A SURVEY OF MENTAL HOSPITALS AND MENTAL DEFICIENCY INSTITUTIONS IN THE BIRMINGHAM REGION

II. MENTAL DEFICIENCY INSTITUTIONS

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1. INTRODUCTION

The necessity of providing adequate care for mental defectives undoubtedly ranks amongst the most urgent problems confronting the hospital services. It has much in common with that of appropriate provision for the chronic-aged and the insane, but, whereas such patients present problems of humane hotel-keeping in institutions already deemed to be hospitals before the Act, the mental defective colony became a "hospital" by the mere circumstance of allocation to a Regional Hospital Board.

As a preliminary to an examination of the problem in the Birmingham Region, it is pertinent to consider the disposal of an individual with low I.Q. in general terms. The mental defective, as Tredgold (1947) points out, represents a band at one end of a spectrum of teachability extending from the expected university entrant, the bulk of pupils attending grammar schools and secondary modern schools, those attending or resident in special schools or occupation centres for the educationally sub-normal, and those resident in mental defective institutions. Provision is also made for dull and backward children with I.Q.s in the range 80-85 (roughly) by means of special classes in ordinary schools. We are here concerned with individuals with I.Q.s below 70, viz: the feeble-minded individual of I.Q. between 50 and 69, the imbecile of I.Q. between 20 and 49, and the idiot of I.Q. less than 20.

Our problem at this stage is, if possible, to establish a criterion for assessing whether or not an individual requires admission to an institution. We may first recall the point made by Penrose (1949):

... The cases requiring care and supervision in a hospital, which supplies nursing and training facilities, are those which have the most urgent claims for admission. The idiots need attention on account of their helplessness and the feeble-minded need supervision on account of their propensities for maladjustment in the community. Between these classes is a group, mainly composed of imbeciles, who are too low grade to be problems in the community and yet are

capable of looking after themselves to some extent in the sheltered environments of their own homes, the homes of foster parents or guardians, public assistance institutions, or general hospitals.

The elaborate and sometimes illogical methods by which patients reach training schools and institutions tend to prevent the inmates from forming a homogeneous group. A few cases are placed privately and, for some, training is provided under charities; most of these cases are severely affected. Those placed in residential special schools, under the Education Acts, are mild cases of intellectual defect, as are also those who come under supervision by reason of court proceedings under the Children Act or other Acts or in consequence of their infringement of criminal law. The most usual method of placing, however, *i.e.* through magistrate's order under the Mental Deficiency Acts, is used for all grades and types. From the point of view of practical administration these alternative methods of procedure are useful, although, in a biological analysis of the phenomena of defect, they are disturbing factors which merely add to the natural difficulties of investigation...

If we accept this review of the situation, it is apparent that only those individuals classified as idiots would be referred for admission if I.Q. were the sole criterion for admission. As regards individuals of higher I.Q., the special schools and occupation centres remain as alternatives to admission to the mental defective institution. An examination has been made to ascertain the range of I.Q. of individuals attending these schools and centres. Table I gives the results of analysing children attending the special schools in Birmingham with respect to sex, age, and I.Q. It will be noted that the special school caters for a range extending to an I.Q. as low as 40, even if we ignore the few cases with I.Q.s of less than this value. In fact the bulk of these children (70 per cent.) have I.Q.s within the range corresponding to the feeble-minded class.

A similar analysis of 61 children attending occupation centres revealed that a large proportion (62 per cent.) were untestable, and of the remainder 50 per cent. had I.Q.s of less than 40, 32 per cent. had

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TABLE I

ANALYSIS OF CHILDREN ATTENDING OR RESIDENT IN SPECIAL SCHOOLS BY AGE, SEX, AND INTELLIGENCE QUOTIENT

Age Group (yrs)	Sex	Intelligence Quotient							Totals
		Under 40	40-49	50-59	60-69	70-79	80 and over	Untestable	
Under 5	M	—	—	1	—	1	—	—	2
	F	—	—	—	—	—	—	—	—
5-9	M	—	11	37	46	43	3	3	143
	F	—	9	35	37	12	—	4	97
10-15	M	1	6	85	235	167	9	4	507
	F	—	8	86	157	60	2	2	315
All Ages	M	1	17	123	281	211	12	7	652
	F	—	17	121	194	72	2	6	412

I.Q.s of between 40 and 49, and only 18 per cent. had I.Q.s of 50 and over.

These findings endorse the view implicit in Penrose's statement that individuals who may be classed as feeble-minded persons or imbeciles do not require institutional care solely on account of low intelligence. The possibility of establishing a medical criterion relevant to whether a child will go to a special school, occupation centre, or mental deficiency institution also invites preliminary consideration; Table II shows the results of an analysis of children attending or resident in the first two. A diversity of medical conditions associated with mental defect is there apparent; and it is clear from these findings that the presence of one or other does not in itself constitute a sufficient reason for admission to a colony. We must therefore conclude that the disposal of an individual with low I.Q. depends primarily on social status, facilities for home care, and locality. In other words, we must

TABLE II

ANALYSIS OF CHILDREN ATTENDING OR RESIDENT IN SPECIAL SCHOOLS AND OCCUPATION CENTRES BY DIAGNOSIS

Diagnostic Category	Special Schools		Occupation Centres*	
	No.	Per cent. of all Cases	No.	Per cent. of all Cases
Organic Disorders of C.N.S. . .	19	1.8	6	9.8
Epilepsy	22	2.1	7	11.5
"Fits"—unspecified	30	2.8	5	8.2
Congenital Malformations . .	20	1.9	9	14.8
Mongolism	9	0.8	11	18.0
Microcephalus	11	1.0	6	9.8
Hydrocephalus	4	0.4	1	1.6
Cretinism	4	0.4	—	—

* Only those cases attending for the first time in a recent six-monthly period were surveyed.

recognize at the outset that the status of the colony within the framework of the regional hospital set-up derives its sanction from legal and social considerations which have little to do with medicine.

2. AIMS OF THE SURVEY

An indication of the present demand for beds in the mental deficiency institutions of the Birmingham Region is given by the waiting list figures. At the end of 1953, 608 individuals were awaiting admission and of these 34 per cent. were classed by the Local Health Authorities as *most urgent* and 36 per cent. as *urgent*; moreover, 64 per cent. were under 16 years of age. In addition, it is estimated that 580 mental defective patients resident in the mental hospitals of the Region could be transferred to the mental deficiency institutions if accommodation were available. That the demand has increased in recent years is evident from the fact that only 520 cases were on the waiting list at the end of 1950 as compared with 608 at the end of 1953.

In view of the increasing demand for beds, the large number of patients involved, the degree of overcrowding, and apparent shortages of many types of staff, it has been desirable to examine the type of patient at present being cared for in the mental deficiency institutions of the region. As for a previous survey of the mental hospitals, information was obtained from forms designed for completion at site. The immediate aims of the present survey include:

- a classification of types of patient in each so-called ward in terms of certain well-defined criteria;
- a review of the disposition of nursing and domestic staff ward by ward, and of accommodation available;
- a review of medical and various other types of staff employed;
- a review of patients on full licence.

Analyses of the results are given in Sections 3-5 below and their implications are discussed in Section 6. Mention has elsewhere been made of mental defectives resident in mental hospitals; and defectives are also accommodated in other hospitals not designated as mental deficiency institutions. Unfortunately, the time at the writer's disposal did not permit of a survey of wards at these hospitals, but the proportion of such beds is only 7 per cent. of the total number of beds allocated to mental defectives in the Region. Furthermore, at the time of the survey one of the nine institutions in the Region had only recently been opened, and for this reason was not surveyed; at the time only seventy patients were in residence there. Any error resulting from exclusion of patients in these hospitals is trivial.

3. ACCOMMODATION AVAILABLE FOR MENTAL DEFECTIVE PATIENTS IN THE BIRMINGHAM REGION

The Wood Committee (1929) estimated that there were 32 mental defectives per 10,000 in the rural areas and 22 per 10,000 in the urban districts who needed institutional care. For this Region, which has a population of 4,444,000, it is therefore estimated that about 10,500 beds are required. Actually there are nine colonies providing 5,029 beds, and in addition 394 beds are set apart for mental defectives in other hospitals, so that accommodation is provided at the rate of 1,220 beds per million population. The national rate is 1,250 beds per million population, which the Board of Control regards as seriously inadequate.

Whereas the mental defective institutions as a whole are less seriously overcrowded than the mental hospitals (Cross, 1954), the position varies considerably from colony to colony and indeed from ward to ward in the same colony. Since a total overcrowding figure for a given institution is misleading, Table III has been prepared to show the numbers of wards overcrowded at night within certain ranges of overcrowding; male, female, and mixed (mostly children's) wards are considered separately.

Male Wards—All the wards are overcrowded at each of five hospitals and at three of them the

position is serious. The relatively large number of wards overcrowded by more than 30 per cent. at St Margaret's is particularly noticeable. Almost two-thirds of the wards in the Region are overcrowded, and almost half the total number of wards are overcrowded by 20 per cent. or more.

Female Wards.—The picture here is less disturbing, in that only 43 per cent. of the total number of wards are overcrowded and only 14 per cent. are overcrowded by 20 per cent. or more. At only two hospitals are all the wards overcrowded.

Mixed Wards.—These are small in number and on the whole are overcrowded to about the same degree as the female wards.

Consideration of the ward returns for adult wards reveals the interesting fact that wards with low grade patients (see classification of wards in Section 4) are overcrowded to a greater degree than medium grade wards, and that the latter are overcrowded to a greater degree than the high grade wards.

4. ANALYSIS OF PATIENTS IN RESIDENCE

We may now proceed to examine data referable to the patients resident in the mental deficiency institutions of the Region at the time of the survey. Relevant information was obtained ward by ward and summarized by hospital for males and females

TABLE III
SLEEPING ACCOMMODATION FOR MENTAL DEFECTIVE PATIENTS IN THE BIRMINGHAM REGION

Wards	Name of Hospital	Statutory Accommodation	No. of Patients	Per cent. Overcrowding	No. of Wards Open	No. of Wards Overcrowded	No. of Wards Overcrowded				
							0-1-4-9 Per cent.	5-9-9 Per cent.	10-19-9 Per cent.	20-29-9 Per cent.	30 Per cent. and over
Male	Stallington Hall ..	230	222	—	4	—	—	—	—	—	—
	St. Margaret's ..	581	747	28-6	12	12	1	1	—	3	7
	Monyhull Hall ..	409	393	—	7	1	1	—	—	—	—
	Middlefield Hall ..	271	245	—	5	—	—	—	—	—	—
	Coleshill Hall ..	174	241	38-5	3	3	—	—	—	—	3
	Weston Colony ..	58	66	13-8	1	1	—	—	1	—	—
	Marston Green ..	240	307	27-9	6	6	—	—	1	4	1
	Lea Colony ..	44	52	18-2	2	2	—	1	—	1	—
	Totals ..	2,007	2,273	13-3	40	25	2	2	2	8	11
Female	Stallington Hall ..	170	180	5-9	3	3	1	1	—	—	—
	St. Margaret's ..	662	629	—	12	3	—	—	2	1	—
	Monyhull Hall ..	472	442	—	9	—	—	—	—	—	—
	Coleshill Hall ..	194	208	7-2	3	3	1	1	—	—	—
	Weston Colony ..	130	143	10-0	2	1	—	—	—	1	—
	Marston Green ..	195	213	9-2	4	3	—	—	—	3	—
	Lea Colony ..	88	91	3-4	4	3	3	—	—	—	—
	Totals ..	1,911	1,906	—	37	16	5	2	4	5	—
Mixed	Stallington Hall ..	124	105	—	3	1	1	—	—	—	—
	St. Margaret's ..	27	33	22-2	1	1	—	—	—	1	—
	Monyhull Hall ..	62	44	—	2	—	—	—	—	—	—
	Marston Green ..	132	129	—	3	—	—	—	—	—	—
	Lea Colony ..	64	75	17-2	3	3	—	1	1	—	1
	Totals ..	409	386	—	12	5	1	1	1	1	1

TABLE IV

PERCENTAGE AGE DISTRIBUTION OF PATIENTS IN RESIDENCE AND OF POPULATION OF BIRMINGHAM REGION

Age Group (years)	Male			Female		
	Population	Mental Defectives	M.D.s per 10,000 pop.	Population	Mental Defectives	M.D.s per 10,000 pop.
0-4	9.3	0.9	1.1	8.7	0.8	0.8
5-9	8.2	4.7	6.3	7.8	3.9	4.7
10-14	7.4	7.5	11.1	6.6	6.6	9.3
15-19	6.4	12.1	21.0	6.2	8.6	13.0
20-24	7.0	13.9	21.9	7.0	9.9	13.4
25-34	15.9	24.5	17.1	15.0	21.2	13.2
35-49	23.2	26.6	12.7	22.1	30.4	12.9
50-64	14.8	8.7	6.6	16.1	16.0	9.3
65 and over	7.8	1.1	1.5	10.5	2.6	2.4
Totals ..	100.0	100.0 (2,440)	11.2	100.0	100.0 (2,125)	9.4

separately. In what follows a regional summary is given for each of a number of items together with the range of inter-hospital variation where appropriate.

Age Distribution.—The percentage distribution for each sex is shown in Table IV together with that of the general population. It will be noted that 13.1 per cent. of the males and 11.3 per cent. of the females are under 15 years of age, and that the proportion of males is greater than that of females for each age group specified up to and including the 25-34 age group. The converse is true for the older age groups and the difference for the 50-64 group is most spectacular. Table IV also shows the numbers of mental defectives per 10,000 population in each age group, and, whereas there is no sizeable difference between the overall rates for males and females, there are large differences between the

sexes for the three central age groups specified. The male rates for groups 15-19 and 20-24 exceed the corresponding female rates by 60 per cent., and the male rate for the group 25-34 exceeds the female rate by almost 30 per cent.

Degree of Mental Deficiency.—This is shown in Table V for each sex separately with the percentages of children and adults by age and grade. There is close agreement between the distributions by grade for male and female children respectively; slightly more than one-fifth are idiots and a relatively small proportion (10.8 per cent.) are high-grade. Of the adults, 47 per cent. are classified as feeble-minded, the proportion of females exceeding that of males; almost exactly half of all the adults are classed as imbeciles and only 3 per cent. are idiots.

These results relate to patients in residence; patients on full licence are considered separately on p. 167. For

TABLE V

PERCENTAGE OF ALL CHILDREN, AND ALL ADULTS, BY AGE, SEX, AND GRADE

(Total numbers shown in brackets)

Age Group (years)		Male				Female				Totals			
		a	b	c	Total	a	b	c	Total	a	b	c	Total
Children	0-4	—	3.8	3.2	7.0	—	5.4	1.3	6.7	—	4.5	2.4	6.9
	5-9	1.6	26.7	7.6	35.9	0.4	22.7	11.8	34.9	1.1	25.0	9.3	35.4
	10-14	9.8	36.5	10.8	57.1	9.7	40.8	7.9	58.4	9.8	38.3	9.6	57.7
	Totals ..	11.4 (37)	67.0 (216)	21.6 (70)	100.0 (323)	10.1 (25)	68.9 (167)	21.0 (50)	100.0 (242)	10.8 (62)	67.8 (383)	21.3 (120)	100.0 (565)
Adults	15-19	4.9	7.9	1.1	13.9	4.5	4.6	0.6	9.7	4.8	6.3	0.8	11.9
	20-24	7.3	7.9	0.8	16.0	5.6	5.0	0.6	11.2	6.5	6.5	0.7	13.7
	25-34	13.8	13.5	0.9	28.2	11.7	11.3	0.8	23.9	12.8	12.5	0.9	26.2
	35-49	13.5	16.5	0.6	30.6	16.5	17.4	0.4	34.2	14.9	16.9	0.5	32.3
	50-64	4.6	5.5	—	10.1	9.7	8.1	0.2	18.0	7.0	6.7	0.1	13.8
	65 and over	0.5	0.7	—	1.2	1.9	1.1	—	3.0	1.1	1.0	—	2.1
	Totals ..	44.6 (944)	52.0 (1,101)	3.4 (72)	100.0 (2,117)	49.9 (940)	47.5 (894)	2.6 (49)	100.0 (1,883)	47.1 (1,884)	49.9 (1,995)	3.0 (121)	100.0 (4,000)
Grand Totals ..		40.2 (981)	54.0 (1,317)	5.8 (142)	100.0 (2,440)	45.4 (965)	49.9 (1,061)	4.7 (99)	100.0 (2,125)	42.6 (1,946)	52.1 (2,387)	5.3 (241)	100.0 (4,565)

a = feeble-minded

b = imbecile

c = idiot

this reason these findings are not comparable to those given by O'Connor and Tizard (1954) in their survey of a sample of patients in twelve mental deficiency institutions. When adults on full licence are included with the above the proportions of all adults classed as feeble-minded, imbecile, and idiot become 50, 47, and 3 per cent. respectively; O'Connor and Tizard obtained proportions of 58, 39, and 3 per cent.

Mobility and Incontinence.—A regional survey of mobility and incontinence yields the following information. The number of bed-ridden patients in the adult wards is very small, and the proportion of such cases is only 1 per cent. of all patients in these wards. The corresponding proportion for children is 11 per cent., and such patients make considerable demands upon the nursing strengths of institutions.

Habitual incontinence also presents a great problem in the children's wards, where 61 per cent. of the patients have this condition. The range of inter-hospital variation about the regional average is 51·6 per cent. to 77·5 per cent. In the male adult wards 18 per cent. are incontinent, the corresponding proportion for the female adult wards being 12 per cent.

Diagnostic Classification.—The numbers of patients falling into certain important diagnostic categories were also recorded in the ward returns for each institution here considered. These categories are specified in Table VI, which gives the results of a regional summary of the ward returns. The diagnoses here recorded are those commonly associated with mental deficiency and which require skilled nursing care and medical supervision. As one and the same patient may occur under two or more of these headings the numbers for the various categories are not additive.

It must be mentioned that the provision for tuberculous patients differs considerably from institution to institution. At some the patients are segregated in a separate ward, at others they are accommodated in side rooms of the hospital block and at others they are transferred to a sanatorium as soon as possible. Thus the numbers in residence at a particular institution depend on the provision made, and the proportions at the various institutions vary accordingly. Of the tuberculous patients given in the Table, seventy adult males and 35 adult females are at one institution which has a special block on the male side and one on the female side.

Organic disorders of the central nervous system occur in a significantly larger proportion of male adults than in female adults, and in almost twice as

TABLE VI
DIAGNOSTIC CLASSIFICATION

Diagnostic Category	Adults				Children	
	Males		Females			
	No.	Per cent. of Total	No.	Per cent. of Total	No.	Per cent. of Total
Organic Disorders of C.N.S.	234	11·1	131	7·4	134	21·2
Tuberculosis (notified)	94	4·5	43	2·4	3	0·5
Epilepsy (patients on register)	286	13·6	257	14·4	166	26·2
Cardiovascular Disorders	57	2·7	75	4·2	4	2·8
Psychosis	90	4·3	39	2·2	18	0·6

many children as in the male adults. Almost equal proportions of male and female adults are on the epileptic registers and the proportion of epileptic children exceeds the adult proportion in the ratio of two to one. A significantly larger proportion of female adults were found to be suffering from disorders of the cardiovascular system than males, the corresponding proportion of children being almost exactly the same as for male adults. Finally, the proportions of patients with psychotic tendencies are given under each heading, the proportion for male adults being almost twice as great as for female adults; the number of children diagnosed as such is, as would be expected, very small.

Employment of Patients in Residence.—The numbers of patients employed on different types of work are, of course, partially dependent upon the facilities available. At one colony suitable patients may go out on daily licence to local farms and gardens, whereas at another they will work within the grounds of the institution. Table VII gives a regional summary of patients over school age by place of employment for males and females separately.

TABLE VII
PERCENTAGE DISTRIBUTIONS BY PLACE OF EMPLOYMENT

Place of Employment	Males	Females
On daily licence	6·9	8·2
Employed on wards	24·5	25·2
Employed elsewhere in hospital	45·0	41·1
Unemployed	20·1	22·7
Sick	3·2	1·8
On leave	0·3	1·0
Total	100·0	100·0

For the reason given above it is perhaps more appropriate to consider those patients on daily licence with those employed in the hospital other than in the wards (51·9 per cent. of males and 49·3 per cent. of females). Broadly speaking therefore,

half the patients over school age are employed in some capacity outside the wards and one-quarter are employed on the wards; the remainder are either sick or unemployable. From a detailed analysis of patients by place of employment it is found that the most common occupations of the male patients are ward work, farm work, gardening, other work on the land, and labouring; those of the female patients are laundry work, sewing, and domestic work in the wards and in other parts of the hospital buildings.

Classification of Wards by Type of Patient.—It is instructive to examine the ward returns with a view to classifying the wards at each colony by type of patient against the background of various items considered above. The wards may be classified into three major groups: high grade, medium grade, and low grade. Adult male, adult female, and children's wards were considered separately in making this classification, as there are different levels of assessment for each of these groups. The wards falling into each group by this method were checked against the typing as given by individual institutions and a large measure of agreement was found.

The first group comprises wards housing ambulant patients, the large proportion of whom are classed as feeble-minded, and are employed for the most part outside the wards or are on daily licence. There are, of course, no idiots in these wards, and, with only very minor exceptions, no patients in these wards are habitually incontinent or have conditions which come under the diagnostic categories previously mentioned. The third group of wards is also easy to specify; here a large proportion of patients are classed as imbeciles and most of them include a number of idiots. The proportions not employed,

or employed only in own ward, are large, as are also the proportions of incontinent patients and bed-ridden patients. The second or intermediate group combines all which do not fall into the above dichotomy. The only wards excluded from this classification are the hospital blocks, which are small in number and size and do not merit further analysis. This classification will be used to review the availability of nursing staff at the time of the survey.

Patients on Full Licence.—At the time of the survey, there were 281 male and 255 female patients on full licence from these institutions; their distribution by sex, age, and grade is given in Table VIII for all institutions taken together; the distribution of children under 15 by grade is shown separately. Few children go out on full licence and the large majority of these were classed as imbeciles. Three-quarters of all adults were classed as feeble-minded, the remainder, with only six exceptions, as imbeciles; 70 per cent. of feeble-minded adults were aged between 25 and 50, as were 66 per cent. of adult imbeciles. Of all adults on full licence only 9.3 per cent. were over 50 years of age and the large majority (68.6 per cent.) were in the age group 25–49 inclusive. Whereas the distribution of all male adults by grade differs little from the corresponding female distribution, there are sizeable differences in respect of proportions for the same age group in the two distributions. The proportion of females aged 50 years and over far exceeds that of males and the same is true of the age group 35–49; the proportion of females aged 35 years and over is 58.3 per cent. as compared with 30.6 per cent. for males. The converse is of course true of the younger age groups, the difference in the age group 20–24 being particularly

TABLE VIII
PERCENTAGE DISTRIBUTION OF PATIENTS ON FULL LICENCE BY SEX, AGE, AND GRADE
(Total numbers shown in brackets)

Age Group (years)	Male				Female				Totals			
	<i>a</i>	<i>b</i>	<i>c</i>	Total	<i>a</i>	<i>b</i>	<i>c</i>	Total	<i>a</i>	<i>b</i>	<i>c</i>	Total
Under 15	— (—)	90.0 (9)	10.0 (1)	100.0 (10)	— (—)	76.9 (10)	23.1 (3)	100.0 (13)	— (—)	82.6 (19)	17.4 (4)	100.0 (23)
15–19	3.3	2.6	0.4	6.3	0.8	2.5	1.2	4.5	2.2	2.5	0.8	5.5
20–24	17.4	6.6	—	23.9	6.3	2.0	—	8.3	12.1	4.5	—	16.6
25–34	29.7	8.5	0.7	39.1	22.7	6.2	—	28.9	26.5	7.4	0.4	34.3
35–49	19.9	7.0	—	26.9	32.7	9.9	—	42.6	25.9	8.4	—	34.3
50 and over	3.3	0.4	—	3.7	14.0	1.7	—	15.7	8.3	1.0	—	9.3
Totals ..	73.8 (200)	25.1 (68)	1.1 (3)	100.0 (271)	76.5 (185)	22.3 (54)	1.2 (3)	100.0 (242)	75.0 (385)	23.8 (122)	1.2 (6)	100.0 (513)
Grand Totals	71.2 (200)	27.4 (77)	1.4 (4)	100.0 (281)	72.5 (185)	25.1 (64)	2.4 (6)	100.0 (255)	71.8 (385)	26.3 (141)	1.9 (10)	100.0 (536)

a = feeble-minded

b = imbecile

c = idiot

striking. These differences are also found when comparing the male and female age groups by grade: 61 per cent. of all feeble-minded females are aged 35 years and over, as compared with 31.5 per cent. of feeble-minded males; 51.8 per cent. of female imbeciles are aged 35 and over as compared with 29.4 per cent. of males.

We now consider the proportions of male and female patients who are on licence to certain licensees. Table IX shows striking differences between the two percentage distributions. Of all males, 72 per cent. are on licence to relatives or friends, as compared with 44 per cent. for females; only 5.3 per cent. of males are on licence to hospitals (not for medical treatment) as compared with 19 per cent. for females; also, the proportion of males on licence to an employer (excluding hospital authorities) is less than half the corresponding proportion of females. We may conclude, therefore, that although the proportion of males (79 per cent.) who receive a definite wage or salary exceeds the corresponding proportion of females (72 per cent.), employing authorities are more willing to accept responsibility for female mental defectives than for males. In fact, hospital authorities and private individuals employ females as domestic workers and at the same time accept responsibility for their supervision. On the other hand, the main source of employment of male mental defectives is labouring on farms, or in gardens, or factories, so that the males are not resident with their employers but travel to their place of employment each day. The responsibility for such patients falls therefore upon the relatives or friends with whom they reside.

TABLE IX
DISTRIBUTION OF PATIENTS ON FULL LICENCE BY
LICENSEE

On Licence to	Male		Female	
	No.	Per cent.	No.	Per cent.
Same Hospital (e.g. Matron) ..	4	1.4	17	6.8
Other Hospital or Institution*	11	3.9	31	12.2
Local Authority	14	5.0	—	—
Relative or Friend	203	72.2	113	44.2
Employer	48	17.1	93	36.4
Other†	1	0.4	1	0.4
Totals	281	100.0	255	100.0

* Except for purely medical treatment.

† Another hospital primarily for medical or surgical treatment.

These aspects of the employment of male and female mental defectives probably account for the differences mentioned above in the age distributions of males and females. Whereas domestic work is commonly undertaken by women in the older

age groups, labouring calls for a level of physical fitness more often found in the younger age groups. Moreover, there is a great demand for domestic workers at the present time both within the Hospital Service and by the general public; but the current demand for labourers is not so great.

5. STAFF

Medical Staff.—The following whole-time medically qualified members of the staff were employed in the Region at the end of 1953:

Seven Consultants,
Four S.H.M.O.s,
One Senior Registrar,
Two Registrars,
Four J.H.M.O.s (including two locums).

There were no medical staff of S.H.O. or H.O. grade. In addition to these, two general practitioners were employed on a part-time basis at one institution as clinical assistants. There are therefore 430 patients per consultant or S.H.M.O., and 260 patients per doctor in the Region as a whole. With the exception of one institution, the patient-doctor ratios at individual institutions lie close to the latter regional average. To complete the picture, one should add that there were in fact three vacancies on the J.H.M.O. grade, and two on the S.H.O. grade. It would therefore appear that requirements as indicated by the establishments laid down are satisfied in respect of senior medical staffs, but, as is true of the mental hospitals, there are difficulties of recruitment of junior medical staff.

Professional and Technical Staff.—Four types of staff under this heading are of interest to the survey:

Occupational therapists,
Psychiatric social workers,
Psychologists,
School teachers.

In all, six full-time occupational therapists were employed at the time of the survey (three of them at one institution and one at each of the three others) and a part-time occupational therapist was employed at a fifth for 32 hours per week. Only one institution had a psychiatric social worker, but one group (Monyhull and Middlefield Hall) had the services of two psychologists; no other institution employed a psychologist. Nine full-time teachers and school supervisors were employed (four at one institution, three at another, and two at a third), and a part-time school teacher was employed for 2 hours per week at two other institutions here considered.

Nursing Staff.—Table X (opposite) gives the nursing staffs employed on December 31, 1953, in the institutions here considered. In the Region as a whole, 274 full-time and two part-time male nurses

TABLE X
NURSING STAFF EMPLOYED ON DECEMBER 31, 1953

Sex of Staff	No. of Patients in Residence	Staff Employed (part-time staff shown in brackets)					No. of Patients per Trained Staff*	No. of Patients per Nurse*
		Trained	Student	Nursing Assistant	Other	Total		
Male	2,221	182	33	54 (2)	5	274 (2)	12.2	8.1
Female	2,354	127 (36)	46	98 (201)	13 (11)	284 (248)	16.2	5.8

* whole-time equivalents

are employed; of these 66 per cent. are already trained and 12 per cent. are students. Of the 284 female full-time nurses, 45 per cent. are trained and 16 per cent. are students; thus a greater reliance is placed on nursing assistants on the female side. The large proportion of part-time nursing assistants (81 per cent. of all the part-timers) is also striking. It should be mentioned, however, that 79 of these are employed at one institution (Lea Colony).

The ratios exhibited in Table X, whereby patients are related to trained nurses (or full-time equivalents), show that, in the Region as a whole, the male side is better staffed than the female. There is a greater inter-hospital variation for the female than for the male ratios; this is probably due to the varying degrees of availability of part-time female staff. When all nurses are considered, the female side is better staffed than the male, although again there is considerable variation between the hospitals.

However, an evaluation of total nursing staff to patients in residence is misleading for the following reasons:

- senior members of the nursing staff do not work in the wards;
- at any one time, a proportion of the staff is on annual leave or sick leave, or off duty;
- wards housing patients of differing grades have different nursing requirements;
- distinction should be made between day and night availability.

Thus an assessment of nursing staff available should be made on a ward basis. By recourse to the ward returns previously mentioned, an attempt has therefore been made to give a picture of nursing staff by ward on any one day or night; the grade of nursing staff, whether trained, student, or assistant, was also obtained.

Accordingly, we can review the availability of nursing staff against the three-fold classification of wards made in Section 4 above, thus taking into account the type of patient involved. A consolidation of the figures given for each ward by recourse to this classification provides patient-staff ratios at each hospital for male, female, and children's wards

respectively. These ratios vary from institution to institution within the same class, but the overall ratios for the Region as a whole give reliable estimates of the relative availability of staff (Table XI).

TABLE XI
CLASSIFICATION OF WARDS BY TYPE OF PATIENT AND AVAILABILITY OF NURSING STAFF

Time	Type of Patient	Grade of Ward			
		High	Medium	Low	All Grades
Day	Adult Males ..	27	25	24	25
	Adult Females ..	19	18	16	18
	Children ..	16	14	10	11
Night	Adult Males ..	63	63	64	63
	Adult Females ..	64	56	62	61
	Children ..	31	55	41	43

Each ratio depicts the average number of patients which is looked after by a nurse during the day and night respectively. It should be mentioned that at night a few wards do not have staff allocated to them but are patrolled at regular intervals by staff from other wards or by a small complement of relief staff. Furthermore, the ratios depicted for night duty are based on large numbers of patients and small numbers of staff and are liable to considerable variation.

It should also be mentioned that, in calculating the patient-staff ratios by day, the total number of patients on each ward has been used. On the high grade wards, in particular, a proportion of the patients will be out on daily licence; but as such patients are only outside the hospital for part of the day it was considered that more reliable results would be obtained by including them in the number of patients to be related to the nursing strength of each ward.

The disposition of staff by *day* is clearly defined. For each group of wards there is a greater availability of staff on the children's wards than on the adult wards, and a greater availability on the adult

female than on the adult male wards. As would be expected, the patient-staff ratios decrease from the high-grade to the low-grade wards, although such decreases are very slight for the adult wards. This may be due to the extra supervision of behaviour and the efforts at socialization required for the high-grade patients. As would be expected, the low-grade children's wards have more staff than any other type of ward.

The disposition of staff by night suggests that each type of adult ward is given the same degree of supervision by night. The staffing of the female adult wards at night is no better than that of the male adult wards, and this is probably due to the fact that the large number of female part-timers are not available at night. The children's wards of all grades are better staffed than the adult wards; broadly speaking there is a nurse on each ward at night.

A breakdown taking into account the grade of staff on each ward by day did not yield a wholly satisfactory outcome owing to the small numbers of staff involved when so classified. The adult male wards have on the whole a slightly better coverage of trained staff than the female wards; and the converse is true when other grades are considered. The children's wards have a greater availability of trained staff than the adult wards.

6. DISCUSSION

This survey brings into focus several aspects of the problem of appropriate provision of accommodation for mental defectives. Estimates of future requirements in terms of beds and staff within the existing legal framework must take stock of possible changes with reference to the incidence of mental deficiency in the general population. In view of the complex nature of the various issues involved, biological, environmental, and geographical, it is difficult to make any assessment of such changes. Availability of facilities for home-care is itself a decisive circumstance which we cannot forecast with confidence. An examination of current admission, discharge, and death rates in relation to the existing waiting lists provides all the available relevant information about legal bed requirements for the immediate future.

During 1953, a total of 542 patients were admitted to *all* mental deficiency institutions in this Region; 60 per cent. of these entries were new admissions and the remainder were re-entries for various reasons. A total of 428 patients were discharged or returned to licence and the total number of deaths in 1953 was 62, including sixteen deaths of children under 16. The total population resident in all institutions of the

Birmingham Region on December 31, 1953, was 4,810, including 718 children. The proportion of total entries during 1953 to the total resident population was therefore 11.2 per cent. and the proportion of removals from hospital to the resident population was 10.2 per cent. This implies a very small annual turnover of patients. The death rates for adults and children were 1.1 and 2.2 per cent. respectively. The number of new cases put on the waiting lists of Local Authorities in 1953 (372) exceeded the number of new admissions by 49. Unless discharge and death rates increase during the next few years, we may conclude that the Region will have to provide an additional 600 beds, if there is to be any appreciable reduction even in the existing waiting lists. There is nothing to show that these rates will increase; but there is good reason to assume that waiting lists will continue to increase in the future.

At the same time provision should be made for the transfer to a suitable institution of those non-psychotic mental defectives now accommodated in mental hospitals. This is desirable both from the point of view of the patients themselves and from that of the mental hospitals, which are seriously overcrowded and understaffed. To meet this demand, it is estimated that about 580 additional beds are requisite, and of these 45 are needed for children under 16 years of age. These additional requirements take no account of the present overcrowding in the mental deficiency institutions. The degree of overcrowding in individual wards has been ascertained and the results reveal a shortage of accommodation which is not always apparent, if reliance is placed upon one figure for the institution as a whole. If we assume that none of the patients can be transferred to other wards, either for clinical reasons or by virtue of their grading and/or behaviour, a further 430 additional beds are required, making a grand total of 1,610 beds, 470 of them for children under 16.

We now proceed to consider staff requirements of mental deficiency institutions with special reference to medical and nursing staff. Mention has already been made of the difficulties of recruitment of junior medical staff. That such difficulties exist is not surprising, since there are (as yet) no forms of treatment for mental defect. Consequently, the young clinician is unlikely to regard employment in institutions which offer such limited scope for his clinical interests as an attractive prospect.

Without dismissing the value of some medical supervision where neither treatment nor prevention is the end in view, the need for engaging larger medical staffs, if this were possible, or even of

retaining the present complement, calls for careful scrutiny *vis à vis* the present economic difficulties of the Hospital Service. It is undoubtedly true that the mental defective, whether living in an institution or elsewhere, needs life-long special care and supervision, but it is at least doubtful whether the medical requirements of 5,000 mental defectives in institutions justifies the expenditure of almost £35,000 per annum on the salaries of medical staffs alone.

We have seen that individuals suffering from epilepsy and those disorders of the central nervous system often associated with mental defect are to be found among the population of special schools and occupation centres. Presumably any complications arising from such conditions are the concern of the patient's general practitioner, often with a practice of over 2,000 people. The incidence of these conditions as disclosed by Table VI is doubtless higher among institutionalized mental defectives than in the general population; but, with the possible exception of children, they certainly do not constitute a problem of sufficient magnitude to merit a patient/doctor ratio of 260, *i.e.*, roughly ten times the medical coverage in the general population. Moreover, we have seen that 77 per cent. of the males and 70 per cent. of the females in residence are aged between 15 and 50 and morbidity rates for this age group are relatively very low. A sizeable financial saving would be made if medical supervision of the colonies became the responsibility of the medical superintendent in collaboration with local general practitioners; such considerations are perhaps worthy of closer examination than they have hitherto received.

Shortage of nursing staff in these institutions is a matter of great concern to Regional Boards; and it is very doubtful whether it would be possible to recruit sufficient nurses to staff the additional beds required even if such beds were available. In the Birmingham Region the number of full-time *male* nurses has remained almost constant since 1949, while the number of full-time *female* nurses has increased by 40 per cent. in the last 4 years, and the number of part-time female nurses has also increased by 40 per cent. However, these increases on the female side have been effected by the recruitment of larger numbers of nursing assistants; such individuals are ineligible for the posts of ward sister and their appointment offers no security for the future. The most serious aspect of the present staffing structure of the institutions is the falling recruitment and high

wastage rate of student nurses. This will inevitably create new staffing problems of the colonies in the immediate future. The number of male students in training has decreased by almost 60 per cent. from 79 in 1949 to 33 in 1953; the number of female students decreased by 40 per cent. from 79 in 1949 to 46 in 1953. In a survey of student nurse wastage (Cross and Hall, 1954) a rate of 80 per cent. was recorded for students in the Birmingham Region. Almost 30 per cent. of those leaving before completion of training did so for financial reasons, and a more realistic scale of salaries seems necessary to attract nursing staff, especially male staff, to the colonies. Other important facets of student nurse wastage are the hours of duty, the present syllabus of mental deficiency nurse training, and shortages of domestic staff.

An evaluation of future nursing staff requirements must also take into account the needs of the various classes of patient. The disposition of nurses at present employed has been analysed in Section 5 and a similar method could be adopted to assess the number of nurses of different grades which should be available by day and night. Requirements in terms of trained staff should be accurately assessed so that those available to institutions for the mentally defective are employed to the fullest advantage. It is not possible to assess statistically the requirements of staff, other than medical and nursing since the numbers needed at each institution depend upon many individual circumstances.

I should like to record my appreciation of the co-operation which I have received from the staffs of the mental deficiency institutions, in particular from the medical superintendents and nursing staffs who were concerned in the extraction of detailed information referable to the patients in residence. My thanks are also due to Dr. R. F. Wrighton, one-time Research Fellow in this Department, for his invaluable assistance in the collection of data, to Dr. H. M. Cohen for permission to examine the records of individuals attending or resident in the Birmingham schools for educationally sub-normal children and occupation centres, to Professor Lancelot Hogben, F.R.S., for his advice at all stages of this survey, and to Dr. M. Sim for many helpful suggestions.

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