Final Report to the NHS Information Centre and Department of Health

Trends in Consultation Rates in General Practice 1995 to 2008: Analysis of the QResearch® database.

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1. Executive Summary

This report presents the largest longitudinal study of trends in consultations undertaken in primary care and is part of an ongoing series of analyses using the QResearch® database (http://www.qresearch.org). The work, commissioned by the NHS Information Centre for health and social care on behalf of the Office of National Statistics and Department of Health, monitors and reports on changes in consultation rates in general practice over time using version 22 of the QResearch® general practice database, one of the largest aggregated general practice databases in the world. The database has been developed by the University of Nottingham and leading supplier of IT systems for general practice (EMIS). It contains over 40 million patient years from 573 practices spread throughout the UK with data extending back to the early 1990's.

The report had the following objectives:

- To describe the population and practices contributing to the analysis in terms of geographical location, list size and overall age-sex structure.
- To analyse trends in consultations by age and sex over each of the last 14 calendar years (1995 to 2008).
- To estimate changes in the number of consultations nationally and for the typical general practice.
- To describe the pattern of consultations according to type of health profession (for example, GP or nurse).
- To report on patterns of consultations according to where the consultation took place (home visit, telephone or in the surgery).

The key findings from this report are:

Note: These do not sum exactly to 100% due to rounding

- The analysis was based on 108 general practices (919 thousand patients) in 1995 and for 503 practices (4.4 million registered patients) in 2008. The average practice had 8,712 registered patients.
- The estimated number of consultations for a typical practice in England rose from 21,100 in 1995 to 34,200 in 2008.
- The estimated total number of consultations in England rose from 217.3 million (95% CI 197.7 to 237.0 million) in 1995 to 300.4 million (95% CI 290.9 to 309.8 million) in 2008.
- The average patient had 3.9 consultations each year in 1995 rising to 5.5 consultations each year by 2008.
- There has been a change in the proportion of patients seen by nurses in primary care. In 1995, 76% of consultations were undertaken by GPs, 21% by nurses and 3% by other clinicians. In 2008, approximately 62% of consultations were undertaken by GPs, 34% were undertaken by nurses and 4% by other clinicians. Whilst there is an increase in the proportion of consultations undertaken by nurses, this could easily reflect an increase in recording on computer by nurses as well as a true increase in the total numbers of patients seen by a nurse each year.
- There has also been a change in where consultations take place. In 1995, 86% of GP consultations were conducted in surgery premises, 3% were on the telephone, 9% were home

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visits and 2% were conducted at other locations. By 2008, 82% of GP consultations were conducted in surgery premises, 12% were on the telephone, 4% were home visits and 3% were conducted at other locations.

- Over the study period, the proportion of all consultations conducted on the telephone trebled and the proportion recorded as visits halved. However, this has to be set in context since the absolute rates of both telephone and visit consultations were low compared with surgery consultations. The decline in home visits is likely to reflect the changes in the delivery of out of hours care over the last 14 years including the formation of co-operatives for out of hours care and the removal of out of hours care from GP contractual responsibilities.

- Consultation rates varied markedly by age and sex and the highest rates were found in the elderly. For example, in 2008, the highest overall consultation rates occurred in the age band 85 to 89 years for both sexes (males 13.8 consultations per person-year, females 13.3 consultations per person-year). Consultation rates for females tended to be higher than those for males in general although the consultations rates for the extremes of age (i.e. the very young and the very elderly) were quite similar for males and females.

- This study had a very clearly defined scope and did not attempt to address more complex questions which are relevant to the primary care workload. For example, no account was taken of the complexity of consultations, the number of tasks undertaken within consultations, prescribing rates, referral rates, investigations or the co-morbidity of patients for whom the consultation has been undertaken – all of which are likely to have increased over the last 14 years. Such analyses are possible to some extent using the QResearch® database but were out of scope for this report.

- Similarly, this analysis does not take account of the duration of the consultation and this is likely to have increased over the study period as has been shown by the 2006/7 UK General Practice Workload Survey. QResearch® does not currently hold data on consultation length.

- Nonetheless, this analysis represents the largest longitudinal study of trends in consultations undertaken in primary care and is part of an ongoing series of analyses using QResearch®. The Department of Health first used data from this series of QResearch® analyses in its 2005/6 cost efficiency estimate to measure progress against its value for money Public Services Agreement target. The Office of National Statistics first used QResearch® consultation estimates data in the Blue Book 2007 which presents data on UK national accounts. Whilst this particular report has been written for The NHS Information Centre for health and social care, Department of Health and the Office of National Statistics, we expect the information contained within this report will have a wide utility.

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3. Tables

The tables associated with this report can be found in the accompanying Excel workbook, “Trends in Consultation Rates in General Practice 1995-2008 Tables.xls”

Table 1	Consultations, registered patients, person-years and consultation rates in England by calendar year.
Table 2	Age-sex structure in QResearch® in 2008 and the England 2001 census population.
Table 3	Number of consultations and consultation rates in England by age, sex and calendar year
Table 4	Number of consultations and consultation rates in England by clinician type and calendar year
Table 5	Number of consultations and consultation rates in England by location and calendar year (GPs only)
Table 6	Comparison of GP consultation rates between QResearch® in 2008 and General Household Survey (GHS) 2004
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Table 8	Estimates of the annual number of consultations for a typical practice and nationally
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Table 12	Estimates of the national volume of consultations and percentage growth in England using "method 6".
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Table 14	Number of consultations and % of GP consultations by location in England by location and year

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4. Background to QResearch®

QResearch® is now one of the largest aggregated general practice databases in the world. Version 22 of the database has over 40 million person years of observation from 573 practices spread throughout the UK with representation in every Strategic Health Authority and is current up to 31st December 2008. 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 1990's.
- It is also used to undertake analyses to inform the health service and clinical practice.
- The data quality has been examined and found to be of good quality [data quality reports available on website or from QResearch®].
- It contains socio-economic data [deprivation, rurality etc] linked to the patients postcode but without the postcode being extracted to preserve anonymity.
- It is regulated by an advisory board comprising of representatives of national professional and patient organizations.
- It is independent of the pharmaceutical industry.
- The custodians of the data are general practitioners and also senior academics who are able to give relevant clinical and scientific input into analyses.

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5. Objectives

The objectives of this report are to use QResearch® to produce:

- A basic description of the population and practices contributing to the analysis in terms of geographical location, list size and overall age-sex structure.
- An analysis of all consultations totals and rates by age and sex over each of the last 14 calendar years (1995 to 2008).
- An analysis of consultations totals and rates by health care professional [GP, nurse, other] over each of the last 14 calendar years (1995 to 2008).
- An analysis of consultations totals and rates by location [home visit, telephone, surgery, other] for GPs.
- An analysis of all rates using the person-years as the denominator term.
- Estimates of the number of consultations for a typical practice and nationally for England using three different methods.
- Estimates of the percentage growth in national consultations over the past 14 calendar years.

6. Method

1.1 Background to validation of QResearch®

QResearch® is an established clinical database containing the clinical records of almost 10 million patients ever registered with 573 practices over the last 17 years with just under 4 million patients registered in 2008. The information recorded on the database includes patient demographics (year of birth, sex, socio-economic data associated with postcode area), characteristics (height, weight, smoking status), symptoms, clinical diagnosis, consultations, referrals, prescribed medication and results of investigations. The database has been validated by comparing birth rates, death rates, consultation rates, prevalence and mortality rates with other data sources including the General Household Survey (GHS) and the General Practice Research Database[1]. The age-sex structure of the population has been compared with that reported in the 2001 census. We found a good correspondence for all of these measures (results available on request) although in some instances our prevalence figures[2] are marginally higher than less recent data. We have also compared practices taking part in regional research networks on these and other measures and found a good correspondence[3]. Detailed analyses have shown good levels of completeness and consistency[4]. Similar databases have been used for studies investigating risk factors for coronary heart disease[5-8] or effects of conventional NSAIDs[6]. In previous studies, clinical diagnoses have been confirmed by reviewing hospital discharge notes [7 8] or comparing with the paper based records[9] and found to be correct in over 90% of cases. In addition, QResearch® has been used to undertake research projects which have been published or accepted by international journals such as BMJ and the Lancet[2 10-16].

1.2 Version of database used

We used the 22nd national version of the QResearch® database for this analysis. This database contains data up to 31st December 2008.

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1.3 Study period

The study period covered 14 calendar years (1995 to 2008).

1.4 Practice inclusion criteria

To be included in the analyses practices had to satisfy the following inclusion criteria

- To have EMIS installed for at least two years prior to the 1st January in each year
- To have complete data for the whole of the analysis year
- To have a list size of at least 1000 patients
- To have a minimum overall consultation rate of 1 consultation per person-year (to exclude practices who do not use their computer systems for recording consultations)

The number of practices in each year therefore varied across the study period.

1.5 Patient inclusion criteria

In order to be included in the analysis, patients had to be registered with the practice at any point during the relevant analysis year.

Therefore this definition includes patients of all ages and recently registered patients. Temporary residents were excluded from the denominator and the numerator.

1.6 Main data extraction and rate calculations

We have extracted the practice-level annual data for each calendar year back to January 1995. Database version 22 contains refreshed historic data for practices which did not contribute data to previous versions of the database. Therefore the numerator, denominator and rates may be different from those described in previous reports.

1.7 Denominator terms

We have used the person-years of observation as the denominator term

1.8 Geographical location

We have produced all the data in tabular format for England only which may be found in the associated Excel workbook.

1.9 Case definition for consultations

Our working definition for a consultation was direct contact between a clinician and a patient. In EMIS, there is a specific table where all the consultations are recorded. When a GP (for example) starts a surgery, it is necessary to choose a location before it is possible to access the list of patients to be seen. This location can be changed within a session (if a GP goes on an emergency

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visit for example) but is a required field for all consultations. If a GP is entering data into a patients medical record when the patient is not present and when indirect or direct patient contact has not occurred, then this would be done via the 'medical records' option and would not be recorded as a consultation. The data recorded about patient contacts are highly likely to be robust since there are medico-legal issues regarding the accuracy of these data. Each consultation is defined by four fields:

- the patient
- the clinician
- the location
- the date

We only included data for consultations in the analysis where data for all four items were recorded and where the clinician and location types were 'valid' (see below for explanation).

The definition of a consultation used in this report specifically excludes events where there was no direct contact between the patient and clinician. In contrast to previous analyses of GPRD (outlined in the appendix of the blue GMS contract book), we have specifically excluded:

- Computer medical "record openings" where the patient was not seen (such as those which would be generated by a computerised audit)
- Repeat prescriptions where the patient was not seen
- Electronic pathology results

We excluded clinical activity associated with checking results of pathology tests. Most practices will receive a paper result and an electronic copy of pathology results. The electronic copy is assigned to a doctor and hence the workload associated with this activity could be measured electronically in practices with good electronic links systems. However, GPs tend to check laboratory results when the patient is not in attendance and hence this activity did not meet our definition for a consultation.

1.10 Definition of health care professional

Each practice has a default list of user types which it can assign to the clinicians who have access to the primary care system. This list can be edited by the practice. We categorised health care professionals into four groups. The clinicians included within each group are listed under the headings below. We excluded administrative staff such as receptionists, IT staff, secretaries and practice managers.

- **General Practitioner**
  GP Partners
  GP Principals
  GP Retainers
  GP Associates
  GP Registrar
  GPs with a special interest
  Co-op or out of hours doctors
  Locum
- **Nurses**
  Practice Nurses
  Nurse Practitioner
  Nurse Specialist
  Nurse Prescriber
  Midwife
  District Nurse
  Macmillan Nurses
  Health Visitor
  School Nurse
  Community Based Nurses

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- **Other clinicians**
  Pharmacists
  Doctors who are not GPs (e.g. consultants)
  Medical & Nursing Students
  Art Therapists
  Prosthetists & Orthotists
  Physiotherapists
  Speech & Language Therapists
  Orthoptists
  Chiropodists & Podiatrists
  Dieticians
  Operating Department Practitioners
  Biomedical Scientists
  Paramedics
  Radiographers
  Clinical Scientists
  Occupational Therapists
  Optician,
  Phlebotomist
  Vaccination Clinic
  Mental Health Care
  Other Health Care Workers
  Counsellor
  Acupuncturist
  Aromatherapist
  Reflexologist
  Psychologist
  RELATE
  Homeopath
  Social Worker

1.11 Definition for location of consultation

Each practice has a default list of locations which can be used to define a consultation. These can be edited locally by the practice. We categorised the location where the patient was seen into four broad groups. These were:

- Surgery
- Telephone
- Home visit
- Other locations

The category 'surgery' included a range of primary care premises from GP's surgery to primary care centres. We included nursing and residential homes within the 'home visit' category. The 'other locations' refers to locations which could not be categorised as either surgery, home or telephone. Examples of other locations include A&E, schools or colleges.

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1.12 Estimating the volume of consultations in England

We used a multiple regression analysis to estimate the national volume of consultations based on a method previously described by QResearch®, University of Nottingham, and Prof. Hugh Gravelle, York University which has been described elsewhere in detail17.

Our regression model included geographical region, practice size, rurality, standardised mortality ratio for patients aged under 65 years, mean Townsend score and estimated percentage of white patients. We were therefore able to investigate the effect of various practice characteristics on the practice age-sex standardised consultation rate using practice contributing to the QResearch® database.

Using all practices which had the EMIS system installed for at least two years, we fitted a weighted linear regression model for each year with the consultation rate (consultations per person-year) directly standardised by age and sex as the dependent variable. The explanatory variables were as follows:

- **Rurality:** This was a binary variable. A practice was defined as 'rural' if more than 50% of the patients had a postal code defined as rural.
- **Geographical region:** There are nine regions in England: the North East, North West, Yorkshire & Humberside, East Midlands, West Midlands, East of England, London, South East and South West.
- **Practice list size:** This was a categorical variable based on the national quartiles for each year calculated from data supplied by the Department of Health. We counted the number of patients registered at the practice at the beginning of the analysis year.
- **Standardised Mortality Ratio:** (SMR) for patients aged under 65 years.
- **Percentage white:** i.e. the estimated percentage of white patients in the practice using area level values at output area from the 2001 census
- **Mean Townsend score:**. Each patient was allotted as Townsend score based on the output area associated with their postal code based on 2001 census data.

We performed a series of linear regression models, one for each year, to obtain the estimated regression coefficients for each variable which we then multiplied by the national mean for that variable where available. This was possible because the regression analysis above had been weighted by the list size for each practices in the QESEARCH dataset (i.e. each practice had a separate weighting in the analysis).

We then summed the resulting product in order to estimate the mean consultation rate in each year. We then multiplied this mean consultation rate by the number of registered patients in England to estimate the national volume of consultations for each year.

We obtained the 95% confidence intervals by using the Stata lincom command. In determining the national mean of each variable in the model we used the following definitions:

- **Rurality:** the proportion of the English population registered in a practice where more than 50% of the patients live in rural areas. This information is not available for England so we used the proportion of the English population who live in rural areas.
- **Geographical regions:** the proportion of the population of England living in each of the nine regions. We used the ONS mid-year population estimates.
- **Practice list size:** the proportion of people in England registered with practices categorised by the sizes described above. This information is not available so we used the proportion of practices in each of the quartiles, i.e. 0.25.
- **SMR:** the SMR for all people in England aged under 65 years. This is 100 by definition.
- **Percentage white:** the percentage of the population of England who are white. We used the figure of 92.1% from the 2001 census for each year. (See http://www.statistics.gov.uk/glance/#population)

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7. Results

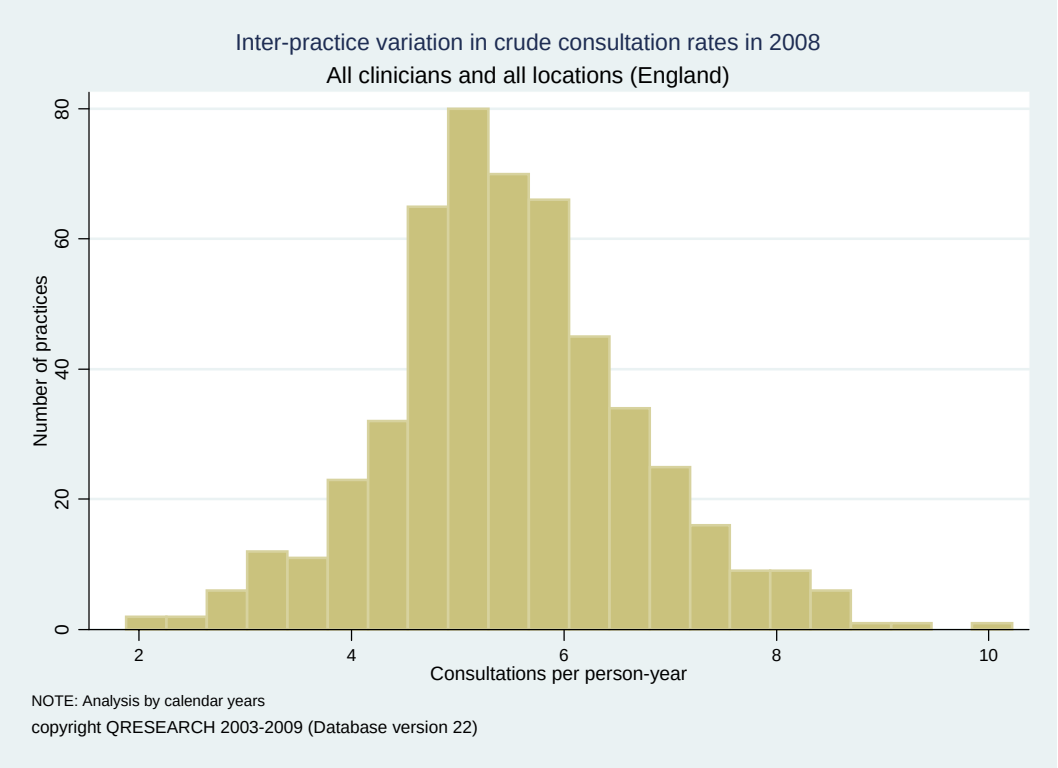
The tables associated with this report can be found in the accompanying Excel work book "Consultations report 20 calendar year 2008 v1.1.xls"

1.13 Inter-practice variation in consultation rates

There was a registered population of 4.4 million patients and a total of 21.9 million clinical consultations during 2008. The median practice consultation rate (all clinicians and all locations) was 5.4 consultations per person-year (IQR 4.8 to 6.1).

Figure 1 shows the inter-practice variation in clinical consultation rates per person-year across the 503 practices in 2008.

Figure 1 Inter-practice variation in consultation rates in QResearch® in 2008



1.14 Study population

Table 1 in the accompanying Excel workbook shows the number of practices included in the analyses each year, the total number of registered patients, the total number of person-years, and the total number of consultations. It also shows the overall consultation rate per person-year, the median practice rate and the upper and lower quartile practice rates for each of the 14 calendar years for England.

Table 2 in the accompanying Excel workbook shows the age-sex structure of the registered population for 2008 in QResearch®. The overall age-sex structure is similar to the age-sex structure from the 2001 UK census. Overall, 48.9% of the QResearch® population were male and 7.8 % of the QResearch® population were aged 75 or older.

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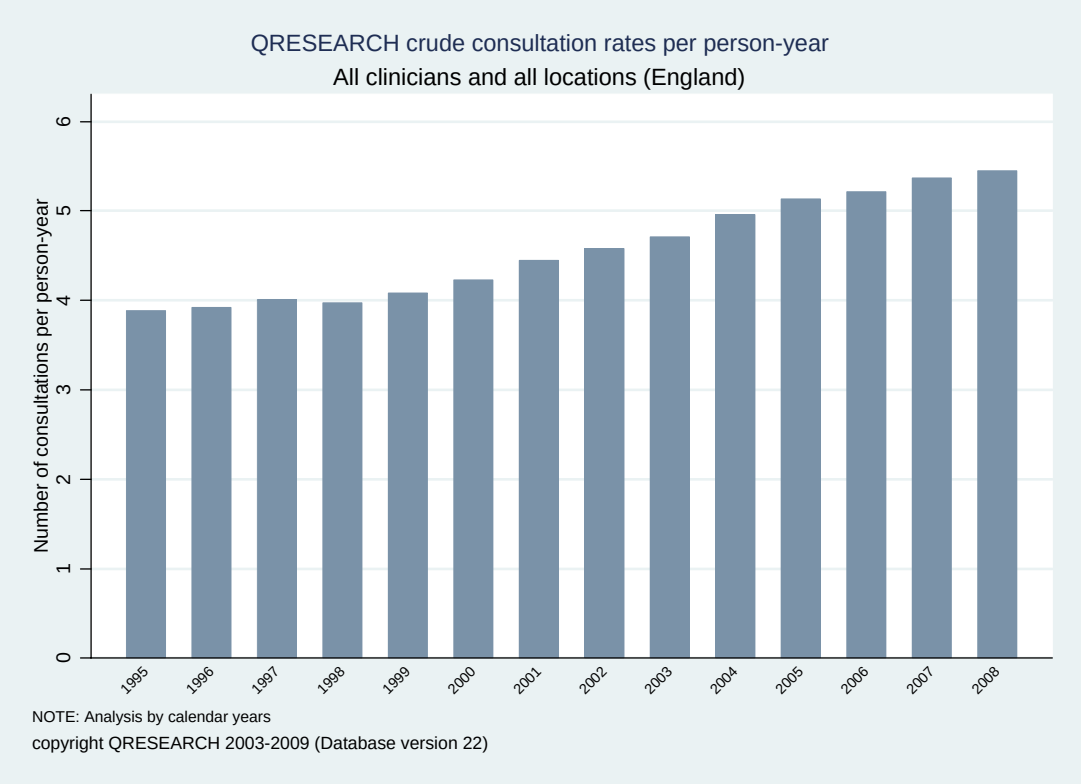
1.15 Consultation rates (all clinicians, all locations) over time

Table 1 in the accompanying Excel workbook shows the total population, consultations and consultation rates over the 14-year study period.

Overall, 191.4 million consultations over the study period met our inclusion criteria and were included in the analysis. In 1995 there were 3.3 million consultations for a population of 919 thousand registered patients (848 thousand person-years of observation) from 108 practices. In 2008, there were 21.9 million consultations for a 4.4 million registered patients (4.0 million patient-years of observation) from 503 practices.

Figure 2 shows the overall (i.e. all clinicians and all locations) crude consultation rates in England by calendar year. The overall crude consultation rate in England rose from 3.9 consultations per person-year in 1995 to 5.4 consultations per person-year in 2008. The overall median practice rate rose from 4.1 consultations per person-year in 1995 (with inter-quartile range (IQR) 3.4 to 4.8 consultations per person-year) to 5.4 (IQR 4.8 to 6.2) consultations per person-year in 2008.

Figure 2 Change in crude consultation rate in England by year using QResearch®



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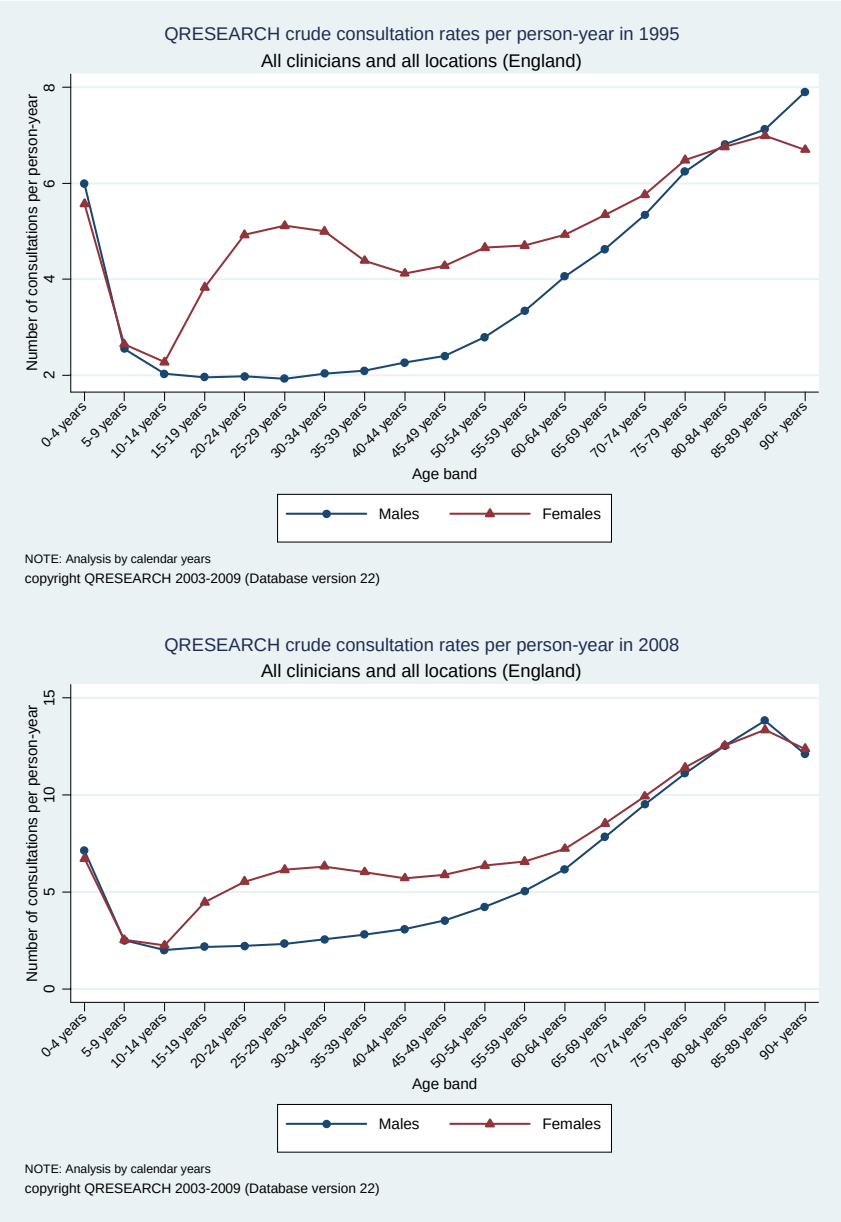
1.16 Consultation rates by age and sex

Figure 3 (and table 3 in the accompanying Excel workbook) shows the age-sex specific consultation rates (all clinicians and all locations) in England in 1995 and 2008. In 1995 the highest consultation rates were 7.9 per person-year for males aged 90+ years and 7.0 per person-year for females aged 85 to 89 years. The highest median practice consultation rates were 6.8 (IQR 4.9 to 8.5) per person-year for males aged 85 to 89 years and 6.8 (IQR 5.4 to 8.3) per person-year for females aged 80 to 84 years.

In 2008 the highest rates were 13.8 per person-year for males and 13.3 per person-year for females, both in the 85 to 89 year age band. The highest median practice consultation rates were 12.9 (IQR 10.2 to 16.1) per person-year for males and 12.5 (IQR 9.9 to 15.2) per person-year for females, again both in the 85 to 89 year age band.

Consultation rates for females tended to be higher than those for males in general except in the consultations rates for the extremes of age (i.e. the very young and the very elderly).

Figure 3 Overall consultation rates by age and sex in England in 1995 and 2008 using QResearch®



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1.17 Consultation rates by health care professional

Figure 4 (and table 4 in the accompanying Excel workbook) shows the overall crude consultation rates in England by clinician type between 1995 and 2008. The consultation rate for GPs remained almost constant over the study period with 3.0 consultations per patient-year in 1995 and 3.4 in 2008. The median practice consultation rate for GPs was 3.2 consultations per person-year (IQR 2.6 to 3.6) in 1995 and 3.4 consultations per person-year (IQR 3.0 to 3.9) in 2008.

The consultation rate for nurses increased from 0.8 consultations per patient-year in 1995 to 1.9 in 2008. The median practice consultation rate for nurses was 0.8 consultations per person-year (IQR 0.4 to 1.2) in 1995 and 1.8 consultations per person-year (IQR 1.3 to 2.3) in 2008.

The consultation rate for other clinicians increased from 0.1 consultations per patient-year in 1995 to 0.2 in 2008. The median practice consultation rate for other clinicians increased from 0.004 consultations per person-year (IQR 0.0 to 0.09) in 1995 to 0.02 consultations per person-year (IQR 0.0 to 0.1) in 2008.

Figure 4 Overall consultation rates in England by clinician type and year in QResearch®

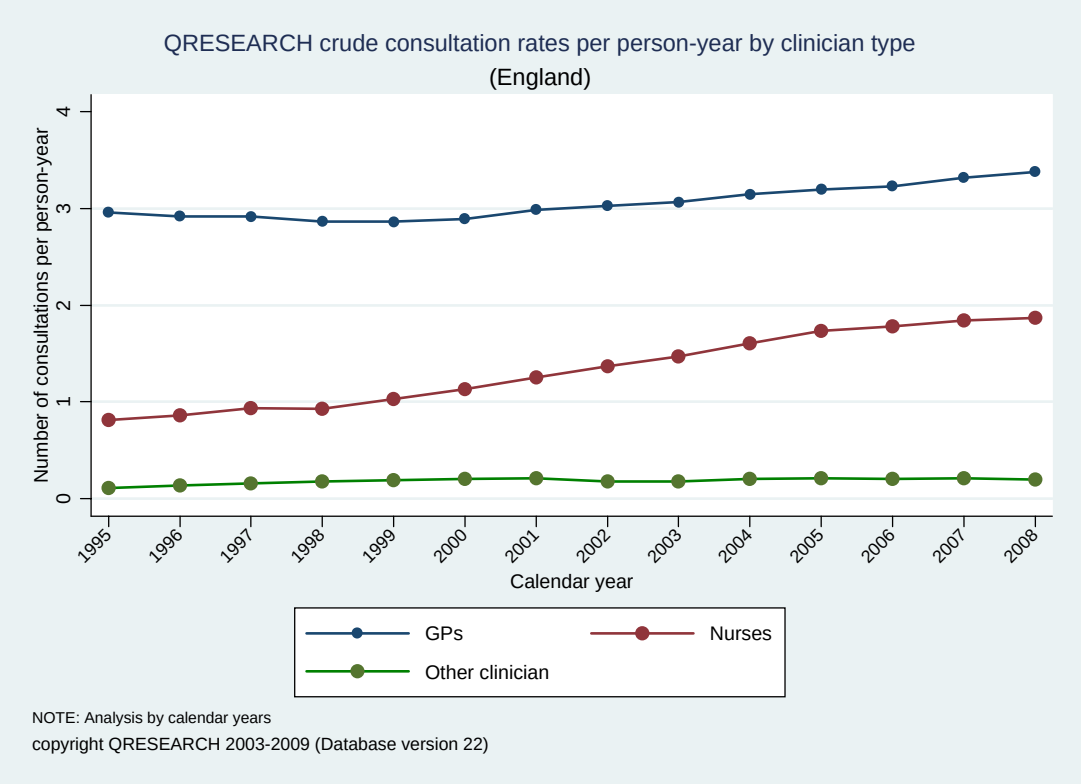

Figure 5 shows the percentage of consultations undertaken by GPs, nurses and other clinicians in England in 1995 and 2008. Of all the consultations recorded in 1995, 76% were undertaken by GPs, 21% by nurses and 3% by other clinicians. In 2008, 62% were undertaken by GPs, 34% were undertaken by nurses and 4% were undertaken by other clinicians.

There was a clear change in the proportion of consultations recorded by clinician type with a relative increase in the proportion of consultations recorded by nurses over the study period. It is impossible to know whether this is an increase in recording or a true increase in consultation rates. The most likely explanation is a combination of both.

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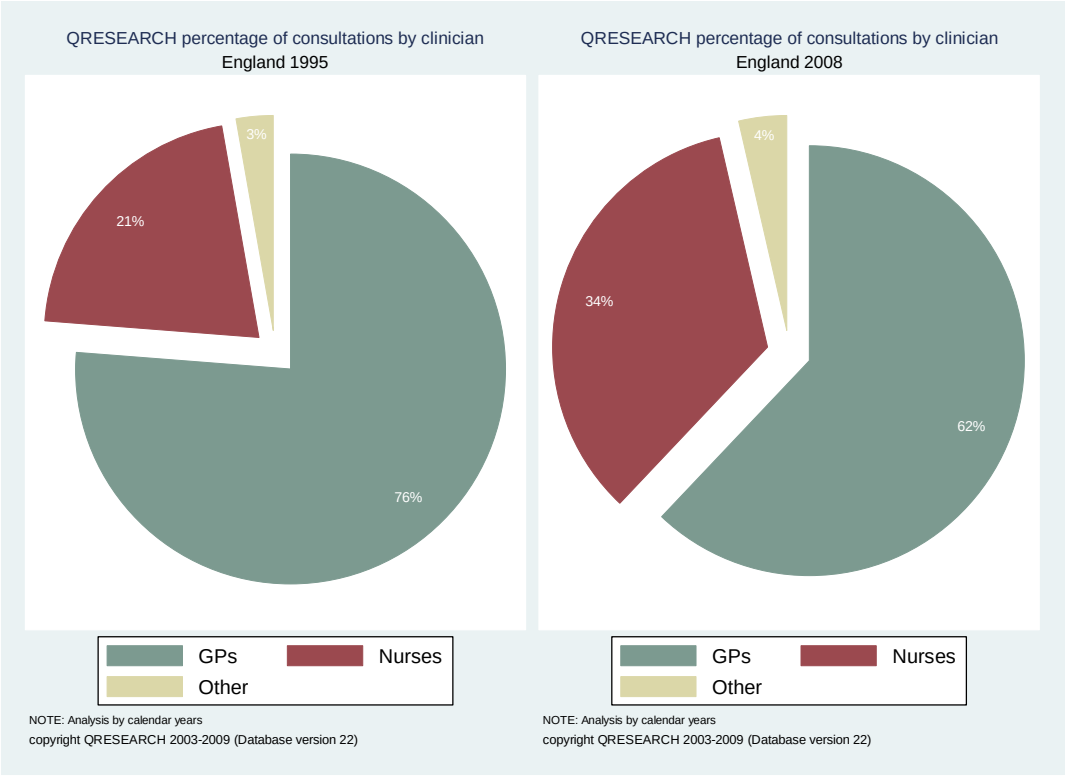
Figure 5 Percentage of consultations by clinician type in 1995 and 2008 using QResearch®



1.18 Consultation rates by location (GPs only)

Table 5 in the accompanying Excel workbook shows the crude GP consultation rates in England by location over the study period. The crude surgery consultation rate for GPs remained fairly constant with 2.6 surgery consultations per patient-year in 1995 and 2.8 in 2008. The median practice surgery consultation rate was 2.7 consultations per person-year (IQR 2.2 to 3.1) in 1995 and 2.8 consultations per person-year (IQR 2.5 to 3.2) in 2008.

There was a gradual rise in crude telephone consultations rates for GPs from 0.09 consultations per patient-year in 1995 to 0.4 in 2008. The median practice telephone consultation rate increased from 0.05 consultations per person-year (IQR 0.02 to 0.1) in 1995 to 0.3 consultations per person-year (IQR 0.1 to 0.5) in 2008.

There was a gradual fall in GP home visit crude rates from 0.3 consultations per patient-year in 1995 to 0.1 per patient-year in 2008. The median practice home visit consultation rate decreased from 0.3 consultations per person-year (IQR 0.1 to 0.4) in 1995 to 0.1 consultations per person-year (IQR 0.05 to 0.2) in 2008.

The crude GP consultation rate for other locations was 0.05 consultations per patient-year in 1995 and 0.10 per patient-year in 2008. The median practice rate increased from 0.02 (IQR 0.0 to 0.06) consultations per person-year in 1995 to 0.03 (IQR 0.0 to 0.09) consultations per person-year in 2008.

Figure 6 (and table 5 from the accompanying Excel workbook) shows the proportion of GP consultations in England by location in 1995 and 2008. In 1995 86% of GP consultations were conducted in surgery premises, 3% were on the telephone, 9% were home visits and 2% were conducted at other locations. In 2008 82% of GP consultations were conducted in surgery premises, 12% were on the telephone, 4% were home visits and 3% were conducted at other locations. (These do not sum exactly to 100% due to rounding).

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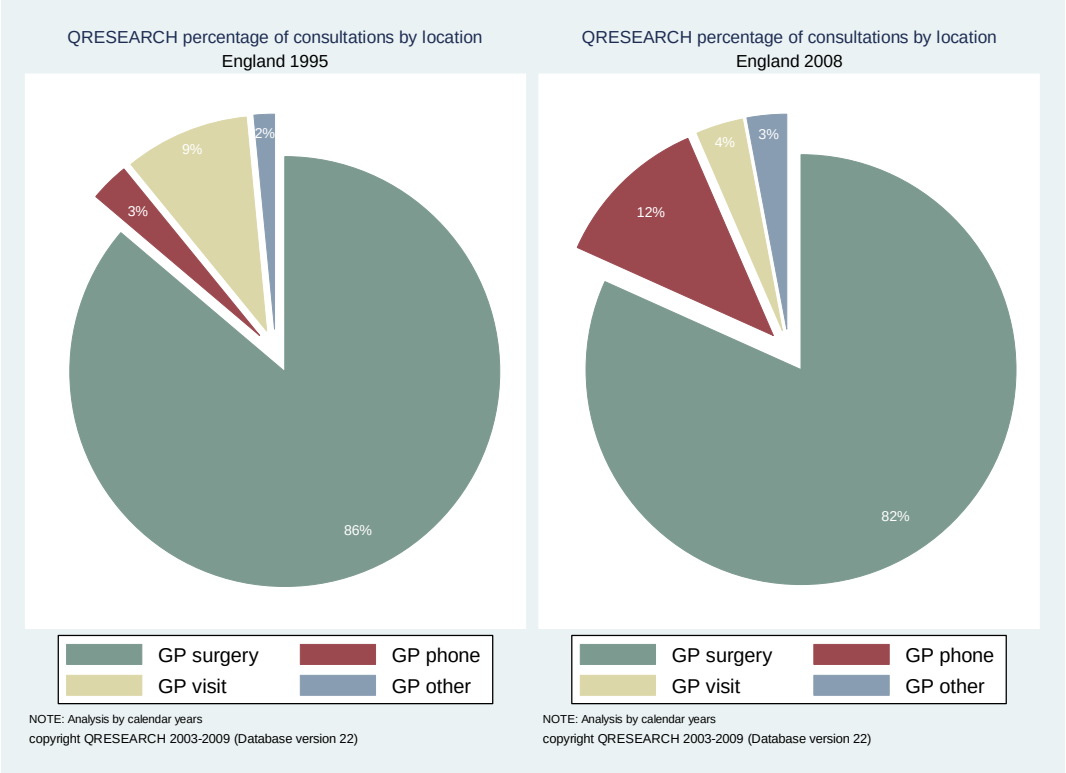
Over the study period, the proportion of all GP consultations conducted on the telephone trebled and the proportion recorded as visits halved. However, this has to be set in context since the absolute rates of both telephone and visit consultations were low compared with surgery consultations.

Figure 6 Percentage of GP consultations by location in 1995 and 2008 using QResearch®



1.19 Comparison with General Household Survey

We compared GP consultation rates in 2008 from QResearch® with the results from the General Household Survey (GHS) in 2004. Bearing in mind the different method for data collection (consultations recorded on the clinical system vs. patient recall from the last two weeks multiplied by 26) the overall results are broadly comparable as are the trends.

1.19.1 By age and sex

Figure 7 (and table 6 in the accompanying Excel workbook) compare the age-sex specific GP consultation rates in 2008 in QResearch® and the GHS 2004. This has been presented using the age bands for the GHS rather than the more detailed 5 year age-sex bands used earlier in this report. The GHS rates are per person and we have presented rates per registered patient and per patient-year from QResearch®.

We found a reasonable correspondence in the trend in consultation rates over age between the two although the consultation rates in QResearch® rates tended to be lower than those in the General Household Survey.

For example, the highest rate for GP consultations in the General Household Survey for 2004 was observed in females aged 65-74 and males aged 75 plus (7 consultations per person).

In QResearch®, the highest GP consultation rates were observed in females aged 75 plus (6.7 consultations per person) and in males aged 75 plus (6.2 consultations per person).

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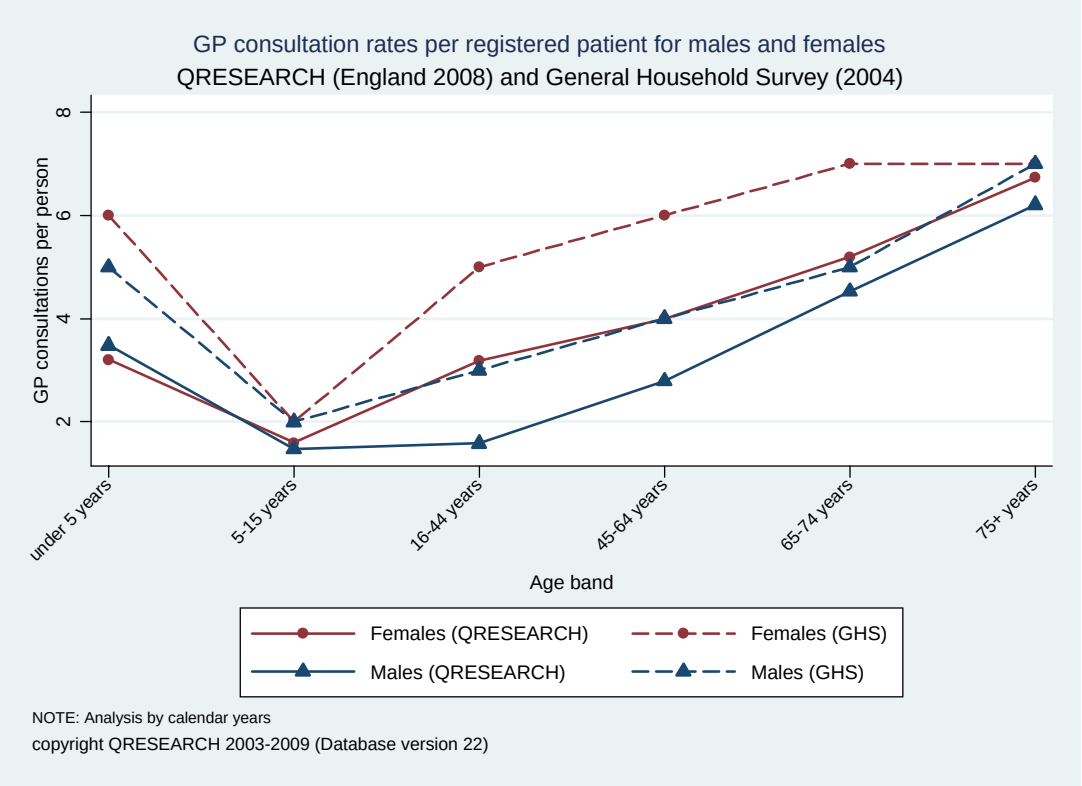
Figure 7 Comparison of GP consultation rates between QResearch® (2008) and the General Household Survey (2004) by age and sex



1.19.2 By location

Figure 8 (and table 7 in the accompanying Excel workbook) shows the percentage of GP consultations by location between QResearch® and the General Household Survey. The proportions of GP consultations conducted in the surgery were higher in QResearch® than in the GHS in each year except for 2003 and 2004 when GHS includes “other” category. Between 1998 and 2004 the percentage of GP consultations in the surgery decreased from 87.9% in 1998 to 85.4% in QResearch®. Over the same period the percentage of GP consultations in the surgery rose from 80.6% in 1998 to 87.0% in the GHS.

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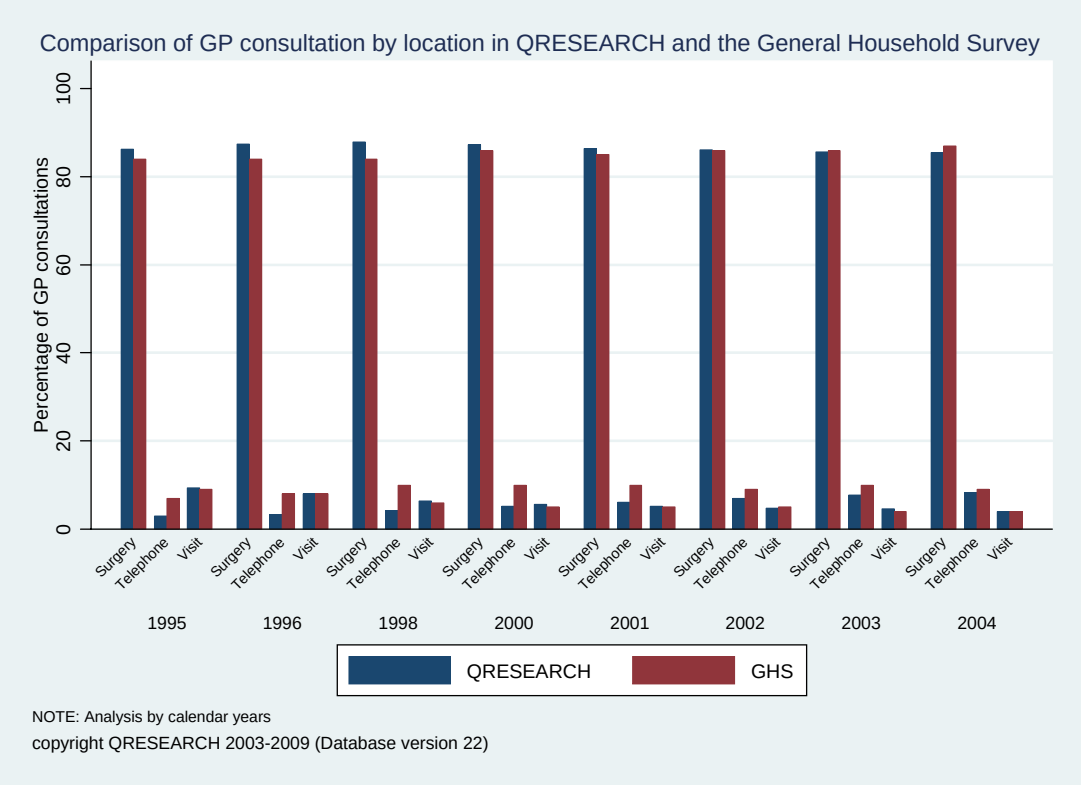
Figure 8 Comparison of GP consultations by location in QResearch® and the General Household Survey



1.20 Estimation of the number of consultations for the average practice and for England

The estimated number of consultations in a typical practice in England rose from 21,100 in 1995 to 34,200 in 2008.

We estimated the volume of consultations in England rose from 217.3 million (95% CI 197.7 to 237.0 million) in 1995 to 300.4 million (95% CI 290.9 to 309.8) in 2008.

The 95% confidence intervals for the percentage growth in consultations from the previous year generally contained zero, meaning that these are consistent with there being no significant increase in consultations each year.

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8. Discussion of Key Findings

- The analysis was based on 108 general practices (919 thousand patients) in 1995 and for 503 practices (4.4 million registered patients) in 2008. The average practice had 8,712 registered patients.

- The estimated number of consultations for a typical practice in England rose from 21,100 in 1995 to 34,200 in 2008.

- The estimated total number of consultations in England rose from 217.3 million (95% CI 197.7 to 237.0 million) in 1995 to 300.4 million (95% CI 290.9 to 309.8 million) in 2008.

- The average patient had 3.9 consultations each year in 1995 rising to 5.4 consultations each year by 2008.

- There has been a change in the proportion of patients seen by nurses in primary care. In 1995, 76% of consultations were undertaken by GP's, 21% by nurses and 3% by other clinicians. In 2008, approximately 62% of consultations were undertaken by GP's, 34% were undertaken by nurses and 4% by other clinicians. Whilst there is an increase in the proportion of consultations undertaken by nurses, this could easily reflect an increase in recording on computer by nurses as well as a true increase in the total numbers of patients seen by a nurse each year.

- There has also been a change in where consultations take place. In 1995, 86% of GP consultations were conducted in surgery premises, 3% were on the telephone, 9% were home visits and 2% were conducted at other locations. By 2008, 82% of GP consultations were conducted in surgery premises, 12% were on the telephone, 4% were home visits and 3% were conducted at other locations.

- Over the study period, the proportion of all consultations conducted on the telephone trebled and the proportion recorded as visits halved. However, this has to be set in context since the absolute rates of both telephone and visit consultations were low compared with surgery consultations. The decline in home visits is likely to reflect the changes in the delivery of out of hours care over the last 14 years including the formation of co-operatives for out of hours care and the removal of out of hours care from GP contractual responsibilities.

- Consultation rates varied markedly by age and sex and the highest rates were found in the elderly. For example, in 2008, the highest overall consultation rates occurred in the age band 85 to 89 years for both sexes (males 13.8 consultations per person-year, females 13.3 consultations per person-year). Consultation rates for females tended to be higher than those for males in general although the consultations rates for the extremes of age (i.e. the very young and the very elderly) were quite similar for males and females.

- This study had a very clearly defined scope and did not attempt to address more complex questions which are relevant to the primary care workload. For example, no account was taken of the complexity of consultations, the number of tasks undertaken within consultations, prescribing rates, referral rates, investigations or the co-morbidity of patients for whom the consultation has been undertaken – all of which are likely to have increased over the last 14 years. Such analyses are possible to some extent using the QResearch® database but were out of scope for this report.

- Similarly, this analysis does not take account of the duration of the consultation and this is likely to have increased over the study period as has been shown by the 2006/7 UK General Practice Workload Survey. QResearch® does not currently hold data on consultation length.

- Nonetheless, this analysis represents the largest longitudinal study of trends in consultations undertaken in primary care. Whilst it has been written for The NHS Information Centre for health

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and social care, Department of Health and the Office of National Statistics, we expect the information contained within this report will have a wide utility.

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