Central Manchester University Hospitals NHS
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National Hip Fracture Database: One year on – Personal Experiences of using the NHFD

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INTRODUCTION

Clinical audit is part of everyday practice in the health service. It is a tool used to benchmark and quality improve services for patients. Audit can be used as a local or a national based set of standards to benchmark care.

AIM

To demonstrate how audit can be used as tool to improve care for older patients with fractured neck of femur and the role of the National Hip Fracture Database (NHFD).

This poster presentation will demonstrate how practice is significantly improving at a teaching hospital in the North West of England and make reference to the personal experiences of the data collectors and coordinators of the NHFD.

LEARNING OUTCOMES

- Demonstrate how audit can aid good practice and enable changes to occur in practice
- Identify areas of good practice and also the gaps in the care of hip fracture patients
- Increase local and national knowledge on evidence based care of patients with hip fractures
- Identify some of the challenges faced in joining the database and continuing data collection.

HIP FRACTURES – THE COST TO THE HEALTH AND SOCIAL CARE

Fragility fractures and their care are a challenge to our health care system and our society. In the UK around 300,000 such fractures occur each year and approximately 70,000 of these are hip fractures. It is one of the most expensive injuries that hospitals have to deal.

Treating hip fractures alone costs the NHS and social care in the region of £2bn a year according to Professor Keith Willett, trauma tsar at the Department of Health. **It is a serious and costly injury with substantial morbidity and mortality** where 10% of patients will die within 30 days of the injury and 30% within 1 year. This number is projected to rise as the population ages and is expected to double by 2050.

While 50% of older people will return to their usual place of residence, most fear the effect a serious fall and fracture. For example, 80% of older women surveyed said that they would prefer to be dead than to experience the loss of independence and quality of life that results from a fall and hip fracture and subsequent admission to nursing home care.

In response to this and alongside public health demands for fragility fracture care and the *National Service Framework for Older People (2001) and S.I.G.N (2002),* a collaborative initiative was developed by the British Orthopaedic Association (BOA) and the British Geriatric Society (BGS), supported by the Royal College of Nursing, and the National Osteoporosis Society (NOS). **One key outcome of this initiative was the National Hip Fracture Database (NHFD) and the publication of the second edition of the Blue Book in September 2007.**

THE NATIONAL HIP FRACTURE DATABASE (NHFD)

NHFD is modelled on MINAP (Myocardial Ischaemia National Audit Project) and is also supported by the National Clinical Audit Support Programme. It documents case mix, care process and outcome, uptake of falls prevention and bone protection.

Key aims and goals of BOA/BGS were to ensure that that every patient presenting with a hip fracture receives excellent all round medical care and rehabilitation, despite their many co-morbidities, excellent surgery despite the challenges of osteoporotic bone, and reliable and effective secondary prevention. i.e treatment of underlying osteoporosis.

NHFD focuses attention on hip fracture care both locally and nationally, to benchmark this care across the country and to use continuously collected data to create a drive for sustained improvements in clinical standards and cost effectiveness in hip fracture care. The Blue Book provides guidance and six standards to work with.

TABLE 1: THE SIX STANDARDS

Standard 1:_ Admission to orthopaedic ward within 4 hours
All patients with hip fracture should be admitted to an orthopaedic ward within 4 hours of hospital admission.

Standard 2:_ Surgery within 48 hours
All patients with hip fracture who are medically fit should have surgery, within 48 hours and during normal working hours.

Standard 3:_ Development of Pressure Ulcers
All patients with hip fracture should be assessed and cared for with a view to monitoring their risk of developing a pressure ulcer

Standard 4:_ Preoperative Medical Management
All patients presenting with fragility fracture should be managed on an orthopaedic ward with routine access to acute orthopaedic medical support from the time of admission

Standard 5:_ Anti **-Resorptive Therapy**
All patients presenting with fragility fracture should be assessed to determine their need for anti- resorptive therapy to prevent future osteoporotic fractures.

Standard 6:_ Falls assessment
All Patients presenting with a f ragility fracture following a fall should be offered a multidisciplinary assessment with intervention to prevent future falls

MANCHESTER ROYAL INFIRMARY (MRI) AND THE NHFD

BOA/BGS highly recommends that all hospitals caring for patients with hip fractures consider joining the NHFD with a view to improving quality, efficiency and cost effectiveness of care for this cohort of patients.

Registration

The ortho-geriatrician made contact with NHFD headquarters in London and made enquiries about joining the NHFD in December 2007. The project manager and her colleague visited MRI to deliver a presentation to clinical staff and clinical audit staff along with delegates from local hospital orthopaedic, rehabilitation and older persons care areas plus representatives from the Primary Care Trust (PCT). Following discussions between the ortho-geriatrician and the Clinical Director for Orthopaedics, it was agreed that MRI apply for registration. The ortho-geriatrician made application and completed the facilities audit with input from orthopaedic consultants and management. The facilities audit allows the NHFD to understand individual hospitals facilities. Passwords and usernames for the nominated staff using the NHFD were obtained and data entry commenced. The ortho-geriatrician is the Lead Clinician at MRI for the NHFD with the orthopaedic liaison specialist nurse leading the data collection and input with support from the trauma nurse coordinator and the clinical audit department.

Commencement of data collection

Data collection commenced on March 1st 2008. As at June 2009 over 200 patient details have been entered on to the database. Table 3 shows the data collection tool that is used which has been designed by NHFD executive committee and is web based. Data is collected on all patients over 50 who sustain a hip fracture.

TABLE 2: THE NHFD FACILITIES AUDIT

NHFD - Facilities Audit

Enter website > log in using your username and password >Enter Database records > on left of page > 4 boxes > open top box 'Records' + open > Facilities Audit > enter data – NB. Ensure saved as 'complete'

Headings	Your Information	Comments/Options
Hospital		
Trauma catchment population (DGH workload)		
Number of hip fracture cases each year		
Trauma service description		DGH/Tertiary/both
Acute admission		'Hip#' ward / any ortho bed /Older person ward / any ward
Best description of hip fracture service		All pts > acute ortho then transferred to Medicine for Older People Ward / community Hospital bed at Day 5 post op
Hours of designated trauma list /per week		
Number of WTE orthopaedic consultants		
Number of WTE orthopaedic middle grades		
Number of hours per week worked by orthogeriatric consultants in orthopaedic department		
Number of hours per week orthogeriatric middle grades work in orthopaedic department		
Number of OG ward rounds a week		
Number of clinical nurse practitioner WTE specialising in fragility fracture patients		
Number of WTE fracture liaison nurses		
Falls clinic		None / Consultant led / nurse led
Dexa on site		Axial / peripheral / none (If you have axial & peripheral just put axial)
Dexa Since		E.g. since 2001
Who predominantly collects and enters data?		nurses, doctors or audit staff
Do you use local audit software, if so what is it called		Access/Excel/ Teleform / other (please state)
Rehabilitated		In admission ward / GORU
Characteristics of hospital		Free text _ comment on unique aspects of your hospital _ e.g. pts transferred > other hospital post op

Table 3: DATA COLLECTION TOOL

NATIONAL HIP FRACTURE DATABASE ~ Audit tool

Field	Field option
Patient ID number	
Date & time of admission to A & E	☐☐/☐☐/☐☐ ☐☐:☐☐hrs
Date & time of admission to orthopaedic ward	☐☐/☐☐/☐☐ ☐☐:☐☐hrs
Consultant code (optional)	☐☐☐☐
Surname	
First name	
NHS / CHI Number	
Date of birth	☐☐/☐☐/☐☐
Sex	Male ☐ Female ☐
Patient's Postcode	
Admitted From NB: Holiday residence/respite care is classified as admitted from own home	☐ Own home/sheltered housing ☐ Residential Care ☐ Nursing Home ☐ Long Term Care hospital ☐ Rehabilitation Unit ☐ Acute hospital ☐ Already in hospital ☐ Other ☐ Unknown
Walking ability	☐ Walks alone outdoors ☐ Walks outdoors – but only accompanied ☐ Walks alone indoors / not outdoors ☐ Walks indoors – accompanied only ☐ Unable to walk
Use of walking aid	☐ Walks without aid ☐ One aid (stick/crutch/tripod/etc.) ☐ Two aids (stick/crutch/tripod/etc.) ☐ Frame (walking frame/rollator) ☐ Wheelchair/bed bound
Side of fracture	L=☐ Right=☐
Type of fracture	☐ Extracapsular ☐ Basal/subcervical ☐ Intertrochanteric ☐ Subtrochanteric ☐ Other
Pathological #?	Yes ☐ No ☐
Date & time of primary surgery	☐☐/☐☐/☐☐ ☐☐:☐☐hrs
ASA grade	I ☐ II ☐ III ☐ IV ☐ V ☐ unknown ☐
Reason if delay > 24hours [Delay is calculated from time of admission to A&E]	☐ No delay- surgery < 24hrs ☐ Medically unfit - awaiting orthopaedic diagnosis/investigation ☐ Medically unfit - awaiting medical review/investigation or stability ☐ Administrative/logistic- awaiting inpatient or high dependency bed ☐ Administrative/logistic – awaiting space on theatre list ☐ Administrative/logistic – problem with theatre /equipment ☐ Administrative/logistic – problem with theatre/surgical/anaesthetic staff cover ☐ Cancelled due to theatre over-run ☐ Covid ☐ Other
Reason if delay > 48hours	☐ No delay- surgery < 48hrs ☐ Medically unfit - awaiting orthopaedic diagnosis/investigation ☐ Medically unfit - awaiting medical review/investigation or stability ☐ Administrative/logistic- awaiting inpatient or high dependency bed ☐ Administrative/logistic – awaiting space on theatre list ☐ Administrative/logistic – problem with theatre /equipment ☐ Administrative/logistic – problem with theatre/surgical/anaesthetic staff cover ☐ Cancelled due to theatre over-run ☐ Covid ☐ Other
Pre-op assessment	☐ None ☐ routine by Geriatrician ☐ routine by specialist nurse ☐ medical review requested
Operation	☐ External fixation – DHS/DCS ☐ External fixation – Screws ☐ External fixation – IM nail (long) ☐ External fixation – IM nail (short)
	☐ Arthroplasty – Unipolar hem (uncemented) ☐ Arthroplasty – Unipolar hem (cemented) ☐ Arthroplasty – Bipolar hem (uncemented) ☐ Arthroplasty – Bipolar hem (cemented) ☐ Arthroplasty – THR (uncemented) ☐ Arthroplasty – THR (cemented) ☐ Other
Pressure ulcers (grade 2 + above during acute admission)	☐ Yes ☐ No
Re-operation within 120 days (most significant procedure only)	☐ Subaction of dislocated prosthesis ☐ Washout or debridement ☐ Implant removal ☐ Revision of internal fixation ☐ Conversion to Hemiarthroplasty ☐ Conversion to THR ☐ Girdlestone/excision arthroplasty ☐ Surgery for periprosthetic fracture ☐ Nkad
Specialist Falls Assessment	☐ Yes – performed in this admission ☐ Yes – awaits falls clinic assessment ☐ No
Anti-resorptive therapy	☐ Started on this admission ☐ Continued from pre-admission ☐ Awaits DXA scan ☐ Awaits bone clinic assessment ☐ None ☐ unknown
Discharge destination from acute Orthopaedic ward	☐ Own home/sheltered housing ☐ Residential care/nursing home/LTC hospital ☐ Rehabilitation unit ☐ Acute hospital ☐ Dead
Date & time of discharge from acute Orthopaedic ward	☐☐/☐☐/☐☐ ☐☐:☐☐hrs
Discharge destination from Trust	☐ Own home/sheltered housing ☐ Residential care/nursing home/LTC hospital ☐ Rehabilitation unit ☐ Acute hospital ☐ Dead
Date & time of final discharge from Trust	☐☐/☐☐/☐☐ ☐☐:☐☐hrs

Follow up	30 days	120 days	1 year
Residential status	☐ Own home/sheltered housing ☐ Residential care/nursing home/LTC hospital ☐ Rehabilitation unit ☐ Acute hospital ☐ Dead	☐ Own home/sheltered housing ☐ Residential care/nursing home/LTC hospital ☐ Rehabilitation unit ☐ Acute hospital ☐ Dead	☐ Own home/sheltered housing ☐ Residential care/nursing home/LTC hospital ☐ Rehabilitation unit ☐ Acute hospital ☐ Dead
Walking ability indoors	☐ regularly walks without aids ☐ regularly walks with one aid ☐ Regularly walks with two aids or frame ☐ Wheelchair or bedbound ☐ Unknown	☐ regularly walks without aids ☐ regularly walks with one aid ☐ Regularly walks with two aids or frame ☐ Wheelchair or bedbound ☐ Unknown	☐ regularly walks without aids ☐ regularly walks with one aid ☐ Regularly walks with two aids or frame ☐ Wheelchair or bedbound ☐ Unknown
Walking ability outdoors	☐ regularly walks without aids ☐ regularly walks with one aid ☐ Regularly walks with two aids or frame ☐ Wheelchair or bedbound ☐ Unknown	☐ regularly walks without aids ☐ regularly walks with one aid ☐ Regularly walks with two aids or frame ☐ Wheelchair or bedbound ☐ Unknown	☐ regularly walks without aids ☐ regularly walks with one aid ☐ Regularly walks with two aids or frame ☐ Wheelchair or bedbound ☐ Unknown
Accompanied to walk indoors	☐ Yes ☐ No ☐ unknown	☐ Yes ☐ No ☐ unknown	☐ Yes ☐ No ☐ unknown
Accompanied to walk outdoors	☐ Yes ☐ No ☐ unknown	☐ Yes ☐ No ☐ unknown	☐ Yes ☐ No ☐ unknown
Anti-resorptive therapy	☐ Yes ☐ No ☐ unknown	☐ Yes ☐ No ☐ unknown	☐ Yes ☐ No ☐ unknown

National Report

A National Report was produced in May 2009 based on data from 64 hospitals, including MRI, covering the data collection period October 2007 to September 2008. A key criterion for inclusion required that a hospital have 50+ patients entered to the database. This report had anonymised hospital data with each hospitals lead clinician advised of the code for their own hospital to review and share results with colleagues. The purpose of the National Report was to allow hospitals to benchmark their own performance against national data and to track progress

NHFD and Audit at MRI

Six months following registration/data collection we were able to extract data from the database and compare these to the six standards. It was clear that there were gaps between practice and standards, with particular issues regarding admission to the orthopaedic ward and time to surgery. Discussions took place between ortho-geriatric, orthopaedics and anaesthetics departments, with a view to resolving these key issues. Guidelines were developed and implemented and change in practice was noticeable. Data entry to the database continued.

Three months following the key changes a joint audit between these departments took place to look at the timeliness of treatment provided to patients admitted with fractured neck of femur. Audit results showed that significant improvement had been made in the number of patients that had surgery within 48 hours. A very small number of patients delayed more than 48 hours had been medically unfit for surgery. Recommendations from the audit included changes in documentation for cancellation of surgery and priority for cancelled cases in subsequent theatre lists. A re-audit will take place in early 2010.

Future audit projects to be conducted will look at:

- pathways to rehabilitation
- length of stay
- compliance with osteoporosis secondary prevention protocols.

Experiences of data collectors and coordinators

Data collection, entry and analysis have been challenging and time consuming but the rewards have been great. It has given the multi disciplinary trauma team the opportunity to audit care for patients with hip fractures in a systematic way to a set of national standards.

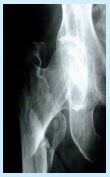
Good evidence based practice has been identified and areas that need improving have been highlighted. Action plans and facilities are in place for continual analysis of the data, ensuring further improvement of the already good practice.

The use of continuous comparative data collection and analysis focuses attention on local and national standards of care thus providing a benchmark. This creates an incentive and motivation for staff to sustain improvements, and continue to develop effective efficient care for this cohort of patients. Networking and a great deal of interdisciplinary and interdepartmental team building has developed. Patients, their relatives and carers are interested, included and involved. A patient advice leaflet is available and given to each one at the time of commencement of the data collection. Patients are happy to be contacted by phone at 30, 120, and 365 day intervals. Very positive comments are received about the care they received, the interest shown to them and their families by the hospital.

MRI involvement with NHFD has cemented good relationships across the various departments, and has also highlighted the need for collaborative practice development. Patients their relatives and carers are interested and happy to be involved.

The aim now is to be among the best 25 hospitals in the UK for fragility fracture care by 2011. The incentive to meet this target is a 3% increase in income based on quality improvement.

TABLE 4: NHFD PATIENT LEAFLET



Why a National Hip Fracture Database?
– and why information about your care is important.

Hip fracture is a common injury, and caring for patients with hip fracture is an important part of the work of the NHS.

This hospital takes part in the National Hip Fracture Database (NHFD), which has been set up to improve the care of patients who have broken a hip. Information gathered about care in hospital and about recovery afterwards enables us to measure the quality of that care and helps us to improve the services we provide Reports based on NHFD data are made to our clinical staff to assist them in improving care here. NHFD national reports show how different hospitals compare, thus helping to improve standards of care nationally.

So, information about your care and progress is important, and will be collected during your hospital stay. And, because your progress after you leave hospital matters to us, you may be contacted later about how you are getting on.

All information collected is confidential, and no information is ever made public about you or about any other patient. All NHFD information is stored, transferred and analysed securely – both in this hospital and within the national database – in keeping with the provisions of the Data Protection Act (1998). Participation is, of course, voluntary; and you are free, if you so wish, not to take part - tell your doctor if you do not wish to participate. However, the more people take part, the more helpful NHFD will be in improving care.

NHFD is supported by the National Clinical Audit Support Programme, a division of the Information Centre for Health and Social Care.

More details are available at **www.nhfd.co.uk**

RECOMMENDATIONS

- To hospital Trusts and trauma wards not already signed up to NHFD get involved, seek help from headquarters as help, advice and guidance is available in abundance
- Identify a NHFD team / group within your hospital to include relevant personnel from orthopaedics, ortho-geriatrics, anaesthetics, audit department and representatives from primary care trust
- Get to know the regional facilitator for NHFD and involve him/her in the hospital project
- Identify and focus on quick wins, this will keep the motivation up when achievements seem in the distance
- Aim to surpass all six standards as set out by BGS/BOA in the deliverance of a gold standard of care with dignity, respect and compassion for older people who have sustained a fracture to their neck of femur.

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