

questions

d'économie de la santé

Issues in health economics

synthesis

Background

This analysis is an extension of the communication presented at the Chaire Quetelet 2003 which will be published shortly as: Couffinhal A., Geoffard P.-Y. et al (2004), "Health policies in Europe and social inequalities", Enlargement of the European Union: socio-demographic stakes and implications, Actes de la Chaire Quetelet 2003.

It examines policies for reducing social inequalities in health and the role the healthcare system can play in this. This issue of "Questions in health economics" is the first of two parts and looks at different models for explaining social inequalities in health and the possible role played by access to healthcare. The next issue will consider various policies which have been implemented in Europe with a view to reducing social inequalities in health.

Policies for reducing inequalities in health, what role can the health system play? A European perspective

Part I: Determinants of social inequalities in health and the role of the healthcare system

Agnès Couffinhal (OMS), Paul Dourgnon (IRDES), Pierre-Yves Geoffard (PSE), Michel Grignon (McMaster University), Florence Jusot (IRDES), John Lavis (McMaster University), Florence Naudin (CETAF), Dominique Polton (IRDES)

In many countries, social inequalities in health persist and in some cases are increasing. Various hypotheses have emerged from research on the factors which may explain these inequalities: related to living conditions, high-risk lifestyles and inverse cause and effect whereby differences in state of health themselves induce differences in earning capacity. A more recent avenue of research points to the existence of a direct effect of social hierarchy or structure on health.

In contemporary research on social inequalities in health, the role played by the healthcare system has been somewhat neglected. This is partly due to a widely accepted notion that the impact of healthcare on health status is relatively insignificant and particularly to the finding that inequalities have persisted or worsened in countries which have adopted a system of open and free access to healthcare. Nevertheless, a number of mechanisms can lead to differences in real access to care thereby reinforcing existing inequalities, as has been shown in several empirical studies.

INSTITUTE FOR RESEARCH AND INFORMATION
IN HEALTH ECONOMICS

Address:

10, rue Vauvenargues 75018 Paris - France

Téléphone : 33 (0)1 53 93 43 02/17

Télécopie : 33 (0)1 53 93 43 50

E-mail : document@irdes.fr

Web : www.irdes.fr

Director of the publication:
Dominique Polton

Writer as a head:
Nathalie Meunier

Dummy maker:
Khadija Ben Larbi

Translator:
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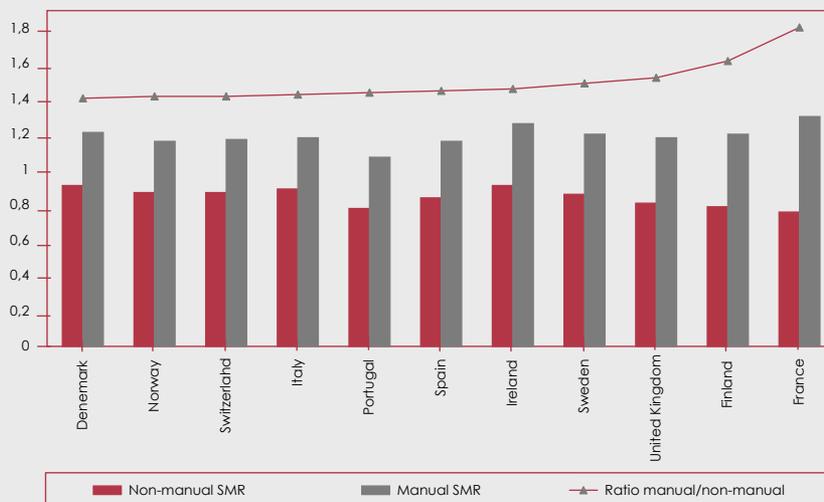
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«Manual/»non-manual» mortality rates Ratio in European countries



Source : Kunst A.E. and al. (2000)

The first demographic studies carried out in the eighteenth century found clear differences in mortality between social classes. Today, these inequalities persist. In France, according to Mesrine's estimations (1999) for the period 1982-1996, a 35 year-old manager can expect to live 44.5 more years compared to 38 years for a worker. The difference is even greater when the intellectual professions are compared to employees who provide direct customer service; at age 35, the former can expect to live a further 46 years whereas life expectancy for the latter is only 36.5 years. Furthermore, these differences have persisted for a long time because of a more rapid reduction in the risk of mortality for managers than for workers between the 1950's and the 1990's. (Desplanques, 1985, 1993; Mesrine, 1999).

Models explaining inequalities in health

Historically, differences in living conditions and customs were thought to be the cause of social inequalities in health. Since the mid-twentieth century working conditions and access to healthcare have been considered important. All of these factors could explain why less fortunate individuals have poorer health than the rest of the population. At the start of the 1980's, the publication of the Black Report (Black *et al.*, 1982) cast serious doubt on this "absolute poverty" model (Wilkinson, 1986). Social inequalities in mortality persisted and even worsened in Great Britain between 1931 and 1981, in spite of general improvements in living conditions, the advent of a number of policies to ameliorate working conditions and the establishment of the National Health Service in 1948 with its objective of equal access to healthcare for all citizens. Furthermore, social inequalities in health were not limited to differences between the poor and well-to-do, manual workers and non-manual workers. There was a social gradient in health in which the mortality risk varied across the entire social hierarchy. This fact could not be explained simply by

considering the material conditions in which people lived.

Among the hypotheses that Black¹ suggested was the "selection effect" which stated that inequalities in mortality are not be due to the impact of social status on health but rather the converse, they are due to the effect of health on social mobility. However preliminary results showed that this effect explained only a small proportion of inequalities in mortality. Thus, Fox and Goldblatt (1986) and Marmot (1986) showed that differences in mortality are of the same magnitude whether one considers an individual's profession at the time of death or the profession they occupied a few years before they died. This question remains answered to this day. Nevertheless, most authors agree that the health of individuals affects their ability to remain employed although it remains unclear exactly what effect health has on income (Currie and Madrian, 1999).

In the absence of an environmental explanation for differences in observed health status between social classes, researchers have turned to differences in high-risk behavior such as smoking, alcohol consumption and diet. Kunst *et al.*² have suggested that these social lifestyle differences could explain the differences in the extent of inequality in mortality observed in various European countries (cf. graph on page 1). Indeed, mortality varies in the 11 countries studied and increases with the amplitude of the gradients in social lifestyles (excess alcohol consumption, sedentary habits). The biggest inequalities in mortality in France, which are largely due to substantial social mortality differences caused by cirrhosis of the liver and cancers of the upper respiratory and gastro-intestinal apparatus, may in large part be explained by social differences in alcohol consumption.

However, follow-up of the Whitehall cohort has cast doubt on the importance of this explanatory factor by showing that differences in health status among civil servants of different grades remained

even after taking all known risk factors into account. Thus, smoking, cholesterol, blood pressure, sedentary lifestyle and height only explained one-third of the observed mortality due to coronary artery disease (Marmot, 2000).

Numerous studies of the causes of social inequalities in health were undertaken during the 1980's and 1990's (Goldberg *et al.*, 2002). Social epidemiology research went beyond the then dominant etiologic model by suggesting, in addition to the well-accepted risk factors, additional factors termed social determinants of health (Marmot and Wilkinson, 1999; Berkman and Kawachi, 2000). The existence of a social gradient in health status, i.e. differences in health status between all levels in the social hierarchy, including that observed in the population of British public servants, suggested that differences in health cannot solely be explained in terms of absolute differences in standard of living; but also by relative differences. The feeling of being trapped in a hierarchy with little autonomy, particularly in the workplace, is stressful. We may generalise from this hypothesis to suggest that the absence of cohesion in society produces psychosocial stress, which in turn is related to mental and cardiovascular diseases, and more generally to an organism's resistance to disease.

In parallel, another avenue of research has focused on social inequalities in health across the whole life cycle. Accordingly, differences in living conditions which by themselves cannot explain these inequalities, may taken together have a detrimental effect on health and social status (Blane, 1999; Aïch, 2004). The causes of differences in an individual's state of

¹ A preliminary hypothesis considered that inequalities in mortality were due to errors in measurement. However, follow-up of a number of cohorts since then has confirmed the existence of these inequalities, particularly the British cohort from the 1971 census (Fox and Goldblatt, 1982) and the cohort of British civil servants in the Whitehall Study (Marmot, 1986). In fact The errors in measurement were more likely to have lead to an under-estimation of the magnitude of the social inequalities in mortality.

² Reference is made to work by the European Union Working group on Socio-Economic Inequalities in Health (Mackenbach *et al.*, 1997).

health in adulthood may even be found in infancy; a person's health during infancy can have an effect on his or her future career (Wadsworth, 1986). Furthermore, living conditions during infancy, or even in utero, can influence adult health status (Smith, 1999; Wadsworth 1999).

Little attention has been paid to the role of healthcare systems

Does healthcare improve health?

Since the Black Report, most research has looked outside the healthcare system for the causes of social inequalities. This line of research was abandoned even more rapidly because researchers were beginning to doubt the impact of health care on the health of the population. The notion that healthcare had no impact on health status dated from McKeown's historical finding (1979) that the causes of death which decreased the most during the course of the eighteenth and nineteenth centuries were diseases in which medical science at that time had made no progress³. Evans and Stoddart (1994) generalized this idea, proposing a model in which the amount of healthcare an individual received explained only a small fraction of their overall state of health. Conversely, a number of other authors feel that increasingly effective medical treatments explain a large part of the observed increase in longevity (Mackenbach, 2003).

No definite conclusion can be drawn from the few empirical studies available, which provide contrasting results⁴. Thus, the Rand experiment in health insurance appears to support the idea that healthcare has a limited impact. In that experiment, individuals who had very different levels of healthcare use did not have significantly different general health three or four years later (Newhouse, 1993), except in the areas of vision and high blood pressure and, in particular, among poor people. The impact of better access to healthcare on overall health in poor

populations has also been reported in other North American studies⁵. We should also note preliminary results for France from the longitudinal analysis of the IRDES Health and Health Insurance Survey, which show that, for a given initial state of health, greater access to a general practitioner has a positive impact on overall health four years later; patients had less disability, although the number of sick patients and mortality remained unchanged (Couffinhal *et al.*, 2002). These findings suggest that while appropriate medical treatments do not reduce the number of patients afflicted with chronic illnesses, they do improve patients' functional capacity and quality of life.

An indirect way of looking at the impact of healthcare on overall health is to study the reduction in mortality from diseases for which the healthcare system has an impact and to determine the effect this has on global mortality. Recent studies of countries in the European Union (Nolte and McKee, 2004) have shown that this reduction was very significant in the 1980's and more limited in the 1990's, particularly in Northern countries. (It remained very significant in Southern Europe).

Can the healthcare system help reduce inequalities in health?

Even if healthcare contributes to improvements in health, we still need to ask whether unequal access to particular services (in the broadest sense, both curative and preventive care) plays a role in producing inequalities in health. Overall, research on social inequalities in health has concluded that this is probably not the case. It has been argued, on the one hand, that egalitarian healthcare systems have not succeeded in reducing social inequalities in health and, on the other, that inequalities in mortality from diseases for which we do not have any satisfactory treatment remain (Mackenbach *et al.*, 1989). It is for this very reason that Marmot and Wilkinson (1999) consider that we do not need to study unequal access to healthcare when looking for an

explanation for social inequalities. More radically, Hertzman *et al.* (1994), suggested that even if higher quality or more accessible care could eliminate some of the causes of death which result in social differences in mortality at a given moment, other causes would necessarily replace them due to differences in vitality between social groups. This hypothesis seems to be confirmed by the fact that, with the exception of AIDS, there is higher mortality at the bottom of the social scale in all diseases (Jouglu *et al.*, 2000). Link *et al.* (1998) have developed a concept termed "fundamental cause" which states that the financial, educational and social resources available to an individual help determine his ability to protect himself against disease. This notion has clear implications for public health policies: a reduction in inequalities must begin with redistribution outside the health system (of wealth and education). Increased investment in the healthcare system at best will not reduce these inequalities, and may even, at worst, supplant other more beneficial mechanisms or dimensions of the social protection system.

However, even if we do not **prioritise** investment in the health system in attempting to reduce social inequalities in health, this is nevertheless one legitimate course of action.

Van Doorslaer and Koolman (2002) took this view, arguing that inequalities in income were undoubtedly the primary factor explaining social inequalities in health (between 25 % and 40 % in the European countries studied), but

³ For example, McKeown observed that the greatest reduction in mortality from tuberculosis occurred in the nineteenth century, before the discovery of Koch's bacillus in 1882 and the introduction of the BCG vaccination in 1921.

⁴ Few studies of the general population enable an objective assessment of the effect of medical care on a population's state of health. This is because it is not possible to observe a correlation observed at a given point in time because health status is both the cause and consequence of recourse to healthcare: at any given time, the sickest patients are the ones who use the most healthcare. Hence we need individual longitudinal data in order to discern the effect of the use of healthcare today on future health status. Unfortunately, this type of data is only rarely available.

⁵ Work presented in a preceding review of the literature: *L'assurance maladie réduit-elle les inégalités sociales de santé?* (Dourgnon, Grignon, Jusot, *Questions d'économie de la santé* n° 43, 2001)..

that social inequalities observed in each country were more closely related to the strength of the association between health and income than to unequal income distribution. Thus, the small inequalities in health seen in Denmark are explained by the fact that healthcare in Denmark is largely unrelated to income level, and not by the country's relatively homogeneous income distribution. This suggests that, contrary to the hypothesis of differential vitality according to social status, national characteristics should be taken into account in designing health policy⁶ because these may reduce the impact of social status on health status.

Even if we believe that policies designed to reduce health inequalities should go beyond the health system, we must nevertheless aim to spend the huge budget allocated to state expenditure on health (nearly 8 % of national wealth) with a view to reducing inequality. Just because social inequalities in health are not entirely explained by differences in access to healthcare does not mean that the health system has no role to play.

Use of the healthcare system and social inequalities in health: theoretical and actual access

After explaining how equality in formal access to care does not guarantee identical healthcare use, we will discuss how certain mechanisms in the healthcare system in fact increase inequalities in health. We will then present an empirical analysis illustrating how specific actions in the healthcare system can help reduce them.

Theoretical and actual access to healthcare

We may begin to question the argument, based on experience from national health systems, that health care has no impact on health status because health systems which provide equal ac-

cess for all citizens have not managed to reduce health inequalities, by distinguishing between theoretical and actual access to care.

In fact, in France, where there is a health system which provides general access to medical care for all, patients use the system differently according to their social status or educational level. Two such examples are vaccination uptake and screening for cervical or breast cancer, which are known to be correlated with risk of mortality. Studies on patients hospitalized for acute myocardial infarction have also shown differences in patient treatment prior to hospitalization according to social status, as well as differences in pre-hospital mortality and mortality at 28 days (Lang *et al.*, 1998). Are these differences due to differences in demand for care or different responses from the healthcare system?

Explanation in terms of demand

This explanation suggests that existing cultural barriers, independently of financial barriers, mean that poorer and less educated patients are less likely to request healthcare or at least seek care later, because they are less well-informed about healthcare networks, or have a different way of looking at their own bodies and disease in general.

Indeed, available studies suggest that these variations in demand for care decrease when financial barriers are no longer present. However, they do not disappear completely. For example, given the same state of general health, patients who benefit from universal sickness insurance use the same amount of healthcare as the rest of the population covered by supplementary health insurance (Raynaud, 2003). They are more likely to visit general practitioners or pharmacists than seek specialised medical and technical interventions (although the rate of consultation of specialists is increasing for this group) (Grignon, Perronnin, 2003).

Interaction between supply and demand for care

A second explanation can be found in the existence of non-financial obstacles within the healthcare system for patients who have decided to seek medical care. These obstacles are related to the actual availability of services for patients and to the decisions taken by healthcare professionals.

Availability of supply

Theoretically, the supply of health services affects their use; healthcare costs increase when the supply of care is limited, probably due to greater transportation costs for patients or to opportunity costs associated with waiting for care.

Thus many studies have shown that use of healthcare is inversely related to distance to services and increases when density of services is greater in a given geographic area (Place, 1997; Lucas-Gabrielli *et al.*, 2001). However, these studies have been unable to demonstrate formally the role played by geographic availability because it is difficult to control for all confounding factors. In France, an analysis of individual cases of patient care has shown that the density of medical care has limited influence on the amount of care patients seek, although it does have an effect on whether a patient sees a general practitioner or a specialist (Breuil-Genier and Rupprecht, 2000). In addition, a number of studies in France have also shown that the higher a patient's education level, the further they are willing to go to seek medical care. Hence, limited availability of healthcare in an area has more important repercussions for individuals in the lower social classes.

⁶ The authors' conclusions relate in particular to health policies as a means of influencing the relationship between income and health: however, logically, other societal factors may be involved.

Few studies have demonstrated a relationship between the availability of medical care and overall health. However Or (2001), using a multilevel analysis of annual mortality rates in 21 OECD countries over twenty-five years, has shown that death rates are negatively correlated with medical density, after controlling for all other determinants of health. In France, individual patient data has also shown that, in 1998, all else being equal, the probability of dying increased when the medical density in an area decreased (Jusot, 2004). Further, this correlation was greater for the poorest individuals (those with an income below the median) (Jusot, 2003).

Response of the healthcare system

In addition to the effective availability of medical care, the healthcare system itself may respond differently to the same disease depending on patients' social characteristics. Thus, in France, diuretics are prescribed more often for high blood pressure in inactive patients who stay at home and less often for managers than other employment categories (Frerot *et al.*, 1999). These different approaches to treatment do not necessarily constitute inequalities if they have no effect on the state of health or the quality of life of the individuals concerned. However there are differences in treatment which can unambiguously be qualified as unequal. In 2005, Gebo *et al.* showed that, in the United States, AIDS victims who are Afro-Americans, active drug addicts and females are less likely to get retroviral treatment than other patients with the same CD4 level. Similarly, following acute myocardial infarction, Blacks received coronary bypasses less often than non-Hispanic Whites after verifying the appropriateness of the intervention (Hannan *et al.*, 1999). In France, no social differences in hospital treatment for this disorder have been observed although, prior to hospitalization, patients in higher social classes appear to receive more specialized and thorough outpatient care along

with more frequent coronarographies (Lang *et al.*, 1998).

How can we explain these treatment differences? It may be related to an "opportunistic" attitude on the part of healthcare professionals when fee reimbursements are not the same for all social categories⁷, inducing them to favour certain patients. However, this explanation is not applicable to the majority of healthcare systems. It may also be that healthcare professionals adjust their "effort" (in diagnosis or prescribing treatment) to the patient's expectations. Thus, inequalities in care may be related to the fact that people in disadvantaged social classes exert less pressure on professionals. Another possible explanation for differences in treatment might be found in social and cultural differences between doctors and patients. These differences may affect the level of communication between them and thus the amount of information available to the physician for establishing his or her plan for care (Balsa and McGuire, 2001).

In the case of France, Lombrail *et al.* (2004) consider that these treatment differences reflect the healthcare system's inability to fully understand the social dimension of health whether this consists of inequalities by default which are produced by a system with a heavy emphasis on curative care and by response to individual demand ("inequalities by omission"); or inequalities related to guidelines or programs conceived by institutions which fail to recognise and sometimes even accentuate social inequalities in health ("inequalities by construction").

However some experiments have shown that healthcare systems can influence these differences if there is explicit recognition of variations in treatment offered to patients in different social classes. For example, a fifteen-month programme implemented by a primary care team in the United Kingdom resulted in a significant reduction, and in some cases reversal, in differences between two populations of patients with

very different social status with respect to vaccination, gynaecological follow-up and prevention. (Marsh *et al.*, 1998).

Even if social inequalities in health have not completely disappeared following the establishment of egalitarian healthcare systems, and if this can be explained for the most part by societal factors outwith patient access to medical care, there is nevertheless a role for the health system in developing policy to reduce social inequalities in health.

Differences in real access to medical care persist even in systems which offer strictly egalitarian access to healthcare. However, in the context of the improvement of medical care in general, remaining differences in access to healthcare undoubtedly have more serious consequences today for inequalities in overall health than the greater differences in access which existed previously, albeit in the context of less effective healthcare (Wilkinson, 1986). In addition, the consequences of social differences in the use of medical care may worsen as medical technology improves, if persons from more privileged social classes continue to have better access to these technologies (Deaton, 2002). Finally, the convincing results obtained in various experiments indicate that the primary care system may have an important role to play in the fight against inequalities in health.

In the second part of this study we will present a few examples of European policies which have been implemented with the aim of reducing social inequalities in health.

⁷ Thus, the type of payment may be more of an incentive for those with a higher income (in systems with both public and private health insurance, for example Ireland for in-hospital care) or payment levels may be different according to population categories (Grignon and Naudin, 2002), or according to supplementary health insurance, for example in Switzerland (Holly *et al.*, 1998). For example, in the United States, according to Currie (2000), patients covered by Medicaid are subjected to care rationing because Medicaid reimburses less than other insurance coverage. This type of situation can exist in France for beneficiaries who have UMC (universal medical coverage) when practitioners ask for a fee surcharge.

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