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ATABriefing

December 2011

mergency bed use: what the umbers tell us

Summary

- **Using hospital beds more efficiently could save the NHS at least £1 billion a year and deliver benefits for patients.**
- **More than 70 per cent of hospital bed days are occupied by emergency admissions.**
- **10 per cent of patients admitted as emergencies stay for more than two weeks, but these patients account for 55 per cent of bed days.**
- **80 per cent of emergency admissions who stay for more than two weeks are patients aged over 65.**
- **This suggests that focusing on reducing the length of stay for older people has the most potential for reducing hospital bed use.**

Although its budget was protected in the 2010 Spending Review, the NHS faces the tightest financial settlement in its history. To avoid reducing quality and making significant cuts to services, it needs to find £20 billion in productivity improvements by 2015. Reductions in the prices paid to hospitals for treating patients mean that 40 per cent of the productivity improvements will be made in the acute sector. Reducing unnecessary use of hospital beds offers a key opportunity for significant savings.

This data briefing will give providers and commissioners information on trends in the use of hospital beds to help them decide where to ocus their attention over the coming year.

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DATA**Briefing**

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Emergency bed use: what the numbers tell us

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Why look at bed use for emergency admissions?

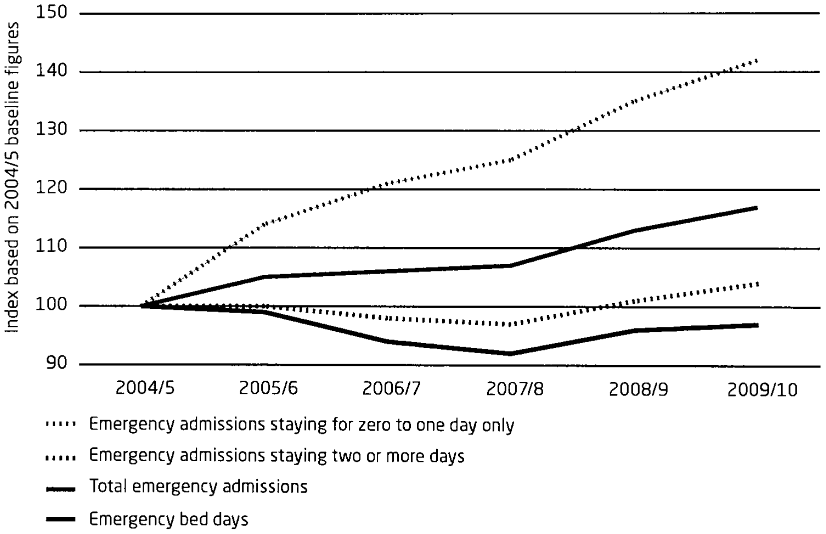
Hospital beds are used both for emergency admissions (when admission is unpredictable) and elective admissions (when admission can be scheduled). Patterns of hospital bed use have changed over the years. Medical advances mean that bed use by patients admitted for elective care has fallen significantly. For example, in 2000/1 patients having elective hip replacements stayed about 12 days, they now stay fewer than 8 days on average. So although the majority of admissions are elective patients (55 per cent of admissions in 2009/10), they occupy less than 30 per cent of bed days.[1] This means that reducing bed use for emergency admissions offers greater potential to deliver an overall reduction in the use of hospital beds.

Progress in reducing bed use for emergency admissions

In 2004 the government announced a target to reduce the use of hospital beds for emergency admissions, measured in emergency bed days, by 5 per cent over the 2003/4 baseline by 2008. This target was met and exceeded in 2007/8, but since then emergency bed days have been rising (*see* Figure 1). This reversal is the result of both a lack of progress in reducing length of stay and an increase in the number of emergency admissions staying for more than one day.

Total emergency admissions increased each year from 2004/5 to 2009/10 (*see* Figure 1). However, the trajectory rose more rapidly for patients who stayed for zero to one day only than for those staying two or more days.

Figure: 1 Trends in emergency bed days and emergency admissions



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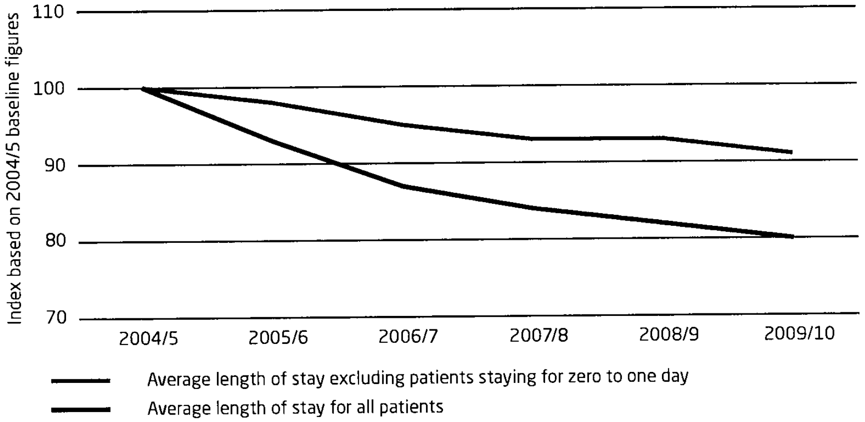
1 Data source for this and all figures in text and graphics: The King's Fund's analysis of Hospital Episode Statistics up to 2009/10. Exclusions for obstetrics, midwifery, learning disability, adult mental illness, child and adolescent psychiatry, forensic psychiatry, psychotherapy, old age psychiatry and well babies. Emergency patients with length of stay equal to zero are assumed to use a bed for about 14 hours (60 per cent of one day). This does not change the trend in bed days occupied by emergency admissions over time. Elective patients include day cases.

The average length of stay for all patients has fallen by 20 per cent since 2004/5 (*see* Figure 2), and this has been seen as a success. However, much of this fall is explained by the fact that the proportion of patients who stayed for zero to one day increased from 42 per cent to 50 per cent of all emergency admissions; this brings down the average length of stay. If we exclude patients staying for zero to one day, the decrease in length of stay is just under 10 per cent.

Figure: 2 Trends in average length of stay for emergency patients, including and excluding patients staying for zero to one day



Recently, very short stay emergency admissions have been the key focus for NHS providers and commissioners. However, reducing admissions of patients who stay for zero to one day by 5 per cent will reduce total bed days by only 100,000; reducing admissions of patients staying for more than 14 days by 5 per cent, on the other hand, would reduce total bed days by 800,000.[2] This suggests that attention should, in fact, be on reducing length of stay for patients admitted as an emergency.

The majority of emergency bed days are used by patients who stay more than two weeks. Most emergency admissions are short: 50 per cent of patients admitted as an emergency stay for one day or less. However, the 10 per cent of patients who stay for more than two weeks account for more than half of all emergency bed days[3] (*see* Figure 3).

Who are these patients and how long do they stay?

Patients who stay more than two weeks are, in general, older than those with a shorter length of stay; almost 80 per cent are aged over 65 and just over 30 per cent over 85 (*see* Figure 4). Typical diagnoses among older patients with very long length of stay include stroke, hip fracture, pneumonia and urinary disorders. Dementia and delirium are also associated with longer length of stay (Han *et al* 2011; Zekry *et al* 2009).

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[2] Bed day savings from reducing emergency admissions of zero to two days' stay would save about 150,000 bed days.

[3] This includes the first 14 days stayed. The figures exclude patients staying more than 399 days and do not change (rounded to nearest figure) when patients staying more than 200 days are omitted, so are not driven by outliers.

Figure 3

Admissions and bed use by length of stay

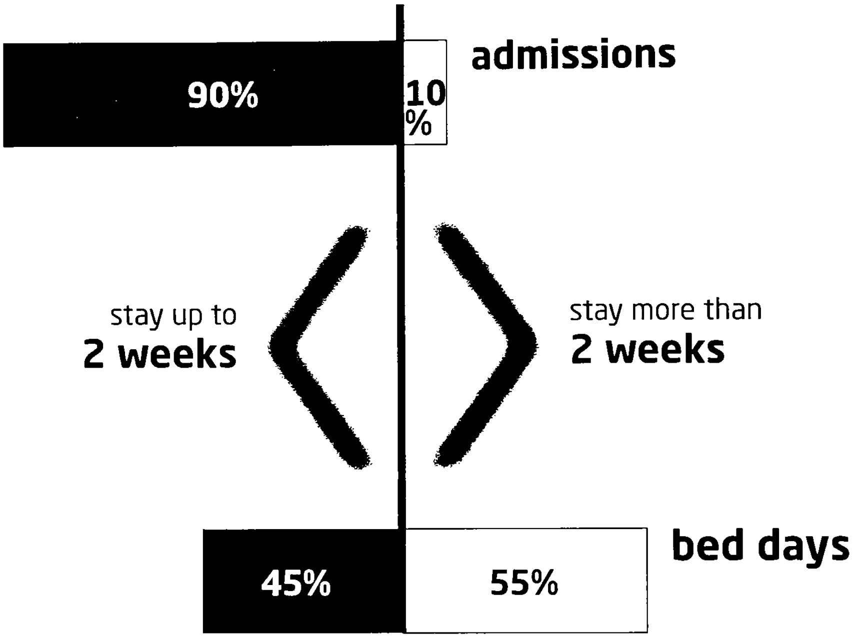
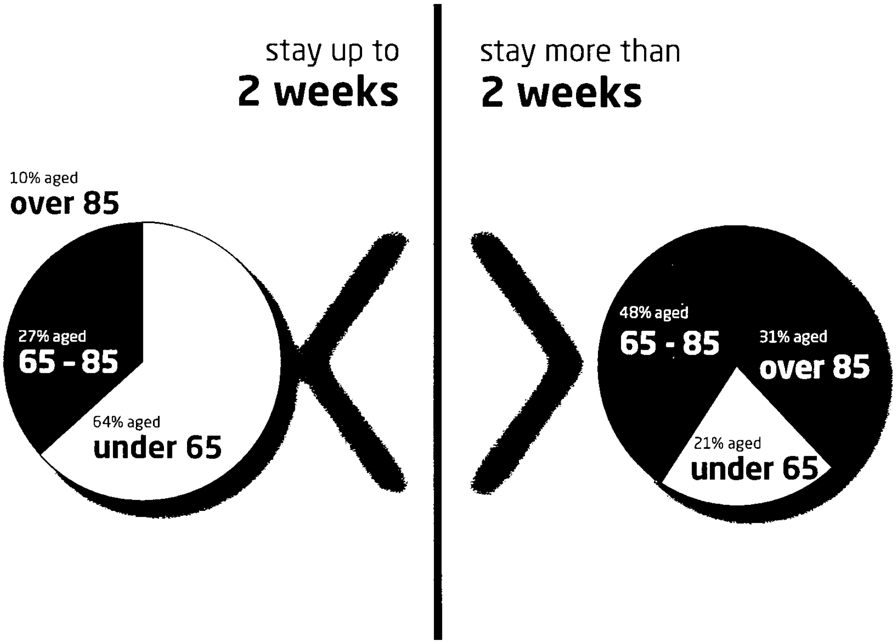


Figure 4

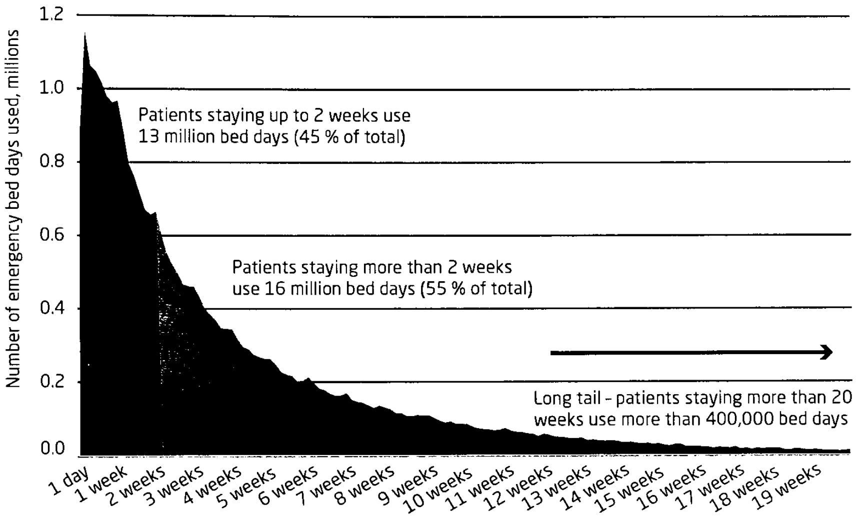
Age of patients staying up to and more than two weeks



Note: the figures for stay up to two weeks don't add up to 100 per cent because of rounding

The pattern of bed use by length of stay is shown in more detail in Figure 5.

Figure: 5 Number of emergency bed days by length of stay, 2009/10



What is the opportunity?

Patients who are fit for discharge but remain in hospital are at risk from hospital-acquired infections; many find prolonged stays frustrating or distressing; and, for some, longer stays can lead to depression or loss of functional independence (Glasby 2003).

Recent studies of bed use in the NHS in England indicate that for between 42 and 55 per cent of bed days, an alternative setting – including home with medical services, home or a nursing home – would be more appropriate for the patient.[4] This change of setting, if appropriate, would also save money – acute hospital care costs about £200 per day and private nursing home fees are less than £100 per day.[5] However, to realise this opportunity, other services, including social and community care, must be in place. The NHS Institute for Innovation and Improvement (2011) has estimated that the NHS in England could save just over £1 billion a year by reducing length of hospital stay for both elective and non-elective admissions. This figure is based on hospitals moving 25 per cent closer to the national average length of stay for patients by age, gender, deprivation level and type of treatment. The NHS Institute recommend a number of ways in which this goal could be realised, including: benchmarking performance on length of stay; process mapping to identify potential delays; giving patients a planned date for discharge on, or before , their admission; discharging patients daily and throughout the day. One difficulty in realising this aim, however, is the misalignment of incentives in most areas. While hospitals can make savings by reducing length of stay, NHS or social care commissioners need to pay for the alternatives. Under current funding arrangements, it can be difficult for these alternatives to be provided.

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4 Clinical review of 32 acute facilities by The Oak Group and utilisation review of five providers under the East Midlands Procurement and Commissioning Transformation (EMPACT) programme. Data received via correspondence. EMPACT is currently undertaking an independent evaluation of their utilisation review programme and its application in acute and community hospital settings. For more information visit www.EMPACT.nhs.uk and http://www.theoakgroup.co.uk

5 2009/10 private nursing home fees are estimated at £683per week (pssru http://www.pssru.ac.uk/pdf/uc/uc2010/uc2010.pdf). NHS Institute Better Care Better Value figures suggest that reducing length of stay by one day saves the NHS £215.

Many hospitals are already closing wards and reducing the number of acute beds because of financial pressures. However, unless providers and their partners in community and social care make changes to facilitate discharge, this could have negative consequences including: failed discharges and subsequent re-admissions; inappropriate movement of patients within the hospital, including at night; and potentially the need to re-open wards to meet renewed demand for beds. If these adverse consequences are to be avoided, the NHS – including providers of acute and community care and commissioners – as well as their partners in social care, need to work together and adopt a renewed focus on bed use and length of stay.

Where to start

This data briefing has shown the importance of reducing lengths of stay for some patients admitted as emergencies, particularly the elderly. This will require changes to how these patients are cared for in hospital– for example, mobilising patients early and keeping them mobile (Mundy *et al* 2003), and improving diagnosis and treatment of patients with delirium and dementia can reduce lengths of stay (Lundstrom *et al* 2005). It is also important for hospitals to work with other organisations – social services, community and domiciliary care and primary care – to ensure timely discharge. All these providers must work together if patients' length of stay is to be reduced.

References

Glasby J (2003). *Hospital Discharge: Integrating health and social care*. Oxford: Radcliffe Publishing.

Han JH, Eden S, Shintani A, Morandi A, Schnelle J, Dittus RS, Storrow AB, Ely EW (2011). 'Delirium in older emergency department patients is an independent predictor of hospital length of stay'. *Academic Emergency Medicine*, vol 18, no 5, pp 451–7.

Lundström M, Edlund A, Karlsson S, Brannstrom B, Bucht G, Gustafson Y (2005). 'A multifactorial intervention program reduces the duration of delirium, length of hospitalization, and mortality in delirious patients'. *Journal of the American Geriatrics Society*, vol 53, no 4, pp 622–8.

Mundy LM, Leet TL, Darst K, Schnitzler MA, Dunagan WC (2003). 'Early mobilization of patients hospitalized with community-acquired pneumonia'. *Chest*, vol 124, pp 883–9.

NHS Institute for Innovation and Improvement (2011). *Better Care Better Value indicators: Reducing length of stay*. London: NHS Institute for Innovation and Improvement. Available at: www.productivity.nhs.uk/Indicator/615/For/National/And/25th/Percentile (accessed on 28 November 2011).

Zekry D, Herrmann FR, Grandjean R, Vitale AM, De Pinho MF, Michel JP, Gold G, Krause KH (2009). 'Does dementia predict adverse hospitalization outcomes? A prospective study in aged inpatients'. *International Journal of Geriatric Psychiatry*, vol 2, no 3, pp 283–91.