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## 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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