

Writing from Bradford, Stinson *et al*<sup>10</sup> describe very similar wishes that need to be met to retain the British salaried doctors there. They summarise these as 'support, security, stimulation.'

The non-principal phenomenon is currently emerging from within general practice. There is a shifting balance between full-time principals and an increasing number of salaried, sessional, portfolio, and part-time doctors. This phenomenon is going to be a major theme for the next few years in general practice employment patterns, and the ideal balance of these types of working is not yet known, either collectively or for individuals.

Patients may have a view on these developments but they have little collective voice<sup>11</sup> and while some, especially those with chronic diseases, may regret the passing of the traditional GP providing continuity of care, many (often the young and healthy) will be indifferent.<sup>1</sup> They may have to develop a range of relationships to their doctors (not doctor) mirroring that of the doctors to their jobs.

The non-principal phenomenon, while delivering reasonable episodic care, is unlikely to deliver the best medical results to patients. Those who value continuity of care<sup>1,12</sup> and the role of an ongoing therapeutic relationship as a means to promote enablement<sup>3</sup> of patients need to argue more strongly, and make the long-term GP role (whether as a self-employed principal or otherwise<sup>13</sup>) more sustainable and attractive, both to doctors and healthcare purchasers. Otherwise, these internationally admired elements of British general practice could be lost.<sup>12</sup>

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# Occupational asthma case finding: a role for primary care

THE Revitalising Health and Safety strategy<sup>1</sup> was launched jointly by the British government and Health and Safety Commission in June 2000 across England, Scotland and Wales, with Northern Ireland working in close partnership. This 10-year strategy seeks significant improvements in workplace health and safety, setting a target to reduce the incidence of cases of work-related ill-health by 20% by 2010. The predominant work-related disorders are musculoskeletal, mental, dermatological and respiratory diseases.<sup>2</sup> Occupational asthma is the most frequently reported occupational respiratory disease in Great Britain, accounting for almost 1000 cases reported to the SWORD (Surveillance of Work-related and Occupational Respiratory Disease) scheme for occupational and work-related respiratory disease every year.<sup>3</sup> Reporting schemes are likely to underestimate true incidences because not all cases come to light,<sup>4</sup> with some workers not seeking medical advice.<sup>5</sup>

## The scale of the problem

Most patients with occupational respiratory disease are not seen by a consultant physician and thus their cases are not officially reported. The Health and Safety Executive (HSE) estimate that 1500–3000 people develop occupational asthma each year, that is, adult asthma caused by workplace exposure and not by factors outside the workplace.<sup>6</sup> This figure rises to 7000 cases a year if work-aggravated asthma is included, that is, pre-existing or coincidental new onset adult asthma, which is made worse by non-specific factors in the workplace.<sup>6</sup> The symptoms and functional impairment of occupational asthma caused by various agents may persist for many years after avoidance of further exposure to the causative agent, leaving people disabled or unable to continue in the job that caused their asthma. About a third of work-

ers with occupational asthma are unemployed within 6 years after diagnosis.<sup>7</sup>

Between a third and two-thirds of adult asthmatic patients develop asthma for the first time during working years.<sup>8-10</sup> Occupational factors account for 9–15% of cases of asthma (including new onset disease and reactivation of pre-existing asthma) in adults of working age.<sup>11</sup> A primary care study in a practice with a 6% prevalence of asthma in patients aged 16–65 years found that 47% (182) of their patients had adult onset asthma. Data for a third of these patients indicated their occupations involved potential exposures to risk factors for occupational asthma. Diagnosis in 5% (9/182) of the patients had a possible link between occupation and asthma; while in 4% (7/182) occupational asthma had been confirmed.<sup>12</sup> In another primary care study, 150 adult patients with asthma randomly selected from family practice were interviewed. Of those who developed asthma during the course of their employment, 10% of the study population were in occupations with an increased risk of occupational asthma; 5% of the study group had work-aggravated asthma and were in jobs with increased risk of aggravating their asthma.<sup>10</sup> These studies indicate that occupational asthma is probably quite common and underdiagnosed in primary care. In the United Kingdom, this is further complicated by the fact that the Read Code system for recording medical data on computers does not include a code for occupational asthma.

### Relevant industries

Employees at risk of occupational asthma include paint sprayers, bakers and pastry makers, nurses, chemical workers, animal handlers, welders, food processing workers, and timber workers. The most frequently reported agents include isocyanates, flour and grain dust, colophony and fluxes, latex, animals, aldehydes, and wood dust.

### Importance of early diagnosis

That only some people develop occupational asthma despite similar exposures suggests personal susceptibility factors. The positive predictive value of criteria, such as atopy, family or personal history of asthma, cigarette smoking, and human leucocyte antigen (HLA) phenotype, are too poorly discriminating for screening out potentially susceptible individuals to occupational asthma, particularly in the case of atopy where the trait is highly prevalent. Primary prevention of occupational asthma relies on employers reducing exposure to agents in the workplace. The role of the health practitioner starts with secondary prevention. Early case finding, therefore, rather than screening out those potentially at increased risk of developing occupational asthma is probably the most important role for health professionals working in primary care.

Early diagnosis is extremely important in occupational asthma, because this is a potentially curable disease. The likelihood of improvement or resolution of symptoms, or of preventing deterioration is greater in workers who have no further exposure to the causative agent, relatively normal lung function at the time of diagnosis, and shorter duration of symptoms both prior to diagnosis and prior to avoidance of exposure.

### How to diagnose occupational asthma and why it is not straightforward

Having identified patients working in occupations placing them at risk of developing occupational asthma, it is useful to determine if they are provided with regular and relevant health surveillance by their employer. This should be provided at least annually and more frequently in the first 2 years of exposure for workers where a risk of occupational asthma is identified. Surveillance should include a respiratory questionnaire, such as a modified International Union Against Tuberculosis and Lung Disease questionnaire enquiring about upper and lower respiratory symptoms,<sup>13</sup> with additional functional and immunological tests where appropriate.

Any adult patient with new, recurrent, or deteriorating symptoms of rhinitis or asthma should be asked about their job, the materials with which they work, and whether their symptoms improve regularly when away from work. For most causes, the risk of developing occupational asthma is greatest during the early years of exposure. Occupational rhinitis frequently precedes and accompanies IgE-associated occupational asthma, the risk of developing asthma being highest in the year after the onset of rhinitis.<sup>7</sup> Management of patients with occupational asthma should follow published clinical guidelines for the pharmacological management of patients with asthma in conjunction with recommendations to avoid exposure to the causative agent.<sup>14</sup>

Although it has become routine to enquire about ethnicity and smoking status when new patients join a practice, details of the patient's occupation may provide additional assistance in the process of diagnosis of many diseases, including occupational asthma. Newly diagnosed adults with asthma should always be asked about their occupation and whether their symptoms improve when away from work; those within the high-risk groups should be referred to a specialist with expertise in occupational asthma.

Diagnosis of occupational asthma needs to be supported by objective criteria (functional, immunological, or both) and not simply made on the basis of a compatible history alone because of the potential implications for future employment. Patients suspected of having occupational asthma should perform serial peak flow measurements at least four times a day, on days at and away from work. The diagnosis of occupational asthma can usually be made without specific bronchial provocation testing, considered to be the 'gold standard' diagnostic test.<sup>7</sup> When compared with specific bronchial provocation testing, the sensitivity and specificity of serial peak flow measurements are high in the diagnosis of occupational asthma (provided that more than four readings a day are recorded).<sup>15</sup>

### Clinical management

In those patients working in occupations putting them at risk of developing this disease, confirmation of the diagnosis and dealing with the sensitive employment related issues are really the domain of specialist occupational physicians or chest physicians with an interest in occupational diseases. Therefore, any patient suspected of having occupational asthma should be referred at an early stage to a physician with expertise in occupational asthma.

### Broader policy management

The Health and Safety Commission set a specific target to reduce the incidence of occupational asthma by 30% by 2010. It established an Asthma Project Board<sup>16</sup> in 2002 to champion the cause of asthma caused, and made worse, by work, and to produce strategic ideas on reducing its incidence. The British Occupational Health Research Foundation (BOHRF) has issued occupational health guidelines for the management of low back pain at work,<sup>17</sup> and since evidence-based guidelines are becoming the benchmarks for practice in many areas of health care, the Board considered that similar evidence-based guidelines should be produced, on the basis of a systematic literature review, for occupational asthma. A BOHRF multidisciplinary research working group was formed in April 2003, with guidelines for the prevention, identification, and management of occupational asthma<sup>7</sup> being launched at the Royal College of General Practitioners in September 2004. The working group included patients and individuals from relevant professional groups. The BOHRF systematic review began by determining specific key questions of relevance to occupational health professionals, primary care practitioners, employers, and workers and their representatives.

### Conclusions

The occupational asthma evidence review<sup>7</sup> and the recommendations derived from it concentrate on interventions and outcome. The aim is to provide a robust approach to the prevention, identification, and management of occupational asthma, based on and using the best available medical evidence, with general practitioners and practice nurses among the primary audience.

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### Conflict of interest

Drs Levy and Nicholson were both members of the evidence review panel for the British Occupational Health Research Foundation (BOHRF) which has produced the occupational health guidelines for the prevention, identification and management of occupational asthma. Dr Levy represented the Royal College of General Practitioners. Dr Nicholson represents the Faculty of Occupational Medicine and the Society of Occupational Medicine on the HSE Asthma Project Board.

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