilmarnock in Ayrshire) has been compared with that in other parts of the counties. The in-patient rates were similar, with those for the large burghs only slightly higher than for the landward areas (75

per 1,000 of the population as against 72), but the proportion of out-patients treated was notably higher in the four large burghs than in less urban areas (152 per 1,000 of population as compared with 93). With one or two minor exceptions the out-patient rates for the large burghs were consistently higher in the several clinical groups than those for the small burghs and landward areas; especially was this true of injuries—which accounted for about one-half of the total discrepancy between the two—and, to a lesser extent, of diseases of the bones and organs of locomotion and of conditions affecting the eyes and ears.

Those parts of the counties with easiest access to hospital treatment had the higher proportion of out-patients, and there was some evidence that, even within a compact town of 40,000 inhabitants, the number of hospital patients, and particularly the number of out-patients, was related to distance from the hospital and ease of access to it.

Altogether, among the population of the two counties studied, 11.0 per cent. of the in-patients and 9.3 per cent. of the out-patients received their treatment in hospitals outside the county of residence, usually in city hospitals; but the various clinical groups of cases showed wide divergence in the proportion treated outside the county of residence. The groups in which the proportion of cases treated outside the county was notably high included neoplasms, diseases of the nervous system, eye diseases, congenital malformations and diseases of infancy, diseases of bones and organs of locomotion, and genito-urinary diseases—in all of which it was at least twice as high as the average figure. On the other hand, the proportion of cases treated outside the counties was notably low in the group of pregnancy, childbirth, and their complications.

The tendency to seek treatment in the cities doubtless reflected to some extent gaps in local hospital provision as well as a natural quest for high specialist skill. Duration of stay in hospital of patients treated outside the county of residence was generally longer than where patients were treated in local hospitals. Apart from cases treated in mental hospitals, the average duration of stay in hospital was 20.3 days for those cases receiving treatment within their county of residence and 30.9 days for cases receiving treatment in other parts of the country. The

average duration of stay in hospital of patients suffering from infective diseases was much higher among patients treated outside their county of residence. The same was true of patients suffering from non-tuberculous diseases of the respiratory system, and was doubtless due in part to the fact that a number of the cases of respiratory disease (tuberculous and non-tuberculous) treated outside their own county were sent to an 'outside' hospital for operative treatment, usually requiring a fairly long period of in-patient care. With diseases of the digestive system, also, duration of stay was longer in hospitals outside the county of residence; it may be that there was a tendency for 'heavier' cases to be sent to city hospitals, though a considerable number of cases requiring emergency abdominal operations found their way into the local hospitals. In diseases of the circulation, on the other hand, average duration of stay was appreciably longer among patients treated in their own county than among patients treated out of the county. The chief reason for this was the retention for prolonged periods of cases of degenerative heart-disease in certain local hospitals which deal mostly with the chronic sick. The average duration of stay of patients suffering from injury was shorter among patients treated in their own area than among patients treated elsewhere; this may have been due to a tendency to send very severe injuries to the cities or to the fact that it is easier for local hospitals to maintain effective out-patient supervision over residents in their vicinity, which may in some cases have permitted earlier discharge from hospital than would have been possible if the patient had resided at a distance.

7

Volume of hospital-treated sickness in relation to age and sex of patients

About one-third of the total number of female patients who received in-patient treatment were admitted for childbirth or its complications or for diseases of pregnancy. Apart from this group, the numbers of male and female in-patients treated were approximately equal, though the proportion falling into the several broad clinical groups varied considerably. Groups which showed a significant excess of female patients were the 'general' diseases—chiefly diabetes and thyroid conditions; diseases of

the genito-urinary system and breast; and neoplasms. In most of the other disease-groups there was an excess of male patients, which was most marked in the groups of congenital malformations, injuries, and diseases of the respiratory system.

The proportion of infants and schoolchildren of both sexes treated in hospital was relatively high: thereafter, in both sexes, a fall occurred. After the age of 35 years, the proportion of male patients per 1,000 of the population tended to increase gradually with age; the rates for female in-patients, on the other hand, remained remarkably constant above that age, the lowest figure of all being recorded at ages over 75. After middle life the proportion of out-patients per 1,000 of the population decreased with advancing years in both sexes.

The number of male and female out-patients treated reached its height between the ages of 15 and 34; thereafter the number fell steadily with advancing years; at ages over 75 it was little more than a third of the peak figure.

Average duration of stay in hospital increased with age after the age of 45 years.

8

The influence of social conditions

In these surveys an attempt was made to assess the influence of social conditions in three ways: (1) by studying variations in the pattern of hospital-treated sickness with social state, after the method used by the Registrar General in his analysis of the 1931 census; (2) by relating hospital load to severity of overcrowding in the homes of the people; and (3) by considering the influence of occupation on hospital-treated sickness.

(1) Adopting the method of classification by social state based on the occupation of the head of the household, as used by the Registrar General in his analysis of the 1931 census, an attempt has been made to group the patients admitted for hospital treatment. It was found to be difficult, and in some cases impossible, to obtain an accurate classification on this basis; the difficulty appeared to be greatest in cases of pregnancy, childbirth, and their complications and the associated group of infants born in hospital. But it can be said that respiratory disease and injuries contributed more heavily to the hospital

load in social class V—the ‘worse-off’ end of the scale—than in the others, and the same held true of diseases of the skin and cellular tissue. In some disease-groups—notably diseases of the nervous system, of the circulation, and of the respiratory tract—duration of stay in hospital was appreciably shorter among patients from social classes I and II than among patients from class V.

(2) It was found, both in Stirlingshire and in Ayrshire, that, in general, the number of in-patients, of patient-bed-days, and of out-patients per 1,000 of population tended to increase with severity of overcrowding in the home. This correlation was high for the groups of infective disease, injuries, and diseases of the circulatory and digestive systems.

In the burgh of Ayr, for example, there are six wards, of which, according to information supplied by the Medical Officer of Health, ward 3 is the most congested and contains the poorest section of the populace: wards 1 and 2 are, for the most part, residential. Altogether, 3,290 in-patients and 7,432 out-patients from the burgh received hospital care. In Table 2 the wards have been grouped according to the degree of overcrowding prevailing in them.

TABLE 2. *Overcrowding in relation to number of patients treated per 1,000 of the population: Ayr Burgh*

Wards	Percentage of overcrowded houses	Per 1,000 of the population	
		No. of in-patients	No. of out-patients
1 and 2	2.5	54	121
4 and 5	34.5	67	167
3 and 6	46.0	96	207

(3) Considerable variation in the pattern of hospital-treated sickness was found to occur with the nature of the occupation of the patients; the incidence of injury, for instance, and the type of injury varied considerably from trade to trade.

It had been hoped to present figures based on the actual number of workers employed in the several industrial groups, but on account of difficulty in matching accurately, in respect of occupation, hospital patients against the total number of workers at risk, it has been considered reasonably safe to calculate

figures on that basis for only a few broad occupational groups that lend themselves to classification—such groups as those engaged in metal-working; mining and quarrying; agriculture and forestry; and transport and communications. There was found to be little difference in the number of in-patients treated per 1,000 men at work in the groups engaged in agriculture, mining, and transport; each of the three returned a figure approximately 25 per cent. higher than that for all males between the ages of 15 and 64: the in-patient figures for metal-workers were no higher than the average figure. The out-patient figures were practically the same for workers in the mining and transport groups—about 25 per cent. above the figures for all males between the ages of 15 and 64. Out-patient rates were considerably less for agricultural workers (about 25 per cent. below the average), but were notably high for the occupational group of metal-workers—nearly 50 per cent. above the average.

The proportion of injuries was relatively high among coal-miners treated, and, to a lesser extent, among agricultural workers and builders. There was considerable fluctuation from group to group in the incidence of diseases of the digestive system; the figure for agricultural workers was high and that for workers engaged in commerce low. Diseases of the respiratory system were relatively frequent among metal-workers.

Among mining injuries treated at hospital, fractures were the most common type of injury, with crushing and bruising injuries second and strains and sprains third. Among agricultural workers fractures were again the most frequent type of injury, followed by lacerations and bruising and crushing injuries. Among metal-workers, 'foreign body' injuries took first place, with lacerations second and fractures third; among transport workers fractures took first place, closely followed by lacerations, with crushing and bruising injuries third.

Of all miners seeking hospital care for the treatment of injuries, 23·4 per cent. were treated as in-patients; of injured agricultural workers, 22·7 per cent.; of transport workers, 12·7 per cent.; and of metal-workers, 9·0 per cent. The proportion of cases admitted to hospital for in-patient treatment can probably be taken as a rough indication of the severity of the injuries experienced in the several occupational groups.

The results of hospital treatment and the disposal of patients on discharge from hospital

Excluding the cases of women admitted for conditions of pregnancy, childbirth, and their complications, and infants born in hospital, 37·4 per cent. of the patients treated were regarded by the hospital concerned as 'cured' on discharge from hospital, 46·4 per cent. as 'improved', 7·9 per cent. as 'condition unchanged', and 0·3 per cent. as 'worse'. Condition on discharge was not stated in 2·4 per cent of cases; 5·6 per cent. died.

Results, as recorded, naturally varied widely with the nature of the illness for which the patient had been treated. The proportion of patients reported as 'cured' was higher in the group of infective diseases than in any other group. In the group of neoplasms the death-rate was high and the proportion reported as 'cured' was low. The group of diseases of the nervous system, similarly, showed a high death-rate and a low proportion of patients cured. Diseases of the circulatory system were marked by a high death-rate and a low proportion of cures. In the group of diseases of the respiratory system the proportion of cases classified as 'cured' was comparatively high. In the groups of diseases of the digestive system and of skin and cellular tissues, death-rates were low and the proportion of patients reported as 'cured' was high. The group of diseases of bones and organs of locomotion returned a low death-rate, but only a small proportion of cases classified as 'cured', nearly three-quarters of the patients in this group being reported as 'improved' or 'condition unchanged'. For the group of injuries the death-rate was rather below average, though only 36 per cent. of cases in this group were discharged from the wards as 'cured' as against 52 per cent. 'improved', partly, perhaps, a reflection of pressure on hospital beds; about a quarter of the patients in the group received further out-patient treatment after ceasing to be in-patients.

Destination on discharge from hospital was stated in the records of 24,074 patients, 98·8 per cent. of the total. Of those patients, 88·6 per cent. returned directly to their own homes when they left hospital—53·7 per cent. to have subsequent care from their own doctor, 11·9 per cent. to continue to attend the

out-patient department of the hospital in which they had been treated, and 2.6 per cent. to have continued supervision at other clinics, usually those of the local authority; 3.5 per cent. were transferred for treatment to other hospitals; 0.4 per cent. were sent to convalescent homes; 0.7 per cent. were self-discharged before completion of treatment; 5.6 per cent. died.

The proportion of patients transferred to convalescent homes was very low; of the 150 patients who were sent for convalescent care, the majority were recovering from conditions associated with pregnancy and childbirth, injuries, and diseases of the digestive system.

The proportion of deaths was lowest in the age-group 15-44, where it was 1.7 per cent. of patients treated; after that age it increased markedly with advancing years.

It is an important finding that a formidable proportion of the patients who left hospital on completion of treatment were still far from established good health; it is urgently necessary to take such steps as will ensure that patients obtain as much permanent benefit as possible from hospital care.

A Study designed to supplement Records made in Hospital by keeping in Touch with the Patient in His Own Home after Discharge from Hospital

I

The type of question that cannot be answered from mere study of hospital records

IN previous chapters information has been drawn from records of one kind and another about the development of hospital resources and the growing demand among the people for hospital care, about the total volume of hospital-treated sickness of all kinds arising in the course of a year in a known population, the types of illness chiefly involved, and the immediate results of hospital treatment. It has been shown that approximately one person in every seven of the population in two 'mixed' Scottish counties received hospital care during that period, as in-patient, or out-patient, or both. Social factors were found to influence hospital load to a considerable extent. The estimates made by the hospitals undertaking treatment of the measures of recovery shown by their patients when they left hospital demonstrated that, on discharge, many patients were still far from established good health; few of them obtained convalescent care before returning to their own homes.

Beyond that point it is scarcely possible to go from mere study of hospital records, however carefully compiled and analysed. If it is desired to estimate the contribution of social background to the illness of an individual patient or to find out what happens to the patient after he leaves hospital, a different kind of approach is necessary. It is clearly important to study these questions, for what happens to the patient after he leaves hospital may be of as much importance to him—and to the community—as what happens while he is still a patient. Did he consolidate his recovery after he went home? Was he able to continue at

work? If his condition did not mend, was he receiving the care which he required? The answers to these and many similar questions can only be obtained by considering the patient's hospital history in the light of the circumstances of his home and his work; and that can best be done by visiting the patient in his own home and considering all the factors involved, preferably with his family doctor as well as with the hospital physician who looked after him. Information is woefully lacking about these things; and such information is necessary for an appreciation of the real relationship between hospital and community.

2

The method adopted

In order to try to obtain information of this sort, it was arranged, with the co-operation of the colleagues concerned, to study a series of male patients undergoing treatment in a general medical ward in each of four hospitals in the west of Scotland which are among those carrying the main burden of treating the ordinary acute illnesses of the community. Two of these hospitals are teaching hospitals in the city of Glasgow and two are provincial hospitals some miles from the city; they are key hospitals for the treatment of the illnesses of the inhabitants of the areas which they serve. In 'acute' wards of this type the cases treated are often critically ill on admission and mortality is inevitably higher than the figure (5.6 per cent.) found in the Stirlingshire and Ayrshire surveys. Thus, in the four wards on which the present study was based, 15.9 per cent. of the 1,491 male patients admitted during the calendar year 1952 died in hospital; there was little difference in mortality rate between the teaching and non-teaching units studied. Of the 237 patients who died in hospital, 105 had suffered from disease of the circulatory system (41 of them from coronary disease), 32 from neoplasm (14 from cancer of the lung), 30 from respiratory disease, 26 from organic disease of the nervous system, 14 from disease of the alimentary tract, and 14 from disease of the urinary tract. The cases that died in hospital were, in the main, drawn from older age-groups than the general run of patients treated in the wards; of the patients who died, 8.9 per cent. were under 34 years of age, 6.8 per cent. between the ages

of 35 and 44, 21·1 per cent. between the ages of 45 and 54, 31·2 per cent. between the ages of 55 and 64, 18·5 per cent. between the ages of 65 and 74, and 13·5 per cent. 75 years and over.

But the study was concerned only with patients who survived, and before a patient left hospital his case was reviewed with one of the physicians who had looked after him there. At that stage information was collected about the diagnosis, the source of his admission to hospital, previous illnesses from which he had suffered; and the extent of medical care which he had received during the previous 5 years—from his own doctor or at hospital or clinic. On discharge, the result of hospital treatment was assessed by the clinician concerned. The patient's destination on discharge from hospital was recorded and the nature of any continuing medical care which he required. The existence of any residual disability arising from his recent illness was noted, as was the presence of any other disability that might complicate subsequent progress: it was ascertained whether the patient had been registered as 'disabled' under the Disabled Persons (Employment) Act. Any factor believed to have contributed to the breakdown in health was noted and an estimate was made of whether the patient was likely to be fit to return to work within three weeks of his discharge. Finally, it was arranged to visit the patient in his own home—on the first occasion, three months after he left hospital.

The intention was that each patient would be seen at home with a view to finding out how he had fared since he left hospital and, in particular, whether he had returned to work; the interval elapsing between his discharge from hospital and the date of his return to work, the kind of work in which he was engaged, whether he had had to change his occupation on account of his illness, and whether the job in which he now found himself was one that could be accepted as reasonably well suited to his condition. The patient's employment history prior to his recent illness was ascertained: the nature of his work, whether he had served an apprenticeship, the number of jobs he had held during the previous five years, and the amount of unemployment he had experienced during that period.

At the same time, information was obtained about the patient's social background—the family structure, the kind of housing conditions under which the family lived, and its finan-

cial circumstances. An estimate was made of the general 'atmosphere' of the home. Special note was taken of any domestic circumstances thought to have influenced the onset of the patient's illness or to be retarding his recovery, and an attempt was made to assess the part played by social and environmental factors in contributing to the patient's recent breakdown in health: in particular, attention was directed to relevant factors connected with the patient's occupation. Finally, it was noted whether the patient appeared to be in need of any medical or nursing care which he was not at that time receiving.

3

The number of cases seen in hospital and, later, in their own homes

In practice, it was not found to be possible to carry out domiciliary visitation of all the patients who had been included in this study while they were still under treatment in hospital. Some of the patients had died within 3 months of discharge from hospital. When the time for home visitation came round, it was found that some of the patients had already been re-admitted to hospital for further treatment—either to the hospital in which they had been treated or to another; some had moved to distant parts of the country, while some had disappeared, leaving no trace of their whereabouts. A few of this latter group may have died; some had lived in common lodging-houses and had moved away to other places, after the nomadic fashion of their kind. A handful of patients were not seen in their own homes because, despite repeated visits, they could not be found at home. The reasons for failure to contact such patients as were 'lost' will be considered in further detail later in this study: for the present, suffice it to say that 548 of the 705 patients originally seen in hospital (77·7 per cent.) were seen again in their own homes 3 months after leaving hospital.

In the chapters that follow it is proposed to study these patients and their disabilities to see how they fared after leaving hospital. It is hoped that study of the social background in these cases may throw some light on the influence of environmental factors in the breakdown in health that led to the patient's admission to hospital and on the completeness of his recovery after he left hospital.

It may be that a study of this kind will help to emphasize that, important—and expensive—as hospital care has become, it is, after all, for most patients merely an episode in the course of invalidity; an episode in which the protecting care of the hospital ward contrasts sharply with the indifference, or worse, of the drab living and working conditions to which the patient so often returns on the day he leaves hospital. What proportion of the men treated in the acute medical wards of our best hospitals return to work within 3 months of leaving hospital? And how many are living and working under conditions that must almost inevitably precipitate another breakdown?

The Patients as seen in Hospital

I

Age-distribution

IN this chapter it is proposed to give some account of the patients included in the study, primarily as they were seen while still under treatment in hospital.

All were males, and all were under treatment in a general medical unit in an 'acute' hospital; patients from four such units were included. Two of the units were in teaching hospitals in Glasgow, the other two in key hospitals in the area. Of the patients treated six were children still of school age. Of the others, 4.4 per cent. were aged 15 to 19 years, 17.2 per cent. were aged 20 to 34, 14.2 per cent. 35-44, 22.8 per cent. 45-54, 23.6 per cent. 55-64, 14.8 per cent. 65-74, and 3.0 per cent. 75 years and over. The mean age of the 705 patients was 49.3 years.

The age-distribution of medical patients in hospital has been compared with the age-distribution of the male population over the age of 15 years in an area roughly approximating to that served by the hospitals concerned. Up to and including the age group 35-44 years the proportion of cases treated in hospital was consistently less than the proportion of males over 15 years of age in the population generally, but at ages over 45 the position was reversed; at these ages the proportion of patients receiving hospital care was higher than the proportion of males over 15 years of age in the population. The age group 55-64 years was that marked by the heaviest incidence of hospital care relative to population; 12.2 per cent. of the male population over the age of 15 fell into this group, as compared with 23.6 per cent. of the patients who received hospital care.

When the age of patients treated in the two medical units located in teaching hospitals was compared with that of patients in the non-teaching hospitals it was found that there were more patients of advanced years in the two teaching units; 46.1 per

cent. of their patients were over 55 years of age as compared with 35.5 per cent. in the non-teaching units.

2

Nature of illness

The broad types of illness from which the patients suffered are shown in Table 3 according to the age of the patients affected.

TABLE 3. *Nature of disease in relation to age of patient*

<i>Nature of disease</i>	<i>Age of patient</i>					<i>Total</i>
	<i>15-34 years</i>	<i>35-44 years</i>	<i>45-54 years</i>	<i>55-64 years</i>	<i>65 years and over</i>	
Infective diseases	14	2	12	6	9	43
Neoplasms	6	5	12	13	11	47
Diseases of endocrine system	11	8	10	16	10	55
Diseases of blood	6	2	1	1	13	23
Psychoneurotic illness	7	5	5	7	2	26
Diseases of nervous system	8	6	12	9	5	40
Diseases of circulatory system	26	19	37	59	34	175
Diseases of respiratory system	17	19	23	20	16	95
Diseases of digestive system	30	16	34	22	15	117
Diseases of genito-urinary system	6	5	2	4	1	18
Diseases of skin	1	1	..	1	..	3
Diseases of bones and joints	1	4	..	4	..	9
Congenital malformations	2	3	..	..	..	5
Injuries	11	6	6	..	3	26
Ill-defined conditions	6	..	6	5	6	23
Total	152	101	160	167	125	705

The illnesses most frequently encountered in these medical wards were circulatory diseases, which accounted for a quarter of the total; diseases of the digestive system (about 16 per cent.); diseases of the respiratory system (13 per cent.); and, a long way behind, the group of endocrine disturbances (8 per cent.), mostly cases of diabetes. Patients under treatment for digestive disease were, in general, drawn from younger age-groups than patients in the other common groups.

When the nature of the illness was set against the skill of the employment in which the patients were normally engaged, it was found that there was a relative excess among skilled manual

workers in the proportion of cases treated for digestive disease and a relative excess among unskilled manual workers in the proportion of cases treated for respiratory disease.

When the nature of illness of patients treated in units in teaching hospitals was compared with that in units in non-teaching hospitals, the proportion of cases of circulatory disease was found to be higher in teaching than in non-teaching units, as was the proportion of cases suffering from digestive disease: on the other hand, the proportion of patients suffering from endocrine disturbances and from respiratory diseases was higher in the non-teaching units. These variations in distribution of type of illness treated in teaching and non-teaching units are not in themselves of much significance, and can probably be explained in part at least by a certain selection of clinical material in teaching hospitals: but the difference in distribution may be of importance in considering such matters as the outcome of treatment and how the patient fared—in relation to work, for instance—after he left hospital.

3

Duration of stay in hospital

Of the patients treated, 10.6 per cent. remained in hospital for a period not exceeding 6 days; 19.2 per cent. for from 7 to 13 days; 20.4 per cent. for from 14 to 20 days; 17.6 per cent. from 21 to 28 days; 27.4 per cent. from 29 to 61 days; 3.4 per cent. from 62 to 92 days; and 1.4 per cent. for 3 months or more.

There was little variation in duration of stay in hospital with the age of the patient, though patients in older age-groups did tend to remain under treatment slightly longer than patients who were younger. Thus, 38.8 per cent. of those over the age of 65 years remained in hospital for upwards of 4 weeks; the corresponding figure for those between the ages of 15 and 34 was 35.4 per cent.

The average duration of stay in hospital of patients who were treated in teaching units was rather longer than that of patients treated in the provincial hospitals. The difference did not lie in the proportion of cases whose stay in hospital was less than 14 days, for 29.3 per cent. of the patients treated in the teaching units fell into that category as compared with 29.1 per cent. of

those treated in provincial hospitals: it lay rather in the longer stay in hospital of those patients whose stay exceeded 14 days. Thus, 34·4 per cent. of the patients treated in teaching units remained in hospital for from 14 to 28 days and 36·2 per cent. for more than 28 days, whereas in the non-teaching units 41·2 per cent. remained in hospital for from 14 to 28 days and 29·7 per cent. for more than 28 days.

Duration of stay in hospital was notably above average among patients suffering from diseases of the blood (of whom 50 per cent. were in hospital for more than 28 days) and from diseases of the circulatory system (rather more than 50 per cent. of whom remained in hospital for upwards of 28 days). Duration of stay was shorter than average, on the other hand, among patients suffering from endocrine disturbances (mostly diabetes), 23·3 per cent. of whom were in hospital for more than 28 days, and from psychoneurotic illness and from intoxications; in both these groups only 10 per cent. of the patients treated were in hospital for more than 28 days.

4

Previous in-patient treatment

Of the patients treated in hospital, 22 per cent. had received hospital in-patient treatment for the same or a related illness within five years of their present admission to hospital, some of them more than once; a further 12 per cent. had had hospital out-patient or clinic treatment during the same period for these conditions. In addition to these, some 4 per cent. of the patients included in this study had received hospital in-patient treatment during the previous five years for some condition other than that at present under treatment, and a further 4 per cent. had had out-patient treatment for some other kind of illness.

The proportion of patients who had had in-patient treatment during the previous five years for the same or a related illness was high among those suffering from diseases of the endocrine system (26 per cent.), of the circulatory system (30 per cent.), of the digestive system (30 per cent.), and of the blood (35 per cent.): it was low in patients suffering from diseases of the respiratory system (14 per cent.).

5

Clinical assessment of preventable factors in patient's breakdown

While the patient was still in hospital it was estimated by the physician in charge of the case that the breakdown in health that had brought the patient to hospital could be regarded as preventable in 10.3 per cent. of cases. These cases will be considered in more detail later; the cases regarded as preventable on clinical grounds were, for the most part, those in which the patient suffered from some acute intoxication or in which he had been grossly remiss in his observance of the regimen demanded by the medical condition from which he was known to suffer—as in the case of a patient known to be suffering from peptic ulcer who committed some major indiscretion of diet, or a patient suffering from diabetes who did not continue with the insulin treatment that had been mapped out for him, or, less frequently, a patient suffering from pernicious anaemia who did not continue with liver therapy. The patients in whose breakdown there was considered to be a preventable element of this kind were not drawn from any particular age-group, but they included a relatively high proportion of unskilled manual workers; thus, 17 per cent. of the unskilled manual workers included in the series presented a preventable factor of this kind as compared with only 8.5 per cent. of the group of skilled manual workers.

6

Results of treatment

The results of treatment were assessed by the physician in charge of the case when the patient left hospital: 9.3 per cent. were regarded as 'cured', 73.1 per cent. as 'improved' and the remaining 17.5 per cent. as 'condition unchanged' or 'worse'. The results of treatment were better at younger age-groups: the proportion of patients discharged as 'cured' was about 16 per cent. at ages between 15 and 44; between the ages of 45 and 54 it was 12 per cent.; between the ages of 55 and 64, 8 per cent.; and at ages over 55, 2.4 per cent.; but the proportion discharged as 'condition unchanged' or 'worse' showed little variation with age. The proportion of cases discharged as 'cured' was considerably higher in non-teaching units (15.8 per cent.) than in

teaching units (4.1 per cent.). Similarly, the condition of 8.5 per cent. of patients was classified as 'unchanged' or 'worse' on discharge from the non-teaching hospitals, as against 17.0 per cent. of patients discharged from teaching units.

The proportion of patients discharged as 'cured' was high among those suffering from diseases of the respiratory system, from 'accidents', usually acute intoxications, and from infective diseases. On the other hand, the proportion of patients discharged as 'cured' was low among patients suffering from diseases of the digestive system, from diseases of the circulatory system, and from diseases of the nervous system. None of the twenty patients suffering from diseases of the blood was classified as 'cured'. Condition on discharge was described as 'unchanged' or 'worse' in 11.9 per cent. of patients suffering from diseases of the circulatory system, in 9.1 per cent. of cases of digestive disorder, in 3.7 per cent. of cases of respiratory disease, and in 2.1 per cent. of cases of diseases of the endocrine system.

A large majority of the patients, 79 per cent. of the total, were regarded as having some residual disability when they left hospital. In many cases this took the form of weakness which could be removed by a period of convalescence at home or in a convalescent home. The proportion of cases in which there was some residual disability of this kind tended to increase with advancing years.

Residual disability was high among patients suffering from circulatory disease and from diseases of the blood; it was relatively low among patients suffering from diseases of the respiratory system and from 'injury', usually some form of acute intoxication.

7

Destination on discharge from hospital

On discharge from hospital 89.4 per cent. of the patients treated returned directly to their own homes, 4.1 per cent. were admitted to convalescent homes, 3.5 per cent. were transferred to other hospitals, and 3.0 per cent. went to some other place, usually to the home of a relative or friend or to some kind of institution.

There was no very great difference among patients of different

ages in the proportion returning directly from hospital to their own homes, although the proportion was rather lower among patients over the age of 65, a number of whom went for a period to live with relatives or friends.

The proportion of patients proceeding directly from hospital to their own homes was lower among those treated in teaching units than among patients treated in provincial hospitals, 82.1 per cent. as against 94.3 per cent. This was due in part to the fact that the proportion of patients transferred to another hospital was higher in the teaching units (5.5 per cent. as against 2.2 per cent.) and that the proportion going to live with friends or in institutions was higher (5.5 per cent. against 1.3 per cent.); further, the proportion of patients admitted to a home for convalescent care was higher among those who had been treated in teaching hospitals, probably because these hospitals had possessed convalescent homes of their own before the National Health Service came into operation and still found it easier to obtain convalescent care for their patients.

Of the 22 patients who were transferred to convalescent homes when they left hospital, 8 had suffered from disease of the respiratory system, 4 from circulatory disease, 4 from disease of the digestive system, 2 from disease of the blood, and one from each of the groups of infective diseases, diseases of the endocrine system, diseases of the nervous system, and congenital malformations.

8

Patients requiring continuing supervision

All but 8 of the patients were regarded by the physician who had looked after them in hospital as being in need of continuing care after they left the hospital; of the 8, 4 had suffered from some form of acute intoxication, 2 from ill-defined conditions, 1 from respiratory disease, and 1 from congenital malformation. The hospital which had undertaken treatment proposed to keep the patient under out-patient supervision in 35 per cent. of cases; 8 per cent were recommended to have continuing treatment from a special clinic (e.g. tuberculosis clinic).

Estimate of probable fitness for early return to work

The physician in charge of the case was asked to give a provisional estimate, when the patient left hospital, of his prospect of being able to return to work 3 weeks after leaving hospital. Apart from the children of school age and the old-age pensioners and retired persons included in the study, 40.0 per cent. were considered likely to be fit to return to their old work within 3 weeks of leaving hospital, 3.6 per cent. as likely to be able to return to some work within that period, but probably not to their former work, and the remainder as likely to be still unfit for any work 3 weeks after leaving hospital. The proportion of cases regarded as likely to be fit for work within three weeks tended to diminish as the age of the patient increased; the proportion regarded as likely to be fit for work within 3 weeks of leaving hospital was very little higher among skilled than among unskilled manual workers.

The proportion of patients regarded as likely to be able to return to their old jobs within 3 weeks of leaving hospital was high among patients who had been treated for diseases of the endocrine system (71.7 per cent.) and among patients who had suffered from the result of injury, usually some form of intoxication (75 per cent.). It was low among patients who had been treated for one of the infective diseases (33 per cent.), from a disease of the blood (30 per cent.), or from disease of the circulatory system (16.3 per cent.).

The proportion of cases considered likely to be able to return to work within 3 weeks of leaving hospital was considerably higher among patients treated in one or other of the two units in non-teaching hospitals (70.0 per cent.) than among patients treated in teaching units (32.1 per cent.).

Patients treated in medical units of teaching hospitals compared with those treated in non-teaching hospitals

Already in the course of this chapter some differences have been pointed out between the broad picture presented by patients treated in teaching hospitals as compared with those

treated in non-teaching hospitals. Though it is difficult to compare objectively the severity of the illness of patients treated in the two types of hospital, there are certain circumstances which, taken together, suggest that the cases treated in the teaching units were, in general, of 'heavier' type. Thus, the patients in the teaching units were, in the main, rather older than patients treated in non-teaching units. Average duration of stay in hospital was rather longer than among patients treated in non-teaching units. The assessment made of the results of hospital treatment by the physician in charge of the case showed a higher proportion classified as 'cured' in the non-teaching units and a higher proportion classified as 'unchanged' or 'worse' in the teaching units. The proportion of cases transferred for convalescent-home care or to another hospital was higher among the patients treated in teaching units; while the proportion of patients regarded as being likely to be able to return to work within 3 weeks of leaving hospital was higher among patients treated in non-teaching units.

6

The Cases not available for Follow-up Study Three Months after leaving Hospital

I

The number of cases 'lost'

It had been the intention to see in his own home, 3 months after leaving hospital, each of the 705 men included in this study. The idea was to see the conditions under which he lived, to learn from him in his own natural setting about his work and his problems, to estimate so far as possible the part played by social, economic, and environmental factors in the causation of his recent breakdown in health, and to find out how he had fared since returning home from hospital—and, in particular, how he had fared in relation to work. These visits were made with the approval, often with the active help, of the family doctors concerned, and in many cases these doctors furnished useful 'background' information about their patients.

But this course did not prove to be completely practicable. By the time of follow-up, 66 (9·4 per cent.) of the men had died; 34 (4·8 per cent.) had been readmitted to hospital or to an allied institution; 41 (5·8 per cent.) were believed to be alive, but had moved away from the district—some to their own homes in other towns, some to relatives in the country, some to other lodgings; 16 (2·3 per cent) had disappeared, leaving no trace, chiefly men who had been admitted from lodgings, from sub-let rooms, or from common lodging-houses. Altogether, therefore, 157 men had to be excluded from follow-up 3 months after leaving hospital; and since they accounted for 22·3 per cent. of the total it is necessary to consider at this stage such information as is available about these excluded cases.

2

Deaths

Of the 66 deaths within 3 months of leaving hospital, 26 were due to neoplasms and 17 of these were bronchial in

origin; 25 deaths were caused by diseases of the heart and circulation; 6 were due to digestive diseases; 3 to blood diseases; 2 to respiratory trouble; and one each to congenital malformation, infective disease, disease of the nervous system, and disease of the urinary system.

Of the patients who died, 6 were under 35 years of age, 9 between 35 and 44, 11 between 45 and 54, 20 between 55 and 64, and 20 over 65.

Eighteen of these men were skilled manual workers, 6 semi-skilled workers, 18 unskilled manual workers; 11 non-manual workers, a category covering a wide range of employment; and 13 were 'retired'. Though the numbers involved are small, it is interesting to note that 9 of the deaths that occurred among men in the skilled manual group were due to neoplasms and only 3 to circulatory disease: among the unskilled labourers, on the other hand, 10 deaths were circulatory in origin—3 due to syphilitic aortitis—and 5 were attributable to neoplasms.

Thirty-six of the 66 men who died at home within 3 months of leaving hospital had spent less than 2 weeks in hospital and only 6 of the 66 had remained in hospital for more than 2 months. Nineteen of the 66 patients who had died had received previous treatment in hospital during the 5 years immediately preceding their recent hospital treatment and a further 14 had received hospital out-patient care.

On discharge from hospital the condition of the 66 patients who subsequently died within 3 months of returning home was classified as 'improved' in 30 cases, 'unchanged' in 30, and 'worse' in 6.

3

Patients readmitted to hospital or allied institution

Thirty-four cases fell into this category. Nine of these patients suffered from circulatory disease, 9 from tuberculosis, 5 from neoplasm, and 4 from digestive disease. Seven of the 9 patients suffering from tuberculosis were unskilled manual workers. There were 11 unskilled labourers and 6 semi-skilled workers among the patients readmitted, but only 2 skilled manual workers: 8 of the men were in non-manual work and the others retired. Ten of the 34 patients readmitted were men under 35

years of age, 3 between 35 and 44, 3 between 45 and 54, 10 between 55 and 64, and 8 over 65 years of age, most of the latter suffering from arteriosclerosis. The homes of many of these patients had ceased to exist or had become inadequate. Five of the 34 patients readmitted to hospital within 3 months had had in-patient treatment within the previous 5 years, and a further 12 had had out-patient care.

Nineteen of the 34 patients readmitted had spent less than 3 weeks in hospital in the first instance; 3 had been in-patients for more than 2 months. On discharge from hospital the condition of those men subsequently readmitted had been classified as 'cured' in one case, 'improved' in 23, and 'unchanged' in 10.

4

Removal from previous address

There seemed to be no special distinguishing trend in age, occupation, or nature of illness among the 41 men who had left the address from which they were admitted to hospital. Some had returned to homes in remote parts of the country and several, mostly elderly men, had gone to live with relatives in other districts; some belonged to the class who move uneasily from one set of lodgings to another, often living in 'sub-lets'—people whose tenure of their rooms would probably lapse on admission to hospital; few of those living in common lodging-houses or hostels returned directly to the address from which they had been admitted to hospital. Of the 57 patients who had gone away from their old address, 17 were under 34 years of age, 7 between 35 and 44, 14 between 45 and 54, 10 between 55 and 64, and 9 over 65 years of age.

5

Of the patients who had to be excluded from domiciliary visit, therefore, some—those who had died since leaving hospital and those who had to be readmitted within 3 months—were, in the main, of older age-groups than those seen in the course of the follow-up and, doubtless, of more advanced pathology. The other group—those known to be alive, but moved away from their original address—were, if anything, younger than those seen in their own homes 3 months after leaving hospital.

Three Months after leaving Hospital

I

Change in the men's condition after leaving hospital

WHEN the men were visited in their own homes 3 months after leaving hospital, 74 (13.5 per cent.) were regarded as 'cured', 283 (51.6 per cent.) had continued to improve; the condition of 132 (24.1 per cent.) was substantially the same as on leaving hospital, and 59 (10.8 per cent.) had deteriorated since returning home. These figures suggest that considerable changes had taken place in the picture since the patients left hospital; then, of the 548 seen subsequently in their own homes, 59 (10.8 per cent.) had been classified as 'cured', 421 (76.8 per cent.) as 'improved', 63 (11.5 per cent.) as 'unchanged', and 5 (0.9 per cent.) as 'worse'. Some of the men had continued to improve after leaving hospital and had consolidated the improvement effected while they were still patients. But in many cases the clinical picture had deteriorated. It must be remembered, moreover, that, in addition to the 548 patients seen in their own homes, 66 had died since going home and 34 were back in hospital. This tendency to deteriorate was found in each of the main groups of cases studied.

When the patients left hospital 17.5 per cent. of those treated were classified as 'unchanged' or 'worse'; 3 months later, including those who had died or had been readmitted to hospital, 291 of the 648 patients about whom information was available (44.9 per cent.) fell into one or other of these groups. This failure to improve affected both those patients treated in teaching units and those treated in non-teaching units, though it was more marked among the patients treated in the teaching hospitals.

Patients referred for hospital treatment by their own doctor were found to have fared rather better 3 months after leaving hospital than patients referred to hospital from other sources.

TABLE 4. Condition of patients at time of discharge from hospital and three months later

Diagnosis	Condition on leaving hospital					Condition three months later							
	Cured	Improved	Unchanged	Worse	Total	Dead	Back in hospital	Patients seen at home					Total
								Cured	Improved	Unchanged	Worse	†	
All cases	66	515	113	10	705*	66	34	74	283	132	59	57	705
Diseases of endocrine system	3	49	3	..	55	1	1	3	28	16	..	6	55
Diseases of cardiovascular system	4	149	22	..	175	15	7	5	84	33	18	13	175
Diseases of respiratory system	23	66	6	..	95	2	1	25	31	20	7	9	95
Diseases of alimentary system	4	102	8	2	117*	3	4	10	62	16	12	10	117

* One not classified.

† Moved away from district or untraceable (see Chapter 6).

Deterioration of clinical condition was most marked among men who were normally employed as unskilled manual labourers, and especially among unskilled manual labourers who were no longer young.

There can be no doubt that the great majority of the men derived benefit from their hospital treatment. Most of them were profoundly grateful for their improved health and for the efforts made by the hospital staff to help them: but when they returned to the worries of their homes and the exertions of their employment much of the improvement was undone.

2

Fitness for work 3 months after leaving hospital

The fitness for work of the men who had been treated in hospital was assessed by one or other of the authors, often in consultation with the patient's own doctor, 3 months after leaving hospital. At that time it was estimated that of the patients who were then living in their own homes, 59.5 per cent. were fit for work and the remainder unfit. The proportion assessed as fit for work tended to decrease as the age of the patient increased; thus, at ages under 34 years it was 72.7 per cent.; at ages between 35 and 44 years, 63.7 per cent.; at ages between 45 and 54 years, 65.6 per cent.; at ages between 55 and 64 years, 55.2 per cent.; and at ages over 65 years, 35.3 per cent.

The proportion of patients found to be fit for work 3 months after leaving hospital varied with the normal occupation of the patient: of skilled manual workers, 67 per cent. were regarded as fit for work, of unskilled manual workers, 54 per cent.

3

Desire to work

When the patients were seen in their own homes 3 months after leaving hospital, an estimate was made of the proportion of men who, for one reason or another, no longer desired to obtain work. This presented no great difficulty; many of those who did not wish to work were over 65 years of age and of the others some said quite frankly that they were not anxious to work. In a few cases the whole history and background of the patient made it a reasonable inference that in the past he had done but little work and that he had no great intention of working now. Of all patients above 15 years of age 12.7 per cent. were classified as 'not desiring work'. The proportion increased with advancing years: at ages under 44 years it was 4.2 per cent.; between 45 and 64 years, 8.3 per cent.; and at ages over 65 years, 44.7 per cent.

The proportion without desire to work varied with the nature of the occupation in which the man had normally been engaged. Among those who had been non-manual workers it was 2.0 per cent.; among skilled manual workers, 5.7 per cent.; among

semi-skilled manual workers, 10·3 per cent.; and among unskilled manual workers, 11·5 per cent. In the group of retired people and old-age pensioners, 64 per cent. said they did not desire work.

4

The number of patients at work three months after leaving hospital

It has already been explained that, of the 705 patients originally included in this study while they were still in hospital, 57 could not be traced when an attempt was made to visit them in their homes 3 months later. Some of those untraced had moved to other parts of the country, some had lived in common lodging-houses and were doubtless again on the tramp. Sixty-six patients had died within 3 months of leaving hospital and 34 had already been readmitted to hospital or other institution. Of those who were seen in their own homes, 6 (1·1 per cent.) were children of school age and 53 (9·7 per cent.) were old-age pensioners or had retired from work: 304 (55·5 per cent.) had returned to work within 3 months of leaving hospital, while 185 (33·7 per cent) were not yet working at the end of that period. Of the men between the ages of 15 and 64 who were seen in their own homes, the proportion back at work 3 months after leaving hospital was 61·4 per cent.

The proportion of men who had returned to work within 3 months was lower than average—42·4 per cent.—among men who had already had in-patient treatment for the same or a related illness within 5 years immediately preceding their recent admission to hospital.

The proportion of men seen in their own homes who had returned to work within 3 months of leaving hospital was much the same as the proportion assessed as fit for work; some who might have gone back had not yet done so, but, on the other hand, some who were regarded as unfit had in fact restarted work.

The proportion of cases back at work decreased with advancing age of the patient: at ages under 35 years it was 70 per cent.; at ages between 35 and 45, 61 per cent.; at ages between 45 and 64, 60 per cent.; and at ages over 65 years, 25 per cent.

Similarly, there was considerable variation in the proportion of cases back at work with the nature of the occupation in which

the patient was normally engaged. Among non-manual workers, the proportion who had returned within 3 months was 74 per cent.; among skilled manual workers, 58 per cent., and among unskilled manual workers, 41 per cent.

When the cases were classified according to diagnosis, the highest proportion back at work (76 per cent.) was found among patients who had been treated for an endocrine disorder. The proportion of those treated for digestive disease who were back at work was 62 per cent. and of those treated for respiratory disease 61 per cent.: only 47 per cent. of those treated for circulatory disease were back at work. In certain of the clinical groups that were numerically smaller the proportions of patients back at work were—infected disease, 48 per cent.; psychoneurotic illness, 50 per cent.; disease of the blood, 40 per cent.; and neoplasms, 22 per cent.

The proportion of patients who had returned to work within 3 months of leaving hospital was higher among those treated in non-teaching units (62.5 per cent.) than among those treated in teaching units (48.1 per cent.).

5

The proportion of men who had returned to their old job

Of the men who had returned to work within 3 months of leaving hospital, 87.5 per cent. had gone back to their old job. The proportion of those back at work who had returned to their old job increased with age. Thus, under 35 years of age, 81.8 per cent. of those who had restarted work were in their old jobs; at ages between 35 and 44 years, 85.7 per cent.; at ages between 45 and 54 years, 87.7 per cent.; at ages between 55 and 64 years, 91.5 per cent.; and at ages over 65, 95.2 per cent. Many of those back at work knew their job to be unsuitable, but saw little prospect of being able to change to a better one.

The proportion of men back at work who had returned to their old job was highest among those engaged in non-manual work (96.1 per cent.): and the proportion was higher among skilled manual workers (88.6 per cent.) than among unskilled manual workers (77.4 per cent.). Of those who had not returned to work, the proportion regarded as unfit for work was higher

among unskilled manual workers than among those in skilled work and much higher than among those in non-manual work.

6

Suitability of job

The question of the suitability of the work in which the men were engaged 3 months after treatment in hospital was further explored in relation to age, nature of occupation, and previous treatment as a hospital in-patient within the past 5 years for the same or a related illness.

Of the men who were back at work 3 months after leaving hospital, 21.5 per cent. were in jobs which could only be described as unsuitable, having regard to the demands of the occupation and the condition of the man. The proportion of men who were back at work in unsuitable jobs was relatively high among lads between 15 and 19 years of age, largely because of the number suffering from rheumatic heart-disease, and among men in their fifties, chiefly among men who had had 'cardiac failure'.

The proportion of men who were in unsuitable work was low (8.5 per cent.) among those in non-manual work; there was little difference between the proportions of skilled and unskilled manual workers found to be back at work in unsuitable jobs 3 months after leaving hospital. The skilled man naturally sought to hang on to his skilled job, unsuitable as it might be, and the unskilled often felt that the alternative to the job in which he found himself was unemployment.

Men recovering from a first serious illness differed little from men who had already undergone a prior spell of hospital in-patient treatment in the frequency with which they were found to be in jobs grossly unsuitable for them.

7

The number of men registered under the Disabled Persons (Employment) Act

Altogether, 40 (7.4 per cent.) of the 542 male patients over 15 years of age seen in their own homes 3 months after leaving hospital had, at one time or another, been registered as 'dis-

abled' under the Disabled Persons (Employment) Act. Twelve of those registered suffered from the results of disease of the circulatory system, 7 from respiratory trouble, 5 from digestive disorder, 3 from each of the groups of psychoneurotic illness and organic disease of the nervous system: the remaining 10 were drawn from other groups. Many had been registered under the Act for a long time; only 3 were registered in connexion with their recent spell of hospital treatment. The proportion of the men registered under the Act was higher in younger age-groups than in older; under the age of 45 years it remained fairly steady about 12·6 per cent.; between 45 and 64 it was 6·7 per cent. and above the age of 65 years, 3·5 per cent. Many of the men registered as 'disabled' had experienced considerable unemployment during the 5 years before their recent spell of hospital treatment. Only 13 of the 40 (32·5 per cent.) registered disabled persons were in employment 3 months after leaving hospital as compared with 61·4 per cent. of all the men between the ages of 15 and 64 studied.

The financial circumstances of the men registered as disabled were much less comfortable than the others, and the level of home assessment worse: 17·5 per cent. of their homes were classified as 'bad', as compared with 7 per cent. for the series as a whole.

8

Total time off work on account of recent illness

Among men who had returned to work the total length of time lost on account of the recent illness exceeded 6 months in 13·4 per cent. of cases: in 19·1 per cent. it was less than 1 month, in 29·5 per cent. it was between 1 and 2 months, in 17·2 per cent. between 2 and 3 months, and in 20·8 per cent. between 3 and 6 months. Duration of absence from work varied considerably with the nature of the illness. Of patients who had been under treatment for alimentary disorders, for instance, as many as 80 per cent. had been off work for less than 3 months, and of those treated for respiratory disease, 77 per cent., whereas among those treated for diseases of the circulatory system only 33 per cent. were off work for less than 3 months and 67 per cent. for upwards of 3 months.

*The Influence of Housing, Social, and
Economic Circumstances*

I

Social and environmental background

It has been seen that the 705 patients treated in hospital were an older group than the general population (of occupied and retired males over the age of 15) in central Clydeside as revealed in the 'one-per-cent.' sample of the 1951 census: there was an excess at all ages over 45 years. Although it is true that the 'central Clydeside' of the 1951 census does not correspond exactly with the districts from which the patients in this study were drawn, it does include the area where three of the four hospital populations would normally reside. A provisional estimate provided by the Registrar General shows that the position in the other area is unlikely to be substantially different.

Thirty-eight of the 705 patients originally included in the study had regarded themselves as having retired from work before their admission to hospital: nothing definite is known about the nature of their former employment. The remaining 667 have been classified for the purpose of this study according to the grouping by (occupational) social classes adopted by the Registrar General in his analysis of census returns; for comparison there is also shown the social-class distribution of all employed and retired males in central Clydeside, as given in the 'one-per-cent.' sample of the 1951 census.

Although these figures may perhaps not stand very close comparison, it would appear that the group of unskilled manual labourers contributed more than its quota to the cases studied and that the proportion of cases drawn from the other end of the Registrar General's social scale was also higher than that prevailing in the general population.

Of the 548 patients seen in their own homes 3 months after leaving hospital, 6 were still at school, 53 were old-age pen-

TABLE 5. *Social grouping: 667 patients treated in medical wards compared with all employed and retired males, central Clydeside (1951 census)*

	<i>Classes I and II</i>	<i>Class III</i>	<i>Class IV</i>	<i>Class V</i>	<i>Total</i>
667 patients	21·6	34·0	11·3	33·1	100·0
All employed and retired males, central Clydeside (1951 cen- sus)	13·5	54·1	13·8	18·6	100·0

sioners or had retired from work. Of those normally in employment, 164 were skilled manual workers, 58 semi-skilled and 158 unskilled manual workers. One hundred and five were engaged in non-manual work, mostly in the distributive trades or in work of a clerical nature, and 4 were in jobs that did not lend themselves to classification. The men in unskilled work gave the usual 'unskilled' history of much more frequent change of employer and a much heavier incidence of unemployment; thus, 27 per cent. of the skilled men had been unemployed for more than 6 months in the course of the 5 years immediately preceding their admission to hospital, while among the unskilled the corresponding figure was 43 per cent.: 82 per cent. of the men in skilled manual work had held the same job throughout the 5 years, as compared with 55 per cent. of the men in unskilled manual work.

Some of the depressingly long-term idleness experienced was doubtless imposed by the nature and severity of the disability; on the other hand, study of the history of these men after discharge from hospital suggests that breakdown was often inevitable in the light of the grossly unsuitable jobs undertaken by the men—usually their previous jobs—with little guidance and with something approaching fatalism, often prompted by the urge to escape poverty at all costs.

Just over one-third (33·5 per cent.) of the men studied had served a full apprenticeship to some trade, and, in addition, 14·4 per cent. had had shorter periods of training not constituting formal apprenticeships. The proportion of the men who were in skilled jobs was considerably higher at ages under 45 (64 per cent.) than at ages over 55 (27 per cent.)

Home background

Of the men studied, 27·4 per cent. lived in one- or two-roomed houses and 2·6 per cent. in common lodging-houses or similar institutions: 5·4 per cent. came from families that were living under conditions of overcrowding of three persons per room or worse.

The severity of overcrowding was worst in those houses classified as 'bad' structurally; where crowding was of the order of three persons per room or worse the proportion of houses described as 'bad' was three times as high as where it fell short of that figure. Overcrowding was more prevalent among the unskilled manual workers, of whom no fewer than 16·7 per cent. were living under conditions of crowding three persons per room or worse, or in common lodging-houses.

Overcrowding was notably severe in the homes of patients admitted for treatment of respiratory disease and disease of the nervous system: it was severe in the homes of patients treated in the two teaching units studied in the City of Glasgow.

Ninety-four of the men included in this study came from families which were either lodging in the house in which they lived or themselves kept lodgers. The proportion of 'lodger' families was higher among the families of unskilled labourers than among the families of skilled workers.

When the patient was visited in his own home 3 months after leaving hospital an assessment was made of the general family background in which he lived. Just over 80 per cent. of the homes were assessed as 'good' and about 7·5 per cent. as frankly 'bad'. Home conditions deteriorated as severity of overcrowding increased; only 56 per cent. of the homes with overcrowding of three or more persons per room were classified as 'good'.

Similarly, home assessment varied with the nature of the occupation of the breadwinner; of the homes of non-manual workers, 96 per cent. were classified as 'good'; of skilled manual workers, 88 per cent.; and of unskilled manual workers, 66 per cent.

None of the most prevalent disease-groups showed any very considerable departure from the general standard of home conditions, though among the twenty patients suffering from psycho-

neurotic illness the proportion coming from homes classified as 'fair' or 'bad' was 50 per cent. as against the general figure of 20 per cent.

3

Financial circumstances

Three months after the patient left hospital the financial circumstances of his family were assessed as 'comfortable' in 55·5 per cent. of cases, 'difficult' in 33·0 per cent., and 'poverty-stricken' in 11·5 per cent. The proportion of families living in comfortable circumstances diminished, and the proportion of families living in poverty increased, as severity of overcrowding—and size of family—in the home increased. Thus, among families living three or more persons to a room, only 26 per cent. were described as being in comfortable financial circumstances.

As was to be expected, financial well-being of the family was found to be closely related to the extent of the unemployment suffered by the patient during the 5 years preceding his admission to hospital. In the small group of fourteen families in which the patient had been wholly unemployed throughout the 5 years preceding his admission to hospital, three families were described as comfortably off, four as living in difficult circumstances, and seven in poverty.

The only one of the four numerically largest groups of patients—those suffering from cardiovascular, respiratory, digestive, and endocrine disturbances—which showed any appreciable departure from the general financial picture was the group of patients suffering from endocrine disturbances, mostly cases of diabetes, where the proportion of families classified as living in difficult financial circumstances or in poverty was 35 per cent. as against the general figure of 44·5 per cent. In some of the smaller groups of patients, e.g. those treated for conditions of the bones or joints or tuberculosis, the proportion of families in financial difficulty was high.

Progress 3 months after leaving hospital in relation to social and environmental conditions

Three months after the men left hospital it was found that, while some had consolidated the improvement made there, many had deteriorated.

Progress 3 months after discharge was not influenced by civil state, though a small series of ten 'separated' men did badly. The proportion of patients who had progressed since leaving hospital was greatest where the general home assessment was 'good': in these families 67.7 per cent. had continued to improve during the 3 months after leaving hospital. Where home assessment was 'fair' or 'bad' the proportion who had continued to improve was 55.2 per cent. The proportion of cases classified as 'worse' 3 months after leaving hospital was about 10.7 per cent., irrespective of home assessment.

No information is available about the home conditions of the sixty-six men who had already died within 3 months of leaving hospital or of the thirty-four men who had been readmitted to hospitals or allied institutions during that period.

The patients who showed least clinical improvement 3 months after leaving hospital were those who had experienced most unemployment during the 5 years preceding admission to hospital. Similarly, the patients with a heavy record of previous unemployment presented a poor employment picture 3 months after returning home from hospital: of patients who had experienced little or no unemployment—less than 3 months in the 5 years before admission to hospital—70 per cent. were back at work (though one in five was in a job grossly unsuitable) and 30 per cent. had not yet returned to work. Of those who had suffered more than 2 years' unemployment out of the previous five, on the other hand, 87 per cent. were still not working three months after discharge from hospital.

Financial circumstances of family in relation to the ex-patient's employment position 3 months after leaving hospital

Where the men were working in jobs regarded as suitable 3 months after leaving hospital, 80 per cent. of the families were

in comfortable financial circumstances; where the men were working in a job regarded as grossly unsuitable, 54 per cent. of the families were in comfortable circumstances; and where the men were not yet back at work, 58 per cent. As was to be expected, financial circumstances were easiest where the time lost from work during the recent illness was short; thus, where the loss of working time was less than 3 months, 83 per cent. of families were in comfortable circumstances; where the time lost was between 3 and 6 months, 72 per cent. of families were in comfortable circumstances; and where time lost exceeded 6 months, only 45 per cent. were in comfortable circumstances. There was a marked drop in financial well-being when the time lost on account of the illness exceeded 6 months.

6

The men's home background in relation to their employment situation 3 months after leaving hospital

The home background, as distinct from mere financial circumstances, was rather better where the men had returned to work within 3 months of leaving hospital: it was 'good' in 84 per cent. of families where the men had returned as compared with 77 per cent. of families where they had not yet done so. Further, the proportion of all the men studied who were found to be in suitable work was higher where the home assessment was 'good' than where it was not good.

In general, the total length of time lost on account of the recent illness varied but little with home assessment, though the proportion of patients who returned to work within 4 weeks was higher where the home was good (18 per cent.) than where it was not good (11 per cent.); and, on the other hand, the proportion of cases in which the time lost exceeded 6 months was lower where home assessment was good (13 per cent.) than where it was not good (22 per cent.).

7

Return to work in relation to occupational background

The proportion of cases that had failed to maintain their improvement after leaving hospital was highest among unskilled manual workers (47 per cent.); among semi-skilled manual

workers it was 41 per cent.; among skilled manual workers, 29 per cent.; and among non-manual workers, 22 per cent. The proportion of men regarded as fit for work 3 months after leaving hospital decreased as the normal occupation became less skilled. Thus, among non-manual workers, 75 per cent. were regarded as fit for work 3 months after leaving hospital; among skilled manual workers, 68 per cent.; among semi-skilled manual workers, 64 per cent.; and among unskilled manual workers, 54 per cent.

When each patient left hospital the clinician who had been looking after him was asked to estimate the probability that he would be able to return to work—whether his old work or some alternative employment—within 3 weeks of leaving hospital. At that time it was estimated, doubtless chiefly on clinical grounds, that 52 per cent. of the men normally engaged in non-manual work would be able to return to work within 3 weeks; the corresponding figure for skilled manual workers was 48 per cent., for semi-skilled manual workers, 57 per cent.; and for unskilled manual workers, 45 per cent.: there was comparatively little difference, therefore, in the estimates for the several occupational groups.

Table 6 shows the clinical estimate (made at the time the patient left hospital) of probable fitness to resume work 3 weeks after returning home in relation to the proportion of men found to be back at work 3 months after leaving hospital. It will be seen that the proportion back at work 3 months after leaving hospital did not correspond very closely with the clinical estimate of fitness for early return to work made when the patient left hospital.

TABLE 6. *Proportion of men expected to be fit for early return to work, and proportion actually back at work 3 months after discharge from hospital*

<i>Occupational group</i>	<i>Percentage of men expected to be able to return to work 3 weeks after leaving hospital</i>	<i>Percentage of men back at work 3 months after leaving hospital</i>
Non-manual . . .	52	74
Manual, skilled . . .	48	58
Manual, semi-skilled . . .	57	48
Manual, unskilled . . .	45	41

Cases in which the patient's wife had taken employment out of the home

Serious illness, in the nature of things, happens seldom in a man's life and when it strikes it causes upheaval, not least in his domestic arrangements. Sisters, mothers-in-law, aunts, and children are liable to be called in to do nursing, housework, shopping, and the rest. It becomes a problem to arrange a programme of baby-minders, house cleaners, and ration collectors; and households at the third remove from the patient, who may be personally unknown to him, may be doing neighbourly tasks to relieve somebody who relieves somebody else who baby-watches for the wife who has to visit her husband in hospital.

In this series of 548 men seen in their own homes 3 months after leaving hospital there were 376 married men of all ages, more than half of them with the appearance, in their homes, of reasonable comfort. In 48 cases the wives were out at work because they had to do so to keep the home going. It was clear that many of the husbands were embarrassed by the necessity for the wife's employment, and it appeared that frequently they had 'had words' on the subject; it may well be that the proportion in jobs was in fact higher than that declared.

The families in which the wife was out at work were in the main those in which the bread-winner had experienced a great deal of illness and unemployment during the 5 years preceding admission to hospital; 23 of the 48 patients concerned had had previous hospital in-patient treatment and 4 more had out-patient treatment during these 5 years, while 19 of the 48 had lost more than 1 year of working time during the 5 years.

Three months after leaving hospital the husbands of 31 of the wives who were in jobs were still unemployed—a high proportion (79 per cent.); and of the 17 who were at work 5 were in unsuitable jobs. Of the 16 who had been in skilled manual work before their recent illness only 12 had returned to skilled manual work on leaving hospital, so that there had been some deterioration of occupational status.

The home background with which these wives in jobs had to cope was exacting. In 14 of the 48 homes there were 5 or more persons to be looked after, including lodgers, and in two-thirds of the homes there were children to be cared for. Eighteen of the

houses in which these families lived were poor structurally and the homes were often crowded; 10 of the 48 families kept lodgers or were themselves lodgers. Financial circumstances were described as 'fair' in 8 cases, and frankly bad in 10.

These families were obviously living under a formidable weight of adverse circumstances, and in view of the fact that many had been very heavily hammered over a period of years, it is rather remarkable to find that in 39 of the 48 the general home assessment was 'good', in 5 'fair', and in only 4 'bad'.

*How much of the Illness of Patients treated
in 'Acute' Medical Wards could be regarded
as having a Major Preventable Factor?*

I

Some factors contributing to breakdown

SCIENTIFIC advance and improvement in living and working conditions have reduced the prevalence of some diseases that used to be common, and only a small proportion of the patients in general medical wards of hospitals in this country nowadays suffer from conditions in which the breakdown in health that brought them to hospital can fairly be regarded as 'preventable' from the medical point of view, having in mind the present state of scientific knowledge and the ordinary conditions under which the great mass of the people live and work. In this series of cases some of the poisonings doubtless could, and should, have been prevented, and some of the infections might have been, as should the occasional case (of scurvy, for instance) that came from gross error of diet; but, together, these cases were relatively few. That is not to say that it should not have been possible, in practice as well as in theory, to prevent much of the breakdown in health that compelled admission to hospital: many of the patients had to be admitted because of their continued exposure to unfavourable factors which inevitably aggravated their condition and precipitated a recurrence of illness that had already, on a former occasion, necessitated admission to hospital. It was not always certain that these adverse factors were the real cause, or the whole cause, of breakdown; but it is certain that, had they been mitigated, the occurrence of breakdown and the necessity for hospital treatment might often have been postponed, if not entirely obviated.

Some of these cases regarded as preventable found their way to hospital because at some bygone time, perhaps years

previously, treatment had been inadequate; often the patient had not sought advice, or had ceased treatment too early, as in some cases suffering from late manifestations of syphilis. Some patients had failed to continue with the prolonged therapy necessary to hold in check such conditions as diabetes and anaemia: some had abandoned a régime dictated by the medical condition from which they suffered—peptic ulcer, for example, or cardiovascular disease. Time has not tarnished the wisdom of Plato's writing that if a Physician tells a Handicraftsman 'of a long diet, and Bolstering up his Head, and the like, he presently replies, "That he has no leisure to lie by it, and that it will be no use to him to lead an idle crazy Life and neglect his Business"'. Upon this he takes leave of the Physician, and returns to his usual way of living'. It must be difficult and tedious to conform to a rigid way of life: few take kindly to regimentation of this sort, even where it is economically practicable.

Some diabetics made very heavy weather of conforming to the appropriate régime, even when the method of doing so had been explained to them time and time again: two thumb-nail sketches will illustrate the kind of difficulty that is apt to arise.

A tailor, now aged 65, developed diabetes mellitus 3 years ago. He is well preserved, able at his job, and apparently reasonably intelligent. But he cannot test his urine or administer his own insulin—the whole business is still rather a terrifying mystery to him. When visited in his home 3 months after leaving hospital he had developed a 'cold' and was complaining of drowsiness and a very dry tongue. Being confined to the house he said he was unable to contact the district nurse who usually gave him his insulin and he did not appear to appreciate the significance of his present condition. This man has done well at tailoring; it is difficult to believe that he could not do better in controlling his diabetes. It certainly looks as if he might be back in hospital soon.

Another patient, now 56 years of age, has been controlling his diabetes for almost 2 years. He is a foreman in charge of a Co-operative transport department, and all goes well until the manager nags him. This has the effect of interfering with his sleep and he awakens in no mood for breakfast, which he has to force down on these occasions. When relationships become really bad he goes without breakfast, and the insulin which he takes, uncovered by carbohydrate, sends him into coma, for which he has already had more than one spell of hospital treatment.

Adverse social and environmental factors

But the commonest factors leading to recurrence of breakdown were those associated with life in, or return to, unsuitable environmental conditions at home or at work. It is difficult to overstress the difference between the protective solicitude of the hospital ward and the everyday surroundings of many patients when they return home. Few leave hospital 'cured', in the sense of being fully restored to health, fully able to return immediately to the hurly-burly of everyday life; and there is a tremendous difference between the sheltered hospital ward and the outside world, so that it is not surprising that many failed to maintain the improvement which they made while still in hospital. One day the patient is living in an atmosphere in which doctors, nurses, and social workers build up the protecting care that goes with hospital treatment nowadays; the next, he may find himself back, alone, in some miserable den, surrounded by the running walls and general decrepitude of the slum, with no one to get him a meal, perhaps living up several flights of stairs that would tax a stouter heart than his. Or he may find himself back in the almost equally trying overcrowded conditions under which so many of these people live, perhaps four, five, or six in a single room, where a disturbed night for one inevitably means a disturbed night for all.

Sometimes the patient of yesterday is faced with the prospect of return to a job plainly beyond his strength or otherwise quite unsuited to the condition from which he suffers—even to work which may have been directly responsible for his recent breakdown. He may have been off work on account of his recent illness for weeks, perhaps months; his family may have got into debt. His wife may have had to go out to work to keep the wolf from the door while he has been in hospital, and that goes sore against his grain: he feels he must get back to work as soon as possible.

This economic pressure is often greatest among the unskilled labourers whose jobs are apt to be physically most exacting. It is true that the machinery of the Disabled Persons (Employment) Act is available to help these men to find more suitable work; but suitable jobs are often difficult to come by where the

prevailing industry is heavy and the disabled man's background is one of unskilled labour. Many of these men are already only too familiar with the limitations of the Act and its machinery. Few are fortunate enough to be offered training in new work suited to their disability, geared to a reasonable prospect of employment at the end of training. Admittedly, for the man no longer young it is not easy to pick up new threads; it is therefore all the more distressing that in some cases the prospect of subsequent breakdown becomes almost inevitable, sooner or later, from the time when, on leaving school, a disabled youngster is allowed to drift into work obviously unsuitable, at a time when it would be reasonably practicable to steer him past the worst pitfalls of unskilled labour. The crisis of school leaving, with its opportunities for skilled vocational guidance, is never repeated.

3

Difficulty in persuading a patient to alter his way of life

Even where it is practicable for the hospital clinician or the patient's own doctor to give him advice about the avoidance of some of these adverse factors that will almost certainly lead to another collapse, it is by no means sure that the patient will be able, or willing, to accept their advice. Occasionally, the difficulty comes of lack of intelligence, sometimes of a liking for his present way of living. He may be attached to his neighbours, badly housed as they are; or he may like his job, unsuitable as it is, apart altogether from the fact that he might have great difficulty in changing it for a better, even if he wished to do so. But most often he continues as he is because he has little say in the matter: because he cannot get a better house, or because he cannot get a better job—not, at all events, without a serious drop in earnings which he cannot or will not contemplate. The more anxious often prefer to return to work which they know to have aggravated their recent breakdown in health and to be almost certain to do the same again; the less anxious minority soon discover that the allowances and benefits that can be obtained in unemployment are related to family commitments, though wages are not; and it is not surprising that a few seem to be in no great hurry to get back to work.

Most of the adverse factors that have been mentioned are difficult enough to circumvent even given the full co-operation of the patient and quite hopeless without it. The difficulties attending efforts to meet these social problems are different from those which confronted early sanitarians in their attempts to improve environmental conditions (as by the introduction of water supplies), in that the earlier measures did not always require the very active co-operation of the recipients. Now, in matters such as these, the co-operation of the individual is essential; and that makes things much more awkward. So much are the attitudes and the circumstances of the patient involved that it often becomes difficult to say with certainty which factors in the genesis of an illness can fairly be regarded as preventable, or even which cases have a preventable element in them.

4

The proportion of cases in which illness was regarded as preventable

When the patients included in this study left hospital, the clinician in charge of each case was asked to indicate those in which he thought there was a preventable factor. The clinicians estimated, doubtless mainly on clinical grounds, that there was a preventable factor in 73 of the 705 cases, 10·3 per cent. For reasons already stated, it was only possible to see 548 of these cases in their own homes and to learn at first hand about the conditions under which they lived and worked. Of these 548, 55 (10·0 per cent.) had been regarded by the clinicians as having a preventable factor; but from a study of home and working environment the present authors were of opinion that a further 80 (14·6 per cent.) must be regarded, on social and environmental grounds, as having a significant preventable factor or factors—a total of 135 (24·6 per cent.). The cases regarded as having a preventable factor were rather more numerous in lower age-groups; 28 per cent. of the illnesses of patients under the age of 45 fell into this category as against 22 per cent. of those of patients over 45 years of age.

The proportion of cases which were regarded as having a major preventable factor of this kind varied widely with the type of occupation in which the man was employed; it was low among those in non-manual work (18 per cent.), higher

among skilled manual workers (21 per cent.), and highest among unskilled manual workers (34 per cent.). Many unskilled workers had continued in jobs that were grossly unsuitable, even when it had already been clearly demonstrated that the men were unable to do the work in question.

The breakdown which had necessitated hospital treatment was less frequently regarded as having a preventable factor where home assessment was 'good' (20 per cent.) than where it was 'fair' or 'bad' (41 per cent.); yet, such is the preponderance of homes of good assessment, that about two-thirds of all the cases in which there was a major preventable factor came from good homes. The proportion of cases regarded as having a preventable factor was relatively high where overcrowding in the home was severe: when the patient and his family were living under conditions of crowding equal to two or more persons per room, 32 per cent. of the cases were regarded as having a preventable factor; where less than two persons per room, 22 per cent.

TABLE 7. *The proportion of cases regarded as having a major preventable factor largely responsible for the breakdown in health that called for admission to hospital*

<i>Clinical group</i>	<i>Classified as preventable by clinicians</i>	<i>Added on social and environmental grounds</i>	<i>Total cases regarded as having preventable factor</i>	<i>Total number of cases in group</i>
Infective . . .	9	3	12	27
Endocrine . . .	8	9	17	47
Blood . . .	3	1	4	20
Psychoneurosis . . .	13	3	16	22
Cardiovascular . . .	1	15	16	140
Respiratory . . .	4	7	11	83
Alimentary . . .	8	31	39	100
Injuries . . .	9	..	9	20
Central nervous . . .	..	4	4	28
Genito-urinary . . .	..	2	2	16
Skin . . .	..	1	1	3
Bones and joints . . .	..	1	1	7
Malformations . . .	..	1	1	4
Ill-defined . . .	..	2	2	17
Other . . .	..	..	..	14
	55	80	135	548

The incidence of illnesses in which there was a major preventable factor has been studied in relation to the clinical nature of

the illness concerned. Apart from the group of 'injuries' (which included poisonings), the clinical groups in which recent breakdown in health was regarded as having a preventable factor—clinical or social—were psychoneurosis (73 per cent.), infective diseases (44 per cent.), alimentary diseases (39 per cent.), and endocrine disturbances (36 per cent.): the proportion was low, on the other hand, among patients who had been treated for cardio-vascular disease (11 per cent.), respiratory disease (13 per cent.), and disease of the central nervous system (14 per cent.).

Breakdown in health regarded as having a major preventable factor occurred rather more frequently among those patients who had had hospital treatment for the same or a related illness within the 5 years preceding their recent admission to hospital (30, as against the total figure of 25 per cent.); the excess was mainly due to the social or environmental circumstances to which the patient returned on leaving hospital after treatment.

5

The relative prevalence of contributory social and environmental factors

The cases classified as having a preventable factor substantially responsible for the recent illness did not by any means exhaust those in which social, economic, and environmental factors had contributed in some degree to the illness (or were thought to be interfering with recovery). It was estimated that in about one-half of the cases some such circumstance entered into the picture. Some of these related circumstances were economic, severe financial strain existing in about 4·5 per cent. of cases, preponderantly among older people.

A patient, 27 years of age, was treated in hospital for 26 days on account of severe bleeding from a duodenal ulcer: he had worked for the past 5 years as a machinist in a large factory. Prior to this he had served for 6 years in the army. When he was demobilized he and his wife spent a harassing time in lodgings and only recently managed to obtain a room and kitchen—not in good repair, but greatly prized as 'a place of their own'. Both are anxious to make money to furnish their new home and they have succeeded in furnishing the kitchen. The second room, however, is still almost bare. On his return from hospital to work the patient had further bleeding, but refused to see

his doctor as he realized that he would be put off work: prior to admission he had refused his doctor's advice to rest in bed and the hospital record noted that he had delayed consulting his doctor for too long. To get extra money he is working late three nights a week. His wife, in turn, is doubly anxious over his neglect of serious symptoms; she is scared by his pallor and by his determination to go on working.

A young man of 21 had 50 days' treatment in hospital for a kidney condition, glomerulo-nephritis; on discharge he still had persistent albuminuria. For the past 4 years he has worked as a manual labourer in a starch mill, which involves lifting heavy sacks of starch. On leaving hospital he remained at home for 12 weeks, when a series of accidents in the family forced him back to work: his father fractured his skull, his mother had a sudden haematemesis and his sister gave up her job to look after the three invalids in the family. This young man then returned to his old job against his doctor's advice, though his ankles are swollen every night and he is obviously far from well. He says the family simply cannot afford to have its three wage-earners unemployed at the same time; but there can be no doubt that he will be back in hospital ere long.

A tailor, 46 years of age, spent 29 days in hospital (his second time within a year), being under treatment for bronchiectasis, malnutrition, and osteoarthritis of the spine. He is single and has outlived the rest of his family: now he has no relatives and very few friends. He lives in one small room in slum property with scarcely any furniture. The walls are soaking and falling down. There is no linoleum or other floor covering; there is not even a bed and he sleeps on some rags on the floor. His cooking is very indifferent and he must inevitably break down again soon.

Some of the cases, about 7·5 per cent., were associated with extremely bad housing conditions—either severe overcrowding in the home, or living in a building of structure so dilapidated as to prejudice health, or having flights of severe stairs which the patient could not negotiate.

From 1914 to 1925 a patient had a well-paid skilled job as a bottle maker; his basic wage then was almost £5 per week. However, the firm in which he was employed removed to England and he was unable to use his special skill; he was forced into a dozen jobs of the heavy labouring type—chiefly pick and shovel work—until in 1945 his failing health forced him into such a casual job as that of a night watchman. This man had been brought up in a poor family under

severely overcrowded conditions and had much respiratory illness when young. When aged 31 he was admitted to hospital with pleurisy. His respiratory distress has increased with the years; three years ago he had a long stay in hospital on account of 'bronchitis'. He lives with his wife and child in one decrepit slum room, rat infested and with soaking walls. He has done his best with cement and paper to get the walls dried but the water soon seeps through. The property is so old that, owing to some defect in masonry, smoke pours down the chimney and fills the room, setting off his paroxysm of coughing. At night, instead of smoke, soot comes down, covering the room with a thick film and making sleep impossible. His recent spell of treatment lasted 66 days and he was very ill indeed with chronic bronchitis, emphysema, and acute cardiac failure. He 'felt a new man' on leaving hospital and is extremely grateful for all the help he received there; he realizes that whenever he can manage to sleep elsewhere than in his own home—either in hospital or with friends—his shortness of breath rapidly improves. He has gone downhill since leaving hospital and has frequent paroxysms of coughing, particularly at night. His wife, who went out working on his admission to hospital, is now being treated for bronchitis and the child's cough is being investigated by the public health authorities. This man registered as a disabled person on the advice of the hospital, but fruitlessly, though he did spend 6 weeks at a rehabilitation centre. The hospital strongly recommended him for a better house: he is a very good type, remarkably free from bitterness.

A man of 37, suffering from rheumatic heart-disease, was admitted to hospital so that his suitability for operative treatment could be considered. He had developed rheumatic fever when a child and was educated in a special school following the onset of rheumatic heart-disease. He served an apprenticeship as an iron-moulder, a very unsuitable job, and, despite repeated cardiac breakdown, continued at that work until he was 34 years of age. Of late he has been ill with severe shortness of breath for about 5 or 6 months in each year; he has been unemployed for 36 months in the last 5 years. He has tried four or five labouring jobs, but they have all proved too heavy, and he has not worked at all for the past 18 months. He lives with his wife, two school children, and three pre-school children—seven in all—in a bare 'room and kitchen' house which is up four flights of stairs, and he now finds that he cannot climb the stairs while carrying the family's groceries. He is free from dyspnoea when at rest, but one flight of stairs 'sets him puffing'.

An unskilled manual labourer is now 44 years of age. He was brought up in a poor area and as a child had pneumonia three times.

He has chronic bronchitis, and shortness of breath has forced him into the more cheaply paid 'light' type of job these last few years. He now works as a floor-sweeper in a large factory. The work is light enough but means that all day he is living in an atmosphere of dust. He shares his home with his wife and two children; the four members of the family live in a dark, damp, sour, and airless single-end at the end of an alley, with the usual streaming walls. He sleeps in an old type of boxed bed, sunk in the wall; and it is hard to see how he can ever make any improvement under such environmental conditions.

Sometimes the whole environment was such that illness and relapse seemed inevitable.

A married man of 32 has complained of epigastric pain after food for the past 3 years. He was admitted to hospital following a haematemesis and spent 52 days there; he was found to have gastric and duodenal ulcers. It was decided that he would require an operation when he was sufficiently recovered. He had served 2 years in the army and was discharged with a small pension on account of chronic bronchitis. Apart from army service he has worked for 16 years as a painter, but has lost about 16 months' work in the past 5 years through illness. Both he and his wife are conscientious, hard-working folk who are frustrated, harassed, and desperate on account of the housing shortage. They have three children at school and one infant. The family of six live in one very small room in a decayed old tenement. The walls are soaking, furniture is damp and cannot be kept decent, despite endless polishing by the wife. The eldest girl and one other sleep in a 'concealed' bed—really a niche in the soaking walls. When the rain keeps the children indoors there can be no living space, or feeding space, in the house; and if this happens to coincide with the washing day, with the washing having to be hung on pulleys to dry—as occurred at the time of one home visit—the lack of space is worse than in a submarine.

A lamplighter, now aged 51, spent 26 days in hospital with a gastric ulcer. He gives a long history of ulcer trouble. When aged 33 he had a perforated ulcer, at 39 a haematemesis, at 47 a haematemesis and melaena with gastrectomy performed, at 48 he had a herniotomy and for the past 2 years he has had trouble with a stomal ulcer. He lost some 13 months of working time during the last 5 years. His routine has been unaltered for 30 years, during which time he has had to travel daily some seven or eight miles to his job as a lamplighter. He has breakfast at home and carries 'pieces' which serve him for two 'meals' during the day. On

returning home at night he has a warm supper before going to bed. He is a bachelor and lives with his elder brother, who is now a widower. The 'meals' are prepared by his elder brother—a cheerful soul of 77 who has learned to cook only since the recent death of his wife. The breakfast is invariably porridge; the supper 'cocoa and sardines and that sort of thing'.

A retired miner, now 72 years of age, worked in the pits until he was 60 and then as a bricklayer's labourer until he was 64, when he became unemployed. He lives in a two-roomed council house, paying a rent of 9s. a week; but unfortunately he is on the third floor and has difficulty in climbing the stairs. His wife is dead: his married daughter lives in Edinburgh and can only manage to come occasionally to clean up the house for him. His only other relative is a niece who only comes to see him at irregular intervals. He has arthritis and a varicose ulcer of the leg; he has just spent 28 days in hospital with oedema of both legs, the result of dietary protein deficiency. His cerebration is a little slow—it may be that his loneliness accentuates this; the house is poor and in sad disarray. The cooking done is negligible; he cannot be bothered and never learned to cook in his youth. His ankles are still grossly swollen and his boots are too tight, but despite this he 'does his own messages' and recently the hospital almoner arranged a hot meal daily from the welfare service. It is only a matter of time until he will have to be readmitted to hospital.

But the great majority of these contributory adverse social circumstances were associated with the patient's work, either—most commonly—the inherent nature of the work and its physical and mental demands, having regard to the condition of the man concerned; or some circumstance arising from it—working conditions, carried and irregular meals, excessively long working hours, or severe friction with workmates.

Sometimes the trouble seemed to lie in lack of knowledgeable guidance in the choice of suitable work, resulting in a dismal procession from one unsatisfactory job to another:

A youth of 18 who had developed chorea at the age of 8 was admitted to hospital with a recurrence of acute rheumatism and rheumatic heart-disease. He spent 42 days in hospital and had 4 weeks convalescent-home treatment before returning to his own home. On leaving school he worked for 2 years as an agricultural labourer, but on account of shortness of breath he had to change his job. On return from hospital he worked for 2 weeks as a helper and general washer-

up in a tea-room. The job involved constant standing on his feet and his doctor advised him to give up this work and seek something less exacting. Thereupon he changed to his present job, working an 8-hour day in a wood-yard. For the first 4 hours of each shift he stacks $\frac{1}{2}$ cwt. bags of wood and for the second four hours he is in charge of a wood-cutting machine, during which time he has ample opportunity for sitting down. He makes no complaint about his present job, which is reasonably well paid; but his earlier work undoubtedly contributed to his recent breakdown. He lives with his widowed mother (who also suffers from mitral stenosis) and three grown-up brothers and sisters in a two-roomed house in an old slum property; the house is dark, bleak, cold, and damp.

A labourer, now 37 years of age, spent 85 days in hospital for treatment of congestive heart-disease, spontaneous pneumothorax, and pulmonary fibrosis. He is said to have had pneumonia nine times in infancy and childhood, but, in spite of this history, was apprenticed to iron-moulding. He served his time at that trade, and despite frequent ill-health from respiratory disease, continued at the job for 13 years, until he was finally forced to give it up as the fumes and physical effort involved became too much for him. Thereafter he worked for 8 years as a saw-mill labourer, though here again the dust and the heavy lifting distressed him. The only job he could find free from dust and fumes was as a road navvy, doing pick and shovel work. Not surprisingly, he has lost a good deal of working time through illness in the past 5 years. He lives with his widowed mother in a poverty-stricken cottage which is old, damp, and crumbling. His mother says she lacks the money to 'build him up' with the foods he really requires, though a married sister tries to help them out financially from time to time. This man is returning to his job as a road navvy, 'for there are no light jobs' for such as he; clearly he will return to hospital.

A man, now 48 years of age, had pneumonia in 1929 and again in 1935 and 1943. Recently he spent 26 days in hospital with 'left midzone pneumonia', and on discharge the condition of his lung had not wholly recovered. From the age of 16 he had worked for 30 years as a driller in the shipyards, but recurring respiratory trouble ultimately compelled him to give up the job. Over the years he has lost a fair amount of work on account of chest trouble, and now he has constant shortness of breath, even at rest. Two months after leaving hospital he started on his present job as a labourer in a steel works. The work involves pushing a 6 cwt. truck some 200 yards up a slight incline into a shed where the truck is sprayed with cellulose paint. The exertion makes him acutely short of breath and the

smell of acetone in the spray makes him sick and induces coughing. He no longer goes to see his doctor; though not ungrateful for all the help given to him by doctors and nurses, he is 'fed up' with things as they are. He says that the only thing that is any use to him now is a reasonable type of job; he knows well that his present job is shortening his days, but he cannot live on sickness benefit. This man should have been trained in more suitable work many years ago.

A journeyman butcher, now 31 years of age, after serving for 6 years with the infantry, resumed his trade at the end of the war and for a time did well. However, he was passed over for promotion in the shop in favour of one who had never been in the Forces. In pique, he threw up his job as a butcher, starting labouring with the bricklayers and now works a pneumatic drill all day. He is too stubborn to reverse the move: but he has become short of breath and developed duodenal ulcer. He was in hospital for 9 days and since discharge his condition has deteriorated; he looks ill and exhausted, vomits every day and has frequent hiccough. His present work is obviously grossly unsuitable and when he becomes too weak or too ill to work he will have to return to hospital. This man has a good home: the problem here is now one of mental health as much as peptic ulceration.

These occupational factors seemed to press specially heavily on men between 45 and 54 years of age; above the age of 55 they were less frequently encountered, perhaps because some of these older people, finding working conditions trying, tended to give up their employment.

A man, now 53 years of age, had no serious illness until, shortly before admission to hospital, he began to complain of precordial pain. For the past 14 years he has worked as a furnaceman—hand stoking, shovelling coal; and, within 3 months of leaving hospital after treatment for coronary insufficiency, he returned to his work as a furnaceman. He is obviously unfit for the work and his son, who realizes that his father is in pain, has urged him to stay off work until he is fitter. This he refuses to do as his superannuation is involved and he hopes the severe pain will ease 'once he gets used to it'. This is an example of how a few days of ill-advised employment can undo months of medical treatment—presumably he will carry on until he has a serious breakdown. The case also illustrates the common preparedness of the worker with a weekly wage to risk his health in avoiding lack of money. Large numbers of workers are prepared to ruin their health rather than see their wives go out working to maintain the household.

A man, now 56 years of age, had been wounded while serving with an infantry battalion at the age of 24 and most of the biceps muscle of his left forearm was torn away. He developed duodenal ulcer and the operation of gastro-enterostomy was performed when he was 31 years old. Thereafter he worked for 24 years, until 18 months ago, packing and stacking cases of gun-cotton. The stacking involved a two-man lift, as the cases weighed between two and three cwt. He has suffered pain regularly for very many years, but he is an ultra-conscientious and good-hearted type of chap who has overdriven himself for most of his adult life. From time to time he has suffered from melaena, though he has lost little working time. Eventually, he came to be unable to cope with the heavy lifting and developed rapid and irregular action of the heart. He has been unable to work for the past 18 months, and indeed can only walk a few yards without becoming aware of his cardiac condition. He lives with his old mother who is feeble and is only able to look after him indifferently. This is an excellent type of workman who has worked himself to a standstill and has endured many years of pain in a very unsuitable job.

A patient who is now 64 years of age was a coal-face worker for 20 years after leaving school and thereafter a 'heavy' labourer in a threadmill for many years. When 60 years of age he became a floor-sweeper in another large factory, where he missed the friends he had made elsewhere. During his recent illness he was treated in hospital for 11 days for 'atheroma'. He was very short of breath on slight exertion. On leaving hospital he returned to his job as a floor-sweeper and the charge-hand ordered him to scatter sand over a large area, using a heavy metal shovel. The man protested that he was unable to do this work, but the charge-hand insisted on its being done. Since then the man has had precordial pain with shortness of breath, even when at rest; for the last two weeks he has been confined to his room. Like so many others he finds it difficult to get the 'wee light job' that he could so easily manage to do.

When the prevalence of these adverse factors was considered in relation to the clinical condition for which the patient had been treated in hospital, economic pressure was found to operate most frequently among those who had suffered from psychoneurotic states or from one of the infective conditions, chiefly tuberculosis and syphilis; the worst housing conditions were found among patients who had been treated in hospital for respiratory or infective disease; while adverse circumstances associated with work were most common among patients in the

groups of alimentary disorders, circulatory and respiratory disease, and psychoneurotic states.

The association of illness with those adverse social circumstances creates a vicious circle; illness means less earning-capacity and more poverty, the need to accept any job, however unsuitable, and these things in turn aggravate illness, so that it is often difficult to be sure which is cause and which effect. There is the further difficulty in interpretation that springs from the fact that no information is available about the extent to which similar adverse circumstances prevail among the general population without association with illness; but it seems reasonably certain, from consideration of all the circumstances of these cases, that adverse social factors play an important role in leading up to, and in many cases determining, the onset of illness and so increasing hospital load.

6

The proportion of ex-patients who were not following advice that had been given to them

One of the disappointing features which emerged from home visitation of these men 3 months after they had left hospital was the indifference with which many of them were treating advice that had been given to them by hospital staffs and their own doctors about action designed to minimize the probability of a recurrence of their illness. In only about one-third of the cases in which it was possible to give advice of this kind was there a reasonable certainty that the advice was being strictly followed 3 months after the patient left hospital and, so far as could be seen, likely to continue to be followed in the future. In almost as many cases it was clear that the ex-patient would not, or could not, act upon the advice given to him, though in some of these cases life itself was at stake; in the remaining third it was not yet clear whether the patient was acting upon the advice he had been given or was likely to continue to do so, but in many cases the outlook could not be regarded any more optimistically than 'extremely doubtful'. Many of the men did not accept the advice given to them because they could not obtain more suitable work at a sufficient wage, even when change of job was urgently necessary. Sometimes, as has been seen, the man was

unwilling to give up a job in which he had worked for a long time, perhaps the only job he knew, and where his workmates were the cronies of years; but often the real reason lay in sheer inability to obtain a more suitable job. Sometimes, apart altogether from work, the man was unwilling to change a way of life that could only lead to disaster. Among the clinical groups in which a comparatively high proportion of men were taking the advice offered were those suffering from diseases of the blood, endocrine disturbances, and diseases of the central nervous system: among groups of patients in which relatively few accepted advice were those suffering from respiratory disease, psychoneurotic states, infective diseases, and alimentary disorders.

During 1947 and 1948 a young man did his national service in Malaya with an infantry battalion. On return to civilian life at the age of 20 he developed his first attack of malaria. He was admitted to hospital and remained there 14 days; he was told to continue on anti-malarial therapy and the issues were explained to him. Three months after discharge from hospital, when he was visited in his own home, he showed striking pallor and considerable loss of weight: he gave a history of recent attacks of shivering and headache. Despite this recurrence of malarial symptoms he had not seen his doctor. He was not clear whether he should be taking any anti-malarial drugs or not and, like so many of the diabetics, seems to be set for early readmission to hospital.

After 4 years as a radio technician in the R.A.F. a man of 37 worked for 2 years as an insurance agent, collecting from door to door. For the past 4 years he has done a somewhat similar job as a traveller with the same firm. This job involves constant walking all day among Glasgow tenements, climbing steep stairs. In March 1950 he had influenza and has since been very short of breath. On admission to hospital he was found to have mitral and aortic heart disease, with auricular fibrillation; on discharge he was still short of breath and was told he must avoid climbing stairs. During his stay in hospital his wife deputized for him in his collecting and even now does a third of his round. The family's own home is in a tenement up three flights of stairs. He has returned to his travelling: for though he knows that he should not climb stairs he also knows that he must earn a living somehow. This man is a good worker, intelligent, with years of technical background; he would undoubtedly have made the most of any training in suitable work that was offered to him. As things are, he is almost certain to break down again before long.

Occasionally a man who threatened to disregard the advice that had been given to him was pulled up by vigorous protest.

A river boatman who is now 67 years of age has had trouble with his digestion for a long time. He has consumed a great deal of bad alcohol in his day: he still has a drop-foot from peripheral neuritis. He was treated in hospital for 28 days for a severe haematemesis from duodenal ulcer. While he was in hospital the Senior Physician took a particular interest in him and seems to have made a great impression on him. On his return home, according to his wife, the patient started to drink again and he quickly lost the health he had obtained in hospital. At this stage he received a real stinger of a letter from the Senior Physician: this shook him so forcibly that he put away his bottle, gained two stones in three months, and his appearance of rude health makes him unrecognizable to his friends and the delight of his family. The Physician's letter almost certainly prevented the need for another spell of hospital treatment in this case.

7

Prospect of relapse

Having regard to the condition of the men and the circumstances under which they lived and worked, as well as to the prevailing unwillingness or inability to make necessary changes in mode of life, it was estimated that there was a strong probability of relapse in the not far distant future in about 40 per cent. of the 548 cases seen in their own homes and that many of these men might soon need further hospital care—a prognosis perhaps not so over-pessimistic as might appear at first sight, when it is remembered that already one in three had received hospital treatment, in-patient or out-patient or both, within the 5 years preceding his recent admission to hospital; and it will be remembered that 34 of the 705 originally included in the study were again in-patients 3 months after leaving hospital, while 66 had died within the 3 months. The prospect of relapse was considered to be specially high among patients who had been treated for psychoneurotic states and alimentary disorders.

The estimated probability of early relapse was related to the social and environmental circumstances in which the men were living. It was about twice as high among men living in overcrowded homes (two persons per room or worse) as among those living under conditions of crowding less than two persons per

room. It was high among unskilled manual labourers and where there was a history of heavy unemployment during the 5 years preceding the recent admission to hospital, with the difficult financial situation that often goes with unemployment; it was also relatively high among those who had already had hospital treatment within the previous 5 years—47 per cent. as compared with the average figure of 40 per cent.

8

Men found on home visitation not to be receiving medical or nursing care which their condition obviously required

Eight per cent. of the men were found to be in continuing need of active medical or nursing care which they were not receiving three months after leaving hospital. In the great majority of these cases this situation was due to the fact that the men refused to have medical attention. The proportion of men not receiving medical care tended to be high among those under 45 years of age, some of whom felt that they simply must get back to work and that if they sought medical advice they would be kept in bed; it was also high among those over 65 years of age, some of whom thought that anything medicine had to offer them was scarcely worth the sacrifices that it might involve.

*Two Years after leaving
Hospital*

1

The line of approach

IN an attempt to estimate the permanence of the results of hospital care and the success in re-establishing themselves in work of patients who had been treated in acute medical wards, it had been the intention to see again in their own homes all the patients who were still alive two years after leaving hospital. The family doctors of the patients concerned were asked to help by providing such recent information as was available about the condition of those of their patients who were included in the study. The doctors concerned went to a great deal of trouble to be helpful; some visited their patient and discussed the case with one or other of the present authors: in all, 474 patients were seen in their own homes two years after leaving hospital.

2

Men who had died since leaving hospital

It had already been ascertained (Chapter 6) that of the 705 patients originally included in the study 66 had died within 3 months of leaving hospital: a further 105 died between the end of the third and twenty-fourth months, so that altogether 171 of the men died within 2 years of discharge from hospital after the period of treatment on which this study is based. As was to be expected, those who had died were, in the main, of more advanced age than the survivors; 38 were under 45 years of age, 81 between 45 and 64, and 52 were 65 years or over. Of the 171 who had died, 43 had been treated in hospital for neoplasm, 69 for cardiovascular disease, 15 for respiratory disease, and 14 for disease of the alimentary tract; the others had been treated for a wide range of conditions. Among those who died within 2 years

of discharge the broad occupational distribution at the time of admission to hospital was not greatly different from that of the men who were still alive 2 years after leaving hospital; the proportion who had been in skilled work was slightly higher among those who died.

It is known that many of the men who died had received further in-patient hospital treatment subsequent to the admission on which this study is based, and that some of them actually died in hospital following readmission. But accurate information is not readily available about the total extent of hospital treatment received by these deceased men, for some of their subsequent admissions were to hospitals other than that in which they had received their earlier treatment.

It had been known when some of these patients left hospital that they were likely to die in the not-far-distant future; the nature and stage of the illness made recovery very unlikely. It would in any case be reasonable to expect casualties over a period of 2 years in an ageing population, particularly where the need for recent hospital treatment had already given indication of constitutional impairment. But some of the men who died had returned from hospital in reasonably good shape to conditions at home or at work which inevitably hastened their end. In some of these cases it had already been apparent when the man was visited at home 3 months after leaving hospital that if he persisted in his way of doing he was almost certain to break down; some had, indeed, been told so in the plainest possible terms at that time, but had been unable or unwilling to vary their mode of life. Some men who obviously required change of work would have had great difficulty in obtaining alternative employment, for it is no easy matter to place in a suitable job an unskilled labourer in the sixth decade of life, no longer very fit, especially in an area of heavy industry. The official machinery has not been conspicuously successful in helping such men, even in times of comparatively 'full employment'. Some of those who returned to work grossly unsuitable were men whose placement in jobs reasonably suited to their disability would not have appeared to present an insoluble problem.

Such a case was that of a man, 49 years of age at the time of admission to hospital, who had delivered sacks of coal for 17 years

before the outbreak of war in 1939, when he joined the Navy and saw a great deal of active service. He was powerfully built and independent in his outlook. At the end of the war he was told, after a routine medical examination, that he had 'heart valve trouble', but he returned to his previous job, delivering sacks of coal. This work was beyond his strength and he soon broke down with cardiac failure. On recovery, he cast about for a job less distressing and spent over 2 years as a craneman in shipyards. This work involved a considerable amount of ladder-climbing; he became increasingly breathless and had to be admitted to hospital again with cardiac failure. He required in-patient treatment for more than seven weeks. During this illness his wife was having difficulty in providing for their three children and within a month of discharge from hospital he started work as an unskilled labourer. From the start he was short of breath and well aware that the job was too heavy for him. After 6 weeks labouring his legs became so grossly swollen that he was forced back on to sickness benefit. When he was seen at home in the course of this study three months after discharge from hospital his legs were still swollen but he was badgering his doctor to be signed off sickness benefit; he felt he must get back to work because his family could not live on their available resources. He would not seek help from the Assistance Board. His wife was anxious to go out working to supplement the available resources, but this he would not contemplate. He felt he must get back to his job—grossly unsuitable as it was—and hope for the best. This he did: he soon had a third cardiac failure and was readmitted to hospital, where he died within a few days.

3

Men who could not be traced

In addition to the 171 men who had died, there were 60 others whom it was not found possible to see in their own homes 2 years after they had left hospital. This latter figure, equivalent to about 8.5 per cent. of all the men originally included in the study, is higher than might have been desired in the interest of accurate analysis; but it was the best that could be achieved in the circumstances. Some of these men whom it was impossible to trace may have died in the course of the two years since leaving hospital, but it is believed that the large majority were still alive and that failure to trace them was chiefly due to one or other of the reasons which have already been stated in

Chapter 6. Some were known to have moved to remote parts of the country where it was impracticable to obtain any reliable information about them. Some were believed to have gone away to live with relatives. Some had simply disappeared, leaving no trace: this group included sixteen dwellers in common lodging-houses and sub-let rooms, and their former neighbours seemed to have not the least idea where they had gone. Some of those who could not be found had been living in houses which had been demolished in the course of the preceding 2 years; some, but not all, who had been rehoused could be traced through the Housing Department of the local authority concerned.

Of the 60 men who could not be traced for one or other of these reasons, 27 were under 45 years of age, 26 were between the ages of 45 and 64, and 7 were 65 years of age or over. Of the 60, 13 had been treated for cardiovascular disease, 12 for respiratory disease, and 11 for disorders of the alimentary tract. On admission to hospital, 14 of these men had been engaged in non-manual work; 17 were skilled manual workers, 4 semi-skilled, and 18 unskilled manual labourers. Five were retired men and the occupation of the remaining 2 was not known with certainty.

Taking everything into account it would appear that this group of men who could not be traced did not differ very substantially in point of age or disability from those about whom information was obtained by home visitation. Their social and occupational background was unlikely to have been greatly different from, and certainly not better than, that of the men seen at home; it seems improbable that their omission invalidates the broad general results of the study.

4

Information collected about the men seen in their own homes 2 years after leaving hospital

This chapter is concerned chiefly with the condition of the men seen in their own homes 2 years after leaving hospital; the medical care which they had received during that period, and, particularly, the recurrence of further spells of in-patient treatment; the extent to which the men had actually been employed during the 2 years since leaving hospital, the kind of

work in which they were engaged at the end of the two-year period and the suitability of that work, having regard to their physical condition. Whether the men were still in the service of their pre-hospital employers 2 years after leaving hospital has also been recorded, as has the frequency with which they were still engaged in their pre-hospital job. An estimate has been made of the fitness of each man for work at the end of the two-year period—whether fit for old (pre-admission-to-hospital) job, whether unfit for old job but fit for some other kind of work, or whether quite unfit for work.

Of the 474 men seen in their own homes 2 years after leaving hospital, 57 were under 25 years of age on admission to hospital, 130 between the ages of 25 and 44, 220 between the ages of 45 and 64, and 67 were 65 years of age or over. This age-distribution is slightly younger than that of the original series of 705, for the age-distribution of the men who had died since leaving hospital was older than that of the survivors. The men who were seen in their own homes 2 years after treatment in teaching hospitals were an older group than the men who had been treated in non-teaching hospitals.

5

The condition of the men seen in their own homes 2 years after leaving hospital

Two years after leaving hospital 111 of the 474 men seen at home (23·4 per cent.) were regarded as cured of the condition for which they had received treatment, a further 193 (40·7 per cent.) had continued to improve since leaving hospital, 106 (22·4 per cent.) were in much the same condition as on discharge, their medical state not being very satisfactory; 64 (13·5 per cent.) were worse than they had been when they left hospital. It has already been shown that the proportion of men classified as 'cured' or 'continued to improve' was considerably lower 3 months after leaving hospital than the proportion regarded as 'cured' or 'improved' at the time of discharge: 2 years after leaving hospital it was lower still, though the extent of the deterioration in the first 3 months after return home was greater than that in the subsequent period.

Within 2 years of leaving hospital 26·5 per cent. of the men

about whom information was available had died. Of those who were alive at the end of that period, 22.4 per cent. were still in indifferent health and a further 13.5 per cent. had deteriorated seriously; several of the latter group have died since the end of the period of observation. On the basis of these figures, about two-thirds of those still alive 2 years after leaving hospital can be regarded as having derived substantial and lasting benefit from hospital care.

TABLE 8. *Men's condition on leaving hospital compared with their condition 3 months and 2 years later*

	Condition						Total
	'Cured'	'Im- proved'	'Un- changed'	'Worse'	Dead	Un- classified	
On leaving hospital	66	515	113	10	..	1	705
	'Cured'	'Improve- ment main- tained'	'Un- changed'	'Worse'	Dead	Untraced	
3 months after leaving hospital . . .	74	283	132	93	66	57	705
2 years after leaving hospital . . .	111	193	106	64	171	60	705

Expressed as percentage of men in study, leaving out of account those untraced

	Condition				Total
	'Cured' or 'Improved'	'Unchanged'	'Worse'	Dead	
On leaving hospital . . .	82.6	16.0	1.4	..	100
	'Cured' or 'Improve- ment main- tained'	'Unchanged'	'Worse'	Dead	
3 months after leaving hospital . . .	55.1	20.4	14.3	10.2	100
2 years after leaving hospital . . .	47.2	16.4	9.9	26.5	100

Table 8 compares the condition of the men at the time of leaving hospital with the position three months later and with that 2 years after return home.

Among the men still alive 2 years after leaving hospital, the proportion classified as 'cured' or 'continued to improve' was low (58.6 per cent.) among men in the 45-64 age-group, some of whom were struggling on in work that was too heavy for them. It was 63.1 per cent. among those who had been 65 years of age or over on admission to hospital. It was appreciably higher (76.4 per cent.) among those who had been engaged in skilled manual work before admission to hospital than among those who had been working as unskilled manual labourers (50.7 per cent.). Similarly, the proportion classified as 'cured' or 'continued to improve' was high (81.2 per cent.) among men who were actually engaged in skilled manual work two years after leaving hospital, but lower (65.0 per cent.) among those who were working as unskilled labourers and, as was to be expected, lower still (31.8 per cent.) among those not in employment at the end of 2 years. It was higher among men who came from 'good' homes (67.6 per cent.) than among others (51.1 per cent.).

Above the age of 35 the proportion of men who maintained improvement was consistently higher in each age-group among those in skilled work than among those who were unskilled labourers, the gap being widest at ages between 45 and 64—where approximately 76 per cent. continued to improve as against 38 per cent.; at ages under 35 there was little difference between the progress of skilled and unskilled workers.

6

The men who had received further hospital treatment in the course of the 2 years

During the two years since discharge from hospital after the spell of in-patient treatment on which this study is based, 129 (27.2 per cent.) of the men who were still alive at the end of that period had been readmitted to hospital on one or more occasions for further treatment, and a further 69 had received out-patient care. Nearly all those patients who received further hospital care had also been under treatment by their family

doctors; in addition, 224 others received care from their family doctors: 52 said they had received no medical treatment in the course of the 2 years. Of the 129 patients who were readmitted to hospital for further in-patient treatment in the course of 2 years, 82 were readmitted once, 34 twice, and 13 on three or more occasions. In the great majority of cases (over 90 per cent. of the total) the condition which necessitated readmission was that for which the patient had previously been treated in hospital, or one closely related to it.

There was little difference in the proportion who had received subsequent in-patient hospital treatment between those who had been engaged in non-manual work before admission to hospital and those who had worked as unskilled labourers, though in the latter group the proportion who received out-patient care was rather higher. Similarly, there was little difference in frequency of readmission between those actually engaged in the several occupational groups 2 years after leaving hospital; on the other hand, of the men who were unemployed at the end of the 2 years, as many as 36.0 per cent. had had one or more spells of in-patient treatment during that period.

Of patients under 45 years of age, 30.6 per cent. had been readmitted to hospital for further treatment; at ages between 45 and 64 25.8 per cent., and at ages over 65, only 18.8 per cent.

The patients who most frequently received further in-patient care were those who had been treated for infective conditions, endocrine disturbances, or alimentary disorders: those who had been treated for diseases of the respiratory system (other than tuberculosis) were among those who were least frequently readmitted to hospital.

The proportion of men who received further in-patient care in the course of 2 years was rather lower (25.3 per cent.) where the home was 'good' than where it was not (29.8 per cent.).

7

The frequency with which the men had received in-patient care over a period of 7 years—the 5 years immediately preceding the admission on which this study is based and the 2 years immediately following their discharge from hospital

In order to obtain a larger view of the frequency with which

individual patients received repeated spells of in-patient hospital treatment, an analysis was made of all the admissions to hospital over a period of 7 years of the 474 men seen in their own homes 2 years after the end of the period of treatment on which this study was based; the analysis covered a period of 5 years before the basic admission as well as the 2 years that had elapsed since discharge from that spell of treatment. During the period of 7 years, 248 of the men were admitted to hospital on one occasion only—the admission on which this study was based; 108 were admitted on two occasions and 118 on three or more occasions—one of them no fewer than 16 times. A few of these repeated admissions were for the treatment of other conditions, but the great majority were in respect of the disease responsible for the admission on which this study was based, or some condition directly related to it.

In the main, the results of this larger analysis ran parallel to the experience of the 2 years discussed earlier in this chapter. Fewer of the men who were over 65 years of age when this study began had more than one period of hospital treatment during the 7-year period—38.0 per cent. as against the overall figure of 47.7 per cent. Where home conditions were 'good', 46.9 per cent. had more than one spell of treatment in the course of 7 years; where they were not 'good', 56.1 per cent.

Of those who at the end of the study were in jobs regarded as suitable, 40.6 per cent. had had more than one spell of in-patient hospital treatment in the course of 7 years; of those in jobs regarded as unsuitable, 48.3 per cent.; and of those not in employment, 62.8 per cent. Of those who were engaged in non-manual work at the end of the study, 42.7 per cent. had had more than one spell of in-patient treatment in the course of 7 years; of those in skilled manual work, 48.0 per cent.; of those in semi-skilled work, 42.9 per cent.; and of those in unskilled manual labouring, 40.0 per cent.

The group of patients who had been least frequently admitted to hospital in the course of 7 years were those treated for respiratory disease, of whom 37 per cent. had more than one admission: the group with most readmissions was that treated for alimentary disease, of whom 59 per cent. had been admitted more than once. The case of D. is typical of many others:

D. is a commercial traveller, 24 years of age, who covers a wide

area in the course of his work. In 1951 he was treated in hospital for duodenal ulcer plus gastric ulcer, with bleeding—already his third spell of in-patient treatment for this condition. This man had been for eight years, from 1941 to 1949, a motor engineer engaged on maintenance work. Recurrent ulcers was one of the factors that had prompted him to change his job. Two years after he was discharged from hospital in 1951 it was found that he had had further spells of in-patient treatment, following bleeding. He was again in hospital. Family circumstances had deteriorated; he had separated from his wife and had gone to live with his parents. His most recent admission to hospital has culminated in the operation of gastrectomy. Here is the record of his hospital in-patient treatment during the past seven years, each admission being on account of bleeding from peptic ulcer:

9 July–8 Aug. 1946 (30 days)
 6 Oct.–4 Nov. 1948 (37 days)
 23 July–29 Aug. 1951 (37 days)
 20 Mar.–9 Apr. 1953 (20 days)
 11 May–11 June 1953 (31 days)

Many of those men with long ulcer histories did remarkably well after gastrectomy: some were able to return to types of work—and to habits affronting their mucous membranes in all sorts of ways—that had long been quite beyond them.

8

The kind of work in which the men were engaged 2 years after leaving hospital

Two years after leaving hospital, 124 (26.2 per cent.) of the men were engaged in non-manual work, some of it highly skilled, some humble, of the gate-keeper or watchman type; 73 (15.4 per cent.) were in skilled manual work; 43 (9.1 per cent.) in semi-skilled jobs; 105 (22.1 per cent.) were working as unskilled labourers; while 129 (27.2 per cent.) were not in employment. The proportion of men not in employment was high (43.0 per cent.) among men who had been unskilled labourers before admission to hospital, as compared with 23.2 per cent. in the group of non-manual workers.

The proportion of men not at work 2 years after leaving hospital was highest at ages over 65, 77.6 per cent.: at ages

under 25 the proportion was 15·5 per cent., at ages between 25 and 44, 18·1 per cent.; and at ages between 45 and 64, 30·6 per cent.

A relatively high proportion of the men not at work 2 years after leaving hospital were drawn from 'poor' homes.

Just under 20 per cent. of the men who were in employment 2 years after leaving hospital were in jobs that were regarded as unsuitable, having regard to the demands of the job and the physical condition of the men concerned. Among men under 25 years of age, 16·3 per cent. of those who were in employment were in jobs regarded as unsuitable; among men between the ages of 25 and 44, 14·4 per cent.; among men between the ages of 45 and 64, 24·3 per cent.; and among men 65 years of age and over, 13·3 per cent. The proportion of men at work who were in unsuitable jobs was high at ages between 45 and 64, when the strain of heavy physical work came to make increasingly heavy demands.

The proportion of men in unsuitable work was lowest among those engaged in non-manual work, 8·8 per cent.; among those in skilled manual work the figure was 20·8 per cent. and among those who were unskilled labourers, 25·3 per cent. The proportion in unsuitable work was rather higher among those who had changed jobs since their illness than among those who had returned to their previous work.

A labourer, 63 years of age on admission, was treated in hospital for intermittent claudication; since leaving hospital he has been under the care of his family doctor. Home conditions are good. He works as a hammerman to a blacksmith, obviously an unsuitable job, to which he returned 10 weeks after leaving hospital. He has lost about 3 months' work through illness in the course of the 2 years since leaving hospital. He is a tough ex-riveter—quite deaf, but with a voice of bronze—who ignores his symptoms: he was 'aye a glutton for work'. He still loves hard work and now, at 65 years of age, he wields a fourteen-pound hammer all day. He limps to work and on going home has frequent 'fainting attacks'. His wife is very annoyed that he prefers such heavy work to accepting his old-age pension: she says that only his spell in hospital has ever made him take a rest.

Very similar, though a little younger, is John, who, at 59 years of age, is still doing very heavy work, labouring to the moulders in an

iron foundry. He was wounded three times in the first war, but, as he puts it, he is still 'sodger daft'. He was treated in hospital for angina and renal colic; he still has attacks of colic two or three times a week and angina 'most days'. He is exhausted at the end of his day's work: his wife, who works in the same foundry, has discovered that 'men don't work'. John has strong views. He would take a lighter job if he could get it; 'but life is one long fight, and you've got to keep fighting till you die'. He says the trouble is that the youngsters of today won't work and that the Disabled Register is a waste of time. This worthy soul will certainly break down before long: but whether he will collapse and die at his quite unsuitable job or fill a hospital bed for many weeks is anyone's guess.

Andrew is an intelligent man of 37 who has lost a great deal of work on account of the disability for which he was treated in hospital, bronchial asthma. He works as a labourer making sandpaper belts: his job is among the least dusty in the factory, but there is always 'fluff' and dust in the air. At home, his two-roomed house is damp and airless. One room is too damp to be slept in, the other has been lined with boarding to keep out the wet. Andrew sleeps in a recessed in the wall; the room—in which three sleep—is very poorly ventilated, the bed not at all. Andrew feels, quite rightly, that with better working and living conditions he could be much healthier and he is thinking of emigrating.

Another unsuitable job, though of a different kind, is that of an electrician who suffers from a disturbance of vision which causes him to 'see double'. When seen 2 years after leaving hospital he was working on the wiring of a laboratory and had a lot of scaffold work to do. He has learned, on the scaffold, always to turn his head slowly and so to minimize his double vision; but when a crisis on the scaffold demands quick turning of the head he is very liable to lose his balance.

9

Change of employment following hospital treatment

There was considerable change in the nature of employment following the illness for which hospital treatment had been received. Of those who were in employment 2 years after leaving hospital, 25.6 per cent. had changed their jobs; 21.4 per cent. had changed their employers, though some of them had continued at their pre-hospital jobs with new employers.

When skilled manual workers were driven to change their jobs, they were often able to pass into non-manual work; many had given long service to employers who tried to find some less exacting work for them. But those in unskilled labouring jobs were often unable to get more suitable work and many were compelled to continue in heavy labouring beyond their strength; unskilled men tended to break down in their fifties and to become permanently unemployed then; when they did change their job, it was nearly always to another job of the unskilled labouring variety.

Table 9 summarizes some of these changes in employment: it will be observed that the proportion of men who were not in jobs 2 years after leaving hospital was much higher among unskilled labourers than among non-manual and skilled manual workers.

TABLE 9. *Nature of employment 2 years after leaving hospital of men who had formerly been engaged in non-manual, skilled manual, and unskilled manual work*

<i>Nature of employment before admission to hospital</i>	<i>Nature of employment 2 years after return from hospital</i>				
	<i>Non-manual</i>	<i>Manual skilled</i>	<i>Manual semi-skilled</i>	<i>Manual unskilled</i>	<i>Not working</i>
Non-manual	80	4	3	4	21
Manual, skilled	33	67	5	13	28
Manual, unskilled	9	3*	6	79	55

* Including two young people who embarked on apprenticeship and one who returned to his former trade.

The proportion who had changed to other work following hospital treatment was relatively high among those under 25 years of age and very low among those over 65.

One who was more fortunate than most was a physically-tough little man who had been a shipyard riveter until the age of 61 when, no longer very fit, he was given a job as storeman. When 66 years of age he was admitted to hospital for coronary thrombosis and the doctor told him not to work again. But he was very short of money and when he told his foreman that the doctor thought he was past work he was given a job in the lightest section of the store—'a wee

light job', more or less created for him. He has had only one anginal bout—a mild one—in the two years since leaving hospital; he has been able to escape both idleness and sickness.

10

The extent to which the men had worked since leaving hospital

Of the 474 men seen in their own homes 2 years after leaving hospital, 106 had not worked at all since leaving hospital, 50 had worked for less than 12 months in the course of the 2 years—some for only a month or two; 49 had worked for between 12 and 17 months, and 268 had worked for 18 or more months of the 24; in one case the number of months worked was not known. The proportion of men who had worked less than 12 months in the course of 2 years increased with age; under 25 years of age it was 8.9 per cent.; between the ages of 25 and 44, 16.7 per cent.; between 45 and 64, 33 per cent., and at ages over 65, 76.2 per cent.

TABLE 10. *Number of months worked in the course of 2 years after discharge from hospital in relation to age of man at time of admission*

<i>No. of months worked in course of two years</i>	<i>Age</i>				<i>Total</i>
	<i>Under 25*</i>	<i>25-</i>	<i>45-</i>	<i>65-</i>	
0	3	15	45	43	106
Less than 12	3	10	29	8	50
12-17	9	12	25	3	49
18-24	52	78	125	13	268
	67	115	224	67	473

* In one case, number of months worked not known.

The proportion of men who had worked less than one year out of two since leaving hospital was greater where home conditions were 'poor', though it is not always easy to be certain whether the poverty and squalor comes of the difficult financial conditions born of illness or whether the 'poor' home environment has prejudiced recovery; probably both. Only 11.2 per cent. of the men who were not in employment 2 years after leaving hospital had worked for 12 months in the course of the 2 years.

There was no striking association between the proportion of

men who had worked for more than 18 months of the 24 and the nature of employment in which they were engaged; but the proportion of men who had worked for more than 18 months was higher among those in jobs regarded as reasonably suitable (83·7 per cent.) than among those in jobs frankly unsuitable (73·3 per cent.).

Some of the unemployment experienced by these men should have been avoidable.

A young epileptic, now 21 years of age, has had his condition brought under control. He has only had one major seizure in the past 8 months, though he still has attacks of *petit mal* from time to time. From the medical point of view he has improved greatly and will probably continue to improve: but in actual fact his plight is much worse than it was and the morale of his family, originally high, is now poor. He was recommended for sheltered employment to Remploy and to another sheltered workshop; both professed to be pleased with him, but he has not been asked to start work. The lad and his relatives are not so much worried as dispirited, though far from apathetic: 2 years of idleness has bred a deep-seated pessimism gnawing, like weevil in biscuit, into a really admirable family.

A bricklayer, 36 years of age, was treated in hospital for bronchial asthma. It was felt that his condition was aggravated by dust and exposure associated with his trade, and he was advised to obtain more suitable employment. He has continued to improve since leaving hospital, remaining under the care of his family doctor with occasional attendance at hospital as an out-patient. But in the 2 years since leaving hospital he has worked only for a period of one week—as an emergency postman at Christmas. He has been unable to get a job, though he could have done quite a reasonable amount of work in a wide range of suitable jobs.

A man of 33, a fairly early case of disseminated sclerosis, has both his legs affected in some measure, with the result that he is not good at negotiating stairs though he walks reasonably well on the level. He gave up his work as a weaver because his left hand was apt to become tired at the end of the day: his right hand is unaffected and the left hand is really very useful indeed. He lives with his family in a single room in a hovel up two flights of stairs and with an outside lavatory. He sleeps in the same bed as his sons aged 14, 9, and 5. The bed is rather a narrow 'double' one: the nine-year-old has coeliac disease and is still occasionally troubled with offensive diarrhoea. The wife sleeps with a daughter in a single bed. There is no rent book; they are charged, as a sub-let, 10s. a week for their tiny room:

they don't know who the landlord is. This is a decent family. As far as the crumbling walls will allow, they have done everything to make their room a home for the children. They have lived here 6 years, since the husband left the Army. Since he left hospital his condition has shown little change: though he has not been able to find work he could do many jobs and is well worthy of help—an intelligent, steady lad frustrated by idleness and bad housing conditions.

II

Estimated fitness for work 2 years after discharge from hospital

Two years after leaving hospital, 256 of the 474 men seen in their own homes (54.0 per cent.) were regarded by one or other of the present authors as fit for the kind of work they had been doing before admission to hospital; 117 (24.7 per cent.) were regarded as fit for alternative employment though not fit for their former jobs; 101 (21.3 per cent.) were regarded totally unfit for work under ordinary industrial conditions, though a few might have been able for sheltered employment. Some who obviously required change of employment were struggling on in work for which they were unfit, some who were not working might have been in employment, either at their old job or, more frequently, at some more suitable job.

Thus, of the 256 men of all ages regarded as fit for return to their old (pre-admission-to-hospital) employment 2 years after leaving hospital, 217 were in fact back at their old job, 33 had changed to other work and 6 were not in employment. Of 117 regarded as unfit for return to their old job but fit for alternative employment, 30 were working at their old job—some because they liked it, some because they could not get a better; 55 had changed to other work—not always suitable—and 32 were not in employment. Of 101 regarded as totally unfit for work, 18 were struggling on in their old job, 3 had obtained another job, and 80 were not in employment.

Excluding those men who were over 65 years of age at the time of admission to hospital, the position was that of 237 men considered to be fit for return to their old work 2 years after leaving hospital, 202 had in fact gone back to it, 33 had taken up other work, and 2 were not in employment. Of 108 regarded as unfit for return to their old job but fit for alternative employment, 30 had gone back to their old job, 53 were in other

work, and 25 were not in employment. Of 62 regarded as totally unfit for work, 17 were in their old job, 3 in other work, and 42 out of employment.

Of 69 men under the age of 65 who were not in employment 2 years after leaving hospital, 2 were regarded as fit for return to their old work, 25 as unfit for their old work but fit for alternative employment, and 42 were regarded as totally unfit for any work.

The proportion of men who had worked for more than 18 months of the 24 was high among those who had been treated in hospital for endocrine disturbances or alimentary disorders; the proportion who had done no work in the course of the 2 years was high among those who had been treated in hospital for organic disease of the nervous system and for cardiovascular disease.

The proportion of men requiring change of job was highest among those who had been unskilled labourers before entering hospital: some of them had changed to another job, but not always to one within their compass. The proportion of men regarded as unfit for their old job but fit for alternative employment was highest between the ages of 45 and 64: 37·5 per cent. of those in employment fell into this category.

12

The performance after leaving hospital of men whose breakdown in health had been regarded as preventable on clinical or social grounds

Where the breakdown in health that brought the patient to hospital at the commencement of this study had been regarded as preventable on clinical or social grounds, the proportion of cases found to have maintained improvement 2 years after leaving hospital was relatively low. Similarly, the men whose breakdown in health had been regarded as preventable, on clinical or social grounds, fared worse than the others in respect of working record during the 2 years subsequent to discharge from hospital. The only group to which this did not apply was the group treated for peptic ulcer, where the position was radically changed by the fact that a considerable number had subsequently undergone, with apparent success, the operation of gastrectomy. Excluding ulcer cases, of the men still alive 2

years after leaving hospital, 44 per cent. of those whose breakdown had been regarded as preventable, or to which adverse social factors had contributed materially, worked for less than 12 months in the course of 2 years, as compared with 24 per cent. of the others—suggesting that the unfavourable background that had favoured breakdown in health was still operating against restoration to working efficiency.

13

Difficulties associated with housing and travel to work

It has been found in some cases that residence in an upper-floor tenement house, or an awkward journey to work, has constituted a greater bar to employment than the demands of the actual job itself.

A young man, 36 years of age, was discharged from the Army in 1943 suffering from a cardiac condition, mitral stenosis: he had had severe scarlet fever in 1924. For this cardiac condition he had undergone the operation of valvulotomy without much benefit; he has had two or three cardiac failures since then. His work as a musician in dance bands was well paid but involved a good deal of travelling, which he found tiring. He applied to the employment exchange for other work and was offered a job as a liftman at a wage something less than £5 per week, which he declined. Now he has come home to live with his parents up three flights of steep tenement stairs; there is also a walk of 400 yards to the nearest tram. He is agile, nimble, and free from shortness of breath in moving around the room, but the difficulty of getting to and from work has reduced him to unemployment. Throughout all this his music has not suffered much. He practises, on average, four hours a day on fiddle and wind (saxophone, flute, trombone). An observant type, he has noticed that non-musical doctors always seem to think that blowing is more tiring than the muscular effort of holding and bowing a fiddle. Blowing, he says, is nothing at all; a couple of hours of maintaining the attitude for fiddling is more tiring, though not insuperable. 'The heaviest job of the day is getting to and from my work.'

Another ex-patient, now 59 years of age, was treated in hospital for arteriosclerosis and intermittent claudication. He has since had several attacks of coronary thrombosis: his condition now is worse than when he left hospital. This man worked as an insurance agent and though he resumed that work 16 weeks after leaving hospital,

he was able to continue in it for only a month or two. This work, with its stair climbing, was obviously unsuitable. He is now confined to his own house, for he lives on the fourth floor of a tenement which is itself built on a steep hill. The stair is particularly severe, even as Glasgow stairs go; if wooden spars took the place of the treads, it would make an excellent and daunting obstacle-course in an infantry battle-school. He has been 30 years in his present house and the Factor refuses to help him to get another: two houses on lower floors have been empty, but despite medical representations on his behalf his requests for transfer were refused.

James, a precision grinder, 58 years of age, treated in hospital for bundle-branch heart block, is another humbugged by three flights of stairs, aggravated in his case by a bus journey of some fifteen miles to work. His condition is much as on leaving hospital: he has had a further month's in-patient treatment as well as care from his own doctor—altogether, three spells of hospital treatment during the past 5 years. He is short of breath even when resting; he complains of pain and has some muscular wasting of the upper left arm. He lives alone, but knows how to do so. He returned to his old job 3 weeks after leaving hospital, but was able to work for only 1 month when he fell ill again. He is still unemployed; if he were otherwise housed he could be back at his skilled job.

Even more beset by environmental adversity is a young man, now 25 years of age, who has collected many illnesses in his time—chorea, rheumatic fever, hernia, appendicitis, very severe plantar warts, and now disseminated sclerosis. He received a pension from the Army for plantar warts, but this has been discontinued and his income now is derived from sickness benefit and family allowance for two children. He is almost scared to take a job in case, having been signed off sickness benefit, he may become idle again. His wife is receiving injections of liver for anaemia; one of the children has epilepsy. They all live in a small sub-let room in a tough quarter of the city. He is a fat, bemused but childlike soul who marvels that so much bad luck could occur in such a short life. He finds it difficult to sleep on account of the children and feels that he has now lost his nerve entirely: he is becoming very scared of traffic. Yet his physical condition is surprisingly good. His hand grips are satisfactory and he can walk quite freely. If he were in a different social setting, with a smaller burden of adversity, this lad could be fit for a wide range of jobs. A lot of money has been spent, and will be spent, on this man's disability which, from the strictly medical point of view, is not now very great, though his total disability is complete enough—almost entirely due to his hopeless social setting. It is doubtful whether any

medical treatment can offset his manner of living, and it looks as if he will be back in hospital before long.

As has been pointed out in Chapter 9, the men included in this study varied widely in willingness and ability to modify their mode of life in ways calculated to reduce the risk of subsequent breakdown; some had succeeded in making a new start and had done very well.

A boy, now 16 years of age, who had been treated in hospital for rheumatic heart-disease had been living with his mother in a wretched hovel: his grandmother took him to live in her house, where he could have a room of his own. From the medical point of view he has done well; but unfortunately he became apprenticed as a sheet-iron worker, an unsuitable job. This he now knows to be too heavy for him, and he is switching to become an apprentice fitter in the tool-room of a plant that specializes in motors for sugar refineries: he has taken the trouble to pre-view the job to see how much exertion is involved. This lad has had enough sense to change before it is too late.

Though he had suffered precordial pain for years, a man, 52 years of age, persisted in the fairly exhausting job of door-to-door visiting as a travelling salesman, which involved much climbing of stairs. When he developed coronary thrombosis, cardiac failure, and pulmonary infarction he was very ill indeed, spending 74 days in hospital. He is an intelligent and sensible man. After leaving hospital he took a lengthy holiday: he did not work for 15 months in all. By this time, finance was pressing and after having been turned down by several firms he got himself a job as floor manager or head salesman in a big clothing store. This supervisory job is physically much less exhausting than his previous one. He is now free from praecordial pain or distress and, like so many others, his main difficulty lies in negotiating the stairs leading up to his house; he takes them very gingerly. This case illustrates very well what can be done, even after quite alarming cardiac catastrophes: his lengthy period of rest he owed to the existence of a small bank balance and he was able to use his skill and experience to earn an income without severe physical effort. Cases such as this help to explain the difference in the average expectation of life between the Registrar General's social classes I and V.

A foreman baker, 48 years of age, has had three spells of in-patient treatment for duodenal ulcer. He had suffered from dyspepsia for 23 years and had perforation and bleeding. He is fond of an out-

door life and dislikes the shifts that go with baking. From 1930 to 1939 he had enjoyed working as a traveller in bakery goods—an outside job without night work and with regular meals; but on the outbreak of war he had to return to the disliked bakehouse routine and his complaint recurred. His boss, he says, was an impossible man. Eight weeks after return from hospital he found employment again as a traveller in bakery goods and ever since he reverted to this less-confining life, with its five-day week and freedom from shift work, he finds he can eat almost anything and is very pleased with life. His own good sense in changing his job was probably the most important element in his cure. His wife says he is a rather sensitive man who is happiest in a job where he is largely his own master. Home conditions are good.

But not all were so sensible and co-operative.

A youth, now 22 years of age, has slept in many hospital beds since developing diabetes when aged 15. Even now, his mother says he doesn't bother about his prescribed diet or testing his urine (except, perhaps, for a week or so after coming out of hospital), though now, she adds, 'he never misses his insulin'. He has been operated on for cataract. Two years ago he had 28 days in hospital on account of a septic ulcer on his leg; at that time the hospital noted frequent medical care for 'various septic complications'. In February 1953 he had a month in hospital, followed by a fortnight's convalescence. His doctor writes that he has 'frequent ketosis'. William couldn't care less. Of late he has been spending 'about a month or so every year' in an acute hospital bed: he seems to have chosen rather an expensive way of committing suicide.

Sometimes salvation seems to come late.

An old riveter, now over 70 years of age, has, for the past 15 years or so, provided doctors and hospitals with a good deal of emergency work. After repeated admission to hospital for emergency transfusions, following refusal to continue with his treatment for pernicious anaemia, this aggressive old man seems at last to have yielded to his daughter's insistence: she is a capable and intelligent widow. Peter just doesn't like or 'believe in' doctors and their silly ways. Though out and about he has pain in his abdomen and trouble with his prostate: he still refuses to see a doctor, but has grudgingly parted with a specimen of urine for his daughter to take, on his behalf, to a doctor; and there is some hope that he may yet become reconciled to his liver treatment.

Points arising from the records of men treated in hospital for certain groups of diseases

Cardiovascular Disease. Sixty-nine of the 173 men treated for cardiovascular disease in the original series of patients discharged from hospital had died within 2 years. Two years after leaving hospital a high proportion (about 40 per cent.) of the survivors who had been treated for cardiovascular disease were unemployed, though some of them might have been at work had they been able to find a suitable job. Fifty-two per cent. had worked less than 12 months in the 2 years since returning home. As many as 36.5 per cent. of those who were at work were in jobs that were regarded as unsuitable, having regard to the demands of the job and the condition of the men.

Those who were engaged in non-manual work were in better shape than the others, two years after leaving hospital. This gap between non-manual and manual workers was particularly noticeable among men who had been under treatment for coronary disease, where the proportion dead or not working was half as high again among manual as among non-manual workers.

The proportion of the men who had died or who had worked less than one year of the two since returning home was twice as high among those who were in difficult financial circumstances 3 months after leaving hospital as among those more happily circumstanced.

Respiratory Disease. Twenty-one of the men treated for respiratory disease who were still alive 2 years after leaving hospital had suffered from acute lobar pneumonia, the other 61 from a wide range of pathological conditions. For the group as a whole the proportion of men who maintained improvement was above average, largely as a result of the good recovery of those treated for lobar pneumonia. Thirty-seven per cent. of the men who had been treated for respiratory disease had only one spell of hospital in-patient treatment in the course of 7 years—a figure lower than that for any other group of cases.

Non-manual workers provided less than their quota of cases of respiratory disease; they accounted for some 24 per cent. of all the men in the study, but for only 14 per cent. of the cases of respiratory disease.

The men who had been treated for respiratory conditions other than acute lobar pneumonia gave a relatively bad history of time lost through illness during the 5 years preceding the admission to hospital on which this study was based.

The record 2 years after leaving hospital of the men treated for respiratory conditions other than lobar pneumonia appeared to be related to their financial well-being, as recorded 3 months after leaving hospital: 14 per cent. of those who were reasonably comfortably circumstanced then had died or were unemployed at the end of 2 years, whereas 60 per cent. of those in financial difficulty then were dead or unemployed at the end of 2 years. Among the men treated for respiratory disease other than pneumonia those regarded as having a major adverse social factor likely to lead to subsequent breakdown fared appreciably worse than those without serious adverse social factors; for example, 54 per cent. of those in the latter group had worked for 20 months or more in the 2 years since leaving hospital, whereas only 21 per cent. of those in the former group had done so.

Alimentary Disease. The large group of men treated for disease of the alimentary system presented the apparent anomaly that although they had a higher rate of frequency of readmission to hospital in the course of 7 years than any other group in the study—59 per cent. of them had been admitted on more than one occasion—they also showed a better work record during the 2 years following discharge from hospital than that of the generality of cases: 71 per cent. had worked for 18 months or more as compared with 55 per cent. of the other men studied.

A relatively high proportion, some 28 per cent., of the men treated for alimentary disease were regarded as 'cured' 2 years after leaving hospital; about half of those classified as cured had had the operation of gastrectomy subsequent to the admission to a medical ward on which this study is based. Few were regarded as unfit for work at the end of 2 years and relatively few required change of employment.

There was again a close relationship between the financial well-being of the men and the measure of their recovery; of 37 cases of peptic ulcer who were in comfortable financial circumstances 3 months after leaving hospital, 26 (70 per cent.) were found to have maintained their improvement 2 years after

leaving hospital, whereas of 25 then in difficult financial circumstances or in poverty only 10 (40 per cent.) had continued to improve.

Diabetes. Complete records are available for a small group of 31 men treated in hospital for diabetes. The proportion continuing to maintain improvement 2 years after leaving hospital was highest among those between the ages of 30 and 50; it was appreciably lower among men who were unskilled manual labourers than in other occupational groups. The measure of success attained was less among those living in indifferent homes and in poor financial circumstances.

Where the breakdown in health leading to the admission to hospital on which this study was based was regarded on clinical grounds as preventable—usually where the patient had abandoned a diabetic régime on which he had already been placed—further breakdown during the two years following discharge occurred much more frequently than in cases where the breakdown leading to admission had not been regarded as ‘preventable’. In 14 of the 31 cases it was felt, when the patient was visited in his own home 3 months after leaving hospital, that social and environmental conditions were such as to render relapse highly probable. Of these 14, 12 did in fact relapse. Of the other two, one man, who lived in a very severely overcrowded house, without room or facilities for treating—or even washing—himself, obtained a new council house shortly afterwards. On the other hand, two men relapsed who were not expected to do so: one was a man who had been on insulin treatment for 30 years and who developed advanced arteriosclerotic changes; the other was a man whose wife suddenly left him, with the result that, trying to work and to cook for himself, he neglected his diet and had three attacks of hypoglycaemia due to lack of food at the proper time.

15

Performance after hospital treatment of the men treated in teaching units in the city compared with that of the men treated in provincial hospitals

It has already been seen (Chapter 5) that the men in this series who were treated in teaching hospitals, were, in general,

of rather older age-distribution and of more advanced pathology than those treated in the non-teaching hospitals. The home conditions of the men treated in the city hospitals were, in general, worse than those of the men treated in provincial hospitals and the financial stringency in their homes was greater.

Two years after leaving hospital, the condition of the men who had been treated in the city hospitals was less satisfactory: a higher proportion had died and fewer had continued to improve after leaving hospital. Rather more of them had had further in-patient treatment within 2 years of leaving hospital: over a period of 7 years—the 5 years preceding the admission to hospital on which this study is based, together with the 2 years subsequent to discharge—the proportion of men who had received more than one spell of in-patient treatment was higher among the men treated in teaching hospitals than among those in provincial hospitals (51·1 per cent. as compared with 45·4 per cent.). A higher proportion of the families of men treated in city hospitals showed obvious financial deterioration two years after the men had left hospital.

In relation to the length of time worked since leaving hospital, the men who had been treated in city hospitals again made a worse showing than the others. A higher proportion of them had not worked at all during the 2 years since leaving hospital, 30·2 per cent. as compared with 17·1 per cent. of men treated in provincial hospitals; on the other hand, the proportion of men who had worked for 18 months or more of the 24 since leaving hospital was higher among the men who had been treated in provincial hospitals, 61·6 per cent. as against 49·5 per cent.

It was estimated 2 years after the men left hospital that the proportion fit for return to old (pre-admission-to-hospital) work was higher among those who had been treated in provincial hospitals, 59·9 as against 45·3 per cent.: the proportion requiring change of work was higher among those who had been treated in city hospitals, as was the proportion regarded as unfit for any work, 27·1 as compared with 17·4 per cent.

These differences in performance after leaving hospital inevitably raise the question of how far they are attributable to the different age-distribution and advanced pathology of the men treated in city hospitals and how far to adverse social and environmental factors. Doubtless the more advanced

pathology was an important factor: but the home conditions and economic background of the men treated in the city hospitals were, in the main, less favourable than those of the men treated in the provincial hospitals, and we were left with the feeling that the better showing of the latter after leaving hospital reflected in some measure the more favourable circumstances to which they had returned on leaving hospital.

I I

How Far is it Practicable to help People leaving Hospital to find Suitable Work?

I

The line of approach

EVEN before the foregoing study had revealed how many patients failed to obtain, within a reasonable period of time, work within their compass, it had been obvious enough that many who had received treatment in hospital could not easily get back into employment. As long ago as 1935 a Committee of the British Medical Association pointed out¹ that many people who had sustained accidents involving the fracture of a bone were off work for longer periods than seemed to be necessary. A little later an Inter-Departmental Committee,² still largely 'fracture' in its outlook, confirmed these findings and paved the way for the passing in 1944 of the Disabled Persons (Employment) Act, which sought to make it easier for disabled folk to obtain suitable work, whatever the nature of their disability. After the Act had been in operation for two or three years, it was felt in one of the Glasgow teaching hospitals that something more might be done to supplement the official machinery in helping patients leaving hospital who so obviously needed all the assistance possible if they were to have a reasonable chance of making the best of their limited resources in the occupational field.

It was recognized that patients on the point of discharge, often recently overtaken by severe disability, presented special problems—and special opportunities—in resettlement in suitable work. These patients had been receiving care in the hospital—often for a long time—and there existed between them and the staff that sympathy and understanding which comes of a happy doctor-patient relationship: the patients were receptive

¹ *Report of Committee on Fractures*, British Medical Association, 1935.

² *Final Report of the Inter-Departmental Committee on the Rehabilitation of Persons Injured by Accidents*. H.M.S.O., 1939.

to such advice as the hospital could give and the members of staff, having looked after the clinical welfare of these patients, were very ready to help to see them safely established in work which they could do.

It was accordingly arranged—this was early in 1947, when it was perhaps easier than now to try out new methods—that those clinical colleagues who wished to do so could refer cases in need of help in finding suitable work to a panel consisting of the honorary consultant in social medicine, the specialist in physical medicine—both of whom had had experience of industrial conditions and of the resettlement of disabled men—and the senior almoner. Frequently the clinician who had been in charge of the case came to the new clinic with his patient or sent a member of his staff. At the clinic, working potential and industrial background were considered in the light of the available clinical records. The whole question of employment was discussed with the patient and an attempt made to translate the medical prescription into a specific job which the staff felt the patient could undertake with success and in which the patient felt he would be interested.

The patients referred by the clinicians who had been looking after them were essentially those who were thought to be unable to go back to the job they had held before being overtaken by sickness or injury. It sometimes happened that some practicable modification of his old job would enable the patient to carry on in it, thus preserving his skill, a vitally important consideration. In these cases an approach was frequently made direct to the employer by the staff of the hospital, seeking the employer's collaboration.

Often change of work was necessary. Sometimes it was felt, after consideration of all the circumstances of the case, that the patient should be trained in new work under the auspices of the Ministry of Labour and National Service; sometimes it was felt that the patient could more appropriately be placed in new work directly, without special training. Both groups of cases were referred to the appropriate officer of the Ministry of Labour with the necessary recommendation. Occasionally disability was so severe as to require employment in a sheltered workshop; sometimes it was possible to find for the patient employment in the workshop of this kind that had been pro-

vided early in 1946 as a war memorial by firms operating on a neighbouring industrial estate and was already operating successfully on a 'voluntary' basis;¹ sometimes sheltered employment had to be sought in a factory provided by 'Remploy', the official agency created to provide sheltered employment, which opened its first small workshop in the city some time later.

A machinery somewhat similar in its aims to this early 'clinic' was subsequently introduced in certain other Scottish hospitals (but has since been withdrawn), and for a time the clinic was technically part of this larger set-up, though its methods remained substantially unchanged. Throughout, the policy has been to do as much as possible for the patients by direct action, as well as by bringing cases to the notice of the appropriate officer of the Ministry of Labour and National Service; more recently an officer of the Ministry has been present at the case-conference. 'Direct' help from the clinic has taken several forms—sometimes consisting in help to obtain modification of existing employment, occasionally in finding wholly new work for the patient; frequently the help given has been along social rather than strictly industrial lines, though the two are often closely interrelated.

In fairness it must be said that, in general, the assistance given to these patients was greater than that normally available to most disabled persons passing directly from hospital to the official resettlement machinery, and this has to be kept in mind in assessing the results obtained: these results might reasonably be expected to be better than those obtained by disabled folk without such supplementary help. It has to be remembered in assessing the results that, during the years 1947-51, general employment conditions on Clydeside were reasonably good, though the proportion of men unemployed was considerably higher than in England, and especially higher than in the south of England.

A few summarized case-histories—unspectacular as they are—will serve to illustrate the kind of difficulties and frustrations that often arise in dealing with those cases and the amount of 'hospital' effort that has gone to supplement the efforts of the

¹ Turner, A. E., Stirrat, T. A., and Ferguson, T. *Haven Products: A Scottish Experiment in the Employment of Severely Disabled Men*. Nuffield Provincial Hospitals Trust, 1948.

Ministry of Labour and National Service to secure the resettlement of the men.

2

Illustrative cases

NEIL

Neil, 53 years of age, is a native of Orkney, where in his earlier days he had worked on aerodrome and road construction. Moving to the mainland, he did labouring work in the north of Scotland for many years, on the roads and in distilleries. He is unmarried and 4 years before falling ill had come to live in Glasgow with a married sister, her husband, and grown-up son in a two-apartment tenement house. He obtained a job as a labourer in one of the corporation departments but, after working there for $3\frac{1}{2}$ years, fell ill of heart disease.

Now he has made a fair recovery and is able to do a full week's work again, given suitable employment. But his labouring days are done; he requires a light job, one that will allow him to be seated for most of the time.

This is a common enough situation—an unskilled man of heavy labouring background, with little real claim on the sympathy of any one employer, now in his fifties, quite unable to continue at the only kind of work he has ever known, at the end of a long queue in quest of 'light work' that is almost non-existent.

Faced with this crisis, Neil had no very definite idea about what he wanted to do. He was rather passively co-operative. He was willing to take any sort of job, except that of night-watchman: and, as it happened, that was the only kind of job his old employers had to offer. As things have turned out, it would probably have been better if Neil had accepted their offer, but, like him, many men have an understandable reluctance to take a night-watchman's job if they think they have the slightest chance of doing anything better; and he 'lifted his books' from the Corporation service. That was the position in the spring of 1948. The social service department of the hospital had made repeated representations on his behalf and the disabled resettlement officer of the Ministry of Labour had made many efforts to place him in a job.

But the months passed: in the autumn Neil was still unemployed and he and his sister were alike depressed. Through the employment exchange he had been offered two jobs in the course of the summer—

one as a cinema attendant and the other as a cinema watchman, which involved looking after the premises at night. Both of these jobs he regarded as unsuitable. He had himself been in touch with several possible employers, but had been turned down in every case because he could not do heavy work.

Hospital social service department and Ministry of Labour both continued to try to help him and about Christmas he was offered and accepted a job as a night watchman with a firm on an industrial estate near the city. His workplace is twenty minutes by tram from his home: his hours are from 4 p.m. to 10 p.m. or from 10 p.m. to 6 a.m. and his wage is £4. 15s. weekly. Though sometimes tired at the end of his shift, he has lost no working time during his first year in his new job. The physician who cared for him in hospital is well pleased with him and with his success in holding the job.

Neil's is a very ordinary story. Once he had fallen out of employment, at his age, it took a great deal of effort to get him back into work again. Just how much effort it is difficult to convey: quite apart from the help of the official machinery of the Ministry of Labour, his resettlement involved the social service department of the hospital in much letter-writing on his behalf and in repeated visits to his home and to potential employers.

3

DONALD

Donald, 25 years of age, complained of pain in his right shoulder, which had been the site of old tuberculous disease. He had worked as a wages and general clerk for 5 years, from 1939 to 1944, prior to his illness. For 3 years, from 1944 to 1947, he was almost continuously in hospital. During this spell, in 1946, he applied to the Ministry of Labour and National Service for training in watch and clock repairing and was apparently accepted for this training, though never actually embarking upon it. Instead, in September 1947, he commenced to train as a picture-framer, but gave that up after 4 months. Another spell of unemployment followed, but in June 1948 he obtained a job as a temporary clerk in a government office. This job he held for 2 months; then he was idle again for 2 months. He last worked for a period of 4 days in October 1948, as a labourer with an engineering firm, but he was quite unsuitable for that kind of work.

When Donald was referred to the clinic in January 1949 he had been unemployed for 3 months and had become thoroughly

depressed and apathetic. He is unmarried and was living at home with his parents; his father was working, but a sister, who had worked until recently, had now fallen ill. Donald felt that he had little prospect of getting or holding a clerical job—the only kind of job of which he had any experience—because he had been out of clerical work too long and because he had no experience of the P.A.Y.E. scheme, which had come into operation ‘since his time’.

The obvious course was to encourage Donald to go back to clerical work and to get him into a large office for a short time—to brush up his knowledge of office routine and to obtain for him some experience of the P.A.Y.E. scheme. But for long he was unwilling to consider this line of action: he persisted that he would be unable to get clerical work because of his lack of experience, and he still hankered after training in watch and clock repairing which, according to himself, he had been promised but had never received. It was pointed out to him that other men who had received this training had been unable to make a living in it at the end of the course; but Donald had a sense of grievance and did not think highly of the Ministry of Labour. Finally, when asked categorically if he was willing to make a new start in clerical work if an opening could be found for him, he replied a rather unconvincing ‘yes’; and he started work as a clerk in the invoice department of a shipbuilding company on 31 January 1949. Twelve months later he was still working with the same firm in the same job; he was not altogether satisfied with his wage, but hoped to receive an increase now that he had completed one year’s service: the increase was duly forthcoming. Donald is keeping well and seems to be reasonably competent at his work: barring some unforeseen happening, he appears to be successfully resettled.

On the face of it, this is a straightforward case that should not have presented any difficulty: but Donald and his family required to be taken in hand, for he was drifting into the ready apathy of unemployment and there appeared to be little urge at home. He was allergic to the official machinery and probably stimulation and help from the hospital played a substantial part in getting him back into employment. There was nothing spectacular about the help, but it involved home visits and correspondence and telephone calls—effort well spent, as it turned out, because Donald was at a critical age and could easily have become chronically unemployed.

4

LAWRENCE

Lawrence, now 16 years of age, has had a club foot since birth. He attended a special school, and, as so often happens under these conditions, is rather backward in his schooling, though the headmistress and the surgeon who looked after him in hospital both regard him as quite an intelligent lad. His handiwork is particularly good and he is anxious to do well. Home circumstances are comfortable; in addition to the father, one sister and three brothers are working.

The boy was referred to the clinic in March 1949 by the orthopaedic surgeon in order that suitable work might be found for him. Lawrence wanted to be a cobbler and had already approached personally many shoemakers in search of a job, without success; his rather ungainly appearance was against him. At the clinic, work possibilities were explored and it was felt that boot and shoe repairing was probably as suitable as any, especially in view of the lad's enthusiasm for that kind of job. Following this, numerous boot and shoe repairers in Lawrence's home town were approached on his behalf, both by officers of the Ministry of Labour and by the social service department of the hospital, but to no purpose, for at that time there was something of a slump in the trade. Since there seemed to be little prospect of getting the lad into this kind of work in the near future, and since every month that passed lessened his chance of being accepted as an apprentice, other possible lines of work were considered. Training in printing was suggested, but that did not appeal to Lawrence and ultimately it was arranged for him to start an apprenticeship in his home town as a cabinet-maker. But he had only held this job for a month when he fell ill and his family doctor had to advise him to give up cabinet-making: the wood dust which he inhaled in the workshop was upsetting his chest.

Lawrence was by now a very disappointed lad; he had lost heart and did not want to be trained in any work. There was some suggestion that he might try to go to sea, an unsuitable job, and, since there was still no prospect of getting a reasonable job for him in his own town, a fresh start was made further afield. In September 1950 he was enrolled in an industrial rehabilitation unit of the Ministry of Labour; he remained there for 2 months doing only moderately well. But in January 1951 it was found possible to arrange for him to work in a 'Remploy' factory, under sheltered workshop conditions, as a boot and shoe repairer, the job on which he had originally set his heart. The factory is some 20 miles from his home, but communications between the two are easy and direct. In this work he is happy

and is doing well; through time, when he has acquired more skill, it may be possible to get him a similar job nearer home.

The end-result in this case appears to be straightforward enough: Lawrence has been settled in the job on which he had set his heart, though the better part of two years elapsed before he got a start at cobbling: sheltered workshops doing this class of work became available in the district only comparatively recently. But while the outcome has been happy, the long months of effort to get the lad into suitable work were not without their anxieties or their time-consuming approaches: apart altogether from telephone calls and visits to the boy's home and to potential employers, the social service department of the hospital exchanged fully forty written communications about Lawrence.

5

The disabled folk seen at the clinic

To ascertain how the disabled persons dealt with in this way fared subsequently, 202 consecutive patients were followed up 12 months after their first visit to the clinic, and again 2 years after that visit. All these cases had been referred to the clinic by members of the hospital staff with a view to registration under the Disabled Persons (Employment) Act, 1944.

When they were referred to the clinic 20 per cent. of these disabled people were under 20 years of age, 19 per cent. were between 20 and 29 years, 17 per cent. were between 30 and 39, 21 per cent. were between 40 and 49, and 23 per cent. were 50 years or over. One hundred and sixty-seven were males, 35 females; only 9 of the females were over 29 years of age.

In the main, these cases were drawn from a younger age-group than the generality of disabled persons registered under the Act. Thus, 56 per cent. of the cases referred to the clinic by medical and surgical colleagues were under 40 years of age. From an analysis¹ (carried out a year or two later) of the age-distribution of disabled folk on the books of thirty representative Scottish exchanges, it appeared that of the registered disabled people who were actually in employment, 47 per cent.

¹ Ferguson, T., and MacPhail, A. N. 'A Scottish study of persons registered as disabled under the Disabled Persons (Employment) Act, 1944'. *Glasg. med. J.*, August 1953, 343.

were under the age of 40; and of disabled persons who were unemployed, 35 per cent.

This younger age-distribution was doubtless a favourable factor in relation to the disabled person's prospect of employment: so, also, may have been the fact that, in the main, duration of disability was appreciably shorter among these hospital cases than among registered disabled generally. For example, in only 43 per cent. of cases referred to the clinic had disability been present for more than a year, whereas among cases on the registers of the thirty Scottish exchanges referred to above about 76 per cent. of cases had disabilities of more than 5 years' duration.

TABLE 11. *Nature of condition giving rise to disability in relation to age at time of first reference to clinic*

Source of disability	Age in years at first reference to clinic					Total
	Under 20	20-29	30-39	40-49	50+	
Infective diseases	10	8	..	..	..	18
Neoplasms	1	1	2	1	3	8
Allergic or metabolic diseases	5	1	1	3	1	11
Diseases of central nervous system	6	6	9	6	3	30
Circulatory diseases	5	7	6	8	9	35
Respiratory diseases	2	..	..	..	4	6
Digestive diseases . . . . .	..	..	2	4	6	12
Diseases of skin and cellular tissue	1	1	1	1	1	5
Diseases of bones and joints	4	6	4	13	13	40
Congenital malformations	3	2	1	2	..	8
Injury	2	6	6	6	4	24
Others	1	..	2	..	2	5
	40	38	34	44	46	202

The nature of the disabilities from which those disabled people suffered followed the broad pattern of disability found among disabled people throughout the country, though some types of incapacity were present in larger numbers in this series than in the overall picture. Among the disability groups which contributed more than their share to this sample of 'hospital' disability were organic diseases of the nervous system, such as disseminated sclerosis, which accounted for about 15 per cent.

of the cases. Diseases of the circulation accounted for 17 per cent. of the cases and diseases of the bones and joints for 20 per cent. The proportion disabled by injuries, 12 per cent., was less than that to be found among cases on the Disabled Register as a whole.

6

The kind of work considered to be best suited to the needs of the cases seen at the clinic

Two of the 202 cases referred to the clinic as requiring change of work were recommended to return to their old work; it was thought that in 40 other cases it should be possible to secure modification of the old job in such a way as would enable the disabled person to continue to work at it. Thirty-six were regarded as requiring wholly new work, for which a suitable course of training would be required; 107 were considered more suitable for direct placing in new work not involving special training; and 9 were regarded as requiring employment under sheltered workshop conditions. In 8 cases a recommendation on work was deferred, usually because the patient was not yet nearly fit for return to work and it was difficult to predict how much further improvement might be expected to result. Naturally, the proportion of cases recommended for training in new work was highest in the younger age-groups; thus, 18 of the 40 who were under 20 years of age were recommended for training.

7

Interval elapsing before suitable work was found

Of the disabled people who found, or were placed in, a job within a year of first appearance at the clinic, 25 per cent. returned to work within 4 weeks, 54 per cent. within 3 months, and 73 per cent. within 5 months. The people who were most quickly back at work were those who returned to their old jobs or who needed only some modification of their old work; longest delay was in cases recommended for new work, or for employment under sheltered conditions.

Of those who had started work within the year, 5 per cent.

were offered work by their old employer; 38 per cent. found work themselves; 48 per cent. through an employment exchange; 7 per cent. with the help of the almoner, and 3 per cent. with the help of other agencies. Eleven of the 22 men disabled by diseases of the central nervous system who were in jobs had found them for themselves.

Sixty-seven of the disabled—a third of the original total—found, or were placed in, work which they gave up within the first year—8 within a week, 19 within a month, 34 within 3 months. About a third of those who gave up work in which they had started found themselves forced to do so on medical grounds.

8

The employment situation at the end of one year

When the cases were reviewed one year after the first appearance of the patient at the clinic, 70 disabled persons were found to be unemployed and 7 could not be traced. Of the 125 who were in employment, 9 per cent. had returned to their old jobs; 9 per cent. to a modified form of their old jobs; 7 per cent. were in course of training or had started new work after training; 70 per cent. were in new (usually unskilled) work for which they had received no training, and 5 per cent. were in sheltered employment.

The proportion of disabled who were unemployed varied in the several disability groups: it was highest among those who were disabled by diseases of the central nervous system.

Approximately 50 per cent. of the disabled folk who were unemployed 12 months after their first appearance at the clinic were unfit for work; in the majority of the remaining cases, unemployment was due primarily to inability to obtain a suitable job, though in a few some failure on the part of the patient was a contributory factor.

The age-distribution of disabled people found to be unemployed a year after their first visit to the clinic was roughly similar to the age-distribution of the initial sample, except that there were slightly more disabled over the age of 50 among the unemployed, 27 as against 23 per cent. It was believed that fully three-quarters (76 per cent.) of the disabled people who were in employment at the time of this first review were

reasonably satisfactorily placed from both medical and economic angles.

It frequently happened that the nature of the work in which the disabled were found to be employed on review was widely different from the work recommended when they were seen at the clinic.

Thus, of the two disabled folk recommended to return to old work, one was employed in his old work and the other had taken up new work without training.

Of 37 for whom some modification of old work was recommended, 3 had gone back to their old jobs without modification, 9 had secured the necessary modification, 1 had taken up new work after training, 11 were in new work without training, 1 was in sheltered employment, and 12 were unemployed.

Of 35 regarded as suitable for new work with training, 2 were back at their old work, 8 were in training or in new work after training, 14 were in new work without training, and 11 were unemployed.

Of 104 recommended as suitable for new work without training, 5 had gone back to their old work, 2 were in a modified form of their old work, 57 were in new work without training, 1 was in sheltered employment, and 39 were unemployed.

Of 9 recommended for employment under sheltered conditions, 2 were in new work without training, 4 were in sheltered employment, and 3 were unemployed.

Of 8 cases in which a recommendation was deferred, 3 were in new work without training and 5 were unemployed.

In all, therefore, at the end of 12 months, 11 of the disabled were back in their old work, 11 in old work suitably modified, 9 in new work with training, 88 in new work without training, 6 in sheltered workshops, and 70 were unemployed. Seven remained untraced.

At ages under 50 years of age the proportion unemployed at the end of 12 months remained fairly steady, about a third of the total; above that age the proportion of the disabled people who were unemployed rose to about 50 per cent.

9

The employment position 2 years after first appearance at the clinic

The cases were reviewed again 2 years after their first visit to the clinic. The proportion then unemployed was 17 per cent.,

a figure less than half of that reported a year previously: but the reduction had brought with it some deterioration in the level of skill in the jobs on which the disabled were engaged. Thus, 67 per cent. of the disabled were in skilled and semi-skilled work before the onset of disability, as compared with 44 per cent. 2 years after registration.

At ages under 40 about one-third of those in employment at the end of the study were in skilled work, but at ages over 50 only about one-eighth.

Final assessment 2 years after first attendance at the clinic showed 17 per cent. of the disabled to be unemployed, 68 per cent. to be placed reasonably satisfactorily, medically and economically, 7 per cent. to be placed satisfactorily enough from the medical point of view but in a job unsatisfactory from the economic angle, 7 per cent. to be in jobs yielding a reasonable economic wage but unsuitable on medical grounds, and 1 per cent. to be in jobs unsatisfactory both medically and economically. The proportion of cases regarded as satisfactorily placed, socially as well as medically, was higher among those who had been skilled manual or non-manual workers than among the semi-skilled and unskilled; and the faults in the jobs held by unskilled workers were more often medical than economic.

Of the disabled folk regarded as being in reasonably satisfactory employment 2 years after registration, 6 per cent. had been offered their present job by their old employer, in 28 per cent. of cases the job was found by the patient himself, in 52 per cent. by an employment exchange, in 10 per cent. by the almoner, and in 4 per cent. by some other agency.

10

Assessment of results

It is not easy to assess these results, on account of the difficulty of telling how the disabled people would have fared if left to fend for themselves or to take their chance with the official machinery, without the additional help which the clinic sought to give. The position scarcely lends itself to direct comparison with the study¹ of the employment experience of disabled per-

¹ Ferguson, T., and MacPhail, A. N. 'A Scottish study of persons registered as disabled under the Disabled Persons (Employment) Act, 1944'. *Glasg. med. J.* August 1953, 343.

sons carried out under the auspices of the Medical Research Council about the same time, but our impression, for what it is worth, is that the disabled persons who passed through the clinic fared better than those who did not. The disquieting features about the results are that 17 per cent. of those folk with residual disability were still unemployed 2 years after leaving hospital, and, perhaps worse, that many of those who were in jobs had been able to find work only at the expense of considerable sacrifice of skill; unskilled work tends to be heavy in its physical demands.

12

Summary

IN earlier chapters reference has been made to the growth of hospital care and to the changing attitude of the people to it. Even before the war, attention had begun to be focused on the amount of working time lost through sickness or injury and on the steps that might be taken to reduce it. In Scotland a study¹ of long-term sickness in the insured population had shown that the outstanding difficulty militating against recovery was difficulty in securing admission to hospital, especially for ambulant patients; and it was considered that fully 9 per cent. of the men studied required change of occupation if they were to have a reasonable prospect of continuing in employment. Already it had been reported by a committee of the British Medical Association¹ that men who had sustained injuries involving fractures often remained off work for a longer period than the injury seemed to warrant, and one explanation suggested was that some of them appeared to have been lost sight of and to have drifted along without supervision after discharge from hospital.

During the war, there arose greater awareness of the position of hospital care in relation to wider questions of the health of the community. In Scotland, in a series of 1,161 consecutive young people under 18 years of age referred for examination by their own doctors because their health was causing anxiety,² 23 were found to be already on hospital waiting-lists, and, after examination, 169 were sent to convalescent homes and 563 were admitted to hospital for further investigation. In the majority of these cases the diagnosis, although amplified, was not substantially altered as a result of hospital investigation: where admission was found to be most helpful was in the elucidation of causal factors. Removal of the fear of serious disease as a result of complete medical overhaul often provided the reassurance so helpful in expediting recovery.

¹ *Report of Committee on Fractures*, British Medical Association, 1935.

² *Health and Industrial Efficiency*. Department of Health for Scotland. H.M.S.O., 1943.

In this present report, some account has been given of studies made in two 'mixed' Scottish counties with a combined population of approximately half a million, and having within the county boundaries some 5·7 hospital beds per 1,000 of the population (apart from beds for the treatment of mental illness) as well as easy access to city hospital resources. It was found that in these counties one person in every seven received hospital treatment—in-patient or out-patient or both—for illness of one kind or another in the course of a year. About one-third of the total number of female patients who received in-patient treatment were admitted for childbirth or its complications, or for diseases of pregnancy. There was little difference between the proportion of cases receiving in-patient treatment in rural as compared with urban areas: but the number of out-patients was appreciably higher in the towns. Altogether, 11 per cent. of in-patients and 9·3 per cent. of out-patients received treatment outside the county of residence. Duration of stay in hospital of patients treated outside the county of residence was, in general, longer than where the patient was treated in a local hospital. The total amount of in-patient hospital care of all kinds worked out at 2·275 days per head of the population per annum. Over the age of 35, the proportion of male in-patients per 1,000 of the population tended to increase gradually with age; the rate for female in-patients, on the other hand, remained remarkably steady above that age. After middle life the proportion of the population receiving out-patient care decreased with advancing years.

The results of hospital treatment of the cross-section of illness of all types in these two counties were interesting. Over the whole series, the clinicians in charge of the patients classified 37·4 per cent. as 'cured' when they left hospital, 46·4 per cent. as 'improved'; 7·9 per cent. as 'condition unchanged'; and 0·3 per cent. as 'worse'; 5·6 per cent. died in hospital, and condition on discharge was unstated in the remaining 2·4 per cent. On leaving hospital 88·6 per cent. of patients returned directly to their own homes, the majority of them still requiring continuing medical care; 3·5 per cent. were transferred for treatment to other hospitals; 0·4 per cent. were sent to convalescent homes, 0·7 per cent. were self-discharged before completion of treatment and, as noted, 5·6 per cent.

died in hospital; information is not available about the remaining 1·2 per cent.

It has long been recognized that the main weight of certain kinds of sickness falls heavily on the less privileged sections of the community. The studies of hospital morbidity carried out in Stirlingshire and Ayrshire demonstrated again this influence of social and environmental conditions on the load of hospital-treated sickness. It was shown, for instance, that respiratory disease and injuries contributed more heavily to hospital load in the Registrar General's social (or occupational) class V—the group of unskilled labourers—than in the others, and the same held true of diseases of the skin and cellular tissue. In most disease-groups duration of stay in hospital was appreciably shorter among patients from social classes I and II—the directive and professional classes—than among patients from class V; this was specially true of diseases of the circulation and the respiratory tract.

It was found, in both Stirlingshire and Ayrshire, that the volume of hospital care tended to increase with severity of overcrowding in the home. This association with overcrowding is specially marked in the groups of infective disease, injuries, and disease of the circulatory and digestive systems.

In these county studies considerable variation in the pattern of hospital-treated sickness was found to occur with the nature of occupation. The incidence of injuries, for instance, and the type of injury, varied considerably from trade to trade.

The study which provided the material on which Chapters 4 to 10 of this report are based was carried out between the years 1950 and 1953. It embraced 705 unselected male patients discharged after treatment in medical units in one or other of four 'acute' hospitals in the west of Scotland, two of them teaching hospitals. Of these patients some 25 per cent. suffered from diseases of the heart or blood-vessels, 16 per cent. from digestive diseases, 13 per cent. from respiratory diseases, and 8 per cent. from endocrine disturbances; the others suffered from a wide range of disabilities. The proportion of patients over the age of 45 was higher than the age-distribution of the general male population over 15 years of age would have warranted; the patients treated in teaching hospitals were, in the main, an older group than the others.

Within the 5 years preceding the admission to hospital on which this study was based, 22 per cent. of the patients had had one or more spells of previous in-patient treatment for the same or a related illness, and an additional 12 per cent. had had out-patient care; a further 4 per cent. had in-patient treatment for some other cause. The proportion of patients who had had previous in-patient treatment was high among those suffering from disease of the blood (35 per cent.), of the digestive system (30 per cent.), and of the circulation (30 per cent.); it was low among patients suffering from respiratory disease (14 per cent.).

Duration of stay in hospital was longer among the patients treated in teaching hospitals; it was longer than average among patients treated for disease of the circulatory system or of the blood, shorter than average among patients treated for psychoneurotic illness or for one of the group of 'injuries', mostly cases of poisoning.

The clinicians in charge of these cases estimated that in just over 10 per cent. some preventable factor had made a major contribution to the breakdown responsible for admission to hospital. The proportion of cases regarded from the clinical point of view as having a preventable element was high among unskilled labourers.

On discharge from treatment in the acute medical wards, the clinicians classified 9.3 per cent. of those patients as 'cured' and 73.1 per cent. as 'improved'—many of these requiring only a period of convalescence to consolidate improvement. Forty per cent. of the patients were regarded by the clinicians as likely to be fit to return to their own jobs within 3 weeks of leaving hospital and a further 3.6 per cent. as likely to be fit for alternative employment within that period. On leaving hospital 4.1 per cent. of the patients treated received a period of convalescent care before returning to their own home.

The intention was to visit these 705 patients in their own homes 3 months after they left hospital, but by then 9.4 per cent. of them had died, 4.8 per cent. had been readmitted to hospital, 5.8 per cent. had moved out of the area (but were believed to be alive), while 2.3 per cent. had disappeared from the address from which they were admitted without leaving any trace—

mostly nomads who had lived in sub-let rooms or common lodging-houses.

Of the 66 patients who had died, 26 had suffered from neoplasms, 25 from circulatory disease, 6 from disease of the digestive system, 3 from diseases of the blood, and 2 from respiratory diseases. Forty-six of those patients were under 64 years of age: 19 had already had in-patient treatment and 14 others out-patient hospital treatment within the previous 5 years. Of the 34 patients readmitted to hospital, 9 suffered from diseases of the circulation, 9 from tuberculous conditions, 5 from neoplasms, and 4 from digestive diseases. Five of the 34 patients readmitted to hospital within 3 months had had in-patient treatment within the previous 5 years, and a further 12 had had out-patient care. Eleven of the 34 were unskilled labourers and only 2 were skilled manual workers.

The position among the ex-patients who were seen in their own homes 3 months after leaving hospital has been described in detail in Chapters 7, 8, and 9. Of the 548 men concerned, 74 (13.5 per cent.) were regarded as 'cured', 283 (51.6 per cent.) had continued to improve, 132 (24.1 per cent.) were much as they had been on leaving hospital, still far from established good health; and 59 (10.8 per cent.) showed unmistakable deterioration: so that, including those who had died and those who had had to be readmitted to hospital, nearly 25 per cent. of the patients had deteriorated seriously within 3 months of going home.

The proportion of patients who had continued to progress since leaving hospital was greatest where home conditions were good.

To the 10 per cent. of cases regarded by the clinicians as having a major preventable factor in the breakdown in health which had brought them to hospital, there fall to be added those cases in which breakdown could be regarded as preventable in so far as it was attributable in large measure to the unfavourable social and environmental conditions in which the man was placed, at home or at work. It was estimated that in 14.6 per cent. of the cases seen in the course of this study breakdown could be classified as preventable on social or environmental grounds, so that altogether nearly 25 per cent. of the cases could be regarded as having a major preventable factor of one

kind or another. The proportion of preventable cases was highest among the unskilled and among those from poor homes, and the preventable cases were most commonly encountered in the groups admitted for the treatment of 'injuries' (mostly acute intoxications), psychoneurotic illness, infective and alimentary diseases. The figure of 25 per cent. of cases regarded as having a major preventable factor does not by any means exhaust the tale of cases in which social, environmental, or economic factors contributed in some degree to breakdown or were thought to be interfering with recovery; such contributory social factors were chiefly associated with employment, and seemed to assume greatest prominence between the ages of 45 and 54 years.

It was estimated that about one-third of the patients who had been given advice calculated to prevent a recurrence of breakdown could be counted upon with reasonable certainty to comply with the advice that had been given to them; in another third it was almost certain that the advice would not be accepted; and in the remaining third the prospect could only be regarded as doubtful. Some of this unwillingness to accept advice could be traced to reluctance to give up a job or a way of living to which the patient had become accustomed or which he liked. Many men who knew their present job was beyond their strength were unable to find one more suitable. The proportion of failures to accept advice was highest among patients suffering from respiratory disease, psychoneurotic illness, infective or alimentary diseases.

It was estimated that there was a prospect of relapse in the not far distant future in about 40 per cent. of the cases treated, and that many of these patients would soon require hospital treatment again—a finding not surprising in view of the facts that one patient in three had already had previous treatment as in-patient or out-patient or both, within 5 years of his recent admission; that 5 per cent. were back in hospital 3 months after leaving it; and that within that period 9.5 per cent. had died, some of them after readmission to hospital. Three months after they left hospital, 8 per cent. of the patients were found to be in need of medical or nursing care which they were not receiving, almost invariably because they refused to accept it, and the outlook for many of the patients could have been improved by some

form of social service. (In 54 of their series of 156 cases treated in medical wards, Brown and Carling¹ found that the period of incapacity after discharge from hospital could have been shortened by some form of social service.)

The proportion of men who deteriorated after leaving hospital was, of course, largely determined by the condition from which they had suffered; but, apart from that basic consideration, there can be no doubt that the well-being of the patients and their success in getting back to work was profoundly influenced by social and environmental conditions.

Three months after leaving hospital, 59.5 per cent. of the men were regarded (by one of the present authors and, where corroboration was available, by the man's own doctor) as fit for work; 12.7 per cent. of the men did not desire work, the proportion being high among those who had been unskilled labourers and among elderly men.

The proportion of men found to be fit for work 3 months after leaving hospital decreased as the age of the patient increased; thus, at ages under 34 years it was 72.7 per cent., whereas at ages between 55 and 64 it was 55.2 per cent., and at ages over 65, 35.3 per cent. Again, the proportion of patients fit for work 3 months after leaving hospital varied with the normal occupation of the patient. Of skilled manual workers, 67 per cent. were regarded as fit for return to work, of unskilled manual workers 54 per cent.

Of men between the ages of 15 and 64, 61.4 per cent. were back at work 3 months after leaving hospital. The proportion back at work was low among those who had already received hospital treatment during the preceding 5 years; it was lower among unskilled labourers than among skilled manual workers; and it decreased with age. In their study of a series of 202 men between the ages of 55 and 64 years who had received in-patient treatment in Sheffield, Pemberton and Smith² found that, some 6 months after leaving hospital, 33.1 per cent. had returned to work at their old or similar work, 14.9 per cent. were still not back at work, and 38.1 per cent. had died (in hospital or before

¹ Brown, M., and Carling, F. C. 'A Social Study of Hospital Treatment', *Brit. med. J.*, 1945, i. 478.

² Pemberton, J., and Smith, Joan C. *Ibid.*, 1949, ii. 306.

follow-up); 5.5 per cent. were untraced. They concluded that the most important reason for failure to return to work was that the illnesses from which the patients suffered 'were chronic or progressive and their course could not in most cases be reversed or arrested by admission to hospital. . . . A secondary reason why some patients failed to return to work was that their usual occupation was too strenuous for all but the physically fit.' Of the 17 cases (studied by Pemberton and Smith) who took up light work after discharge from hospital 14 returned to the service of their former employer.

In this present series of 548 men of all ages seen in their own homes 3 months after leaving hospital, 55.5 per cent. of the men had returned to work and 33.7 per cent. were not yet back at work; 9.7 per cent. had already retired from work before admission to hospital and 1.1 per cent. had not then left school. Of the men between the ages of 15 and 64, 61.4 per cent. were back at work 3 months after leaving hospital; at ages over 65 years, only 25 per cent. The proportion back at work at the end of 3 months varied with the nature of the work: among non-manual workers it was 74 per cent.; among skilled manual workers, 58 per cent., and among unskilled manual workers, 41 per cent. Among patients who had been treated for an endocrine disorder the proportion back at work was high (76 per cent.); only 47 per cent. of those treated for circulatory disease were back at work.

The proportion of men back at work who had returned to their old job was 87.5 per cent., and of those in upper age groups it was even higher—between the ages of 55 and 64, 91.5 per cent. and at ages over 65, 95.2 per cent. The proportion of men who returned to their old jobs was high among non-manual workers (96.1 per cent.), lower among skilled manual workers (88.6 per cent.), and still lower among unskilled manual workers (77.4 per cent.).

Duration of absence from work on account of the illness which had necessitated admission to hospital varied considerably with the nature of the illness. Among those who had been treated for alimentary disorders, 80 per cent. were off work for less than 3 months; whereas, among those treated for diseases of the circulatory system, duration of absence from work was less than 3 months in only 33 per cent. of cases.

Of the men who were back at work, 21·5 per cent. were in jobs which could only be described as unsuitable, having regard to the demands of the occupation and the condition of the man. The proportion in unsuitable work was high among young men between the ages of 15 and 19 (many suffering from heart disease) and at ages over 50 where, again, many suffered from heart disease. Men recovering from a first serious illness differed little from men who had already undergone an earlier spell of hospital in-patient treatment in the frequency with which they were found to be in jobs grossly unsuitable.

Of the men back at work who were in grossly unsuitable jobs, only some 54 per cent. were in comfortable circumstances, a figure much the same as that among men who had not yet returned to work, but considerably lower than the figure (80 per cent.) among those who had returned to work in jobs regarded as suitable.

Forty men in the series had been registered as disabled under the Disabled Persons (Employment) Act, thirty-seven of them prior to their admission to hospital. Of those registered under the Act, only 32 per cent. were back at work 3 months after leaving hospital.

Of the 219 men who had been considered by the clinician in charge of the case likely to be fit for return to ordinary employment within 3 weeks of leaving hospital, 44 had not yet returned 3 months after leaving; the proportion still not at work was appreciably higher among unskilled manual workers than among those in non-manual work. Similarly, among the 254 men who were regarded, on leaving hospital, as unlikely to be able to return to work in the near future, the proportion not yet back at work 3 months after leaving hospital was highest in the group of unskilled workers.

There was a comparable relationship between return to work and conditions in the home. Of men who were considered to be likely to be fit for return to work within 3 weeks, 16·8 per cent. were still not working 3 months after leaving hospital where home assessment was 'good', as compared with 35·0 per cent. where home assessment was 'fair' or 'bad'.

Among the 548 men seen in their own homes 3 months after leaving hospital, there were 376 married men of all ages. The wives of 48 of them were known to have gone out to work

because they had to do so to keep the home going; but it may well be that the proportion of wives in jobs was, in fact, higher than that figure. The home background with which these wives had to cope was exacting; but in 39 of the 48 the general atmosphere of the home was assessed as 'good', in 5 as 'fair', and in only 4 as 'bad'.

TABLE 12. *Return to work within 3 months of leaving hospital in relation to nature of occupation before admission*

<i>Probable fitness for work 3 weeks after leaving hospital as estimated by clinician in charge of case</i>	<i>Nature of occupation on admission to hospital</i>	<i>Work on which engaged 3 months after leaving hospital</i>		
		<i>Suitable</i>	<i>Unsuitable</i>	<i>Not working</i>
Fit for employment (219)	Non-manual (52)	% 76·9	% 9·6	% 13·5
	Manual, skilled (73)	67·1	12·3	20·6
	„ semi-skilled, and unskilled (92)	57·6	19·6	22·8
Unfit for work (254)	Non-manual (50)	60·0	6·0	34·0
	Manual, skilled (84)	38·1	19·0	42·9
	„ semi-skilled, and unskilled (112)	25·0	11·6	63·4

The influence of social and economic circumstances on the well-being of the patient after leaving hospital has been studied in detail in Chapter 8. The importance of home and occupational background has been demonstrated. The proportion of men who had failed to maintain their improvement after leaving hospital was high among unskilled manual workers (47 per cent.); among semi-skilled manual workers it was 41 per cent.; among skilled manual workers, 29 per cent.: and among non-manual workers, 22 per cent. The proportion of men back at work 3 months after leaving hospital did not correspond very closely with the clinical estimate of fitness for early return to work made when the patient left hospital: it was more closely related to the occupational background of the men.

In Chapter 9 some of the factors associated with the breakdown in health that brought the patient to hospital have been considered and some illustrative cases described. Economic pressure, faulty environmental conditions—especially bad housing—and, particularly between the ages of 45 and 54, factors associated with work were all found to have played a part in causing breakdown; and often the interplay of such factors with illness created a vicious circle.

Two years after the men left hospital the position was that 171 had died, 60 could not be traced, and the remaining 474 were seen in their own homes. Of the 171 who had died, 119 were under 65 years of age and 70 under the age of 55 at the time of admission to hospital. In some of these cases it was clear, when the patient was in hospital, that he was likely to die soon; but many who left hospital in reasonably good shape broke down on their return to unfavourable conditions at home or at work.

Of the 474 men seen in their own homes 2 years after leaving hospital, 111 were regarded as cured, 193 had continued to maintain the improvement effected in hospital, 106 had not improved and their medical condition was still unsatisfactory; 64 were obviously worse than when they left hospital and some of them were going downhill fairly rapidly. From these figures it would appear that about two-thirds of those still alive 2 years after leaving hospital could be regarded as having derived substantial and lasting benefit from hospital care. The proportion who had continued to improve was lowest in the group of unskilled manual labourers.

Altogether 129 had been readmitted to hospital on one or more occasions during the 2 years, 13 of them on three or more occasions. Over a period of 7 years—the 5 years immediately preceding the admission on which this study was based and the 2 years following discharge—248 of the 474 had been admitted to hospital on one occasion only, 108 on two occasions and 118 on three or more occasions, 1 as often as sixteen times. Re-admissions were most frequent where home conditions were not good, but 48 per cent. of skilled manual workers had more than one admission as compared with 40 per cent. of unskilled labourers. There were fairly wide differences in frequency of admission with the type of illness from which the men suffered; thus, 59 per cent. of those treated for alimentary disease were

admitted more than once as compared with 37 per cent. of those treated for respiratory disease.

A relatively high proportion of the men who were not at work 2 years after leaving hospital were drawn from poor homes.

Just under 20 per cent. of those who were at work at the end of 2 years were in jobs which were regarded as unsuitable, having regard to the demands of the job and the condition of the men: the proportion in unsuitable jobs was highest between the ages of 45 and 64; it was rather higher among those who had taken up new work following their illness than among those who had returned to their old job.

Rather more than one in four of the men changed jobs following the illness for which they were admitted to hospital. When skilled men had to seek a change of job they often found employment in non-manual work; unskilled labourers, on the other hand, found it very difficult to get work other than unskilled labouring and most of them either continued in that kind of work, often unsuitable, or fell out of employment altogether.

Since leaving hospital 106 of the 474 men had never worked. A further 50 had worked only from a few days to 11 months, 49 from 12 to 17 months, and 268 for 18 months or more in the two years since leaving hospital; in one case the number of months worked was not known. The proportion of men who worked less than one year of the two increased with age and was higher where home conditions were poor than where they were good, though how far this is cause and how far effect is difficult to say.

It was estimated that two years after leaving hospital 256 of the men were fit for the work on which they had been engaged before their illness, 117 were regarded as unfit for their old work but fit for alternative employment, and 101 were regarded as unfit for employment under ordinary industrial conditions. In actual fact, 265 were working at their old jobs 2 years after leaving hospital, 91 had changed their jobs, and 118 had given up working. But of the 265 who were back at their old work, 30 were regarded as requiring change of job and 18 as unfit for work under ordinary industrial conditions. Of the 91 who had taken up new work, 33 could have returned to their old work and three were regarded as unfit for work. The proportion classi-

fied as requiring change of job was highest among those who were working as unskilled labourers. Numerous difficulties associated with housing and with travel to work were encountered and there was great variation in the willingness—and ability—of the men to alter their way of living, even where they were well aware that they were undermining their health. Some men who required change of work and who would have accepted it were unable to find suitable work.

Circumstances associated with the success of different groups of patients have been studied. In the main the performance after leaving hospital of the men who had been treated in teaching hospitals was less satisfactory than that of men treated in provincial hospitals: this was undoubtedly due in part to the rather higher age and more advanced disease of the patients treated in teaching-hospitals, but probably also reflected the more difficult social and environmental conditions to which these men returned after they left hospital.

Discussion

MUCH of the value of hospital treatment does not lend itself to mathematical appraisal. The relief of pain and the abatement of suffering may in themselves be of very great value, not only to the individual treated and to his family, but also—from the mere knowledge that they are available—to the morale of the community. In the nature of things, much devoted and highly skilled treatment can have little prospect of restoring effective working capacity, for many on admission are already gravely, often hopelessly, ill. It was found in the Stirlingshire and Ayrshire studies described in Chapter 3 that of all patients admitted to hospital, irrespective of the condition necessitating treatment, some 5·6 per cent. died there. In acute medical wards, such as those in which the patients described in Chapters 6 to 10 of this report were treated, the proportion of deaths is usually considerably higher than that general figure: in the wards studied it was 15·9 per cent. Many of the patients in these wards were among the most severely ill that could be admitted to hospital; comparatively few suffered from conditions that lent themselves to complete cure. At the end of hospital treatment the great majority were classified by the clinician who had looked after them as 'improved'. It was recognized that, in the very nature of their illness, some would deteriorate after they went home, but that, after a short period to consolidate the improvement initiated in hospital, many would be restored to working efficiency; it was estimated when the patients left hospital that 40 per cent. would be able to return to work within 3 weeks.

It is important to consider how these patients fared after they left hospital, whether the matter is approached primarily from the angle of the patient or from the viewpoint of the effective utilization of the necessarily limited number of beds available for hospital care, which is becoming increasingly expensive in money and in highly skilled medical manpower. Interest in this subject was greatly stimulated by the publication by Professor

Witts¹ and his co-workers of reports on the progress, after leaving hospital, of patients who had been treated in his wards at Oxford. When a series of patients (men and women) treated in 1941-42 were followed-up 18 months later, Professor Witts found that 55 per cent. were still suffering from the disease which had necessitated admission to hospital, 21 per cent. had since been admitted to other hospitals, and 25 per cent. were still receiving out-patient care; it was estimated that a further 7 per cent. were in need of in-patient treatment. Only 26 per cent. were regarded as cured; 19 per cent. of the patients were dead. At the time of follow-up, 48 per cent. of the ex-patients were employed in full-time work and 20 per cent. in part-time work; the patients who had been treated for respiratory disease had fared worst.

From another study,² based on a later series of cases, Professor Witts concluded that a large proportion of the patients treated in a medical unit require some form of social service, chiefly in connexion with such problems as loss of wages, change of employment, and domestic difficulties. Ten per cent. of his cases required assistance in changing to more suitable employment; a further 6.5 per cent. succeeded in adjusting or changing their employment without assistance; and it was concluded that, when patients were referred to the Ministry of Labour for rehabilitation or resettlement, the hospital must continue supervision at least until the patient had returned to work—a finding with which we are in full agreement.

The results obtained in this present study are along similar lines to those reported by Professor Witts: they have been summarized in Chapter 12. Of 705 male patients discharged from the four 'acute' medical wards on which the study was based, one-third had already had one or more spells of in-patient treatment, or out-patient hospital care, for the condition responsible for their recent admission, or for one closely related, within the 5 years immediately preceding this admission.

On the basis that 15.9 per cent. of the patients admitted to the four medical wards studied had died while still under treatment

¹ Brown, M., and Carling, F. C. 'A Social Study of Hospital Treatment', *Brit. med. J.*, 1945, i. 478.

² Beck, I. F., Gardner, F. V., and Witts, L. J. 'Social Service for a Medical Ward', *Brit. J. soc. Med.*, 1947, i. 197.

in the wards, the figure of 705 men discharged from the wards would correspond to 838 admissions. Of the 705 men discharged, 66 died within 3 months of leaving hospital—some after re-admission to the wards—and at the end of 3 months a further 34 were back undergoing hospital treatment. Sixty-three patients had left their former place of residence, but of the remaining 542—seen in their own homes—235 were not yet back to work. Further, of the 307 who were back at work, 65 were in jobs which were regarded as grossly unsuitable in the light of their demands and the physical condition of the men; it was clear that many of these men were in danger of breaking down again in the not-far-distant future.

The position 2 years after the men had left hospital was that, of 705 discharged, 171 were known to be dead, many after further spells of hospital treatment. Of the others, 60 had left the district or could not be traced; but it was known that, of the remaining 474, 129 had had one or more spells of hospital treatment since that on which the study was based. At the end of 2 years, 111 of the men seen in their own homes were regarded as cured, 193 had continued to improve after returning home, 106 were still far from well, their condition being much the same as when they left hospital; 64 had gone downhill since leaving hospital. Of the 474 seen at home, 106 had not worked during the 2 years since leaving hospital, 50 had worked for less than one of the 2 years, and 49 others had worked for from 12 to 17 months in the course of the 2 years.

On the face of it these findings are disappointing, whether viewed in relation to morbidity or in relation to working efficiency. For reasons which have already been described, they do not cast any reflection either on the standard of hospital care or on the family doctor's care of his patients after their return home: but they certainly call for study to see where improvement can be suggested.

Circumstances conspire to increase the demand for hospital treatment. Successive scientific advances call for more and more specialized investigation. The ageing of the population is another factor that inevitably influences hospital load, especially since in these days pneumonia has so largely lost its sting, for more old people now fall to be treated for illnesses of long duration, notably cardiovascular disease and malignancy. There is

the further consideration, sometimes overlooked, that now that everyone is 'entitled' to a full range of medical treatment an increasing number of patients clamour for hospital care.

The work of medical wards in the acute hospitals studied is concerned largely with the treatment of patients suffering from conditions of gross pathology. Though they often respond dramatically to hospital treatment, those conditions are prone to relapse when the patient returns home and may soon demand readmission; so that in the aggregate a considerable proportion of the available beds in the best of our hospitals is occupied by a comparatively small number of patients, people who keep on breaking down in health at short intervals and require to be admitted again to one hospital or another. Sometimes such breakdown is unavoidable from the very nature of the disease, but the experience of this study suggests that it should be possible to reduce this mass of recurring invalidity. Many of these patients are young people; in this series of cases some had as many as six spells of hospital in-patient treatment in the course of 7 years; one had sixteen admissions.

The men who had most frequently-recurring spells of hospital treatment were, in the main, those drawn from the less privileged groups in the community, unskilled labourers from poor homes. Improvement of social and environmental conditions would not eliminate the need for hospital treatment in anything like all of these cases, for even under good conditions some would undoubtedly continue to break down by virtue of the advanced state of their disease. It would be unreasonable to expect better results to follow hospital treatment in these cases than those that are at present obtained among the more fortunately circumstanced patients, not all of whom do well after returning home. But many would undoubtedly fare better if they were given a better chance. The transition from the sheltered atmosphere of the modern hospital ward to the icy chill of the workaday world is indeed a testing time, and it is not surprising that many soon break down. The ex-patients who showed the heaviest mortality at early ages, the strongest tendency to relapse, and the poorest record in point of early return to work were the group of unskilled labourers; and it is significant that—apart from those suffering from such conditions as advanced malignant disease—the proportion of men back in employment 3 months after

leaving hospital was even more closely related to nature of employment and home conditions than to the estimate made by the medical staff at the time of the men's discharge from hospital. In many cases early recurrence of breakdown came of bad social and environmental conditions rather than of any inevitability on medical grounds.

It becomes, therefore, an important social, economic, and administrative issue to see whether the best possible use is being made of hospital beds. Can anything be done to obtain a greater measure of permanent benefit from hospital care? It is not easy to hold a reasonable balance between the claims of those patients who, suffering from advanced disease, have little prospect of recovery or of restoration to working capacity and those disabled by earlier, more 'curable' conditions. Many unpromising cases require prolonged skilled hospital care, and must clearly command treatment in highly equipped hospitals so long as they need the elaborate facilities for diagnosis or treatment to be found there: but there is little to be said for continuing to keep in very highly equipped wards patients whose main requirement is kindly nursing care, merely because, under present circumstances, it is well nigh impossible to secure satisfactory, less elaborate, accommodation to which they can be transferred. Understandably enough, patients and their friends are often reluctant to contemplate transfer to simpler accommodation, and there are obvious dangers in a system of graded hospital provision; there is never likely to be much enthusiasm for hospitals for the dying. The idea of admitting 'early' cases to an acute hospital for investigation, in an attempt to harness modern scientific advance, is economically attractive and may hold promise of a very real contribution to the public health; but as things are, there is a limit to the number of patients of this type that can be admitted, just as there must be a limit to the number of elderly 'chronics' that highly equipped wards can be asked to continue to carry.

There will be unanimity about the importance of doing everything practicable to reduce the likelihood of relapse and early return to hospital. One of the most promising methods of helping the patient to bridge the gap between the sheltered conditions of hospital and the stresses of everyday life lies in the fuller development of measures designed to build up his strength

again after illness. Not all patients treated in an acute hospital require this kind of care, but the proportion likely to benefit from it is much in excess of the resources at present available. Only some 4 per cent. of the patients treated in the acute medical wards studied in this series enjoyed a spell of convalescent care before returning to their own homes—a figure much lower than that among Professor Witts's cases. Even more effective in many cases than a mere convalescent holiday is the kind of care provided at the Astley Ainslie Institution in Edinburgh, of the work of which an excellent account has been given by Miles and Cunningham.¹ They have obtained good results from the treatment in such a place of many forms of heart disease in young patients, various types of anaemia, such respiratory conditions as pneumonia, pleurisy and empyema, and many cases of rheumatoid arthritis, not too far advanced. Their experience leads Miles and Cunningham to believe that the development of this type of provision as an integral part of the National Health Service would have great advantages:

- (1) By admitting patients to such a hospital at the earliest practical stage of convalescence, the pressure on the beds of the parent 'acute' hospital is materially relieved, with consequent reduction of the waiting-list and acceleration in the turnover of acute cases. It is estimated from the average length of stay of patients in the two types of hospital, that three beds in a general 'acute' hospital can be relieved by one bed in the convalescent hospital.
- (2) By retaining the patient sufficiently long to ensure that his convalescence is consolidated before he returns home, the risk of relapse with need for readmission to the parent hospital is diminished.
- (3) By combining measures for rehabilitation with purely convalescent treatment, the patient is able to resume his occupation within a short time of being discharged from hospital.
- (4) A less obvious and ponderable, but no less valuable, advantage is that the patient is removed from the tense and anxious atmosphere of an 'acute' hospital to surroundings in which the sense of hope and recovery predominates.

¹ Miles, A., and Cunningham, J. *The Convalescent Rehabilitation Hospital as an integral part of the National Health Service*. Edinburgh Convalescent Hospitals Group, 1951.

- (5) From the financial point of view, a rehabilitation hospital can be constructed, equipped and staffed at a lower overhead cost than an 'acute' hospital, and the running costs *per caput* are also less. The considerable cost of apparatus for physiotherapy and occupational therapy is offset by there being less expense for the specialized equipment necessary in an 'acute' hospital for diagnostic, treatment, and research purposes.

It is understood that in New York it has been decided to supplement orthodox hospital provision by accommodation designed to help the patient to bridge the gap between life in hospital and everyday work. The 'fitness centre' type of provision, which was extensively used during the war in this country by Service and civil authorities, can be regarded as an example of the same kind of approach to the problem of how to get people who have been ill fully restored to working capacity. More provision of this kind is obviously not the whole answer to the problem of how to make the best use of hospital resources,¹ but, in the light of Edinburgh experience, it would appear to be worth an extended trial and, probably, to be economically sound.

The mass of recurrent illness which makes such a heavy contribution to hospital load is in part inevitable, in part a criticism of health policy, and in part a reflection of faulty social and environmental conditions. It affords some justification for the views and fears expressed by Dr. Roberts.² Some of this recurrent invalidity could be prevented, given the co-operation of the patient; but it has been shown that in about one-third of cases the men were unable, or unwilling, to take the action that would have rendered less likely the probability of relapse. Sometimes the gravity of the patient's condition on leaving hospital was such that he had little prospect of being able to continue for long to lead an independent life in his own home, even if he had a home to go to, which was not always the case. Some of these patients might do well in the sheltered 'half-way house' type of hostel accommodation; for many the alternatives are to be kept in hospital for long periods or to be sent 'home', often to face prolonged illness under conditions that reflect no great credit on modern society. In America,

¹ *The Recovery Home in the Hospital Service*. The United Liverpool Hospitals, 1953.

² Roberts, F. *The Cost of Health*. Turnstile Press, London, 1952.

where, of course, the shape of medical services is very different from that in Britain, the Montefiore Hospital¹ has tried to help this group by keeping the patient in his own home under the supervision of the hospital staff: earlier experience² in the medical wards of Syracuse University Hospital had shown that only one third of cases treated there were receiving satisfactory medical supervision after discharge.

Sometimes failure to prevent relapse is due to lack of intelligence or to the patient's disinclination to follow a prescribed régime. Wilson and his co-workers have described³ the success of a follow-up service for diabetic patients in preventing the need for readmission to hospital. Even where there seems to be a reasonable prospect of recovery, many patients break down again because they live or work under grossly unsuitable conditions. The permanence of benefit that can be derived from even the best treatment services is too often limited by poor everyday environment. Sometimes rehousing offers the only hope of improvement; in some cases, though the house itself may be reasonably good, the home is inadequate—perhaps because there is no one to take any real interest in the patient, an even more difficult situation.

But perhaps in most of these cases of recurrent breakdown in health the cause lies in the unfavourable circumstances of the man's employment. Sometimes the work itself is grossly unsuitable, either from its nature or from the circumstances in which it is done, having regard to the man's condition; sometimes the trouble arises from unhappy relations with foreman or work-mates. In this study far too many men have been seen to return, on leaving hospital, to work which could scarcely fail to precipitate another breakdown in the not-far-distant future. The unskilled labourer fares worse after leaving hospital than any of the other broad occupational groups. To some extent the higher level of intelligence of the skilled worker as compared with the unskilled may contribute to this result; but undoubtedly the main feature is that unskilled work, often heavy in its physical demands, is quite outside the power of many of

¹ Cherkasky, M. *First Annual Report, Department of Home Care, Montefiore Hospital, New York, 1948.*

² Jensen, F., Weiskotten, H. G., and Thomas, Margaret A. *Medical Care of the Discharged Hospital Patient.* The Commonwealth Fund, New York, 1944.

³ *Munic. J.*, London, 7 and 14 Jan., 1948.

these men; and if they return to such work, as they often do, they are in grave danger of early collapse.

The Disabled Persons (Employment) Act, passed in 1944, created a Register of Disabled Persons—persons ‘substantially handicapped’ by physical or mental illness in getting or holding suitable work—and imposed upon employers an obligation to take a prescribed quota of their workers from among the registered disabled. The Act made provision for the establishment of such agencies as industrial rehabilitation units and sheltered workshops for the employment of severely disabled persons unlikely to be able to hold a job under ordinary industrial conditions; and for the training of disabled persons in suitable new work, where such training has become necessary. Few of the men studied in this series who had been registered as disabled persons had received training in new work, and it is difficult to avoid the impression that lack of suitable training courses had helped to delay return to work of a number of them. If men are driven by force of circumstances to return to work grossly unsuitable, as has already happened in some of these cases, they are almost certain to break down again; the cost of training suitable disabled persons in new work, geared to a reasonable prospect of employment at the end of the training period, has to be set against the cost of expensive, recurrent, and often prolonged hospital treatment, together with other associated charges on public funds. There should be firmer links between hospital and family doctor and between both and the official machinery for helping disabled people to obtain suitable work.

It has been shown elsewhere¹ that many young people have already developed clear evidence of potential disability long before they leave school, and that the subsequent employment record of many of these young people is poor; many drift into unsuitable heavy work and from that to illness and unemployment. The educational poverty that comes of lost schooling, a fatal tendency to drift, and lack of appropriate training courses are among the chief factors that make for failure in settling disabled young people in suitable work when they leave school: more effective action at that time would obviate much break-

¹ Ferguson, T., MacPhail, A. N., and McVean, Margaret I. *Employment Problems of Disabled Youth in Glasgow*. Medical Research Council Memorandum No. 28, 1952.

down later. Denmark has much to teach us in this important approach to invalidity.

For most patients hospital care is but an episode in a very much longer tale of medical supervision—an important episode, for it may set the patient on the road to recovery, though he can rarely hope to stay in hospital till recovery is complete. The family doctor knows well that many patients lack in their everyday lives the kind of benevolent background that is so helpful in consolidating recovery. To create that kind of background is often no easy matter; needs vary greatly from one patient to another. In some cases the statutory services could be made to help more effectively, though official 'after-care' services, yet in their infancy, can scarcely hope to reach all the cases that need help: some cases offer great opportunities for voluntary social service. The family doctor can help his patient to battle with residual disability and with a social environment that would sometimes daunt the stoutest heart, but it is unreasonable to expect him to continue to do so without all the assistance that can be given to him. There is plenty of room for discussion about how best this can be done; some possible lines of approach would involve the expenditure of money, but against that would fall to be set not only reduction in suffering and frustration and conservation of productive capacity, but, in the long run, a saving in the cost of hospital treatment and invalidity and, almost at once, the possibility of diverting a proportion of the beds in the best and most highly equipped of our hospitals to the investigation and treatment of cases offering better prospect of restoration to full productive efficiency.

Gardner and Witts¹ had much the same idea in mind when they wrote that the need for short stays in hospital grows steadily with advances in methods of diagnosis and treatment, and that in deciding whether a patient should be treated as an in-patient or as an out-patient it is necessary to consider the rival claims of medical urgency, social strains, and the effective employment of available hospital beds. Of recent years many have sought to appraise the place of hospital treatment in an integrated health service. Dr. Winslow,² of the World Health

¹ Gardner, F., and Witts, L. J. 'Length of Stay in Hospital', *Lancet*, 1946, ii. 392.

² Winslow, C. E. A. *The Cost of Sickness and the Price of Health*. World Health Organization, Geneva, 1951.

Organization, wrote that the proper integration of hospital and clinic services with provision for home care, and with the public health programme as a whole, is of vital importance. Professor Mackintosh¹ urged that in-patient care should be co-ordinated with clinic and domiciliary care and that hospitals should become health centres in the full sense of the term. Sir James Ross² has pointed out that hospitals have a double part to play; they are for specialized work in the widest sense but, equally, 'they should be community-minded in spite of the pull of specialism; helping and indeed serving the general practitioner or the Medical Officer of Health'. Sir Allen Daley³ writes that it is more important than ever before to ensure that hospitals 'are used to the best advantage, that they play their part in the preventive services, and supply the "needs" of the other two branches of the Service'.

The need for integration of this kind is obvious enough, though it has not been very much in evidence, even since the advent of the new health service. Lack of effective integration of health and social services can be disastrous for the welfare of the patient.

It is doubtful whether results substantially better than those presented in this report can be obtained with things as they are. Nor would mere multiplication of costly hospital beds within any reasonably practicable limits of itself effect great improvement; without more help in the transition from hospital to everyday life, without decent living conditions and reasonably suitable work to which the patient can return on leaving hospital, even the most careful and enlightened treatment is not likely to achieve a full measure of lasting benefit. It is important to preserve all that is best in our hospital tradition; but equally it is important to try to view hospital care in a true perspective.

¹ Mackintosh, J. M., quoted by Winslow, *supra*.

² Ross, J. S. *The National Health Service in Britain*. Oxford University Press, 1952.

³ Daley, Sir Allen. 'The Place of the Hospital in a National Health Service', *Brit. med. J.*, 1953, ii. 243.

APPENDIX 1

A more detailed classification of the diagnosis made in hospital

Number of cases included in original study at time patient left hospital

INFECTIVE DISEASES		43
Pyo-pneumothorax		1
Pulmonary tuberculosis		11
Tuberculous pericarditis		1
Tuberculous peritonitis		2
Miliary tuberculosis		1
Encysted pleural effusion		2
Syphilis		14
Secondary syphilis	2	
Aortitis	7	
Tabes dorsalis	2	
Cerebro-spinal syphilis	3	
Salmonellosis		1
Abortus fever		1
Amoebiasis		1
Abortive poliomyelitis		1
Infective hepatitis		4
Infective mononucleosis		2
Malaria (Benign tertian)		1
 NEOPLASMS		 47
Carcinoma		41
of Cerebrum	4	
Stomach	9	
Colon	2	
Lung	22	
Carcinomatosis	4	
Lymphadenoma		2
Lymphosarcoma		1
Leukaemia		3
 ENDOCRINE AND ALLERGIC DISEASES		 55
Bronchial asthma		8
Other allergic diseases		3

Pituitary obesity	1
Thyrotoxicosis	2
Diabetes mellitus	36
Addison's disease	1
Scurvy	1
Protein deficiency oedema	1
Osteomalacia	1
Sprue syndrome	1
DISEASES OF THE BLOOD	23
Pernicious anaemia	12
Iron deficiency anaemia	4
Apalastic anaemia	1
Haemosiderosis	1
Polycythaemia	2
Splenic anaemia	3
PSYCHONEUROTIC CONDITIONS	26
Anxiety state	7
Hysteria	5
Cardiac neurosis	2
Psychoneurosis	3
Alcoholism	8
Senile dementia	1
DISEASES OF THE NERVOUS SYSTEM	40
Subarachnoid haemorrhage	1
Cerebral thrombosis	11
Hypertensive encephalopathy	1
Otitis media with meningitis	1
Otitis media with cerebral thrombophlebitis	1
Acute encephalomyelitis	1
Disseminated sclerosis	12
Parkinsonism	1
Hemiplegia	1
Epilepsy	6
Migraine	1
Friedreich's ataxia	1
Amyotrophic lateral sclerosis	1
Pseudo-bulbar palsy	1
DISEASES OF THE EAR	4
Labyrinthitis and Menière's disease	4

DISEASES OF THE CARDIO-VASCULAR SYSTEM	175
Rheumatic fever	3
Rheumatic carditis	4
Rheumatic valvular disease	16
Arteriosclerosis	9
Coronary artery thrombosis	59
Angina pectoris	6
Myocarditis	5
Subacute bacterial endocarditis	4
Heart block	2
Cardiac asthma	1
Paroxysmal auricular fibrillation	5
Ventricular failure	5
Congestive heart failure	3
Essential hypertension	23
Malignant hypertension	4
Atheroma	4
Postural hypotension	1
Aortic aneurysm	1
Intermittent claudication	10
Arterial embolism	1
Thrombophlebitis	3
Pulmonary embolism	5
Hereditary haemorrhagic telangiectasis	1
DISEASES OF THE RESPIRATORY SYSTEM	95
Influenza	1
Lobar pneumonia	20
Bronchopneumonia	10
Virus pneumonia	1
Pneumonia (unspecified)	8
Acute bronchitis	5
Chronic bronchitis and emphysema	24
Ludwig's angina	1
Empyema	2
Pleural effusion	4
Spontaneous pneumothorax	3
Lung abscess	1
Silicosis	2
Bronchiectasis	7
Emphysema	4
Pulmonary fibrosis	2

DISEASES OF THE DIGESTIVE SYSTEM	117
Gastric ulcer	6
Duodenal ulcer	80
Peptic ulcer (site not stated)	13
Gastritis: duodenitis	4
Dyspepsia	5
Cardio spasm	1
Ulcerative colitis	2
Lienteric diarrhoea	1
Acute hepatitis	1
Cirrhosis of liver	2
Biliary calculus	1
Jejuno-colic fistula	1
DISEASES OF THE GENITO-URINARY SYSTEM	18
Acute nephritis	3
Chronic nephritis	8
Pyelonephritis	3
Perinephric abscess	1
Renal calculus	1
Prostatitis	2
DISEASES OF THE SKIN	3
Cellulitis	2
Stevens-Johnson syndrome	1
DISEASES OF BONES, JOINTS, AND MUSCLES	9
Rheumatoid arthritis	4
Polyarthrits	1
Ankylosing spondylitis	1
Herniation of nucleus pulposus	2
Myopathy	1
CONGENITAL MALFORMATIONS	5
Patent ductus arteriosus	2
Auricular septal defect	2
Polycystic kidneys	1
ILL-DEFINED CONDITIONS	23
Indeterminate	19
(8 of these 19 were associated with an un- explained melaena or haematemesis)	

Malingering	1
'No abnormality discovered'	3
INJURIES AND POISONING	26
Fractures	5
(of vertebrae 2; of ribs 3)	
Strained muscle	2
Poisoning:	17
from Lysol	1
Barbiturates	6
Aspirin	1
Chlorine	2
Bromide	1
Coal gas	2
Morphine	1
Camphorated oil	1
Iron	1
Arsenic	1
Immersion	1
Syringe hepatitis	1

APPENDIX 2

Some information about the 474 men seen in their own homes, 2 years after leaving hospital, showing separately those treated in teaching (192) and non-teaching hospitals (282)

1. Age (at time of admission to hospital).

	<i>Under 25 years</i>	<i>25-44</i>	<i>45-64</i>	<i>65+</i>	
Teaching	12.5	20.3	50.5	16.7	= 100.0
Non-teaching	11.7	32.3	43.6	12.4	= 100.0
Both	12.0	27.4	46.5	14.1	= 100.0

2. Nature of occupation before admission to hospital of those in employment at time of admission.

	<i>Non- manual</i>	<i>Manual skilled</i>	<i>Manual semi- skilled</i>	<i>Manual unskilled</i>	
Teaching	27.8	29.9	11.8	30.5	= 100.0
Non-teaching	21.5	31.6	12.5	34.4	= 100.0
Both	24.0	30.9	12.2	32.9	= 100.0

3. Further in-patient treatment received in course of the 2 years since leaving hospital.

	<i>None</i>	<i>One spell</i>	<i>Two spells</i>	<i>Three or more spells</i>	
Teaching	73.5	17.2	6.2	3.1	= 100.0
Non-teaching	72.3	17.4	7.8	2.5	= 100.0
Both	72.8	17.3	7.2	2.7	= 100.0

4. Spells of in-patient treatment in the course of 7 years—5 years preceding the admission to hospital on which this study was based and 2 years since leaving hospital.

	<i>One spell</i>	<i>Two spells</i>	<i>Three or more spells</i>	
Teaching	48.9	19.3	31.8	= 100.0
Non-teaching	54.6	25.2	20.2	= 100.0
Both	52.3	22.8	24.9	= 100.0

5. Nature of job 2 years after leaving hospital.

	<i>Non-manual</i>	<i>Manual skilled</i>	<i>Manual semi-skilled</i>	<i>Manual unskilled</i>	<i>Given up work</i>	
Teaching . . .	28.2	13.5	6.8	18.7	32.8	= 100.0
Non-teaching .	24.8	16.7	10.6	24.5	23.4	= 100.0
Both	26.2	15.4	9.1	22.1	27.2	= 100.0

6. Suitability of job 2 years after leaving hospital of those actually in employment then.

	<i>Job suitable</i>	<i>Job unsuitable</i>	
Teaching . . .	78.2	21.8	= 100.0
Non-teaching .	82.2	17.8	= 100.0
Both	80.8	19.2	= 100.0

7. Months worked in course of 2 years since leaving hospital.

	<i>No work</i>	<i>Less than one year</i>	<i>12-17 months</i>	<i>18 months or more</i>	
Teaching . . .	30.2	9.4	10.9	49.5	= 100.0
Non-teaching .	17.1	11.4	10.0	61.5	= 100.0
Both	22.4	10.6	10.3	56.7	= 100.0

8. Estimated fitness for work 2 years after leaving hospital.

	<i>Fit for pre-admission-to-hospital work</i>	<i>Not fit for old work, but fit for other work</i>	<i>Not fit for work under ordinary industrial conditions</i>	
Teaching . . .	45.3	27.6	27.1	= 100.0
Non-teaching .	59.9	22.7	17.4	= 100.0
Both	54.0	24.7	21.3	= 100.0

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