

## Key messages

- After primary treatment is completed women with breast cancer are usually followed up for some years
- Broadly, the goals of follow up are to detect recurrence, detect new contralateral primaries, and provide psychosocial support
- For women who are free of disease, general practice follow up was not associated with increased time to diagnosis of recurrence or deterioration in health related quality of life

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## Deprivation payments to general practitioners: limitations of census data

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**The census data from which deprivation payments have been calculated since June 1995 suffer from limitations including underenumeration; under counting of homeless people and refugees, and artefactual errors because of the way in which the 1991 census data were tabulated. These limitations reduced the fairness of the changes that many practices experienced in their deprivation payments. The validity of the current system of deprivation payments would be improved if these limitations were borne in mind when allocating payments to practices and if enumeration districts were used as the basis of payments rather than electoral wards.**

In June 1995 the Department of Health started to use 1991 census data to allocate deprivation payments to general practices, and for many practices this resulted in large changes in their deprivation payments.<sup>1</sup> Because of changes in social deprivation between the 1981 and 1991 censuses, some changes in the deprivation payments to general practices were inevitable. However, the census data on which deprivation payments are based have limitations. We discuss the potential effect of these limitations on deprivation payments.

### Underenumeration

High levels of underenumeration occurred in areas with deprived, mobile populations, such as inner London.<sup>2</sup> The Jarman variables most strongly influenced by underenumeration will have been "unskilled," "unemployed," and "ethnicity." The Department of Health made no attempt to estimate the effect of underenumeration on Jarman scores, and it is not known what effect adjusting for underenumeration would have on deprivation payments to general practices in areas with high levels of underenumeration. Furthermore, inner city areas—and inner London in particular—have many refugees and homeless people, categories that were not well recorded in the census. These patients may add considerably to the workload of general practitioners, but the census will contain little information on them. For this reason, practices will not receive any additional deprivation payments to compensate them for the increased workload involved in looking after homeless people and refugees.

### Artefactual errors

Census data contain inaccuracies because of the way in which the data are tabulated.<sup>3</sup> Census variables, such as those included in the Jarman score, are calculated from tables of census data. The same Jarman variable can often be calculated from data in different tables, and different tables can give slightly different values of the Jarman variables. Moreover, one of the Jarman variables, unskilled, is based on an analysis of 10% of census records and is therefore subject to sampling error. These artefactual errors will have no effect on most census wards, but in wards that are close to the cut off points for the different levels of payment the errors may be sufficient to move a census ward up or down one

See editorial  
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### Potential effect on Jarman scores of sampling error in variable for unskilled

Census wards Churchdown (in Lewisham) and Milwall (in Tower Hamlets) have Jarman scores around 30—29.89 and 30.12 respectively (see table). Because Churchdown ward has a score of under 30, general practitioners with patients living in the ward do not receive any deprivation payments for these patients. Milwall ward, however, has a score just over 30, and general practitioners with patients in the ward receive lower level deprivation payments for patients living in the ward (£6.20 per patient—about £85 000 in total). Because the unskilled variable is estimated from a 10% sample of census records, it is subject to sampling error. Substituting the values for the upper and lower confidence intervals for this variable in the calculation of the Jarman score for the two census wards is sufficient to move ward Churchdown into the low deprivation payment category and Milwall into the zero deprivation payments category. For Churchdown ward this change would result in an increase of about £58 000 and for Milwall ward a decrease of about £85 000 in deprivation payments to general practitioners with patients in these wards.

Ward	Population	Unskilled* (95% confidence interval)	Jarman score	Modified Jarman score
Churchdown	9 432	4.62 (3.35 to 6.19)	29.89	28.31 to 31.58
Milwall	13 772	4.75 (3.67 to 6.03)	30.12	28.82 to 31.51

\*Percentage of people in ward who lived in households where head of household was from socioeconomic group 2.

deprivation payment category (box). For England and Wales as a whole, the deprivation payments gained by some wards will be balanced by the payments lost by other wards. For individual practices, however, the errors may have a dramatic impact on payments and introduce a considerable element of chance into the allocation of deprivation payments.

#### Changes in ward boundaries

Changes in ward boundaries between censuses can alter the census data for census wards even when there is no underlying change in the socioeconomic characteristics of these wards.<sup>4</sup> Such changes occurred in 114 of the 403 local authorities in England and Wales between the 1981 and 1991 censuses. Using enumeration districts to allocate

payments would reduce the impact of boundary changes on deprivation payments because they have smaller populations and greater internal homogeneity.

#### Ecological fallacy

Not all people living in deprived census wards will be deprived (the ecological fallacy). Enumeration districts are more homogeneous than census wards, and the ecological fallacy would be less important in a system that based deprivation payments on enumeration districts. However, the ecological fallacy will be present whatever geographical unit is used to allocate payments, with some practices receiving payments for patients who are not deprived and other practices not receiving payments for patients who are deprived. The ecological fallacy could be eliminated by using person based data about deprivation, but this is not yet possible.

#### Conclusions

Because of the limitations of census data, the changes in deprivation payments that took place in 1995 were inappropriate and arbitrary for many general practices. The effect of these limitations would be reduced if Jarman scores for enumeration districts were used to allocate the payments, or if the number of deprivation payment categories was increased.<sup>5</sup> Because of the inaccuracies and limitations of census data, health commissions should be given local discretion in the allocation of deprivation payments to general practices.

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### WHEN I USE A WORD . . .

#### Old chestnuts

Interviewing prospective senior house officers recently took us six hours. We asked the usual questions about careers and "Calmanisation" and sometimes asked about outside interests. One applicant's resumé recorded an interest in "unusual novels." What were they? He told us—"Carlos Castaneda." Had he known the origin of the surname he might have got it right.

Carlos Castaneda is an anthropologist who has written several books about the Yaqui Indians of southwest California and their use of peyote (*Lophophora williamsii*), Jimson weed (*Datura stramonium*), and mushrooms. He describes his hallucinations in mystic terms and has become a cult with those who enjoy "new age books for mind, body, and spirit," as the publishers Arkana Books advertise them. And his name? Well, it means a grove of chestnut trees.

The Greeks called a chestnut *kastanaion karuon*, the Castanian nut, perhaps from the city of Castanaia in Pontus or Castana in Thessaly. Hence, *castagna* in Italian, *castaña* in Spanish, *Kastanie* in German, *kashtán* in Russian . . . and chestnut in English. In French chestnut is *châtaigne*, but also *marron* (in Italian *marrone*); in Hebrew it is *armon*—coincidence or metathesis?

Castanets are little Spanish chestnuts, supposedly from their shape; but could it be from the noise that

roasting chestnuts make—in Italian "fare castagne" means to snap the fingers.

Besides the *Castanea*, other trees are called "chestnut"—for instance, *Aesculus hippocastanum*, the horse chestnut. You can see the horse by breaking off the leaf stalk, revealing a pattern resembling a horseshoe with nails. And according to Gerard, it was used to treat a horse's cough. Or perhaps the common name comes from the Welsh *gwresog*, meaning pungent (in contrast to the sweet chestnut). *Castanospermum australe*, the Moreton Bay chestnut, has seeds that resemble chestnuts. It is the source of castanospermine, a saccharidase inhibitor with activity against the human immunodeficiency virus.

An old chestnut is a well worn joke. Why? Supposedly because Captain Zavior, a character in a melodrama called *The Broken Sword* by William Dimond (1816), starts to tell a story about a cork tree, but is interrupted by Pablo, "A chestnut, Captain, a chestnut . . . Captain, this is the twenty-seventh time I have heard you relate this story, and you invariably said, a chestnut, till now." But Eric Partridge, in his *Dictionary of Historical Slang*, suggested that it might be something to do with roasting chestnuts, connected with the phrase "do it brown," to prolong a joke. Which brings us back to Carlos Castaneda. . . .—JEFF ARONSON is a clinical pharmacologist in Oxford