

# National stroke audit

Anthony G Rudd and Michael Pearson

**Anthony G Rudd**

FRCP, Associate Director, Clinical Effectiveness and Evaluation Unit, Royal College of Physicians

**Michael Pearson**

FRCP, Director, Clinical Effectiveness and Evaluation Unit, Royal College of Physicians

*Clin Med JRCPL*  
2002;2:496–8

## Introduction

The national audit of stroke coordinated by the Clinical Effectiveness and Evaluation unit (CEEu) of the Royal College of Physicians of London has now completed three cycles, with the latest results produced this summer<sup>1</sup>. It is time to evaluate the value and future of such national audits.

Considerable resources have been devoted to local audit over the last two decades without many concrete achievements. There are exceptions, but in general local audit tools have not been subjected to rigorous development, samples are too small to answer the questions being asked and the processes required to implement the findings effectively have been absent. National audit can overcome these problems and has the additional advantage of providing individual health providers with benchmarking data enabling them to compare local performance with that of the rest of the country. This combination of robust data with large numbers (statistical power) and meaningful comparisons with one's peers, has provoked genuine interest from clinicians of all disciplines, from managers and from patient groups.

The first two cycles of the audit in 1998 and 1999 showed there were significant areas of stroke care that needed improvement, with very wide variations in the standards of care between different trusts<sup>1,2</sup>. Between the first two audits major changes took place, with evidence that many hospitals and primary care providers were beginning to seriously address the deficits in their services. This was encouraging and sufficient to persuade the National Service Framework (NSF) for Older People<sup>3</sup> to recommend that all hospitals should perform such an audit. In the latest audit, 235 (over 95%) of acute trusts providing care for stroke patients in England, Wales and Northern Ireland took part voluntarily. This is probably the most comprehensive audit of a single clinical condition ever conducted in the UK. Lessons learnt from this audit are applicable to audits conducted for other conditions.

However, there is a large question mark over the nature and future of NHS clinical audit activity and the experience of three rounds of data collection perhaps permits us to suggest a few answers. Is the considerable time and effort needed for data collection, often by clinicians who might otherwise

be treating patients, justified? Are the methods employed sufficiently robust and the interpretation reliable? Should an audit assess the process of care or outcomes or both? Can the financial resources be justified?

## What is the national audit of stroke care?

The national audit of stroke (the most recent audit) is a snapshot of care across the country. It collected data retrospectively from case notes about the care provided from the time of hospital admission to six months after stroke, by all members of the multi-disciplinary team. Each participating trust provided information about the organisation of services and the process of care of up to 40 consecutive admissions with stroke. Until there is an electronic patient record, it is not feasible to collect prospective data for a condition that often requires many weeks in hospital and involves so many different professionals in delivering treatment. Most data concerned the process of care, using wherever possible measures that have an evidence base linking them to improved outcomes. The number of patients required to detect real differences between hospitals in outcomes, such as mortality or disability, is prohibitive. Local data were collected within each trust and there was a central team in the CEEu that collated, analysed and reported back the results within 2–3 months of submission, under the overview of the Intercollegiate Stroke Working Party. As well as reports to each hospital and reports compiled at regional or strategic health authority level, an active dissemination plan included multidisciplinary meetings in each region to discuss the findings, exchange ideas and encourage local teams to act.

There are advantages to this type of study. Data are collected locally and only anonymous data are received centrally, so there are no confidentiality issues at the centre. However, the lack of a patient identifier makes it impossible to link to other data sets or to perform studies comparing data against economic indicators of deprivation. A snapshot audit only requires collaboration for 1–2 months from each unit every 2–3 years, which permits a wider data set to be collected in a short time, whereas continuous audit usually leads to a restriction in the size of the data set that can be collected as well as substantially more local effort and resources.

## What did the 2002 report find?

One of the key findings of the 2002 report was that 175 (73%) of participating sites now have a stroke unit, but only 27% of admitted stroke patients spent more than half of their hospital stay on a stroke unit. This figure has increased from 18% in 1998 and 25% in 1999. At the current rate of change it will be approximately 70 years before all stroke patients receive specialist stroke care! Eighty percent of trusts now have a clinician with responsibility for stroke, but with a median number of two sessions a week this is still insufficient. The British Association of Stroke Physicians estimates that an average district could justify two full-time stroke physicians to provide a comprehensive stroke service. On the positive side, more patients than ever are having brain imaging (over 83% cases), so here there has been a revolution over the last few years. But the documentation (and thus probably the performance) of individual basic clinical care remains inadequate in many areas: only 64% of patients have a swallowing assessment, 63% have visual fields recorded and only 49% are weighed at least once during the admission. At the six-month follow-up, 9% of patients who should have been on antithrombotic medication were not taking it and rates of treatment of hypertension and hyperlipidaemia were in many cases inadequate.

One hundred and seventy-five trusts contributed data to both the 1998 and 2002 audits. Analysis of their data shows that in most areas the standards of care are improving. Out of 31 standards that were measured in both audits, 27 improved, with four remaining the same or deteriorating. Overall there was a 9.3% improvement, with some of the biggest changes occurring in the documentation of impairments on admission and involvement of carers in the rehabilitation process. How much of these improvements are the consequence of the audit process itself is debatable, but the overwhelming view of the clinicians attending the post-audit regional workshops was that the audit had been a useful exercise and a catalyst for change in that the information was persuasive enough for trust management to agree to changes.

## How have the data been used?

There remains a strong majority view amongst clinicians that data collection and the consequent reports should remain their responsibility. But times are changing. Clinical governance places a duty on trust management for maintaining quality and therefore they must have access to the results. Change is often only possible when clinicians (of all disciplines) and managers plan it together. Thus trust reports have been sent to both clinicians and to chief executives but there are others, including strategic health authorities, primary care trusts, the Department of Health and the public, who also have an interest. The data were collected on the understanding that they would not be released in identifiable form to these bodies and it is important to recognise that the success of persuading over 95% of trusts to collect and participate voluntarily with no additional resources is in part because the data have not been allowed to become a

political football. There are many reasons for apparent poor performance including that the data might be wrong, the organisation of the trust may be a problem and that the individual clinicians might be poor. Poor performance should be an indication for investigation and not automatic castigation.

The audit has released aggregated summary data to strategic health authorities that can alert them to the need to investigate. The Commission for Health Improvement (CHI) has asked for local stroke audit data when inspecting trusts and looked for an 'action plan' in response – a feature that sadly is not automatic in the health service. Another constructive use has been by the National Clinical Governance Support Team that used local data on their trust board support programme – real clinical data for the boards to consider.

## What of the costs?

Commercial enterprises are constantly performing quality assessment exercises at considerable cost. The central costs of this program (circa £150,000) plus local collection costs of the same order might sound expensive, but they are a minute fraction of the NHS stroke budget for the only quality control exercise that is available. In this case most local costs were absorbed by clinical staff performing the audit in addition to existing duties. Central costs were supported by grants from a number of pharmaceutical companies and charities. This is precisely what the Bristol Inquiry concluded was needed and this model is at present considerably cheaper than continuous data collection. We are pleased that the new Office for Health Performance to be established at CHI has indicated its wish to take over the funding of this programme.

## The future

We expect to run a further audit in 2004 to coincide with NSF for Older People milestones, one of which is that all trusts should have established a specialist stroke service. In the meantime, any unit wanting to confirm that their service is improving can utilise the recently published stroke audit package that includes profession-specific audits<sup>4</sup>.

Audit of any clinical activity will remain an imperfect tool, but when conducted at a national level with large numbers of cases, with attention to detail and with clinical interpretation, it can stimulate and achieve service developments that will improve the quality of patient care. It should remain the responsibility of clinicians to run these audits, with the Royal Colleges playing a key role in their organisation.

## References

- 1 Intercollegiate Working Party for Stroke. *Concise report on the National Sentinel Audit of Stroke, 2001–2*. London: Royal College of Physicians, 2001.
- 2 Rudd AG, Irwin P, Lowe D, Rutledge Z, Pearson M. National clinical audit. A tool for change. *Qual Healthcare* 2001;**10**:141–51.
- 3 Department of Health. *The National Service Framework for older people*. London: DH, 2001.

- 4 Intercollegiate Working Party for Stroke. *A multidisciplinary stroke audit package*, 2nd edn. London: Royal College of Physicians, 2002.