Integrated care for patients with asthma: views of general practitioners

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SUMMARY

Background. *In 1989, a shared or integrated care scheme was developed for hospital outpatients with asthma, using the computerized patient record system of Grampian Health Board, Scotland. Patients with asthma attending hospital clinics were entered into this scheme and were invited to attend their general practitioner instead of an outpatient clinic for review of their asthma. Three-monthly questionnaires covering clinical aspects of asthma were sent to these patients and their general practitioners; the latter then returned them to the specialist. Patients could be recalled to the hospital clinic if either the general practitioner or consultant felt this was necessary and all patients were reviewed after one year by the specialist. The success of integrated care for patients with asthma relies on the cooperation of general practitioners.*

Aim. *The aim of this study was to investigate how this scheme worked in general practice, and general practitioners' perceptions of it, in order to identify factors that enhance or inhibit integrated care for patients with asthma in general practice.*

Method. *A qualitative survey was carried out with a random, stratified sample of 38 of the 317 general practitioners in the region. Semi-structured interviews were designed to elicit general practitioners' accounts of their operation of integrated care and their attitudes towards the scheme.*

Results. *General practitioners perceived the scheme to have several advantages: the continuity and quality of care provided was improved; and the transmission of information between general practitioner and specialist was enhanced. Regular general practitioner reviews, instigated by standard letters generated by computer, were favoured as being clearly structured. Concerns were raised about the processing of paperwork, and the possibility that unnecessary reviews might be generated.*

Conclusion. *Integrated care for asthma patients is an acceptable management option among general practitioners.*

Keywords: asthma; shared care; GP hospital relationship; management of disease.

Introduction

DEATHS from acute asthma, and admissions to hospital with this condition, have not diminished over the last 10 years despite developments in treatment.[1,2] The British Thoracic Association suggested that a great number of deaths from asthma are preventable, and recommended 'closer overall supervision' as one means of improving care.[3] The British Thoracic Society guidelines to improve the management of adult patients with asthma recommended 'regular liaison' between hospital and community services.[4]

Conventional care of outpatients with asthma usually involves patients who have been referred by their general practitioner or reviewed following an acute hospital admission for asthma being seen at outpatient clinics at regular intervals, typically every three months. They are usually encouraged to consult their general practitioner between clinic appointments especially for acute exacerbations, and given advice on good asthma self-management.

In 1989, a shared or integrated care scheme was developed for adult outpatients with asthma attending clinics in Aberdeen, Banff, Elgin and Peterhead, Scotland. This scheme was coordinated by a hospital based computerized patient record system which had already demonstrated its effectiveness in coordinating the care of patients with hypertension.[5] Patients were seen by the hospital specialist annually. Reviews were initiated by computer-generated letters to patients every three months, inviting them to consult their general practitioners, and to general practitioners informing them that the patient was due to attend for an asthma review. Both letters included a short set of questions intended to describe the condition of the patient's asthma over the preceding weeks. The patient was asked to complete the first questionnaire and give it to the general practitioner. In the light of the patient's responses and the rest of the consultation, the general practitioner completed the second questionnaire, which included questions on such topics as sleep quality, restrictions on daily activity, and drug use, and returned both to the consultant. The information was then used to update the patient's computerized record, or profile. One printed copy of the patient profile (usually consisting of two stapled sheets) was returned to the general practitioner, while another was placed in the patient's hospital notes. Both general practitioner and specialist, therefore, remained informed of the patient's condition, and either could suggest changes in the therapeutic regimen or request more frequent hospital clinic attendance in response to fluctuations in the patient's health. The 363 patients in the scheme were all 16 years of age or older, had had a diagnosis of asthma confirmed by a specialist respiratory physician, and had been shown to have 20% reversibility in pulmonary function.

The scheme commenced in October 1989. At the same time a study was started to evaluate the changes, in order to facilitate their development in Grampian, and to encourage similar changes elsewhere. Details of this study, called the Grampian asthma study of integrated care (GRASSIC), are reported elsewhere.[6] During the course of the project, the research team acquired detailed knowledge of the operation of integrated care in the hospital setting. However, little was known about the operation of the scheme in general practice. The success of an integrated care scheme relies on the willingness of general practitioners to participate, and on the way in which they conduct the process.

A study was therefore undertaken to explore and describe factors that enhance or inhibit integrated care for patients with asthma in general practice.

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Method

Because of the exploratory nature of the research a qualitative methodology was chosen,[7] involving semi-structured interviews with a random sample of general practitioners who each had at least one patient receiving integrated asthma care. The sample was stratified by location: practices within 10 miles of the centre of Aberdeen were considered urban; practices outside this area were labelled as rural. This process generated 23 rural and 24 urban general practitioners. The sampled general practitioners were contacted first by letter and then by telephone. Interviews were conducted in March and April 1991.

The interview schedule was designed and piloted, with the objective of eliciting general practitioners' open-ended accounts of how they operated integrated care for patients with asthma, and their attitudes to the scheme. The inquiry focused on four key features of integrated care: the relationship between general practitioners and chest consultants; the perceived roles of general practitioners and consultants in the management of patients with asthma; the process of integrated asthma care in general practice; and assessment of integrated care for patients with asthma. The interviews, lasting between 15 and 45 minutes, were conducted by a single researcher (R v D) in each practice. The taperecorded responses were analysed by coding the responses into similar categories or statements.

Results

Thirty eight of the 47 general practitioners identified (81%) were interviewed. Of the remainder, two had retired, three refused to be interviewed, one no longer had a patient receiving integrated care, one asked to be contacted after the end of the study and two could not be contacted to arrange an interview. Twenty one of the 38 doctors in the study (55%) were urban general practitioners. All sizes of practices, from single-handed to large partnerships, were represented. Five of the general practitioners were women. The mean age of the participating doctors was 44 years (range 30 to 64 years).

Working relationships

The relationship between general practitioners and chest consultants had been good before the integrated care scheme started, and did not worsen afterwards. According to most general practitioners (30 out of 38) there was therefore little room for improvement in relationships. The chest consultants in Aberdeen were seen to be communicative and easily accessible. The following quote illustrates the general feeling among general practitioners:

> 'It was already good for so long. I don't know whether there was much room for improvement but it is an additional channel for two-way communication between GP and hospital.'

Six other general practitioners reported an improvement in their relationship with the specialists. The scheme encouraged them to telephone or write to the specialists more readily in the event of problems. However, one respondent thought the integrated care scheme had not improved relationships:

> 'I suppose it is communication in one way. We are putting in stuff and we don't know what is happening. Filling in forms gives a loss of personal touch.'

One general practitioner regarded a meeting with the consultants as having a greater impact on the relationship than the integrated care scheme because she could 'put a face to the name'.

Perceived roles in the management of patients with asthma

Most general practitioners in the study preferred to take responsibility for the care of patients with asthma, the involvement of the specialist being reduced to a minimum. In general they regarded the consultant's role as being advisory — being available for general assessment of the patient, doing the more technical spirometry, giving guidance on particular patients, giving a second opinion in the case of an uncertain diagnosis, and advising the general practitioner about medication:

> 'Advice on areas of management you have problems with. Helping you out when you are not able to cope yourself. Not continuously monitoring the patient, especially when there is a big distance between the place where the patient lives and the hospital.'

Secondly, the specialist was considered to be someone who should act as a trouble-shooter in acute situations or for chronic asthmatic patients whom the general practitioner could not manage. The specialist should act as a back up for the general practitioner and facilitate the direct admission of a clinically troublesome patient to hospital:

> 'They should be available to see patients relatively quickly if we run into problems with them.'

Thirdly, the general practitioners expected the consultants to adopt an educational role, both towards the patient and also towards themselves, for example in showing them how to improve the management of a patient, or by introducing them to new treatment methods and medication:

> 'General assessment of the patient, education of the patient, commenting on management of the patients by the GP, adjusting their drug management.'

Process of integrated asthma care in general practice

Thirty one of the 38 general practitioners always reviewed asthma patients receiving integrated care themselves. Two general practitioners delegated the review of patients to their practice nurses while the other five doctors sometimes involved the nurse, but usually reviewed patients themselves.

Almost all the general practitioners seemed to follow the same procedure during a consultation with a patient receiving integrated care:

> 'It is a general consultation actually. We ask them how they are in relation to their asthma. We check their treatment, or better let the patient tell what he is using and how. We do a peak flow test. A chest examination is only done when indicated. Integrated care patients are more compliant than conventional ones, so it is really just a simple consultation.'

Many general practitioners used the questionnaire they were asked to return to the hospital, as a template to structure the consultation:

> 'Basically we ask the questions on our form. Ask them how they are in general, do their weight and their peak flows stated on the form. If everything is fine, then that's it.'

Only one general practitioner did not measure the peak flow rate of all his patients receiving integrated care. Seventeen of the doctors always listened to the patient's chest during a consultation, the others only when it seemed necessary. The two general practitioners who had delegated the review of patients to a nurse instructed her to go through the questionnaire, and measure the peak flow rate, check the patient's inhaler technique, and the general well being of the patient; if the nurse identified problems, the doctor was contacted.

Although the previous patient profile was meant to be discarded as soon as the new one arrived, 20 general practitioners admitted that this did not always happen:

'No I don't discard the old ones. I am a bit worried to destroy things. I have all the papers since 1952 in the attic.'

Most general practitioners found the information in the patient profile sufficient:

'It is a fair summary of their preceding history. It is convenient to see when they started their drugs and how they responded.'

'Very helpful as a reference basis. I don't read through all the information on it but it is handy to have it there and, when necessary, to be able to refer to it.'

'One advantage of the profile is that a lot of the information that is scattered throughout our notes is pulled together.'

However, 10 doctors found the patient profiles too detailed:

'There is quite a lot of information here. I do not know how much of it is of real relevance to what we are doing. It is obviously quite important from the hospital point of view. There is a lot of information there that I don't think we look at really.'

All general practitioners except one needed less than three minutes to fill in the questionnaire; the exception said he needed 10 minutes per patient to do so.

Twenty five general practitioners did not perceive any difference between the amount of time they spent with a patient receiving integrated care and with a patient consulting in the normal way. Seven thought they spent more time per consultation with a patient receiving integrated care, mainly because of the questionnaire; three doctors thought they spent less time:

'Probably less because GRASSIC ones tend to come in well and well-controlled whereas those not involved tend not to come until there are problems.'

Three general practitioners thought that they could not judge any difference. Sixteen thought they saw patients receiving integrated care more often than other outpatients with asthma and 15 did not; seven did not know.

Twenty five doctors thought their referral rates for asthma patients in general had remained about the same, but four doctors believed integrated care for patients with asthma had reduced their number of referrals.

'Possibly it allowed us to take more command in dealing with the patients ourselves. Only if we have a problem do we refer them. That gives us less referrals at the end of the day.'

Five general practitioners suggested that their referral rate had increased after the scheme started:

'I have become a little more ready to refer them because you know now that they come back to you; whereas often if you refer people, they tend to get seen chronically at the clinic and you feel you have lost them.'

Four general practitioners did not know whether their referral rates had increased or decreased.

Assessment of integrated care for patients with asthma

According to the general practitioners, integrated care for asthma had several advantages:

'The major one is that the regular review is triggered off. I think it has also improved communication between GP and hospital, and vice versa. A potential benefit is that there is more consultant overview and back-up availability in a particular situation. The regular reviews mean that the patients don't have to trail into Aberdeen and involves me more in their case. It is highly appropriate for most of these patients. It probably leads to a more efficient use of hospital consultants' time, not dealing with well-controlled people for unnecessary trips to hospital.'

The integrated care scheme was perceived as saving the patient time and money, and facilitating access to a consultant:

'The amount of time that can be wasted in outpatient departments can be two to two and a half hours. You have to be highly motivated to remain that length of time. Here we have an appointment system and are rarely more than a quarter of an hour behind. Patients prefer rather the informal atmosphere here than the white coat syndrome at the hospital.'

'Easy access to the specialist. If there is a problem they would be more likely to see the patient earlier on the integrated care scheme than probably on a normal routine referral. Maybe a better overview, a more structured approach, a better service for the patient.'

General practitioners saw it as an advantage that the scheme encouraged patients with asthma to go more to their general practitioner instead of going to the hospital:

'I would hope that primary care could take over a bigger share of the care of asthma patients, which I think is the ideal, because we know the patients much better than the consultants. I think the element of trust and confidence, which hopefully exists, make the management of their illness easier if it is done as much as possible in primary care. Hopefully this should take off some of the workload of the hospital outpatient system, but at the same time patients who are anxious about their situation know that there is a fall-back system.'

It was also thought that the scheme prompted general practitioners to be more systematic in their approach towards asthma management, enabling them to become more consistent in prescribing policies:

'I think it may heighten your awareness of the standard necessary to maintain asthma treatment at the highest level for all patients, whether they are on an integrated care scheme or not. You become more familiar with the consensus treatment patterns and use them in the management of patients who are not under integrated care. It is likely also to challenge you to be systematic in your approach to management.'

The regular review of asthma patients was perceived to improve compliance with therapy:

'I think patients are more likely to comply with their treatment if they are being monitored regularly, perhaps keep taking their steroid inhalers on a more regular basis.'

However, the general practitioners also identified several disadvantages of the scheme. The most important concerned the amount of paperwork created, the layout of the patient profile (which some found difficult to read), and the lack of agreed entry and discharge criteria for patients receiving integrated care:

'But it would be appreciated if you could cut down the paperwork. Simplifying the profile would be nice.'

'I don't think it is well presented. I think it is presented to be computer-friendly rather than doctor-friendly.'

'It [integrated care] would be inappropriate [for] all asthma

patients..., but it is a good model to follow for a fairly significant group of patients.'

'But I think you must be careful that you do not create extra work for both parties. If general practice has a good enough system of follow up, and the consultants have set clear parameters for referral and are able to be more flexible at seeing those that are needing to be seen, rather than in three months time, then there should be no reason why we shouldn't see patients singly and not as integrated care scheme. There is a danger of keeping patients on the scheme for no better reason than that the scheme is going.'

Other perceived disadvantages were more potential than actual:

'Maybe if it carried on, the GP's authority, control and expertise might be undermined or eroded, because the patient would take it that the specialist's view, quite rightly perhaps, would be the overriding view and the GP was just there to deal with a chest infection or to fill in the bits of paper when he came for his follow up. I could see that as a potential problem, but that's not different from any hospital outpatient department.'

In the long term, patients might lose their motivation to participate:

'Compliance with medication, especially in the long term. They lose motivation. If a patient only has to come to have some forms filled in, that won't motivate him. Let us do some more, for instance an exercise test.'

Alternatively, the integrated care scheme might take away responsibility from the patient:

'Although I try to educate a patient, they tend to become dependent on what you tell them rather than doing it on their own. The theory behind education is that people should learn to deal with a problem themselves. If you keep bringing people back to discuss a problem, they seem to lose initiative to deal with it themselves.'

The general response, however, from 31 respondents, was that the advantages outweighed the disadvantages. Some said they needed more time to make a valid assessment of the scheme; others thought that the advantages and disadvantages were about even. But all general practitioners were happy to continue participating in the scheme, and even those who saw no direct benefits for themselves were willing to continue for what they saw as benefits to patients:

'I think it is an advantage to have the system. Most of the severe asthmatics would be identified to go into the shared care system. It is convenient to have easy access to specialist opinion.'

'I think it is probably quite a good thing in that you have got a specialist and a GP doing the same things. You feel more comfortable about referring people. You also get a base to send back to.'

The other seven general practitioners chose a neutral position or said they had mixed feelings about integrated care for patients with asthma:

'I have mixed feelings. I have some patients whom I would want to have integrated care; for others I don't see the purpose.'

'I have a slightly cynical view on integrated care. The stimulus for integrated care partly comes from the idea that hospitals are overloaded with work, and this is a convenient way of off-loading some of this work. In my mind it is not terribly integrated in that we tend to act as peripheral outpatient clinics for consultants. We are, if you like, the junior staff outside, just keeping them addressed of what is going on; and they will take action if and when they need to. That has certainly been the case with antenatal and hypertensive care in my experience. So I am a bit cynical in the motivation for it. In theory it sounds good and I am sure that a lot of people are attending hospital clinics unnecessarily. But these initiatives by and large have been hospital-stimulated and they haven't come from general practice.'

Discussion

This survey aimed to describe the principal factors in general practice that enhance or inhibit an integrated care system for patients with asthma, in order to establish the acceptability of the scheme.

The relationship between the general practitioner and hospital specialist is frequently characterized by uncertainty. Although the general practitioner retains overall responsibility for the patient in principle, the specialist may in effect adopt overall responsibility by dint of his or her specialist expertise. McWhinney recommends that the respective roles and responsibilities of general practitioners and specialists be clearly defined and understood, and states that efficient communication between general practitioners and specialists is necessary.[8] Studies highlighting difficulties in such communication[9,10] draw attention to the potential for divergent views about the roles of general practitioner and specialist to develop, leading to conflict about autonomy, domain or personal working routine.[11]

An important factor in the acceptability to general practitioners of the integrated care scheme for patients with asthma lay precisely in its reinforcement of their role as primary carers. The concerns they appeared to have, that chronically sick patients could be taken from their care, to fall under routine specialist care and never return, appeared to have been largely assuaged. However, some general practitioners were still wary that the hospital had too much control.

There appears to be little doubt, however, that while the structure of integrated care for patients with asthma requires general practitioners to become more involved in the management of patients, the pre-existing relationship between general practitioners and chest consultants in Grampian allowed that structure to develop in an open and confident working environment facilitating cooperation and successful implementation of the scheme. There was a clear consensus among general practitioners that the roles the specialist should adopt (adviser, trouble-shooter, educator), require the general practitioner to take the principal responsibility, and to be seen to do so. The effective operation of the integrated care scheme implies that the requisite consensus exists about the respective roles of general practitioners and specialists, with respect to asthma care in Grampian.

A second key finding of the study concerned the storage and communication of clinical information between general practitioners and specialists. Despite encouragement to destroy the previous patient profile when a new one arrives (since all relevant changes are added consecutively) general practitioners and their staff were reluctant to do so. This not only led to a build up of paper in the patients' notes, but contributed to an impression that integrated care was 'paper-extensive,' and thus awkward and unwieldy to operate. In a study of communication between general practitioners and consultants, Newton and colleagues found that neither group favoured the use of standard letters.[12]

Developments in information technology have led to more efficient methods for communicating between general practi-

tioners and specialists. The increasing use of computers in general practice, and their established presence in the hospital setting, opens the potential for electronic communication, rendering postal communication unnecessary. Using a modem, general practitioners could communicate either directly (electronic data interchange) or indirectly (electronic mail). Using such methods, questionnaires and profiles could be transmitted directly from screen to screen.[13] Research in the Netherlands has indicated that electronic communication is quicker and cheaper than regular mail, and reduces transcription errors. Electronic data interchange and electronic mail systems have been received positively by Dutch general practitioners.[14]

The questionnaires developed by the Aberdeen chest consultants to elicit relevant information from patients and general practitioners pre-dated the publication by the British Thoracic Society of guidelines for the management of asthma in adults.[4,15] Although the existence of the questionnaires was perceived to provide structure to the consultation, it was not seen to have influenced management in the broader sense. The requirement of the general practitioners to measure the patients' peak flow rate, and to investigate their sleep quality, restrictions on normal activity, and drug use, all of which were later mentioned in the British Thoracic Society guidelines, may imply that the clinical questionnaires acted as valid *aide-mémoires* for the general practitioners in providing good management.

The trend for general practitioners to become increasingly instrumental in the care of asthma patients[16,17] is clearly a result of several factors: improved monitoring of pulmonary function in general practice using peak flow meters; increasing interest in and understanding of the disease by practitioners; and opportunities for nurse-run asthma clinics fostered by the 1990 general practitioner contract.[18] Since the majority of known asthma patients are already treated in general practice without recourse to specialist advice, the implementation of the integrated care scheme in Grampian was an extension of existing expertise into a group of patients with asthma of moderate severity. The interest expressed by participating general practitioners indicates the level of support integrated care schemes are likely to attract. Despite concerns over details, general practitioners were enthusiastic about the principles of shared care for asthma, and supported its continuing existence as an option for patient management.

The success of an integrated care scheme for patients with asthma is dependent upon the willingness of general practitioners to participate. That willingness is most readily achieved when general practitioners and hospital consultants place high value on their mutual contributions to patient care. The involvement of general practitioners in the development and organization of integrated care, and agreement on what constitutes clinically relevant information for both general practitioner and chest physician, contribute to a positive outcome. Consensus should be reached on which patients should be managed in an integrated care scheme and for how long. Indeed, as patients finished their first year in the scheme, their general practitioners were asked to recommend the patients' complete discharge to general practice, retention in integrated care, or a return to conventional outpatient care. Regular audit of integrated care for patients with asthma in the future should improve the scheme even further, to the benefit of all participants.

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