Short report

Growth and relative stability of the proportion permanently sick in English family health service authorities, 1981-91

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In the absence of morbidity data at the level of family health service authorities (FHSA), researchers and planners have to use the best proxy they can find. The 1981 and 1991 censuses both included a question which allowed respondents to categorise themselves as permanently sick. Morbidity measures often have only a partial coverage and so these data, while only measuring severe illness of a long term nature, are important. Nevertheless, use of census data is criticised in that it is collected infrequently and therefore could be misleading.

Both censuses included a question asking about the respondents' economic activity in the week before the census. We defined the permanently sick as residents in households, aged 16 and over who classed themselves as: (1) permanently sick or disabled (question 10, 1981¹), or (2) unable to work because of long term sickness or disability (question 13, 1991²).

A straightforward comparison between the proportions in 1981 and 1991 is not possible because the denominator, namely "residents in households", has changed slightly between censuses. The 1991 resident base is larger than that for 1981 in that it includes residents in "wholly absent" households where no contact was made by the enumerator.² The number of

residents in these households has been calculated from two sources:

- (1) Wholly absent household residents who returned a complete census form upon their return home and who were then classed as wholly absent household residents enumerated.
- (2) Wholly absent household residents who were never contacted but whose numbers were "imputed" by the Office of Population Censuses and Surveys based on data collected by the enumerator about the household and for "similar" absent enumerated households.

Across the range of English FSAs, the proportion of residents in households that were imputed varies from 0.5% in Dudley to 12.0% in Kensington, Chelsea and Westminster (which is exceptional) but other London authorities show figures around 6 to 8%. This shows the importance of matching the two different population bases. With regard to the permanent sickness measure it was important to remove the imputed residents from the 1991 base since they did not complete a census form and hence did not answer question 13. The age structure of these "imputed" residents is given in census table 18 of the "local based statistics" which enabled the "imputed residents over 16 to be removed.

While the "wholly absent household residents enumerated" should also be removed to match exactly the population used in 1981, there is no separate information given in the census tables on their replies to the question on permanent sickness. Thus, their removal from the denominator when calculating the proportion of permanently sick would be incorrect as we have no way of removing them from the numerator. Their inclusion is not a serious problem since the proportion of wholly absent enumerated households (ranging from 1.9% to 3.4%) is much lower than the proportion of imputed household residents. We therefore included them in the 1991 count with the knowledge that the population base for 1981 was slightly different.

The figure shows the 1981 and 1991 figures for each of the 90 FSAs in England. In 1981 the rate of permanent sickness for England was 1.7% and in 1991 it was 3.53%. While the base population rose by 3.7% the numbers of

Consistency of the percentage of permanently sick residents aged 16 years and over in households in 1981 and 1991.

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Accepted for publication
September 1994

permanently sick increased by over 115%. The number of people on invalidity benefit has risen in a similar way, from 633 000 in 1980/81 to 899 000 in 1985/86,³ and to 1 306 000⁴ in 1990/91.

The correlation between the 1981 and 1991 rates was 0.95 ($p < 0.0005$). We examined the error in predicting the 1991 figure from the 1981 figure. A linear regression gave the model

$$PS(1991) = 2.831 PS(1981) - 1.159$$

The 1991 value for each FHSA was calculated from the corresponding 1981 figure and the differences between predicted and observed values was calculated. Apart from Cornwall, Devon and Dorset (overestimated by over 1.5, 1.2, and 1.1 percentage points respectively) and St Helens and Knowsley and Liverpool (underestimated by 1.5 and 1.1 percentage points respectively) all predicted values were within one percentage point of the true value

and 55 of them were within 0.5 percentage points.

Conclusion:

The proportion of people reporting themselves as permanently sick has risen dramatically between 1981 and 1991 but the relative distribution between FHSA's in England has remained fairly stable. We can feel moderately confident about using the 1991 permanent sickness figures until the next census.

The Prescribing Research Unit is funded by the Department of Health.

The 1981 and 1991 census data are Crown copyright, ESRC purchase.

1 Office of Population Censuses and Surveys. *1981 Census definitions Great Britain*. London: HMSO, 1981.

2 Office of Population Censuses and Surveys. *1991 Census definitions*. London: HMSO, 1992:5–6.

3 Department of Social Security. *Social security statistics 1991*. London: HMSO, 1992.

4 Department of Social Security. *Social security statistics 1993*. London: HMSO, 1994.