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What explains regional differences in Swedish healthcare?

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This report is based on Johansson, Jakobsson and Svensson (2018), *Regional variation in health care utilization in Sweden – The importance of demand-side factors*, BMC Health Services Research, 2018, 18:403; and Johansson and Svensson (2021), *Regional variation in drug expenditures – Evidence from regional migrants in Sweden*, paper II in Naimi Johansson's doctoral dissertation *Price sensitivity and regional variation in health care* (2021), University of Gothenburg.

SNS RESEARCH BRIEF | The objective of the SNS Research Brief series is to make research accessible for decision-makers in politics, business and the public sector. Financial support has been granted by the Jan Wallander and Tom Hedelius Foundation. Responsibility for the analysis and the conclusions in the research briefs rests with the authors alone.

Studies from several countries have found substantial geographical differences with regard to medical treatments, surgical procedures, hospital admissions, physician visits and total healthcare expenditures within the same healthcare system.[1] But is regional variation in healthcare necessarily a problem or is it just as normal as the fact that the consumption of snowmobiles, electric bicycles or seafood varies across geographical areas due to differences in demand and supply?

Since healthcare is primarily financed by common resources, there is an element of equity in how these common resources are allocated. The Swedish Agency for Health and Care Services Analysis has defined variation in healthcare as being a case of unjustified inequality if this variation cannot be explained by differences in medical needs, medical conditions or patient consent.[2] In other words, variation in healthcare depending on where you live or based on individual income, age, gender, etc. is not consistent with the goal of healthcare on equal terms in the Swedish healthcare system.[3] From an economic perspective, it is also a question of efficiency and that scarce resources should be spent where they yield the most utility.

In the empirical literature, regional variation in healthcare due to differences in health or medical needs is seen as unproblematic. However, regional variation is unwarranted if caused by, for example, a misallocation or inefficient use of resources.[4] The main research question is thus: Which factors cause regional variation in healthcare? This question has proved difficult to answer and researchers are debating whether regional variation is primarily determined by individual needs and demands or by differences in the supply of healthcare. A limitation in analyses of regional variation in healthcare concerns the difficulty in measuring healthcare needs and the production of healthcare.

In both Johansson, Jakobsson and Svensson and Johansson and Svensson, we study which factors may explain regional variation in healthcare.[5] Despite a large number of studies documenting regional variation in healthcare, often with a focus on a specific disease or treatment, only relatively few of these have studied the causes of regional variation.[6] We study regional variation on an overall, structural level, which allows us to draw conclusions regarding our healthcare system as a whole. There is, to our knowledge, no previous study looking into regional variation in Swedish healthcare as a whole (on an overall level). Furthermore, in Johansson and Svensson, we use a method enabling us to estimate causal effects of determinants of regional variation in pharmaceutical spending. Only a few previous studies have acknowledged how regional variation within a country can differ with regard to various categories of healthcare. Using two different datasets and two different empirical methods, we examine regional variation in physician visits (primary and specialized care) and pharmaceutical spending.

The degree of regional variation in Swedish healthcare is relatively small from an international perspective, but it depends on the outcome being studied (e.g., total expenditures or healthcare visits). There is a large variation in physician visits: almost twice as many physician visits per capita took place in Stockholm during the 2010s compared to regions with the lowest degree of utilization, such as Östergötland and Jämtland Härjedalen. In terms of regional variation in physician visits, we find that the explanatory factors differ for visits to primary care physicians and for visits to specialists.[7] Medical needs, measured by regional mortality, partially explain regional variation in specialist visits but only present a limited association with variation in primary care. Instead, we find that access to care explains part of the variation in primary care, which indicates that regional variation in primary care is incompatible with the Swedish goal of healthcare on equal terms and that regional differences in primary care need to be reduced.

When it comes to regional variation in pharmaceutical spending, we find that factors at the individual level, including both medical needs and demands, are the major drivers of variation, while differences in healthcare supply, measured as a region-specific effect, only contribute marginally to the variation.[8] This implies that policies aimed at the organization of healthcare or the allocation of resources will not be effective in reducing regional variation in pharmaceutical spending, as these differences are primarily caused by individual-level characteristics.

In conclusion, it is difficult to present a definite picture of regional variation in healthcare since this variation, and the factors that explain it, differ depending on which type of healthcare is analyzed. In order to analyze the association between regional variation in healthcare and differences in medical needs, we need a better measure of medical needs. For example, an index for individual morbidity such as the index used to allocate resources in the German social health insurance could

1. Corallo et al. (2014), OECD (2014).
2. Myndigheten för vård- och omsorgsanalys (2019).
3. SFS 2017:30.
4. Skinner (2011).
5. Johansson, Jakobsson and Svensson (2018), Johansson and Svensson (2021).
6. Corallo et al. (2014).
7. Johansson, Jakobsson and Svensson (2018).
8. Johansson and Svensson (2021).

be used.[9] In order to draw a comprehensive picture of regional variation in healthcare, other measures of the healthcare production also need to be analyzed, such as total healthcare expenditures, use of inpatient care and use of all healthcare professionals, not just physicians. However, there is no national register of primary care utilization, and the national register for outpatient specialized care only covers physicians, not other healthcare professionals, which means that it is difficult to study these outcomes.

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9. See, for example, Kopetsh and Schmitz (2014).