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Admission rate analysis (Report for Bexley & Greenwich HA Strategic Services Review)

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ADMISSION RATE ANALYSIS

Prepared for Dr Allison Streetly and Glynis Markham
Bexley & Greenwich HA

By
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January 2001.

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ADMISSION RATE ANALYSIS

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Introduction

Seven geographical areas were selected for comparison. There were three health authorities (Barking & Havering, Bexley & Greenwich and Redbridge & Waltham Forest) and four local boroughs (Bexley, Greenwich, Lewisham and Dartford & Gravesham)

The data was from the HES database for two years (1997/98 and 1998/99) and was extracted for both admissions and finished consultant episodes (FCEs).

Four types of rates were produced crude, age-standardised, needs weighted and age & needs weighted. All rates are per thousand population.

Rates were produced for seven specialty groups – surgical, other surgical, medicine, paediatric medicine, other medicine, obstetrics & gynaecology, and mental health (see Appendix Table 1). There were also rates produced for two levels of grouping – Acute (total of first six specialty groups) and Acute & Mental total of all specialty groups.

Method

Crude Rates

The total number of FCEs or admissions was divided by the total population for the area and multiplied by 1000. For the obstetrics and gynaecology specialty group just the female population was used as the denominator (for populations see Appendix Tables 2.1 – 2.4)

Age-Standardised Rates

The crude rate was calculated for each of four age bands (0-15, 16-64, 65-74 and 75+). Then the population of each area was re-profiled to the European Standard Population (Appendix Table 3). The crude rate for each age band was then applied to this re-profiled population to create age-standardised numbers of FCEs or admissions. These were summed to produce a total number, which was divided by the newly age-standardised total population to produce a rate.

Needs Weighted Rates

The needs weighted populations were taken from Table 5.5 of the *NHS Executive 2000/01 Health Authority Revenue Cash Limits Exposition Book* CD-ROM. The populations used were weighted for Acute Needs and for Acute Psychiatric Needs. This data only occurs at health authority level therefore it had to re-distributed for the borough levels areas. The method of redistribution was to apply the proportion of a boroughs population to the needs weighted population. Therefore if a borough contained 60% of the health authority population then 60% of the needs weighted population was allocated to that borough (see Appendix Table 4 for weighted populations used.)

The rate was calculated in the same manner as the crude rate but using the needs weighted population rather than the original total population. (For the female only calculations the data was apportioned in the same manner as apportioning to boroughs.)

Data is presented for the total Acute & Mental Health grouping weighted by the Acute Needs Weight and also by the Acute Psychiatric Needs Weight – there is no joint Acute & Acute Psychiatry Weighting available.

The same weighted population data was used on both years. Previous years data were not available, and year-on-year variation in the weighted population is slight.

Age & Needs Weighted Rates

This was calculated in the same manner as the age-standardised rate. Instead of using the original population the needs weighted population was used, apportioned out into age bands according to the original population.

Comments on methodology

In a number of places the methodology was restricted by availability of data.

1. Most importantly, local authority needs weighted populations were not available. We had expected these to have been estimated by finance staff based on records of expenditure at LA level, but were unable to find staff in PCGs, finance or public health departments that could provide the figures. We also established that the figures were not on the DoH distributed Attribution Data Set CD, and that MHA had not used or created needs weighted populations for the boroughs. In the absence of these, we have had to make the unsatisfactory assumption that needs are even across HAs in order to estimate sub-HA population needs weighted populations.

2. There is no combined Acute and Acute Psychiatry weight on the Attribution Data Set CD. In our tables, rates for the combined acute and acute psychiatry workload are shown using both the weights separately. Given the proportionately larger volume of acute work and the more volatile effect of using the acute psychiatry weights, rates based on the acute weight will be the more accurate estimate.

3. To calculate rates, we used population estimates that were appropriate to the year of HES data being analysed. However, the needs weighted populations were from the Attribution Data Set CD (also called the NHS Executive 2000/01 Health Authority Revenue Cash Limits Exposition Book). Since year on year population changes are quite small, this minor mismatch in year is not considered to be a problem.

1997/98 HES Data - Admission FCE Rates for Bexley Greenwich and Comparators

Barking & Havering

	Admission Rates				FCE Rates			
Specialty Group	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	70.6	67.3	70.4	67.1	72.5	69.1	72.3	68.9
Other Surgery	5.9	5.7	5.8	5.7	6.7	6.5	6.6	6.4
Medicine	47.7	44.3	47.6	44.2	55.0	51.0	54.8	50.8
Paediatric medicine	10.1	10.5	10.1	10.4	10.5	10.8	10.4	10.8
Other Medicine	16.4	15.5	16.3	15.4	17.5	16.5	17.5	16.5
Obs & Gynae	66.8	68.6	66.6	68.4	67.7	69.5	67.5	69.2
Mental health	4.2	4.1	4.2	4.1	4.5	4.3	4.5	4.3
Acute	184.7	178.2	184.1	177.0	196.6	189.3	195.9	188.0
Acute & Mental[1]	189.0	182.3	188.4	181.0	201.1	193.6	200.5	192.3
Acute & Mental[2]	189.0	182.3	188.4	181.0	201.1	193.6	200.4	192.3

Bexley & Greenwich

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	63.2	62.7	63.8	63.3	64.9	64.3	65.5	65.0
Other Surgery	4.0	4.0	4.0	4.0	4.2	4.1	4.2	4.2
Medicine	36.4	36.1	36.8	36.5	44.9	44.5	45.4	45.0
Paediatric medicine	12.6	12.4	12.7	12.5	13.0	12.9	13.2	13.0
Other Medicine	21.5	21.3	21.7	21.5	22.3	22.1	22.6	22.3
Obs & Gynae	85.9	87.6	86.7	88.5	86.1	87.8	86.9	88.7
Mental health	3.4	3.4	3.1	3.1	3.5	3.5	3.2	3.2
Acute	181.6	181.3	183.4	182.4	193.4	193.0	195.3	194.2
Acute & Mental[1]	185.0	184.7	171.1	170.2	196.9	196.4	182.0	181.1
Acute & Mental[2]	185.0	184.7	186.8	185.9	196.9	196.4	198.8	197.7

[1] *Weighted by Acute Mental Needs*

[2] *Weighted by Acute Needs*

1997/98 HES Data - Admission FCE Rates for Bexley Greenwich and Comparators

Bexley

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	65.5	63.8	66.1	64.4	66.9	65.2	67.6	65.8
Other Surgery	4.0	4.0	4.1	4.0	4.2	4.2	4.3	4.2
Medicine	33.9	32.7	34.2	33.0	41.3	39.7	41.7	40.1
Paediatric medicine	10.3	10.7	10.4	10.8	10.6	10.9	10.7	11.0
Other Medicine	22.5	21.8	22.7	22.0	23.4	22.6	23.6	22.8
Obs & Gynae	85.2	86.2	86.0	87.1	85.5	86.5	86.3	87.4
Mental health	3.7	3.6	3.4	3.4	3.7	3.7	3.5	3.4
Acute	179.7	176.9	181.5	178.0	190.0	186.8	191.9	188.0
Acute & Mental[1]	183.5	180.6	169.6	166.4	193.7	190.5	179.1	175.5
Acute & Mental[2]	183.5	180.6	185.3	181.7	193.7	190.5	195.6	191.7

Greenwich

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	60.9	61.6	61.5	62.2	62.8	63.5	63.4	64.1
Other Surgery	3.9	3.9	4.0	3.9	4.1	4.1	4.2	4.1
Medicine	39.0	40.0	39.4	40.4	48.6	49.8	49.1	50.3
Paediatric medicine	14.8	14.0	15.0	14.1	15.5	14.6	15.7	14.8
Other Medicine	20.5	20.8	20.7	21.0	21.3	21.6	21.5	21.8
Obs & Gynae	86.6	89.1	87.4	89.9	86.7	89.2	87.6	90.1
Mental health	3.0	3.1	2.8	2.9	3.2	3.3	3.0	3.1
Acute	183.6	185.9	185.4	187.1	196.8	199.5	198.8	200.8
Acute & Mental[1]	186.6	189.0	172.5	174.2	200.1	202.8	185.0	186.9
Acute & Mental[2]	186.6	189.0	188.4	190.3	200.1	202.8	202.0	204.1

[1] *Weighted by Acute Mental Needs*

[2] *Weighted by Acute Needs*

1997/98 HES Data - Admission FCE Rates for Bexley Greenwich and Comparators

Redbridge & Waltham Forest

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	56.7	57.3	57.9	58.5	59.0	59.7	60.3	61.0
Other Surgery	4.5	4.5	4.6	4.6	5.0	5.0	5.1	5.1
Medicine	39.6	40.3	40.5	41.1	44.3	45.0	45.3	46.0
Paediatric medicine	13.1	13.0	13.4	13.3	13.9	13.8	14.2	14.1
Other Medicine	31.8	32.3	32.5	33.0	34.5	35.0	35.2	35.8
Obs & Gynae	68.0	69.0	69.4	70.4	68.6	69.6	70.0	71.1
Mental health	6.9	7.0	6.0	6.0	7.6	7.7	6.6	6.7
Acute	180.2	182.4	184.0	185.8	191.5	193.9	195.6	197.6
Acute & Mental[1]	187.1	189.4	161.9	163.5	199.2	201.6	172.3	174.1
Acute & Mental[2]	187.1	189.4	191.1	193.0	199.2	201.6	203.4	205.4

Dartford & Gravesham

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	55.9	55.1	59.3	58.4	58.0	57.2	61.4	60.5
Other Surgery	5.0	5.0	5.3	5.3	5.2	5.1	5.5	5.4
Medicine	34.0	33.7	36.0	35.7	48.9	48.6	51.8	51.5
Paediatric medicine	14.2	14.9	15.0	15.8	14.6	15.3	15.4	16.2
Other Medicine	12.5	12.3	13.3	13.1	12.9	12.6	13.6	13.4
Obs & Gynae	59.1	59.4	62.6	62.9	59.3	59.7	62.8	63.2
Mental health	0.6	0.6	0.7	0.7	0.6	0.6	0.7	0.7
Acute	151.6	151.1	160.5	159.4	169.5	169.0	179.6	178.4
Acute & Mental[1]	152.1	151.7	190.1	188.8	170.1	169.6	212.6	211.2
Acute & Mental[2]	152.1	151.7	161.1	160.0	170.1	169.6	180.2	179.0

[1] *Weighted by Acute Mental Needs*

[2] *Weighted by Acute Needs*

1997/98 HES Data - Admission FCE Rates for Bexley Greenwich and Comparators

Lewisham

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	52.6	54.3	46.5	48.0	54.4	56.2	48.1	49.7
Other Surgery	6.5	6.5	5.7	5.7	6.8	6.8	6.0	6.0
Medicine	35.1	37.1	31.0	32.8	39.5	41.9	34.9	37.0
Paediatric medicine	13.1	13.0	11.6	11.5	14.9	14.7	13.2	13.0
Other Medicine	25.8	26.5	22.8	23.4	26.6	27.4	23.6	24.2
Obs & Gynae	77.3	77.7	68.4	68.7	77.6	78.0	68.6	68.9
Mental health	3.7	3.7	2.3	2.3	4.0	4.0	2.4	2.4
Acute	173.1	177.6	153.1	156.6	182.3	187.3	161.2	165.2
Acute & Mental[1]	176.8	181.3	107.9	110.4	186.3	191.3	113.7	116.5
Acute & Mental[2]	176.8	181.3	156.3	159.9	186.3	191.3	164.7	168.7

[1] *Weighted by Acute Mental Needs*

[2] *Weighted by Acute Needs*

1998/99 HES Data - Admission FCE Rates for Bexley Greenwich and Comparators

Barking & Havering

	Admission Rates				FCE Rates			
Specialty Group	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	74.1	70.6	73.9	70.3	76.5	72.8	76.2	72.5
Other Surgery	5.9	5.8	5.9	5.7	6.5	6.3	6.5	6.3
Medicine	47.9	44.1	47.7	43.9	55.4	50.9	55.2	50.7
Paediatric medicine	10.3	10.6	10.2	10.6	10.8	11.1	10.7	11.1
Other Medicine	16.5	15.7	16.5	15.6	17.8	16.9	17.8	16.9
Obs & Gynae	66.5	68.3	66.3	68.0	67.1	68.9	66.9	68.7
Mental health	3.5	3.4	3.5	3.4	3.9	3.7	3.8	3.7
Acute	188.6	181.5	187.9	180.1	201.2	193.1	200.5	191.8
Acute & Mental[1]	192.1	184.9	191.5	183.5	205.1	196.9	204.4	195.5
Acute & Mental[2]	192.1	184.9	191.4	183.5	205.1	196.9	204.4	195.5

Bexley & Greenwich

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	66.5	66.1	67.5	67.1	68.3	67.9	69.3	68.9
Other Surgery	4.0	4.0	4.1	4.1	4.3	4.2	4.3	4.3
Medicine	36.0	35.7	36.5	36.2	44.6	44.3	45.2	44.9
Paediatric medicine	12.1	12.0	12.3	12.2	12.7	12.5	12.8	12.7
Other Medicine	24.4	24.3	24.8	24.6	25.3	25.1	25.7	25.5
Obs & Gynae	92.6	94.3	94.0	95.7	92.8	94.4	94.1	95.8
Mental health	4.7	4.7	4.3	4.3	4.9	4.9	4.5	4.5
Acute	190.4	190.3	193.2	192.5	202.5	202.3	205.5	204.7
Acute & Mental[1]	195.1	195.0	181.3	180.6	207.4	207.2	192.7	192.0
Acute & Mental[2]	195.1	195.0	181.3	180.6	207.4	207.2	210.5	209.6

[1] *Weighted by Acute Mental Needs*

[2] *Weighted by Acute Needs*

1998/99 HES Data - Admission FCE Rates for Bexley Greenwich and Comparators

Bexley

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	66.8	64.9	67.7	65.8	68.2	66.3	69.1	67.1
Other Surgery	4.1	4.1	4.2	4.1	4.4	4.3	4.4	4.4
Medicine	35.0	33.6	35.5	34.0	42.9	41.2	43.5	41.7
Paediatric medicine	10.4	10.8	10.6	11.0	10.8	11.2	10.9	11.3
Other Medicine	22.3	21.6	22.6	21.8	23.1	22.3	23.4	22.6
Obs & Gynae	89.0	90.0	90.1	91.1	89.1	90.1	90.2	91.2
Mental health	3.7	3.6	3.4	3.3	3.8	3.7	3.5	3.4
Acute	184.1	180.9	186.4	182.5	194.8	191.1	197.3	192.9
Acute & Mental[1]	187.8	184.4	174.1	170.5	198.6	194.8	184.1	180.1
Acute & Mental[2]	187.8	184.4	190.2	186.2	198.6	194.8	201.1	196.6

Greenwich

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	66.2	67.5	67.3	68.6	68.5	69.7	69.6	70.9
Other Surgery	4.0	4.0	4.0	4.0	4.2	4.2	4.2	4.2
Medicine	36.9	38.1	37.5	38.8	46.2	47.8	47.0	48.6
Paediatric medicine	13.8	13.1	14.1	13.3	14.6	13.8	14.8	14.0
Other Medicine	26.5	27.2	27.0	27.7	27.5	28.3	28.0	28.7
Obs & Gynae	96.3	98.8	97.9	100.4	96.5	98.9	98.1	100.6
Mental health	5.7	5.8	5.3	5.4	6.0	6.2	5.6	5.7
Acute	196.8	200.5	200.1	203.2	210.4	214.4	213.9	217.4
Acute & Mental[1]	202.5	206.2	188.5	191.4	216.4	220.6	201.5	204.8
Acute & Mental[2]	202.5	206.2	205.9	209.1	216.4	220.6	220.0	223.6

[1] *Weighted by Acute Mental Needs*

[2] *Weighted by Acute Needs*

1998/99 HES Data - Admission FCE Rates for Bexley Greenwich and Comparators

Redbridge & Waltham Forest

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	57.7	58.8	59.2	60.3	59.8	60.9	61.4	62.5
Other Surgery	4.6	4.6	4.7	4.8	5.2	5.2	5.3	5.4
Medicine	40.1	41.1	41.1	42.2	44.8	45.9	45.9	47.1
Paediatric medicine	13.4	13.2	13.7	13.6	14.2	14.1	14.6	14.4
Other Medicine	32.4	33.1	33.2	34.0	35.1	35.9	36.0	36.8
Obs & Gynae	70.0	71.1	71.8	73.0	70.6	71.7	72.4	73.6
Mental health	6.4	6.5	5.6	5.6	7.3	7.4	6.4	6.4
Acute	183.6	186.9	188.3	191.2	194.8	198.4	199.9	203.0
Acute & Mental[1]	190.0	193.3	165.2	167.7	202.2	205.8	175.7	178.5
Acute & Mental[2]	190.0	193.3	194.9	197.9	202.2	205.8	207.4	210.6

Dartford & Gravesham

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	59.2	58.3	63.1	62.1	61.2	60.2	65.2	64.2
Other Surgery	4.3	4.3	4.6	4.6	4.6	4.5	4.9	4.8
Medicine	35.5	35.1	37.9	37.3	54.1	53.5	57.6	57.0
Paediatric medicine	15.3	16.0	16.3	17.0	15.7	16.5	16.8	17.6
Other Medicine	10.5	10.2	11.2	10.9	10.8	10.5	11.5	11.2
Obs & Gynae	60.7	61.1	64.7	65.1	61.1	61.5	65.1	65.5
Mental health	0.6	0.6	0.8	0.8	0.6	0.6	0.8	0.8
Acute	155.6	154.8	165.8	164.3	177.4	176.4	188.9	187.3
Acute & Mental[1]	156.2	155.4	196.4	194.6	178.0	177.0	223.7	221.8
Acute & Mental[2]	156.2	155.4	166.4	164.9	178.0	177.0	189.6	188.0

[1] *Weighted by Acute Mental Needs*

[2] *Weighted by Acute Needs*

1998/99 HES Data - Admission FCE Rates for Bexley Greenwich and Comparators

Lewisham

	Admission Rates				FCE Rates			
	Crude	Age	Needs	Age&Needs	Crude	Age	Needs	Age&Needs
Surgery	60.0	62.3	53.6	55.7	62.2	64.6	55.5	57.7
Other Surgery	6.7	6.7	6.0	6.0	7.2	7.2	6.4	6.4
Medicine	35.3	37.7	31.5	33.7	38.4	41.1	34.2	36.7
Paediatric medicine	12.6	12.4	11.3	11.0	14.6	14.3	13.1	12.8
Other Medicine	25.8	26.7	23.0	23.9	26.6	27.5	23.7	24.6
Obs & Gynae	92.0	92.5	82.1	82.6	92.3	92.7	82.4	82.8
Mental health	3.7	3.7	2.3	2.3	4.4	4.5	2.7	2.8
Acute	187.9	193.7	167.7	172.6	196.6	202.8	175.5	180.7
Acute & Mental[1]	191.5	197.4	118.1	121.4	201.0	207.2	123.9	127.5
Acute & Mental[2]	191.5	197.4	171.0	175.9	201.0	207.2	179.5	184.7

[1] *Weighted by Acute Mental Needs*

[2] *Weighted by Acute Needs*