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Growth in NHS admissions and length of stay: a policy-based evidence fiasco

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Key Points

- Acute beds occupied at midnight in England have barely reduced over an 18-year period
- Genuine overnight stay admissions (excluding 0 day stay) are roughly static, however this underestimates real demand due to a rapidly growing inpatient waiting list
- Length of stay for 'real' overnight stay admissions is increasing ***not*** decreasing
- Same day stay admissions (excluding day case) are showing high growth especially in medicine
- Day case admissions in most specialties are showing high growth, except in the surgical group which has shown no growth since 2011/12, probably due to insufficient capacity
- Plans to reduce bed numbers in the Sustainability and Transformation Plans (STPs) are seriously flawed

Introduction

Over a 25-year career in NHS demand forecasting I have witnessed the Department of Health and similar bodies systematically wreck the NHS using policy-based evidence wielded in the name of efficiency (Beeknoo & Jones 2017, Jones 2017d). Over that time the NHS has poured billions down the throats of management consultants telling us how demand was going to go away and that we would need fewer beds (Jones 2009a, 2010a, 2011b). The following analysis is based on Hospital Episode Statistics (HES) data from NHS Digital and covers all admission types (elective, emergency and transfers).

Occupied Beds

Table 1 gives the naked truth; acute occupied beds at midnight have barely changed in 18 years! In fact, if the ballooning inpatient waiting list and escalating numbers of same day stay emergency 'overnight' admissions were factored into the figures, bed demand would have increased. This explains why acute midnight occupancy (which includes paediatric wards) hit a disgraceful 91.4% in the final quarter of 2016/17 (NHS England 2017). High occupancy is the source of every conceivable inefficiency and poor-quality issues (Beeknoo & Jones 2016a, Jones 2011a). Alice in Wonderland led by the mad Hatter was perfectly sane compared to this! Alice in Wonderland remains a timeless political satire.

Overnight stay admissions

Table 2 gives the growth in genuine overnight stay admissions (after removing same day stay emergency admissions) since 2013/14 (Jones 2016, 2017b). As can be seen the nominal growth is 0%, however, the escalating inpatient waiting list (Siddique 2017) implies that real demand for

overnight admissions and beds is higher than first appears. Indeed, it is only the surgical specialties which show apparent negative growth in Table 2, and 2013/14 levels of admissions are probably closer to the real demand.

Table 1: Change in midnight occupied beds over an 18-year period for English NHS hospitals

Specialty Group	1998/99	2016/17	Change
Medicine	62,009	63,806	1,797
Rehab & Palliative	1,157	2,394	1,237
A&E (Assessment)	201	943	742
Haematology	1,267	1,793	525
Paediatrics	8,201	8,517	316
Pain/Anaesthetics	269	357	88
Oncology	1,795	1,612	-183
Plastic Surgery	856	580	-277
Obstetrics	4,893	4,001	-892
Head & Neck	2,215	1,313	-902
Orthopaedic	11,459	9,844	-1,615
Surgical	22,373	17,931	-4,442
Total	**116,695**	**113,089**	**-3,605**

Source: Hospital Episode Statistics (HES) from NHS Digital.

Table 2: Change in genuine overnight stay patients in English NHS hospitals

Specialty	2013/14	2014/15	2015/16	2016/17	Slope p.a.	Growth % p.a.	Occupied Beds
Medicine	2,393,598	2,441,123	2,461,040	2,489,451	30,748	1%	63,806
Obstetrics	580,585	596,577	622,366	611,719	11,919	2%	4,001
Paediatrics	867,806	868,908	890,658	896,493	10,781	1%	8,517
A&E (Assessment)	248,930	280,573	283,349	273,060	7,517	3%	943
Rehab & Palliative	21,594	22,461	24,592	22,866	595	3%	2,394
Pain	9,163	9,807	9,591	9,711	143	1%	357
Haematology	49,453	49,334	48,164	49,303	-162	0%	1,793
Plastic Surgery	57,377	57,285	54,653	52,198	-1,817	-3%	580
Oncology	85,756	81,083	78,662	77,522	-2,712	-3%	1,612
Orthopaedic	567,982	565,241	555,464	559,558	-3,505	-1%	9,844
Head & Neck	200,098	192,761	185,126	182,562	-6,024	-3%	1,313
Surgical	1,513,473	1,464,434	1,427,028	1,413,849	-33,628	-2%	17,931
Total	**6,595,815**	**6,629,587**	**6,640,693**	**6,638,292**	**13,854**	**0%**	**113,089**

Same day stay 'overnight' admissions

The next piece of evidence for growing 'real' bed demand comes from Table 3 where the growth in same day stay 'overnight' admissions (excluding day case) since 2013/14 is documented. These same day stay admissions are counted as an 'overnight stay' but do not show up in the bed occupancy figures which are counted at midnight (Jones 2017b,c). Assuming these patients have an approximate 8 hours stay, there is a hidden demand for beds of somewhere around 2,600 beds (plus an adequate occupancy margin), which simply pushes up the day time occupancy for adult acute admissions to the 100% level which everyone experiences in practice.

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Real overnight stay LOS

Lastly Table 4 gives the change in the 'real' overnight stay length of stay since 2013/14 where it can be seen that real LOS is increasing in most specialties. Specialty groups showing no change in the real overnight LOS are Surgical group 4.64 ±0.02, Paediatrics 3.51 ±0.03; Rehabilitation and Palliative Care 37.1 ±1.6; Learning Difficulties 35.0 ±3.2; and Mental Illness 66.0 ± 1.6. While there has been an increase in delayed discharges due to reduced social care funding, the bulk of these will be in medicine where LOS is only showing a slight increase. Delayed discharges cannot explain the increasing LOS in any of the other specialties. The policy-based story around increasing efficiency is largely an urban myth – although this does not preclude innovative schemes to reduce LOS.

Table 3: Change in same day stay 'overnight' admissions in English NHS hospitals

Specialty	2013/14	2014/15	2015/16	2016/17	Slope p.a.	Growth % p.a.	Occupied Beds
Medicine	536,782	587,133	641,068	686,300	50,249	7%	658
A&E (Assessment)	326,429	363,284	374,756	387,540	19,481	5%	372
Paediatrics	425,241	436,128	453,955	461,783	12,745	3%	443
Obstetrics	404,300	407,391	422,593	417,265	5,410	1%	400
Surgical	448,013	455,725	446,478	460,127	2,710	1%	441
Oncology	35,712	53,672	48,771	41,352	1,202	3%	40
Haematology	22,706	36,115	31,280	28,247	1,179	4%	27
Rehab & Palliative	1,751	1,741	2,390	2,037	151	7%	2
Plastic Surgery	43,542	44,353	42,855	40,782	-978	-2%	39
Pain	5,469	7,649	2,447	3,418	-1,136	-33%	3
Head & Neck	67,355	68,245	60,056	64,673	-1,624	-3%	62
Orthopaedic	104,959	111,344	87,236	89,912	-6,925	-8%	86
Total	**2,422,259**	**2,572,780**	**2,613,885**	**2,683,436**	**82,464**	**3%**	**2,573**

Table 4: Change in 'real' overnight stay length of stay

Specialty Group	2013/14	2014/15	2015/16	2016/17	Change p.a.
Pain	11.1	12.2	12.9	13.4	6.2%
Oncology	6.7	7.1	7.5	7.6	4.2%
Haematology	12.4	12.8	13.4	13.3	2.5%
Head & Neck	2.4	2.6	2.6	2.6	2.5%
A&E	1.2	1.3	1.3	1.3	1.7%
Orthopaedic	6.3	6.3	6.3	6.4	0.7%
Obstetrics	2.3	2.4	2.4	2.4	0.5%
Medicine	9.2	9.4	9.3	9.4	0.4%
Plastic Surgery	4.0	4.1	4.1	4.1	0.2%

Indeed, this author been warning for many years that LOS was going to start rising due to continued extraction of less complex elective surgery into day surgery, and the natural increase in the 'healing time' in a generally older population and more precisely larger numbers of persons in their last year of life (Beeknoo & Jones 2016b, Jones 2009b, 2010b, 2015a-c, 2017a).

Day case activity

This growth in day case admissions is illustrated in Figure 1, with very high growth in anaesthetics/pain of 250% over 12 years. How much of this growth is HRG tariff driven counting drift remains a mystery? However, growth has been consistently high across all specialties except in the surgical group which has plateaued since 2011/12.

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In my experience surgical day case activity is directly proportional to dedicated day surgery capacity, and it should come as no surprise that acute day only beds have only risen by 5% (+612 beds since the final quarter of 2011/12 to the first quarter of 2017/18). Day surgery capacity for the surgical group should have been sufficient for 1.72 to 1.85-million procedures per annum in 2016/17 which is around 12% to 20% higher than the 2011/12 figure. Clearly someone has taken their eye off the ball for six years running! Or has the squeeze on capital funding created yet another capacity fiasco and giving additional fuel to the rise in the waiting list.

Conclusions

For 25-years everyone has had to play the Private Finance Initiative (PFI) game where the only answer was fewer beds (Jones 2009a, 2010a, 2011b). We now have the fewer beds but monumentally high occupancy and a rapidly escalating inpatient waiting list. The real overnight LOS continues to rise, and a lack of dedicated day surgery capacity has made the situation worse for the surgical group of specialties.

The NHS seems to have been shoved into the Whitehall policy-based evidence cul-de-sack, and then been blamed for lack of efficiency – and without any recourse for a public defence.

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Provenance: Dr Rodney Jones has over 25-years' experience in health care demand forecasting and capacity planning. He has published over 200 papers in this area including bed planning, limitations of the HRG tariff, and the financial risk in health care commissioning.

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Figure 1: Growth in 'day case' admissions in English NHS hospitals relative to 2004/05