

## Tuberculosis in England and Wales

### Incidence of tuberculosis in London is rising against general recent trend

EDITOR.—The papers by N Bhatti and colleagues<sup>1</sup> and Punam Mangtani and colleagues,<sup>2</sup> are an important reminder of the relation between health and deprivation. Both papers highlight the increase in reported notifications of all forms of tuberculosis in England and Wales between 1986 and 1992. This increase continued into 1993, but the number of reported notifications of all forms of tuberculosis fell between 1993 and 1994.

I have looked at the notification data for England for 1993 and 1994. These show that the total number of notifications reported in 1994 was 4.6% lower than that in 1993 and 2.5% lower than that in 1992. The fall in the number of reported notifications of tuberculosis between 1993 and 1994 was not seen in all districts. If the districts are ranked according to the 1991 Department of Environment overall deprivation score those in the third with the highest deprivation scores reported 186 fewer cases in 1994 than in 1993 whereas those in the third with the lowest deprivation scores reported only two fewer cases in 1994 than in 1993.

A different picture emerges, however, if one looks only at notifications from London boroughs, which reported roughly 38% of all cases of notified tuberculosis in 1994. Despite the overall fall in reported notifications of tuberculosis from England between 1993 and 1994, there was a 6.8% increase in notifications from Greater London, with only 15 of the 33 London boroughs reporting fewer notified cases in 1994. If the London boroughs are ranked according to the 1991 Department of Environment overall deprivation score then those in the third with the highest deprivation scores reported 120 more cases in 1994 than in 1993 whereas those in the third with the lowest deprivation scores reported 25 fewer cases in 1994 than in 1993.

These data suggest that an encouraging fall in morbidity from tuberculosis occurred in England as a whole between 1993 and 1994 and that this fall was seen particularly in the more deprived areas of the country. Within London, however, the difference in morbidity from tuberculosis between the least and most deprived sections of the population increased between 1993 and 1994, with the rise in tuberculosis seen between 1986 and 1993 continuing in the most deprived areas of the capital while notification rates decreased in the least deprived areas.

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- 1 Bhatti N, Law MR, Morris JK, Halliday R, Moore-Gillon J. Increasing incidence of tuberculosis in England and Wales: a study of the likely causes. *BMJ* 1995;310:967-9. (15 April.)
- 2 Mangtani P, Jolley DJ, Watson JM, Rodrigues LC. Socio-economic deprivation and notification rates for tuberculosis in London during 1982-91. *BMJ* 1995;310:963-6. (15 April.)

### Define high risk behaviours, not high risk groups

EDITOR.—The two papers on factors influencing the reported incidence of tuberculosis in London and the United Kingdom provide valuable evi-

dence of the association of various indicators of socioeconomic deprivation with the disease.<sup>1,2</sup> I wonder, however, if confusion has arisen in combining risk groups with risk factors.

AIDS researchers and educators have pointed out the distinction, encouraging us to avoid talking in terms of high risk groups and to give attention to high risk behaviours.<sup>3</sup> Their reasons are primarily to discourage negative stereotypes (which may also be relevant to people with tuberculosis), but their insights may also be helpful in the development of an understanding of factors important in the incidence of tuberculosis.

Tuberculosis is a two stage process: infection occurs first and then progresses to disease. Tuberculosis is more common among economically disadvantaged people because they have a higher risk of infection or a higher rate of progression from infection to disease, or both. Socioeconomic indicators that classify people in risk groups, such as employment status and social class, are in general proxy measures for biological and behavioural risk factors that have a direct influence on rates of infection—for example, overcrowding and recent visits to areas of high endemicity—and rates of progression from infection to disease—for example, HIV infection.

In considering the role of socioeconomic disadvantage in tuberculosis I suggest that we should look more closely at specific risk factors and less at risk groups: the information gained may be of more value and may also help to avoid the stigmatising effect of unhelpful labels.

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- 1 Mangtani P, Jolley DJ, Watson JM, Rodrigues L. Socioeconomic deprivation and notification rates for tuberculosis in London during 1982-91. *BMJ* 1995;310:963-6. (15 April.)
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- 3 de Bruyn M. Women and AIDS in developing countries. *Soc Sci Med* 1992;34:249-62.

### Ethnic origin is more important than social deprivation

EDITOR.—The papers by Punam Mangtani and colleagues<sup>1</sup> and N Bhatti and colleagues<sup>2</sup> highlight the importance of poverty and overcrowding in the recent increase in rates of tuberculosis in Britain. The study by Mangtani and colleagues shows that overcrowding and the proportion of migrants were related to the average rate of notification of tuberculosis in 1981 but that only changes in unemployment were related to the rate of change in tuberculosis between 1981 and 1991. This period might, however, be better regarded as two distinct periods, with a decline in the rate of tuberculosis between 1981 and 1986 followed by an increase in the rate between 1987 and 1991. It would therefore be more useful to investigate how changes in migration and unemployment relate to changes in tuberculosis over this shorter period during which tuberculosis has been increasing. Studies have been limited by the available data as census data for all the variables under study are available for only 1981 and 1991.

The paper by Bhatti and colleagues shows two things: firstly, that nationally during 1988-92 the

increase in tuberculosis occurred mainly in the poorest tenth of the population and, secondly, that locally in Hackney the increase in tuberculosis occurred equally in white and non-white people. The authors suggest by inference that the increase nationally is likely to occur equally in white and non-white people and therefore that poverty is more important than ethnic group as a cause of the increase in tuberculosis in England and Wales. However, the situation in Hackney, which saw a 77% rise in tuberculosis in 1988-92, is different even from that in the most deprived tenth of the country, which saw a rise of 35% over the same period. In Hackney the rise due to the effect of new communities alone was 35% (the same as the rise in the poorest tenth of the national population), and it is therefore not possible to extrapolate from the data for Hackney to the national situation.

As the accompanying editorial points out, separating ethnic group from poverty is difficult, if not impossible.<sup>3</sup> Using data on metropolitan districts and London boroughs for 1991, we have recently studied the relation between the rate of tuberculosis, ethnic group (the proportion of households from the new Commonwealth), and social deprivation (as measured by the Jarman index with the ethnic factor removed).<sup>4</sup> Multiple regression analysis showed that, in London districts, ethnic group was more important in explaining the variation in the rate of tuberculosis ( $P < 0.001$ ) than the index of social deprivation ( $P < 0.015$ ). In the metropolitan districts ethnic group was highly significant ( $P < 0.001$ ) but the index of social deprivation was not significant ( $P = 0.211$ ) in explaining the variance in the rate.

Although this analysis does not fully solve the problems of separating ethnic group and poverty, it suggests that variations in ethnic group are more powerful than variations in social deprivation in predicting rates of tuberculosis. Both papers and the editorial are correct in pointing out that more research is required.

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- 1 Mangtani P, Jolley DJ, Watson JM, Rodrigues L. Socioeconomic deprivation and notification rates for tuberculosis in London during 1982-91. *BMJ* 1995;310:963-6. (15 April.)
- 2 Bhatti N, Law MR, Morris JK, Halliday R, Moore-Gillon J. Increasing incidence of tuberculosis in England and Wales: a study of likely causes. *BMJ* 1995;310:967-9. (15 April.)
- 3 Derbyshire J. Tuberculosis: old reasons for a new increase? *BMJ* 1995;310:954-5. (15 April.)
- 4 Doherty MJ, Spence DPS, Davies PDO. The increase in tuberculosis notification in England and Wales since 1987. *Tuber Lung Dis* (in press).

### Residence in an inner city is more important than ethnic origin

EDITOR.—The recent increase in the rates of notification of tuberculosis has called into question the effectiveness of current policies to control tuberculosis. Until we have a clearer understand-