Developing a National System to Monitor the Quality of Hospital-based Stroke Services

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Executive Summary

Introduction
Stroke is common, frequently results in death or long term disability and is often poorly managed. For these reasons the Scottish Executive has identified stroke as a priority. The Scottish Stroke Care Audit was established in 2000 and by 2005 included all 32 hospitals admitting patients with acute stroke in Scotland.

Aims and objectives
The Scottish Stroke Care Audit aims to:

- Drive improvements in the organisation and delivery of stroke care by encouraging sharing of good practice, adherence to best evidence, and better recording of patient care.
- Routinely monitor the performance of Scottish Hospitals to improve accuracy and clinical usefulness of routinely collected data, measure against nationally agreed standards for stroke care, such as the stroke components of the Scottish Executive’s Strategy for Coronary Heart Disease (CHD) and Stroke, facilitate an ongoing programme of national time-limited audits of specific aspects of stroke care, and facilitate benchmarking and permit comparisons between units by encouraging all NHS Boards to use a common data set (with explicit definitions) collected using standard methods.
- Support management decision making by providing data to allow better service planning, providing data for consultant appraisal to reflect an individual clinician’s performance, bridge the gap between the routine data collection systems currently available (mainly through the NHS National Services Scotland’s Information and Statistics Division’s (ISD) Scottish Morbidity Record 01 (SMR01) and the expected future Clinical IT systems.

Methods
All hospitals aim to capture a minimum dataset on all adult patients admitted with an acute stroke or who have an acute stroke whilst in hospital. In addition some hospitals include patients attending their neurovascular outpatient clinics. The minimum dataset, with explicit definitions of each item, focused on those aspects of care, which are known to influence outcome, and so were included in NHS Quality Improvement Scotland (QIS) standards. Each hospital is responsible for their local audit including data collection, data management and quality assurance.

The National Audit is a confederation of these local audits. Annual reports are produced by a co-ordinating office which combines the data from these local audits to provide a national picture and to allow external benchmarking. This process is facilitated by each hospital entering, storing, and reporting on its data using the same software, purpose built for the audit.

The audit has never aimed and was not designed to produce an accurate and reliable measure of the quality of stroke care in Scotland as a whole however in this report data pooled from participating hospitals has been presented to provide a national picture.
Results
The results of the audit for each individual hospital have been reported in full in the National Reports for 2004–2005 and 2005–2006 (www.strokeaudit.scot.nhs.uk/). These provide detailed information about the numbers of patients included within each hospital and NHS Board, their process of care, and their crude and casemix adjusted 6 month case fatality.

The audit has included 18,623 patients with an acute stroke since 2000. There are major differences between the patients identified by the local audit staff and those identified via routine diagnostic coding on ISD’s SMR01. Hopefully this work will lead to improved accuracy of routine data collection in both the audit and SMR01.

The audit has demonstrated moderate-sized but statistically significant improvements in most aspects of care. For example the proportion of patients accessing stroke units within one day of admission increased from 40% to 47% over 1-2 years; the proportion having a brain scan within two days rose from 71% to 76% and the proportion of those with ischaemic strokes receiving aspirin within two days rose from 43% to 55%. These data suggest that the Scottish Executive’s strategy for stroke is working, though improvements have not been achieved in all hospitals and Managed Clinical Networks have more work to do to provide the highest possible quality of care in all parts of Scotland. A time limited audit of the assessment of swallowing safety demonstrated an increase in proportion having a swallow assessment within a day of admission from 33% to 47%.

The data collected by each hospital were linked to data collected by ISD to allow the 6 month case fatality to be determined for each patient. These analyses demonstrated wide variation between NHS Boards and hospitals, but indicated that most of this variation resulted from variation in casemix, i.e. hospitals with worse outcomes admit patients who are older, frailer and have more severe strokes.

Conclusions and recommendations
The audit has fulfilled its main aims. A National Stroke audit has been established which has enabled a standard minimum dataset to be collected for the vast majority of stroke patients admitted to hospital. These data have indicated that the process of care often falls short of the standards laid down by NHS QIS. They also show that care is improving across Scotland overall though there is still wide variation between hospitals and a lot of work still needs to be done to achieve more equitable delivery of specialist stroke care across different hospitals and NHS Boards.

We recommend that the National Audit continue to monitor the performance of hospitals in Scotland. The audit allows the NHS boards to monitor their performance against NHS QIS standards and ensure progress against targets set in the National Strategy.

Actions
Funding of the National Audit is to continue, and from 1 August 2006 will be provided by the Scottish Executive. An IT and audit subgroup of the National Advisory Committee for Stroke has been established to co-ordinate several inter-related pieces of work. One important aim of this subgroup is to facilitate the audit in the future by developing clinical systems which will capture the majority of the audit data as a by product of clinical care and thus reduce the resources required for local data capture.