



# Unwarranted variations in healthcare: Time for a European agenda

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## Introduction: The European Union added value in tackling unwarranted variations in healthcare

Quality, access and efficiency of healthcare services are at the top of the European Union (EU) Member States' agendas and at the heart of many debates in health policy making and management. The question is how to achieve better healthcare that is accessible to all, without threatening the sustainability of systems and services.<sup>1</sup>

One practical approach to tackling these issues is to address unwarranted variations. Unwarranted variations are those variations in healthcare delivery that cannot be explained by illness, medical evidence or patient preference.<sup>2</sup> These contribute to differences in access to care services (both under and oversupply across different geographical areas) and in widely varying mortality rates across the hospital sector.

The first step in addressing unwarranted variations is to map them. This requires systematic and routine collation of data and the right methodological approaches. Following the example of the United States' Dartmouth Atlas, this work has been undertaken in a number of countries with the Spanish Atlas of Medical Variations in Practice as a particular good example.<sup>3</sup> The EU funded the initiative 'European Collaboration for Healthcare Optimization' (ECHO; for more information about the ECHO project, see [www.echo-health.eu](http://www.echo-health.eu)) took place from 2010 to 2014 to learn about the possibilities of addressing unwarranted variations on an EU level. In this briefing, we will discuss the challenges this project raised but also the necessity of a European approach to tackling unwarranted variations.

## The ECHO project

The ECHO project brought together patient-level data from Austria, Denmark, England, Portugal, Slovenia and Spain, in order to make them comparable, and mapped unwarranted variation in and across countries. What has been measured in ECHO is the 'systematic component of variation' or SCV. The SCV

“considers the number of observed [hospital] admissions relative to the number that are expected, given the age and gender distribution of the population”.<sup>4</sup> Other benchmarks, for example the OECD's work on healthcare quality indicators, are often based on crude aggregated data reflecting a national performance. This causes the loss of much valuable detailed information, which in turn makes it impossible to explore patterns of variation.

In order to get to the SCV, the project built an infrastructure to store data on 200 million individual (and pseudonymised) hospital discharges. This implies the necessity of having patient-level data available for benchmarking purposes. Next, the project developed so-called crosswalks to make coding systems comparable, and by using sophisticated risk adjustment methods it succeeded in making patients and populations comparable. This allows for comparing providers, by building common performance benchmarks.

As a result, the project was able to assess utilisation of effective care procedures; equitable access to effective care across regions; undesirable hospital outcomes; potentially avoidable hospitalisations and utilisation of low-value procedures. These results were presented to different stakeholders (policy makers, health managers, interest groups and health professionals) who were asked to validate the results, to indicate whether the output of the project was useful for decision making, and what kind of explanation they had for the unwarranted variations in their country.

A number of lessons that resulted from these stakeholder groups and those with a particular EU dimension are discussed below.

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## Three lessons from ECHO for the EU agenda

### *Lesson 1: Comparing variations on an EU level gives new perspectives on national performances*

Comparing variations on an EU level delivers better and new insights. First of all, the statistical population is larger, so the validity of analyses increases. Using the SCV in one country results in findings gravitating around the national average. Pooling data internationally decreases this effect, putting hospitals performance in different perspectives.

Learning whether hospitals are doing better or worse compared to similar providers across borders is one of the valuable benefits of international benchmarking. When benchmarking against a national average, in terms of mortality rates some hospitals *must* come out on top. But that does not mean that they are performing well – international benchmarking may give a different picture.

Comparing variation on an international level allows different hypotheses to be tested. For instance, based on the ECHO project, Gutacker et al.<sup>5</sup> studied whether national differences in mortality rates after coronary artery bypass graft surgery are associated with poor performance in a few individual hospitals and/or with the effects of hospital volume on mortality – those hospitals that did more operations performing better. Separate benchmarking in Spain and England did not show ‘alarming’ rates of mortality for any hospital. However, when the data were pooled, it showed ‘alarming’ rates in 21 Spanish hospitals. Further risk adjustment for the case mix increased the differences in mortality between England and Spain. With these insights, the authors were able to hypothesise that this is caused by a volume effect. This hypothesis provides a valuable starting point to discuss possible policy measures and financing instruments that could reduce low-volume effects.

### *Lesson 2: Comparing variations on an EU level leads to a wider debate on quality, safety and delivery of care*

Discussing variations inevitably leads to enquiry on their causes. These may include clinicians’ preferences; lack of guidelines, or too many guidelines, or poor implementation of guidelines, and lack or conflicting evidence on what are safe or effective procedures. With the EU’s increasing aspirations to support Member States in improving their healthcare systems,<sup>6</sup> evidence concerning unwarranted variations should be warmly welcomed and improve the dialogue between the European Commission and

Member States on areas in Member States’ healthcare systems that would benefit the most from improvement.

### *Lesson 3: Comparing variations on an EU level results in better data nationally*

During the national stakeholder groups, it became very clear that participating in international benchmarking exercises has a positive effect on coding practices. The fact that ECHO made use of patient-level data and not aggregated data provided an impetus for health managers and professionals to code more accurately on an organisational level, as otherwise their position in the ranking would be affected. This means that the quality of coding might not be optimal from the start onwards, but that involvement in international benchmarking is an incentive for improvement.

## Conclusion: Recommendations for an EU agenda to tackle variations

The ECHO project was a pilot project that has shown how unwarranted variations could be addressed by applying a European dimension to geographical and hospital level analyses. After achieving this objective and by showcasing a real EU-added value, the question remains what next?

There is a clear potential and added value for Member States to collaborate by pooling data and by benchmarking themselves in the areas of access to services and unwarranted mortality rates against each other. For each of the involved Member States, this data would provide excellent starting questions and pointers for debate on how services can be made safer and more efficient. A joint initiative that creates a European atlas on healthcare variations would allow for a truly practical and pragmatic approach to moving Europe towards accessible, safe and sustainable health systems despite an unfavourable economic climate.

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The authors declare that there is no conflict of interest.

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