

## Editorials

# Analyzing European health systems: Europe as a research laboratory

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The main challenges of European health systems relate to increasing demand for care and rising expectations, the epidemiological shift towards lifestyle-related (chronic) disease and the need to develop sustainable solutions. Prevention in a broad sense—universal, selective and indicative—plays an important role in developing into sustainable health systems. To address these challenges, knowledge is needed. However, this knowledge is not restricted to fundamental and biomedical knowledge. We also need (and some might say: ‘mainly’ need) knowledge about the social and economic influences on health and health care utilization and on the implementation of policies to address these influences. Therefore, international health research programmes, such as those of the European Union, should not one sidedly focus on biomedical research. Apart from leaving out these important influences on health and health care, for biomedical knowledge to be used, we need to know more about the dynamics of implementation and about the broader socio-economic and health system context in which implementation takes place.

European health systems show large variation in structure, integration, processes and outcomes (in terms of health, equity, quality and costs). We have to use exactly this international (and interregional) variation to gain policy relevant knowledge for implementation of interventions aimed at improving health and health care. European societies and health systems are our research laboratory.<sup>1</sup>

An excellent example of the use of ‘Europe as our research lab’ is the study by Mackenbach and McKee<sup>2</sup> in this issue. They report on a comparative analysis of health policy performance in 43 European countries. Their starting point is the large variation between European countries—in fact, the member states of the European region of WHO. The authors relate country characteristics in terms of the willingness and means to implement health policies to process (policy implementation), intermediate outcomes (uptake of the policy by the policy subjects) and final outcomes (in terms of, for example, mortality reduction). The article is of considerable interest for researchers in public health and health systems as well as for policy makers across Europe. The findings are likely to initiate questions, critique and debate, and hopefully, it will spur policy makers into action.

The results of Mackenbach and McKee’s analysis show that their summary score of health policy performance is related to self-expression values and ethnic fractionalization. The separate indicators of policy performance relate to democracy, the political composition of governments, national income, government effectiveness and (again) self-expression values, in combinations that differ according to the outcome concerned. These independent variables are part of complex patterns of relationships. For example, it might be hypothesized that values influence democracy

and government effectiveness. For reasons to be discussed below, it is nearly impossible to analyse these complex patterns statistically.

As regards actionable conclusions of the article, it is important to notice that the independent variables in the analysis are difficult to ‘manipulate’. Think of values, ethnic fractionalization (or more general lack of social cohesion) and wealth. However, the authors rightly point out that this is no license to do nothing but rather a challenge to adapt policy implementation strategies to the context of the country and its population.

The article illustrates a number of methodological problems that are typical for health systems research.

- There is often a lack of clarity what a given policy actually entails and when and to what extent it has in fact been implemented. Sources often contradict each other in this respect.<sup>3</sup> The web appendix to the article<sup>2</sup> and the book on which this is based<sup>4</sup> give more information on the policies involved.
- The problem of small numbers and comparability. In the European Union, there are only 27 member states, and in the European region of WHO, there are only 53. Comparability is a problem when the distributions of the variables do not overlap at least to some extent. In this article, both the summary score for health policy performance and a number of independent variables show a clear East–West divide.
- This problem is even more difficult to solve as a result of the fact that characteristics of health systems often form fixed combinations that are historically determined and therefore difficult to separate. Statistically, these combinations of characteristics are best modelled as interactions. However, the numbers of countries are usually too small for his type of more elaborate statistical analysis.
- There are always missing values, and also this is more difficult to handle as a result of small numbers. The meaning of missing values differs from, for example, missing values in large surveys (although in that case the assumption of random missings is hard to substantiate). In health systems and health policy research, the fact that information is missing can be seen as an aspect of health policy itself: having good national monitor data is a prerequisite of effective policy making.<sup>5</sup>
- And finally, I want to mention the issue of cause and effect. Health system analyses are usually cross-sectional, which makes it difficult to come to cause and effect inferences. Pooled cross-sectional and time series are then a solution. However, that pre-supposes a more elaborate system of monitoring policies and their outcomes over time.

Are these problems then a reason to stop undertaking health systems research? I am convinced it is not. They are rather a reason to invest in collecting systematic information on European health care systems over longer periods. The authors are aware of

these shortcomings, discuss them in their article and performed a sensitivity analysis.

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# Seven goals for public health training in the 21st century

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Public health teaching is often described in terms of the disciplines it includes; epidemiology, prevention, health services research, etc., or the goals it seeks to attain; such as being able to investigate/evaluate/design this or that epidemiological study or prevention program. Yet it is much, much more than this. It is a means to prepare people to engage actively in a complex and changing world in ways that improve the health of the population. So, given this, what do we, who teach public health, want from young people taking on a career in public health training and research?

First, we want to stimulate curiosity. We need people who want to understand the world around them and not those whose horizons are limited by what is needed to pass an examination. We want people who are continually asking why, and who will not be satisfied with the answer ‘because I say so’. We particularly want people who will look at the widely accepted view and ask: Does this apply here, in these circumstances, in this population? This is more important now than ever, as we are faced with a neo-liberal agenda that is being clung to by much of the media and politicians in many countries despite overwhelming evidence that it is devastating our economies and, in countries such as Greece, Spain and Portugal, damaging the health of our fellow Europeans.<sup>1</sup>

Second, we want to produce people who are willing to take the initiative. We need many more social entrepreneurs, people who will spot an opportunity and go for it. We need people who are prepared to take risks. But we will then need to be willing to accept failure. We still adhere to a culture where the message is often that it is better to do nothing than to risk failing. Our junior staff must know that if they do something and it goes wrong, we take the blame.

Third, we want to help people to make connections. Over the past half century, epidemiology has achieved an enormous amount in identifying individual risk factors. But we need to be able to look upstream, to identify the causes of the causes, and downstream, to understand the biological mechanisms. In our work in Russia, we have shown that alcohol is the main cause of the catastrophically low life expectancy.<sup>2</sup> But we must look upstream to ask why Russians drink the way they do, as well as look downstream to ask why so

many heavy drinkers die suddenly, with clean coronary arteries,<sup>3</sup> because in this way we can also gain insights into the nature of cardiovascular disease in other heavy drinking populations that may be more difficult to study.

Fourth, we want to convey the big picture. This is not at all easy to do with the tools at our disposal, especially when we constrain ourselves with narrow frameworks for assessing cause and effect, such as Koch’s postulates or Bradford Hill’s criteria of causality. These frameworks have a very important role, but only in certain circumstances. To take another example from our own work, we know that levels of tuberculosis vary widely in different parts of Africa. But why? There are many reasons, and one is the extent of mining.<sup>4</sup> We have shown how mines act as amplifiers for these diseases, in the same way that prisons do in Eastern Europe. We can never do an randomised controlled trial to prove it, but with some imaginative use of data, supported by mathematical models, we can provide strong evidence of a link.

Fifth, we want people to know what they are up against. The most obvious example is the tobacco industry, which has spent years undermining efforts to tackle the leading cause of premature death in Europe. But there is growing evidence of the damage to health caused by large corporations in other areas, such as the food and pharmaceutical industries.<sup>5</sup> More than ever, the public health professional needs to read the Economist, the Financial Times and the Wall Street Journal.

Sixth, we must support people to engage with key decision makers at all levels. To do so, we in public health need a great deal more self-confidence. Too often colleagues say that they cannot comment on something because they do not know anything about it. Yet we continually hear eminent politicians and social commentators speaking on issues they clearly know nothing about, yet they have the self-confidence, or perhaps arrogance, to go on national radio or television to expose their ignorance. Given a few hours and a fast internet connection, most students could do a much better job of understanding the topics they addressed. We need to be careful that we do not stand up and talk nonsense, but at the same time, we must realize that many self-appointed experts have only the most