

# Flexibility, hospital bed numbers, and sustainability and transformation plans

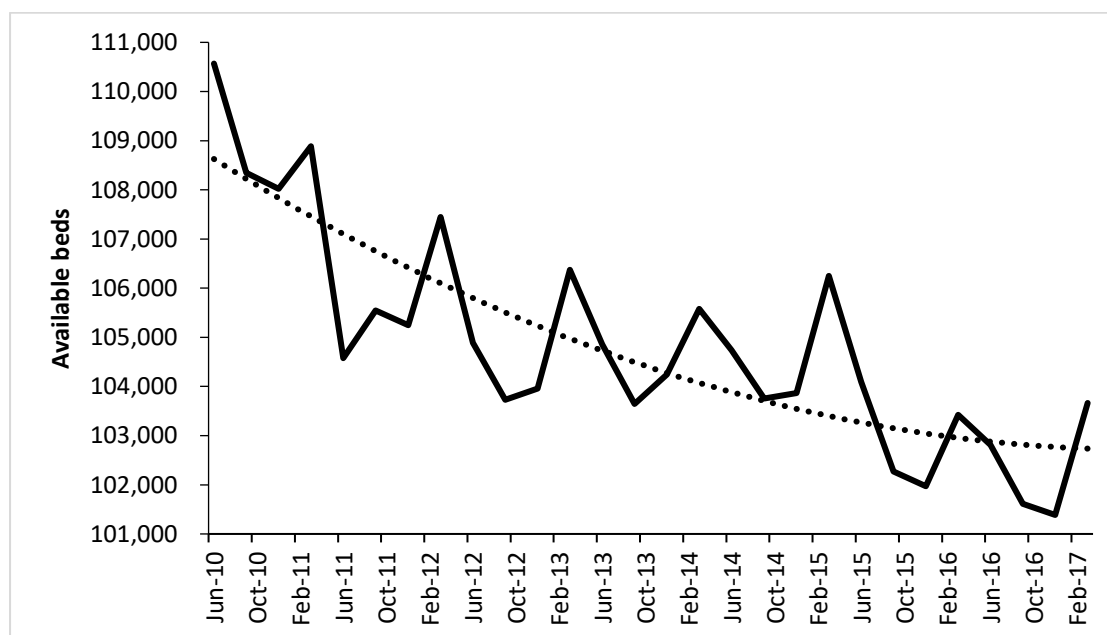
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The original can be obtained from [www.bjhcm.co.uk](http://www.bjhcm.co.uk) using an NHS Athens login.

The number of acute beds in England have been falling for many years (NHS England 2017). Extrapolation of the trend between 9187/88 to 1993/94 would indicate that there should have been no acute beds needed by 2020/21. As can be seen in Figure 1 the trend downward appears to have reached an asymptote, implying that closing beds may become far more difficult in the future.

**Figure 1: Available overnight general and acute beds in England**



*Footnote: Data is from Beds available overnight from NHS England (NHS England 2017)*

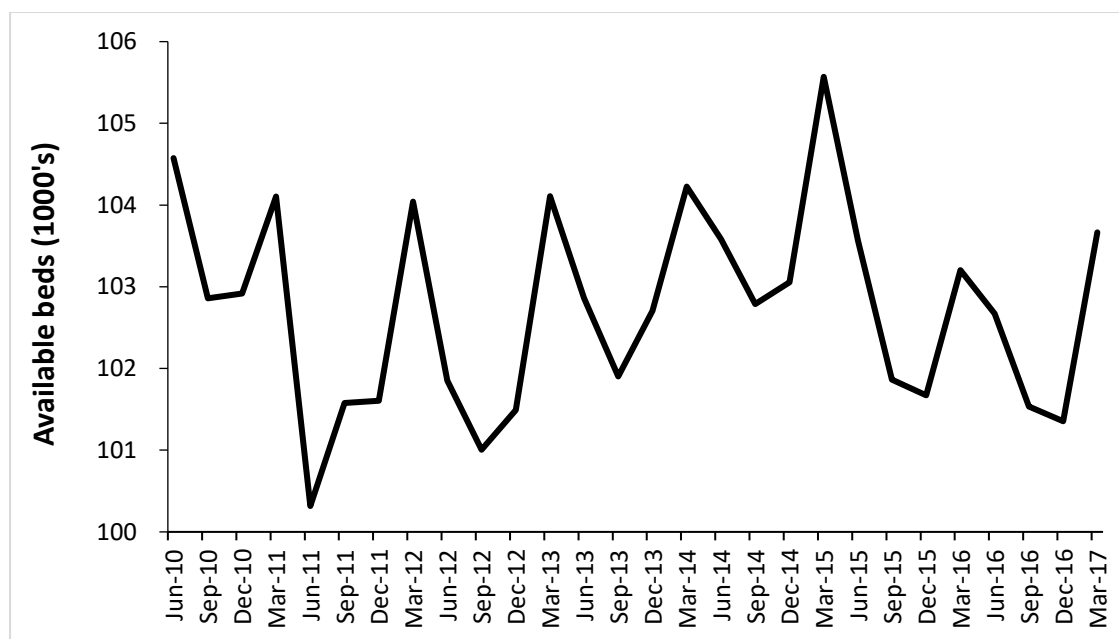
However, Figure 1 also shows that there is a degree of flexibility in the number of available beds such that beds are opened during the last quarter of the financial year (January to March) to meet high winter demand. After adjusting for the downward trend in bed numbers Figure 2 demonstrates that in current day terms available beds fluctuate between 100,000 to 106,000 depending on the prevailing infectious and climatic background. Indeed, the horrendous winter of 2016/17 only had

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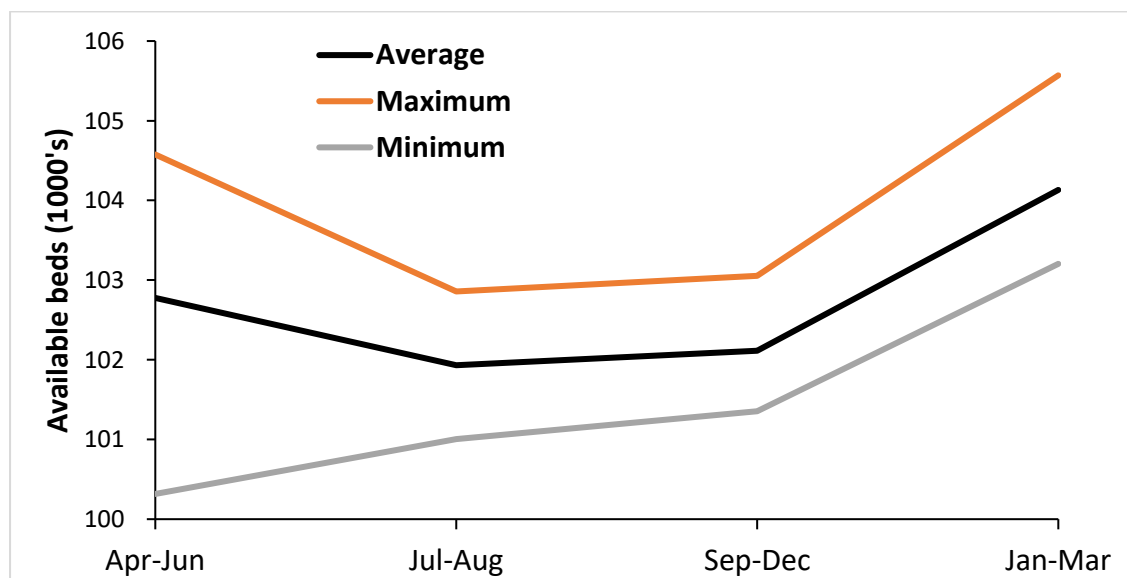
middle of the range available bed numbers – which may indeed have been a key part of the problem since occupancy (which has risen almost in direct proportion to bed closures) hit a midnight average of 91.4% in the period Jan-Mar 2017.

The key point here is that hospital managers open and close beds in response to fluctuations in demand.

**Figure 2: Available overnight beds after adjusting for the downward trend in bed numbers, England**



**Figure 3: Range in available beds in each quarter over a seven-year period, England**



Further analysis of bed numbers in Figure 2 yields Figure 3 where the period April to June represents the time of the year when bed demand (and hence bed availability) is most unstable. The instability in bed numbers at this time is 2.5-times higher than the period of minimum instability in the September to December quarter.

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Clearly considerable flexibility is required in the available bed pool. It is at this point that plans laid out in the Sustainability and Transformation Plans (STPs) prepared by Clinical Commissioning Groups (CCGs) regarding considerable bed closures have elicited some concern. Strictly speaking it is not in the remit of CCGs to stipulate available bed numbers, however, it is in their remit to reduce occupied bed days – but the two are entirely different entities.

Firstly, the STPs mainly involve broad assumptions regarding the success of various initiatives and usually are laid out in annual averages which Figure 3 shows to be a recipe for bed insufficiency.

Indeed, the hospital of the future will require considerable flexibility in design so that the process of opening/closing beds is facilitated. Perhaps by greater use of a mix of single rooms, 4-bed bays, movable partitions, etc. All concerned need to remember that even the ratio of males to females shows high variability throughout the year and between years (Jones 2011b).

Available beds are a resource for optimum efficiency (Jones 2001, Jones 2011a, Beeknoo and Jones 2016), and any plan that signals large reductions in bed numbers is most likely to be flawed in that it has confused bed numbers with occupied beds. The key is to have adequate 'available' beds which can be flexibly employed via a highly flexible workforce who staff the immediate number of patients (and their acuity) rather than the beds (Beeknoo and Jones 2016).

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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 and the financial risk in health care commissioning.

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