



# Scottish Hip Fracture Audit Report 2007

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Cuirear am foillseachadh seo ri fhaighinn ann an grunn chànanan, clò-bhualadh mòr is Braille (Beurla a-mhàin). Cuir fòn dhan àireamh a leanas airson fiosrachaidh mar a gheibhear eadar-theangachadh an fhoillseachaidh seo nad chànan coimhearsnachd:

يمكن أن يتوفر هذا الإعلان بلغات مختلفة، وطباعة بحجم أكبر، وطباعة برايل (باللغة الإنجليزية فقط). للحصول على معلومات حول ترجمة هذا الإعلان بلغتك المحلية، يرجى الاتصال بالرقم الوارد أدناه.

यह प्रकाशन विभिन्न भाषाओं, बड़े अक्षरों, ब्रेल लिपि (सिर्फ अंग्रेजी) में उपलब्ध कराया जा सकता है। आपके समुदाय की भाषा में इसे प्रकाशन के अनुवाद के बारे में जानकारी के लिए कृपया नीचे दिए हुए नम्बर पर टेलीफोन करें।

এই প্রকাশনাটি বিভিন্ন ভাষায়, বড় ছাপার আকারে এবং ব্রেইলী-ত (শুধুমাত্র ইং-রাজী-ত) সরবরাহ করা যে-ত পা-রা। এই প্রকাশনাটি আপনার মাতৃভাষায় অনুবাদ সম্পর্কিত তথ্যের প্র-স্নাজ-ন অনুগ্রহপূর্বক নিম্নলিখিত নাম্বা-র টেলি-ফোন করুন :

ਇਹ ਪ੍ਰਕਾਸ਼ਨ ਵੱਖ ਵੱਖ ਭਾਸ਼ਾਵਾਂ ਵਿਚ, ਵੱਡੇ ਛਾਪੇ, ਬ੍ਰੇਲ (ਸਿਰਫ ਅੰਗਰੇਜ਼ੀ ਵਿਚ) ਉਪਲਬਧ ਕੀਤੀ ਜਾ ਸਕਦੀ ਹੈ। ਇਸ ਪ੍ਰਕਾਸ਼ਨ ਦੇ ਆਪਣੇ ਭਾਈਚਾਰੇ ਦੀ ਭਾਸ਼ਾ ਵਿਚ ਅਨੁਵਾਦ ਲਈ ਜਾਣਕਾਰੀ ਲਈ ਕਿਰਪਾ ਕਰਕੇ ਹੇਠ ਲਿਖੇ ਨੰਬਰ ਤੇ ਫ਼ੋਨ ਕਰੋ।

یہ طبع مختلف زبانوں اور بڑے چھاب میں دستیاب کی جاسکتی ہے، برائلی (صرف انگریزی میں)۔ اپنی کمیونٹی کے زبان میں اس طبع کے ترجمے کے بارے میں معلومات حاصل کرنے کے لئے، براہ کرم مندرجہ ذیل نمبر پر فون کیجئے۔

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## Foreword

Following on from the publication of the SHFA Rehabilitation Report in April 2007, the 2007 Annual Report allows us to complete the publication of the full nine months of core data obtained from April to December 2006.

In the interests of costs and the environment, this report will only be published on our website with our normal mailing list being informed by e-mail. If we have failed to include a specific aspect of care that interests you, please remember that we also provide an ad hoc service and are often able to provide the additional information you require.

Now that data from 1998 onwards has been standardised and validated, the Steering Group are keen that this valuable bank of information on the care of hip fracture patients is fully utilised. There are opportunities to identify potential improvements in patient care through examination of current practice, and also pointers for future research. Several papers for publication are currently being prepared. Anyone interested in accessing this valuable resource should contact our National Clinical Co-ordinator ([Kathleen.Duncan@lanarkshire.scot.nhs.uk](mailto:Kathleen.Duncan@lanarkshire.scot.nhs.uk)).

### Theatre Delay Audit

In March 2007, for the first time since 2004, we again achieved 100% coverage of acute hip fracture data from all twenty-one units on mainland Scotland. As many of you will be aware, we are also currently carrying out a sprint audit focusing on the decision-making process involved in determining whether or not a hip fracture patient is fit for theatre. Data will continue to be collected until December 2007. We provide monthly feedback of emerging results via the Local Audit Co-ordinators.

### The Next Steps Conference

The Next Steps Conference was held in Heriot Watt University, Edinburgh in May. The two-day conference was organized in partnership with the National Osteoporosis Society, the National Hip Fracture Registry and APBI Scotland, and focused on developing an integrated approach to the management of falls, fragility fractures and osteoporosis. It was deemed a success both from the positive feedback from the 374 delegates who attended and the media coverage generated. Many of the talks are still available for viewing until the end of 2007 at <http://www.shfa.scot.nhs.uk/Workshop/NextSteps230507.html>



**Dr Damien Reid**  
**SHFA chairman**

## Methodology

Data are collected at each participating hospital by locally funded, dedicated audit co-ordinators. Hospitals are identified in Table 1.1 and subsequently throughout the data section by a letter code.

Data presented on the following pages are for patients with hip fractures who were admitted to orthopaedic care between 1st April and 31st December 2006. Patients younger than 50 years old are not included in the audit. Although a small percentage of patients may have fractured both hips, the fractures are analysed separately. The only exception to this is survival rate (Fig. 7) where we have provided data per patient based on their survival following first fracture.

Funnel charts show red lines indicating the percentage occurrence of the graphed data across all reported patients (horizontal line) and 95% Confidence Intervals for this percentage (funnel lines). More details of this, and how SHFA carries out casemix adjustment, can be found in the Presentation Methods section of the SHFA Annual Report for 2006 (<http://www.shfa.scot.nhs.uk/AnnualReport/Main.htm>).

## 2006 Data

Altogether, we report on 3391 hip fractures from 14 hospitals as detailed in Table 1.1.

**Table 1.1: Hospitals contributing to the audit in 2006**

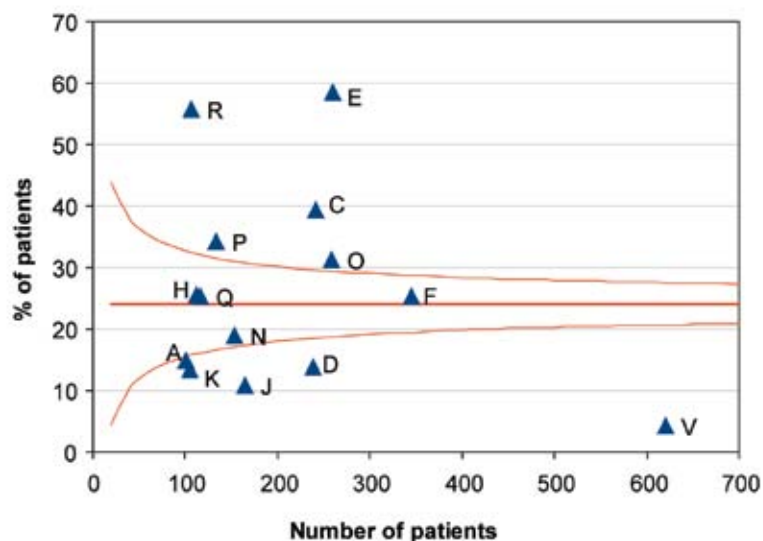
Hospital Identifier	Hospital	Number of hip fractures audited	Periods when data was incomplete
A	Borders General Hospital	106	
C	Queen Margaret Hospital, Dunfermline	293	
D	Forth Valley	251	
E	Ninewells Hospital, Dundee	298	
F	Aberdeen Royal Infirmary	386	No review data for patients admitted after mid-October
H	Hairmyres Hospital	119	Re-started data collection in 2006, no data before July
J	Wishaw General Hospital	182	
K	Dr Gray's Hospital, Elgin	105	
N	Raigmore Hospital, Inverness	236	
O	Royal Alexandra Hospital, Paisley	293	
P	Inverclyde Hospital, Greenock	150	
Q	Monklands Hospital	123	Re-started data collection in 2006, no data before July
R	Perth Royal Infirmary	123	
V	Royal Infirmary Edinburgh	726	Review data not collected
	Total	3391	

*Dumfries and Galloway Royal Infirmary re-joined the audit in November 2006, but the small number of patients audited (27) are not reported here.*

## Time in the Emergency Department

**Fig. 1 : Percentage of patients transferred through the ED within 2 and 4 hours**

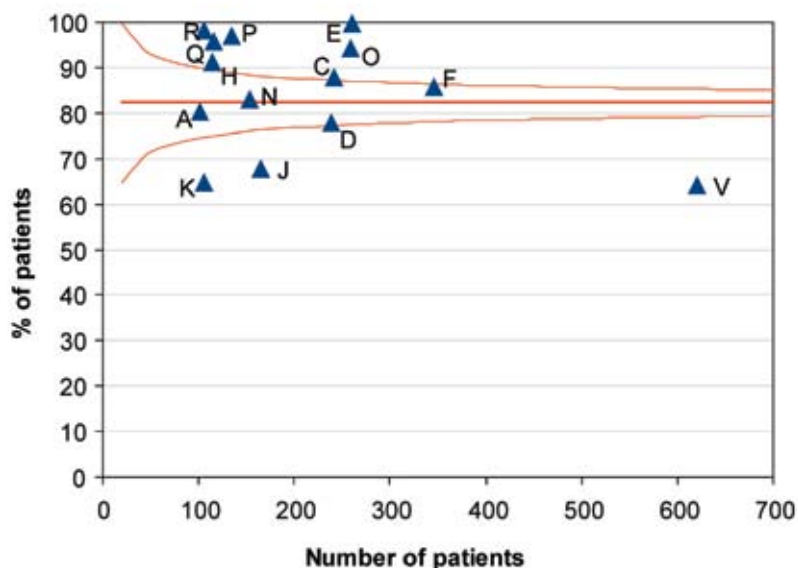
a) Within 2 hours



Click here to see more detail in Table 1

[Hospital Identifier Table](#)

b) Within 4 hours



Both figures exclude patients who did not come through ED.

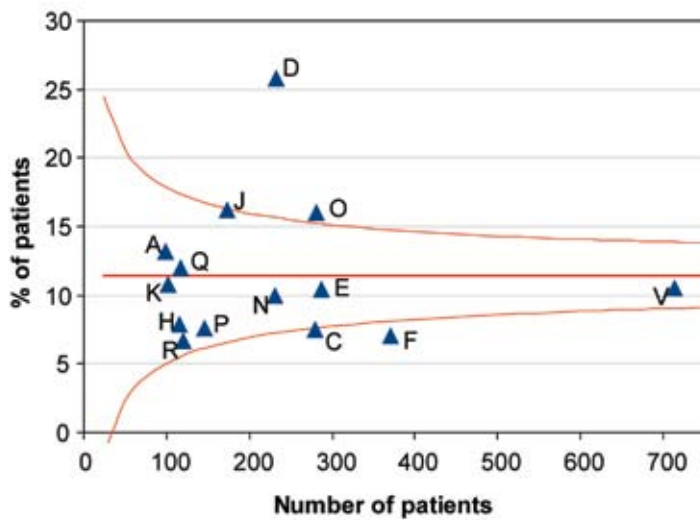
The SIGN target of two hours in the ED continues to be an important measure. There are many reasons why transfer compliance is low – some organisational and some due to inadequate resources.

The Unscheduled Care Collaborative aims towards a national implementation of a maximum four-hour stay for any patient in the ED by December 2007. As seen, 82% of hip fracture patients met this target in 2006.

## Time to Theatre

3267 (96.3%) of all hip fractures audited by SHFA in 2006 were treated surgically.

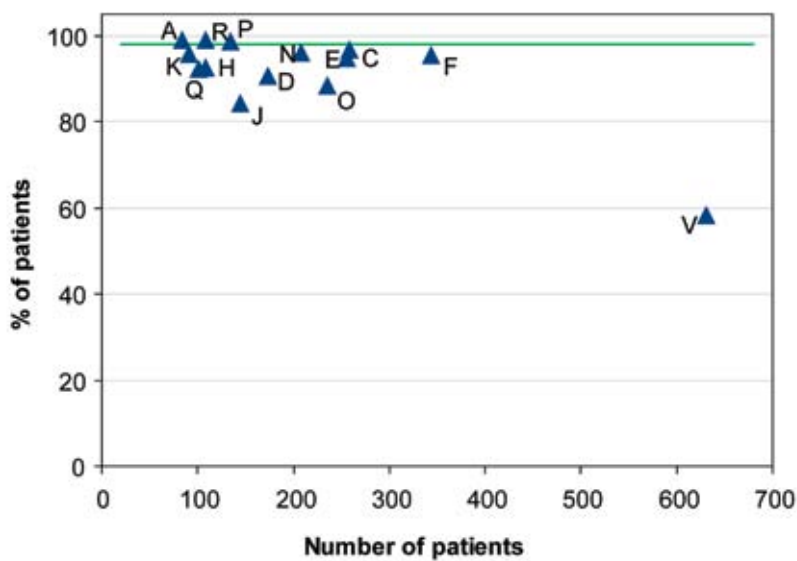
**Fig. 2: Percentage of patients treated surgically but documented as unfit for theatre within 24 safe operating hours of ward admission**



Click here to see more detail in Table 2

[Hospital Identifier Table](#)

**Fig. 3: Percentage of medically fit patients going to theatre within 24 safe operating hours of ward admission**



Click here to see more detail in Table 3

[Hospital Identifier Table](#)

The green line shows NWTU's 98% target compliance level.

In May 2006, the National Waiting Times Unit (NWTU) reviewed the evidence for selecting 24 hours as the target time to theatre. This target was subject to two important caveats. Firstly, patients should not proceed to surgery unless medically fit for the operation. Secondly, the operation should not be undertaken outwith normal working hours unless medically indicated. The NWTU Delivery Team proposed that the new standard for hip fracture surgery be amended to state that 98% of medically fit patients who have sustained a hip fracture should be operated on within 24 hours of 'safe operating time' (i.e. between 8 am and 8 pm, seven days a week).

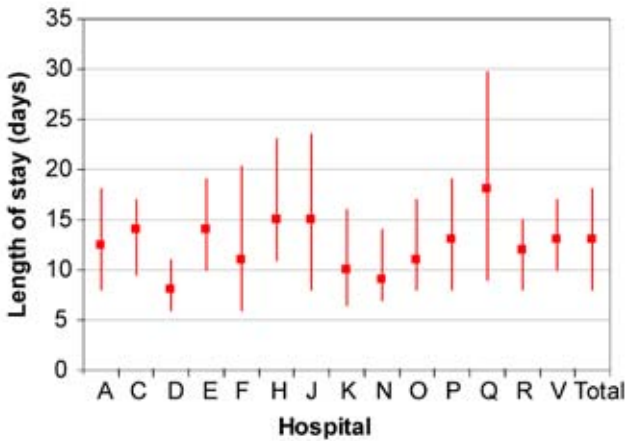
The introduction in April 2006 of real-time feedback from SHFA to all participating hospitals has allowed units to compare their performance against this standard. SHFA data has already been put to good use in units where a lack of resource is the rate limiting step in getting patients to theatre promptly.

## Length of Stay

**Fig. 4: Median length of acute orthopaedic stay by discharge destination**

a) Discharged straight home

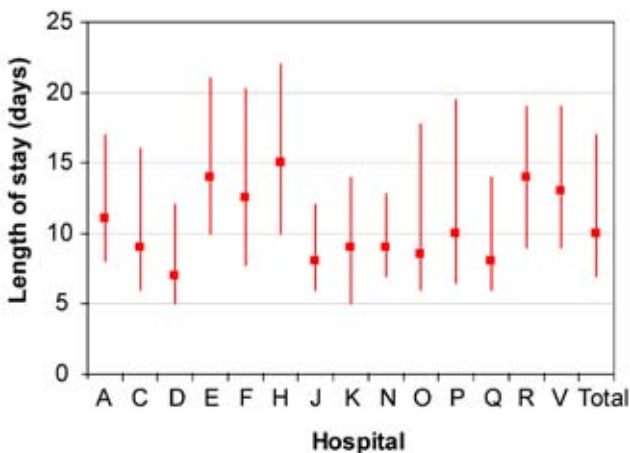
[Click here to see more detail in Table 4a](#)



Differences in median length of acute stay have been demonstrated repeatedly by SHFA. They reflect both service structures and service pressures. The current trend across Scotland is to centralise services (e.g. all operative services on one Trust site). This may affect where patients recuperate and so alter length of stay in the acute orthopaedic setting.

b) Discharged to rehabilitation

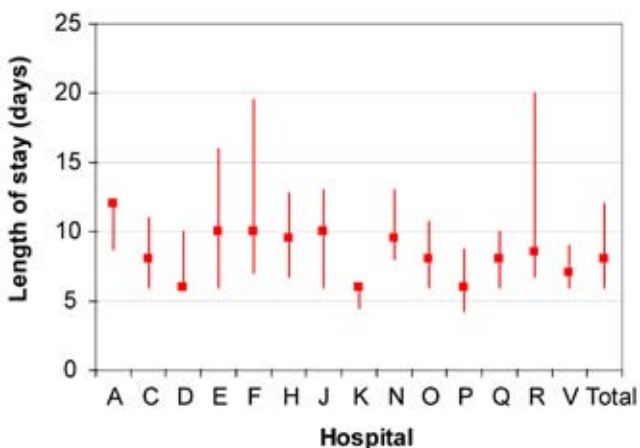
[Click here to see more detail in Table 4b](#)



[Hospital Identifier Table](#)

c) Discharged straight to a care home

[Click here to see more detail in Table 4c](#)

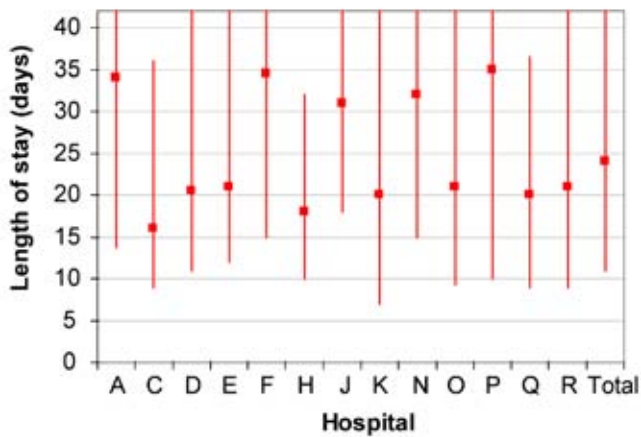


Points represent the median length of stay in each hospital. Lines extend to show the interquartile range (lower and upper values indicate the number of days within which a quarter and three-quarters of patients were discharged).

Length of acute orthopaedic stay reported here will be slightly lower than in previous SHFA annual reports because the review period in 2006 was six weeks (compared to four months previously). Therefore, the eventual discharge destination of the 4.3% of patients who were still acute orthopaedic inpatients at 42 days was not recorded and is not included in these figures.

Fig. 4c: Small samples A (n=6)

**Fig. 5: Median length of total hospital stay**



[Click here to see more detail in Table 5](#)

[Hospital Identifier Table](#)

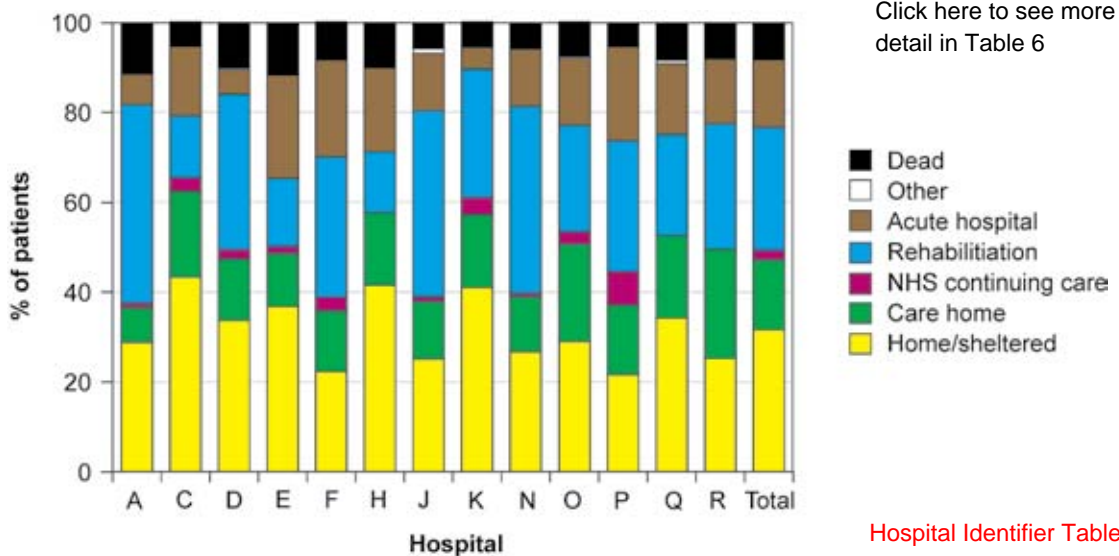
*Includes total length of stay in acute orthopaedic care plus any subsequent rehabilitation, acute hospital or continuing NHS care stays directly afterwards (until patient left this setting).*

*Note that the maximum review period was 42 days (upper limit of graph) when at least a quarter of most hospitals' patients were still in hospital.*

The median length of total hospital stay for patients originally admitted from their own homes was 27 days, compared to 10 days for patients admitted from a care home.

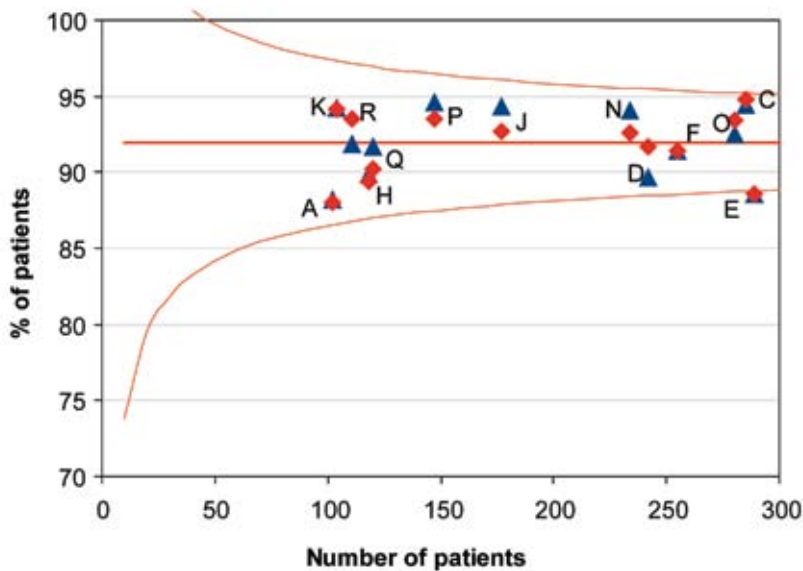
## Patient Outcomes

**Fig. 6: Place of residence at 30 days post-admission**



45% of all patients remained within a hospital setting (or had returned to a hospital setting) at 30 days after their admission for hip fracture.

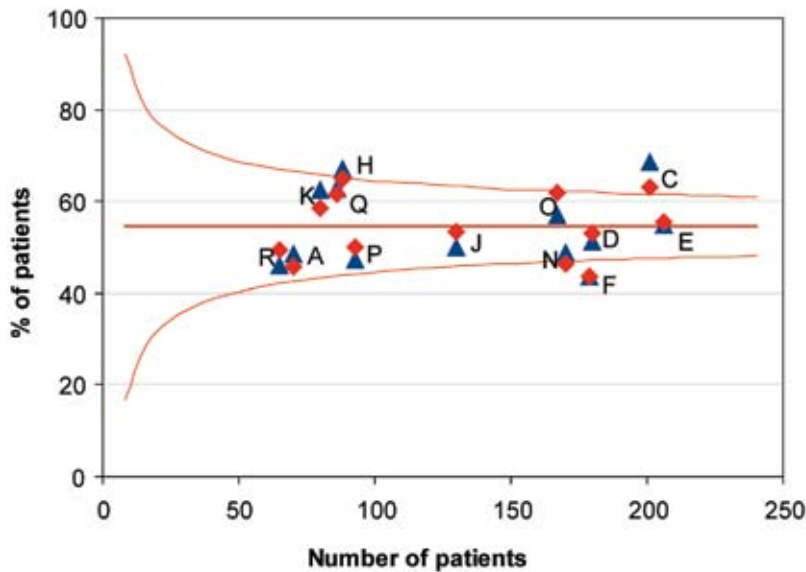
**Fig. 7: Survival to 30 days post-admission**



Blue triangle=actual (unadjusted) percentage, Red diamond=casemix-adjusted percentage.

Comparative survival is clearly of great importance and best explored in detail using casemix-adjusted data. Overall survival rates vary between 88% and 95% at 30 days post-admission.

**Fig. 8: Percentage of patients admitted from home who were resident at home at 42 days post-admission**



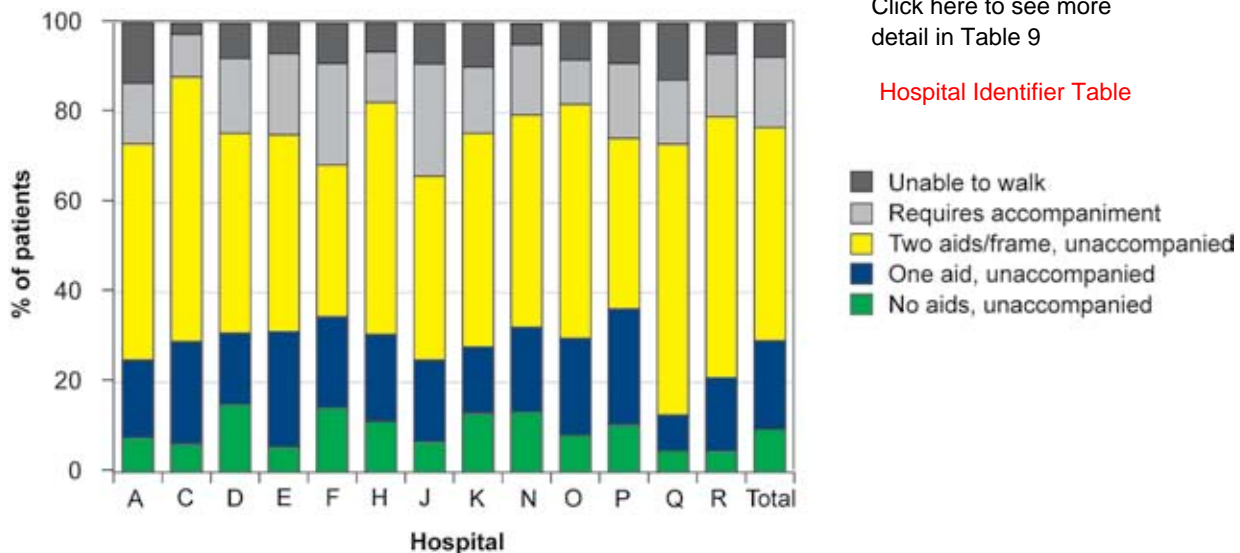
Click here to see more detail in Table 8

[Hospital Identifier Table](#)

Home includes sheltered housing. Blue triangle=actual (unadjusted) percentage, Red diamond=casemix-adjusted percentage.

Fifty-five per cent of patients admitted from home had returned home within 42 days of admission. The aim of good hip fracture care is to return as high a proportion of patients as possible to their pre-fracture residence and function.

**Fig. 9: 42 days post-admission indoor mobility of patients admitted from home who walked unaccompanied with no aids or one stick prior to admission**



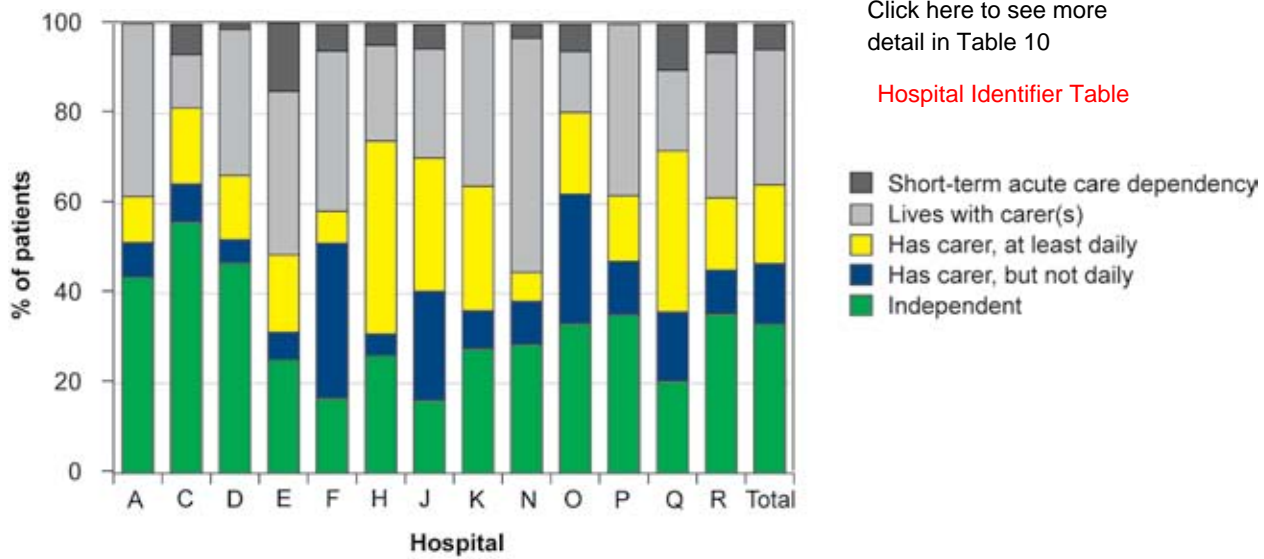
Click here to see more detail in Table 9

[Hospital Identifier Table](#)

Excludes patients who died or were lost to audit.

Loss or partial loss of mobility is a common and serious complication of hip fracture, particularly for the frail elderly at home. By 42 days less than 30% of patients from home who were able to walk indoors unaccompanied and unaided or with one stick had returned to this level of activity. Eight per cent of these previously mobile patients were unable to walk at six weeks, while 16% required accompaniment.

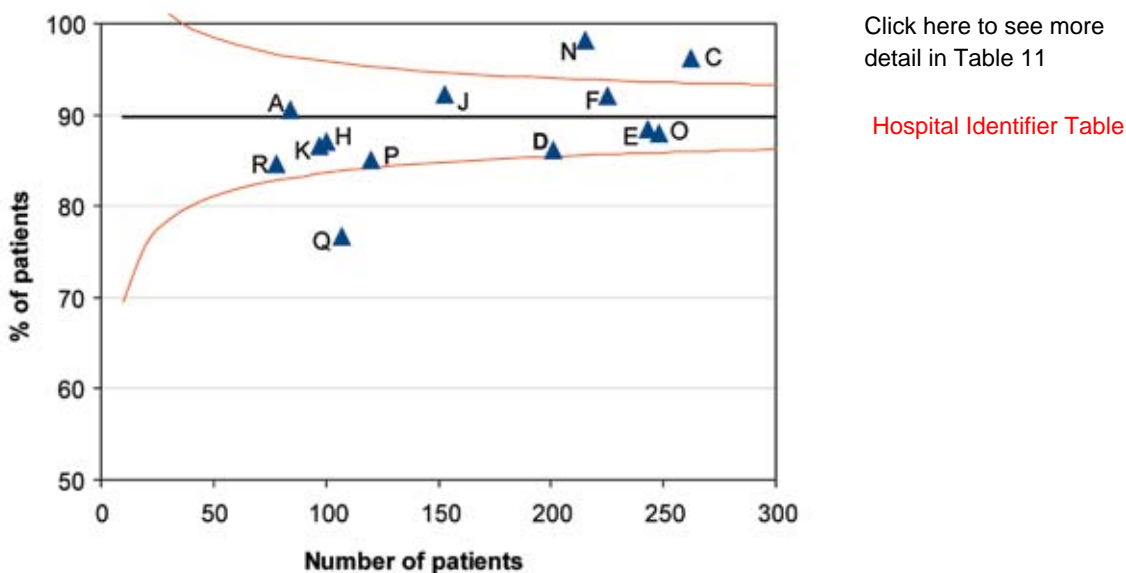
**Fig. 10: Percentage of patients who lived independently again at 42 days post-admission**



Patients who did not live independently (i.e. without support from carers) prior to fracture are excluded from this analysis.

These graphs reflect the potentially devastating nature of hip fracture. By 42 days only 33% of patients who lived independently (without carers) prior to fracture had returned to living independently. An important caveat when assessing the impact of an unexpected medical event on function and level of dependence is that a proportion of this elderly cohort may well have benefited from support from carers or indeed walking aids if they had been assessed by a multi-disciplinary team pre-morbidly.

**Fig. 11: Percentage of patients who were pain-free or experiencing only slight hip pain at 42 days post-admission**



Excludes patients who died, were lost to follow-up or were unable to answer. Data not casemix-adjusted due to subjectivity of pain scoring.

It may be surprising that the percentage of patients reporting only slight pain or being pain free at 42 days is similar to the percentage recorded at 120-day review in previous years (SHFA 2006). This may be because pain levels plateau by 42 days, or patients may have different perceptions of what is slight/no pain at different stages of their recovery.