We are indebted to the members of the consultant staff of the hospital under whose care the casualties were admitted and to those others who treated them for their permission to publish this article. We are particularly grateful to Messrs. M. A. Bedford, R. J. McNab Jones, and D. Winstock, who advised us on the details and management of the injuries peculiar to their respective specialties.

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Hospital Topics

Analysis of Services Available for Total Joint Replacement Surgery

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Summary

The use of total joint replacement surgery has been growing in a manner which is poorly understood. This growth is more likely to be limited by saturation of the available medical services than by a limit to the number of people who could benefit from the treatment. Present indications are that services will be saturated in 1974 or 1975, after which 4600 extra people a year will go on to the waiting lists if demand continues as at present. Stability can then be achieved by either raising the clinical criteria for surgical treatment or making about 300 extra orthopaedic beds available each year, buffered from the demands of acute trauma admissions.

Introduction

After the introduction of any new form of treatment there are inevitably questions as to whether the treatment is clearing a backlog of disease or whether the scale of treatment is expanding to satisfy demand. There is no truly objective measure of the factors controlling the rapid growth in the use of total joint replacements, but the current limits to the growth of total joint replacement surgery can be identified. All the figures quoted here are taken directly or derived from four widely available source documents[1-4] and relate only to England.

Work Load Statistics

In 1972 there were 393 000 admissions to orthopaedic and traumatic beds. The ratio of acute to elective, or "hot" to "cold," orthopaedic beds is nowhere published, but the rate at which people pass through the orthopaedic waiting lists and become by definition non-acute admissions can be estimated. In 1972 there were 137 000 non-acute orthopaedic admissions and 23 000 people were admitted for arthroplasties of all sorts, this being the most detailed division of operational codings on the waiting list data tables. Thus, in 1972 non-acute admissions were 35% of all orthopaedic and traumatic admissions and arthroplasties represented 6% of all such admissions. These figures begin to emphasize the dominance of acute, traumatic admissions.

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Since the determinants of actual service load are given more by bed occupancy than by crude numbers of admissions it is necessary to know the total number of beds available and the mean lengths of stay for different categories of patient. There was an average occupancy of 80% for the 20 000 traumatic and orthopaedic beds available in 1973, and the mean length of stay for all traumatic and orthopaedic admissions was 15 days. For non-acute admissions the average length of stay was 17 days, and for all arthroplasties, 70% of which were total hip replacements, the figure went up to 29 days—almost twice the average for all admissions.

Hence, 2 330 000 bed-days were used for non-acute orthopaedics, and 670 000 bed-days were used for arthroplasties. That is, 29% of all elective orthopaedic beds were occupied by patients undergoing total hip replacements. This last estimate agrees well with spot samples of orthopaedic practices.

Trends

A careful estimate based on a variety of sources showed that the number of total joint replacements increased by about 40% from 1972 to 1974—a rate of 18% a year. The actual figure will not be known until 1976, when the *Report on Hospital Inpatient Enquiry for 1974* is published. The number of orthopaedic and traumatic beds available actually fell during the year up to 31 December 1973, though the fall was not large and the general pattern is for the number of beds to remain steady at around 20 000. Combining these figures with those given previously a forecast for 1975 can be made. Total joint replacements could represent 23% of all non-acute orthopaedic admissions and such patients could occupy 40% of all elective orthopaedic beds. If these forecasts are not fulfilled then the medical services for joint replacement surgery will already have become saturated, and many would say that this is certainly the case.

The only types of orthopaedic bed which are buffered from the priority requirements of acute admissions are those in specialist hospitals and private wards. The number of total joint replacements performed privately is unknown since these are not included in the inpatient inquiry report. Almost all further increases in the number of total joint replacements will have to occur in specialist orthopaedic hospitals and private beds.

The current waiting list of 12 000 for total joint replacements could increase by about 40% a year once service saturation is reached, probably within the next year. This is the amount by which, by all indications, the number of suitable candidates will initially exceed the number of admissions. In 1973 total joint replacements already had the longest median waiting time—16 weeks—of any operative procedure, including tonsillectomy.

Overcoming the Problem

The 138 000 extra bed-days needed each year from the time when the present service becomes saturated until the time when the medical need is satisfied could be accommodated by the construction of one 300-bed specialist orthopaedic hospital each year. Alternatively, the average age of the waiting list will increase until mortality rates account for the excess. More probably, the disability criteria for performing total joint replacements will be raised to artificially high levels to prevent the creation of a flood of suitable candidates.

Two further studies are urgently needed. Firstly, an epidemiological survey should begin to identify the population suffering from degenerative and inflammatory joint diseases which are treatable with total joint replacements. Secondly, this population should be examined in terms of the social and medical burden which the disability creates. The provision of adequate services for total joint replacement surgery is probably the most effective means of dealing with the problem.

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Letter from . . . Dublin

Consultants in Ireland: Time for Decision

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As Britain's National Health Service passes into its 27th year and faces problems which threaten to destroy it the medical profession and, doubtless, the Department of Health in Ireland watch its malaise with concern and interest. Not by any means the least interested are the consultants, who, like their British colleagues, are studying contract options for the future, and many of whom with first-hand experience of working conditions in Britain's N.H.S. would not wish to see it duplicated in this island. Therefore the ultimate consultant contract in Ireland will probably differ substantially from that negotiated by British consultants.

Ireland's Health Service

Though consultants on both sides of the Irish Sea are concerned for their future and are seeking better conditions of service and remuneration the similarity ends there. To begin with, Ireland does not have a comprehensive health service but rather provides a free hospital service for 92% of the population—that is, those whose annual income is under £2250. The remainder pay privately for hospitalization and treatment, mostly through the Voluntary Health Insurance (V.H.I.) Board, a statutory, non-profit organization. In addition 10% of those eligible for free hospital treatment choose to insure privately with the V.H.I., thus giving that organization a total membership of 500 000 subscribers who contribute about £6 million annually.

There is also the general practitioner service, or General Medical Services (G.M.S.), for which only 35% of the population is eligible subject to a rigid means test. Those not covered by the G.M.S. scheme pay for general practitioner attention privately or insure themselves through the V.H.I.

There are roughly speaking three types of consultant in Ireland. Firstly, there are those—the majority—who are employed in voluntary hospitals. They are paid a salary calculated according to bed occupancy (the "pool" system)——£0·69 per day per public inpatient in a general teaching hospital and £0·49 in a general non-teaching hospital—and by sessional payments of £16·45 per three-hour session and pro rata, giving annual salaries of from about £1500 to £6000 according to the commitment, those at the upper end of the scale often being attached to as many as three hospitals. The voluntary hospital consultants depend greatly on private practice, and the above relatively low scales of pay were introduced in 1955 to compensate them for the loss of private practice earnings due to their "honorary" hospital work. They provide their own cover for superannuation and sick leave.

Secondly, there are the consultants employed in area health board hospitals. They are paid a salary of £6845 a year, with provision for superannuation and sick leave, and are allowed a limited amount of private practice. A minority are whole-time consultants with an annual salary which varies somewhat but is about £7500.

Thirdly, there are some consultants without a public hospital appointment who depend solely on private practice and the facilities available in private hospitals, of which there are a number in the major cities. Their incomes vary considerably and, of course, their superannuation and sick leave is not provided for.

Irish consultants will therefore negotiate from a position of partial contract or in most cases no contract, whereas their British colleagues are trying to improve a contract which has existed for many years.

Political Considerations

Both Ireland's Minister of Health and Britain's Secretary of State for Social Services are members of a labour party, Mrs. Barbara Castle belonging to a party which is alone in power whereas Mr. Brendan Corish's party is in coalition with the more conservative Fine Gael party. Both parties to this coalition, though differing on details of administration and finance, are committed to introducing a national health service which would provide free hospital treatment for the whole population,

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