Population health in Europe: How much is attributable to health care?

Ellen Nolte and Martin McKee

Does health care save lives? Commentators such as McKeown and Illich, writing in the 1960s, argued that it contributed very little to population health, and might even be harmful. However, they were writing about a period when health care had relatively little to offer compared to today. More recent reviews of the contribution of health care to health have led to a consensus that McKeown was correct to the extent that “curative medical measures played little role in mortality decline prior to mid-20th century.” But the rapidly changing scope and nature of health care means it cannot be assumed that this is still the case. Thus, several writers have described often quite substantial improvements in death rates from conditions for which effective interventions have been introduced. Yet the debate continues, with some arguing that health care is making an increasingly important impact on overall levels of health while others contend that it is in the realm of broader policies, such as education, transport and housing that we should look to for future advances in health. Inevitably, this is to a considerable extent a false dichotomy. Both are important. But how much does health care contribute to population health?

One way of thinking about this question is to look at deaths that should not occur in the presence of effective and timely health care. This has given rise to the development of a variety of terms including ‘avoidable mortality’ and ‘mortality amenable to medical/health care’. However, much of this work was undertaken in the 1980s and early 1990s and it has received relatively little attention more recently. Indeed, as the 2000 World Health report shows, the concept has been overlooked in some influential recent studies. Furthermore, health care has advanced considerably in the intervening period. Another reason for revisiting this issue is that ‘avoidable’ deaths were often limited to those under, for example, the age of 65, a figure that seems inappropriately low in the light of life expectancies that are now about 80 years in many countries. So does ‘avoidable’ mortality still offer a means of assessing health system performance and is the list of causes of death previously deemed to be avoidable still valid?

Revisiting the concept of ‘avoidable mortality’

In a recent study we have undertaken a systematic review tracing the evolution of the concept of ‘avoidable’ mortality from its inception in the 1970s, subjecting it to a detailed methodological critique and looking at how it has changed over time. To help future researchers we have produced a comprehensive, annotated review of the work that has been undertaken worldwide so far. Our review has shown that ‘avoidable’ mortality was never intended to be more than an indicator of potential weaknesses in health care that can then be investigated in more depth. We describe examples of where this approach has been successful, drawing...
attention to problems that might otherwise have been missed.

In contrast, many of the critics of ‘avoidable’ mortality, or more specifically, mortality amenable to health care (amenable mortality), have asked that it do something it was not intended to do, to be a definitive evaluation of the effectiveness of health care. Thus, it is not surprising that studies seeking to link amenable mortality with health care resources have failed to do so, especially when undertaken within countries, although it is notable that where gross differences exist, as between western and eastern Europe, the gap in amenable mortality is especially high. For these reasons, it seems justifiable to extend the extensive body of research that has already been undertaken to look at ‘avoidable’ mortality, updating the list of conditions included to reflect the changing scope of health care and extending the age limit to reflect increasing expectation of life. However, it must be recognised that the concept of ‘avoidable’ mortality does have important limitations, relating to comparability of data, attribution of causes, and coverage of the range of health outcomes.

Comparisons of health system performance are now firmly on the international policy agenda, especially since the publication of the 2000 World Health Report. It is our view that incorporating the concept of ‘mortality amenable to medical care’ into the methodology used to generate the rankings of health systems in that report would be an advance on the current methodology used. For example, we have shown how, among OECD countries, this would lead to different rankings from those based on overall disability adjusted life expectancy used in the current WHO rankings.10

However, any approach based on aggregate data would not address one of the major criticisms of such comparisons, that they do not indicate what needs to be done when faced with evidence of sub-optimal performance. This requires a more detailed analysis and in our study we propose a new method, in which analyses of amenable mortality identify areas of potential concern that are then
examined in more detail by studying the processes and outcomes of care for tracer conditions, selected on the basis of their ability to assess a wide range of health system components.

**Amenable mortality in the European Union**

Our study builds on what has been done before, updating the list of conditions considered amenable to health care in the light of advances in medical knowledge and technology and extending the age limit to age 75 to reflect increasing expectation of life. We applied this revised concept to routinely available data from selected countries in the European Union to investigate the potential impact of health care on changing life expectancy and mortality in the 1980s and 1990s.

The results show that all European countries experienced increases in life expectancy between birth and age 75 since 1980 (Figure 1a), when deaths that could be prevented by timely and effective care were still relatively common in many countries (Figure 2). The pace of change differed over time and between countries. Reductions in amenable mortality made substantial positive contributions in the 1980s in all countries except in Italy (men) (Figure 1b). The largest contribution was from falling infant mortality but in some countries reductions in deaths among the middle aged was equally or even more important. These countries were Denmark, The Netherlands, the United Kingdom, France (for men) and Sweden (for women).

In many countries the pace of improvement slowed in the 1990s although not in Greece, Italy and Portugal, a finding that would imply a continued catching up in the southern European countries. By the 1990s, differences in amenable mortality in the European Union had narrowed (Figure 2) although standardised death rates from amenable causes among Portuguese men remained three times higher than those among Swedish men. Differences among women are less pronounced; but again, in 1998, amenable mortality was highest in Portugal (96.9/100,000) and lowest in Sweden (51.9/100,000).

These findings lend further support to the notion that improvements in access to effective health care have had a measurable impact in many countries during the 1980s and 1990s, in particular through reductions in infant mortality and in deaths among the middle aged and elderly, especially women.

However, the gains achieved, to a considerable extent, have reflected each country’s starting point. Thus, those countries where infant mortality was relatively high at the beginning of the 1980s, and which had the greatest scope for improvement, such as Greece and Portugal, unsurprisingly saw the greatest reductions in amenable mortality in infancy. In contrast, in countries with infant mortality rates that had already reached very low rates by the beginning of the 1990s, such as Sweden, the scope for further improvement was small.

Similarly, the scope for improvement in amenable deaths in adulthood was greatest in those countries where initial rates were highest. The corollary of this is that as rates fall in all countries, the extent of variation decreases. As a consequence, it seems likely that, in the 21st century, the ability to compare health system performance using mortality data at the aggregate level is likely to be limited, simply because the differences will be relatively small. This does not, however, mean that there is not scope for analyses that use amenable mortality rates to screen for potential problems that can then be explored in more depth. It also does not exclude the use of amenable mortality to gain new insights into inequalities in access to care within populations.

**References**


*Martin McKee is Professor of Public Health at the London School of Hygiene & Tropical Medicine and a Research Director of the European Observatory on Health Care Systems.*

*Ellen Nolte is Lecturer in Public Health at the London School of Hygiene & Tropical Medicine and Research Fellow at the European Observatory on Health Care Systems.*

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Cost-shifting (and modernization) in German health care

Annette Riesberg and Reinhard Busse

The Social Health Insurance Modernization Act (SHIM Act) passed its final hurdle on 16th October 2003 when the Federal Council, the parliamentary chamber representing the 16 länder approved the legislation. The Act is a result of a compromise between the incumbent Social Democratic-Green government and the Christian Democratic opposition which holds the majority in the Federal Council. In 2004, the German social health insurance funds will receive financial relief to the tune of €9.8 billion (7% of the likely €140 billion expenditure in 2003). The legislation is also geared towards gradually generating savings of €23 billion for the social health insurance (SHI) system by 2007. Finally, the SHIM Act aims to increase the quality of care, efficient coordination and patient participation.

Cost-shifting

In 2004, the bulk of expected savings (4% of current SHI expenditures) will be achieved by shifting costs to users via increased co-payments or the exclusion of benefits (for example, spectacles, transport to ambulatory care and over-the-counter medications). Existing co-payments are increased and standardized to €10 per inpatient day and to between €5 and €10 for services and products in ambulatory care. Co-payments of €10 per quarter now also apply to the first contact at a physician’s (not necessarily a GP) or dentist’s office and when other physicians are seen without referral during the same quarter.1 Exempted from these co-payment regulations are minors and visits for specific purposes in prevention or disease management programmes. Annual co-payments are limited to 2% of annual gross income after providing the necessary evidence (i.e. receipts) and to 1% in the case of chronically ill patients per year.

Another 10% of expected savings in 2004 will result from shifting benefits relating to social and family policies (for example, maternity pay, sick pay for parents of ill children) to the federal government, which in turn, will increase the tobacco tax in three steps by almost €1 per packet. 16% of savings will be obtained from retired SHI fund members whose non-statutory pensions (for example, from companies) will now be liable to contribution payments. Finally, 15% of savings will be derived from cost-containment measures, especially through reductions in pharmaceutical prices. Further efficiency gains are expected from structural measures but these have not yet been estimated by the government.

From 2005, dentures will be excluded from the jointly funded SHI benefit catalogue saving an additional €3.5 billion per year. Resulting from a compromise between the government and opposition, insurance for dentures will be mandatory for SHI insurees but has to be paid entirely by the them, with no employers’ contributions. Two options are available: (1) to acquire dental insurance from the sickness fund which will charge a flat per capita premium, and which will be the same for all sickness funds and will include free co-insurance for family members, maintaining also in-kind benefit principles, for example, pre-authorization by sickness funds and administration via regional dentists associations; (2) to choose an insurance policy with a private insurance company which will be free to set its premiums.

From 2006, a ‘special’ contribution from all SHI members (but not employers) will raise an additional €5 billion per year (this amount roughly equals the savings envisaged by an earlier but controversial proposal to exclude sick pay from the SHI benefits catalogue, thereby discharging employers from financing this benefit).1 Therefore, the longstanding 50/50 parity in financing will be modified to employers paying only circa 46% of the SHI contribution and employees or other members paying 54%.

Cost-containment

In terms of cost-containment, the SHIM Act focuses on the administrative costs of sickness funds, increased claim controls over providers and the pharmaceutical sector. Measures directed at reducing drug expenditure include:

- the re-introduction of reference prices for patented drugs with no or little additional therapeutic benefits;
- increased rebates for sickness funds for drugs dispensed in ambulatory care;
- the abolition of the uniform price requirements for non-prescription drugs;
- allowing pharmacists to operate more than one, but not more than three, pharmacies;
- a shift from a relative profit margin for pharmacists to a fixed fee of €8.10 per package of drugs financed by SHI (not necessarily reducing costs but

Annette Riesberg and Reinhard Busse, Department of Health Care Management at the Technical University of Berlin and European Observatory on Health Care Systems.
reducing incentives to dispense high-priced drugs); and

– the introduction of e-commerce.

**Compromises on structural reforms**

In the course of negotiations with the opposition and stakeholders, the government modified some of its previous plans \(^1\) and abolished, for example, the proposed positive list for pharmaceuticals, as had happened once before in 1996. The new Institute for Quality and Efficiency (formerly planned as a governmental agency with powers to negotiate drug prices) will now be financed jointly by the associations of sickness funds, physicians and hospitals. The Institute will provide (or commission) the evidence-base for clinical guidelines and for decision-making on the inclusion and reimbursement of benefits within social health insurance. A further example of compromise involved patented drugs found to be of no or little additional therapeutic value; these will be classified into reference price categories but not withdrawn from SHI financing altogether (as was proposed originally).

The Institute will assist the newly founded Common Federal Committee, a result of amalgamating the previously separate joint committees of payers and providers in ambulatory care, dental care and hospital care. The new committee will help to accelerate and coordinate decision-making processes across levels of care. Another new measure provides for patient organizations having the right to be heard (but not to vote) in the most important decision-making SHI committees at federal and state level.

The approach towards organizational reform of the sickness fund associations and regional physicians’ associations has also been moderated throughout the negotiations. Selective contracting will not apply to all specialist physicians but only within the framework of integrated care or to contracts with hospitals for highly specialized out-patient care.

**Future prospects**

Current debates give rise to assumptions that expected reductions in contribution rates have been over optimistic since many sickness funds first need to balance their current deficits. Due to resistance within the Federal Assembly and Council’s Mediation Committee the proposed increase in tobacco tax will be delayed for several months.

The financial success of the SHIM Act will be closely monitored by public opinion in Germany, but also – and probably more than ever before – by the other EU member states. The European Council and the Commission have criticized the raising of social (health) insurance contributions as a barrier to spurring the national economy and to reducing the federal government deficit to below 3% of GDP as agreed in the Maastricht Treaty. The SHIM Act is part of a broader package of fundamental economic, social and educational reforms called “Agenda 2010” to enable Germany to comply with the EU stability criteria by 2005.

In the meantime, further reforms are already underway. During the last year a broad consensus has evolved that the financing of social insurance branches urgently requires fundamental changes. For health insurance, proposals for such changes currently vary between broadening the contribution base to all residents and other types of income (“citizen insurance”) as supported by the governing parties, and per-capita premiums similar to the Swiss model as favoured by the opposition Christian Democrats. For long-term care insurance, the Federal Constitutional Court has demanded that members with children should pay less contributions than members without children. Furthermore, the Federal Assembly has asked federal and state governments to evaluate the existing structures of organization and financial risk compensation in social health insurance. Finally, the federal government is expected to introduce a law on prevention which will help to better coordinate the disparate prevention activities and involve pension and long-term care insurance with the financing of prevention activities.

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*This article is based on the revised “Health Care Systems in Transition” profile on Germany, which will be published in early 2004.*
Health services research ultimately is of little value, and indeed is perhaps a waste of scarce resources, if it does not have an opportunity to influence both policy and practice. This objective of linking policy and practice is paramount to the success of the growing health technology assessment (HTA) movement across Europe, yet all too often little attention, expertise and resources have been devoted to linking knowledge to the decision making process. In part this was due initially to HTA organizations concentrating on demonstrating their worth through the production of reports and other outputs, and relying largely on passive dissemination of these products.

Increasingly, however, the focus is turning to whether knowledge, including HTA outputs, actually are linked to and influence the policy making process. For instance, well established HTA Agencies in Canada, have been subject to an almost constant period of review which has focused heavily on impact, and recently the British Columbia Office of Health Technology Assessment, a university based agency, ceased to exist in part because of a difficulty in demonstrating impact and policy relevance.1

**Measuring impact**

While commentators have been rightly critical of the limited impact of HTA and other health service research evidence in the decision-making process, for example, Barbieri and Drummond2 and McDaid,3 it must always be remembered that measuring the impact of evidence is an extremely complex and difficult task, requiring a high degree of access to the decision making process in order to truly identify connections. It is especially difficult when, as a result of new evidence, the status quo is maintained, so on the surface at least nothing appears to have changed. Furthermore, even when an apparent link can be observed between the publication of a specific report and changes in policy and practice, such information may, in fact, simply be used as justification for a preordained action. While knowledge may not have a direct impact, it can have a more pervasive ‘enlightening’ impact over time, helping to build awareness and help promote acceptability of future knowledge.4 For instance, this may be the main impact of economic evidence thus far, as certainly there is evidence of a greater awareness of, and recognition of the important role that might be played by economic evidence across many parts of Europe.5

**Knowledge transfer**

Knowledge transfer is complex; decision making is never a simple linear process whereby information from knowledge producers and others informs the policy making process. Rather, there are many competing factors and influences that must be taken into account, for instance political considerations, industry, patient and consumer group lobbying, ethical and equity concerns, and media pressure. The way in which knowledge is conveyed is crucial as individuals may be more influenced by ideas rather than by hard data.

The context in which evidence is used is also crucial; there may be a limited institutional and individual capacity to interpret and make use of evidence alongside other information sources.5,6 The structure of health care systems may also act as a barrier to the use of some kinds of evidence, as can be seen by the limited use of economic evidence in the social health insurance systems of Germany and Austria.7 Fragmented decision-making processes and budgets, and a lack of coordinated governmental thinking can also limit willingness to fund programmes in one departmental budget when the benefits and perhaps resource savings will accrue to another. Turbulent conditions within organizational and political structures can also reinforce resistance to HTA evidence.8

Although there is a general perception that HTA, including economic evidence, could make more of a difference in the allocation and distribution of resources, there has been a lack of rigorous evaluation of the success or otherwise of HTA initiatives across Europe.

Anecdotal examples of where HTA evidence appears to have been used in the decision making process can be found. One good example of how HTA evidence may make a difference, but also of how decision making is dependant on many other factors, is the case of beta interferon for the treatment of multiple sclerosis in Denmark.9

In 1999, the Danish Institute of Health Technology Assessment recommended that the treatment should not be made available widely on the grounds of cost effectiveness, a recommendation that was accepted by the county councils which have responsibility for health care services in the country.

This, however, became a very contentious political issue, well reported in the media and subject to intense lobbying by patient groups. Subsequently, the Danish Parliament overruled the decision, and funding for treatment was provided centrally. Ultimately, following receipt of additional trial data, coverage was again restricted in 2001 to a sub group of patients for whom the treatment was most cost effective.
Meeting the challenge

If we are to improve the facilitation of knowledge in the policy making process it is helpful to understand some of the practical barriers that have to be overcome. A number of studies looking at policy makers’ attitudes and understanding of HTA and economic evidence have been undertaken (see, for example, Hoffmann12 and Innvaer et al11). Key factors identified as barriers include:

- Studies do not address key policy questions
- Absence of personal contact between researchers and policy makers
- Reports often highly long, technical and incomprehensible
- No transparency in methods used, making comparison difficult
- Lack of timeliness
- Studies do not consider wide health and societal impacts
- Mutual mistrust between scientists and politicians
- A lack of demand for HTA (including economic evidence)

While these barriers are not insignificant, it should also be stressed that awareness of the important role that may be played by HTA, and economic evidence across Europe has increased, as evidenced by the establishment of numerous HTA agencies. Moreover, formal requirements to at least consider HTA and economic evidence in the decision-making process have been introduced in a number of European countries including Finland, the Netherlands, Spain, Sweden, and England and Wales. However, this will be insufficient to help promote the use of knowledge unless there is a greater appreciation of the many factors influencing knowledge utilization. While a multi-dimensional approach is required, perhaps the most crucial factor is the direct relationship between knowledge producers and knowledge utilizers.

Good personal links between research and policy makers allow an iterative process of dialogue and an exchange of views to take place. Bringing both groups together at an early stage, along with other key stakeholders, in order to identify research questions, which are both of policy relevance and feasible from the point of view of research has been shown to be effective.6 Information also needs to be presented appropriately. Decision makers do not have time to read long technical reports – they require a short summary of key actionable messages and solutions to problems arising from research.

One key way of improving the ‘receptor capacity’ of both communities to each others’ ideas, may be through the use of knowledge brokers, individuals with some training in the technical aspects of health service research, but also comfortable in a policy making environment. They can help filter the many different types of information that constantly bombard the political and policy making process. This may be particularly appropriate if there is a high turnover of civil servants, as is the case in some systems. They can also help encourage implementation of evidence on the ground, for example SBU the Swedish Council for Technology Assessment in Health Care employs ‘ambassadors’, individuals who disseminate guidance on a face to face basis across the country, and who also initiate and participate in local and regional seminars and conferences.12 Formal processes to train a cadre of such knowledge brokers are now being established elsewhere in Europe, and they also, in time, will require careful evaluation.

REFERENCES

Observatory News

Central Asia Primary Care Workshop
This workshop took place on 15–16th November 2003 at the Kazakhstan School of Public Health, Almaty Kazakhstan. The workshop brought together senior policy makers from Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan and European experts to provide evidence on the current trends on primary care in Europe.

National Purchasing Workshop, Bulgaria
As part of the launch of the Health Care Systems in Transition Profile on Bulgaria, senior Bulgarian policy makers, along with a team of experts from the Observatory’s partner organizations, participated in a workshop on strategic purchasing in primary care and hospitals on 1st–2nd December 2003 in Sofia. The workshop provided an overview of the current continuum of care purchasing trends in Europe, as well as canvassed recommendations relevant to the Bulgarian health care system.

Accession Workshop, Hungary
On 12th December 2003 the Observatory, together with its partners from WHO, the World Bank and the Open Society Institute launched the Health Care Systems in Transition Profile on Hungary. Following the launch, on 13–14th December at Semmelweis University, Budapest, the Observatory brought together the WHO liaison officers, ministry of health EU-integration coordinators, and vice ministers of health of accession countries to discuss the current trends in the movement of patients, pharmaceutical policy and patients’ rights in the European Union and their implications for accession.

National Workshop, Turkey
As a part of the launch of the Health Care Systems in Transition Profile on Turkey, the Observatory organized a joint workshop, with the European Commission and the World Bank, to discuss options for hospital reform, purchasing health care and the development of family medicine in Turkey. The workshop took place on 15–16th December 2003 in Ankara, with the Observatory providing an overview of the current reform trends in Europe, with specific reference to a case study of the development of family medicine in Bosnia and Herzegovina.

Launch of HiT Profile on Israel
The Observatory, along with its partners in the World Bank and national policy-makers and representatives from the Israeli Ministry of Health, launched the Health Care Systems in Transition Profile on Israel on 16th December 2003 in Tel Aviv.

The Editorial Team welcomes submissions from individuals for publication in future issues.