Primary care epidemiology of allergic disorders: analysis using QRESEARCH database 2001-2006

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1 Table of contents

1 Table of contents 2
2 Index of tables 4
3 Index of figures 6
4 Executive summary 7
5 Discussion of the interpretation of trends in this report 10
6 Background to QRESEARCH 12
7 Background to the allergies project 13
8 Objectives 14
9 Scope of this report 14
10 Methods 15
10.1 General Practice 15
10.2 Practice and patient inclusion criteria 15
10.3 Methods for identifying patients with each allergic disorder 16
10.4 Geographical region 16
10.5 Definition of incidence and life time prevalence 16
10.6 Notes on consultation rates 17
10.7 Age sex standardisation of rates 17
10.8 Confidence intervals 17
10.9 Analysis of prescribed medication 18
10.9.1 Emollient and barrier preparations 18
10.9.2 Topical corticosteroids 18
10.9.3 Drugs used for psoriasis and eczema 18
10.9.4 Asthma drugs 19
10.9.5 Bronchodilators 19
10.9.6 Corticosteroids for inhalation 19
10.9.7 Cromoglycate and related treatments 19
10.9.8 Drugs used in nasal allergies 19
10.9.9 Drugs used in allergic emergencies 20
11 Overview of results 20
11.1 Study population 20
11.2 Age-sex structure of the QRESEARCH population 20
11.3 Lifetime prevalence of all diseases 21
11.4 Incidence of all diseases 24
11.5 GP consultation rates 26
11.6 Nurse consultation rates 27
11.7 Recording of smoking status 28
11.8 Current smokers 29
12 QRESEARCH key facts about asthma 31
12.1 What is asthma? 31
12.2 Definition of asthma 31
12.3 How common is a computer recorded diagnosis of asthma? 31
12.4 Trends in the lifetime prevalence and incidence of asthma 32
12.5 Consultation rates for patients with asthma 34
12.6 Asthma and smoking 36
12.7 Patients prescribed asthma treatments during the last year 37
12.8 Estimated numbers of asthma prescriptions in England 37
12.9 Estimated number of asthma patients in England who had a prescription in the last 12 months 38
13 QRESEARCH key facts about eczema 40

13.1 What is eczema? 40
13.2 How common is eczema? 40
13.3 Trends in incidence and lifetime prevalence of eczema 41
13.4 Consultation rates for patients with eczema 42
13.5 Eczema and smoking 44
13.6 Patients in 2005 prescribed eczema treatments during the last year 45
13.7 Estimated numbers of eczema prescriptions in England 45
13.8 Estimated number of eczema patients in England who had a prescription in the last 12 months 46
14 QRESEARCH key facts about allergic rhinitis 48
14.1 What is allergic rhinitis? 48
14.2 How common is allergic rhinitis? 48
14.3 Trends in incidence and lifetime prevalence of allergic rhinitis 49
14.4 Consultations for patients with allergic rhinitis 50
14.5 Allergic rhinitis and smoking 53
14.6 Patients in 2005 prescribed allergic rhinitis treatments during the last year 54
14.7 Estimated numbers of prescriptions for allergic rhinitis in England 54
14.8 Estimated number of allergic rhinitis patients in England who had a prescription during the last 12 months 55
15 QRESEARCH key facts about anaphylaxis 56
15.1 What is anaphylaxis? 56
15.2 How common is anaphylaxis? 56
15.3 Trends in lifetime prevalence and incidence of anaphylaxis 57
15.4 Consultations for patients with anaphylaxis 59
15.5 Anaphylaxis and smoking 61
15.6 Patients prescribed anaphylaxis treatments during the last year 61
15.7 Estimated numbers of prescriptions for anaphylaxis in England 62
15.8 Estimated number of anaphylaxis patients in England with a prescription in the last 12 months. 62
16 QRESEARCH key facts about peanut allergy 63
16.1 What is peanut allergy? 63
16.2 How common is peanut allergy? 63
16.3 Trends in lifetime prevalence and incidence of peanut allergy 64
16.4 Consultations for patients with peanut allergy 65
16.5 Peanut allergy and smoking 67
17 QRESEARCH key facts about any allergic disease 69
17.1 What is ‘any allergic disease’? 69
17.2 How common is ‘any allergic disease’? 69
17.3 Trends in incidence and lifetime prevalence of any allergic diseases 70
17.4 Consultation rates for patients with any allergic disease 71
17.5 Any allergic disease and smoking 74
17.6 Patients prescribed medication for any allergic disease during the last year 74
17.7 Estimated numbers of prescriptions in England for any allergic disease 75
17.8 Estimated numbers of people in England who had a prescription for any allergic disease during the last 12 months. 76
18 QRESEARCH key facts about multiple allergic diseases 78
18.1 What is multiple allergic diseases? 78
18.2 How common is multiple allergic diseases? 78
18.3 Trends in lifetime prevalence and incidence of multiple allergic diseases 79
18.4 Consultation rates for patients with multiple allergic diseases 80
18.5 Multiple allergic diseases and smoking 82
18.6 Number of allergic conditions 83

2 Index of tables

Table 1 Number of practices and registered patients in each geographical region for 2005 20
Table 2 Age-sex standardised lifetime prevalence rate per 1000 patients in 2001 and 2005 22
Table 3 Age-sex standardised lifetime prevalence per 1000 patients in 2005 and estimated number of people in England affected 22
Table 4 Percentage change in age-sex standardized lifetime prevalence of each disease from 2001 to 2005 23
Table 5 Comparison of QRESEARCH and QMAS lifetime prevalence rates (per 1000) for asthma in 2005 23
Table 6 Age-sex standardised incidence rates for all conditions per 1000 person-years 24
Table 7 Age-sex standardised incidence rates per 1000 person-years in 2005 with the estimated numbers of newly diagnosed cases in England 25
Table 8 Percentage change in age-sex standardised incidence rates per 1000 person-years from 2001 to 2005 25
Table 9 Median age at diagnosis for incident cases in 2005 26
Table 10 GP consultation rates in 2005 (regardless of the reason for encounter) by disease 27
Table 11 Estimated number of GP consultations in England in 2005 regardless of the reason for encounter 27
Table 12 Nurse consultation rates in 2005 (regardless of the reason for encounter) for patients with each diagnosis 28
Table 13 Estimated number of nurse consultations in England in 2005 (regardless of the reason for encounter) for people with each disease 28
Table 14 Percentage of patients in QRESEARCH in 2005 that had smoking status recorded in their electronic records by diagnosis 29
Table 15 Age-sex standardised percentage of patients who were recorded as smokers in 2005 as a proportion of those with smoking status recorded 30
Table 16 Estimated number of people in England with each disease who also smoke 30
Table 17 Lifetime prevalence of asthma 33
Table 18 Incidence of newly diagnosed asthma per 1000 person-years 33
Table 19 Lifetime prevalence of asthma by Government Office region in 2005 34
Table 20 Lifetime prevalence of asthma by quintile of Townsend score in 2005 34
Table 21 Consultations rates for asthma patients per person per year by clinician and year regardless of the reason for the encounter 35
Table 22 Percentage of patients in 2005 prescribed treatment in the last 12 months 37
Table 23 Estimated numbers of prescriptions for asthma patients in England by year 38
Table 24 Estimated numbers of patients in England with asthma who had a prescription in the previous 12 months 39
Table 25 Age - sex standardised lifetime prevalence of treated asthma per 1000 patients 39
Table 26 Lifetime prevalence of eczema 41
Table 27 Incidence of newly diagnosed eczema per 1000 person-years 41
Table 28 Lifetime prevalence by Government Office region in 2005 42
Table 29 Lifetime prevalence of eczema by quintile of Townsend score in 2005 42
Table 30 Consultations rates for eczema patients per person per year by clinician and year regardless of the reason for the encounter 43
Table 31 Percentage of patients in 2005 prescribed treatment in last 12 months 45
Table 32 Estimated numbers of prescriptions for in England by year 46
Table 33 Estimated numbers of patients in England with eczema who had a prescription in the previous 12 months 47
Table 34 Lifetime prevalence of allergic rhinitis 49
Table 35 Incidence of allergic rhinitis per 1000 person-years 49
Table 36 Lifetime prevalence by Government Office region in 2005 50
Table 37 Lifetime prevalence of allergic rhinitis by quintile of Townsend score in 2005 50
Table 38 Consultations rates for allergic rhinitis (regardless of the reason for the encounter) per patient by clinician 51
Table 39 Percentage of patients prescribed treatment in last 12 months 54
Table 40 Estimated numbers of prescriptions in England by year 55

Table 41 Estimated numbers of patients with allergic rhinitis who had a prescription in the previous 12 months by year 55
Table 42 Lifetime prevalence (per 1000) of anaphylaxis by year 57
Table 43 Incidence of newly diagnosed anaphylaxis by year 58
Table 44 Lifetime prevalence by Government Office region for 2005 58
Table 45 Lifetime prevalence of anaphylaxis by quintile of Townsend score 59
Table 46 Consultations rates for anaphylaxis per person per year by clinician by year regardless of the reason for the encounter 59
Table 47 Percentage of anaphylaxis patients in 2005 prescribed treatment during the last 12 months 61
Table 48 Estimated numbers of prescriptions in England 62
Table 49 Estimated numbers of patients with anaphylaxis who had a prescription in the previous 12 months 62
Table 50 Lifetime prevalence of peanut allergy 64
Table 51 Incidence of newly diagnosed peanut allergy 64
Table 52 Lifetime prevalence by Government Office region for 2005 65
Table 53 Lifetime prevalence of peanut allergy by quintile of Townsend score in 2005 65
Table 54 Consultations rates for peanut allergy patients per person per year by clinician and year 66
Table 55 Lifetime prevalence of any allergic disease 70
Table 56 Incidence of newly diagnosed cases of any allergic disease 70
Table 57 Lifetime prevalence by Government Office region for 2005 71
Table 58 Lifetime prevalence of any allergic diseases by quintile of Townsend score in 2005 71
Table 59 Consultations rates for any allergic diseases patients per person per year by clinician 72
Table 60 Percentage of patients in 2005 prescribed treatment in last 12 months 75
Table 61 Estimated numbers of prescriptions in England for any allergic disease by year 76
Table 62 Estimated numbers of people in England who had a prescription for any allergic disease in the previous 12 months 77
Table 63 Lifetime prevalence of multiple allergic diseases 79
Table 64 Incidence of multiple allergic diseases 79
Table 65 Lifetime prevalence by Government Office region in 2005 80
Table 66 Lifetime prevalence of multiple allergic diseases by quintile of Townsend score in 2005 80
Table 67 Consultations rates for multiple allergic diseases patients per person per year by clinician by year 81
Table 68 Count of patients in QRESEARCH broken down by number of allergic conditions suffered 84
Table 69 Percentage of patients in QRESEARCH broken down by number of allergic conditions 84

3 Index of figures

Figure 1 Age - sex structure in QRESEARCH and England in 2005 21
Figure 2 Percentage of all registered patients with smoking status recorded 29
Figure 3 Lifetime prevalence of asthma per 1000 registered patients 32
Figure 4 Asthma consultation rates compared with overall consultation rates (GPs and nurses) in 2005 by age and sex 35
Figure 5 GP consultation rates per patient for asthma 36
Figure 6 Percentage of patients with asthma who are smokers 37
Figure 7 Lifetime prevalence of eczema per 1000 registered patients 40
Figure 8 Overall consultation rates compared with those for patients with eczema, for all GP and nurse consultations in 2005 broken down by age and sex 43
Figure 9 GP consultation rates per patient for eczema 44
Figure 10 Percentage of patients with eczema who smoke 45
Figure 11 Lifetime prevalence of allergic rhinitis per 1000 registered patients 48
Figure 12 Overall consultation rates compared with those for patients with allergic rhinitis, for all GP and nurse consultations in 2005 broken down by age and sex. 52
Figure 13 GP consultation rates per patient for allergic rhinitis 53
Figure 14 Percentage of patients with allergic rhinitis who are smokers 54
Figure 15 Lifetime prevalence of anaphylaxis per 1000 patients 57
Figure 16 overall consultation rates compared with those for patients with anaphylaxis, for all GP and nurse consultations in 2005 broken down by age and sex. 60
Figure 17 GP consultation rates per patient (regardless of the reason for the consultation) for anaphylaxis 60
Figure 18 Percentage of patients with anaphylaxis who are smokers 61
Figure 19 Lifetime prevalence per 1000 registered patients for peanut allergy 63
Figure 20 overall consultation rates compared with those for patients with peanut allergy, for all GP and nurse consultations in 2005 broken down by age and sex 66
Figure 21 GP consultation rates per patient for peanut allergy 67
Figure 22 Percentage of patients with peanut allergy who are smokers 68
Figure 23 Lifetime prevalence per 1000 registered patients for any allergic disease 69
Figure 24 Overall consultation rates compared with those for patients with any allergic disease, for all GP and nurse consultations in 2005 broken down by age and sex. 73
Figure 25 GP consultation rates for patients with any allergic disease 73
Figure 26 Percentage of patients with any allergic disease who were smokers 74
Figure 27 Lifetime prevalence per 1000 registered patients for multiple allergic diseases 78
Figure 28 overall consultation rates compared with those for patients with multiple allergic diseases, for all GP and nurse consultations in 2005 broken down by age and sex. 81
Figure 29 GP consultation rates per patient for multiple allergic diseases 82
Figure 30 Percentage of patients with multiple allergic diseases who are smokers 83

4 Executive summary

Background

- In 2006, QRESEARCH was commissioned by the Information Centre on behalf of the Department of Health to produce a compendium of information relating on allergic diseases from primary care for 2001 to 2005. This is the final report of this research and focuses on five key allergic disorders – asthma, hay fever, eczema, allergic rhinitis and anaphylaxis. This report is intended to provide evidence to help inform policy around development of standards and services for patients with allergic disorders in England. It is part of a larger review which includes analyses of secondary care data and a review of the existing literature.

- The information presented here has been derived from routinely collected data from general practices contributing to the QRESEARCH database and we acknowledge the contribution of practices supplying data and to EMIS for technical support. QRESEARCH is now one of the largest aggregated general practice databases in the world. Version 10 of the database has over 30 million person years of observation from 525 practices spread throughout the UK with representation in every Strategic Health Authority and is current up to 1st April 2006. It is updated every quarter. The data quality of QRESEARCH has been examined and found to be of good quality. Reports are available from QRESEARCH or at http://www.qresearch.org/.

- In this report we use the terms computer recorded incidence and computer recorded lifetime prevalence. Computer recorded incidence refers to the number of patients who have a first ever diagnosis of a condition recorded within their electronic heath record during a given time period such as a years (patients with an existing diagnosis before the start of the year would not be counted). Computer recorded lifetime prevalence refers to patients who have ever had a diagnosis of a condition recorded by their GP in their electronic health record. Diagnoses made in the past would be included in this definition. Not all patients report symptoms of disease to their GP and not all diseases are diagnosed and

recorded within a patient's electronic health record. Therefore the estimates provided in this report are conservative and the true burden of disease may be greater than that reported here.

The main findings of our report were:

- Over the five year study period, there was an increase in the computer recorded prevalence of patients who had any of 'any allergic disease' (i.e. one of asthma, eczema, allergic rhinitis, peanut allergy or anaphylaxis). In 2001, 19% of the patients were recorded by their GP with one of more of these conditions at some point in their life compared with 24% by 2005. By 2005, an estimated 12.2 million people (one in four) in England have had a recorded diagnosis of 'any allergic disease' at some point in their life. The largest recorded increase was for peanut allergy.

- Similarly there was an increase in the computer recorded incidence of allergies over the five years except for asthma where the incidence declined. By 2005, one in every 50 people was had a first ever diagnosis of an allergic disease recorded by their GP on the electronic health record.

- Another key finding of this report is that all allergies tend to be more commonly recorded among patients from affluent areas compared with patients from deprived area.

- An estimated 5.7 million people in England (one in nine) have had a computer recorded diagnosis of asthma at some point in their life and one in every 192 people was newly diagnosed by the GP during 2005.

- An estimated 5.8 million people in England (one in nine) have had a diagnosis of eczema at some point in their life and one in every 74 people was newly diagnosed in 2005.

- An estimated 3.3 million people (one in 15) in England have had a recorded diagnosis of allergic rhinitis at some point in their life and one in every 135 people was newly diagnosed during 2005.

- An estimated 38,000 people (one in 1333) in England have had a recorded diagnosis of anaphylaxis at some point in their life and one in every 12,600 people was newly diagnosed during 2005.

- An estimated 26,000 people (one in 1960) in England have had a recorded diagnosis of peanut allergy at some point in their life and one in every 12,400 people were newly diagnosed during 2005.

- An estimated 2.3 million people (one in 22) in England have had a recorded diagnosis of more than one allergic disease at some point in their life and one in every 159 people were newly diagnosed in 2005.

- Importantly, however, it must be noted that this report demonstrates increases in diagnoses of diseases recorded by general practitioners on their electronic computer system. These data have limitations (as with all data sources) because of the real world setting in which the data are recorded. The next section discusses this in more detail.

5 Discussion of the interpretation of trends in this report

A key objective of this report is to determine the trends in various measures of allergic disorders such as incidence, lifetime prevalence and prescribing rates. There are a number of factors which need to be considered in interpreting the finding from this report.

This analysis has been limited to a fixed set of general practices across the whole of the five year study period. This was designed to eliminate biases which would other arise due to sampling of different practice populations in each year. The practices are however, broadly representative of practices in England in terms of the age-sex structure of the death rates, birth rates and prevalence of other chronic diseases. This suggests that the findings should be generalisable to England.

We have also limited the analyses to patients registered for the whole of a given analysis year to ensure the medical data recorded on the computer are as complete as possible i.e. to minimise recording bias.

The overall pattern for many of the measures reported in the following section is to suggest an increase over the five year study period. It is not possible from this analysis (or indeed any simple analysis of routinely collected data from general practices) to distinguish between a true increase in the disease measure, better screening, better ascertainment or improved recording of disease on the clinical computer system. It is important to note that there has been a consistent increase in the use of the electronic health records within general practice over the last 5-10 years. This has been accelerated in the last two to three years by the advent of the GMS contract for General Practitioners which incentives the electronic recording health care for a range of chronic diseases. Nonetheless, there have been some decreases in the recorded incidence of several chronic diseases over the last 5 years such as coronary heart disease and asthma (as shown in this report). This suggests that there may be some real trends to observe despite the confounding effect of increased computer usage over time.

It is also important to note that these analyses are based on diagnoses entered on the general practice clinical computer system by a health care professional. Diagnostic definitions can change over time – patients diagnosed with asthma can later be diagnosed with chronic obstructive airways disease as access to diagnostic tests improves or when patients fail to respond to asthma specific treatment. This methodology will inevitably yield different results to a patient survey based on recent symptoms which might be attributable to asthma such as wheeze or breathlessness. Not every patient with breathlessness or wheeze will have consulted a general practitioner. Indeed, not every patient with a self-assessed diagnosis of peanut allergy will also have a doctor-assessed diagnosis of peanut allergy. Similarly, there are genuine diagnostic difficulties for some conditions (such as eczema) which can mimic other skin disorders and vice versa. However, this analysis should give a good picture of the burden of disease receiving some medical attention within primary care.

The analyses of medication are based on prescribed medication. It is not possible from this analysis to measure which prescriptions were cashed by the patients and what medication the patient actually took. Nonetheless, analyses from general practice databases such as QRESEARCH are currently the best available data for linking morbidity to prescribing (which, for example, is not possible with PACT data).

There are also some allergic conditions which are outside of the scope of the commissioned report including multiple drug allergies, venom allergy, urticaria, angioedma and allergic conjunctivitis. Most of these conditions could be studied using a general practice database such as QRESEARCH though they vary considerably from fairly simple conditions (such as allergic conjunctivitis) to multiple drug allergies which is likely to be a complex piece of work.

Finally, this report is only one part of a wider review – a review which also includes an epidemiological report for the Department of Health's review of Allergy Services by Professor John Newton.

6 Background to QRESEARCH

- QRESEARCH is now one of the largest aggregated general practice databases in the world. Version 10 of the database has over 30 million person years of observation from 525 practices spread throughout the UK with representation in every Strategic Health Authority and is current up to 1st April 2006. It is updated every quarter.

- It has been developed by the University of Nottingham in conjunction with EMIS – the largest supplier of general practice computer systems in the UK.

- Whilst QRESEARCH has recently been established, the data held within the database extend back to the early 1990s.

- QRESEARCH was set up to undertake epidemiological research and also analyses to inform the health service and clinical practice.

- The data quality has been examined and found to be of high quality. (Data quality reports are available from QRESEARCH or at http://www.qresearch.org/)

- There is a working facility to upload data daily in response to an emerging urgent situation or in an emergency.

- It contains socio-economic data linked to the patient's postcode but without the postcode being extracted to preserve anonymity.

- Practices contribute data for free in exchange for feedback. The QRESEARCH organization is not profit making.

- It is regulated by an advisory board comprising of representatives of national professional and patient organizations and is independent of the pharmaceutical industry.

- The custodians of the database are general practitioners and also senior academics who give relevant clinical and scientific input into analyses.

7 Background to the allergies project

Allergic and respiratory conditions are common problems in England, as elsewhere in developed countries. Many children suffer from eczema or hay fever in some form, and asthma is also very common in children and adults. These conditions together account for a substantial proportion of workload in primary care and allergic diseases alone account for 10% of the cost of medicines prescribed by GPs.

Most cases of allergic disease will be mild but others can lead to severe problems and sometimes death. Even the less severe conditions can be persistent and may cause great hardship and disability if not correctly diagnosed and managed. Information from special surveys suggests that numbers of cases of allergy have increased greatly since the 1960s although there is a suggestion that the trend has leveled off for some conditions. A particular concern is that serious allergic reactions (such as anaphylaxis) appear to be more and more common as a cause of hospital admission. Some good information is already available from special research studies, from hospital record systems and from general practice. However, there is a need for further analyses of general practice data to investigate the questions given above.

There is a strongly held view among clinical specialists that there is a large and increasing burden of illness due to allergic conditions. This was the conclusion of a recent Royal College of Physicians report in 2003. In order to plan and commission NHS services appropriately, we need the best possible information on the need for additional care, either in general practices, elsewhere in the community or in hospitals.

A major advantage of QRESEARCH is the ability to study the experience of individuals (anonymously) rather than just count episodes of care without knowing whether the same person is presenting repeatedly with the same problem or even with different problems.

8 Objectives

The overall aim of this report is to describe the epidemiology and use of primary care services for patients with allergic disease to inform a national review of allergy services.

Specific objectives of the analyses included the following:

- To estimate the number of people in England who were suffering from allergic conditions (asthma, eczema, hay fever, food allergy or anaphylaxis) in each of the five years from 2001 to 2005 and which groups in the population were most affected

- To determine whether the numbers were increasing or decreasing for each condition over that period.

- To estimate the number of patients with one or more allergic disorders who could be considered to have more severe allergic disease

9 Scope of this report

Related work has been commissioned by the Department of Health to review the literature relating to the epidemiology of allergic diseases and hence this is out of scope of the current report.

This report also focuses on selected allergic disorders as requested by the Department of Health. These are asthma, eczema, allergic rhinitis, anaphylaxis, peanut allergies and multiple allergies (defined as more than one of the diseases in this list).

There are other allergic disorders which have not been included in this report and which could be the subject of further work. These include drug allergy, venom allergy, urticaria, angioedema and allergic conjunctivitis.

10 Methods

Version 10 of the QRESEARCH database was used for this analysis and the data was complete up to 01 April 2006. This database is one of the largest anonymised aggregated health databases in the world. It contains the records of over 9 million patients from 525 UK general practices and more details can be found at http://www.qresearch.org/

10.1 General Practice

In the UK, General Practice is also referred to as 'primary care' and is similar to 'family medicine' elsewhere in the world.

10.2 Practice and patient inclusion criteria

General practices were included in the analysis if they had had been using EMIS and had transmitted complete data for the whole of the period 01 Jan 1999 to 31st Dec 2005. The requirement for practices to have been using EMIS for at least two years prior to the start of the study period (i.e. 01 Jan 2001) was to give the practices sufficient time to become used to using their computer system for routine work.

We based the analysis on a fixed set of practices to eliminate the possibility that trends in rates across the five year study period could be due to the inclusion of different practices in each analysis year.

Whilst QRESEARCH does include general practices in Wales, Scotland and Northern Ireland, there was a requirement from the Department of Health only to include practices within England for this analysis.

Patients were included in the analysis each year if they were registered for the whole of the analysis year in question. Patients who might have incomplete data available for the analysis year (i.e. temporary residents, newly registered patients and those who left or died during the year) were therefore not included in the analysis.

10.3 Methods for identifying patients with each allergic disorder

We have included patients as having the disease in question if they have a computer-recorded diagnostic code in their electronic health record for the relevant time period. We included five key allergic conditions - asthma, allergic rhinitis, eczema, anaphylaxis, peanut allergy. Patients were considered to have 'multiple allergies' if they had more than one of the five key allergic conditions. Patients were considered to have 'any allergic disease' if they had eitherasthma, allergic rhinitis, eczema, anaphylaxis or peanut allergy.

10.4 Geographical region

There are nine geographical regions within England which are used as administrative units within the NHS at the time of writing (August 2006).

These are the North East, North West, Yorkshire and Humberside, East Midlands, West Midlands, East of England, London, South East and the South West.

10.5 Definition of incidence and life time prevalence

In this analysis, the term 'life time prevalence' refers to the number of patients with a recorded diagnosis of the disease in their medical records at some point in their life. For example, a patient with a computer-recorded diagnosis of asthma in 2003 who was still registered in 2005 would be included as a patient with a lifetime diagnosis of asthma in the analysis for 2005.

The denominator term to calculate the lifetime prevalence rate is the number of patients registered with the study practices.

The term 'incidence' refers to the number of new cases of disease diagnosed in a specific year. The denominator is the number of patient years of observation.

10.6 Notes on consultation rates

For the general population we have determined the consultation rates per person per year with a GP and with a nurse. This includes consultations in the home, at the surgery and on the telephone. For some diseases we have also determined the consultation rate per person per year for patients with each specific disease regardless of the reason for those consultations.

Note that the requirements for patients to be registered for the whole of the analysis year slightly under-estimates consultation rates in the very young and the very elderly populations and hence these rates will be slightly different from those produced in QRESEARCH Consultations Reports 3 and 4.

10.7 Age sex standardisation of rates

We have standardised the rates by sex and five-year age bands using the estimated mid-year population in England in each year as our reference population (source data may be found at: http://www.statistics.gov.uk/statbase/Product.asp?vlnk=601&More=N).
We also scaled up the results to give the estimated number of patients in each region and in England with each disease.

10.8 Confidence intervals

We have presented confidence intervals in order to provide an estimate of the "true" values in England using the formulae given in section 4.2 at http://www.doh.wa.gov/Data/Guidelines/ConfIntguide.htm#tth_sEc4.2
Please note that these confidence intervals should only be used as a rough guideline. These formulae do not account for the effect of clustering (patients within practices) or

for the possibility of multiple events (e.g. consultations with a GP) per patient and therefore the confidence intervals are likely to be too narrow.

10.9 Analysis of prescribed medication

We undertook an analysis of medication prescribed for patients with specific allergic diseases. For example, we determined the percentage of patients with asthma who had at least one prescription in the last 12 months for a specified group of drugs. We also determined the total number of prescriptions prescribed in the last 12 months.

To view to the full list medication groups please refer to 'QRESEARCH drug groups for allergic and respiratory disease 1.1.xls'

The medication groups used are summarised below:

10.9.1 Emollient and barrier preparations

Emollients (BNF chapter 13.2) soothe, smooth and hydrate the skin and are useful for many conditions where there is dryness or scaling of the skin. For example, they are useful for eczema and to a lesser extent in psoriasis. There are a wide number of different preparations available and the choice depends on patient preference, the severity of the condition and the site of application.

10.9.2 Topical corticosteroids

Topical corticosteroids (BNF chapter 13.4) are used for the treatment of inflammatory conditions of the skin (other than infections) in particular eczema, contact dermatitis, insect stings and the eczema associated with scabies.

10.9.3 Drugs used for psoriasis and eczema

Some drugs are used to treat either psoriasis or eczema (BNF chapter 13.5).

10.9.4 Asthma drugs

There are a range of drugs used to treat asthma – this group contains medication included in the new GP contract for identifying patients with asthma who are currently on treatment.

10.9.5 Bronchodilators

Bronchodilators (BNF chapter 3.1) tend to be inhaled treatments which open up the airways to give immediate relief from symptoms (this includes peak flow meters and spacer devices).

10.9.6 Corticosteroids for inhalation

Corticosteroids (BNF chapter 3.2) are very effective in asthma – they reduce inflammation and hence reduce swelling and secretion of mucus into the airways. Inhaled corticosteroids should be considered, in addition to bronchodilator treatment, if the peak flow is worse than 50% of the predicted value and if the patient has had two or more exacerbations in a year needing antibiotics or steroids, or if the patient is using a beta agonist more than three times a week. Corticosteroids should be used regularly for maximum benefit.

10.9.7 Cromoglycate and related treatments

Cromoglycates and related treatment (BNF chapter 3.3) are used to prevent asthma. These drugs act in a different way from steroids to prevent asthma although the mode of action is not completely understood. They may be of benefit in asthma but it is difficult to predict who is likely to benefit.

10.9.8 Drugs used in nasal allergies

Drugs included in this analysis include antihistamines (BNF chapter 3.4.1) and drugs used in the treatment of nasal allergy (BNF chapter 12.2.1). Antihistamines are used for allergic rhinitis and also vasomotor rhinitis. They reduce sneezing and wateriness but are less effective for relieving blocked noses. Antihistamines available over the counter are not included in this analysis.

10.9.9 Drugs used in allergic emergencies

Some drugs are used to treat allergic emergencies such as anaphylaxis. These can be found in BNF chapter 3.4.3. Often these drugs will be prescribed in hospital and not recorded on the GP clinical computer, or will be issued to patients to keep in case of an emergency.

11 Overview of results

11.1 Study population

There were 422 QRESEARCH practices in England which had been using EMIS and had uploaded data for the whole of the seven year period between 1999 and 2005 and were therefore included in the analysis. Table 1 shows the number of practices and patients in each geographical region.

Table 1 Number of practices and registered patients in each geographical region for 2005

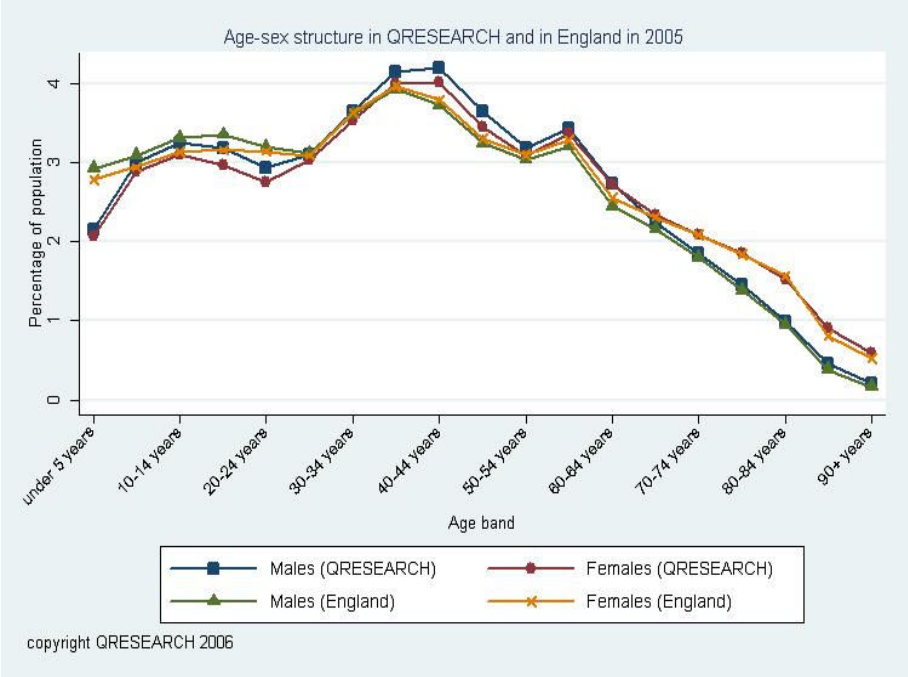
Region	Number of practices	Number of registered patients
North East	22	164,875
North West	41	267,032
Yorkshire and Humberside	49	342,439
East Midlands	70	427,556
West Midlands	29	228,175
East of England	36	275,496
London	54	360,513
South East	64	489,971
South West	57	402,309
Total	**422**	**2,958,366**

11.2 Age-sex structure of the QRESEARCH population

The age-sex structure of the QRESEARCH study population in 2005 is shown in Figure 1. The age-sex structure of the estimated population for England for 2004 is also shown and demonstrates how similar the QRESEARCH population is in terms of age and sex. (Note: The mid-2005 age-sex population estimates for England were not available at

the time of writing and mid-2004 estimates were used instead.)

Figure 1 Age - sex structure in QRESEARCH and England in 2005



11.3 Lifetime prevalence of all diseases

Table 2 shows the age - sex standardised lifetime prevalence (with 95% confidence intervals) per 1000 patients for all conditions in 2001 and 2005. Patients were considered to be prevalent cases if the diagnosis was recorded in their computerised recorded at some point during their life prior to the end of the analysis year. In 2005 the most common allergic diseases was eczema, affecting (approximately) one person in every nine. The least common disease was peanut allergy affecting (approximately) one person in every 1,960. Approximately one in four patients was recorded as having 'any allergic disease' in 2005.

Table 2 Age-sex standardised lifetime prevalence rate per 1000 patients in 2001 and 2005

Disease	Year	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
Asthma	2001	100.48	100.11 - 100.85
	2005	112.97	112.58 - 113.35
Eczema	2001	77.78	77.46 - 78.11
	2005	115.26	114.87 - 115.65
Allergic rhinitis	2001	46.35	46.10 - 46.60
	2005	66.37	66.08 - 66.67
Anaphylaxis	2001	0.50	0.47 - 0.53
	2005	0.75	0.72 - 0.79
Peanut allergy	2001	0.24	0.22 - 0.26
	2005	0.51	0.49 - 0.54
Any allergic disease	2001	190.72	190.21 - 191.23
	2005	243.49	242.93 - 244.06
Multiple allergic diseases	2001	31.00	30.80 - 31.21
	2005	46.16	45.91 - 46.40

Table 3 shows the age-sex standardised lifetime prevalence per 1000 patients in 2005 and the estimated number of people affected in England. For example an estimated 12.2 million people had a 'lifetime diagnosis' of any allergic condition and 2.3 million people had a 'lifetime diagnosis' of multiple allergic conditions.

Table 3 Age-sex standardised lifetime prevalence per 1000 patients in 2005 and estimated number of people in England affected

Disease	Age-sex standardised lifetime prevalence	95% Confidence intervals	Estimated number of people in England	95% Confidence intervals
Asthma	112.97	112.6 - 113.4	5,658,900	5,639,700 - 5,678,200
Eczema	115.26	114.9 - 115.7	5,773,700	5,754,100 - 5,793,400
Allergic rhinitis	66.37	66.1 - 66.7	3,324,800	3,310,100 - 3,339,500
Anaphylaxis	0.75	0.7 - 0.8	37,800	36,300 - 39,400
Peanut allergy	0.51	0.5 - 0.5	25,700	24,400 - 27,100
Any allergic disease	243.49	242.9 - 244.1	12,197,400	12,169,000 - 12,225,800
Multiple allergic diseases	46.16	45.9 - 46.4	2,312,100	2,299,800 - 2,324,500

Table 4 shows the percentage change in lifetime prevalence (standardized by age and sex) of each disease from 2001 to 2005. The age-sex standardised lifetime prevalence of all the conditions increased from 2001 to 2005. The largest percentage increase was for peanut allergy which increased from 0.24 per 1000 (95% CI 0.22 to 0.26) to 0.51

per 1000 (95% CI 0.49 to 0.54), an increase of 117%. Between 2001 and 2005 the age-sex standardised lifetime prevalence of 'any allergic disease' increased by 28% and the lifetime prevalence of multiple allergic diseases increased by 49%.

Table 4 Percentage change in age-sex standardized lifetime disease prevalence from 2001 to 2005

Disease	Percentage change in age-sex standardised prevalence rate
Asthma	12.4
Eczema	48.2
Allergic rhinitis	43.2
Anaphylaxis	50.9
Peanut allergy	117.3
Any allergic disease	27.7
Multiple allergic diseases	48.9

The details of the lifetime prevalence of each condition by age and sex, by region and by deprivation are shown in the disease-specific 'key facts' sections of this report (sections 12 to18).

Table 5 compares the age-sex standardised lifetime prevalence of treated asthma QRESEARCH in 2005 and QMAS (new GMS GP contract data) data using identical definitions. The age-sex standardised lifetime prevalence of treated asthma was 6.50 (95% CI 6.47 - 6.53) per 1000 patients in 2005 which is higher than QMAS lifetime prevalence 5.7 per 1000.

Table 5 Comparison of QRESEARCH and QMAS lifetime prevalence rates (per 1000) for asthma in 2005

Disease	Qresearch	QMAS
Treated asthma	6.50 (6.47 - 6.53)	5.7

It was difficult to find exact comparative data for the other conditions included in this analysis because of the differences in case definitions and methods of measurement. Not all patients with symptoms will attend their GP and have the diagnosis recorded which might explain why some of our rates are lower then we may have expected. For example according to patient.co.uk, one in three adults is thought to have eczema which is higher then the rate of diagnosis recorded on GP computer systems.

11.4 Incidence of all diseases

Table 6 shows the annual age-sex standardised incidence rates (i.e. the number of patients with a first ever recorded diagnosis) per 1000 person-years for all conditions in 2001 and 2005. This represents the 'true' incidence rather than episodes or consultation rates. The highest incidence rate was for eczema with (approximately) one in every 74 patients newly diagnosed with eczema in 2005. The lowest incidence rate was for anaphylaxis with (approximately) one in every 12,700 patients newly diagnosed in 2005. Approximately one in every 50 was newly diagnosed with at least one allergic condition in 2005.

Table 6 Age-sex standardised incidence rates for all conditions per 1000 person-years

Disease	Year	Age-sex standardised incidence rate per 1000 person-years	95% Confidence intervals
Asthma	2001	6.90	6.80 - 7.00
	2005	5.22	5.13 - 5.30
Eczema	2001	9.58	9.46 - 9.70
	2005	13.58	13.45 - 13.72
Allergic rhinitis	2001	5.57	5.48 - 5.66
	2005	7.41	7.31 - 7.51
Anaphylaxis	2001	0.07	0.06 - 0.08
	2005	0.08	0.07 - 0.09
Peanut allergy	2001	0.06	0.05 - 0.07
	2005	0.08	0.07 - 0.09
Any allergic disease	2001	17.36	17.20 - 17.52
	2005	19.96	19.80 - 20.13
Multiple allergic diseases	2001	4.72	4.64 - 4.81
	2005	6.28	6.19 - 6.37

Table 7 shows the age-sex standardised incidence rates per 1000 person-years in 2005 with the estimated numbers of new cases in England. For example there were an estimated 261,400 people newly diagnosed with asthma in England in 2005.

Table 7 Age-sex standardised incidence rates per 1000 person-years in 2005 with the estimated numbers of newly diagnosed cases in England

Disease	Age-sex standardised incidence rate per 1000	95% Confidence intervals	Estimated numbers of new cases in England	95% Confidence intervals
Asthma	5.22	5.13 - 5.30	261,400	257,200 - 265,700
Eczema	13.58	13.45 - 13.72	680,400	673,500 - 687,400
Allergic rhinitis	7.41	7.31 - 7.51	371,300	366,300 - 376,300
Anaphylaxis	0.08	0.07 - 0.09	4,000	3,500 - 4,500
Peanut allergy	0.08	0.07 - 0.09	4,000	3,500 - 4,600
Any allergic disease	19.96	19.80 - 20.13	1,000,100	991,800 - 1,008,400
Multiple allergic diseases	6.28	6.19 - 6.37	314,400	309,800 - 319,100

Table 8 shows the percentage change in age-sex standardised incidence rates (per 1000 person-years) from 2001 to 2005. There was an increase in the incidence of all conditions from 2001 to 2005 except for asthma which decreased from 6.9 per 1000 (95% CI 6.8 to 7.0) in 2001 to 5.2 per 1000 (95% CI 5.1 to 5.3) in 2005, a decrease of 24%. The largest percentage increase was for eczema, which increased from 9.6 per 1000 (95% CI 9.5 to 9.7) in 2001 to 13.6 per 1000 (95% CI 13.5 to 13.7) in 2005, an increase of 42%. Between 2001 and 2005 the incidence of 'any allergic condition' increased by 15% and the incidence of multiple allergic conditions increased by 33%.

Table 8 Percentage change in age-sex standardised incidence rates per 1000 person-years from 2001 to 2005

Disease	Percentage change in standardised incidence rate per 1000
Asthma	-24.4
Eczema	41.8
Allergic rhinitis	33.0
Anaphylaxis	19.2
Peanut allergy	39.3
Any allergic disease	15.0
Multiple allergic diseases	32.9

The details of incidence and lifetime prevalence for each condition by age, sex, Government Office Region and by deprivation are shown in the disease-specific 'key facts' sections of this report (see sections 12 to18).

Table 9 shows the median age at diagnosis for incident cases for each disease in 2005.

Table 9 Median age at diagnosis for incident cases in 2005

Disease	Median age at diagnosis (years)
Asthma	31
Eczema	31
Allergic rhinitis	29
Anaphylaxis	43
Peanut allergy	8
Any allergic disease	31
Multiple allergic diseases	18

11.5 GP consultation rates

Table 10 shows the GP consultation rates per person (regardless of the reason for the encounter) for patients with each disease in 2005, standardised by sex and five-year age bands. Patients suffering from anaphylaxis had the highest consultation rates in 2005, with 4.9 consultations per person (95% CI 4.8 to 5.1).

In 2005 there were a total of 8.9 million GP consultations for a registered population of 3.0 million, leading to an overall age-sex standardised GP consultation rate of 3.01 consultations per registered patient. The 95% confidence interval was 3.01 to 3.01 to two decimal places. The reason the confidence interval is so narrow is that the formulae do not account for the clustering of patients within practices, or for multiple consultations per patient (see section 10.8). The final column in Table 10 compares the disease-specific GP consultation rates with the overall GP consultation rate. For example the GP consultation rate for patients with asthma was 47% higher than the overall GP consultation rate.

Table 10 GP consultation rates in 2005 (regardless of the reason for encounter) by diagnosis

Disease	Age-sex standardised consultation rate per patient	95% Confidence intervals	Ratio of disease-specific consultation rate to overall GP consultation rate
Asthma	4.41	4.40 - 4.42	1.47
Eczema	4.02	4.01 - 4.03	1.34
Allergic rhinitis	4.26	4.25 - 4.27	1.42
Anaphylaxis	4.94	4.83 - 5.07	1.64
Peanut allergy	4.10	3.85 - 4.37	1.36
Any allergic disease	4.05	4.05 - 4.06	1.35
Multiple allergic diseases	4.90	4.89 - 4.92	1.63

Table 11 shows the estimated number of GP consultations (regardless of the reason for the consultation) in England in 2005 by patients with each diagnosis. For example asthma patients had an estimated 23.3 million GP consultations in 2005.

Table 11 Estimated number of GP consultations in England in 2005 (regardless of the reason for encounter) by diagnosis

Disease	Estimated number of GP consultations in England	95% Confidence intervals
Asthma	23,276,400	23,237,400 - 23,315,400
Eczema	22,855,400	22,816,300 - 22,894,500
Allergic rhinitis	13,356,600	13,327,200 - 13,386,200
Anaphylaxis	193,400	189,900 - 197,000
Peanut allergy	87,700	85,200 - 90,200
Any allergic disease	47,915,400	47,859,200 - 47,971,600
Multiple allergic diseases	10,346,600	10,320,600 - 10,372,800

11.6 Nurse consultation rates

Table 12 shows the nurse consultation rates per person (regardless of the reason for the consultation) for patients with each disease in 2005. For example there were 2.0 consultations per person for patients with asthma in 2005. (See section 10.8 for notes regarding the very narrow confidence intervals).

Table 12 Nurse consultation rates in 2005 (regardless of the reason for encounter) by diagnosis

Disease	Age-sex standardised consultation rates per patient	95% Confidence intervals
Asthma	2.03	2.02 - 2.03
Eczema	1.62	1.61 - 1.62
Allergic rhinitis	1.67	1.66 - 1.67
Anaphylaxis	1.89	1.82 - 1.97
Peanut allergy	1.55	1.37 - 1.76
Any allergic disease	1.70	1.70 - 1.70
Multiple allergic diseases	2.11	2.10 - 2.12

Table 13 shows the estimated number of nurse consultations in England for patients with each disease in 2005. For example there were an estimated 10.7 million nurse consultations by patients with asthma.

Table 13 Estimated number of nurse consultations in England in 2005 (regardless of the reason for encounter) by diagnosis

Disease	Estimated number of nurse consultations in England	95% Confidence intervals
Asthma	10,668,200	10,641,900 - 10,694,600
Eczema	8,992,500	8,968,200 - 9,016,800
Allergic rhinitis	5,147,200	5,129,000 - 5,165,500
Anaphylaxis	75,300	73,200 - 77,600
Peanut allergy	29,300	27,900 - 30,800
Any allergic disease	19,912,100	19,876,100 - 19,948,200
Multiple allergic diseases	4,363,100	4,346,300 - 4,380,100

11.7 Recording of smoking status

71% of the QRESEARCH population had smoking status recorded by the end of 2005. Figure 2 shows recording of smoking status broken down by age and sex for the QRESEARCH population in 2001 and 2005. The percentage of females with smoking status recorded was fairly constant between the ages of 20 and 85 years but the percentage of males with smoking status recorded tended to increase with age.

Figure 2 Percentage of all registered patients with smoking status recorded

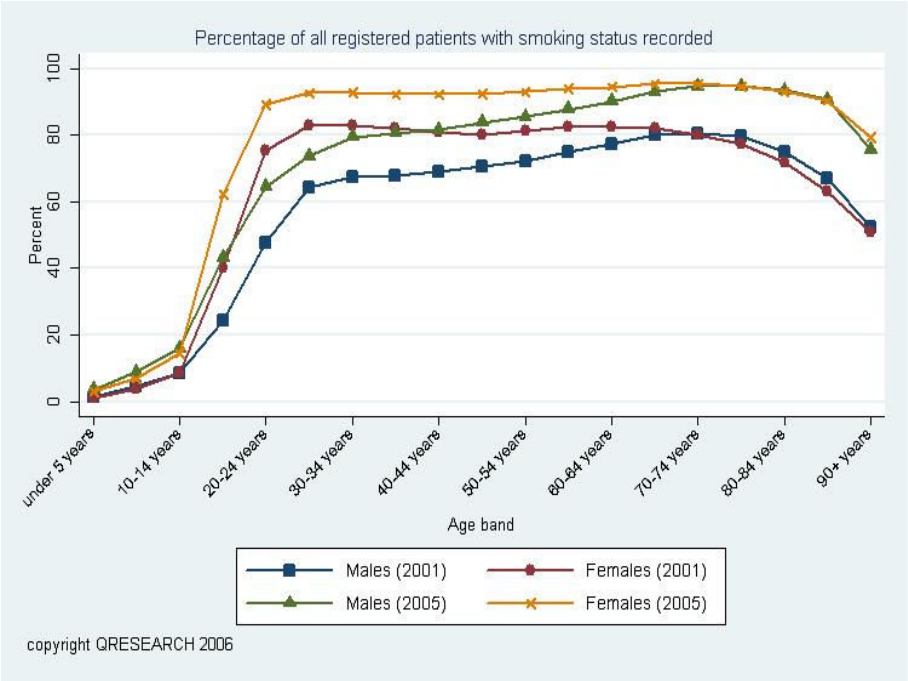


Table 14 shows the percentage of patients with each disease in 2005 that had smoking status recorded in their electronic records at some point prior to the end of the analysis year. For example 85% of asthma patients had smoking status recorded.

Table 14 Percentage of patients in QRESEARCH in 2005 that had smoking status recorded in their electronic records by diagnosis

Disease	Percentage of patients	95% Confidence intervals
Asthma	84.6	84.3 - 84.9
Eczema	76.7	76.4 - 77.0
Allergic rhinitis	78.7	78.3 - 79.2
Anaphylaxis	81.9	78.0 - 86.6
Peanut allergy	80.6	69.9 - 95.0
Any allergic disease	78.9	78.7 - 79.1
Multiple allergic diseases	84.4	83.9 - 85.0

11.8 Current smokers

Table 15 shows the age-sex standardised percentage of patients who were recorded as smokers for each disease in 2005 as a proportion of those who had information about smoking status recorded. For example 19% of all asthma patients who had smoking

status recorded were smokers.

Table 15 Age-sex standardised percentage of patients who were recorded as smokers in 2005 as a proportion of patients with smoking status recorded

Disease	Percentage of patients	95% Confidence intervals
Asthma	18.9	18.7 - 19.0
Eczema	20.0	19.9 - 20.2
Allergic rhinitis	15.2	15.0 - 15.5
Anaphylaxis	20.6	18.6 - 29.6
Peanut allergy	12.4	9.1 - 20.5
Any allergic disease	18.8	18.7 - 18.9
Multiple allergic diseases	16.2	16.0 - 16.5

Table 16 shows the estimated number of people in England with each diagnosis who were also smokers. For example, there were an estimated 1 million people with asthma who were also smokers in 2005.

Table 16 Estimated number of people in England with each diagnosis who also smoke

Disease	Estimated number of people in England who have the diagnosis and are smokers	95% Confidence intervals
Asthma	1,001,000	992,900 - 1,009,100
Eczema	860,900	853,500 - 868,400
Allergic rhinitis	506,500	500,700 - 512,200
Anaphylaxis	7,700	7,000 - 8,400
Peanut allergy	1,300	1,100 - 1,700
Any allergic disease	1,978,700	1,967,400 - 1,990,100
Multiple allergic diseases	352,900	348,100 - 357,800

Details of the age-sex breakdown of smoking status for each disease can be found in the following 'key facts' sections for each disease (sections 12 to 18).

12 QRESEARCH key facts about asthma

12.1 What is asthma?

Asthma can be a lifelong condition which causes the airways to narrow. It results in symptoms of wheeze, cough, chest tightness and shortness of breath. It can be triggered by pollen, pets and dust as well as exercise in some cases. Whilst asthma cannot be cured, it can be treated with inhalers which help open up the airways and this can help patients with exercise-induced asthma. Inhalers containing corticosteroids also play a vital role in decreasing inflammation in airways. Asthma treatments also include inhalers (often referred to as 'preventers') to prevent the airways becoming narrow. Steroid tablets are also used when asthma is severe and sometimes people need to be admitted to hospital for aerosol treatments ('nebulisers').

12.2 Definition of asthma

In the main analysis we have used a definition of asthma which is based on a computer recorded diagnosis of asthma at some point in the patients' electronic health record prior to the end of the analysis year.

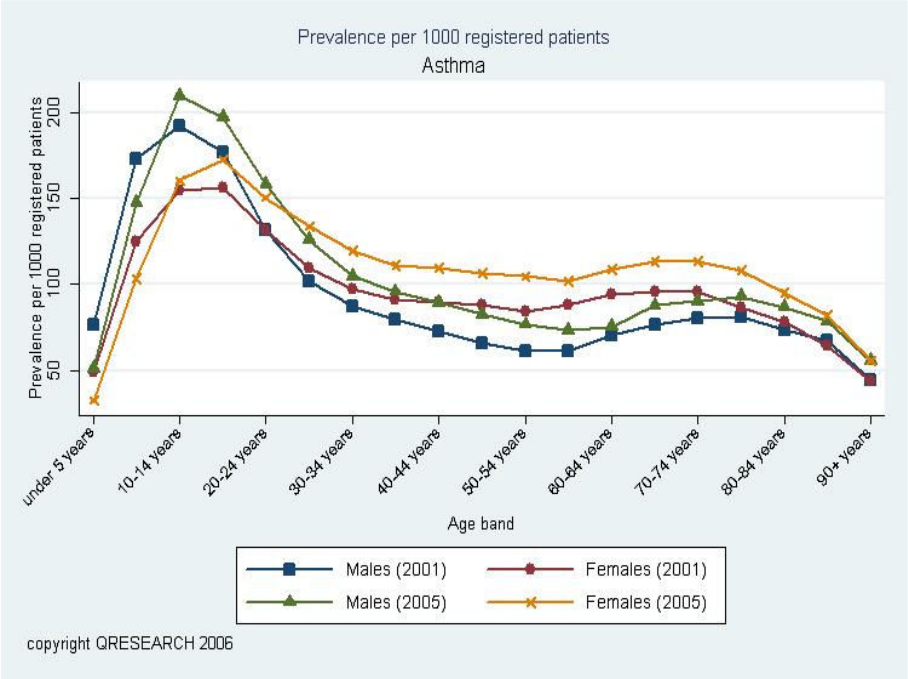
However, it is apparent that many patients with a diagnosis of asthma do not require regular medication and the new GMS contract for General Practitioners uses a definition of asthma based on a computer recorded diagnosis plus at least one prescription for asthma related medication in the preceding 12 months. We have therefore included information on the lifetime prevalence of treated asthma in section 12.7.

12.3 How common is a computer recorded diagnosis of asthma?

Figure 3 shows the lifetime prevalence per 1000 registered patients for asthma in QRESEARCH based on a computer recorded diagnosis of asthma. Asthma is a

common disease affecting an estimated 5.7 million people in England. In patients aged under 30 years asthma is more common in males than in females but in patients aged over 30 years it is more common in females. In 2005 the highest prevalence rate was 209.4 per 1000 (95% CI 206.5 to 212.3 per 1000) which occurred in males aged 10 to 14 years. The median age at diagnosis was 31 years.

Figure 3 Lifetime prevalence of asthma per 1000 registered patients



12.4 Trends in the lifetime prevalence and incidence of asthma

Table 17 shows the lifetime prevalence of asthma per 1000 patients between 2001 and 2005. During this period the lifetime prevalence of asthma increased by 12.4%. At the end of 2005 approximately one in nine people had had a computer-recorded diagnosis of asthma.

Table 17 Lifetime prevalence of asthma

Year	Age-sex standardised prevalence per 1000	95% Confidence intervals
2001	100.48	100.11 - 100.85
2002	104.80	104.42 - 105.17
2003	108.54	108.16 - 108.92
2004	111.85	111.47 - 112.24
2005	112.97	112.58 - 113.35

Table 18 shows the incidence of asthma per 1000 person-years between 2001 and 2005. During this period the number of incident cases per 1000 person-years decreased by 24.4%. In 2005 approximately one in every 192 patients had a brand new diagnosis of asthma.

Table 18 Incidence of newly diagnosed asthma per 1000 person-years

Year	Age-sex standardised incidence rate	95% Confidence intervals
2001	6.90	6.80 - 7.00
2002	6.71	6.62 - 6.81
2003	6.14	6.05 - 6.23
2004	6.36	6.27 - 6.46
2005	5.22	5.13 - 5.30

Table 19 shows the lifetime prevalence of asthma per 1000 patients for each Government Office Region in England for 2005. Asthma was most common in the North West affecting one person in every eight and least common in London affecting one in every ten people.

Table 19 Lifetime prevalence of asthma by Government Office region in 2005

Region	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
North West	122.14	120.81 - 123.47
South West	116.54	115.48 - 117.61
East of England	116.11	114.84 - 117.39
North East	115.93	114.28 - 117.59
West Midlands	114.89	113.47 - 116.32
Yorkshire and Humberside	113.07	111.93 - 114.21
East Midlands	112.35	111.34 - 113.37
South East	110.34	109.42 - 111.28
London	102.43	101.37 - 103.49

Table 20 shows the lifetime prevalence of asthma by quintile of Townsend score in 2005. Quintile 5 represents the most deprived areas and quintile 1 represents the most affluent. In the most deprived areas approximately one in eight people had a recorded diagnosis of asthma compared with one in nine people from the most affluent areas.

Table 20 Lifetime prevalence of asthma by quintile of Townsend score in 2005

Townsend Quintile	Age-sex standardised lifetime prevalence per 1000	95% Confidence intervals
1	111.18	110.33 - 112.04
2	112.41	111.52 - 113.30
3	114.26	113.36 - 115.16
4	117.31	116.37 - 118.25
5	118.98	118.06 - 119.90

12.5 Consultation rates for patients with asthma

Table 21 shows the consultation rates per person per year by clinician and year regardless of the reason for the encounter. For example in 2005, on average, asthma patients consulted a GP 4.4 times per year and a nurse 2.0 times per year.

Table 21 Consultations rates for asthma patients per person per year by clinician and year regardless of the reason for the encounter

Year	Clinician	Age-sex standardised consultation rate per person per year	95% Confidence intervals
2001	GP	4.07	4.06 - 4.08
	Nurse	1.46	1.45 - 1.46
2002	GP	4.18	4.18 - 4.19
	Nurse	1.60	1.59 - 1.60
2003	GP	4.31	4.30 - 4.32
	Nurse	1.75	1.75 - 1.76
2004	GP	4.41	4.41 - 4.42
	Nurse	1.93	1.92 - 1.93
2005	GP	4.41	4.40 - 4.42
	Nurse	2.03	2.02 - 2.03

Figure 4 compares overall consultation rates with those for asthma patients broken down by age and sex. This includes all GP and nurse consultations in 2005 regardless of the reason for the encounter. Consultation rates for females tended to be higher than for males and consultation rates for patients with asthma were higher than overall consultation rates. For example, for males aged 85 to 89 years, the consultation rate (GPs and nurses) for patients with a diagnosis of asthma was 1.34 times higher than the corresponding overall consultation rate.

Figure 4 Asthma consultation rates compared with overall consultation rates (GPs and nurses) in 2005 by age and sex

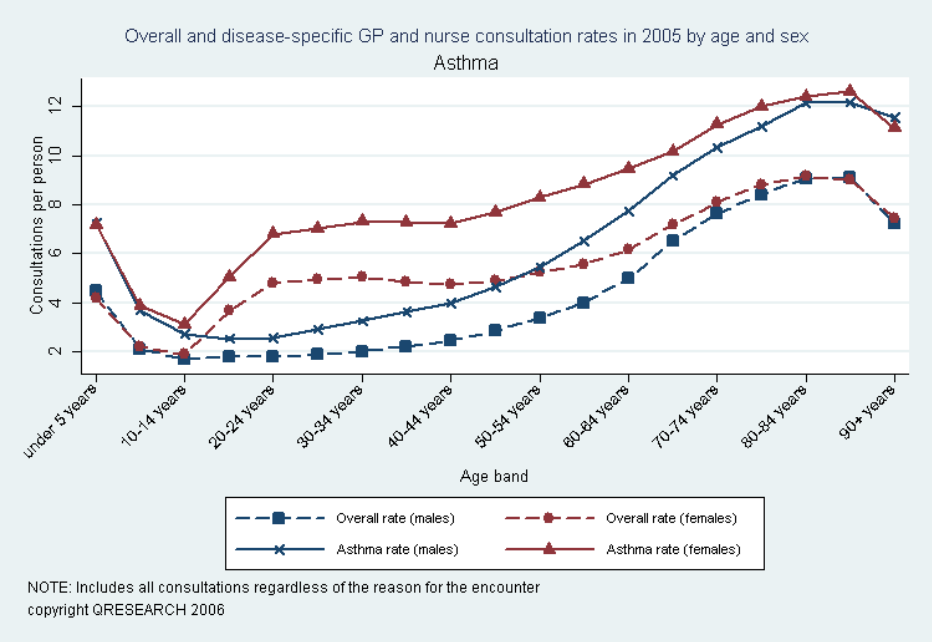
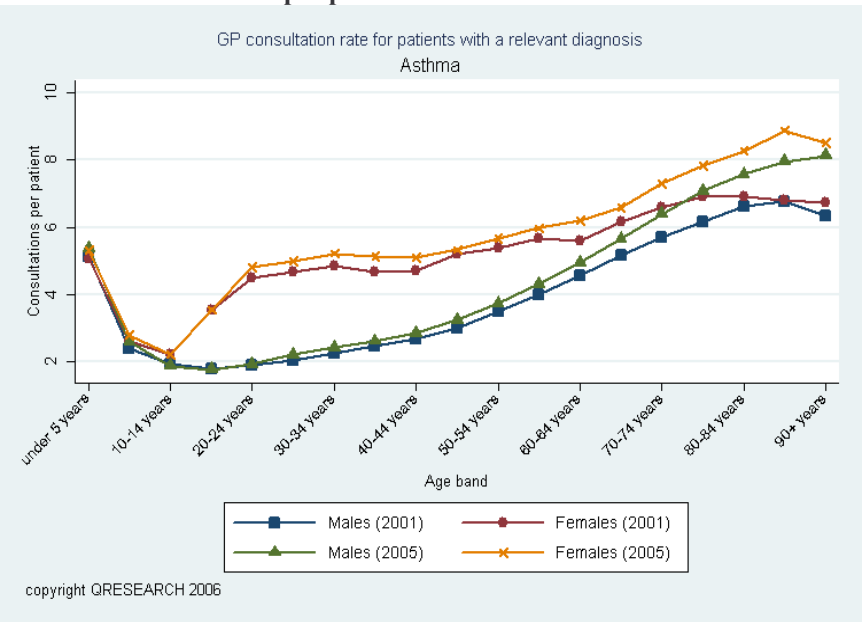


Figure 5 shows GP consultation rates per patient (regardless of the reason for the encounter) for asthma broken down by age and sex. In 2005 the highest consultation rate was 8.9 consultations per person (95% CI 8.8 to 9.0) which occurred for females aged 85 to 89 years.

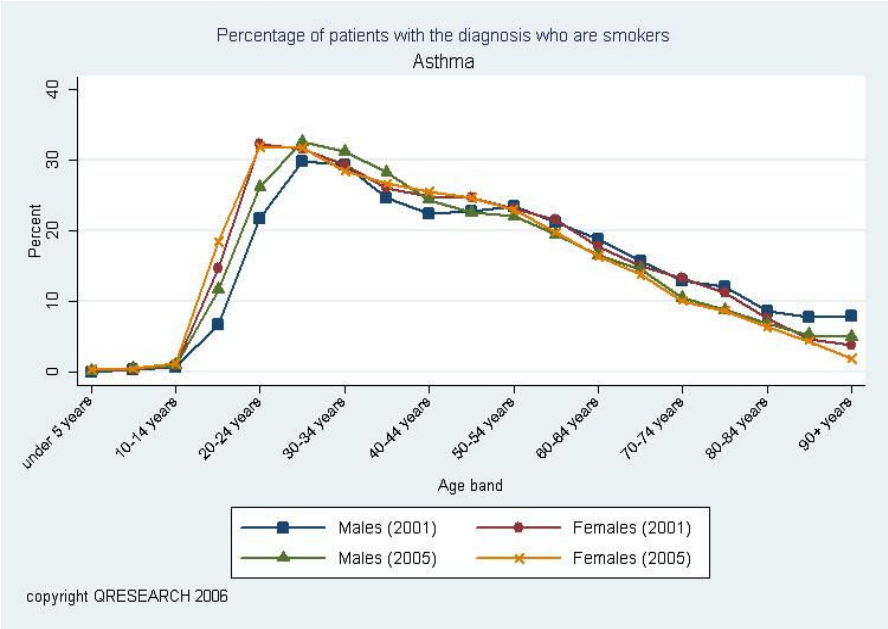
Figure 5 GP consultation rates per patient for asthma



12.6 Asthma and smoking

In 2005 there were an estimated 1.0 million (18%) asthma sufferers in England who were smokers. Figure 6 shows the percentage of patients with asthma who were recorded as smokers broken down by age and sex. More than 30% of all asthma patients aged between 20 and 35 years were smokers. The highest percentage of smokers among asthma sufferers was 32.6% (95% CI 31.5% to 33.6%) which occurred in males aged 25 to 29 years.

Figure 6 Percentage of patients with asthma who are smokers



12.7 Patients prescribed asthma treatments during the last year

Table 22 shows the percentage of patients with asthma in 2005 with at least one medication prescription for asthma during the last 12 months.

Table 22 Percentage of asthma patients in 2005 prescribed treatment in the last 12 months

Prescription	Percentage of patients with a prescription in the last 12 months
Asthma treatments (QOF definition)	61.0
Bronchodilators (BNF chapter 3.1)	57.2
Corticosteroids For Inhalation (BNF chapter 3.2)	48.3
Cromoglycates and related therapies (BNF chapter 3.3)	2.4

12.8 Estimated numbers of asthma prescriptions in England

Table 23 shows the estimated number of prescriptions for asthma treatments in England between 2001 and 2005.

Table 23 Estimated numbers of prescriptions for asthma patients in England by year

Prescription	Year	Estimated number of prescriptions in England	95% Confidence intervals
Asthma treatments (QOF definition)	2001	27,473,400	27,431,000 - 27,515,900
	2002	29,080,200	29,036,700 - 29,123,800
	2003	30,013,700	29,969,600 - 30,057,800
	2004	32,181,600	32,135,900 - 32,227,400
	2005	32,577,300	32,531,600 - 32,623,000
Bronchodilators (BNF chapter 3.1)	2001	17,576,200	17,542,200 - 17,610,100
	2002	18,139,300	18,104,900 - 18,173,700
	2003	18,177,500	18,143,200 - 18,211,900
	2004	18,759,700	18,724,800 - 18,794,700
	2005	18,081,500	18,047,500 - 18,115,700
Corticosteroids for inhalation (BNF chapter 3.2)	2001	9,710,000	9,684,800 - 9,735,300
	2002	10,744,200	10,717,700 - 10,770,700
	2003	11,617,400	11,590,000 - 11,644,900
	2004	13,197,400	13,168,100 - 13,226,700
	2005	14,311,000	14,280,700 - 14,341,300
Cromoglycates and related therapies (BNF chapter 3.3)	2001	413,300	408,100 - 418,600
	2002	465,500	460,000 - 471,100
	2003	512,200	506,400 - 518,000
	2004	576,200	570,100 - 582,400
	2005	664,100	657,500 - 670,700

These figures are not directly comparable to PACT data as they only include patients with a computer-recorded diagnosis of asthma rather than all patients regardless of diagnosis.

12.9 Estimated number of asthma patients in England who had a prescription in the last 12 months

Table 24 shows the estimated number of patients with a lifetime diagnosis of asthma in England who had a prescription in the last 12 months.

Table 24 Estimated numbers of patients in England with asthma who had a prescription in the previous 12 months

Year	Prescription	Estimated number of patients in England	95% Confidence intervals
2001	Asthma treatments (QOF definition)	2,973,300	2,959,200 - 2,987,400
	Bronchodilators (BNF chapter 3.1)	2,790,800	2,777,200 - 2,804,600
	Corticosteroids for inhalation (BNF chapter 3.2)	2,240,900	2,228,700 - 2,253,100
	Cromoglycates and related therapies (BNF chapter 3	79,200	77,000 - 81,600
2002	Asthma treatments (QOF definition)	3,102,700	3,088,300 - 3,117,100
	Bronchodilators (BNF chapter 3.1)	2,916,400	2,902,500 - 2,930,400
	Corticosteroids for inhalation (BNF chapter 3.2)	2,366,700	2,354,200 - 2,379,300
	Cromoglycates and related therapies (BNF chapter 3	85,000	82,600 - 87,400
2003	Asthma treatments (QOF definition)	3,146,600	3,132,200 - 3,161,000
	Bronchodilators (BNF chapter 3.1)	2,958,000	2,944,000 - 2,972,000
	Corticosteroids for inhalation (BNF chapter 3.2)	2,400,800	2,388,300 - 2,413,400
	Cromoglycates and related therapies (BNF chapter 3	91,900	89,400 - 94,400
2004	Asthma treatments (QOF definition)	3,234,000	3,219,400 - 3,248,700
	Bronchodilators (BNF chapter 3.1)	3,054,100	3,039,900 - 3,068,400
	Corticosteroids for inhalation (BNF chapter 3.2)	2,509,900	2,497,000 - 2,522,800
	Cromoglycates and related therapies (BNF chapter 3	103,100	100,500 - 105,800
2005	Asthma treatments (QOF definition)	3,257,000	3,242,400 - 3,271,600
	Bronchodilators (BNF chapter 3.1)	3,066,500	3,052,400 - 3,080,700
	Corticosteroids for inhalation (BNF chapter 3.2)	2,547,600	2,534,700 - 2,560,500
	Cromoglycates and related therapies (BNF chapter 3	118,200	115,400 - 121,000

Table 25 shows the age - sex standardised lifetime prevalence of treated asthma per 1000 patients in each year. The age - sex standardised lifetime prevalence of asthma per 1000 patients in 2005 was 6.50 (95% CI 6.47-6.53) which is higher than the QMAS lifetime prevalence 5.7 per 1000.

Table 25 Age - sex standardised lifetime prevalence of treated asthma per 1000 patients

Year	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
2001	6.01	5.98 - 6.04
2002	6.25	6.22 - 6.28
2003	6.31	6.28 - 6.34
2004	6.46	6.43 - 6.49
2005	6.50	6.47 - 6.53

13 QRESEARCH key facts about eczema

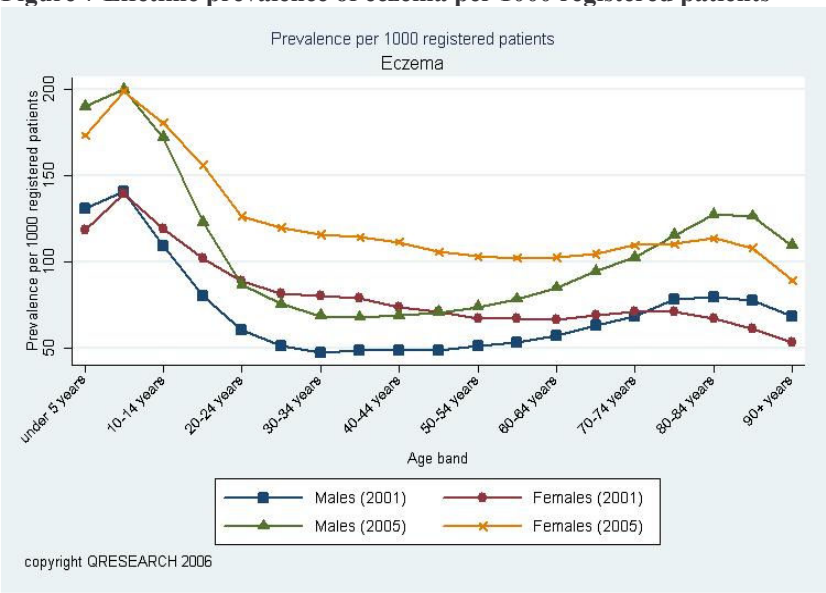
13.1 What is eczema?

Eczema is an inflammatory skin disorder most commonly resulting in red, itchy and poorly defined patches occurring in the skin creases. The cause of eczema is unknown though it is often associated with other conditions such as asthma or hay fever (sometimes referred to by doctors as 'atopy'). Common treatments for eczema include creams containing corticosteroids and emollients.

13.2 How common is eczema?

Figure 7 shows the lifetime prevalence per 1000 registered patients for eczema in QRESEARCH. Eczema is a common disease affecting an estimated 5.8 million people in England. It is more common in females than in males except in people aged under 5 years or over 80 years. In 2005 the highest lifetime prevalence rate was 199.9 per 1000 (95% CI 197.0 to 202.9 per 1000) which occurred in males aged 5 to 9 years. The median age at diagnosis was 31 years.

Figure 7 Lifetime prevalence of eczema per 1000 registered patients



13.3 Trends in incidence and lifetime prevalence of eczema

Table 26 shows the lifetime prevalence of eczema per 1000 patients between 2001 and 2005. During this period the number of prevalent cases per 1000 increased by 48.2%. At the end of 2005 approximately one in nine people had had a computer-recorded diagnosis of eczema.

Table 26 Lifetime prevalence of eczema

Year	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
2001	77.78	77.46 - 78.11
2002	85.96	85.62 - 86.30
2003	95.14	94.78 - 95.50
2004	105.50	105.13 - 105.88
2005	115.26	114.87 - 115.65

Table 27 shows the incidence of eczema per 1000 patients between 2001 and 2005. During this period the number of incident cases per 1000 person-years increased by 41.8%. In 2005 approximately one in every 74 people had a brand new diagnosis of eczema.

Table 27 Incidence of newly diagnosed eczema per 1000 person-years

Year	Age-sex standardised incidence rate per 1000 person-years	95% Confidence intervals
2001	9.58	9.46 - 9.70
2002	10.40	10.28 - 10.52
2003	11.62	11.49 - 11.75
2004	13.38	13.24 - 13.52
2005	13.58	13.45 - 13.72

Table 28 shows the lifetime prevalence of eczema per 1000 patients for each Government Office Region in England for 2005. Eczema was most common in the West Midlands affecting one person in every eight and least common in the East of England affecting one in every ten people.

Table 28 Lifetime prevalence by Government Office region in 2005

Region	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
West Midlands	130.66	129.14 - 132.20
North West	127.15	125.78 - 128.52
Yorkshire and Humberside	120.18	119.01 - 121.37
East Midlands	117.87	116.83 - 118.91
South East	114.66	113.70 - 115.62
South West	114.29	113.23 - 115.35
North East	112.88	111.22 - 114.55
London	107.89	106.80 - 109.00
East of England	95.48	94.32 - 96.66

Table 29 shows the lifetime prevalence of eczema by quintile of Townsend score in 2005. Quintile 5 represents the most deprived areas and quintile 1 represents the most affluent. In the most deprived areas approximately one in nine people had a recorded diagnosis of eczema compared with one in eight in the most affluent areas.

Table 29 Lifetime prevalence of eczema by quintile of Townsend score in 2005

Townsend Quintile	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
1	121.06	120.17 - 121.95
2	121.92	121.00 - 122.86
3	116.49	115.57 - 117.41
4	113.96	113.02 - 114.90
5	111.30	110.42 - 112.20

13.4 Consultation rates for patients with eczema

Table 30 shows the consultation rates per person per year by clinician and year regardless of the reason for the encounter. For example in 2005, on average, eczema patients consulted with a GP 4.0 times per year and with a nurse 1.6 times per year.

Table 30 Consultations rates for eczema patients per person per year by clinician and year regardless of the reason for the encounter

Year	Clinician	Age-sex standardised consultation rate per person per year	95% Confidence intervals
2001	GP	3.77	3.76 - 3.78
	Nurse	1.22	1.21 - 1.22
2002	GP	3.83	3.82 - 3.83
	Nurse	1.35	1.35 - 1.36
2003	GP	3.94	3.93 - 3.95
	Nurse	1.47	1.46 - 1.47
2004	GP	4.01	4.00 - 4.02
	Nurse	1.53	1.52 - 1.53
2005	GP	4.02	4.01 - 4.03
	Nurse	1.62	1.61 - 1.62

Figure 8 compares overall consultation rates with those for eczema patients broken down by age and sex. This includes all GP and nurse consultations in 2005 regardless of the reason for the encounter. Consultation rates for females tended to be higher than for males and consultation rates for eczema patients were higher than overall consultation rates. For example, for males aged 85 to 89 years, the consultation rate (GPs and nurses) for patients with a diagnosis of eczema was 1.27 times higher than the corresponding overall consultation.

Figure 8 Overall consultation rates compared with those for patients with eczema, for all GP and nurse consultations in 2005 broken down by age and sex

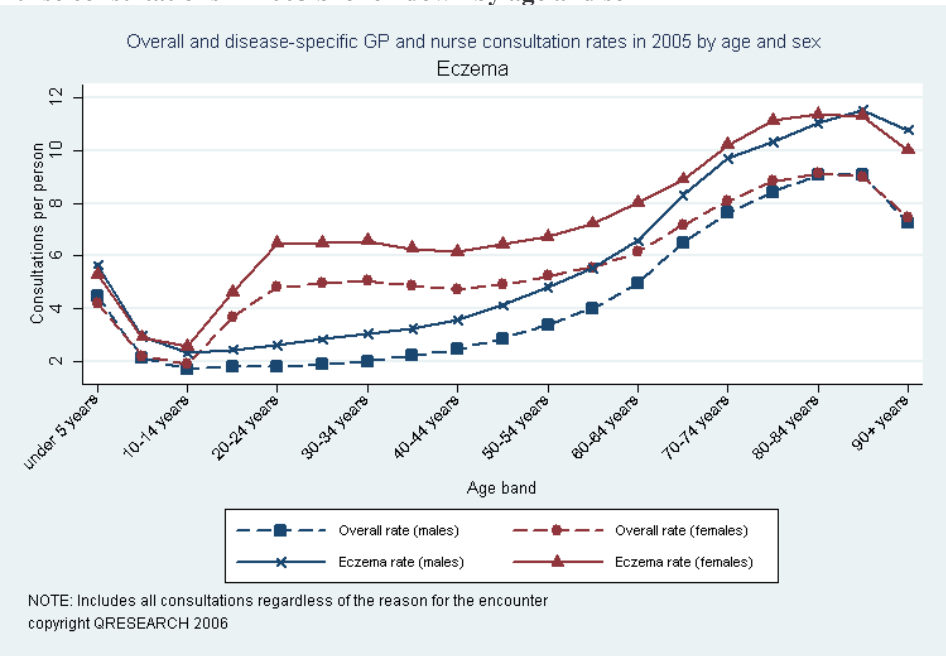
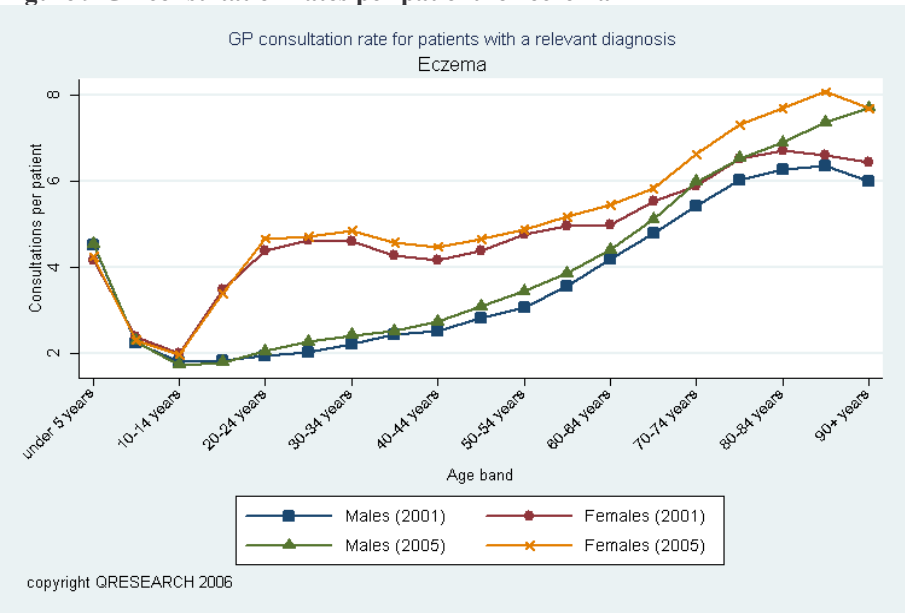


Figure 9 shows GP consultations rates per patient (regardless of the reason for the consultation) for eczema broken down by age and sex. In 2005 the highest consultation rate was 8.1 consultations per person (95% CI 8.0 to 8.2) which occurred for females aged 85 to 89 years.

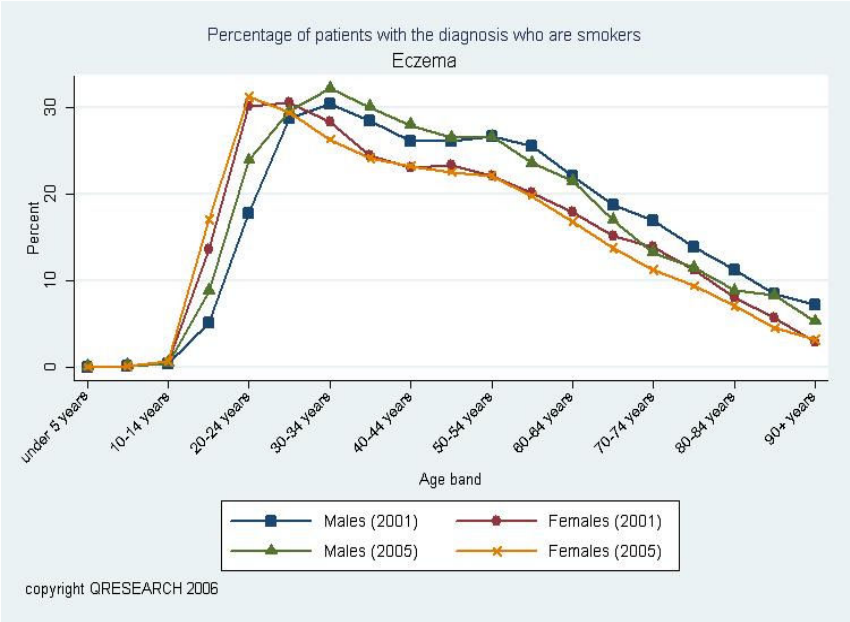
Figure 9 GP consultation rates per patient for eczema



13.5 Eczema and smoking

In 2005 there were an estimated 861,000 (18%) eczema sufferers in England who were smokers. Figure 10 shows the percentage of patients with eczema who were recorded as smokers, broken down by age and sex. In 2005 the highest proportion of female smokers (31.3%, 95% CI 30.2% to 32.3%) were aged 20 to 24 years. The highest proportion of male smokers (32.2%, 95% CI 30.9% to 33.5%) were aged 30 to 34 years.

Figure 10 Percentage of patients with eczema who smoke



13.6 Patients in 2005 prescribed eczema treatments during the last year

Table 31 shows the percentage of patients in 2005 with at least one medication prescription for eczema during the last 12 months.

Table 31 Percentage of patients in 2005 prescribed treatment in last 12 months

Prescription	Percentage of patients prescribed treatment in last 12 months (%)
Topical Corticosteroids (BNF chapter 13.4)	32.3
Emollient and Barrier Preparations (BNF chapter 13.2)	13.9
Psoriasis And Eczema(BNF chapter 13.5)	1.3

13.7 Estimated numbers of eczema prescriptions in England

Table 32 shows the estimated number of prescriptions for eczema treatments in England.

Table 32 Estimated numbers of prescriptions for in England by year

Prescription	Year	Estimated number of prescriptions in England	95% Confidence intervals
Drugs used for psoriasis and eczema (BNF chapter 13.5)	2001	200,200	196,600 - 203,900
	2002	208,100	204,400 - 211,800
	2003	180,200	176,800 - 183,700
	2004	216,900	213,200 - 220,800
	2005	241,700	237,800 - 245,700
Emollient and barrier preparations (BNF chapter 13.2)	2001	4,267,300	4,249,700 - 4,285,000
	2002	4,841,300	4,822,600 - 4,860,000
	2003	5,621,000	5,600,900 - 5,641,100
	2004	6,666,300	6,644,300 - 6,688,300
	2005	7,623,900	7,600,600 - 7,647,300
Topical corticosteroids (BNF chapter 13.4)	2001	4,271,700	4,254,500 - 4,289,000
	2002	4,543,500	4,525,800 - 4,561,200
	2003	4,923,000	4,904,700 - 4,941,400
	2004	5,532,300	5,512,800 - 5,551,900
	2005	5,824,700	5,804,800 - 5,844,600

These figures are not directly comparable to PACT data as they only include patients with a computer-recorded diagnosis of eczema rather than all patients regardless of diagnosis.

13.8 Estimated number of eczema patients in England who had a prescription in the last 12 months

Table 33 shows the estimated number of patients in England with eczema who had a prescription in the last 12 months.

Table 33 Estimated numbers of patients in England with eczema who had a prescription in the previous 12 months

Year	Prescription	Estimated number of patients in England	95% Confidence intervals
2001	Topical corticosteroids (BNF chapter 13.4)	1,311,100	1,301,600 - 1,320,700
	Emollient and barrier preparations (BNF chapter 13)	528,400	522,200 - 534,600
	Drugs used for psoriasis and eczema (BNF chapter 1)	60,200	58,300 - 62,300
2002	Topical corticosteroids (BNF chapter 13.4)	1,411,300	1,401,400 - 1,421,200
	Emollient and barrier preparations (BNF chapter 13)	595,500	589,000 - 602,100
	Drugs used for psoriasis and eczema (BNF chapter 1)	63,200	61,200 - 65,300
2003	Topical corticosteroids (BNF chapter 13.4)	1,568,800	1,558,500 - 1,579,200
	Emollient and barrier preparations (BNF chapter 13)	696,400	689,400 - 703,500
	Drugs used for psoriasis and eczema (BNF chapter 1)	58,000	56,100 - 60,000
2004	Topical corticosteroids (BNF chapter 13.4)	1,755,900	1,744,900 - 1,766,900
	Emollient and barrier preparations (BNF chapter 13)	811,700	804,100 - 819,400
	Drugs used for psoriasis and eczema (BNF chapter 1)	67,100	65,000 - 69,200
2005	Topical corticosteroids (BNF chapter 13.4)	1,889,000	1,877,700 - 1,900,300
	Emollient and barrier preparations (BNF chapter 13)	926,600	918,500 - 934,800
	Drugs used for psoriasis and eczema (BNF chapter 1)	71,700	69,500 - 73,900

14 QRESEARCH key facts about allergic rhinitis

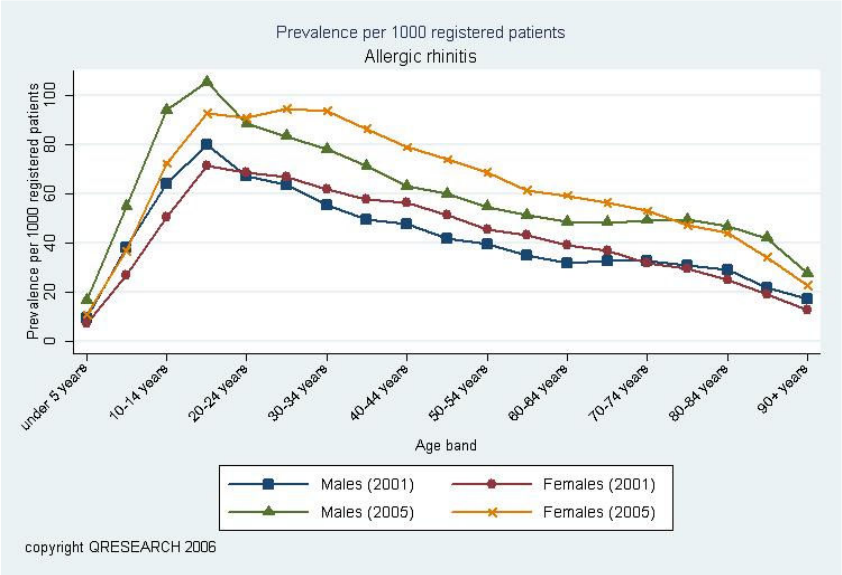
14.1 What is allergic rhinitis?

Hay fever is the most common of all the allergic disorders. Hay fever causes a runny nose, blocked or itchy nose, sneezing and watery or itchy eyes. High pollen counts can make symptoms worse in the summer. Hay fever is treated with nasal sprays and tablets (often called 'antihistamines'). Itchy eyes can respond to eye drops.

14.2 How common is allergic rhinitis?

Figure 11 shows the lifetime prevalence per 1000 registered patients for allergic rhinitis in QRESEARCH. Allergic rhinitis is a common disease which affects an estimated 3.3 million people in England. Between the ages of 25 and 75 years allergic rhinitis is more common in females than in males, otherwise it tends to be more common in males. In 2005 the highest lifetime prevalence rate was 105.1 per 1000 (95% CI 103.1 to 107.2 per 1000) which occurred in males aged 15 to 19 years. The median age at diagnosis was 29 years.

Figure 11 Lifetime prevalence of allergic rhinitis per 1000 registered patients



14.3 Trends in incidence and lifetime prevalence of allergic rhinitis

Table 34 shows the lifetime prevalence of allergic rhinitis per 1000 patients between 2001 and 2005. During this period the number of prevalent cases per 1000 increased by 43.2%. At the end of 2005 approximately one in nine people had had a computer-recorded diagnosis of allergic rhinitis.

Table 34 Lifetime prevalence of allergic rhinitis

Year	Age-sex standardised prevalence rate per 1000	95% Confidence intervals
2001	46.35	46.10 - 46.60
2002	50.97	50.71 - 51.23
2003	55.89	55.62 - 56.16
2004	61.40	61.12 - 61.69
2005	66.37	66.08 - 66.67

Table 35 shows the incidence of allergic rhinitis per 1000 person-years between 2001 and 2005. The number of incident cases per 1000 person-years increased by 33.0% between 2001 and 2005. In 2005 approximately one in every 135 people had a brand new diagnosis of allergic rhinitis.

Table 35 Incidence of allergic rhinitis per 1000 person-years

Year	Age-sex standardised incidence rate per 1000	95% Confidence intervals
2001	5.57	5.48 - 5.66
2002	5.93	5.84 - 6.02
2003	6.35	6.26 - 6.45
2004	7.31	7.21 - 7.41
2005	7.41	7.31 - 7.51

Table 36 shows the lifetime prevalence of allergic rhinitis per 1000 patients by Government Office Region in England in 2005. Allergic rhinitis was most common in the East Midlands affecting one person in every 14 and least common in the North East affecting one in every 19 people.

Table 36 Lifetime prevalence by Government Office region in 2005

Region	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
East Midlands	70.66	69.86 - 71.47
South East	70.09	69.36 - 70.84
London	69.08	68.22 - 69.95
West Midlands	68.74	67.65 - 69.85
Yorkshire and Humberside	67.93	67.05 - 68.82
North West	64.69	63.73 - 65.66
South West	62.43	61.66 - 63.21
East of England	61.72	60.80 - 62.65
North East	53.49	52.38 - 54.63

Table 37 shows the lifetime prevalence of allergic rhinitis by quintile of Townsend score in 2005. Quintile 5 represents the most deprived areas and quintile 1 represents the most affluent. In the most deprived areas approximately one in 16 patients had a recorded diagnosis of allergic rhinitis compared with one in 13 patients in the most affluent areas.

Table 37 Lifetime prevalence of allergic rhinitis by quintile of Townsend score in 2005

Townsend Quintile	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
1	74.46	73.76 - 75.16
2	71.51	70.80 - 72.22
3	65.85	65.18 - 66.54
4	61.87	61.20 - 62.55
5	62.26	61.60 - 62.91

14.4 Consultations for patients with allergic rhinitis

Table 38 shows the consultation rates per patient (regardless of the reason for the encounter) by clinician and year. For example in 2005 on average patients with allergic rhinitis consulted a GP 4.3 times per year and a nurse 1.7 times per year.

Table 38 Consultations rates for allergic rhinitis (regardless of the reason for the encounter) per patient by clinician

Year	Clinician	Age-sex standardised rate per person per year	95% Confidence intervals
2001	GP	4.00	3.98 - 4.01
	Nurse	1.25	1.24 - 1.25
2002	GP	4.05	4.03 - 4.06
	Nurse	1.36	1.36 - 1.37
2003	GP	4.19	4.18 - 4.20
	Nurse	1.50	1.50 - 1.51
2004	GP	4.25	4.24 - 4.26
	Nurse	1.58	1.57 - 1.59
2005	GP	4.26	4.25 - 4.27
	Nurse	1.67	1.66 - 1.67

Figure 12 compares overall consultation rates with those for allergic rhinitis patients broken down by age and sex. This includes all GP and nurse consultations in 2005 regardless of the reason for the encounter. Consultation rates for females tended to be higher than for males and consultation rates for patients with allergic rhinitis were higher than overall consultation rates. For example, for males aged 85 to 89 years, the GP and nurse consultation rate for patients with a diagnosis of allergic rhinitis was 1.36 times higher than the corresponding overall consultation rate.

Figure 12 Overall consultation rates compared with those for patients with allergic rhinitis, for all GP and nurse consultations in 2005 broken down by age and sex.

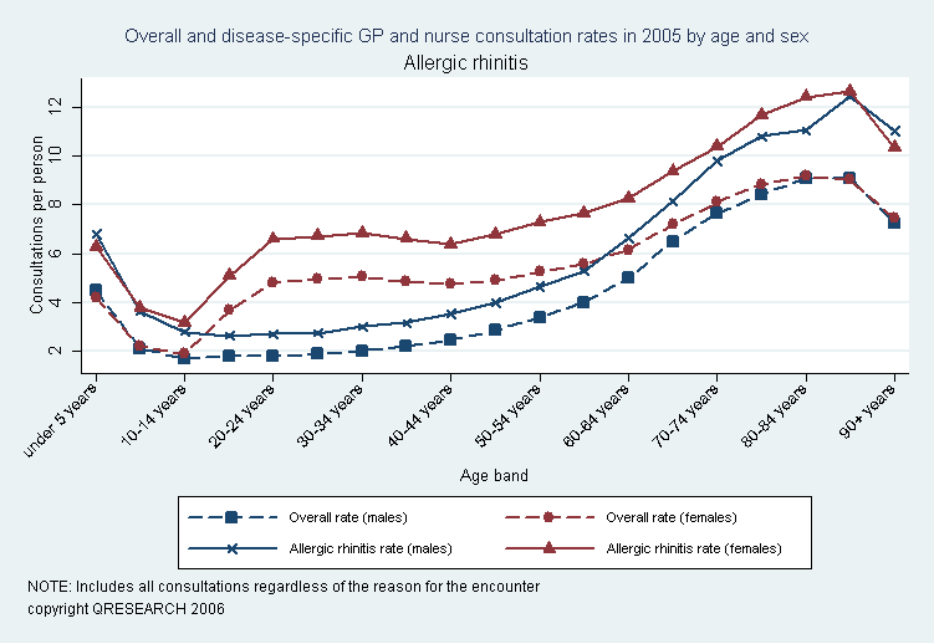
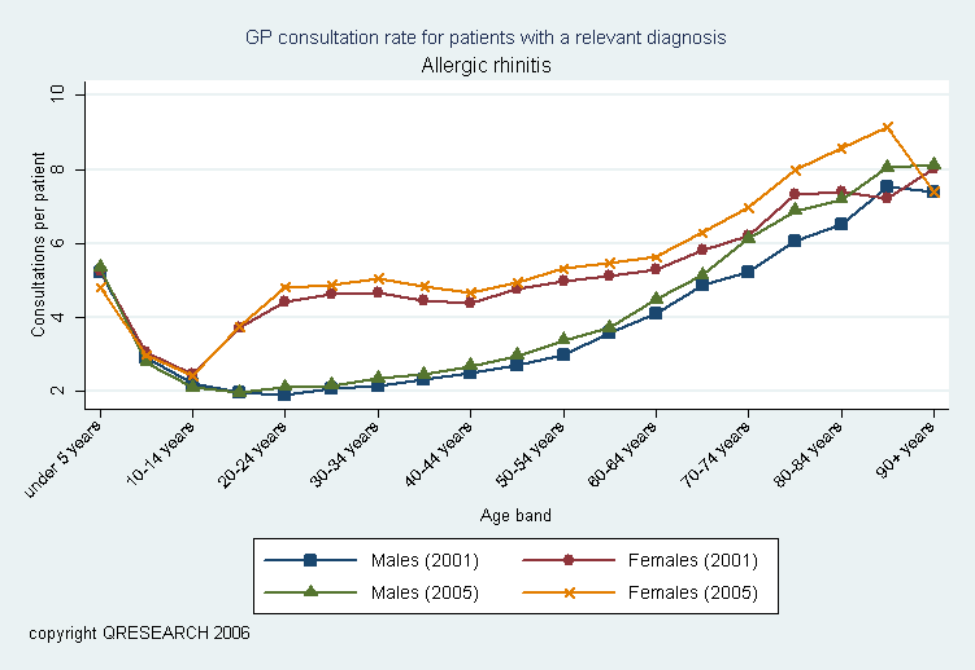


Figure 13 shows GP consultations rates per patient (regardless of the reason for the consultation) for allergic rhinitis broken down by age and sex. In 2005 the highest consultation rate was 9.1 consultations per patient (95% CI 9.0 to 9.3) which occurred in females aged 85 to 89 years.

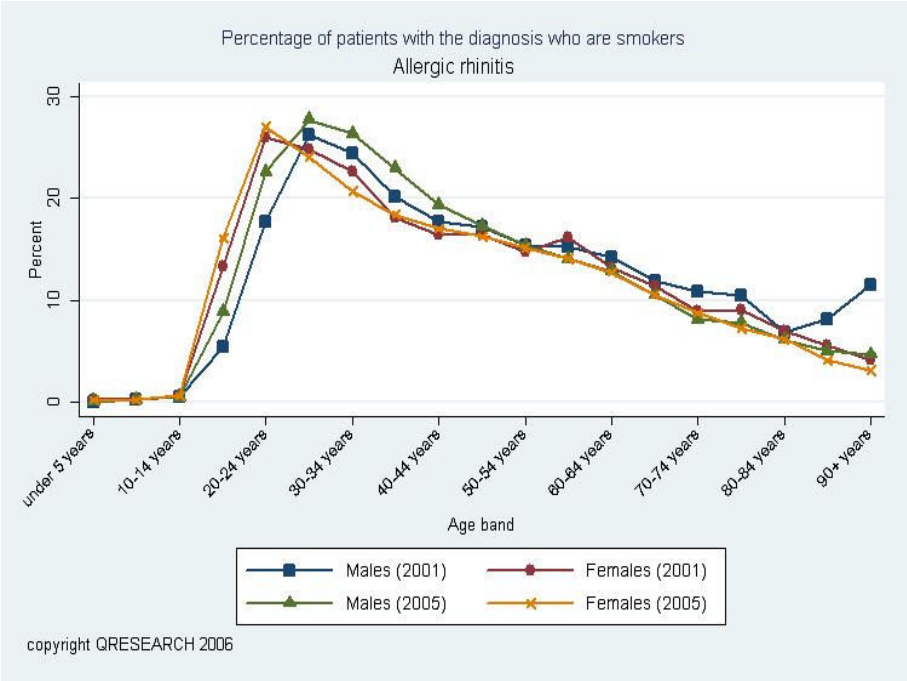
Figure 13 GP consultation rates per patient for allergic rhinitis



14.5 Allergic rhinitis and smoking

In 2005 there were an estimated 507,000 (14%) allergic rhinitis patients in England who were smokers. Figure 14 shows the percentage of patients with allergic rhinitis who were recorded as smokers, broken down by age and sex. In 2005 the highest proportion of female smokers (27.1%, 95% CI 25.9% to 28.2%) were aged 20 to 24 years. The highest proportion of male smokers (27.8%, 95% CI 26.6% to 29.0%) were aged 25 to 29 years.

Figure 14 Percentage of patients with allergic rhinitis who are smokers



14.6 Patients in 2005 prescribed allergic rhinitis treatments during the last year

Table 39 shows the percentage of patients with allergic rhinitis in 2005 with at least one medication prescription in the preceding 12 months.

Table 39 Percentage of patients prescribed treatment in last 12 months

Prescription	Percentage of patients prescribed treatment in last 12 months
Antihistamines(BNF chapter 3.4.1)	32.8
Drugs Used In Nasal Allergy(BNF chapter 12.2.1)	20.9

14.7 Estimated numbers of prescriptions for allergic rhinitis in England

Table 40 shows the estimated number of prescriptions for allergic rhinitis treatments in England between 2001 and 2005.

Table 40 Estimated numbers of prescriptions in England by year

Year	Prescription	Estimated number of prescriptions in England	95% Confidence intervals
2001	Antihistamines(BNF chapter 3.4.1)	1,715,700	1,705,100 - 1,726,500
2002		2,041,300	2,029,700 - 2,053,000
2003		2,267,600	2,255,400 - 2,279,800
2004		2,523,400	2,510,500 - 2,536,400
2005		2,719,200	2,705,900 - 2,732,600
2001	Drugs used in nasal allergy(BNF chapter 12.2.1)	1,204,000	1,195,100 - 1,212,900
2002		1,346,800	1,337,400 - 1,356,200
2003		1,444,600	1,434,900 - 1,454,300
2004		1,596,800	1,586,700 - 1,607,000
2005		1,693,600	1,683,200 - 1,704,100

These figures are not directly comparable to PACT data as they only include patients with a computer-recorded diagnosis of allergic rhinitis rather than all patients regardless of diagnosis.

14.8 Estimated number of allergic rhinitis patients in England who had a prescription during the last 12 months

Table 41 shows the estimated number of people in England with allergic rhinitis who had a prescription in the last 12 months for each year 2001 to 2005.

Table 41 Estimated numbers of patients with allergic rhinitis who had a prescription in the previous 12 months by year

Year	Prescription	Estimated number of people in England	95% Confidence intervals
2001	Antihistamines(BNF chapter 3.4.1)	732,600	725,600 - 739,700
	Drugs used in nasal allergy(BNF chapter 12.2.1)	516,900	511,000 - 522,700
2002	Antihistamines(BNF chapter 3.4.1)	818,000	810,600 - 825,400
	Drugs used in nasal allergy(BNF chapter 12.2.1)	563,100	557,000 - 569,200
2003	Antihistamines(BNF chapter 3.4.1)	902,000	894,200 - 909,700
	Drugs used in nasal allergy(BNF chapter 12.2.1)	599,100	592,900 - 605,400
2004	Antihistamines(BNF chapter 3.4.1)	1,004,100	996,000 - 1,012,300
	Drugs used in nasal allergy(BNF chapter 12.2.1)	667,400	660,800 - 674,000
2005	Antihistamines(BNF chapter 3.4.1)	1,065,800	1,057,500 - 1,074,200
	Drugs used in nasal allergy(BNF chapter 12.2.1)	704,300	697,500 - 711,000

15 QRESEARCH key facts about anaphylaxis

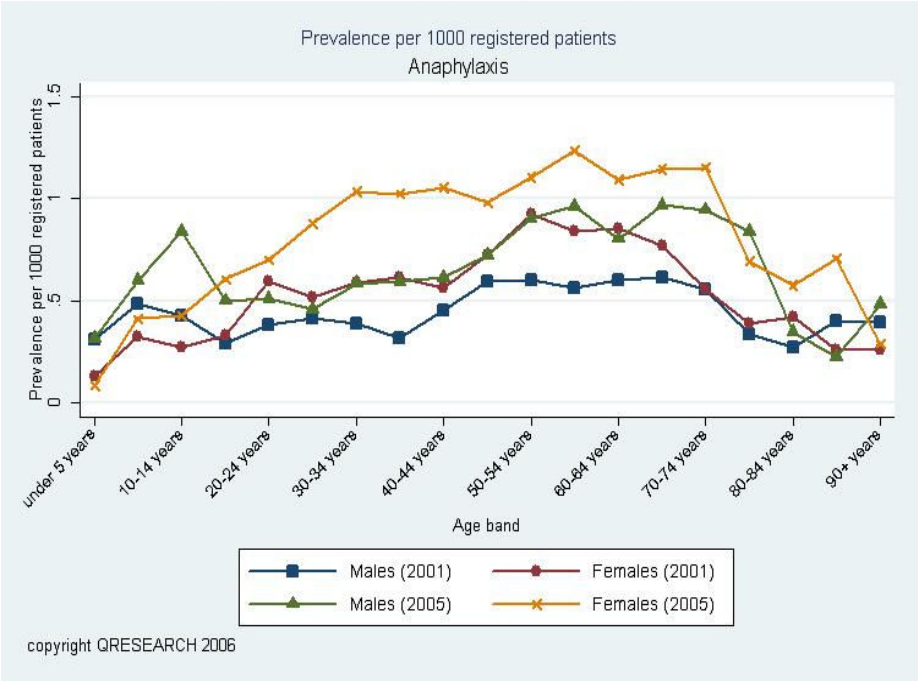
15.1 What is anaphylaxis?

Anaphylaxis is a very serious form of an allergic reaction to a specific substance (this can include certain types of food such as peanuts, insect stings or reactions to prescribed medication or anaesthetics). It is likely to cause severe breathing problems, swelling, itching and a rash. It can be life-threatening if the larynx is affected. Treatments for episodes of anaphylaxis include first aid, injections of adrenaline (known as epipen), antihistamines and steroids and may require admission to intensive care.

15.2 How common is anaphylaxis?

Figure 15 shows the lifetime prevalence of anaphylaxis (per 1000 patients) in QRESEARCH. Anaphylaxis affects an estimated 37,800 patients in England. It is most common among females except in people aged under 20 years or over 75 years. In 2005 the highest lifetime prevalence rate was 1.24 per 1000 (95% CI 1.0 to 1.5) which occurred in females aged 55 to 59 years. The median age at diagnosis was 43 years.

Figure 15 Lifetime prevalence of anaphylaxis per 1000 patients



15.3 Trends in lifetime prevalence and incidence of anaphylaxis

Table 42 shows the lifetime prevalence of anaphylaxis per 1000 patients between 2001 and 2005. During this period the number of prevalent cases (per 1000) increased by 50.9%. At the end of 2005 approximately one in nine people had had a computer-recorded diagnosis of anaphylaxis.

Table 42 Lifetime prevalence (per 1000) of anaphylaxis by year

Year	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
2001	0.50	0.47 - 0.53
2002	0.56	0.53 - 0.59
2003	0.62	0.59 - 0.65
2004	0.69	0.66 - 0.72
2005	0.75	0.72 - 0.79

Table 43 shows the incidence of anaphylaxis per 1000 person-years between 2001 and 2005. During this period the number of incident cases (per 1000) increased by 19.2%. In 2005 approximately one in every 12,600 people had a brand new diagnosis of anaphylaxis.

Table 43 Incidence of newly diagnosed anaphylaxis by year

Year	Age-sex standardised incidence rate per 1000	95% Confidence intervals
2001	0.07	0.06 - 0.08
2002	0.07	0.06 - 0.08
2003	0.07	0.06 - 0.08
2004	0.08	0.07 - 0.10
2005	0.08	0.07 - 0.09

Table 44 shows the lifetime prevalence of anaphylaxis per 1000 patients by Government Office Region in England in 2005. Anaphylaxis was most common in the South East affecting one in every 925 people and least common in the North West affecting one in every 1,990 people.

Table 44 Lifetime prevalence by Government Office region for 2005

Region	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
South East	1.08	0.99 - 1.18
South West	0.97	0.88 - 1.08
East of England	0.73	0.64 - 0.84
North East	0.69	0.57 - 0.83
West Midlands	0.68	0.58 - 0.80
London	0.65	0.56 - 0.74
East Midlands	0.64	0.56 - 0.72
Yorkshire and Humberside	0.60	0.52 - 0.69
North West	0.50	0.42 - 0.60

Table 45 shows the lifetime prevalence of anaphylaxis by quintile of Townsend score in 2005. Quintile 5 represents the most deprived areas and quintile 1 represents the most affluent. In the most deprived areas approximately one in every 1,640 patients had a recorded diagnosis of anaphylaxis compared with one in 1,200 patients from the most affluent areas.

Table 45 Lifetime prevalence of anaphylaxis by quintile of Townsend score

Townsend Quintile	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
1	0.84	0.77 - 0.91
2	0.87	0.80 - 0.95
3	0.80	0.73 - 0.88
4	0.64	0.58 - 0.72
5	0.61	0.54 - 0.68

15.4 Consultations for patients with anaphylaxis

Table 46 shows the consultation rates for anaphylaxis per patient (regardless of the reason for the encounter) by clinician. For example in 2005 on average patients with anaphylaxis consulted a GP 4.9 times per year and a nurse 1.9 times per year.

Table 46 Consultations rates for anaphylaxis per person per year by clinician by year regardless of the reason for the encounter

Year	Clinician	Age-sex standardised consultation rate per person per year	95% Confidence intervals
2001	GP	4.57	4.45 - 4.69
	Nurse	1.50	1.44 - 1.57
2002	GP	4.61	4.49 - 4.74
	Nurse	1.52	1.46 - 1.60
2003	GP	4.91	4.79 - 5.04
	Nurse	1.68	1.61 - 1.76
2004	GP	4.81	4.70 - 4.93
	Nurse	1.69	1.63 - 1.75
2005	GP	4.94	4.83 - 5.07
	Nurse	1.89	1.82 - 1.97

Figure 16 compares overall consultation rates with those for anaphylaxis patients broken down by age and sex. This includes all GP and nurse consultations in 2005 regardless of the reason for the encounter. Consultation rates for females tended to be higher than for males and consultation rates for patients with anaphylaxis were higher than overall consultation rates. For example, for males aged 85 to 89 years, the GP and nurse consultation rate for patients with a diagnosis of anaphylaxis was 1.43 times higher than the corresponding overall consultation rate.

Figure 16 overall consultation rates compared with those for patients with anaphylaxis, for all GP and nurse consultations in 2005 broken down by age and sex.

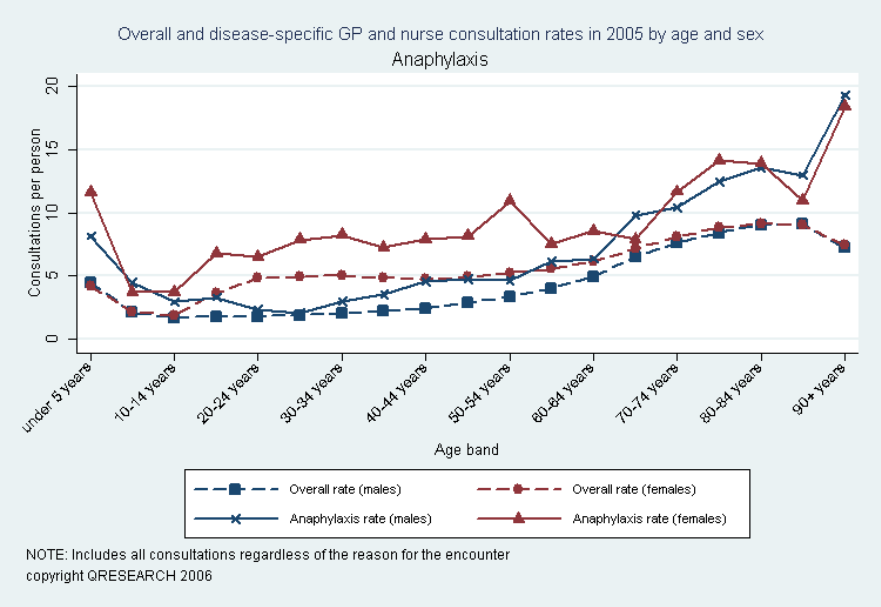
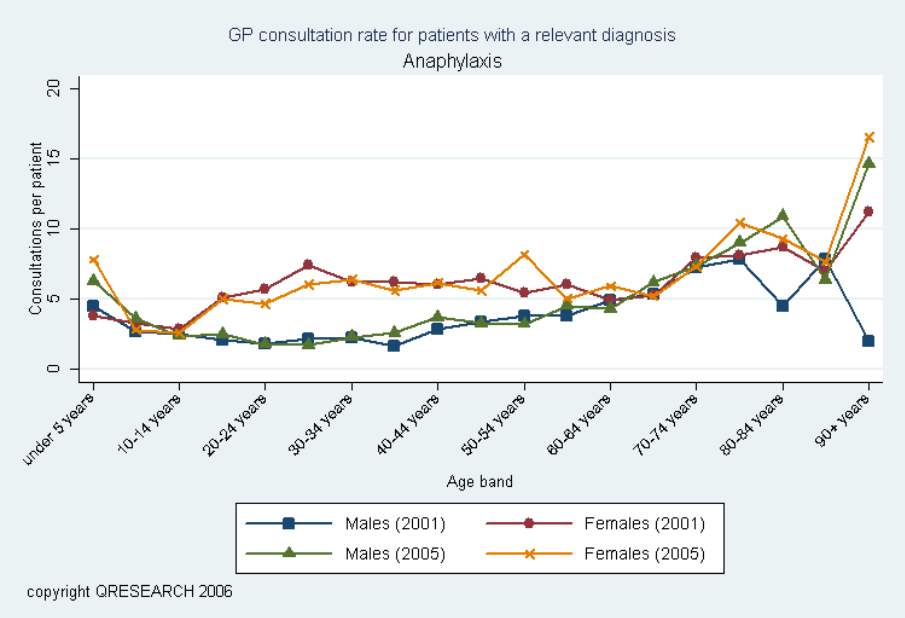


Figure 17 shows the GP consultations rates per patient (regardless of the reason for the consultation) broken down by age and sex. In 2005 the highest consultation rate was 16.6 consultations per patient (95% CI 13.0 to 20.2) which occurred in females aged 90+ years.

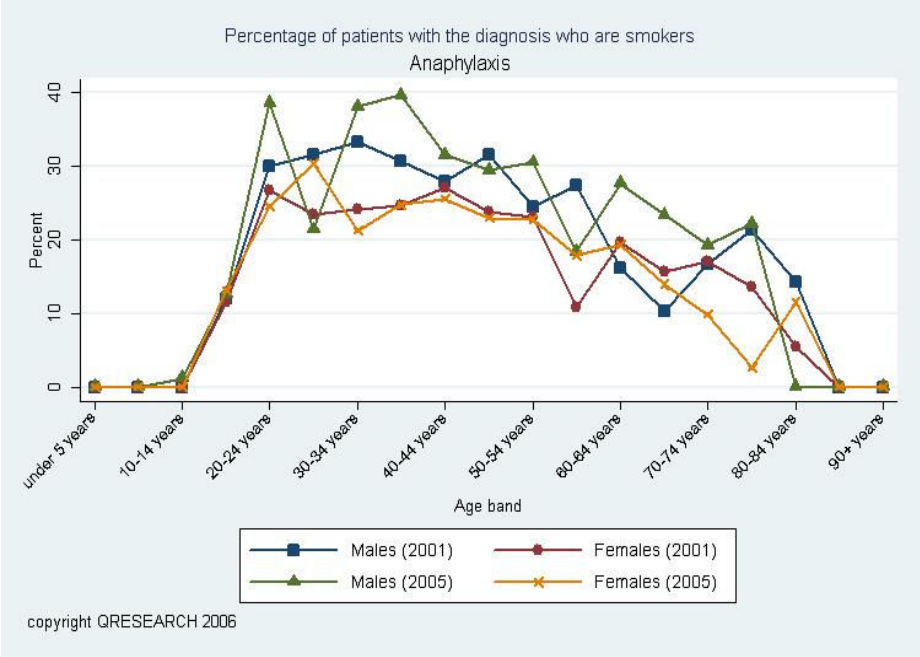
Figure 17 GP consultation rates per patient (regardless of the reason for the consultation) for anaphylaxis



15.5 Anaphylaxis and smoking

Figure 18 shows the percentage of patients with anaphylaxis who were recorded as smokers, broken down by age and sex. In 2005 there were an estimated 7700 (19%) anaphylaxis sufferers in England who were smokers. In 2005 the highest proportion of female smokers (30.4%, 95% CI 18.2% to 42.5%) were aged 25 to 29 years. The highest proportion of male smokers (39.7%, 95% CI 25.3% to 54.2%) were aged 35 to 39 years.

Figure 18 Percentage of patients with anaphylaxis who are smokers



15.6 Patients prescribed anaphylaxis treatments during the last year

Table 47 shows the percentage of patients with anaphylaxis in 2005 who had at least one medication prescription in the preceding 12 months.

Table 47 Percentage of anaphylaxis patients in 2005 prescribed treatment during the last 12 months

Prescription	Percentage of patients prescribed treatment during the last 12 months
Drugs Used In Allergic Emergencies (BNF chapter 3.4.3)	38.1

15.7 Estimated numbers of prescriptions for anaphylaxis in England

Table 48 shows the estimated number of prescriptions for anaphylaxis treatments in England between 2001 and 2005.

Table 48 Estimated numbers of prescriptions in England

Year	Prescription	Estimated number of prescriptions in England	95% Confidence intervals
2001	Drugs used in allergic emergencies (BNF chapter 3.4.3)	10,700	9,900 - 11,600
2002	Drugs used in allergic emergencies (BNF chapter 3.4.3)	12,600	11,700 - 13,600
2003	Drugs used in allergic emergencies (BNF chapter 3.4.3)	13,300	12,400 - 14,300
2004	Drugs used in allergic emergencies (BNF chapter 3.4.3)	16,200	15,200 - 17,300
2005	Drugs used in allergic emergencies (BNF chapter 3.4.3)	21,100	19,900 - 22,300

These figures are not directly comparable to PACT data as they only include patients with a computer-recorded diagnosis of anaphylaxis rather than all patients regardless of diagnosis.

15.8 Estimated number of anaphylaxis patients in England with a prescription in the last 12 months.

Table 49 shows the estimated number of people in England who had a prescription for anaphylaxis treatment in the last 12 months.

Table 49 Estimated numbers of patients with anaphylaxis who had a prescription in the previous 12 months

Prescription	Year	Estimated number of people in England	95% Confidence intervals
Drugs used in allergic emergencies (BNF chapter 3)	2001	7,600	6,900 - 8,300
	2002	9,400	8,600 - 10,200
	2003	9,200	8,400 - 10,000
	2004	12,100	11,200 - 13,000
	2005	14,200	13,300 - 15,200

16 QRESEARCH key facts about peanut allergy

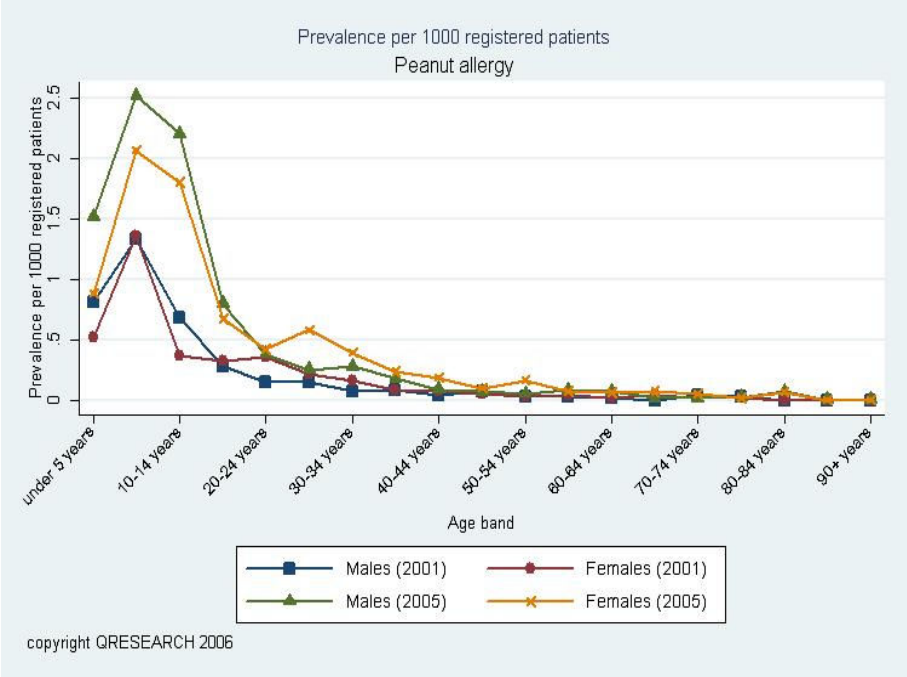
16.1 What is peanut allergy?

Some people are allergic to peanuts and even tiny traces in food can cause a reaction. The reaction can result in anything from a mild allergic reaction (such as slight breathlessness, wheeze, itching or a skin rash) to a severe reaction such as anaphylaxis.

16.2 How common is peanut allergy?

Figure 19 shows the lifetime prevalence per 1000 registered patients for peanut allergy in QRESEARCH. Peanut allergy affects an estimated 25,700 people in England. Peanut allergy is most common in people aged under 15 years. In 2005 the highest lifetime prevalence rate was 2.5 per 1000 (95% CI 2.2 to 2.8 per 1000) which occurred in males aged 5 to 9 years. The median age at diagnosis was 8 years.

Figure 19 Lifetime prevalence per 1000 registered patients for peanut allergy



16.3 Trends in lifetime prevalence and incidence of peanut allergy

Table 50 shows the lifetime prevalence of peanut allergy per 1000 patients between 2001 and 2005. During this period the number of prevalent cases (per 1000) increased by 117.3%. At the end of 2005 approximately one in nine people had had a computer-recorded diagnosis of peanut allergy.

Table 50 Lifetime prevalence of peanut allergy

Year	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
2001	0.24	0.22 - 0.26
2002	0.32	0.30 - 0.34
2003	0.39	0.37 - 0.42
2004	0.45	0.43 - 0.48
2005	0.51	0.49 - 0.54

Table 51 shows the incidence of peanut allergy per 1000 person-years between 2001 and 2005. The number of incidence cases (per 1000) increased by 39.3% between 2001 and 2005. In 2005 approximately one in every 12,420 people had a brand new diagnosis of peanut allergy.

Table 51 Incidence of newly diagnosed peanut allergy

Year	Age-sex standardised incidence rate per 1000	95% Confidence intervals
2001	0.06	0.05 - 0.07
2002	0.08	0.07 - 0.09
2003	0.08	0.07 - 0.09
2004	0.08	0.07 - 0.09
2005	0.08	0.07 - 0.09

Table 52 shows the lifetime prevalence of peanut allergy (per 1000) by Government Office Region in England in 2005. Peanut allergy was most common in London affecting one person in every 1,590 and least common in the South West affecting one in 2,460 people.

Table 52 Lifetime prevalence by Government Office region for 2005

Region	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
London	0.63	0.55 - 0.72
South East	0.63	0.56 - 0.70
West Midlands	0.53	0.43 - 0.65
Yorkshire and Humberside	0.51	0.44 - 0.60
North East	0.48	0.38 - 0.61
East Midlands	0.48	0.42 - 0.55
North West	0.45	0.37 - 0.54
East of England	0.41	0.33 - 0.49
South West	0.41	0.34 - 0.48

Table 53 shows the lifetime prevalence of peanut allergy by quintile of Townsend score in 2005. Quintile 5 represents the most deprived areas and quintile 1 represents the most affluent. In 2005 in the most deprived areas approximately one in every 2,800 people had a recorded diagnosis of peanut allergy compared with one in every 1,420 people from the most affluent areas.

Table 53 Lifetime prevalence of peanut allergy by quintile of Townsend score in 2005

Townsend Quintile	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
1	0.70	0.64 - 0.78
2	0.57	0.50 - 0.63
3	0.57	0.51 - 0.64
4	0.36	0.31 - 0.42
5	0.36	0.31 - 0.41

16.4 Consultations for patients with peanut allergy

Table 54 shows the consultation rates per person (regardless of the reason for the encounter) for peanut allergy. For example in 2005 on average patients with peanut allergy consulted a GP 4.1 times per year and a nurse 1.6 times per year.

Table 54 Consultations rates for peanut allergy patients per person per year by clinician and year

Year	Clinician	Age-sex standardised lifetime prevalence rate per person per year	95% Confidence intervals
2001	GP	4.02	3.67 - 4.41
	Nurse	1.48	1.24 - 1.77
2002	GP	3.81	3.54 - 4.11
	Nurse	1.51	1.30 - 1.75
2003	GP	4.08	3.82 - 4.37
	Nurse	1.34	1.20 - 1.52
2004	GP	4.09	3.85 - 4.36
	Nurse	1.48	1.31 - 1.68
2005	GP	4.10	3.85 - 4.37
	Nurse	1.55	1.37 - 1.76

Figure 20 compares overall consultation rates with those for peanut allergy patients broken down by age and sex. This includes all GP and nurse consultations in 2005 regardless of the reason for the encounter. Consultation rates for females tended to be higher than for males and consultation rates for patients with peanut allergy were higher than overall consultation rates. For example, for males aged 75 to 79 years, the GP and nurse consultation rate for patients with a diagnosis of peanut allergy was 1.78 times higher than the corresponding overall consultation rate.

Figure 20 overall consultation rates compared with those for patients with peanut allergy, for all GP and nurse consultations in 2005 broken down by age and sex

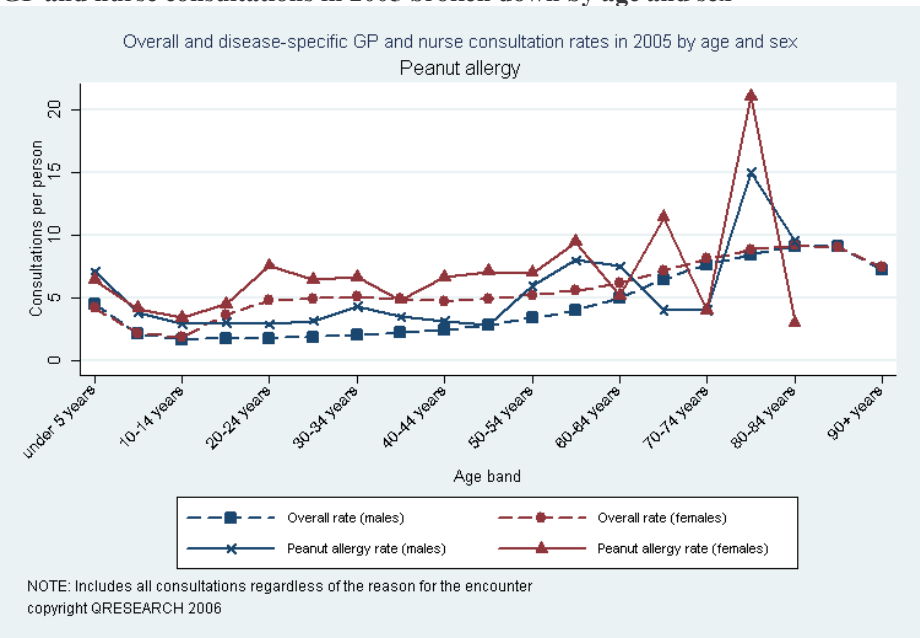
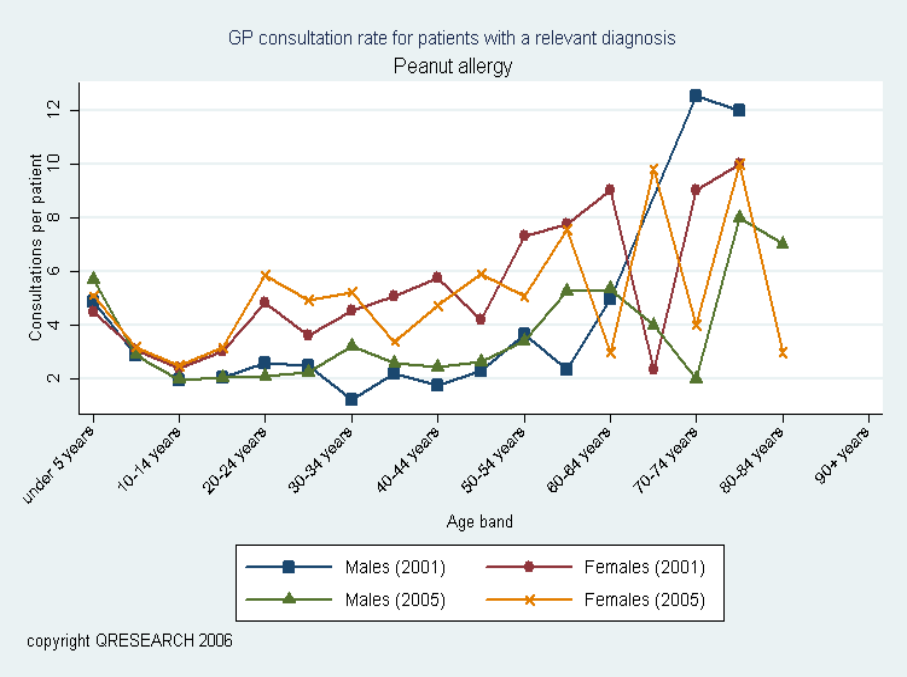


Figure 21 shows GP consultations rates per patient (regardless of the reason for the consultation) for peanut allergy broken down by age and sex. In 2005 the highest consultation rate was 10.0 consultations per patient (95% CI 3.8 to 16.2) which occurred for females aged 75 to 79 years.

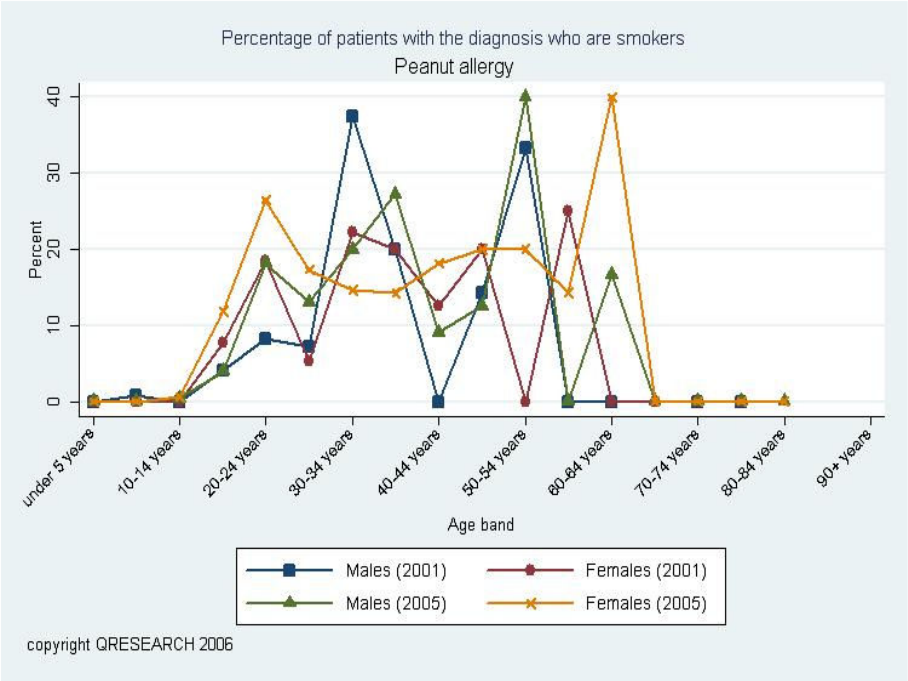
Figure 21 GP consultation rates per patient for peanut allergy



16.5 Peanut allergy and smoking

Figure 22 shows the percentage of patients with peanut allergy who were recorded as smokers, broken down by age and sex. In 2005 there were an estimated 1300 people (12%) in England suffering from peanut allergy who were smokers. In 2005 the highest proportion of female smokers (40.0%, 95% CI 0.0% to 95.4%) were aged 60 to 64 years. The highest proportion of male smokers (40.0%, 95% CI 0.0% to 95.4%) were aged 50 to 54 years. Note that these are very large confidence intervals because there were only a small number of observed cases.

Figure 22 Percentage of patients with peanut allergy who are smokers



17 QRESEARCH key facts about any allergic disease

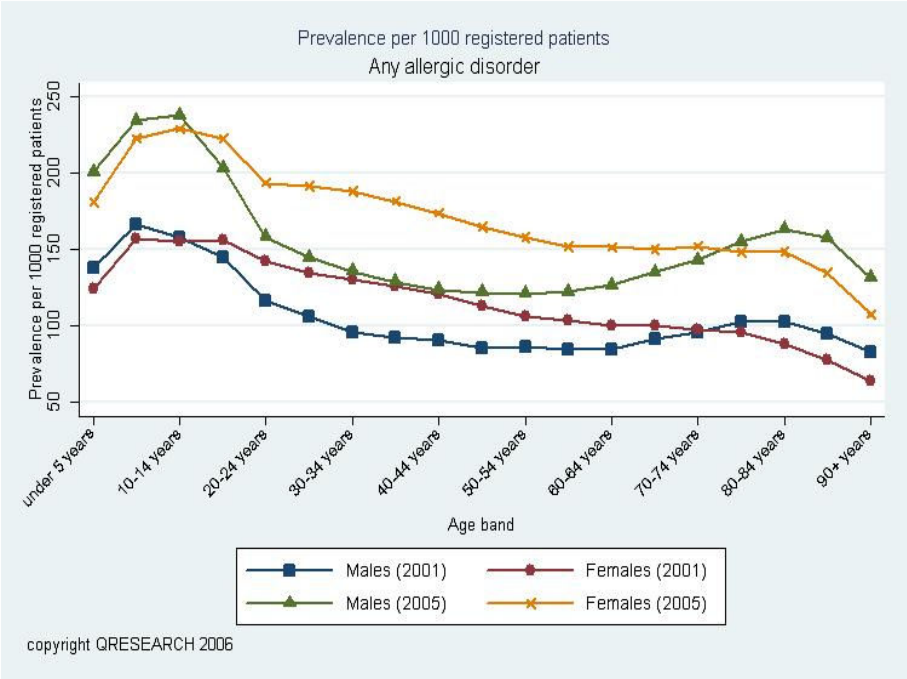
17.1 What is 'any allergic disease'?

This refers to patients who have any of the following: asthma, hay fever, eczema, anaphylaxis or peanut allergy.

17.2 How common is 'any allergic disease'?

Figure 23 shows the lifetime prevalence per 1000 registered patients of 'any allergic disease' in QRESEARCH. An estimated 12.2 million people in England have had a computer-recorded diagnosis of any allergic disease. It is more common among females than among males except in people aged under 15 years or over 75 years. In 2005 the highest lifetime prevalence rate was 365.6 per 1000 (95% CI 361.8 to 369.4) which occurred in males aged 10 to 14 years. The median age at diagnosis was 31 years.

Figure 23 Lifetime prevalence per 1000 registered patients for any allergic disease



17.3 Trends in incidence and lifetime prevalence of any allergic diseases

Table 55 shows the lifetime prevalence of any allergic disease per 1000 patients between 2001 and 2005. During this period the number of prevalent cases per 1000 population increased by 27.7%. At the end of 2005 approximately one in nine people had had a computer-recorded diagnosis of any allergic disease.

Table 55 Lifetime prevalence of any allergic disease

Year	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
2001	190.72	190.21 - 191.23
2002	203.73	203.21 - 204.26
2003	217.21	216.68 - 217.75
2004	231.81	231.25 - 232.37
2005	243.49	242.93 - 244.06

Table 56 shows the incidence per 1000 person-years between 2001 and 2005. During this period the number of incident cases (per 1000) increased by 15.0%. In 2005 approximately one in every 50 people in England had a brand new diagnosis.

Table 56 Incidence of newly diagnosed cases of any allergic disease

Year	Age-sex standardised incidence rate per 1000	95% Confidence intervals
2001	17.36	17.20 - 17.52
2002	17.86	17.70 - 18.01
2003	18.57	18.41 - 18.73
2004	20.86	20.69 - 21.03
2005	19.96	19.80 - 20.13

Table 57 shows the lifetime prevalence of any allergic disease (per 1000) by Government Office Region in England in 2005. It was most common in the North West and least common in the East of England.

Table 57 Lifetime prevalence by Government Office region for 2005

Region	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
North West	259.01	257.08 - 260.96
West Midlands	256.51	254.39 - 258.65
Yorkshire and Humberside	247.71	246.03 - 249.41
East Midlands	246.71	245.21 - 248.21
South East	244.50	243.11 - 245.89
South West	242.18	240.65 - 243.72
North East	238.64	236.26 - 241.05
London	232.19	230.59 - 233.79
East of England	227.67	225.89 - 229.47

Table 58 shows the lifetime prevalence of any allergic disease by quintile of Townsend score in 2005. Quintile 5 represents the most deprived areas and quintile 1 represents the most affluent. In 2005 the highest lifetime prevalence rate occurred in the most affluent areas (lifetime prevalence = 251.8 per 1000, 95% CI = 250.5 to 253.1).

Table 58 Lifetime prevalence of any allergic diseases by quintile of Townsend score in 2005

Townsend Quintile	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
1	251.80	250.52 - 253.08
2	251.51	250.19 - 252.85
3	245.03	243.71 - 246.35
4	242.86	241.51 - 244.23
5	243.11	241.80 - 244.42

17.4 Consultation rates for patients with any allergic disease

Table 59 shows the consultation rates per person per year (regardless of the reason for the encounter) for any allergic disease. For example in 2005 on average patients with any allergic disease consulted a GP 4.1 times per year and a nurse 1.7 times per year.

Table 59 Consultations rates for any allergic diseases patients per person per year by clinician

Year	Clinician	Age-sex standardised consultation rate per person per year	95% Confidence intervals
2001	GP	3.80	3.79 - 3.81
	Nurse	1.28	1.28 - 1.29
2002	GP	3.87	3.87 - 3.88
	Nurse	1.41	1.40 - 1.41
2003	GP	3.99	3.98 - 3.99
	Nurse	1.53	1.53 - 1.54
2004	GP	4.06	4.05 - 4.06
	Nurse	1.62	1.62 - 1.63
2005	GP	4.05	4.05 - 4.06
	Nurse	1.70	1.70 - 1.70

Figure 24 compares overall consultation rates with those for patients with any allergic disease broken down by age and sex. This includes all GP and nurse consultations in 2005 regardless of the reason for the encounter. Consultation rates for females tended to be higher than for males and consultation rates for patients with any allergic disease were higher than overall consultation rates. For example, for males aged 85 to 89 years, the GP and nurse consultation rate for patients with a diagnosis of any allergic disease was 1.28 times higher than the corresponding overall consultation rate.

Figure 24 Overall consultation rates compared with those for patients with any allergic disease, for all GP and nurse consultations in 2005 broken down by age and sex.

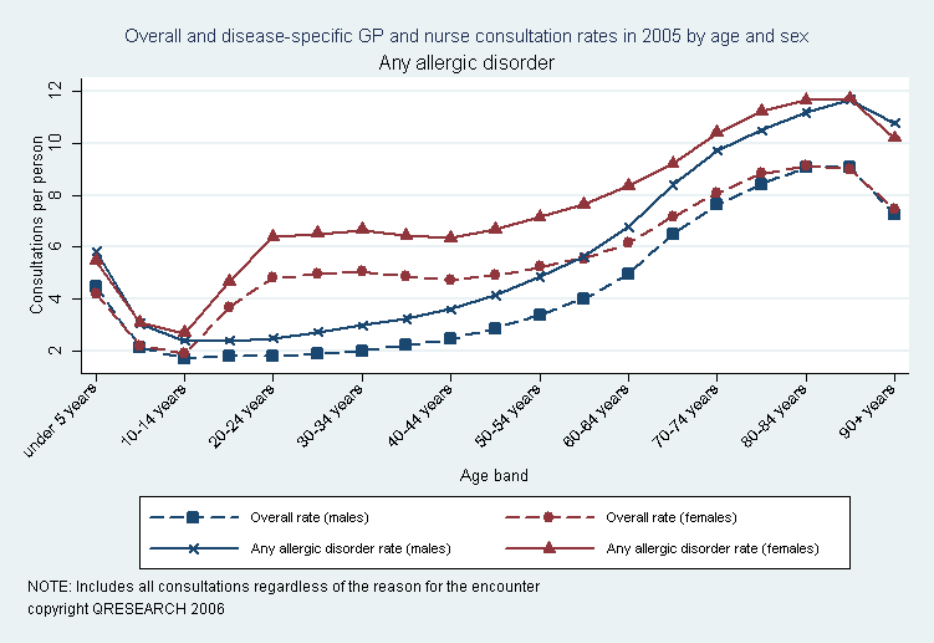
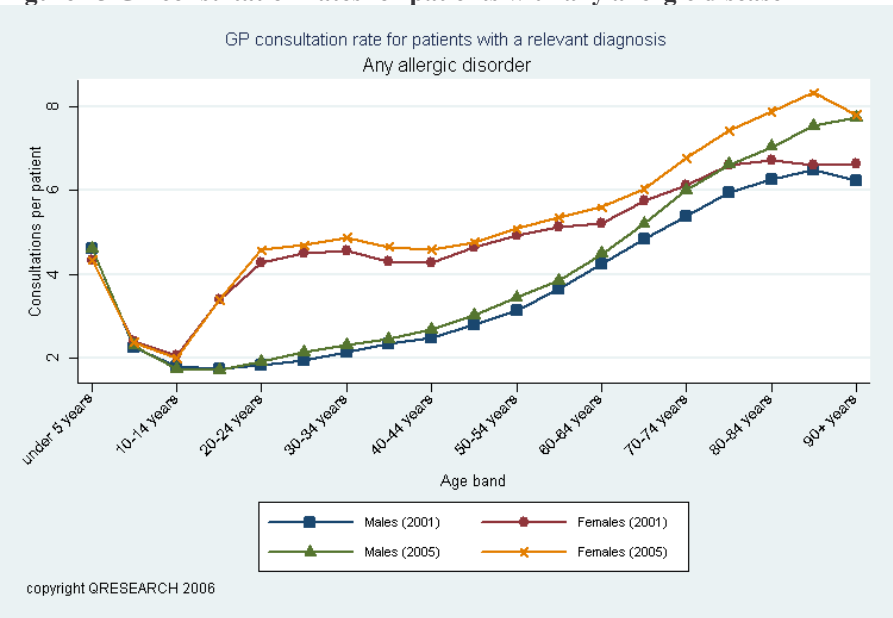


Figure 25 shows consultations rates per patient (regardless of the reason for the consultation) for any allergic disease broken down by age and sex. In 2005 the highest consultation rate was 8.3 consultations per patient (95% CI 8.2 to 8.4) which occurred in females aged 85 to 89 years.

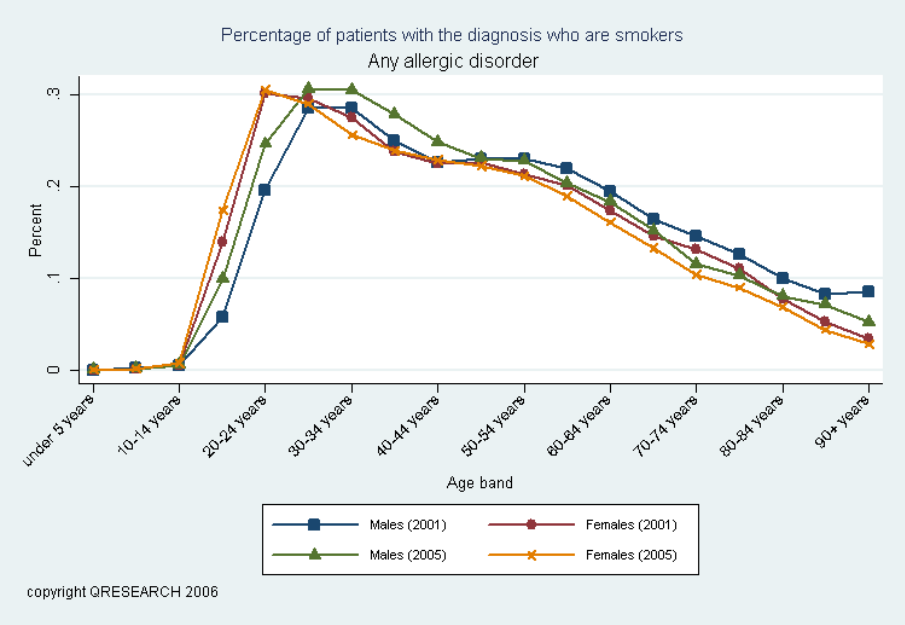
Figure 25 GP consultation rates for patients with any allergic disease



17.5 Any allergic disease and smoking

Figure 26 shows the percentage of patients with any allergic diseases who were recorded as smokers, broken down by age and sex. In 2005, 17% of people with any allergic disease were smokers and there were an estimated 2.0 million people with any allergic disease in England who were smokers. In 2005 the highest proportion of female smokers (30.6%, 95% CI 29.9% to 31.3%) were aged 20 to 24 years. The highest proportion of male smokers (30.6%, 95% CI 29.9% to 31.4%) were aged 25 to 29 years.

Figure 26 Percentage of patients with any allergic disease who were smokers



17.6 Patients prescribed medication for any allergic disease during the last year

Table 60 shows the percentage of patients with any allergic disease in 2005 with at least one medication prescription in the preceding 12 months.

Table 60 Percentage of patients in 2005 prescribed treatment in last 12 months

Prescription	Percentage of patients prescribed treatment in last 12 months
Emollient and Barrier Preparations (BNF chapter 13.2)	9.7
Drugs Used In Nasal Allergy(BNF chapter 12.2.1)	9.5
Topical Corticosteroids (BNF chapter 13.4)	21.4
Antihistamines(BNF chapter 3.4.1)	15.1
Psoriasis And Eczema(BNF chapter 13.5)	1.0
Drugs Used In Allergic Emergencies (BNF chapter 3.4.3)	0.6

17.7 Estimated numbers of prescriptions in England for any allergic disease

Table 61 shows the estimated number of prescriptions for any allergic disease in England by year.

Table 61 Estimated numbers of prescriptions in England for any allergic disease by year

Prescription	Year	Estimated number of prescriptions in England	95% Confidence intervals
Antihistamines(BNF chapter 3.4.1)	2001	3,558,100	3,542,600 - 3,573,600
	2002	4,049,100	4,032,700 - 4,065,500
	2003	4,373,400	4,356,400 - 4,390,400
	2004	4,767,500	4,749,700 - 4,785,300
	2005	4,995,700	4,977,600 - 5,013,800
Drugs used for psoriasis and eczema (BNF chapter 13.5)	2001	410,700	405,600 - 416,000
	2002	427,400	422,100 - 432,700
	2003	348,900	344,200 - 353,700
	2004	400,400	395,400 - 405,600
	2005	428,800	423,500 - 434,100
Drugs used in allergic emergencies (BNF chapter 3.4.3)	2001	51,500	49,600 - 53,400
	2002	67,700	65,600 - 69,900
	2003	73,800	71,500 - 76,000
	2004	87,200	84,800 - 89,600
	2005	114,500	111,700 - 117,300
Drugs used in nasal allergy(BNF chapter 12.2.1)	2001	2,238,800	2,226,800 - 2,251,000
	2002	2,445,400	2,432,800 - 2,458,000
	2003	2,579,000	2,566,100 - 2,591,900
	2004	2,782,300	2,768,900 - 2,795,800
	2005	2,884,300	2,870,800 - 2,897,900
Emollient and barrier preparations (BNF chapter 13.2)	2001	5,867,800	5,847,300 - 5,888,300
	2002	6,449,300	6,427,900 - 6,470,800
	2003	7,359,400	7,336,600 - 7,382,200
	2004	8,469,600	8,445,100 - 8,494,200
	2005	9,479,300	9,453,500 - 9,505,100
Topical corticosteroids (BNF chapter 13.4)	2001	6,232,000	6,211,400 - 6,252,700
	2002	6,521,200	6,500,100 - 6,542,300
	2003	6,922,100	6,900,500 - 6,943,700
	2004	7,554,800	7,532,200 - 7,577,500
	2005	7,822,500	7,799,600 - 7,845,400

These figures are not directly comparable to PACT data as they only include patients with a computer-recorded diagnosis of any allergic diseases rather than all patients regardless of diagnosis.

17.8 Estimated numbers of people in England who had a prescription for any allergic disease during the last 12 months.

Table 62 shows the estimated number of patients in England who had a prescription for treatment of any allergic disease during the last 12 months.

Table 62 Estimated numbers of people in England who had a prescription for any allergic disease in the previous 12 months

Year	Prescription	Estimated number of people in England	95% Confidence intervals
2001	Topical corticosteroids (BNF chapter 13.4)	1,965,800	1,954,200 - 1,977,500
	Antihistamines(BNF chapter 3.4.1)	1,476,100	1,466,100 - 1,486,100
	Drugs used in nasal allergy(BNF chapter 12.2.1)	909,200	901,500 - 917,000
	Emollient and barrier preparations (BNF chapter 13)	738,100	730,800 - 745,400
	Drugs used for psoriasis and eczema (BNF chapter 1)	121,500	118,700 - 124,400
	Drugs used in allergic emergencies (BNF chapter 3)	36,600	35,000 - 38,200
2002	Topical corticosteroids (BNF chapter 13.4)	2,064,000	2,052,200 - 2,075,900
	Antihistamines(BNF chapter 3.4.1)	1,597,000	1,586,600 - 1,607,400
	Drugs used in nasal allergy(BNF chapter 12.2.1)	968,500	960,500 - 976,500
	Emollient and barrier preparations (BNF chapter 13)	809,700	802,100 - 817,300
	Drugs used for psoriasis and eczema (BNF chapter 1)	127,300	124,500 - 130,300
	Drugs used in allergic emergencies (BNF chapter 3)	47,400	45,600 - 49,200
2003	Topical corticosteroids (BNF chapter 13.4)	2,235,400	2,223,200 - 2,247,800
	Antihistamines(BNF chapter 3.4.1)	1,706,700	1,696,000 - 1,717,400
	Drugs used in nasal allergy(BNF chapter 12.2.1)	1,011,400	1,003,300 - 1,019,500
	Emollient and barrier preparations (BNF chapter 13	926,100	918,100 - 934,200
	Drugs used for psoriasis and eczema (BNF chapter 1	105,300	102,700 - 108,000
	Drugs used in allergic emergencies (BNF chapter 3.	49,600	47,800 - 51,500
2004	Topical corticosteroids (BNF chapter 13.4)	2,434,900	2,422,100 - 2,447,900
	Antihistamines(BNF chapter 3.4.1)	1,852,900	1,841,700 - 1,864,100
	Drugs used in nasal allergy(BNF chapter 12.2.1)	1,091,800	1,083,400 - 1,100,300
	Emollient and barrier preparations (BNF chapter 13)	1,050,100	1,041,500 - 1,058,800
	Drugs used for psoriasis and eczema (BNF chapter 1)	115,900	113,200 - 118,700
	Drugs used in allergic emergencies (BNF chapter 3)	62,300	60,200 - 64,400
2005	Topical corticosteroids (BNF chapter 13.4)	2,559,600	2,546,600 - 2,572,800
	Antihistamines(BNF chapter 3.4.1)	1,908,100	1,896,900 - 1,919,400
	Emollient and barrier preparations (BNF chapter 13)	1,175,100	1,166,100 - 1,184,200
	Drugs used in nasal allergy(BNF chapter 12.2.1)	1,127,600	1,119,100 - 1,136,200
	Drugs used for psoriasis and eczema (BNF chapter 1)	120,600	117,800 - 123,500
	Drugs used in allergic emergencies (BNF chapter 3)	74,300	72,100 - 76,600

18 QRESEARCH key facts about multiple allergic diseases

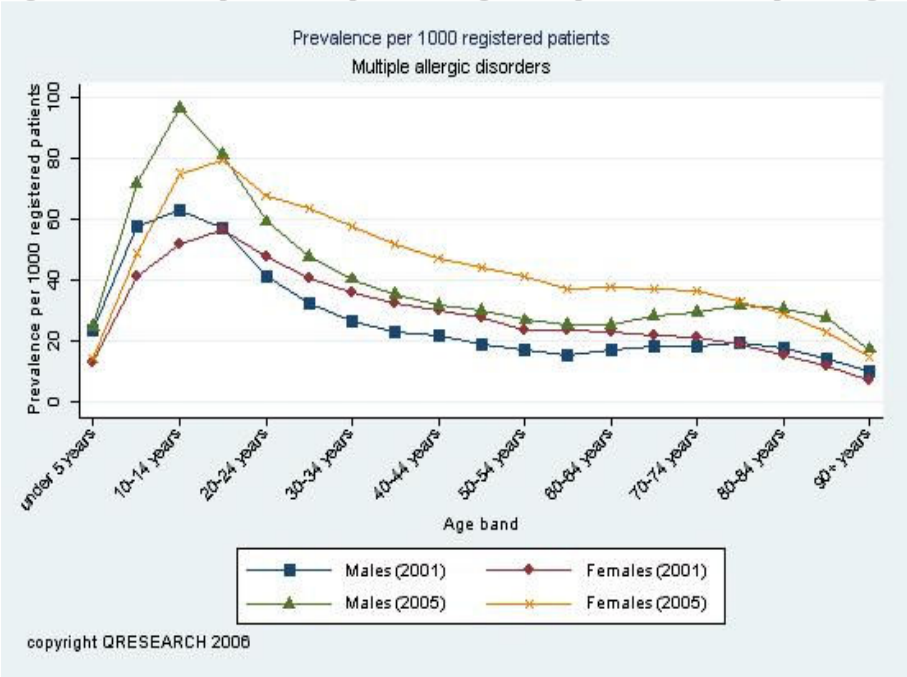
18.1 What is multiple allergic diseases?

We defined patients to be suffering from multiple allergic diseases if they had more than one of the following: asthma, hay fever, eczema, anaphylaxis or peanut allergy.

18.2 How common is multiple allergic diseases?

Figure 27 shows the lifetime prevalence per 1000 registered patients for multiple allergic diseases in QRESEARCH. An estimated 2.3 million people in England suffer from multiple allergic diseases. It is more common among females than among males except in people aged under 20 years or over 75 years. In 2005 the highest lifetime prevalence rate was 96.4 per 1000 (95% CI 94.5 to 98.4) which occurred in males aged 10 to 14 years.

Figure 27 Lifetime prevalence per 1000 registered patients for multiple allergic diseases



18.3 Trends in lifetime prevalence and incidence of multiple allergic diseases

Table 63 shows the lifetime prevalence of multiple allergic diseases per 1000 patients between 2001 and 2005. During this period the number of prevalent cases (per 1000) increased by 48.9%. At the end of 2005 approximately one in nine people had had a computer-recorded diagnosis of multiple allergic diseases.

Table 63 Lifetime prevalence of multiple allergic diseases

Year	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
2001	31.00	30.80 - 31.21
2002	34.64	34.42 - 34.85
2003	38.54	38.31 - 38.76
2004	42.55	42.31 - 42.78
2005	46.16	45.91 - 46.40

Table 64 shows the incidence of multiple allergic diseases per 1000 person-years between each year 2001 and 2005. During this period the number of incident cases per 1000 population increased by 32.9%. In 2005 approximately one in every 159 people in England had a brand new diagnosis of multiple allergic diseases.

Table 64 Incidence of multiple allergic diseases

Year	Age-sex standardised incidence rate per 1000	95% Confidence intervals
2001	4.72	4.64 - 4.81
2002	5.21	5.13 - 5.30
2003	5.59	5.50 - 5.67
2004	6.21	6.12 - 6.31
2005	6.28	6.19 - 6.37

Table 65 shows the lifetime prevalence of multiple allergic diseases per 1000 patients by Government Office Region in England in 2005. Multiple allergic diseases was most common in the West Midlands affecting approximately one in every 19 people and least common in the North East affecting one in every 25 people.

Table 65 Lifetime prevalence by Government Office region in 2005

Region	Age-sex standardised incidence rate per 1000	95% Confidence intervals
West Midlands	51.73	50.77 - 52.70
North West	49.38	48.54 - 50.23
East Midlands	48.47	47.80 - 49.14
Yorkshire and Humberside	47.70	46.96 - 48.45
South East	46.26	45.66 - 46.87
South West	46.22	45.55 - 46.90
London	43.00	42.31 - 43.69
East of England	41.48	40.73 - 42.26
North East	39.74	38.78 - 40.73

Table 66 shows the lifetime prevalence of multiple allergic diseases by quintile of Townsend score in 2005. Quintile 5 represents the most deprived areas and quintile 1 represents the most affluent. In 2005 in the most deprived areas approximately one in every 22 patients had a recorded diagnosis of multiple allergic diseases compared with one in 20 patients from the most affluent areas.

Table 66 Lifetime prevalence of multiple allergic diseases by quintile of Townsend score in 2005

Townsend Quintile	Age-sex standardised lifetime prevalence rate per 1000	95% Confidence intervals
1	49.41	48.83 - 49.98
2	49.03	48.44 - 49.62
3	46.79	46.22 - 47.37
4	45.26	44.68 - 45.85
5	44.71	44.16 - 45.27

18.4 Consultation rates for patients with multiple allergic diseases

Table 67 shows the consultation rates per person per year with multiple allergic diseases regardless of the reason for the encounter. For example in 2005 on average patients with multiple allergic diseases consulted a GP 4.9 times per year and a nurse 2.1 times per year.

Table 67 Consultations rates for multiple allergic diseases patients per person per year by clinician by year

Year	Clinician	Age-sex standardised consultation rate per person per year	95% Confidence intervals
2001	GP	4.68	4.66 - 4.69
	Nurse	1.57	1.56 - 1.57
2002	GP	4.73	4.71 - 4.75
	Nurse	1.71	1.70 - 1.72
2003	GP	4.86	4.84 - 4.87
	Nurse	1.87	1.86 - 1.87
2004	GP	4.92	4.91 - 4.93
	Nurse	2.00	1.99 - 2.01
2005	GP	4.90	4.89 - 4.92
	Nurse	2.11	2.10 - 2.12

Figure 28 compares overall consultation rates with those for patients with multiple allergic diseases broken down by age and sex. This includes all GP and nurse consultations in 2005 regardless of the reason for the encounter. Consultation rates for females tended to be higher than for males and consultation rates for patients with multiple allergic diseases were higher than overall consultation rates. For example, for males aged 85 to 89 years, the GP and nurse consultation rate for patients with a diagnosis of multiple allergic diseases was 1.47 times higher than the corresponding overall consultation rate.

Figure 28 overall consultation rates compared with those for patients with multiple allergic diseases, for all GP and nurse consultations in 2005 broken down by age and sex.

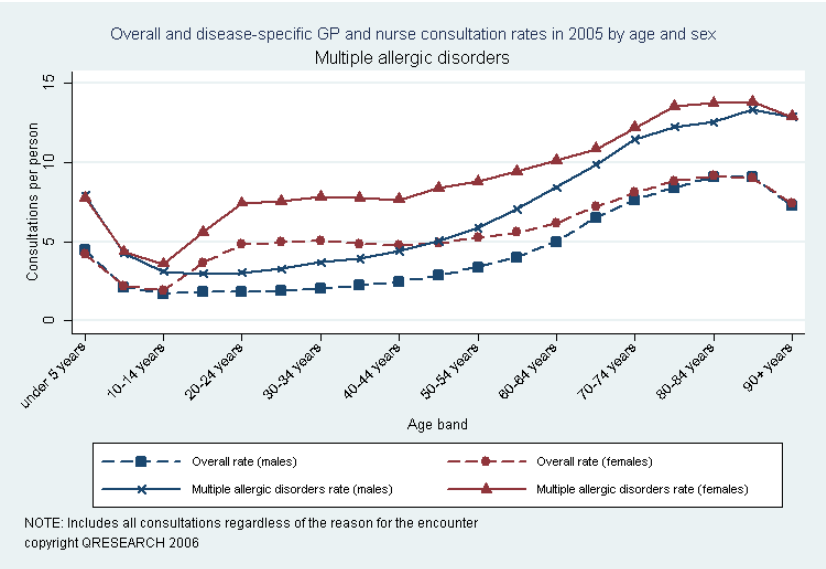
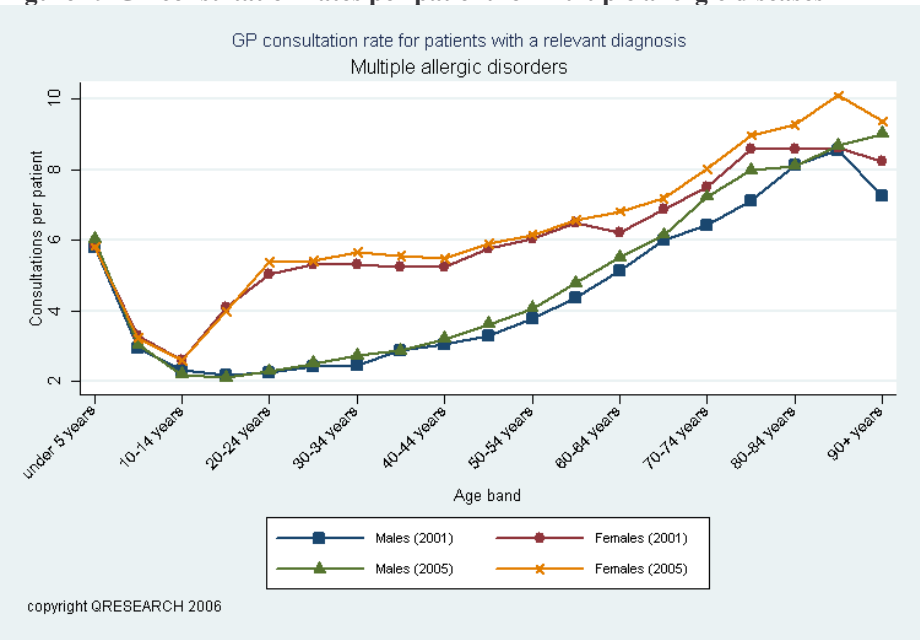


Figure 29 shows consultations rates per patient (regardless of the reason for the consultation) for multiple allergic diseases broken down by age and sex. The highest consultation rate was 10.1 consultations per person (95% CI 9.9 to 10.4) which occurred in females aged 85-89 years.

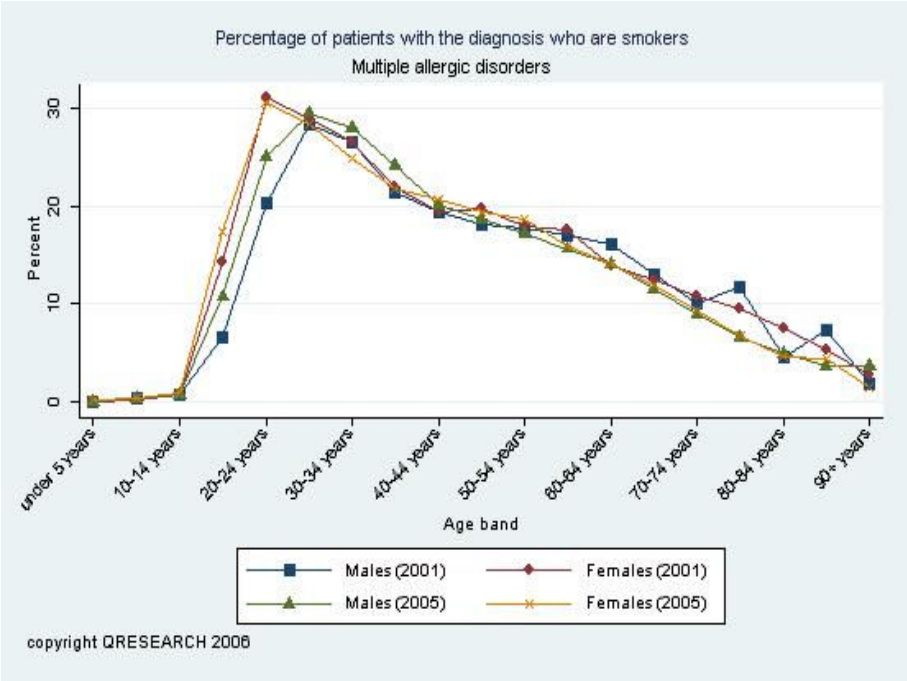
Figure 29 GP consultation rates per patient for multiple allergic diseases



18.5 Multiple allergic diseases and smoking

Figure 30 shows the percentage of patients with multiple allergic diseases who were recorded as smokers, broken down by age and sex. For example in 2005, 15% of people with multiple allergic diseases were smokers and there were an estimated 352,900 people with multiple allergic diseases in England who were smokers. In 2005 the highest proportion of female smokers (30.5%, 95% CI 29.1% to 32.0%) were aged 20 to 24 years. The highest proportion of male smokers (29.5%, 95% CI 27.9% to 31.1%) were aged 25 to 29 years.

Figure 30 Percentage of patients with multiple allergic diseases who are smokers



18.6 Number of allergic conditions

Table 68 and Table 69 show the number and percentage of patients in QRESEARCH broken down by the number of allergic conditions suffered. For example, in 2005 there were a total of 2,958,366 registered patients. Of these 2,243,128 (75.8%) patients did not suffer from any allergic conditions and five patients (0.0002%) suffered from all five allergic conditions. Between 2001 and 2005 the proportion of registered patients in QRESEARCH who suffered from at least one allergic condition increased from 18.9% in 2001 to 24.2%. During the same period the proportion of patients with a diagnosis of multiple allergic conditions increased from 0.031% to 0.046%.

Table 68 Count of patients in QRESEARCH broken down by number of allergic conditions

Year	Number of allergic conditions						
	0	1	2	3	4	5	Total Count
2001	2,322,895	454,184	77,699	10,067	91	2	2,864,938
2002	2,306,006	485,117	87,127	11,821	117	2	2,890,190
2003	2,291,287	518,304	97,823	13,594	167	3	2,921,178
2004	2,249,191	549,378	107,666	15,576	209	4	2,922,024
2005	2,243,128	579,741	117,582	17,669	241	5	2,958,366

Table 69 Percentage of patients in QRESEARCH broken down by number of allergic conditions

Year	Number of allergic conditions						
	0	1	2	3	4	5	Total Count
2001	81.08%	15.85%	2.71%	0.35%	0.0032%	0.000070%	2,864,938
2002	79.79%	16.79%	3.02%	0.401%	0.0040%	0.000069%	2,890,190
2003	78.44%	17.74%	3.35%	0.47%	0.0057%	0.000103%	2,921,178
2004	76.97%	18.80%	3.69%	0.53%	0.0072%	0.000137%	2,922,024
2005	75.82%	19.60%	3.98%	0.60%	0.0081%	0.000169%	2,958,366