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Where next for overnight stay admissions, length of stay and bed days?

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The 'Money Matters' series is intended to be a pragmatic view of the forces regulating NHS activity and costs. This month's analysis is intended to give insight into that core of the hospital sector, the acute overnight stay bed pool. As you will be aware overnight bed numbers have substantially declined between 2002/03 and 2014/15 (-71% Learning Difficulty, -35% Mental Illness, -22% General & Acute, -16% Maternity), and zero day stay emergency admissions have increased to around 1.6 million 'admissions' per annum leading to significant corruption of the average length of stay (LOS), and creating the illusion that LOS is plummeting (thereby justifying the large reduction in overnight stay beds). However, the reality presented in Table 1 is somewhat sobering.

Table 1 is derived from Hospital Episode Statistics (HES) data available from the Health & Social Care Information Centre (HSCIC) website and includes both elective and non-elective admissions. Since 2013/14 the HES tabulation has included data covering zero day stay 'overnight' elective and emergency admissions, along with a count of other zero day stay admissions (mainly transfers between hospitals). Hence real LOS can be recalculated on a per Spell basis by excluding all types of zero day stay admissions. Zero day stay admissions were estimated for 2002/03 based on a previous HES data extract (Jones 2009).

As can be seen the shift to care in the community in Learning Difficulty & Mental Illness has only resulted in an 8% reduction in occupied bed days (as opposed to the 35%+ reduction in beds). Hence while admissions have reduced by 46%, the increase in bed days is largely due to a 72% increase in real LOS as the acuity of hospitalized patients has massively increased. Little wonder then that mental health beds regularly run at 100% occupancy with queues to admission (see Jones 2013a). However, the 16% reduction in maternity beds has been matched by an equal reduction in bed days, although real overnight stay LOS has slightly increased (due to increasing numbers of older women having children).

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As is also shown, it is the surgical group of specialties which almost exclusively accounts for over a 2 million bed day decrease (equivalent to 5,500 occupied beds), although real length of stay has remained almost unchanged. The reduction in bed days is due to the ongoing shift to day surgery, especially in ENT, Ophthalmology and Plastic Surgery leaving the more complex patients in the overnight stay group.

This is a common theme since overall real LOS has actually increased by 1% since 2002/03. The medical group has made a further 1 million bed day reduction (equivalent to 2,800 occupied beds) with trends within the group complicated by increasing sub-specialisation, however, it is the medical group which has seen the greatest overall reduction in real LOS by around 20% - offset by an 18% increase in admissions.

As discussed previously, overnight LOS is unlikely to continue to decrease at current rates since increasing average age, and associated multimorbidity, is placing upward pressure on average LOS (Jones 2013c, 2015a,b).

It is however very clear that if further reductions in beds are going to occur it is medical admissions which need to be tackled (Jones 2016b). As discussed previously the marginal changes in both medical admissions and occupied bed days are highly sensitive to the total number of deaths (Jones 2011a, 2012, 2013b, 2016a), due to escalating numbers of admissions in the last months of life. In other words, a significant proportion of these admissions are somewhat futile, and only delay death (often without any quality of life benefit) by several months at the most (Jones 2012). Some form of community care is a much needed alternative to the current (expensive) acute default. Hence the flurry of activity by NHS England to hasten the integration of primary and social care to replicate the success of Torbay and others in reducing both admissions, LOS and occupied bed days (Jones 2011b).

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Table 1: Zero day stay-free genuine overnight admissions, length of stay and bed days, England 2002/03 to 2014/15

Code	Name	ON admissions			Length of Stay				Bed Days		
		2002/03	2014/15	Change	2002/03	2013/14	2014/15	Change	2002/03	2014/15	Change
100	General Surgery	823,427	738,461	-10%	5.8	5.3	5.3	-8%	4,743,833	3,909,770	-18%
101	Urology	231,597	200,758	-13%	4.5	3.8	3.8	-14%	1,036,911	771,400	-26%
110	Trauma & Orthopaedics	596,827	565,241	-5%	7.5	6.3	6.3	-16%	4,491,535	3,567,121	-21%
120	Ear, Nose & Throat	234,197	135,294	-42%	1.9	2.3	2.4	21%	449,911	321,440	-29%
130	Ophthalmology	77,996	20,178	-74%	1.8	2.6	3.0	56%	141,647	61,131	-57%
150	Neurosurgery	45,698	64,206	41%	9.3	8.5	8.8	-7%	426,234	563,351	32%
160	Plastic Surgery	99,071	57,285	-42%	3.3	4.0	4.1	23%	326,896	233,835	-28%
170	Cardiothoracic Surgery	54,864	56,243	3%	10.2	10.1	10.1	-1%	560,543	567,794	1%
171	Paediatric Surgery	33,706	23,033	-32%	3.4	4.6	4.6	37%	113,465	106,909	-6%
	Surgical Group	2,197,382	1,860,699	-15%	5.6	5.4	5.4	-3%	12,290,975	10,102,751	-18%
180	Accident & Emergency	52,311	280,573	436%	1.6	1.2	1.3	-22%	88,529	355,364	301%
190	Anaesthetics	9,198	9,807	7%	12.9	11.1	12.2	-10%	121,840	119,765	-2%
300	General Medicine	1,368,900	1,309,640	-4%	7.9	6.3	6.3	-21%	10,899,664	8,205,504	-25%
301	Gastroenterology	66,714	131,667	97%	7.7	9.4	9.9	26%	517,477	1,309,023	153%
302	Endocrinology	9,354	54,326	481%	9.5	8.2	10.0	-4%	89,509	545,273	509%
305	Clinical Pharmacology	1,273	4,005	215%	5.9	7.0	5.9	10%	7,634	23,594	209%
313	Clinical Immunology	157	300	91%	17.5	14.6	15.2	-15%	3,227	4,548	41%
314	Rehabilitation	8,762	17,013	94%	52.3	45.5	40.9	-17%	458,208	695,766	52%
315	Palliative Medicine	8,045	5,448	-32%	13.6	20.2	20.7	50%	109,194	112,634	3%
320	Cardiology	168,384	192,465	14%	6.5	8.6	8.8	34%	1,088,934	1,688,860	55%
330	Dermatology	8,626	4,641	-46%	14.2	6.4	6.6	-54%	123,010	30,511	-75%
340	Respiratory Medicine	55,874	167,091	199%	9.1	10.1	10.5	13%	512,958	1,759,116	243%
350	Infectious Diseases	16,331	14,683	-10%	7.8	10.3	11.0	35%	127,634	160,967	26%
360	Genitourinary Medicine	905	380	-58%	16.7	21.3	21.6	29%	15,080	8,191	-46%
361	Nephrology	55,388	66,939	21%	8.9	7.7	8.7	-8%	494,877	580,484	17%
400	Neurology	34,987	36,685	5%	12.4	14.8	14.7	18%	435,671	537,968	23%
401	Clinical Neuro-physiology	72	441	517%	3.9	2.3	2.5	-39%	286	1,124	293%
410	Rheumatology	31,130	26,601	-15%	10.0	6.5	6.8	-34%	314,672	180,924	-43%
831	Medical Microbiology	38	604	1511%	9.6	7.0	6.0	-32%	457	3,643	697%
900	Community Medicine	1,162	886	-24%	20.5	29.1	31.5	47%	23,870	27,892	17%
950	Nursing episode	1,008	7,215	616%	11.4	19.1	19.9	72%	11,982	143,719	1099%
430	Geriatric Medicine	342,919	324,664	-5%	24.1	19.1	18.6	-22%	8,280,916	6,048,473	-27%
	Medical Group	2,241,534	2,656,074	18%	10.6	8.4	8.5	-20%	23,725,629	22,543,343	-5%
303	Clinical Haematology	50,886	45,453	-11%	8.0	12.3	12.7	57%	414,215	575,185	39%
823	Haematology	10,098	3,881	-62%	7.6	12.8	14.4	80%	77,666	55,984	-28%
810	Radiology	807	2,910	260%	2.5	2.5	3.1	10%	2,186	9,009	312%
370	Medical Oncology	51,335	33,166	-35%	5.3	6.8	7.4	34%	276,971	244,842	-12%
371	Nuclear Medicine	252	468	85%	3.1	1.8	2.0	-38%	773	915	18%
800	Clinical Oncology	64,525	44,539	-31%	6.2	6.9	7.2	14%	403,929	320,362	-21%
	Oncology & Haematology	177,904	130,417	-27%	6.5	8.9	9.2	39%	1,175,740	1,206,297	3%
420	Paediatrics	974,364	832,104	-15%	2.6	3.2	3.2	21%	2,577,283	2,684,465	4%

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421	Paediatric Neurology	4,986	4,935	-1%	6.1	7.3	6.6	14%	30,458	32,774	8%
	Paediatrics	979,349	837,039	-15%	2.7	3.2	3.2	22%	2,607,741	2,717,239	4%
501	Obstetrics	708,085	424,610	-40%	1.9	2.6	2.6	35%	1,365,032	1,121,844	-18%
502	Gynaecology	654,646	404,766	-38%	2.2	2.6	2.5	14%	1,468,911	1,020,224	-31%
560	Midwife episode	87,206	171,967	97%	1.5	1.6	1.9	21%	127,349	321,287	152%
	Obstetrics & Gynaecology	1,449,936	1,001,343	-31%	2.0	2.4	2.5	19%	2,961,292	2,463,355	-17%
700	Learning Disability	35,270	11,821	-66%	14.5	37.1	31.8	138%	511,447	376,226	-26%
710	Adult Mental Illness	132,138	84,716	-36%	36.7	50.2	46.8	32%	4,855,635	3,967,652	-18%
711	Child & Adolescent Psychiatry	1,897	3,166	67%	53.4	62.2	65.8	20%	101,277	208,427	106%
712	Forensic Psychiatry	1,375	1,956	42%	150.7	636.7	644.8	325%	207,098	1,261,253	509%
715	Old Age Psychiatry	46,630	16,540	-65%	48.2	87.4	88.7	83%	2,248,777	1,466,958	-35%
	LD & Mental Health	217,310	118,199	-46%	36.5	64.1	61.6	72%	7,924,234	7,280,516	-8%
140	Oral Surgery	53,321	22,383	-58%	2.3	2.8	2.9	27%	120,230	65,511	-46%
141	Restorative Dentistry	96	420	336%	1.7	3.0	7.5	204%	171	3,169	1753%
142	Paediatric Dentistry	1,161	272	-77%	0.9	3.1	3.8	273%	1,080	1,044	-3%
450	Dental Medicine	71	157	121%	0.7	2.5	4.9	417%	49	764	1459%
	Maxillofacial & Oral	54,650	23,232	-57%	2.2	2.8	3.0	31%	121,530	70,488	-42%
Total	All Specialties	7,442,483	6,744,628	-9%	7.0	7.1	7.1	1%	52,417,043	48,183,084	-8%