

# GP income in relation to workload in deprived urban areas in the Netherlands

## Before and after the 1996 pay review

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**Background:** General practitioner workload is higher in deprived urban areas and for the elderly. This led to the introduction of additional GP payments regarding these patients, in the UK and in the Netherlands. This study examines whether this has resulted in more equal payment for work done in the Netherlands. **Methods:** GP workload and income have been assessed on the basis of a survey among 1154 GPs (response: 62%). **Results:** suggest that total GP income is still lower in deprived areas, but per hour and per patient contact the additional payments gave equity. **Conclusion:** It is thus concluded that Dutch deprivation payments effectively compensate GPs in deprived areas for their higher workload.

**Keywords:** deprivation, economics, general practice, income

General practitioner (GP) workload is higher in deprived urban areas, for patients of low socio-economic status and for elderly patients.<sup>1-5</sup> In the UK, this has given impetus to additional payments for patients from deprived areas and for elderly patients. The deprivation payments are made for patients from deprived areas identified by a formula designed by Jarman.<sup>1</sup> The Jarman score is based on eight census-based area characteristics, like unemployment rate and crowded housing. In the Netherlands, differentiated capitation fees for patients from deprived urban areas and elderly patients were introduced in 1996. Also in the Netherlands, GPs in deprived urban areas had been shown to have a heavier workload than GPs elsewhere.<sup>6,7</sup> Since 1996, 9 million Euro has been available annually for deprivation payments, in order to make working in these areas more attractive and prevent GPs from leaving these areas. However, the review was introduced without having quantitative information on the size of the income differences between GPs in urban deprived areas and in other areas, given a certain workload. It is therefore unclear to what extent the pay review yielded more equal payments for equal workloads. The aim of this paper is to clarify this.

### METHODS

#### *Data and analyses*

Data were derived from a mailed survey among 1,851 GPs (response 62%), sent out in May 1997. The GPs were randomly drawn from a stratified (on deprivation index and urbanization of practice address) sample of all Dutch GPs (n=6,903 in 1997). Response rates varied between the five stratification cells from 59% in areas adjacent to identified deprived areas to 67% in non-urban areas with high deprivation scores. Respondents and non-respondents did not differ with respect to sex and type of practice, but respondents were one year younger than non-respondents ( $p<0.05$ ).<sup>8</sup> Non-response analyses for each stratification cell separately yielded similar results. In the analyses, respondents were weighted to resemble the national distribution of GPs over stratification cells.

The questionnaire provided information on number of privately and publicly insured patients on the GP's list and the number of hours worked (including home calls, consultations, patient-related administration and consultations with colleagues) and the exact number of people from deprived urban areas. The number of patient contacts was estimated by multiplying the number of publicly and privately insured patients on a GP's list with average contact rates for patients in deprived and non-deprived urban areas as observed in the Dutch survey of living conditions.<sup>9</sup> Percentages of patients over 65 in the practice population were derived from postcode data from Statistics Netherlands.<sup>10</sup>

#### *Computing GP incomes before and after the pay review*

The Netherlands has a mixed health insurance system in which 61% of the population (those with the lower incomes) is publicly insured. Higher income residents and the self-employed have private insurance. The 1996 review concerned the reimbursement for publicly insured

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patients only. Before 1996 there was a flat capitation fee for publicly insured patients, with a limit for practices with high numbers of publicly insured patients: only 60% of the capitation fee was paid for publicly insured patients exceeding a total of 1,600.<sup>11</sup> This changed in 1996, with the:

- introduction of additional payments for publicly insured patients from deprived areas (Euro 5.62) and for publicly insured patients over 64 (Euro 8.44) on top of a flat capitation fee (Euro 56.25);
- removal of the limit on the capitation fee, as it was especially unfavourable for GPs in deprived areas, with their large share of low-income patients.

For privately insured patients, GPs continued to be paid on a fee-for-service basis (Euro 15.90 for surgery visits, Euro 23.86 for home calls).<sup>12,13</sup>

Starting in 1996, 87 postcode sectors were designated as deprived urban areas (875,000 inhabitants, about 20% of the total population in all cities >100,000). Designation took place by ranking all highly urbanized postcode sectors according to an index based on the summation of the normalized values of mean income and percentage receiving social benefits, until a total number of 875,000 residents was reached.<sup>14</sup>

For each responding GP, incomes before and after 1996 were computed by combining the information on number of privately and publicly insured patients, percentage aged over 65, and percentage from deprived urban areas, the estimated contact frequencies for privately insured patients and the aforementioned fees.

Results are presented using five categories of practices, with proportions of patients from deprived areas ranging from 'none' to  $\geq 70\%$ . Pearson correlations were calculated to test whether the difference in income before and after 1996 was significantly related with the percentage of patients from deprived urban areas (continuous variable).

## RESULTS

Gross annual income of GPs with patients from deprived urban areas is lower than that of GPs elsewhere, both before and after the pay review, due to their smaller list sizes:<sup>8</sup> Euro 135,000 for the 'none' group and Euro 120,000 for the  $\geq 70\%$  group (after the review). However, the incomes of GPs with patients from deprived urban areas had risen more than those of GPs without such patients. GPs without deprived patients had a rise in income of around 4%. GPs, with 70% or more patients from deprived urban areas, had an average increase of 17%

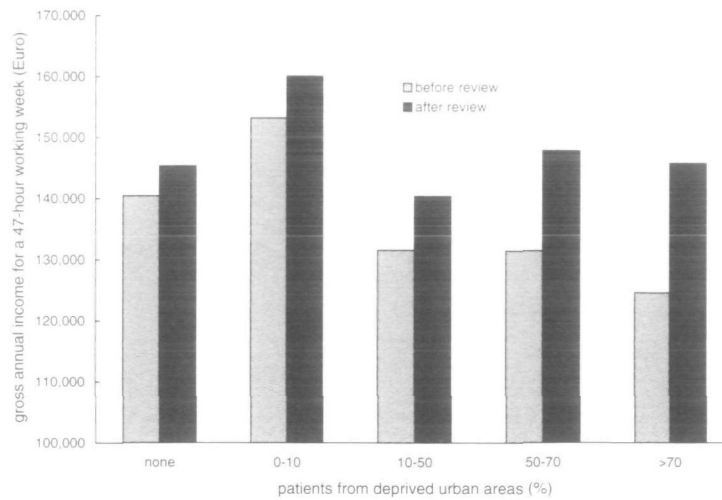


Figure 1 Annual income for an average GP working week (47 hours) before and after the 1996 pay review, by percentage of patients from deprived urban areas on the practice list

(increase significantly correlated with percentage of patients from deprived urban areas:  $r=0.32$ ,  $p<0.01$ ).

The annual income for a fictional 47-hour working week (the national average for GPs) was low for GPs in the deprived areas before the review (figure 1). Before the review, the average GP without patients from deprived areas earned Euro 140,400, whereas a colleague with more than 70% such patients earned Euro 15,860 less for the same working week. After the pay review, GPs with many patients from deprived areas, earn about the same as GPs without patients from such areas. The relative income rise was significantly associated with percentage of patients from deprived urban areas ( $r=0.36$ ,  $p<0.01$ ).

Before the review, the incomes per 100 patient contacts were clearly lower for GPs with many patients from deprived areas in comparison with other GPs (figure 2). Before the pay review the average GP without patients from deprived areas earned Euro 1630; a colleague with 70% or more such patients earned Euro 155 less. The pay review removed this discrepancy. The relative income rise was correlated significantly with percentage from deprived urban areas ( $r=0.50$ ,  $p<0.01$ ).

## CONCLUSION AND DISCUSSION

In 1996, the reimbursement system for general practitioners in the Netherlands was reviewed substantially in order to achieve more equal incomes for work done. One of the objectives was to compensate for supposedly lower incomes and heavier workloads in deprived urban areas. However, before the review was introduced, the size of the mismatch between workload and income in deprived urban areas was unknown. It was therefore unclear to what extent the pay review had removed this mismatch. Our study shows that, before 1996, the incomes were lower for GPs with (many) patients from areas of urban deprivation compared with other GPs, not only in terms of income actually achieved, but also in terms of hourly income and income per contact. The results suggest that



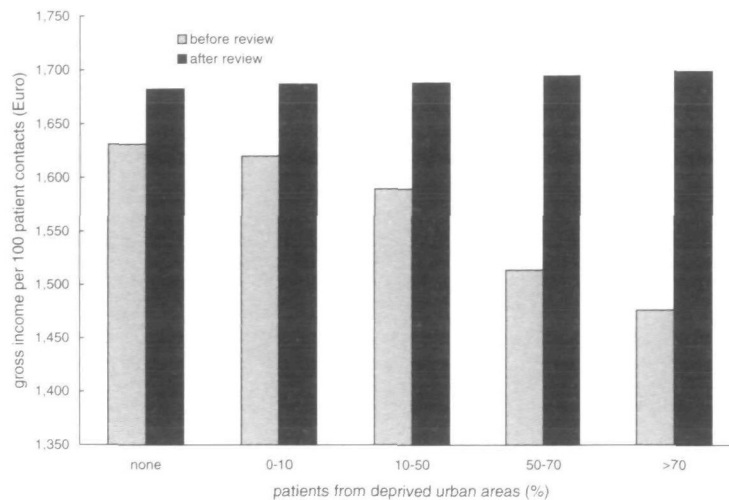


Figure 2 Mean income for 100 patient contacts before and after the 1996 pay review, by percentage of patients from deprived urban areas on the practice list

the pay review has largely removed the discrepancy between workload and income in deprived urban areas. A restriction of this study is that only two aspects of workload were included. Indeed, contacts lasting more than 10 minutes occur more often in (deprived) urban areas than in the rest of the Netherlands<sup>7</sup> and the same applies to contacts involving aggressive patients, or psychiatric problems.<sup>6,8</sup> On the other hand, GPs in deprived urban areas spend less of their time on home visits than GPs elsewhere, which may decrease GP workload in these areas.

A second limitation is that information on income from other activities and on expenses could not be included. As an earlier study shows, GPs from areas of urban deprivation have fewer additional sources of income, for example from medical examinations for companies and controls concerning sick leave of employees.<sup>8</sup> Furthermore, GPs in deprived urban areas employ more practice assistance, and therefore encounter higher costs.<sup>15</sup> Future studies should include such factors.

Despite its limitations, our study shows that the pay review has largely removed the discrepancy between workload and income for GPs in deprived urban areas. Future research will have to determine whether the income measures taken have indeed made working in deprived urban areas more attractive, and whether the decline in the provision of good GP services in these areas has been stopped. In connection with this, it would be interesting to investigate the extent to which such effects have occurred after the introduction of deprivation payments in the UK.

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