

Medical Manpower

Changing workload in ophthalmology: some observations from routine statistics

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Abstract

Children with squints and old people with cataracts account for most of the work of ophthalmologists. Recent demographic changes have led to fewer children and more elderly patients needing treatment. So far the increased workload has been met by shortening the time patients spend in hospital, but with striking variations between districts.

Introduction

Most of the patients treated by ophthalmologists are at the extremes of life—childhood and old age (fig 1). The specialty

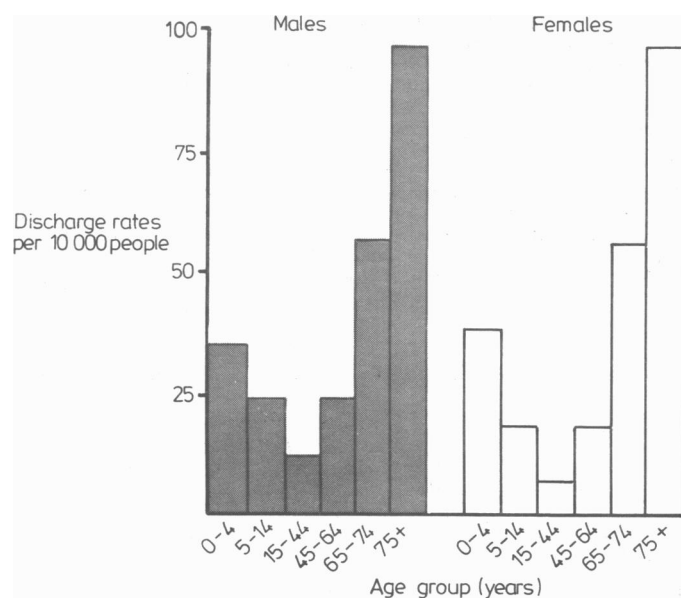


FIG 1—Discharge rates per 10 000 population in each age group in England and Wales in 1978.

is, therefore, susceptible to the effects of demographic changes in these age ranges, and in particular to changes in the birth rate and the recent increase in the size of the elderly population. We have looked at the effects of recent demographic changes on workloads in ophthalmology nationally and in greater detail in four districts in the Oxford region.

Methods

National figures for ophthalmology were obtained from the national one-in-ten sample, the Hospital In-Patient Enquiry, covering the years 1968 to 1978 (1978 is the latest year for which national figures were available). Hospital episodes are conventionally counted as "discharges from and deaths in hospital" but, for simplicity, are referred to in this paper as discharges.

Figures for the Oxford region were obtained from Hospital Activity Analysis. Since 1975 information in this region about day cases, including diagnostic data, has been available from four of the six districts which provide ophthalmology services. We have studied the data from these four districts, which cover a population of 1 489 000. The reliability of HAA data was checked against SH3 returns (which are an independent count of numbers of cases): in the four districts in the years 1975-81, 25 874 cases were recorded in Hospital Activity Analysis data compared with 26 065 cases in SH3 (99.3% agreement). A random sample of 175 cases coded in Hospital Activity Analysis data as operations for squint or cataract were checked back to case notes. The diagnoses and operations were coded correctly in all but two cases.

Results

In *England and Wales* in 1978 children under 15 years of age accounted for 22% of all discharges in ophthalmology, a higher percentage than that seen in any specialty except paediatrics, ear, nose, and throat surgery, and plastic surgery (table I). People over 65 accounted for 43% of all discharges, a higher percentage than that seen in any specialty except geriatrics.

Overall, the number and rate of discharges in ophthalmology remained almost constant during the years 1968-78. Within these

TABLE 1—Discharges in selected specialties in England and Wales in 1978 by age group

	Total No of discharges	Percentage of discharges in each age group (years)			
		<15	15-64	65-74	≥75
General medicine	796 450	1.5	60.1	22.6	15.8
Geriatrics	240 640	0.0	2.2	23.5	74.3
General surgery	977 360	14.7	58.5	15.8	11.0
Ear, nose, and throat surgery	237 210	46.7	44.2	6.0	3.1
Trauma and orthopaedics	445 300	17.7	57.3	11.4	13.6
Gynaecology	506 980	4.0	90.6	3.8	1.6
Plastic surgery	41 070	32.3	53.9	8.6	5.2
Ophthalmology	120 290	22.2	35.1	21.4	21.3

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figures there were, however, some striking trends. The total number of children under 5 fell by 29%, from 4 155 700 in 1968 to 2 956 600 in 1978; the number of discharges in ophthalmology for children in this age group fell by 35%, from 16 075 in 1968 to 10 430 in 1978; and the age specific rate of discharge declined by 7%, from 38.0 to 35.3 discharges per 10 000 children (fig 2). During the same period the number of people aged 65 years and over in the population rose by 18%, from 6 135 900 to 7 241 100; the number of discharges in ophthalmology in this age group rose by 26%, from 40 750 to 51 390, and the age specific rate of discharge rose by 7% from 66.4 to 71.0 discharges per 10 000 people aged 65 years and over (fig 2).

The local effects of demographic change vary from place to place according to changes in the size and composition of the local population. *The Oxford region* has an expanding population and the number of children has fallen less there than elsewhere in the country. In the four districts for which complete HAA data were available on both inpatients and day cases the total number of hospital episodes rose overall by 18% between 1975 and 1981, from 3243 to 3831 cases, with no commensurate increase in the number of beds used. The increased workload was accompanied by a fall in lengths of

stay in all districts (from an average for the four districts of 5.7 days in 1975 to 4.2 days in 1981) and, in one district in particular, by a shift towards day surgery, notably for cataract operations.

From 1975 to 1981 operations on cataract and squint together accounted for half of all admissions for ophthalmology in the four districts (cataract 30.7%, squint 20.3%). The data on durations of stay for these two operations were therefore considered in more detail. Durations of stay for cataract varied strikingly between the four districts (table II) but they shortened in each district between 1975 and 1981. In 1975 the median durations of stay were 13 days in district 1, seven in district 2, four in district 3, and nine in district 4. In 1981 they were eight days in district 1, six in district 2, none in district 3, and five in district 4. In district 3 the number of operations undertaken as day cases rose from none in 1975 to 213 out of 215 (99%) in 1981. By the end of the study period median durations of stay varied less strikingly between the districts for squint than for cataract (table III): they ranged from one to four days in 1975 and from none to two days in 1981.

Discussion

Departments of ophthalmology are substantially concerned with the care of children and the elderly. During the 1970s the decline in the number of children and the rise in the number of elderly people in the population resulted in little net change nationally in the number of discharges in ophthalmology although it resulted in a strikingly altered work profile. The national decline in the birth rate now seems to have halted and, in the most recent years, the birth rate has risen. The number of elderly people in the population will rise for some years to come. The present elderly population represents the survivors of large "birth cohorts" from the early years of this century. As these cohorts grow older, the number of people aged 65-74 years is expected to rise by about 9%, and the number of people aged 75 years and over by about 30%, by 1990.

In the four districts studied in the Oxford region, the number of patients treated in hospital by departments of ophthalmology rose by 18% over seven years. This rise has been accommodated largely by a decline in durations of stay. There is, however, some striking variation between the districts, indicating a need to evaluate the relative merits in clinical, social, and economic terms of different durations of stay including the use of day care.

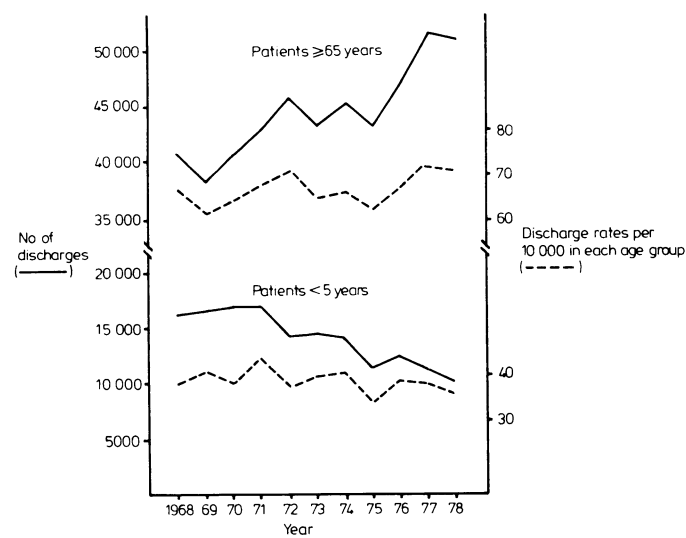


FIG 2—Number and rate of discharges in ophthalmology in England and Wales from 1968 to 1978.

TABLE II—Median duration of stay (days) for patients having operations on cataract, percentage of those as day cases, and mean annual number of operations in each of four districts in the years 1975-81

	District 1		District 2		District 3		District 4	
	Median duration of stay (days)	% Day cases	Median duration of stay (days)	% Day cases	Median duration of stay (days)	% Day cases	Median duration of stay (days)	% Day cases
1975	13	0.0	7	1.9	4	0.0	9	0.7
1976	12	0.0	7	1.4	3	9.1	8	1.4
1977	10	0.0	7	0.7	2	41.0	7	2.4
1978	9	0.0	6	3.4	0	50.0	7	2.3
1979	9	0.4	7	0.6	0	81.6	6	1.4
1980	9	2.2	6	0.9	0	95.6	6	1.1
1981	8	1.1	6	0.6	0	99.1	5	1.1
Mean annual No of operations	254		310		154		416	

TABLE III—Median duration of stay (days) for patients having operation on squint, percentage of those as day cases, and mean annual number of operations in each of four districts in the years 1975-81

	District 1		District 2		District 3		District 4	
	Median duration of stay (days)	% Day cases	Median duration of stay (days)	% Day cases	Median duration of stay (days)	% Day cases	Median duration of stay (days)	% Day cases
1975	4	2.7	2	1.7	1	47.2	2	9.7
1976	3	0.3	2	2.1	0	62.2	2	10.9
1977	2	0.0	2	2.0	0	88.0	2	8.5
1978	2	1.2	2	2.6	0	94.9	2	9.3
1979	2	2.4	2	1.4	0	96.7	2	16.9
1980	2	1.3	2	0.8	0	96.5	2	10.8
1981	2	0.7	2	0.7	0	89.8	2	9.6
Mean annual No of operations	170		256		66		259	