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Medicine in Europe

Health and social inequality in Europe

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This is the seventh in an intermittent series of articles looking at medical issues in Europe

In most European countries health has been shown to be linked to social circumstances—gradients in health status have persisted for decades, despite major changes in the principal causes of death. In central and eastern Europe life expectancy has stagnated since the mid-60s, whereas in the West it has increased; but even in the West it is related to income distribution. Social differences in mortality in men are three times as large in some countries as in others, and are influenced by factors other than conventional risk factors. Substantial declines in mortality and morbidity could result from a narrowing of health inequalities even when differences in health risk between social groups are comparatively small. Policies to reduce health inequalities can be introduced in smaller communities and organisations such as the school and workplace. National policies are variable; factors generating inequalities require action across several policy areas.

The importance of tackling social differences in health to improve national health status is now explicitly recognised in many European countries, such as the Netherlands and Finland, as it is in other developed nations, including Australia and Canada.^{1,4} The World Health Organisation European strategy for Health for All states that "by the year 2000, the actual differences in health status between countries and between groups within countries should be reduced by at least 25%, by improving the level of health of disadvantaged nations and groups."⁵ The commitment to this strategy continues in discussions at the European level, as is apparent from a recent public hearing on the development of public health policy held by the European parliament.⁶

Evidence linking health and social circumstances is available for most European countries,^{7,8} although much of the early evidence came primarily from Britain,⁹ where it continues to generate considerable debate.¹⁰

It is almost universally the case that people in lower social classes have more morbidity and disability and have shorter lives. This is not usually a dichotomy of "privileged" and "unprivileged" but a monotonic decrease in life expectancy and increase in morbidity with declining socioeconomic status. These gradients in health status have persisted for decades, despite major changes in the principal causes of death. Changes in the magnitude of the gradient have occurred over time, however, and there are also variations between countries. My purpose here is to review the current situation in Europe, emphasising

where the most progress in reducing social inequalities in health has been achieved.

There is an additional problem of socially excluded groups, such as immigrant workers and long term unemployed people, who are becoming increasingly isolated from the rest of society in European countries.¹¹ This paper does not address the problems of these groups specifically; it is concerned with the more general aspect of social inequality between European citizens, relating particularly to socioeconomic gradients in health.

Explanations

Explanations for social differences in health tend to be discussed under the general headings shown in box 1. Many studies, particularly in Britain, have investigated these factors and shown that most of them are important.¹² Lifestyles differ between socioeconomic groups, with generally more health damaging behaviour in lower groups,¹³ although patterns vary slightly between European countries.

Explanations for social differences in health

- Lifestyle
- Physical environment
- Socioeconomic environment (including education)
- Access to and response to health care services
- Reverse causality, "selective drift"
- Inherited biological potential

People in lower socioeconomic groups are more likely to live and work in hazardous physical environments.¹⁴

Material and social resources, including educational attainment, also vary across the social scale, with accompanying variations in job control and social networks.¹³⁻¹⁵ The ability of people in lower socioeconomic groups to take advantage of health care services—preventive as well as curative—varies even under universal health care schemes.¹⁶ Selective social drift, whereby the healthiest climb the social hierarchy and the least healthy drift down, may also occur, although it is now regarded as having a weak effect on the distribution of health status in society in comparison with the influences described above.^{15,17}

Finally, there remains a possibility of differences in genetic endowment between social groups, but evidence for this is lacking. The Black report favoured differences in material and social circumstances as the

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major explanation for social inequalities in health.⁹ Since this review was undertaken, evidence has accumulated¹²; increasingly the evidence has a European perspective.

Comparisons between countries

Large differences in mortality exist between European countries, with Nordic countries having the most favourable rates. In the early 1990s infant mortality was lowest in Finland and Sweden (6.5 per 1000 live births for boys and 5.2 and 4.9 respectively for girls) and highest in Poland and Hungary (16.8 and 17.3 respectively for boys, 13.0 and 13.8 for girls). Life expectancy at birth also varied greatly, from 74.8 and 80.8 years for Swedish men and women to 65.1 and 74.0 years in Hungarian men and women.¹⁸

Central and eastern European countries now have poorer life expectancy than western European countries, although there was a period in the late 1940s and mid-1960s when life expectancy in central and eastern Europe and Western countries converged. Disparities re-emerged subsequently as life expectancy increased in the West while stagnating in the East. The possible causes of this divergence include pollution, health care, lifestyles, and socioeconomic factors; socioeconomic factors are thought to predominate.^{19, 20}

Variations in life expectancy between many countries in western Europe and the Organisation for Economic Cooperation and Development have been investigated in relation to income.²¹ For these countries, the association between gross national product per capita and life expectancy is weak, in contrast to the strong association observed for poorer countries with a gross national product per capita of below \$5000 a year. Life expectancy in richer Western countries is, however, strongly associated with the extent of income disparity within countries: the most favourable rates occur in those countries with the smallest gap between the highest and lowest income groups. Further evidence for a relation between income distribution and life expectancy is provided by an examination of changes in income distribution in 12 European Community countries during 1975-85.²¹ This showed more rapid improvement in life expectancy following a fall in the prevalence of relative poverty (fig 1). It seems that for countries with a gross national product per head above \$5000 a year, there is little systematic relation between average income and life expectancy but that income distribution is an important factor.

Similar conclusions are reached from a comparison of infant mortality in the industrialised nations in the Organisation for Economic Cooperation and Development, including many from Western Europe.²² At the general level of economic development attained by these countries, infant mortality is associated with income distribution. Large income disparities among the less well off in society (those with a disposable

FIG 1—Annual changes in income and life expectancy in European Community countries, 1975-85²¹

FIG 2—Risk of mortality in manual workers relative to non-manual workers (men, 1970s; unpublished data supplied by A E Kunst)

income below the median for that country) are associated, in particular, with higher infant mortality rates. The cushioning effect of social policies such as family benefit seems to have an impact on infant mortality rates in industrialised nations. High rates of universal family benefits are linked to relatively low infant mortality, while a combination of high unemployment and low unemployment benefit are associated with a considerable increase in infant mortality.²²

Comparison of health differences within countries

Intercountry comparisons have been undertaken with the intention of identifying conditions and policies associated with minimal social differences in health, particularly within Europe. A first stage of comparison involved collation of information on health differentials in separate countries, together with an assessment of methodological problems.^{7, 8} When some of the inherent difficulties, such as variable occupational classifications, had been overcome it was established that, during the 1970s, social differences in mortality were about as large in Finland as in Britain, but smaller in Sweden.^{23, 24}

A further stage has been the inclusion of these countries into a larger comparative analysis based (where possible) on standard data and methods.^{25, 26} These recent comparisons show that social differences in mortality in men are three times as large in some countries as in others.²⁵ The differences, expressed as risks for manual workers relative to non-manual workers, also vary with age, being greatest in the younger (35-44 year) group (fig 2). In these comparisons, relative differences may well underestimate the extent of absolute differences, since the countries with the largest relative differentials among men aged 35-64 are at the same time the countries where men aged 35-64 years experience the highest death rates.²⁵

The ranking of mortality differentials is consistent when education is used as an indicator of socioeconomic status.^{25, 26} The box gives the ranking of countries from small to large mortality differentials. Part of the explanation for higher differentials in some countries than others is suggested by comparing specific causes of death. The relatively high differentials for France have been linked, for example, to causes related to alcohol rather than to ischaemic heart disease, which is a major contributor to social differentials in other countries such as Finland or England and Wales.²⁷ Factors other than conventional risk factors are also

Further major advances in public health are likely to depend on reductions in socioeconomic differences

likely to influence the ranking of countries according to social differences in mortality. It is particularly notable that mortality differentials are smallest in countries with well established social policies to improve the living conditions of the most disadvantaged sections of the population.

Additional evidence is provided by data from health surveys, in that the ranking of countries by social differentials in morbidity resembles that for mortality, although some inconsistencies emerge (box).²⁶ The morbidity ranking summarises results for self perceived health, restricted activity due to ill health, and reports of longstanding illness. Countries with the lowest differentials for these health measures, in contrast to those for mortality, include the United Kingdom but not Denmark and the Netherlands. It is to be expected, however, that social differentials will vary with health indicator, as they might also vary by cause of death. Biases in indicators of self reported health could also contribute to the differences observed.

In contrast to adult mortality and morbidity, there have been few comparisons of infant or childhood differentials. There are no systematic comparisons of

socioeconomic differentials in birth weight, although collaborative studies could address this in the future.²⁸ Infant mortality differentials have been compared in Sweden and England and Wales by using an identical occupational classification.²⁹ It was found that while social class differences in postneonatal mortality in the mid-1980s were of a similar magnitude, Swedish differentials for neonatal mortality were smaller than those for England and Wales. However, such comparisons may underestimate between country differences in infant mortality: the degree of inequality is appreciably smaller in Sweden than in England and Wales when allowance for differences in the size of social groups is made.³⁰

Strategies

Comparisons of mortality and morbidity within Europe have suggested intercountry variation. In some instances, notably in Sweden, small social differences in mortality are accompanied by favourable mortality rates overall compared with other European countries. It is not clear whether this is coincidental, although substantial declines in mortality could result from a narrowing of health inequalities even when differences in health risk between social groups are comparatively small. The public health impact of small excess risks affecting large proportions of the population is now well recognised.³¹ Too little is known, however, about whether overall improvements in health are, in general, closely related to variations in health between social groups—either in other European countries apart from Sweden, or across different time periods. Clearly this knowledge is relevant to public health strategies. Evidence to date suggests that this could be a fruitful area of inquiry.

It is argued, notably in Rose's recent account of preventive strategies,³¹ that less attention should be given to risk modification in high risk groups and more to that in the whole population. This argument places more emphasis on the distribution of risk in the whole population, as summarised by the statistical mean, whereas studies of health inequalities consider the size as well as the relative risks of socioeconomic groups, thereby emphasising the shape of the distribution. Both approaches are important in bringing a population health perspective to preventive strategies, and the joint application of strategies needs further consideration.

Policy options to tackle social inequalities in health tend to focus on different levels of intervention, from individuals to smaller communities and organisations such as the workplace and to the broader level of society.³²

Individuals' health related behaviour provides a primary target for health education and promotion and constitutes a policy level at which health inequalities are potentially influenced. Thus, improved uptake of services such as antenatal screening might contribute toward reduced mortality differentials if changes are achieved disproportionately in lower social groups. The same reasoning applies to other behaviours, such as smoking and exercise. However, approaches relying solely on individuals are limited; it is not surprising, therefore, that health education does not always seem to have been effective. Furthermore, it has been argued that health education and improvements in health related behaviour benefit higher social classes more than lower classes, possibly acting to increase health differentials. Some schemes could be effective in reducing inequalities, but the specific circumstances under which this might occur have yet to be established.

Policies to reduce health inequalities can be introduced in smaller communities and organisations such as the school and workplace. Working conditions are

Mortality and morbidity differentials^{24 25}

Mortality

Low

Netherlands, Denmark, Norway, Sweden
Finland, United Kingdom
Germany, United States

High

France, Italy

Morbidity

Low

Norway, Sweden, United Kingdom, Spain
Netherlands, Denmark, Finland, Japan

High

Germany, Italy, Canada, United States

especially relevant since lower social groups generally experience poorer conditions in respect of physical strain, noise and air pollution, shift work, monotonous jobs, forced pace of work, and fewer pauses. Workplace interventions are evident in several European countries. In Finland, for example, the revised Health for All programme aims to improve environmental conditions in work and residential areas and to improve cooperation between health care and social work, as well as effecting improvements at the individual level through health education. Evaluation of policies in communities and organisations is variable. Several work based schemes focus on the organisation of the production process and management strategies affecting employees' environment and work tasks. Such schemes include strategies of increasing the variety of work, participation in the identification and resolution of problems, and rearrangement of shift working. Improvements in work stress have been observed but subsequent health effects and reductions in inequalities are difficult to show.³² Even so, the evaluation of these schemes is generally better than that for the numerous community based projects, such as those providing social support, which tend to be small scale.

Policies formulated at the national level, and increasingly those from the European parliament, can also influence social inequalities in health. National responses are variable, especially in the extent to which they allow for the wider determinants of health beyond those relating to health care. In the Netherlands there is broad political support for the development of strategies to reduce inequalities, while in Sweden all national public agencies and authorities are required to report on specific goals to reduce socioeconomic inequalities and to analyse the health impact of all national policies.³³ Assessment of national policies is especially important, since the development of society level policies requires an understanding of the impact of alternative economic policies. So far, however, documentary evidence on the effect of national policies is scarce.

European policies have already affected many health factors, including the price, availability, and quality of food; water standards; and pollution. It is likely that further policies will be developed to protect vulnerable groups emerging from recent demographic changes such as the increasing proportion of elderly people or the extensive work-related migration. Social policies formulated to promote social cohesion and not primarily to improve public health may nevertheless have an impact through their influence on living and working conditions.

Clearly, evaluation of the different policies used to tackle inequalities has been limited, and more could be learnt from identifying those interventions that have been effective. Such clarification is complicated by many factors; the accumulation of risks in particular social groups; the time lag involved in seeing the impact of different preventive strategies together with changes in policies; and the countervailing effect of some policies and conditions. While complications such as these will not be fully resolved by future research, an evaluation perspective drawing on the diverse schemes adopted within Europe is likely to be enormously valuable in identifying effective policies.

Conclusions

The universal pattern of social differences in health in European countries is striking, but the variations between countries shown here and those over time described elsewhere³⁴ suggest that such differences are not immutable. Sweden and Norway are particularly notable, with relatively low social differentials in both

mortality and morbidity. Further major advances in public health in other industrialised nations are likely to depend on reductions in socioeconomic differences in health. The commitment to reduce inequalities is formalised in European agreements but varies in national health strategies. Factors generating inequalities are wide ranging and therefore require action across several policy areas. National policies may well be affected by closer cooperation between European states, as envisaged by the Maastricht treaty, although it is not yet clear whether this union will facilitate the necessary action to tackle inequalities in the health and health care of Europe's citizens.

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