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# How are children with asthma treated?

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## EDITORIAL

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## Asthma treatment in children varies considerably between the counties.

Variation in the health services provided to the population has been a major topic in health service research for several decades. As early as 1938, James Alison Glover found a conspicuous variation in the incidence of tonsillectomy between different hospitals in England [\(1\)](#). Wennberg & Gittelsohn reached the same conclusion in 1973 when they investigated the incidence of various surgical procedures in Vermont, USA [\(2\)](#). The latter study found, for example, that the incidence of tonsillectomy could vary by a factor of 12 between neighbouring districts.

An important premise for evaluating such studies has been that when different doctors recommend different assessments or treatments for exactly the same patients, it is impossible for them all to be correct [\(3\)](#). Many attempts have thus been made to explain the variation observed [\(4\)](#). A number of authors have identified *uncertainty* as an important reason [\(5\)](#). Uncertainty may have a bearing on both diagnostics and treatment via several mechanisms [\(6\)](#). These include insufficient evidence due to a lack of research data, doubt that the available data are relevant for the clinical situation, or uncertainty as to how data should be interpreted.

It is doubtful whether all variation and uncertainty in medicine can be eliminated, but evidence-based medicine has been launched as an antidote to unacceptable variation [\(7\)](#). This approach to medical treatment is partly a

matter of ensuring that there are general standards for diagnostics and treatment, and partly arises from a wish to provide a better decision-making basis for the individual doctor working on a practical medical problem (8, 9).

Asthma is a widespread disease that is assumed to start in childhood in half of all asthma patients (10). The risk of developing chronic obstructive pulmonary disease in adulthood is also significantly greater in patients who have had asthma as children (11). In this issue of the Journal of the Norwegian Medical Association, Mikalsen and co-authors address an important problem and determine the variation by county in asthma treatment of children in Norway (12). The authors have used data from the Norwegian Prescription Database, which stores information on all prescriptions issued since 2004. The main findings of the study were that a considerable variation exists between the counties in terms of the prescribing of asthma drugs to children, and that few children used asthma drugs (particularly inhaled steroids) continuously over long periods of time. The latter finding deviates from what might be expected based on current guidelines.

A number of different international guidelines for the treatment of children with asthma exist in addition to the Norwegian national guidelines. The Global Initiative for Asthma (GINA) guidelines, which are regularly updated, are easily available on the internet with information on diagnosis, treatment and prevention of asthma in all age groups (13). Nevertheless, the guidelines do not provide answers to all possible questions. In the UK, two different sets of guidelines for asthma are now available which are partly contradictory. Both have been prepared *lege artis* by competent organisations, the National Institute for Health and Care Excellence (NICE), the British Thoracic Society (BTS) and the Scottish Intercollegiate Guidelines Network (SIGN). The two sets of guidelines have different views, for example, on the need for objective diagnostics in children. Naturally, this has created frustration among British general practitioners (14).

The present study demonstrates how data that are routinely obtained, such as an overview of dispensed prescriptions, can be used to study the use of drugs in the population and indirectly to evaluate the quality of treatment. However, the methodology is less suited to identifying the reasons for the discrepancies that were observed. The authors find it difficult to explain the variation based on the prevalence of asthma among children in Norway, which is summarised in other studies. We might wonder whether doctors in general have sufficient knowledge of the available treatment guidelines. The findings in the study in any case indicate that these are not complied with. The question is also whether the guidelines for treatment of children with asthma are adequate, even though they are evidence-based. Are the guidelines sufficiently well documented and do they provide workable directions that can be put into practice?

The study by Mikalsen et al. raises several questions that should be followed up further. The results indicate that many patients are treated unnecessarily, while for others necessary treatment is withheld. Incorrect use of drugs has health-related consequences and also possible economic consequences in that undue cost pressures are placed on the prescription reimbursement scheme. Our current knowledge on this is scant.

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