



# Scottish Hip Fracture Audit Report 2008

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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 অক্ষর এবং ব্রেইলী-ত (শুধুমাত্র ইং-রাজী-ত) সরবরাহ করা যে-ত পা-রা। এই প্রকাশনাটি আপনার মাতৃভাষায় অনুবাদ সম্পর্কিত তথ্যের প্র-য়াজ-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 ਫੋਨ 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۔

Telephone 0131 275 7777

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## Foreword

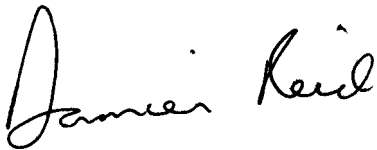
Following on from the publication of the Scottish Hip Fracture Audit (SHFA) report “Clinical Decision-Making: Is the Patient Fit for Theatre?” in May 2008, the 2008 Annual Report allows us to complete the publication of the full twelve months of core data obtained from January to December 2007.

The 2007 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.

From the SHFA database there are still opportunities to identify potential improvements in patient care and pointers for future research. The Steering Group would like to encourage clinicians to ask further questions of this valuable resource. If you are interested in accessing the data, please contact our National Clinical Co-ordinator ([KathleenDuncan@nhs.net](mailto:KathleenDuncan@nhs.net)).

## Current Work

Since March 2007, we have maintained 100% coverage of our core hip fracture dataset across all of mainland Scotland (21 hospitals). This enables us to provide hospitals with monthly “Real-time Reports”, outlining their individual performance against the Scottish Government’s “Time to Theatre” target. We are also currently carrying out a time-limited audit focusing on the preventative aspects of hip fracture patient care e.g. bone protection medication, falls assessment etc. Feedback of emerging results from this audit will be provided to each participating hospital via the Local Audit Co-ordinators.



**Dr Damien Reid**  
**SHFA Chairman**

## Methodology

Data are collected at each participating hospital by dedicated audit co-ordinators. Outcomes data is gathered principally by telephone review at 120 days, although postal questionnaires are used when necessary. 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 January and 31st December 2007. 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 exceptions to this are the survival figures (Fig. 8) 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). We increased the confidence intervals of overdispersed funnel charts (i.e. those with excess outliers) using an adjustment procedure derived from Spiegelhalter (2005; *Handling over-dispersion of performance indicators. Quality and Safety in Health Care 14: 347-351*). 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>).

## 2007 Data

Altogether, we report on 6369 hip fractures from 21 hospitals as detailed in Table 1.1.

**Table 1.1: Hospitals contributing to the audit in 2007**

To see a list of Hospital Identifier Codes [click here](#)

Hospital Identifier	Hospital	Number of hip fractures audited	Periods when data was incomplete
A	Borders General Hospital	165	
B	Dumfries and Galloway Royal Infirmary	166	
C	Queen Margaret Hospital, Dunfermline	375	
D	Forth Valley	354	
E	Ninewells Hospital, Dundee	464	
F	Aberdeen Royal Infirmary	491	No review data for patients admitted after June 2007
H	Hairmyres Hospital	196	
I	Glasgow Royal Infirmary	374	Began data collection in February 2007
J	Wishaw General Hospital	290	
K	Dr Gray's Hospital, Elgin	140	
L	Western Infirmary, Glasgow	322	Began data collection in February 2007
M	Crosshouse Hospital	206	Began data collection in late February 2007
N	Raigmore Hospital, Inverness	325	
O	Royal Alexandra Hospital, Paisley	421	
P	Inverclyde Hospital, Greenock	216	
Q	Monklands Hospital	232	
R	Perth Royal Infirmary	185	
S	Victoria Infirmary, Glasgow	212	Began data collection in February 2007
T	Ayr Hospital	175	Began data collection in late February 2007
U	Southern General Hospital, Glasgow	139	Began data collection in February 2007
V	Royal Infirmary of Edinburgh	921	Review data not collected
	<b>Total</b>	<b>6369</b>	

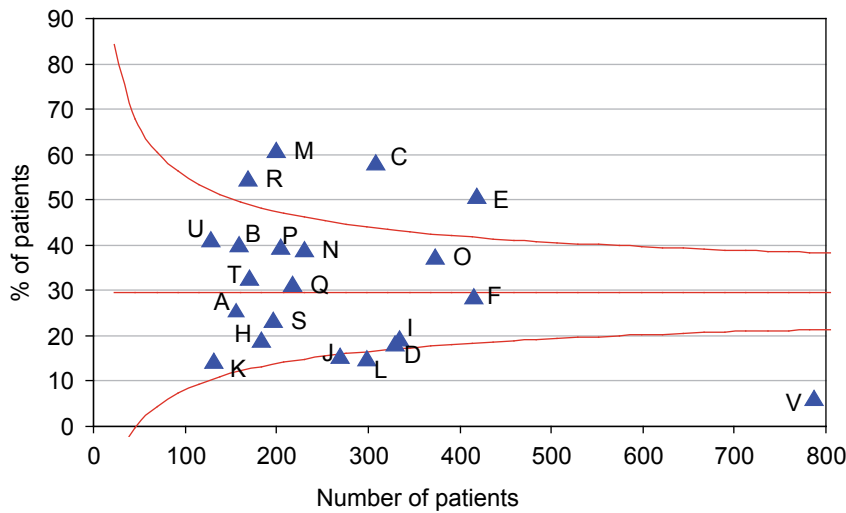
Five-year (2003-2007) trend data for ED times, time to theatre and survival can be seen for your hospital by clicking on the Hospital Name links on the table above. □□□□□□□□

# Time in the Emergency Department

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

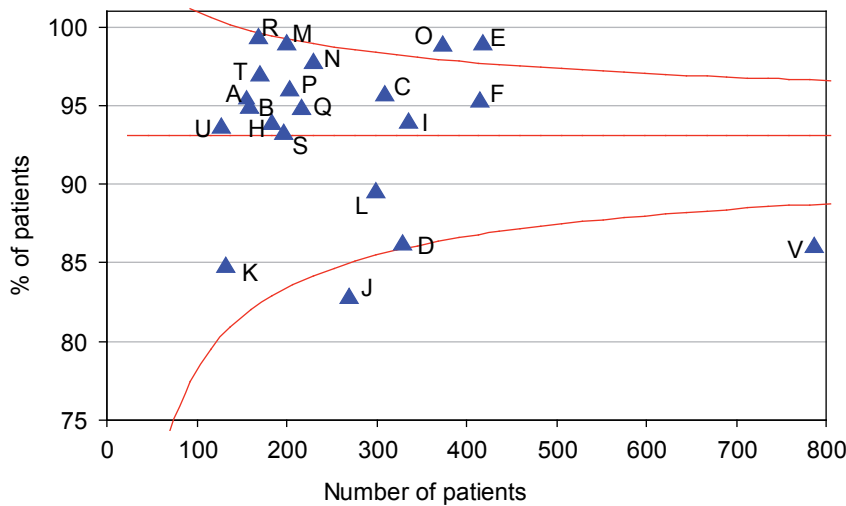
a) Within 2 hours

[Click here to see more detail in Table 1](#)



[Click here to access five-year trend data for your hospital](#)

b) Within 4 hours



*Both figures exclude patients who did not come through the Emergency Department.*

*The confidence interval funnels in both graphs includes an adjustment for overdispersion.*

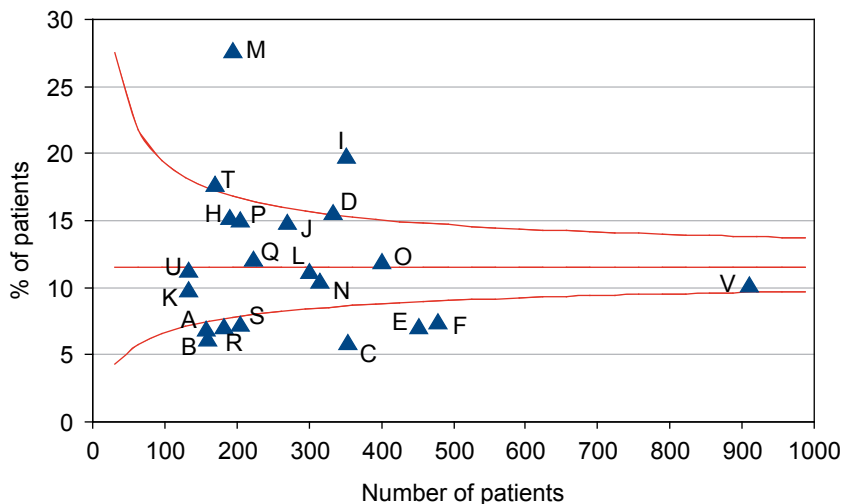
There is a national target of a maximum four-hour stay for any patient in the Emergency Department. However, the SIGN target for hip fracture patients currently remains at 2 hours (SIGN 56, presently under review).

## Time to Theatre

6114 (96%) of all hip fractures audited by SHFA in 2007 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](#)



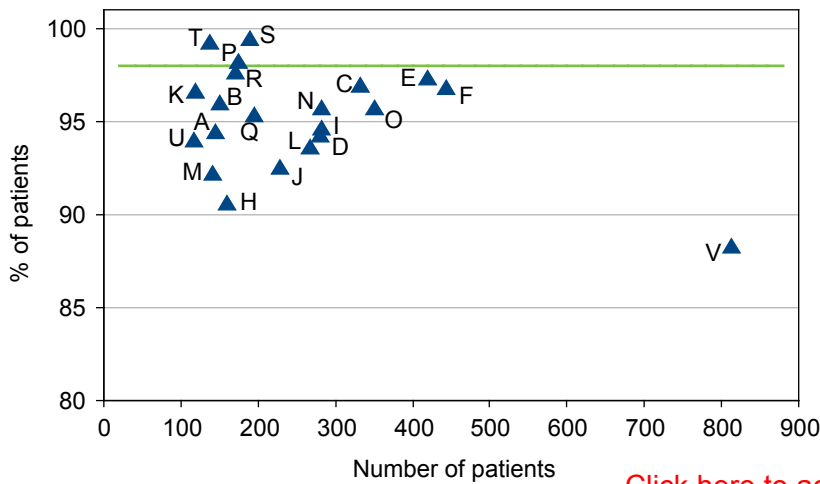
Please refer to the SHFA's report 'Clinical Decision-Making: Is the Patient Fit for Theatre?', published in May 2008 for more details ([http://www.shfa.scot.nhs.uk/Theatre\\_Delay\\_Report.pdf](http://www.shfa.scot.nhs.uk/Theatre_Delay_Report.pdf)).



**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](#)

The green line shows the 98% target compliance level.



**Operational standard:**

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).

[Click here to access five-year trend data for your hospital](#)

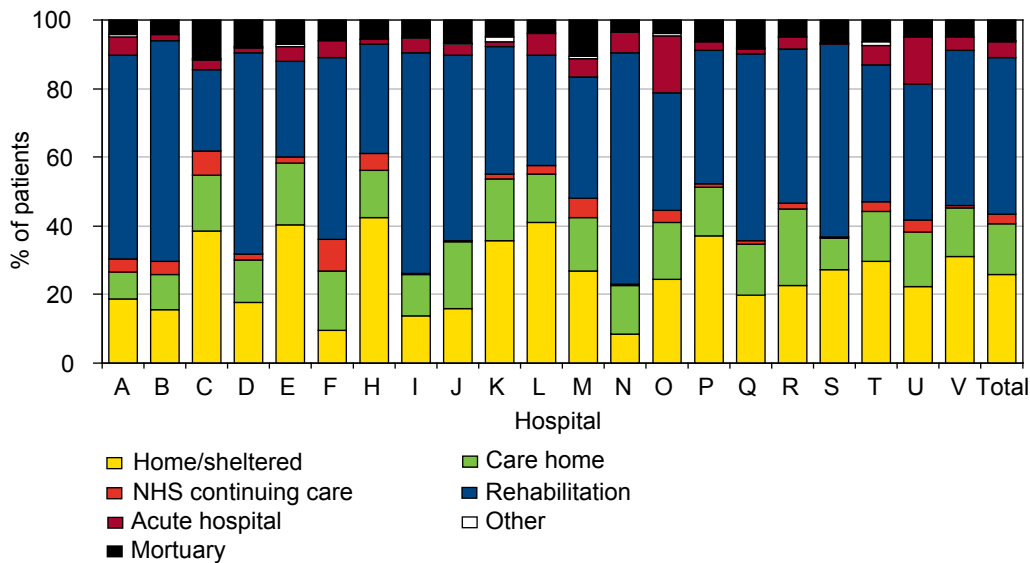
The Scottish Government Health Delivery Directorate’s “Time to Theatre” target is subject to two important caveats. Firstly, patients should not proceed to surgery unless medically fit for the operation. Secondly, the operation should not be undertaken outwith normal working hours unless medically indicated.

Since April 2006, SHFA have sent monthly “real-time” reports to all participating hospitals. This has allowed units to compare their performance against the standard. The SHFA data has proved extremely useful in enabling individual units to identify where sub-optimal use or lack of resources prevents patients being taken to theatre promptly. In 2007 overall, 95% of eligible patients went to theatre within 24 safe hours (compared to 86% in 2006). Only 15 patients did not go to theatre within 24 safe operating hours in December 2007, improving compliance with this target to 97%. Hospital V, a significant outlier in 2006 and early 2007, returned 100% compliance in December 2007.

Four percent of all patients were treated conservatively in 2007. Of those patients who were treated conservatively, 63% were because the patient was assessed as being medically unfit for surgery, 35% were because conservative treatment was the clinician’s management of choice (e.g. old fracture), and 2% were due to the patient refusing surgery.

**Fig. 4: Discharge destinations from acute orthopaedic care**

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



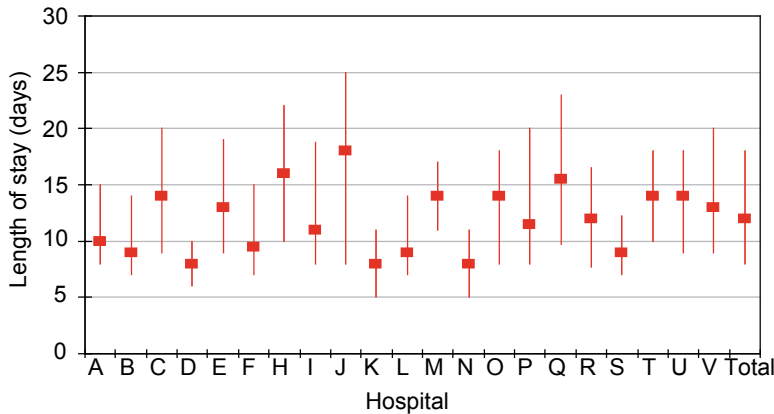
[To see a list of Hospital Identifier Codes click here](#)

# Length of Stay

**Fig. 5: Median length of acute orthopaedic stay by discharge destination**

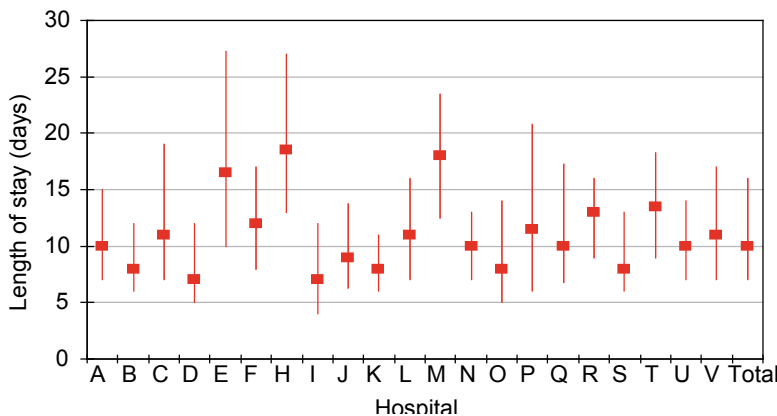
a) Discharged straight home

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



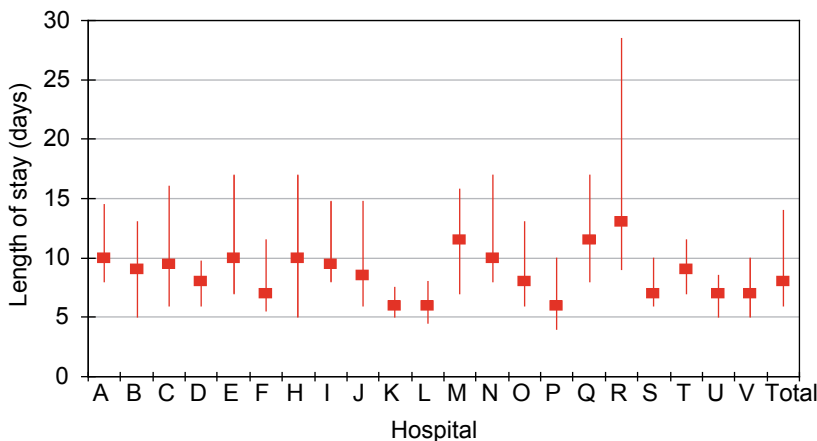
b) Discharged to rehabilitation

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



c) Discharged straight to care home

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

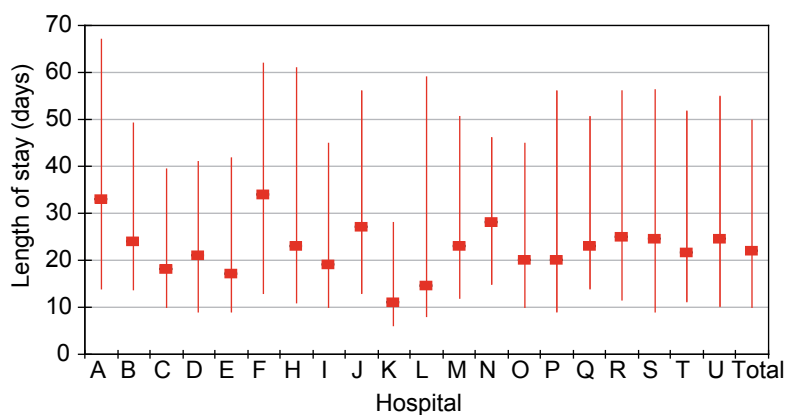


*Points represent the median length of stay in acute orthopaedic care in each hospital. Lines extend to show the interquartile range (lower and upper values indicate the number of days within which a quarter and three-quarters of patients were discharged).*

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.

**Fig. 6: Median length of total hospital stay**

[Click here to see more detail in Table 6](#)



*Points represent the median length of stay in the hospital setting 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).*

*The hospital setting includes total length of stay in acute orthopaedic care plus any subsequent rehabilitation, acute hospital or continuing NHS care stays directly afterwards (until the patient left this setting). Hospital V is excluded because patients were not followed up after discharge from acute orthopaedic care.*

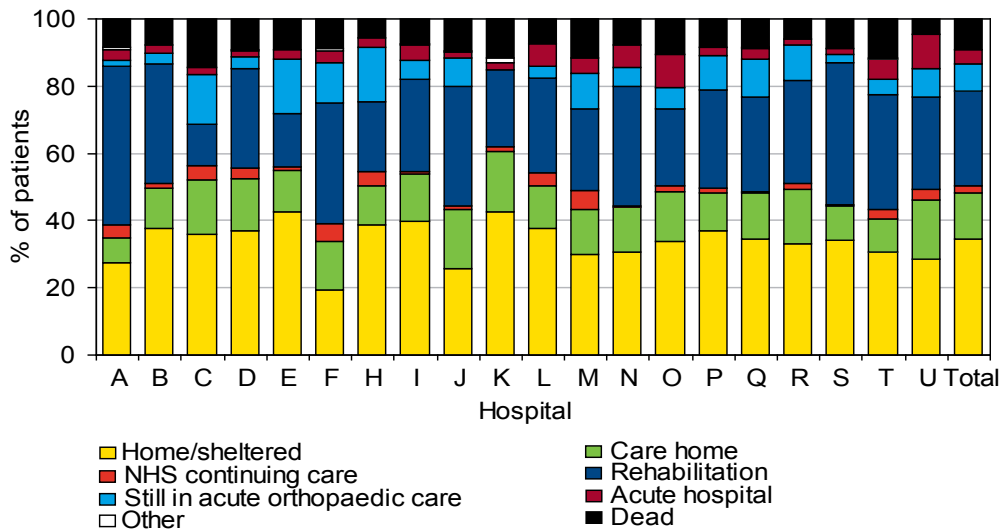
The median length of total hospital stay for patients originally admitted from their own homes was 24 days, compared to 10 days for patients admitted from a care home.

[To see a list of Hospital Identifier Codes click here](#)

# Patient Outcomes

**Fig. 7a: Place of residence at 30 days post-admission**

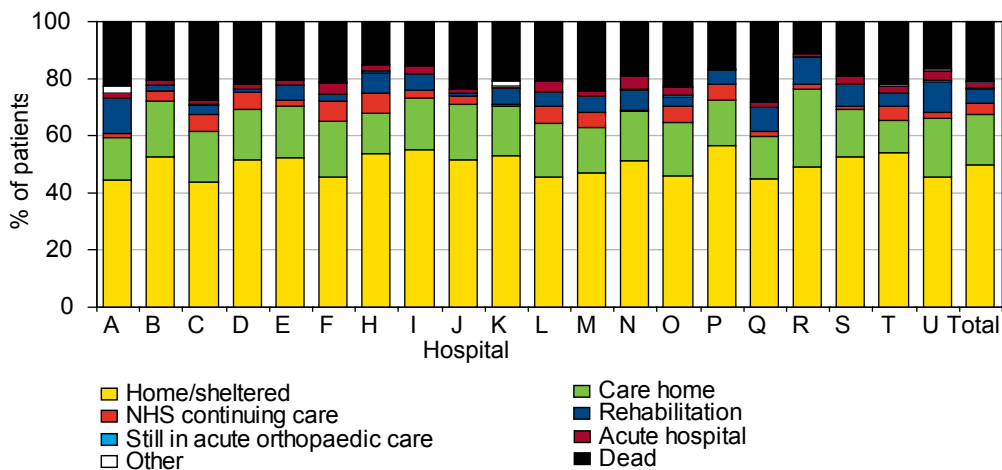
[Click here to see more detail in Table 7a](#)



*Hospital V is excluded because patients were not followed up after discharge from acute orthopaedic care. Hospital F patients admitted after June 2007 were not followed up after discharge from acute orthopaedic care.*

**Fig. 7b: Place of residence at 120 days post-admission**

[Click here to see more detail in Table 7b](#)

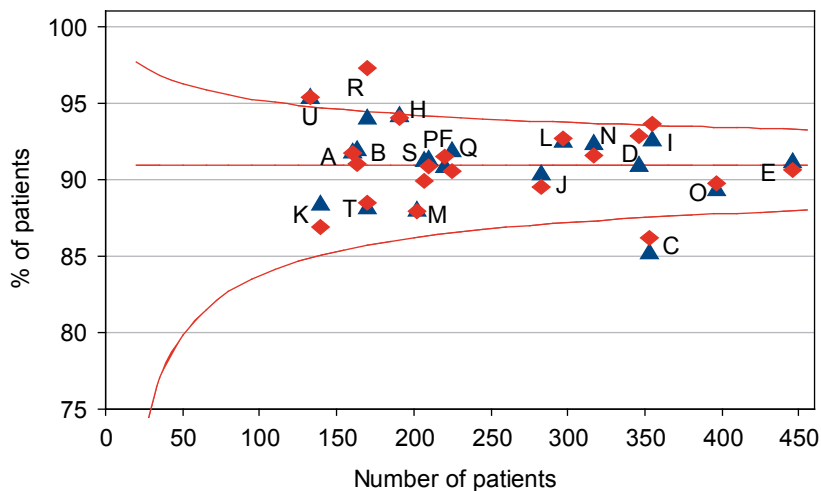


Forty-two per cent of all patients remained within a hospital setting (or had returned to a hospital setting) at 30 days after their admission for hip fracture, but only eleven per cent at 120 days.

[To see a list of Hospital Identifier Codes click here](#)

**Fig. 8a: Survival to 30 days post-admission**

[Click here to see more detail in Table 8a](#)

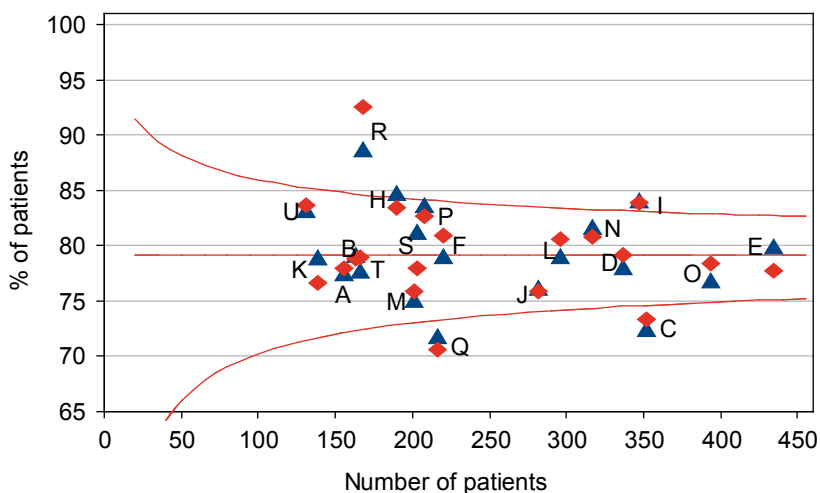


Blue triangle=actual (unadjusted) percentage,  
Red diamond=casemix-adjusted percentage.

[Click here to access five-year trend data for your hospital](#)

**Fig. 8b: Survival to 120 days post-admission**

[Click here to see more detail in Table 8b](#)

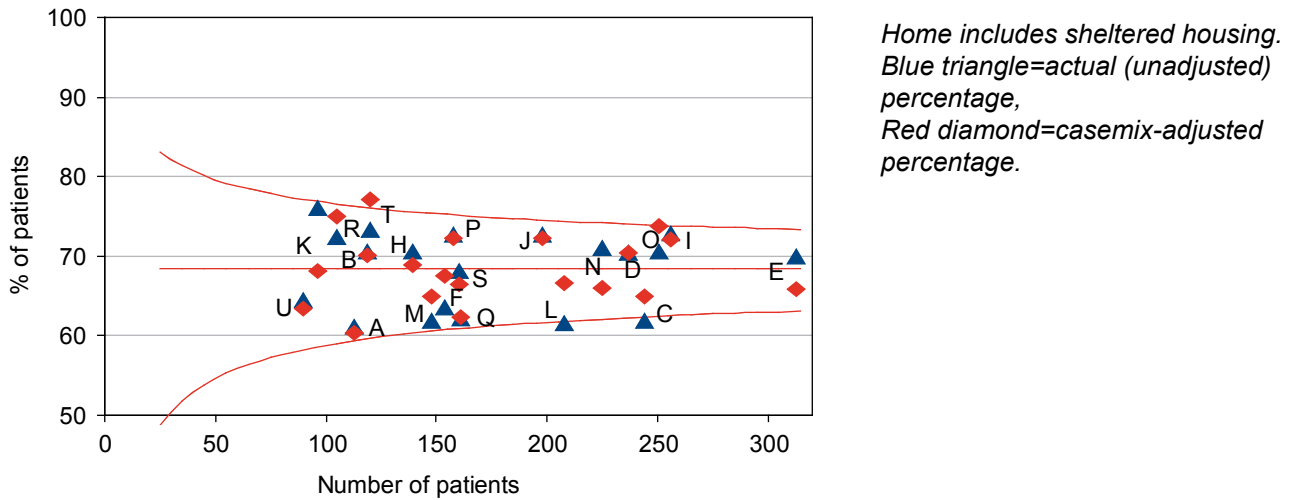


[Click here to access five-year trend data for your hospital](#)

Comparative survival is clearly of great importance and best explored in detail using casemix-adjusted data. Overall survival rates vary between 85% and 95% at 30 days post-admission, and 72% and 89% at 120 days post-admission.

**Fig. 9: Percentage of patients admitted from home who were resident at home at 120 days post-admission**

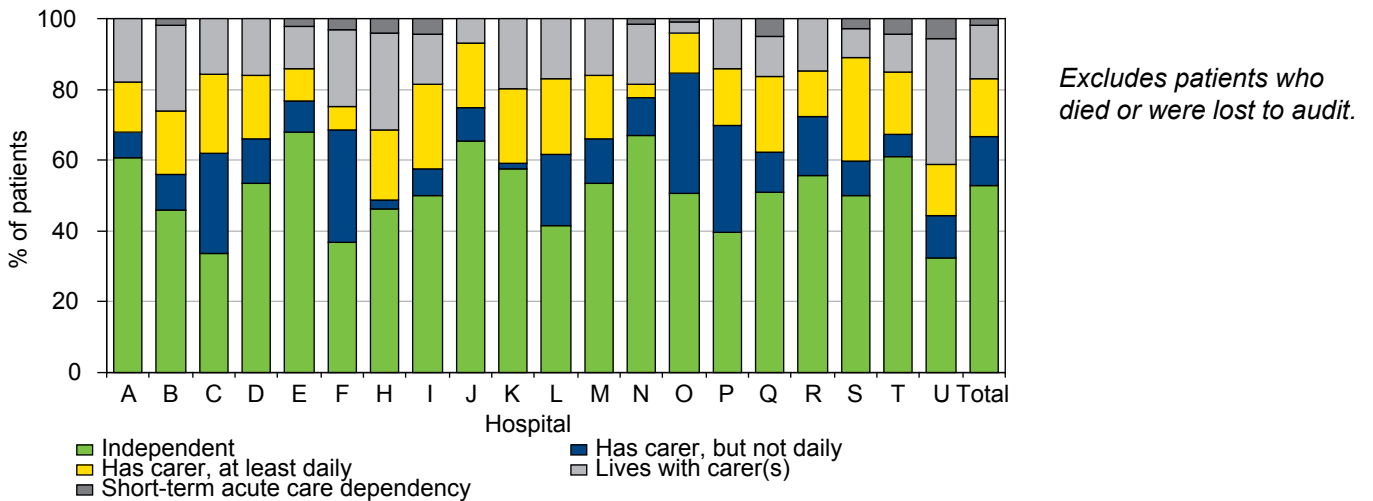
[Click here to see more detail in Table 9](#)



Sixty-eight per cent of patients admitted from home had returned home within 120 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. 10: 120 days post-admission indoor mobility of patients admitted from home who walked unaccompanied with no aids or one aid prior to admission**

[Click here to see more detail in Table 10](#)

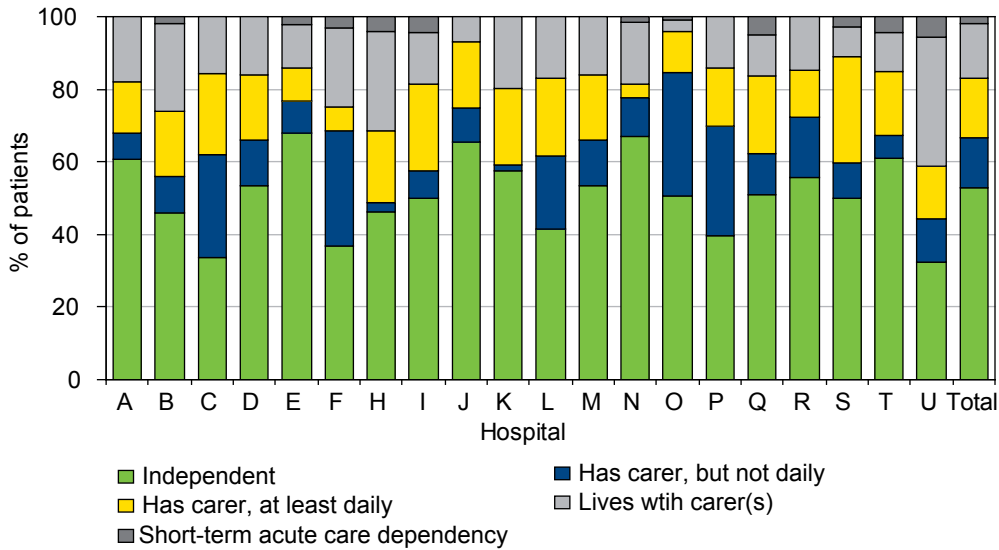


Loss or partial loss of mobility is a common and serious complication of hip fracture, particularly for the frail elderly at home. Of those patients from home who were able to walk indoors unaccompanied and unaided or with one stick pre-fracture, 57% of surviving patients had returned to this level of activity (although not necessarily returned home) by 120 days.

[To see a list of Hospital Identifier Codes click here](#)

**Fig. 11: Percentage of patients who lived independently again at 120 days post-admission**

[Click here to see more detail in Table 11](#)

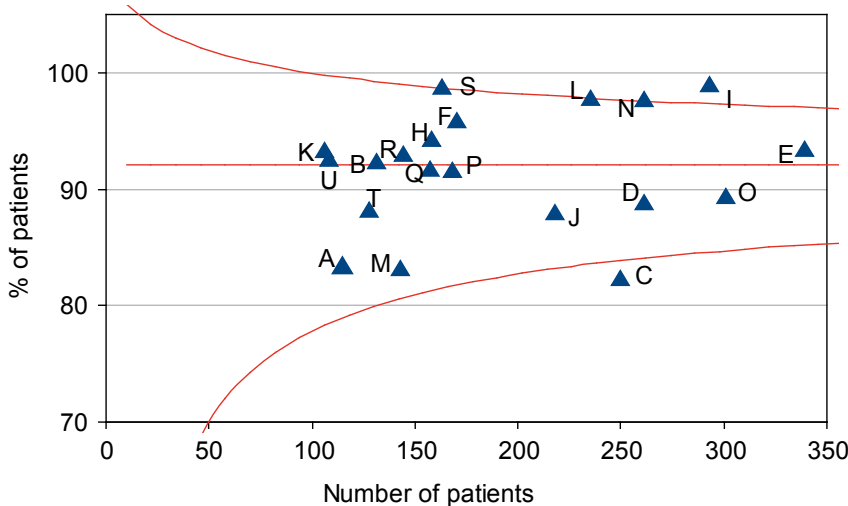


*Patients who did not live independently (i.e. without support from carers) prior to fracture were not included in the analysis.*

Figures 10 and 11 reflect the potentially devastating nature of hip fracture. By 120 days post-admission, only 53% 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. 12: Percentage of patients who were pain-free or experiencing only slight hip pain at 120 days post-admission**

[Click here to see more detail in Table 12](#)



*Excludes patients who died, were lost to follow-up or were unable to answer. Data not casemix-adjusted due to subjectivity of pain scoring. The confidence interval funnel has been adjusted for overdispersion*

Although these data may give us some indication of patients' pain levels, pain is a subjective measurement and will be dependent on individual patient expectations.



## Falls and Fractures

By 120 days, 832 (21%) patients were reported as having sustained at least one fall since their audited hip fracture. Of those patients who had a post-fracture fall, 486 (58%) were reported as having one fall, 288 (35%) had had two to four falls, and 58 (7%) five or more falls.

103 (3%) of patients who survived to 120 days sustained a further fracture. Of those patients sustaining further fractures, 25 (24%) fractured their wrist, 36 (35%) hip, four (4%) vertebrae, and 38 (37%) sustained other types of fracture.

Patients may be reluctant to admit to further falls, so we must consider that these figures are likely to be an underestimate of subsequent falls and fractures.