The national audit of services for falls and bone health

Falls and related fractures are a major cause of disability and mortality in older people. Falls prevention services have been available in the UK for many years, but audits of these services show that improvements are needed. We discuss the results of the most recent audit, published in March 2009.

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"In order to work out how to improve we need to measure and understand exactly what we do."
Professor Lord Darzi KBE[1]

Falls and fragility fractures are common inter-related age-dependent problems that separately, and together, lead to substantial loss of health-related quality of life and impose huge burdens on health and social-care resources. Osteoporosis and a tendency to fall should be considered as long-term conditions for management to reduce the risk of fragility fractures and injuries from falls.

Falls and fractures in older people result in more than 4 million unscheduled hospital bed days each year in England alone. Admissions for hip fracture will reach 100,000 in the UK by 2020 at the present rate of growth, and falls admissions have increased by 30% in the past 4 years.[2] People with a combination of osteoporosis and recent fall may have a 25-fold increased risk of fracture,[3] but only about 5% of falls in community-dwelling older people lead to such an outcome.[4] However, a largely unquantified additional burden of disutility is consequent on fear of falling[5] and other non-fracture morbidity following a fall.

Despite this, the NHS has yet to see a systematic and adequately funded approach in this clinical area. Previous research and national audits indicate that the aspirations of the National Service Framework for Older People[6] have largely not been met for falls and bone health, despite health-care organisations consistently reporting high levels of compliance with delivery of technology appraisal guidance from NICE.

However, significant gaps exist in patients' management for secondary fracture prevention both in secondary care[7] and in primary care.[8] The present capacity and organisation of services for fallers could not cope if the recommendations of NICE clinical guidelines for falls[9] were implemented. Evidence from the King's Fund suggests that investment in trauma and musculoskeletal services by primary care organisations had, uniquely, suffered measurable disinvestment over a period of time of substantial extra funding in the NHS.[10]

Previous audits

The major finding from the first national falls audit[11] in 2005–06 was that, while three in four Trusts stated they had established "a coordinated multiprofessional specialist falls service", the details showed that this assessment was probably overly optimistic. Case finding of patients at risk of falls was poorly developed, and most services had no systems for routine identification of those in need of osteoporosis treatment after fragility fracture.

There was little evidence of effective collaboration between primary and community care, social services, and hospital services. The number of patients reaching specialist services for assessment and treatment of falls' risk factors was very low, at around 1·7 in 100,000 new patients per week, and rates of key investigations were a fraction of those necessary to identify syncopal fallers.

This audit was followed in 2007 by a clinical audit[7] of care actually received by patients attending hospital with a fragility fracture. It covered more than 90% of trusts in England, Wales

and Northern Ireland, and gave a genuine indication of care received. The findings suggested serious gaps in the provision of secondary prevention for falls and fractures, particularly after non-hip fractures where fewer than one in five received investigations and treatments defined in NICE guidance.

The 2009 audit

Methods

Audit criteria and indicators were developed from existing national and consensus documents[6,9,12–16] by a multiprofessional, multidisciplinary steering group. This group was based in the Clinical Effectiveness and Evaluation Unit at the Royal College of Physicians in London and funded by the Healthcare Quality Improvement Partnership, which took over responsibility from the Healthcare Commission.

A web-based data-entry tool was developed, which permitted local and comparative service evaluation. Weighted scores, reflecting the relative importance of a particular indicator were devised. To adjust for the different total scores for the domains, each was scaled to generate an identical denominator score of 100. An identifiable summary subset of data was made publically available for the first time.

The audit[17] was well supported, with returns from 93% of 337 NHS Trusts in England, Wales, and Northern Ireland (Scotland has a devolved NHS with its own regulatory mechanisms and audit programme). "Trust" defined here includes other health-care provision organisations, such as Local Health Boards. For the first time, primary-care organisations, including joint health and social-care trusts, were invited to submit responses and a sample of nursing homes also took part.

Main findings

Overall, many sites did not have adequate services for the prevention of recurrent falls and fractures, either because key components of these services were not in place, or because commissioning failed to provide a coordinated falls and fracture strategy. Deficiencies included inadequate or absent systems of risk assessment for future falls and fracture risk in emergency and trauma services. Services employing falls coordinators and fracture-liaison nurses were most likely to have case-finding systems to identify patients at high risk.

Because of changes in indicators and methods, direct comparison with the previous organisational audit was difficult. Nonetheless, apart from a few modest improvements, standards still vary widely across the nations. Some organisations had high standards, indicating this is readily achievable. Bone-health services still lag behind those for falls.

As illustrated by the quote from Lord Darzi at the start of this article, increasing importance is placed on the obvious point that unless the NHS knows what it is doing, it is unlikely to know how well services are delivered or whether improvements are occurring as a result of change. In this audit, important public-health information on local fracture rates was inadequate or not obtained at all.

Fracture prevention by attention to bone health

The management of patients with a new fragility fracture illustrated this point well. Only 44% of sites admitting fracture patients routinely screen for risk of osteoporosis. Interventions here are recognised as not only clinically effective but also cost effective. Only 39% of commissioning trusts reported compliance with current NICE guidance on secondary prevention of osteoporotic fragility fractures. This figure contrasts starkly with results of the 2007–08 Healthcare Commission's annual health check[18] of NHS Trusts, in which they were congratulated for achieving 95% self-reported compliance with core standard 5a (implementation of NICE guidance).

This public reassurance about fracture prevention services may actually be even more misleading since only 24% of primary-care organisations report having audited local bone-health prescribing and only nine know their local rates of fragility fracture. The report[17] notes that without this knowledge organisations would be unlikely to be able to tell whether or not they were compliant.

Since nearly half of patients with hip fracture have previously had a fragility fracture,[19] major opportunities to avoid preventable morbidity, dependency, and premature mortality are being missed. A non-hip fragility fracture should be considered as an advance warning of a future hip fracture, just as a transient ischaemic attack predicts a stroke.

A service model to bridge this gap, the fracture-liaison service, has existed for more than a decade and research evaluations have confirmed its effectiveness in ensuring better secondary prevention.[20–22] Fracture-liaison services have yet to be commissioned or provided universally, and in this audit[17] only 24% of sites had a specialist nurse. One in four (88/352) falls services have no agreed referral criteria for dual X-ray absorptiometry scanning, a role for which is clearly indicated in NICE guidance on secondary prevention[13] and has

been defined in national guidance for primary prevention. If nothing else, the potential risk of clinical negligence for both systems and patients should be a wake-up call for the executive and directorate management within health-care organisations.

Assessment and interventions for fallers

Many clinical services did not appear to be adhering to the NICE guidance on falls[9] or the aspirations of the National Service Framework interventions[6] directed at individuals who have fallen. Patient throughput is still very low, with a median of approximately four new patients per week seen in specialist falls clinics in each locality. Only half of providers with an emergency unit routinely screen older people attending with falls for risk of future falls. The evidence for secondary prevention of falls is strongest in this setting[23] and failure to intervene may lead to increased risk of falls.[24]

The most effective component of a falls service is evidence-based, individually prescribed and supervised, strength and balance training programmes of sufficient duration to produce significant change. Only 38% of services provide the Otago or FaME programmes, which are supported by research evidence.[25–27] Given the potential numbers involved, such programmes may be a practical approach as observed by John Campbell: "Multifactorial fall prevention interventions are effective for individual patients. However, for community programmes for populations at risk, targeted single interventions are as effective as multifactorial interventions, and may be more acceptable and cost effective."[28]

Other important findings

- Primary-care organisations with a written commissioning strategy for falls prevention were more likely (59% versus 39%) to have implemented routine screening for falls risk for patients who attend emergency departments or minor injuries units.
- 50% of sites do not use a proforma to prompt standardised visual acuity assessment, and 48% of primary-care organisations do not assess cardiac status including a basic ECG.
- Only 41% of sites include a validated home hazard assessment.
- Most trusts have developed inpatient falls policies, but only a third knew their inpatient falls rates.
- Half of trusts (52%) providing falls services did not provide any training to care homes or guidance on when residents should be referred to falls services; indeed a quarter (24%) provided no access to these services for care-home residents.
- Although most trusts with inpatients (83%) had policies or procedures to minimise falls and injuries, primary-care providers and mental health-care Trusts were more likely not to have them (29% and 17%, respectively) than were acute Trusts (5%).
- 12% of acute Trusts do not have a geriatrician commited to falls services. This was regarded as an essential component of a falls service in the National Service Framework. Medicine is part of the service and every service needs a champion.
- Too few services use patient's views (51%) to support and guide service improvement, or use written patient-agreed treatment plans (35%).

Box: Recommendations

Primary-care organisations should develop commissioning strategies that include:

- Case-finding systems in hospital and community settings to identify high-risk fallers
- Adherence to NICE treatment guidelines with monitoring by local audit
- Clinical leaders including a commited consultant
- A fracture-liaison service
- Widespread accessible evidence-based exercise programmes
- Targeted use of validated home safety assessments

The Department of Health should review how it can best support these developments by:

- Provision of advice on commissioning
- Stronger incentives
- Provision of useful metrics for falls prevention, fractures, and osteoporosis treatments

Responding effectively and measurably

So how do the results of this national audit fit into the wider picture? An audit of the organisation of services is not an audit of care actually received by patients. Having systems in place may not be sufficient to drive these outcomes. This point was illustrated in two recent studies[29,30] evaluating the efficacy of a falls intervention programme in which implementation and adherence to the fall-prevention measures was dependent on referral to other health professionals working in their usual clinical practice. Even though multifactorial falls intervention has a good evidence base,[23] it is

necessary for the patient to enter the management pathway for them to succeed. Similarly, the guidance for secondary prevention has yet to have an impact.

The new recommendations from the steering committee (box) echo those made twice already, and to what extent the NHS will be able to respond remains to be seen. Northern Ireland, through directed enhanced services has made a creditable, adequately funded attempt to address the care gaps. Both the English and Scottish directed enhanced services criteria for osteoporosis deal with only initiation of therapy in new fragility fractures in women, and ignore men, people with prior fractures, and the need to ensure persistence with therapy.

Similar criticisms can be made of the report of the expert review group for the last Quality and Outcomes Framework review process. About half of patients will no longer be taking their medication after 12 months,[31] and similar adherence is seen with all long-term conditions except where the quality and outcomes framework has driven annual monitoring and follow-up.[32] 77% of refractures occur outside the first year after the initial fracture.[33]

Clinical efficacy, effectiveness, reduced health-care costs,[34–37] and slower off-set of effect is associated with long-term compliance.[38] The NICE technology appraisal[17] requires primary-care ogranisations to make funding available for the approved medications for osteoporosis. It does not require commissioners or providers to ensure that it is actually prescribed. New incentives or other methods must be used to solve this problem and persistence with treatment needs to be factored in.

A number of other opportunities exist to respond to the findings of the national audit. These include the emerging commissioning framework toolkit from the Department of Health, the Blue Book[14] from the British Orthopaedic Association and British Geriatrics Society, the National Hip Fracture Database, and manifestos from the National Osteoporosis Society. Guidelines do not self-implement, however, and to make best practice part of regular practice we need better information about the delivery of falls and fracture interventions at the patient level through the development of meaningful metrics. Overall, the standards identified do not provide reassurance that enough is currently being done to reduce injury, disability, and premature death from falls and fractures.

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The public report of the National Audit of the Organisation of Services for Falls and Bone Health of Older People is available at the Royal College of Physicians website:

http://www.rcplondon.ac.uk/clinical-standards/ceeu/Current-work/Falls/Documents/National-Falls-and-Bone-Health-Public-Audit-Report-March-2009.pdf

Your local comparative results can be obtained from the relevant Trust audit or falls lead.