

Quality Improvement Report

An audit of distribution and use of guidelines for management of head injury

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Abstract

Ensuring effective distribution of guidelines is an important step towards their implementation. To examine the effectiveness of dissemination of a guidelines card on management of head injury and determine its usefulness to senior house officers (SHOs), a questionnaire survey was performed in May 1990, after distribution of the cards in induction packs for new doctors and at postgraduate lectures and displaying the guidelines in accident and emergency departments and wards. A further survey, in March 1992, assessed the impact of modifying the distribution. All (175) SHOs working in general surgery, accident and emergency medicine, orthopaedics, and neurosciences on 1 February 1990 in 19 hospitals including two neurosurgical units in Northern region were sent self completion questionnaires about awareness, receipt, use, and perceived usefulness of the guidelines. 131 of 163(80%) SHOs in post responded (median response from hospitals 83% (range 50%–100%). Over three quarters (103, 79%) of SHOs were aware of the guidelines and 82(63%) had ever possessed a guidelines card. Only 36(44%) acquired the card in the induction pack. 92%(98/107) found them useful and 81% (89/110) referred to them to some extent. Owning and carrying the card and referring to guidelines were associated with departmental encouragement to use the guidelines. Increasing the displays of guidelines in wards and departments and the supply of cards to consultants in accident and emergency medicine as a result of this survey did not increase the number of SHOs who received cards (52/83, 63%), but more (71/83, 86%) were aware of the guidelines. The guidelines were welcomed by SHOs and used in treating patients with head injury, but their distribution requires improvement. Increased use of the guidelines may be achieved by introducing other distribution methods and as a result of encouragement by senior staff.

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Introduction

Many health care professionals and organ-

isations have developed guidelines as an approach to improving the quality of medical care and containing costs. Over 1100 guidelines have been formulated in the United States,¹ and guidelines are being generated in the United Kingdom.^{2,3} As yet there is little empirical evidence to show that guidelines are effective.⁴⁻⁷ Reasons for the lack of demonstrable effectiveness include professional resistance; lack of resources for implementing guidelines; insufficient incentive for their use; and patient and administration concerns.⁸⁻¹¹ One important factor which would clearly reduce the effectiveness of guidelines would be a failure to disseminate guidelines to the intended doctors.¹²

Guidelines for the initial management of adult patients with a recent head injury were formulated in 1984 by a group of neurosurgeons in an attempt to reduce potentially avoidable morbidity and mortality in this group of patients.¹³ The neurosurgeons and public health specialists in the Northern region of England subsequently adapted them for local use. The guidelines addressed four areas of management: skull x ray examination after recent head injury, admission to hospital, consultation with the neurosurgical unit, and management of patients with a head injury who were in "coma" or who had possible multiple injuries. These guidelines were printed on laminated cards and sent to the district general managers of all 16 health districts in the region from 1988 onwards. The managers were asked to arrange for their personnel departments to include these cards in induction packs given to trainee doctors taking up new posts in the relevant specialties. The guidelines were also printed on posters and sent to accident and emergency consultants for display in their departments. In addition to routine lectures to undergraduates on management of head injuries, a special series of postgraduate lectures at which the guidelines were introduced and the guidelines cards were handed out was given by ADM.

This study of senior house officers (SHOs) in the Northern region was undertaken to examine the effectiveness of the dissemination of the guidelines cards; to establish awareness and utilisation of the guidelines; and to obtain views on the content of the guidelines and format of the cards.

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Subjects and methods

The Northern region has 19 hospitals with accident and emergency departments where patients with a head injury are received. These hospitals serve a total population of over three million people. There are two neurosurgical units in the region: at Newcastle and Middlesbrough.

The study population comprised all SHOs working in the specialties of general surgery, accident and emergency medicine, orthopaedics, combined accident and emergency medicine and orthopaedics, and neurosurgery and neurology (neurosciences) in the Northern region on 1 February 1990. SHOs were chosen as they are the doctors who receive patients with head injuries and are the most likely to use guidelines.

A self completion questionnaire was posted to each SHO, in May 1990, with a covering letter and a prepaid envelope. A reminder pack was sent to the non-responders two weeks later. After a further three weeks telephone contact was attempted with the remaining non-responders and a second reminder pack was sent to them.

The questionnaire contained both closed and open questions about awareness, possession, and use of the guidelines (a copy of the instrument is available from the authors) and was piloted among junior doctors who were not part of the study.

Some changes to the dissemination process were made after this study and, in March 1992, a shorter version of the questionnaire (containing the questions about the dissemination process) was sent to a one in two stratified random sample of the SHOs in the same specialties throughout the region to assess whether these changes had improved the dissemination of the guidelines.

The data were analysed with the SPSS/PC+ package. Subgroup analyses were performed according to hospital and medical specialty, and association was examined by the χ^2 test. Statistical significance is expressed at $p < 0.05$.

Results

INITIAL SURVEY

Of 175 SHOs identified on 1 February 1990, 163 were still in post when the questionnaire

was sent out. The overall response rate was 80% (131/163): 65 SHOs (40%) responded after the first posting, a further 34 (21%) after the second, and the rest were contacted by telephone.

SHOs from each hospital responded but the range of response from hospitals varied (range 50%–100%, median 83%). The response rate by specialty was for accident and emergency medicine 66% (33/50), general surgery 95% (36/38), combined accident and emergency medicine and orthopaedics 92% (34/37), orthopaedics 81% (17/21), and neurosciences 65% (11/17).

Of the 131 respondents, 103 (79%) were aware of the guidelines and 82 (63%) possessed or had possessed a personal guidelines card. The SHOs had obtained their personal guidelines cards by various means: in the induction pack (36, 44%), from a consultant (18, 22%), from the accident and emergency department (17, 21%), during undergraduate training (3, 4%), in a previous post (2, 2%), from a colleague (2, 2%), from a secretary's office (1, 1%), and from the postgraduate centre (1, 1%). In five hospitals no SHO had received a card in the induction pack whereas in nine hospitals 50% or more of those who possessed the guidelines had received them in this way. Most (62%) SHOs had access to guidelines at work, other than a personal copy – for example, in the accident and emergency department (60%) and in the wards (12%). Additionally, the guidelines were reportedly available on poster displays.

SHOs in accident and emergency medicine were most likely to carry the cards and refer to the guidelines (table). Overall 21/110 (19%) SHOs who had read the guidelines rarely or never used them. Most SHOs who had read them, with the exception of SHOs in neurosciences, found them either "very useful" or "of some use."

Over half of the SHOs, most notably in accident and emergency medicine (90%) reported that use of the guidelines was encouraged within their respective departments. Such encouragement was significantly associated with owning and carrying a guidelines card and referring to the guidelines. For example, 54/68 (79%) of the SHOs who were

Results of baseline (1990) survey of guidelines for management of head injury

Subject	Specialty (No (%) of respondents)					Total (n=131)
	Accident and emergency medicine (n=33)	General surgery (n=36)	Accident and emergency medicine and orthopaedics (n=34)	Orthopaedics (n=17)	Neurosciences (n=11)	
Aware of guidelines	28/33(85)	27/36(75)	30/34(88)	9/17(53)	9/11(82)	103/131(79)
Ever possessed a laminated card	26/33(79)	25/36(69)	19/34(56)	6/17(35)	6/11(55)	82/131(63)
Read the guidelines	29/33(88)	31/36(86)	31/34(91)	10/17(59)	9/11(82)	110/131(84)
Carried the laminated card*:						
Always/often	20/26(77)	12/25(48)	8/19(42)	2/6(33)	3/6(50)	45/82(55)
Sometimes	3/26(12)	3/25(12)	4/19(21)	0/6(0)	1/6(17)	11/82(13)
Rarely/never	3/26(12)	10/25(40)	7/19(37)	4/6(67)	2/6(33)	26/82(32)
Referred to the guidelines†:						
Always/often	21/29(72)	11/31(35)	16/31(52)	5/10(50)	1/9(11)	54/110(49)
Sometimes	6/29(21)	12/31(39)	12/31(39)	3/10(30)	2/9(22)	35/110(32)
Rarely/never	2/29(7)	8/31(26)	3/31(10)	2/10(20)	6/9(67)	21/110(19)
Find guidelines useful‡:						
Very useful/some use	27/28(96)	27/29(93)	29/31(94)	10/10(100)	5/9(56)	98/107(92)
Little/no use	1/28(4)	2/29(7)	2/31(6)	0/10(0)	4/9(44)	9/107(8)

*Only asked of those in receipt of card.

†Only asked of those who had read guidelines.

thus encouraged had a personal copy of the guidelines compared with 29/48(60%) of those who were not ($\chi^2 = 4.1$, $df = 1$; $p < 0.05$).

The presentation of the cards was considered satisfactory by 45/111(41%) of SHOs. Many specific comments were made to improve presentation, make the cards user friendly, and enhance their durability. Few SHOs commented specifically on the contents of the four subsections of the guidelines. Most comments concerned lack of specificity of the guidelines and the uncertainty of clinical judgement.

CHANGES AND REPEAT SURVEY

As a result of these findings the following changes were made.

- (1) Guidelines cards were sent directly to the unit personnel officers for inclusion in the induction pack for new staff, thus simplifying distribution.
- (2) More posters were sent to accident and emergency consultants for display in wards and departments.
- (3) Accident and emergency consultants were given a supply of guidelines cards for local distribution to increase SHOs' chances of owning a card, particularly to cover locum appointments, and to emphasise consultant endorsement.
- (4) The thickness of the card was increased to improve its durability.

The overall response to the repeat survey was 79%(83/105). The respondents, by specialty, were accident and emergency medicine 32/39(82%), general surgery 22/26(85%), combined accident and emergency medicine and orthopaedics 8/9(89%), orthopaedics 10/18(56%), and neurosciences 11/13(85%). Thus fewer SHOs were designated as combined accident and emergency medicine and orthopaedics and more accident and emergency medicine alone. The proportion of respondents in the other specialties was similar to those in the initial survey. The overall proportion of SHOs who had a personal guidelines card was unchanged (52/83, 63%), but more SHOs (71/83, 86%) were aware of the guidelines. Changes in the dissemination process made no difference to the proportion who received a guidelines card but 92% of those who did had done so through formal channels: 20/52(38%) from a consultant and 28/52(54%) from the employer.

Discussion

The finding that a large proportion of SHOs were aware of the new injury management guidelines and had read them is encouraging. But there was still clearly room for improvement as 21% of the SHOs, who are the trainees likely to be the receiving doctors for adults with head injury, were not even aware of the guidelines.

Most of the SHOs reported that they referred to the guidelines and found them of use in their clinical practice, although four of nine neurosciences SHOs reported that the guidelines were of no or little use. This finding needs cautious interpretation. Most of the

neurosciences SHOs at the time of the study were not involved in initial assessments or decisions, these decisions were made by registrars.

An important early step towards improving patient care through the application of guidelines is their effective dissemination. This study emphasises the importance of using several channels of distribution and also of the need for different approaches to communicating the guidelines. Twenty four SHOs who had not received personal copies of the guidelines nevertheless found the guidelines of use, as they were accessible in wards and departments as poster displays.

Senior staff within the SHOs' departments clearly have an important role in influencing the ownership and use of such guideline cards through endorsing their value.

Although the dissemination process was simplified after the initial study, the number of target SHOs who possessed copies of the guidelines remained unchanged. To achieve better coverage more than a single distribution mechanism may be necessary.

This study provides some insight into the dissemination of the guidelines and their use by SHOs but did not attempt to look at their effect on management of head injury. However, many SHOs commented on the lack of specificity of the guidelines and uncertainty about clinical judgement. If guidelines are to contribute to patient care not only must they reach the doctors who most need to refer to them; those doctors need to understand them, to be able to use them, and to be aware of the extent and the limits of their usefulness. Guidelines cannot remove all uncertainty, but they offer a framework for decision making. The content and style of the guidelines therefore needs to be updated and reviewed.

Many graduates from the local medical school take up appointments within the Northern region, but other SHOs come from other medical schools and from overseas. There is a need to raise awareness about guidelines, not only at undergraduate level but also by postgraduate lectures, and to reach each new intake of SHOs.

The results of this study have contributed to the establishment of a regional group to stimulate development, use, and assessment of guidelines. Issuing guidelines is only the beginning of a process which will need much effort and constant reviewing, most of it locally, if those guidelines are to have any impact on the quality of patient care.

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