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DISCUSSION PAPER

Management of allergic problems in primary care: time for a rethink?

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KEYWORDS

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Summary Allergic diseases affect 20–30% of the UK population and when severe are associated with considerable morbidity and occasional mortality. Initiatives to improve allergy services in the UK have been led by consultant allergists and have focussed on increasing the number of hospital training posts to improve access to specialist services. A high profile campaign to raise awareness of the lack of allergy services has so far failed to generate further training numbers for allergy as a single specialty. Although the campaign to improve tertiary allergy services continues, most mild or moderate allergy symptoms (e.g. hayfever, allergic asthma, urticaria and some food allergy problems), can be managed successfully in primary care with appropriate interest and training. Despite the high and increasing numbers of patients with allergy and the ease with which the majority of symptoms can be controlled, many doctors in primary care are reluctant to take a more proactive approach to managing allergic conditions. This appears to be due to concerns about overburdening an already busy service, but may also be due to recommendations from allergy specialists which have implied that high quality allergy care is not possible without identification of specific allergic triggers using skin prick tests or blood tests. In reality, symptoms can usually be controlled using pharmacotherapy, although a working knowledge of the appropriate guidelines is helpful. In this paper, we propose minimum levels of knowledge for all practitioners in order to raise the standards of primary care allergy management, and provide recommendations for

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training for those wishing to manage successfully more difficult allergy cases and allergy diagnosis.

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Background

Allergic diseases affect around 20% of the United Kingdom population [1], including 30–40% of children [2], and hospital admissions for severe allergic disease have increased tenfold in the last 10 years [3–5]. The majority of patients experience only mild or moderate symptoms and can be successfully managed in primary care with conventional pharmacotherapy without the need for confirmation of an allergic mechanism or identification of specific allergic triggers. However, a large proportion remain undiagnosed [6]. More troublesome, drug-resistant or life-threatening symptoms warrant specialist assessment. Ideally, this would be by either an allergy specialist or an organ-based specialist with an interest in allergy (e.g. ear, nose and throat surgeon, respiratory physician, dermatologist or gastroenterologist). The lack of UK National Health Service specialist allergy services, however, causes many people to seek help for allergy problems from non-medical providers, some of whom may provide misleading and expensive information of dubious value [7]. Another important factor contributing to this phenomenon is increasing patient expectations for diagnostic testing, which although feasible [8], is not routinely available in primary care.

Historically, the first points of access for allergy sufferers to professional care have been the pharmacist, general practitioner (GP) or accident and emergency departments. NHS Direct and 'walk-in' centres are new and additional front-line resources which serve further to fragment care. New health-care models are constantly being introduced in an attempt to address unmet need and burgeoning demand. In order to move forward, minimum standards of care need to be developed and clear management pathways established.

In order to improve provision for, and access to, National Health Service allergy services, a novel all-embracing strategy is required. We propose the development of specialist community allergy services, identifying potential for expanded roles for pharmacists, doctors and nurses [9,10]. Underpinning this model is a recognition of the importance of self-care and patient expertise as essential contributors to successful chronic disease management. This concept has been utilised in chronic disease education programmes initially in

the USA [11] and more recently in the UK in the form of the expanding 'Expert Patient Programme' (EPP) which aims to ameliorate the burden posed for patients with chronic diseases by improving coping skills [12].

Morbidity and mortality

Allergy is a systemic disease manifesting as chronic symptoms in multiple organ systems. Although severe reactions are rare, untreated mild or moderate symptoms can be disruptive. Nasal symptoms can cause sleep disruption and poor concentration [13], a particular problem in children whose exams may be disrupted by hayfever at the height of the pollen season. In a study of patients with perennial rhinitis, 8% reported being 'moderately' or 'severely' troubled by their rhinitis symptoms [14]. Chronic urticaria and eczema can disrupt sleep and restrict or impair daily activities [5,16], whilst unconfirmed 'allergy' to foods or antibiotics can lead to unnecessary avoidance and sub-optimal nutrition or costly treatment [17–20]. Recognition of allergy symptoms can be helpful in identifying patients at risk of more severe symptoms; a suspicion of food allergy in patients with asthma, for example, should prompt specialist referral as these patients are at an increased risk of fatal anaphylaxis [21–24]. Recognition of symptoms and consensus- or evidence-based treatment will be effective in the majority of patients and provides patient and professional satisfaction. Currently, evidence suggests that GPs are inexperienced in allergy management [25], but also have little interest in improving it, the lack of prioritisation of most allergic disorders in the new GP contract serving as another additional barrier to enhancing quality of care. This clearly needs to be addressed before allergy management can improve.

Management of allergy

Management of the most common allergic diseases is generally not allergen-specific and relies in the main on pharmacotherapy. Although asthma [26] and rhinitis [27] guidelines are underpinned by aeroallergen avoidance [28] there is, as yet, insufficient evidence of the feasibility, effectiveness and cost-effectiveness of avoidance

measures [29–32] in order to convince those working in primary care that routine performance of objective diagnostic tests which underpin allergen avoidance advice (skin prick tests/specific-IgE tests) is worthwhile. For the majority, identification of a specific allergic trigger is not necessary as long as symptoms respond to pharmacotherapy; in cases that do not, identification and avoidance of allergens may offer some benefit.

Despite these reservations, guidelines are now available for the management of asthma [26], conjunctivitis [33], rhinitis [27,34], eczema [35], urticaria, food allergy [36] and anaphylaxis [37] which could be used in general practice to improve and standardise care. It is clear that levels of interest in allergy differ, but it is important that patients receive at least effective pharmacotherapy. Here we examine current practice at each level of service and offer suggestions for further development. Further details are shown in Table 1.

Tiers of care and training needs: the way forward

Self care

Self-care describes how people who believe they have an illness attempt to help themselves before they access formal healthcare. This is not to be confused with self-management which is what the health-care system should empower patients to do after formal assessment.

Allergy receives constant media attention and self-care is common; patients rely on advice from friends and family, the internet, magazines and newspapers, but rarely access reliable sources of information. There is widespread confusion amongst the public about what is and what is not allergy, fuelled by a flourishing 'alternative' allergy industry, which often provides unvalidated tests and recommends unnecessary avoidance regimens or expensive treatments. The internet is unregulated, and so provides comprehensive, if often inaccurate, information on allergies and their management. Patients may not consult their GP or practice nurse (PN) because of a perceived lack of interest in their symptoms; this lack of interest was confirmed recently in a study of the attitudes of GPs to allergy [25]. In another UK study, 82% of GPs judged NHS care for people with allergy to be of poor quality [38].

We need to understand and define patients' needs, as well as to inform the public about allergic disease. In particular, people need to know how to recognise serious or life-threatening manifestations without creating alarm. Patients and their carers are keen to identify triggers in order that they may avoid them. They do not share our professional standards of evidence-based advice and would often rather attempt avoidance or natural remedies than resort to pharmacotherapy.

One approach in the UK may be to use existing organisations (e.g. British Society for Allergy & Clinical Immunology, General Practice Airways Group, British Thoracic Society) to vet internet sites and to become involved in assessing the accuracy and usefulness of published information [10]. Such a strategy could facilitate self-help in a manner that reflects evidence-based guidelines.

Pharmacy care

The pharmacist is often patients' first point of contact with the healthcare system. Currently, most pharmacists provide appropriate advice and over-the-counter medication, but there is the potential for an expanded role. Training in recognising allergic symptoms, practical advice on avoiding trigger factors, and instruction on how to optimise effective delivery of nasal corticosteroids, cromones and antihistamines, would enable pharmacists to offer an improved service to patients and may reduce the need for primary care consultations. This development would be in line with recent UK government policy [39]. This activity could be funded by the NHS centrally with training provided through accredited allergy courses.

Primary care

Most allergic disease is managed within primary care, although few GPs have had any formal allergy training during undergraduate or postgraduate training. Recent data demonstrates much room for self-rated improvement in clinical competence [25,40]. GPs' interest in allergy is low, yet they feel that diagnosis and management is straightforward and that access to secondary care is poor [25]. In contrast, practice nurses have been shown to be interested in improving their knowledge of allergy and expanding their role [25] but they experience barriers such as lack of time, support, and other resources, as well as competing priorities (e.g. United Kingdom National Service Frameworks which prioritise work in clinical areas).

Table 1 Proposed levels of care in schematic form together with training requirements.

Person	Services provided	Skills required	Information/training required
Patient	<ul style="list-style-type: none"> • Self care 	<ul style="list-style-type: none"> • Symptom-specific self-management • Symptom control • Medicines self-management 	<ul style="list-style-type: none"> • Disease-specific information • Reputable educational resources • Availability of OTC medication • Drug-specific information • When to seek help and where from
Pharmacist	<ul style="list-style-type: none"> • OTC medication • Disease management • Referral 	<ul style="list-style-type: none"> • Symptom-specific management • How to treat allergy with OTC medications 	<ul style="list-style-type: none"> • Common allergic symptoms and their presentation • Pharmacological management of allergic disease • OTC device technique (eg nasal sprays, eye drops) • Knowledge of local NHS allergy services: when and where to refer
GP/PN (<i>minimum service to be provided in primary care by GP/PNs with no specialist allergy interest</i>)	<ul style="list-style-type: none"> • Allergy symptom management • Referral 	<ul style="list-style-type: none"> • Symptom management • Optimal symptom control using POM drugs • Recognition of severe disease 	<ul style="list-style-type: none"> • Common allergic conditions and their manifestations in multiple organ systems • Simple algorithms on disease management • Availability of diagnostic tests • Local availability of NHS allergy services: when and where to refer
Practice lead in allergy (<i>GP/PN with an allergy interest but with no access to increased consultation time or basic diagnostic tests</i>)	<ul style="list-style-type: none"> • Allergy diagnosis • Allergy symptom management • Referral 	<ul style="list-style-type: none"> • History taking • Disease management • Optimal symptom control using POM drugs 	<ul style="list-style-type: none"> Diploma/degree • Epidemiology of allergic disease • Genetic influences • Environmental influences Resources • Current guidelines on disease diagnosis and management • Local availability of NHS allergy services: when and where to refer

Table 1 (Continued)

Person	Services provided	Skills required	Information/training required
GP/PN with a special interest in allergy (<i>GP/PN with allergy training with access to increased consultation time and basic diagnostic tests</i>)	<ul style="list-style-type: none"> • Allergy diagnosis • Allergy symptom management • Simple allergy testing • Referral 	<ul style="list-style-type: none"> • History taking and interpretation • Performance of simple diagnostic tests • Interpretation of simple diagnostic tests • Rhinoscopy • Optimal symptom control using POM drugs 	<p>Degree/diploma</p> <ul style="list-style-type: none"> • As for practice lead + • How to perform and interpret diagnostic tests • Allergy and non-allergy: symptoms and management <p>Resources</p> <ul style="list-style-type: none"> • As for practice lead + • Evidence-based decision-making based on current guidelines on disease diagnosis and management • Experience in an allergy clinic • Mentorship from allergy specialist • Membership of appropriate professional body
Organ-based specialist (ENT, chest physician, dermatologist, gastroenterologist, immunologist)	<ul style="list-style-type: none"> • Allergy diagnosis • Organ specific disease management • Referral 	<ul style="list-style-type: none"> • History taking and interpretation • Performance of simple diagnostic tests • Interpretation of simple diagnostic tests • Organ-specific allergy investigations • Optimal symptom control using POM drugs 	<ul style="list-style-type: none"> • Epidemiology of allergic disease • Genetic influences • Environmental influences • Recognition of allergy co-morbidity • How to perform and interpret diagnostic tests • How to perform and interpret organ-specific allergy investigations • Allergy and non-allergy: symptoms and management • Evidence-based decision-making based on current guidelines on disease diagnosis and management • Local availability of NHS allergy services: when and where to refer

Table 1 (Continued)

Person	Services provided	Skills required	Information/training required
Consultant allergist (with specialist nurse and dietician)	<ul style="list-style-type: none"> • Allergy diagnosis • Management of complex allergic and pseudo-allergic symptoms • Dietetic advice 	<ul style="list-style-type: none"> • Detailed history taking and interpretation • Performance of simple and complex diagnostic tests • Interpretation of simple and complex diagnostic tests • Immunotherapy • Access to allergy dietician 	<ul style="list-style-type: none"> • Epidemiology of allergic disease • Genetic influences • Environmental influences • How to perform and interpret diagnostic tests (e.g. testing for food/drug/venom sensitivity, food/drug challenges, patch tests, bronchial provocation tests) • Allergy and non-allergy: symptoms, management and further referral • Evidence-based decision-making based on current guidelines on disease diagnosis and management • Knowledge of recent developments in the diagnosis and management of allergic and pseudo-allergic diseases
Patient	<ul style="list-style-type: none"> • Self management • Written management plans 	<ul style="list-style-type: none"> • Optimal symptom control • Long term disease management 	<ul style="list-style-type: none"> • Allergen avoidance • Management of acute allergic reactions • Importance of regular and correct use of pharmacotherapy • Adjustment of pharmacotherapy according to symptoms

Key: GP = general practitioner; PN = practice nurse; OTC = over the counter; POM = prescription only medicine; ENT = ear, nose and throat.

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Improved access to allergy training is an essential prerequisite to improving delivery of allergy services in primary care. There is evidence that such training improves patient outcomes [41]. Furthermore, Primary Care Trusts (PCTs) need to be made aware of the burden of allergic disease and alerted to their responsibilities to provide the resources to meet these needs [42,43].

Intermediate care

This would be a new area of service. It should not be considered as a cheap option to expanding a high level allergy service but rather should be seen as an integral part of the overall strategy. A Practitioner with a Special Interest (PwSI), allergy nurse practitioner, or organ-based specialist could manage the more complex problems encountered by GPs.

The UK Government has pledged to have 1000 PwSIs in post by 2004 [44]. Although there is at present no commitment to PwSIs in allergy,

Box 1 Role of practitioners with special interest in allergy

• **Management of more challenging problems:**

- Nasal symptoms unresponsive to combination therapy
- Skin symptoms
- Food allergy and atypical symptoms attributed to food
- Drug reactions
- Generalised insect venom reactions
- Asthma when an allergic trigger is suspected
- Anaphylaxis

• **Advice**

- Primary care practitioners
- Primary care organisations and other public bodies.

• **Access**

- Allergy testing (skin prick testing/sIgE)
- Imaging
- Allergen injection immunotherapy
- Specialist expertise.

• **Education**

• **Liaison**

- Researchers,
- Public health leads
- Clinical governance
- Schools and school nurses
- Patient organisations

there is support both from the Royal College of Physicians [43] and the UK parliamentary allergy health committee [45]. Their roles, support and training needs are outlined in **Box 1** and **Table 1**.

Since allergy services in the UK are so limited, additional funding and investment will be necessary. A key requirement for success will inevitably be obtaining commitment and funding by Primary Care Organisations (PCOs). Successful models already exist in some PCTs for GPs with a special interest (GPwSIs) in ENT, dermatology and sports medicine, and the General Practice Airways Group (GPIAG) has proposed models for the accreditation [46], appraisal of, and developmental support for [47] GPwSIs in respiratory medicine, all of which can be referred to when establishing PwSIs in allergy.

Secondary care

The majority of secondary care referrals are made to organ-based specialists such as ENT surgeons, chest physicians and dermatologists. Allergy training in these disciplines is variable and there is often little access to diagnostic tests. **Table 1** outlines the level of service which may be expected in secondary care by those purporting to provide an allergy service. There is a need for organ-based specialists to recognise the systemic nature of allergic disease in order to reduce the number of individual referrals for organ-specific allergic symptoms.

Tertiary care

Although a discussion of the possible structure of reconfigured secondary and tertiary care services falls beyond the scope of this paper, it is important to note that services are geographically patchy and are, for most patients, difficult to access at present. Planned expansion to a reasonable level may take many years [48]. Nevertheless, patients with severe, drug resistant or life-threatening disease require expert allergy assessment and attempts to refer patients should be made where possible. Other reasons for referral should include food allergy, drug allergy, occupational allergy, complex or severe cross reactivity, or cases of diagnostic uncertainty. Allergy specialists would have access to the full range of diagnostic and therapeutic facilities including other specialist team members such as specialist nurses, dieticians and psychologists.

Conclusions

Allergy services in the UK are inadequate, but the majority of patients can be successfully treated in the community with appropriate training. The principles underlying improved allergy management are: increased awareness of allergy; improved education and training of health-care providers; improved access to reliable information; and acquisition of the resources necessary to deliver the services.

Information concerning the nature of allergy and the avenues available for its management should be readily available to the public. Although there is an increasing interest in allergy, patients cannot be expected to be able to differentiate between reliable information and marketing opportunities. The British Society for Allergy and Clinical Immunology is currently investigating the provision of simple information and advice to patients including links to reputable websites peer-reviewed by a member of the Society.

Improved knowledge of allergy and training in the management of allergic disease is recommended to improve care. Levels of interest in allergy training among pharmacists requires investigation, although anecdotal evidence suggests that pharmacists are keen to include allergy advice as part of their role in dispensing allergy medication, and that they may well be able to provide a more accessible allergy advice service in the future. Allergy training for the primary care team is necessary to enable them to improve their care for the majority of patients and to equip them with the skills to recognise when to refer patients. There is also the possibility of creating PWSIs in allergy together with support teams. This should enable most patients with allergy to be managed efficiently and locally. Initiatives to expand facilities in secondary/tertiary care may be more successful if they are driven by primary care demand which is itself responsive to patient demand.

Conflicts of interest

Dermot Ryan has been sponsored to attend major symposia by, received consultancy fees and speaker fees from, and arranged educational activities for 3M Pharmaceuticals, Astra Zeneca, GlaxoSmithKline, Schering-Plough, MSD and Novartis Pharma.

Adrian Morris has been an advisor for Sweden Diagnostics (Pharmacia) and UCB Institute of Allergy.

Mark Levy has been sponsored to attend international conferences, and has accepted consultancy fees and speaker fees for participating in educational activities for, Altana Pharmaceuticals, Astra Zeneca, Cheisi-Trinity, GlaxoSmithKline, Innovata Biomedica, MSD, Novartis Pharma, Schering-Plough, and Sweden Diagnostics (Pharmacia).

Aziz Sheikh has received reimbursement for lectures and meetings from Schering-Plough Ltd., UCB Pharma, Aventis, Pfizer Ltd., GlaxoSmithKline.

Samantha Walker has received honoraria for consultancy, lectures and publications from GlaxoSmithKline, UCB, Pharmacia UK, Schering Plough UK, Novartis, Aventis and Pfizer UK.

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