

THOR-GP input to HSE Annual Statistics 2008

Note on methods and on 'caveats' in interpretation

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HSE requested the 2008 annual statistics to be delivered in the same format (11 tables) as for the previous year.

This note has been produced to accompany the statistics and is in two parts: firstly to explain the methods used, and then to stress important 'caveats' that must be borne in mind when interpreting the data.

Methods

The GB incidence rate for 2008 has been calculated as follows with a working example shown in red. Sickness absence data is extrapolated to GB figures using the same methodology.

Step 1. Number of cases reported in 2008

125 cases, 5 of which were reported by sample reporters

Step 2. Cases reported by sample reporters are multiplied by 12 and added to the cases reported by core reported to give an estimated number of cases

$120 + (5 \times 12) = 120 + 60 = 180$ estimated cases

Step 3. Number of cases reported per GP.

This is calculated by taking the number of case reports and dividing it by the average number of GPs actively reporting each month (235 GPs reporting at a 70% response rate = 165 GPs).

$180 / 165 = 1.091$ cases per GP

Step 4. Adjusting for the part-time (PT) practice of THOR-GPs.

In May 2007 169 of the participating GPs were asked how many GP sessions they undertook each week, as part of an exercise to characterise the GP reporting denominator. (Another purpose of the survey was to determine their Continuing Professional Development needs and perceptions, since this information helps us improve the resources that we provide them to maintain their participation and help improve the quality of data that they provide). 131 GPs responded to this question and the total number of sessions = 930. If full time (FT) practice is 10 sessions per week this would mean that if all these GPs worked FT the number of sessions would = 1310, therefore our GPs work 71% of this. It was agreed with Dr Simon Warne, on behalf of HSE, that 131 GPs was a large enough sample to assume the PT/FT nature of the remaining GPs' practice. The number of cases per GP is then factored up to estimate FT practice reporting.

$1.091 / 71 \times 100 = 1.537$ cases per GP

Step 5. Extrapolating to GB figures.

As the THOR-GP cases have been adjusted to FT practice the figure for the number of Full Time Equivalent (FTE) GPs was used. For the previous year's statistics, this figure giving estimates for 2005 was taken from a RCGP information sheet 'Profile of UK general practitioners'(1). Efforts to update this figure involved contacting the health statistics providers for each of the three countries of GB. The most recent figure available for each country (England 2008 (2), Wales 2007 (3) and Scotland 2004 (1)) was combined to give the best possible estimate for the number of FTE GB GPs. The figure for cases per GP is multiplied by this number.

$$1.537 \times 36481 = 56,071 \text{ cases in GB}$$

Step 6. Calculation of incidence rates

This number of GB cases is then divided by the number of persons employed in GB = 28,205,446 (LFS 2007) and multiplied by 100,000 to give an incidence rate per 100,000 persons employed.

$$56,071 / 28,205,446 = 199 \text{ cases per } 100,000 \text{ persons employed}$$

Caveats

The prime aim of THOR-GP is to furnish incidence data on occupational disease and work-related ill-health. A cardinal component of this exercise is the quality of the denominator information. Although this is improving year on year through an iterative process, it has not yet reached the highest level of accuracy and sophistication that we envisage and are working towards, but figures 1-7 below suggest that the population covered by THOR-GP is representative of the GB population. The incidence data that we provide here has to be interpreted in context and with a great degree of caution, whilst anticipating more accurate information in future, especially as we start employing more direct methods of determining the denominator.

We would like to highlight our most salient assumptions, and share information relevant to these:

1. Representativeness of THOR-GP participants when compared to GB GPs in general.

Figure 1. Urban/rural classification of middle layer super output areas within England & Wales as a whole compared to THOR-GP practices

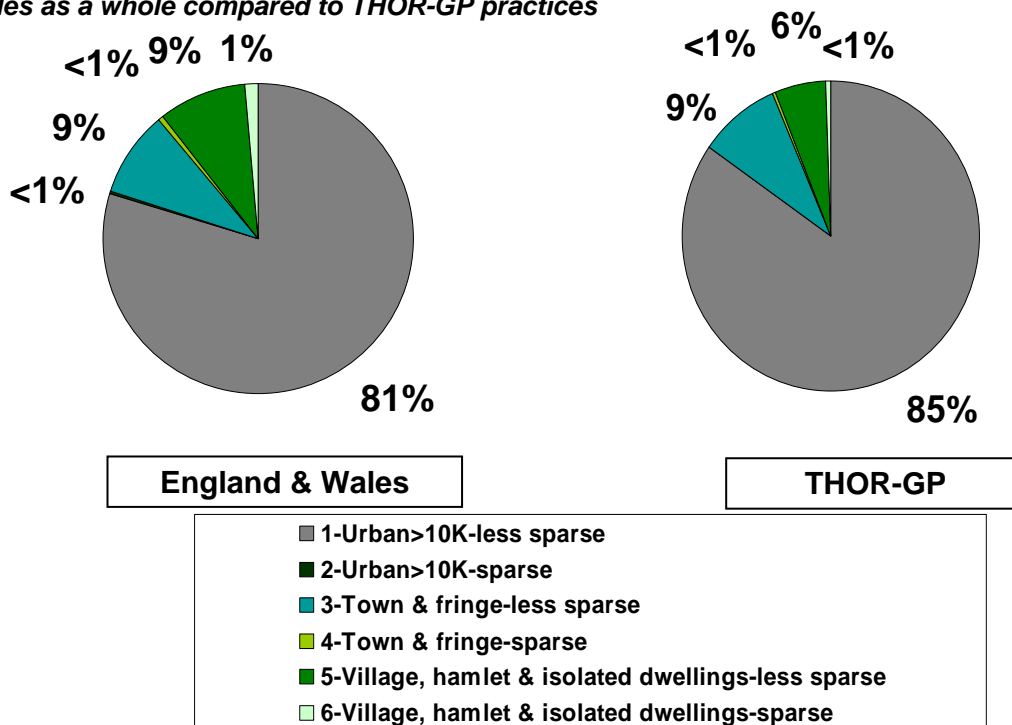


Figure 2. Urban/rural classification of datazones within Scotland as a whole compared to THOR-GP practices

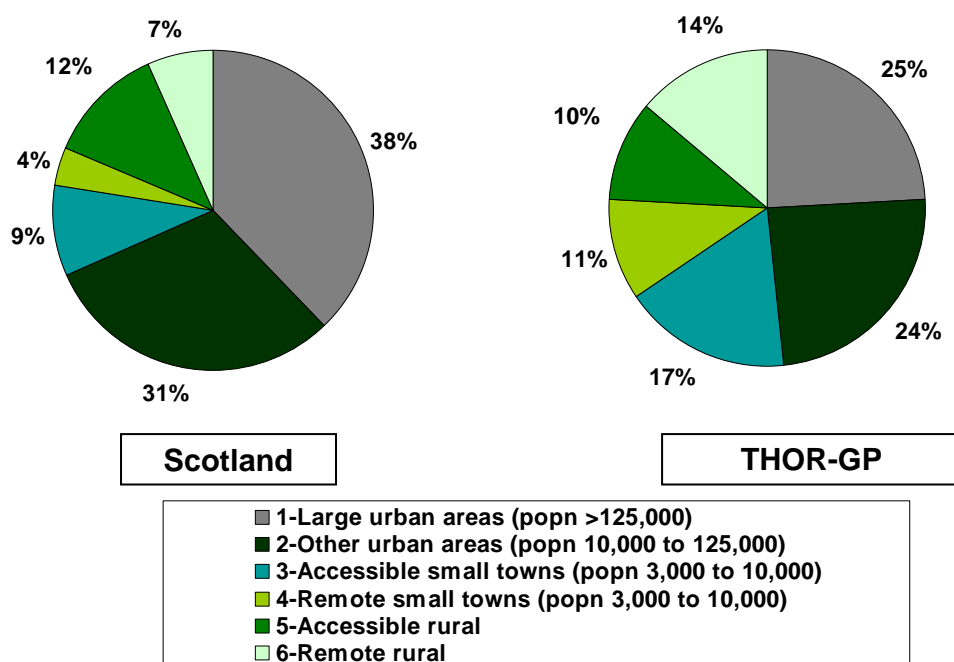


Figure 3. Local Authority group classification for England & Wales as a whole compared to THOR-GP practices

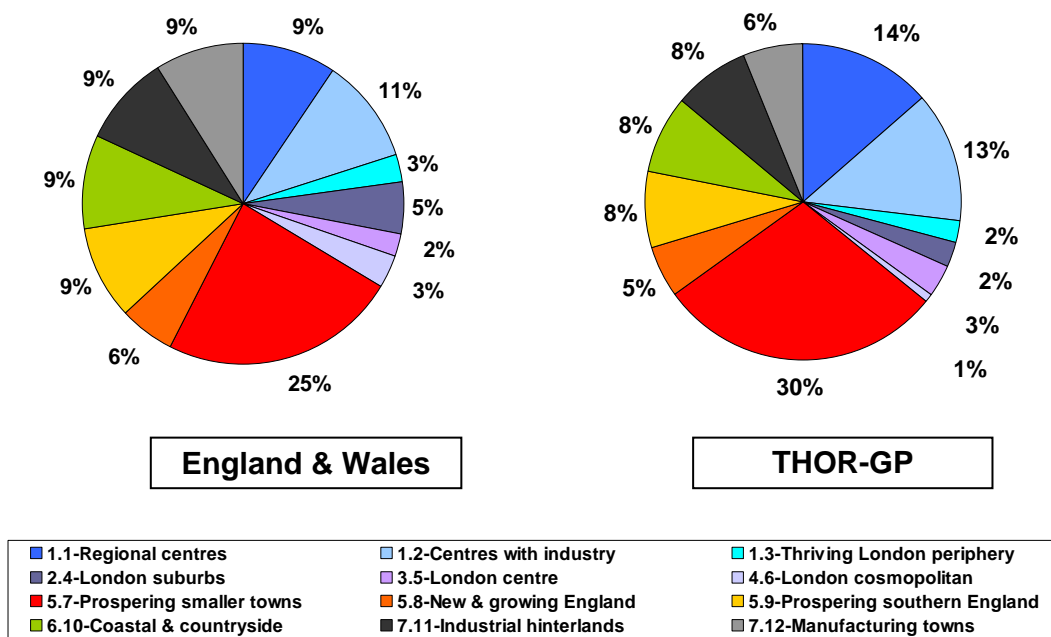


Figure 4. Local Authority group classification for Scotland as a whole compared to THOR-GP practices

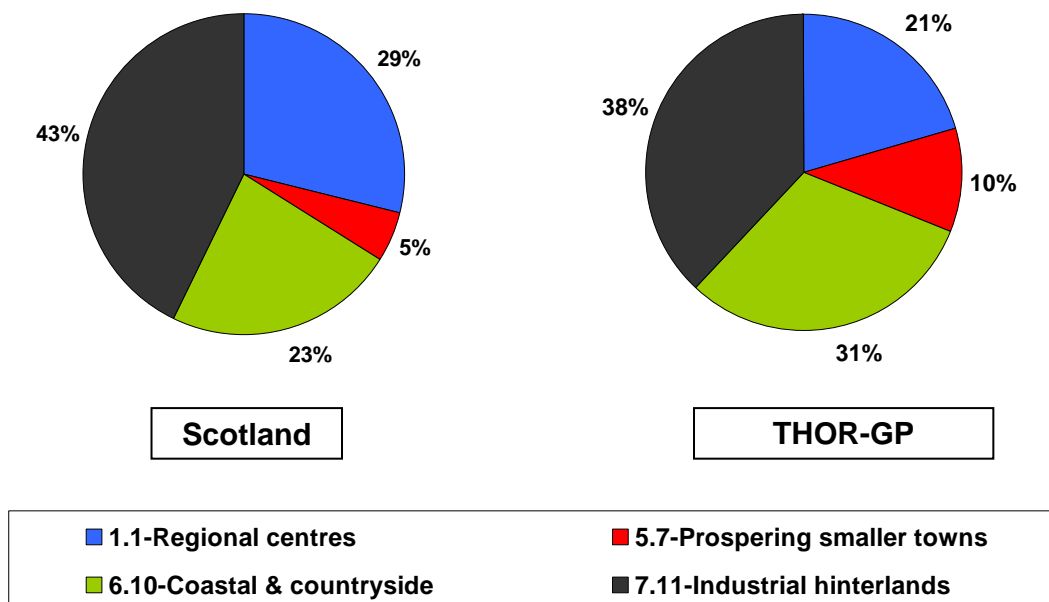


Figure 5. Industrial employment of GB population (LFS data) and output areas of THOR-GP practices (by proportion)

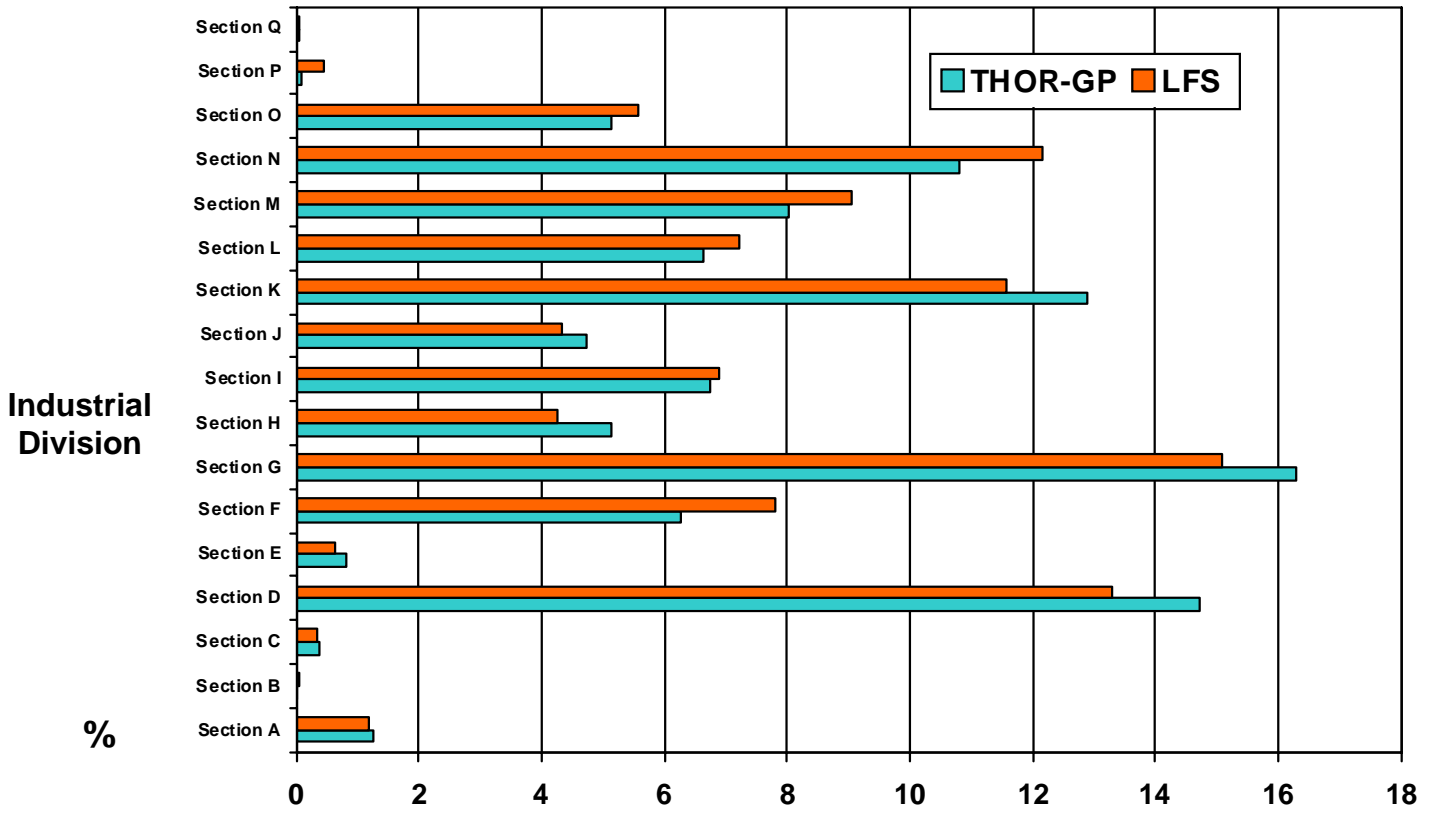


Figure 6. Gender of GB population (LFS data) and output areas of THOR-GP practices

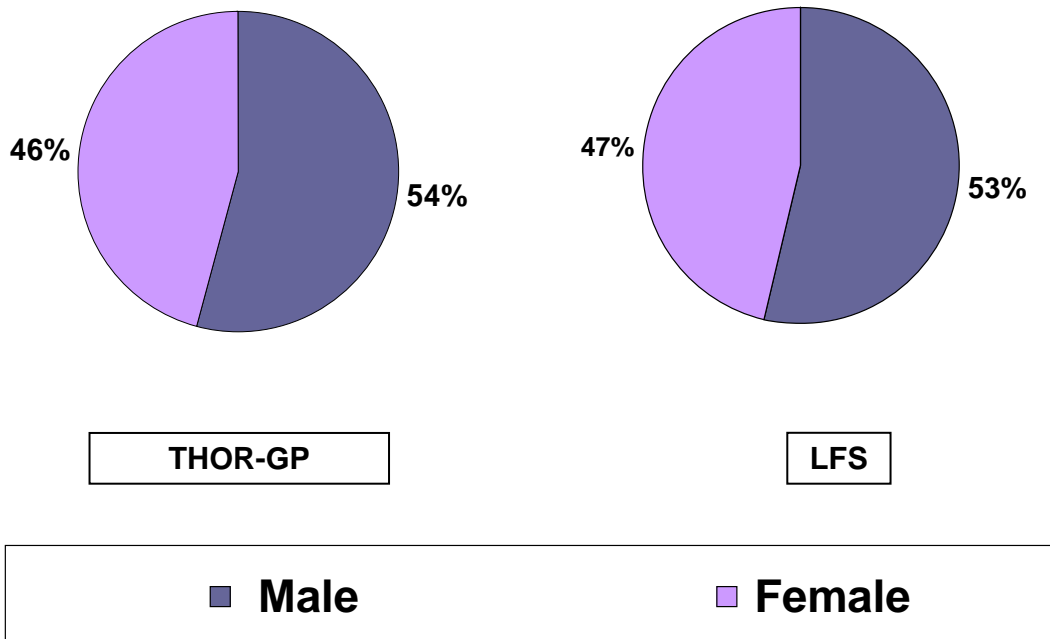
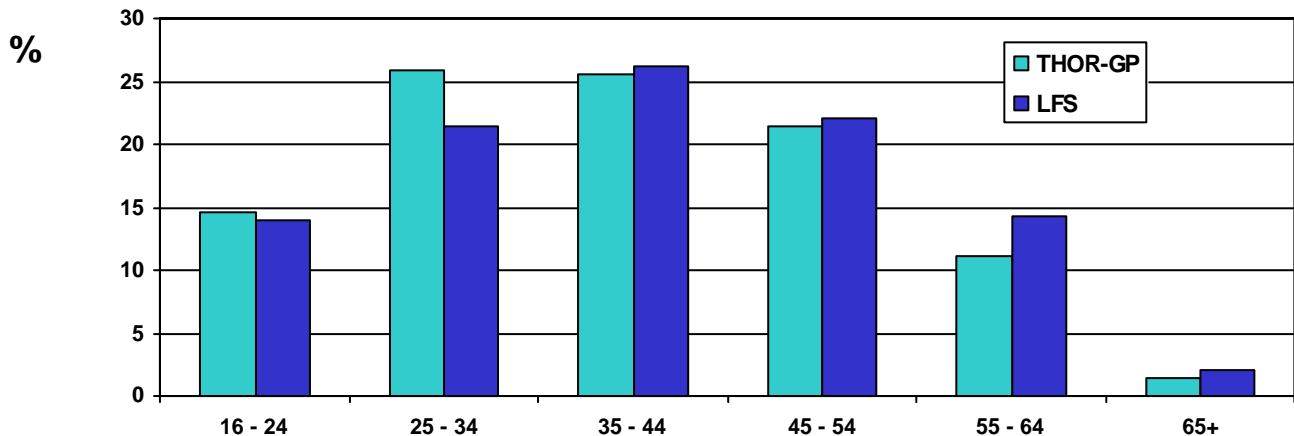


Figure 7. Age range of GB population (LFS data) and output areas of THOR-GP practices



2. Caveats:

The data, although more robust than in previous years has some figures that may be numerically limited, especially when broken down by industrial sectors. Although HSE has requested levels of 'analysis' which should provide useful interpretation once data from the whole duration of the project is collected, at this stage we would strongly caution against drawing conclusions on proportions or rates based on small numbers.

A small proportion (2008 figures: actual 1.4%, estimated 14.9%. 2006 to 2008 figures: actual 0.8%, estimated 8.8%) of THOR-GP cases are reported by GPs that participate on a sample basis i.e. for only one randomly selected month of the year. For the purposes of these summary tables their reports have been converted into an annual estimate by the simple expedient of multiplying by 12. However, work is still in progress to determine the validity of the assumptions underlying this. The findings will be reported once a sufficient analysis is complete.

Although the figures above suggest a representative THOR-GP patient population there may be issues related to the type of general practitioner participating in the scheme. We already know that our THOR-GP practices are NOT entirely representative of practices in the UK -for example there is a higher proportion of training practices reporting to THOR-GP, and our impression is that there is a lower proportion of single handed practitioners. These practices may offer better training and hence hopefully a higher diagnostic quality but the (quantitative) denominator is not representative. There is also a higher proportion of male GPs participating in THOR-GP than GB as a whole, and some initial analysis has suggested some differing patterns in behaviour (such as referral) between genders.

The number of cases reported by the THOR-GPs has been divided by 165 to give the number of cases reported by **active** reporters. This is based on a GP response rate of 70% in 2008 and assumes that the rate of cases of non-responders is the same as among the responders.

The sickness absence information provided is unadjusted. As previously discussed we consider that corrections need to be made in future to the estimates for various reasons, notably because of the need to convert from whole weeks to working days. Audits of samples of these data are in hand; to date 14% of all sickness absence cases have been audited and preliminary results from these have estimated that the total number of days sickness absence certified reported with the case submissions is approximately 40% of the days certified until the end of the actual sick leave. Participating GPs are asked to continue to submit information on further sickness absence issued to previously reported cases and the continuation of this may be difficult especially in cases of the long term sick. Therefore, caution has to be applied to the interpretation of these data at this stage.

1. Data from Profile of UK General Practitioners July 2006 and Profile of UK Practices May 2006 Royal College of General Practitioners

<http://www.rcgp.org.uk/InformationSheets>

2. General and Personal Medical Services, England 1998-2008. The Health & Social Care Information centre.

<http://www.ic.nhs.uk/webfiles/publications/nhsstaff2008/gp/Bulletin%20Sept%202008.pdf>.

3. Workforce statistics for General Practitioners in Wales, 1998 -2007

<http://new.wales.gov.uk/statsdocs/health/sb48-2008.pdf>