research

GPs' views of quality initiatives to improve stroke outcomes following carotid endarterectomy

Sandy Middleton, John Harris, Robert Lusby, Jeanette Ward

Sandy Middleton, BAppSc, MN, PhD, FCN, is Senior Research Fellow, Centre for Applied Nursing Research, South Western Sydney Area Health Service, New South Wales.
John Harris, MBBS, MS, FRACS, FRCS, FACS, DDU, is Professor of Surgery, University of Sydney, New South Wales.
Robert Lusby, MD, FRACS, FRCS, is Professor of Surgery, University of Sydney, New South Wales.
Jeanette Ward, MBBS, MHPEd, PhD, FAFPHM, is Director, Division of Population Health, South Western Sydney Area Health Service, New South Wales.

BACKGROUND General practitioners' satisfaction with previous referral of patients may influence their future specialist referral patterns.
METHOD A postal survey of 123 GPs assessing satisfaction with discharge planning and communication from operating surgeons for patients following carotid endarterectomy. General practitioners' views of quality indicators for patient referral also were assessed.
RESULTS General practitioners were significantly more likely to be 'very satisfied' with the level of communication from the operating surgeon (83%) than the discharge planning (65%), ($p<0.001$). The most highly ranked quality indicator for use in referring a patient for carotid endarterectomy was the 30 day postoperative complication rate per surgeon (n=69, 56% 'very useful'). Over one-third (35%) remembered seeing the relevant guidelines for GPs.
DISCUSSION General practitioners value information about surgeon performance when making referral decisions. They are less satisfied with discharge planning than other aspects of care.

In 1996, the National Health and Medical Research Council (NHMRC) published clinical practice guidelines for the prevention of stroke, (in full,[1] condensed general practitioner version,[2] and a consumer version[3]). They included summarised evidence about carotid endarterectomy which reduces stroke risk in patients with internal carotid artery stenosis.[1]

Eight factors enhance practice guideline development and implementation.[4] Six inhibitory factors also have been identified.[4] General practitioners can ask 10 questions to help decide whether a particular guideline is likely to help them in their practice.[4] The NHMRC stroke guidelines meet eight of these, although they do not acknowledge the needs and constraints of general practice which may limit GP adoption of guidelines (Table 1). Elsewhere, the NHMRC recommends evaluation of guideline implementation in order to assess improvements in health outcomes.[5]

Discharge communications have been identified as important for continuity between acute and community based care.[6] General practitioners' previous satisfaction with the process of referral including postoperative communication from surgeons and discharge planning may influence future referral patterns.

The authors therefore decided to measure GPs' satisfaction with the level of discharge planning and communication in this area, also including their perceptions about quality indicators, their usefulness when referring patients to a surgeon for carotid endarterectomy, and their awareness of the NHMRC clinical practice guidelines. This was a preliminary study to inform the design of an intervention trial.

Method

Patients still alive four years after their first or only carotid endarterectomy performed at one of two teaching hospitals in Sydney (New South Wales) were sent a questionnaire.[8] This also requested permission to contact their GPs and provide the GP's name and contact details. Each of these GPs was telephoned to explain that their patient had agreed to the contact and to the provision of health information. General practitioners were mailed a questionnaire and asked for confirmation that they were the patient's GP before the endarterectomy. General prac-

Table 1. Critical appraisal of the NHMRC stroke guidelines[1–3]

Questions[4]	Applicability to the NHMRC stroke guidelines[1–3]
1 Are the guidelines outcomes focussed?	Yes. Primary outcome is stroke, either ischaemic, haemorrhagic or embolic
2. Are they based on the best available evidence?	Yes – based on best available evidence at the time
3. Is rigorous methodology used in assimilating the evidence?	Possibly - the guidelines state they are 'based on a rigourous evaluation of all available evidence'[1] however, methods used not stated
4. Is there a statement about strength of evidence?	Yes – the guidelines use the four point rating system developed by the NHMRC in 1995[14]
5. Were the guidelines developed by a multidisciplinary group?	Yes – membership of the working party included representatives from neurology, vascular surgery, gerontology, general practice, nursing, health economics and consumer groups
6. Do they include consumers' perspectives?	Yes – a separate guideline was published for consumers[3]
7. Have efforts been made to address the needs and constraints of general practice and your particular setting?	No – while a 16 page summary version of the guidelines was developed especially for GPs,[2] constraints specific to various general practice settings have not been identified
8. Is there an adequate consideration of the resources and implementation in the guidelines?	Yes – cost implications of anticoagulation, atrial fibrillation detection techniques, aspirin therapy, and carotid endarterectomy are given
9. Do the guidelines have a release date?	Yes – December 1996
10. Is there provision for them to be evaluated and updated regularly?	Yes – the guidelines recommend that the publications be reviewed no later than two years from publication[1]

titioners' satisfaction with communication from the operating surgeon and discharge planning following the admission were assessed (using a four-point Likert scale). General practitioners also were asked about the usefulness of being informed about six quality indicators when referring patients to a surgeon for endarterectomy (hospital accreditation status, availability of pre-admission clinic, hospital endarterectomy volume rates, inpatient stroke rates following endarterectomy, surgeon volume, and surgeon complication rates (using a three-point Likert scale). We asked GPs about their awareness of, and interest in, receiving the three versions of the relevant NHMRC Prevention of Stroke Guidelines[1–3] which had been available for over two years.

Data analysis

We compared proportions for significant differences using the chi-square test. Associations between satisfaction with the level of communication from the operating surgeon about the patient, and satisfaction with discharge planning were examined, with univariate analyses. McNemar's chi-square test was used for paired responses. We used only the set of responses from the first questionnaire received from the six GPs who returned more than one questionnaire because they were nominated by two patients.

Results

There were 238 patients in our cohort: 44 had died by the time of the survey.[8] Seven patients were ineligible (three from poor health unrelated to stroke, four from language difficulties) and six could not be contacted. This left 181 eligible patients, 162 of whom completed questionnaires (response rate 90%). Of these patients, 143 (88%) allowed us to contact their GP. There was no significant difference between those patients who gave permission to contact their GP and those who did not by patient sex, age group (75 years or >75 years) or hospital where they were treated.

There were 137 GPs nominated by patients, of whom 123 (90%) provided medical details for 129 patients (90% of the surviving patients). General practitioners reported being the current treating doctor of 92 patients (71%) at the time of their carotid endarterectomy.

GP characteristics

The majority of GPs were aged 50–59 years (37%). Males represented 79% of the GP sample (n=97). The size of GP practices ranged from solo practices (n=34, 28%) to a maximum of 13 GPs in one practice.

GP feedback on postacute care

General practitioners who were the treating doctor at the time of the endarterectomy were, in the majority, 'very satisfied' with the level of communication from operating surgeons (Table 2). They were significantly more likely to be 'very satisfied' if the patient was male (89% male versus 70% female) (p=0.03)

Table 2. GPs' satisfaction with postacute care for those who were the treating doctor of patients at the time of their operation (n=92)

	n	%*
GPs satisfaction with level of communication from the operating surgeon about their patient		
Very satisfied	75	82
Somewhat satisfied	6	7
Neither satisfied nor unsatisfied	8	9
Not at all satisfied	1	1
GPs satisfaction with discharge planning after operation		
Very satisfied	58	63
Somewhat satisfied	17	19
Neither satisfied nor unsatisfied	12	13
Not at all satisfied	2	2

* Where totals do not add to 100%, data were missing

or if the patient was older (77% 75 years versus 94% >75 years) (p=0.04).

The majority of GPs also were 'very satisfied' with the discharge planning (Table 2); again significantly more likely if their patients were male (73% male versus 48% female) (p=0.03). They were also significantly more likely to be 'very satisfied' with the level of communication from the operating surgeon (83%) than the discharge planning (65%) (p<0.001).

Quality information relevant to referral choice

General practitioners provided opinions on the usefulness of six quality indicators when referring patients for carotid endarterectomy (Table 3). The surgeon's postoperative complication rate was rated most useful, significantly more so (56% 'very useful') than the hospital accreditation status (34% 'very useful') (p<0.001).

Clinical practice guidelines

The most common version of the NHMRC guidelines that GPs remembered seeing was that for GPs (Table 4). Most of the remainder who had not seen them said they would like a copy (Table 4). Only 19 GPs (15%) remembered seeing all three versions of these guidelines.

Five GPs made additional comments: two praised the skills of the vascular surgeon to whom they had referred the patient, one reported that the patient was impressed with the level of follow up care, having been contacted through our audit[8,9] to complete a health related questionnaire. There were two other notable comments:

> 'Feedback from the hospital administration or the treating medical officer...would be extremely helpful for the continuing management of the patient. The only time the GP is aware that the patient has been hospitalised is when he/she returns and is sitting in front of the GP'.

> 'I was not satisfied with the patient's discharge...because she was sent home too soon...(with) open, infected wounds in her groin and she was anaemic. After a few days at home she had to be re-

Table 3. Usefulness of six quality indicators before referral to surgeon for carotid endarterectomy (n=123 GPs)*

Quality indicators, ranked by usefulness	Very useful		Somewhat useful		Not useful	
	n	%	n	%	n	%
30 day postoperative complication rates per surgeon	69	56	36	29	16	13
Number of carotid endarterectomies performed by surgeon in previous 12 months	68	55	39	32	14	11
Number of patients in previous 12 months who had a carotid endarterectomy and subsequently had a stroke within the same admission	60	49	45	37	15	12
Availability of pre-admission clinic	50	41	42	34	26	21
Number of carotid endarterectomies performed at the hospital in the previous 12 months	49	40	56	46	16	13
Hospital accreditation status	41	33	38	31	41	33

* Where rows do not total 100%, data were missing

Table 4. GPs' awareness of and need for clinical practice guidelines about stroke prevention (n=123 GPs)

	Yes	
	n	%
Have you seen a copy of the following publications?		
NHMRC Prevention of Stroke: A Guide for General Practitioners[12]	43	35
NHMRC Prevention of Stroke: Clinical Practice Guidelines[1]	26	21
NHMRC Prevention of Stroke: A Consumer's Guide[3]	21	17
Would you like to receive a copy of the following publications?		
NHMRC Prevention of Stroke: A Guide for General Practitioners[2] (n=80 who had not seen or unsure)	68	85
NHMRC Prevention of Stroke: Clinical Practice Guidelines[2] (n=97 who had not seen or unsure)	77	79
NHMRC Prevention of Stroke: A Consumer's Guide[3] (n=102 who had not seen or unsure)	65	64

admitted. This is now a very common situation leading to a significant number of patients becoming distressed and suffering further morbidity'.

Discussion

We found GP satisfaction with the level of communication from individual operating surgeons was high. Significantly fewer were similarly satisfied with discharge planning. The only negative comments made by respondents about the quality of care referred to discharge issues. Our results support previous recommendations to implement 'structured communication' between GPs and acute care facilities to improve partnerships between health care providers[10] and reflect the dissatisfaction with discharge planning also reported in a British survey of GPs.[11]

We can offer no reasons for the significant sex and age differences in GP satisfaction with communication from the operating surgeon and discharge planning. The increased value placed on information about surgeon performance when deciding where to refer is interesting. Data on waiting times in New South Wales by surgeon and by procedure are now available on the internet to consumers and GPs and could easily be accessed by GPs at the point of referring.[12] However, this information may be difficult to interpret.[13]

Surveys such as ours to elucidate GPs' perspectives could be readily incorporated into hospital continuous quality improvement initiatives. Indeed, our survey provides valuable baseline data for future studies. If the acute care sector acted on these GPs' opinions, fragmentation of patient care might be reduced. Perhaps a randomised control trial is warranted.

Acknowledgments

Thanks to the patients and surgeons who participated in this study. Ethics approval was obtained from the CSAHS Ethics Review Committee.

Conflict of interest: none declared.

References

1. National Health and Medical Research Council. Clinical Practice Guidelines Prevention of Stroke. Canberra: Australian Government Publishing Service, 1997. http://www.nhmrc.gov.au/publications/synopses/cp45to47.htm
2. National Health and Medical Research Council. Prevention of Stroke. A Guide for General Practitioners. Canberra: Australian Government Publishing Service, 1997.
3. National Health and Medical Research Council. Prevention of Stroke. A Consumer's Guide. Canberra: Australian Government Publishing Service, 1997.
4. Veale B, Weller D, Silagy C. Clinical practice guidelines and Australian general practice. Contemporary issues. Aust Fam Physician 1999; 28:744–749.
5. National Health and Medical Research Council. A Guide to the Development, Implementation and Evaluation of Clinical Practice Guidelines. Canberra: NHMRC, 1999.
6. Bolton P, Mira M, Kennedy P, Lahra M. The quality of communication between hospitals and general practitioners: An assessment. J Qual Clin Pract 1998; 18:241–247.
7. Lumby J, Lumby C, Waters D on behalf of the Nursing and Health Services Research Consortium. Effective discharge: A summary of the literature. Nursing and Health Services Research Consortium, Sydney: January 2002.
8. Middleton S, Donnelly N, Harris J, Lusby R, Ward J. Audit of long term mortality and morbidity outcomes for carotid endarterectomy. Aust Hlth Rev 2002; 25(4):81–91.
9. Middleton S, Harris J, Lusby R, Ward J. Vascular disease risk factor management four years after carotid endarterectomy: Are opportunities missed? Aust N Z J Surgery 2003; 73:225–231.
10. Harris M F, Giles A, O'Toole B I. Communication across the divide. A trial of structured communication between general practice and emergency departments. Aust Fam Physician 2002; 31:197–200.
11. Bisset A F, MacDuff C, Chesson R, Maitland J. Stroke services in general practice: Are they satisfactory? Br J Gen Pract 1997; 47:787–793.
12. http://www.health.nsw.gov.au/waiting-times. Accessed 3 September 2002.
13. Cromwell D A, Griffiths D A, Kreis I A. Surgery dot.com: The quality of information disseminated by web-based waiting time information services. Med J Aust 2002; 177:253–255.
14. National Health and Medical Research Council. Guidelines for the development and implementation of clinical practice guidelines. Canberra: Australian Government Printing Service, 1995. AFP

Correspondence

Email: sandy.middleton@swsahs.nsw.gov.au