

Study shows growing inequalities in health in Britain

Gavin Yamey *BMJ*

The inequalities in health between social classes are now the greatest yet recorded in British history, according to a study published this week. The study, by researchers at the Uni-

versity of Bristol, extends and updates the findings of the Black report to include data up to 1996. These show an even wider social class mortality gap than previously reported. The

life expectancy gap between social class I and V is now 9.5 years for men and 6.4 years for women. The researchers used a novel geographical analysis, comparing mortality at the parliamentary constituency level for the whole of Britain. Constituencies containing one million people aged under 65 with the highest mortality were compared with those with one million people with the lowest rates. Death rates for the first ("worst health") group were 2.6 times those for the second ("best health") group.

If the mortality had been equal, 71% of deaths would not have occurred during 1991-1995. Infant mortality was found to be twice as high in Salford, one of the worst health areas, than in south Suffolk, one of the best health areas. If infant mortality in babies born in the best constituencies had applied nationally, then 7500 infants would not have died in this same period.

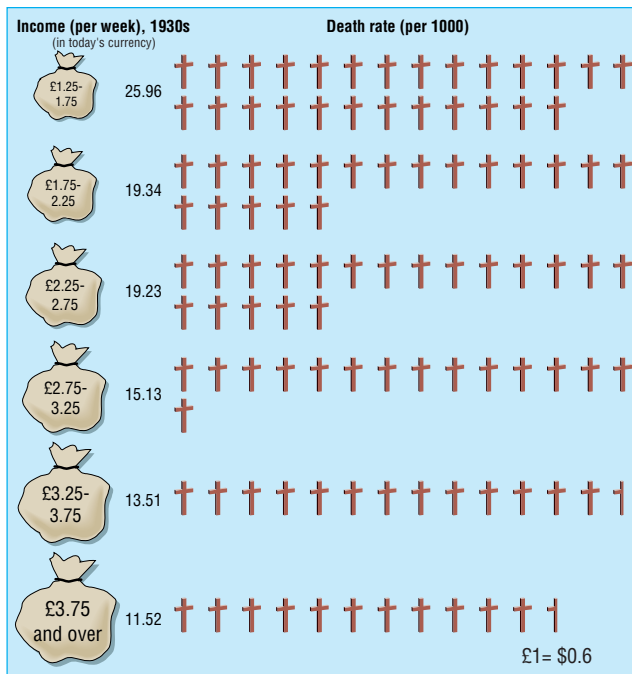
These health differences were explained in the study by growing socioeconomic differences. Average household incomes in the worst health areas were 70% of those in the best health areas. The report stated that "health

differentials are primarily related to the long term material well-being of social groups, not to the psychosocial effects of position in hierarchies."

The study's authors noted that the current government had expressed its desire to end health inequalities, but argued that a major fiscal policy initiative is needed. "The key policy that will reduce inequalities in health is the alleviation of poverty through the reduction in income and wealth inequality," they said. "Poverty can be reduced by raising the standards of living of poor people through increasing their incomes. The costs would be borne by the rich and would reduce inequalities overall."

Dr Daniel Dorling, one of the report's authors and reader in geography at the University of Bristol, said: "Despite pledging to reduce poverty, the current Labour administration has clearly reneged on its commitments regarding health made before the election as well as reneging on much of what key cabinet ministers wrote and said in the past." □

The Widening Gap: Health Inequalities is available on tel 01403 710851.



Link between lower income and higher mortality: as true today as in the 1930s

First human chromosome is sequenced

Susan Mayor *London*

The sequence of the first human chromosome to be decoded has been announced this week, with the publication in *Nature* of the DNA sequence for chromosome 22. The publication is the first milestone in the human genome project—a worldwide collabora-

tive effort to decipher the complete genetic code. Chromosome 22 is the second smallest of the 23 human chromosomes.

The information confirmed the efficacy of the sequencing methods. It also gave new information for locating genes associated with specific diseases and on how the chromosome evolved, with the finding of eight regions occurring in duplicate.

Lead researcher Dr Ian Dunham, senior research fellow at the Sanger Centre, in Cambridge, said: "With the

sequencing of chromosome 22, we have achieved the longest sequencing of DNA yet achieved in any organism. It will now be possible to identify candidate genes for diseases associated with changes to this chromosome."

The sequence has shown that at least 545 genes are encoded by the DNA in chromosome 22—although there may be as many as 1000 (*Nature* 1999;402:489-95). There are thought to be at least 27 human disorders associated with changes to genes on chromosome 22. Of particular

interest are areas associated with schizophrenia and one form of spinal cerebellar ataxia.

The next step is the sequencing of the entire genome, expected by spring 2000. Dr Peter Little, reader in molecular genetics at Imperial College of Science, Technology and Medicine, London, said: "For the first time, we will be able to identify the 200 000 to 300 000 proteins that make up a human being. Knowing the genome will force medicine to focus more on prevention and counselling than on treatment." □