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## Review

# Clinical practice variation in cataract surgery<sup>☆</sup>



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## ABSTRACT

**Purpose:** Cataract surgery rates have dramatically increased in the last two decades. However, clinical practice variation in cataract surgery has not been thoroughly studied. The aim of this review is to analyze clinical practice variation, including the causes and consequences of this phenomenon. Then, its role in health care planning and health care quality is focused on, emphasizing the importance of reducing it and providing several practical strategies to accomplish it.

**Recent findings:** The latest researches are presented in this article. They identify the development and implementation of clinical practice guidelines as the best tool to standardize care processes.

**Conclusion:** Managing unwarranted or unwanted variation would improve quality of care and may lead to a significant saving in health care spending.

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## Variabilidad clínica en la cirugía de la catarata

### RESUMEN

**Propósito:** Las tasas de la cirugía de la catarata han aumentado de forma espectacular en las últimas dos décadas. Sin embargo, las variaciones en la práctica clínica en esta cirugía no han sido estudiadas en profundidad. El objetivo de esta revisión es el análisis de dicha variabilidad, incluyendo los factores que la originan y las consecuencias sobre la calidad asistencial y la planificación sanitaria. Asimismo se resalta la importancia de reducirla y se exponen diversas estrategias que permiten su control.

**Hallazgos recientes:** A lo largo del artículo se presentan las últimas investigaciones en las que se considera que el desarrollo y la implementación de guías de práctica clínica constituyen la mejor herramienta para estandarizar los procesos de cuidados.

### Palabras clave:

Variaciones en la práctica clínica

Catarata

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*Conclusión:* El control del componente injustificado o no deseado de las variaciones, además de mejorar la calidad asistencial, puede suponer un importante ahorro en el gasto sanitario.

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## Introduction

In the current health industry environment, focused on cost reductions, it must be taken into account that up to 30% of health assistance expenditure could be eliminated without a negative impact on results.<sup>1,2</sup> In Spain, with a percentage of 8.4% of GDP dedicated to health expenditure (OECD Health Data 2008), said percentage would amount to 2.5% of GDP. Accordingly, if inappropriate procedures can be reduced, resources could be released to provide adequate and effective services to the entire population.

Medical practice variability (MPV) is accepted as inherent in clinical decision-making which cannot be eliminated completely. However, it is prioritary to identify unjustified or undesirable variabilities because MPV could indicate processes in which quality and efficiency problems are more predominant.

In this regard, a MPV study should be used to adopt different types of measures in clinical management, i.e., enhancing effective procedures in areas which are not sufficiently used and reducing excessive use of ineffective or inadequate services, managing the supply of resources and promoting more efficient policies<sup>3</sup> because MPV analysis and reduction constitutes an opportunity for controlling health expenditure.

Cataract surgery (as a typical case of elective surgery) is also affected by MPV considering variability between countries, regions and hospitals which is not explained by the characteristics of patients. To this we must add the rapid increase of cataract surgery in the last 2 decades, a trend which will most likely continue to increase in the future.<sup>4-9</sup>

The recent establishment of a new Cataracts Departments in the Reina Sofía University Hospital of Córdoba has brought about modifications in the "cataract process" and implements a new standardized operational procedure which includes quality indicators. One of our objectives is to reduce process variabilities.

Accordingly, the objective of this article is to raise awareness amongst the ophthalmological community about MPV in cataract surgery because we consider that, under the present circumstances, it is important to control MPV on the basis of the best available evidence, placing all the above in the framework of a total quality management strategy.

## Antecedents and concept of variability in medical practice

Concerns about inequalities in the use of health services are not new. A pioneering article on MPV was authored by Glover in 1938 on the rate of amigdalectomies in England,<sup>10,11</sup> in

which a huge variability was referred between different school districts. According to Glover, the only explanation for said inequalities was the lack of uniformity between the physicians who attended these children related to amigdalectomy indications and benefits.

The most relevant studies on variability were written after 1970 by Wennberg and his group,<sup>12</sup> regarded nowadays as the essential reference on the subject. The first research they made on hospital admissions in Vermont revealed the existence of large variations in hospital usage rates, installed resources and health-related expenditure.<sup>10,13</sup>

The successive publications of the Wennberg group in the following decade definitely broadened the view on variability by comparing the utilization of hospitals in Boston and New Haven.<sup>14</sup> They observed that the citizens of Boston spent 74% more in hospital services than their neighbors in New Haven despite the similarity between both cities as regards age groups, ethnicity and income.<sup>15</sup> Wennberg's research was continued with the publication of the Dartmouth Atlas of Health Care which systematically reviewed the American health system, concluding that if unnecessary expenses were controlled there would be sufficient resources to provide high-quality medical care to the entire population.

The MPV concept refers to systematic and nonrandom variations in the standardized rates as per age and sex for a determined clinical procedure at a given population aggregation level. MPV studies have an ecological nature and are focused on the analysis of small areas as the main methodological tool. The objective of these studies is to compare the rates of different geographical areas and assess whether variabilities involve different utilization of services as well as the magnitude and relevance of these differences.<sup>10</sup>

In practice, MPV can be divided as justified and unjustified. The former occurs due to demographic and sociocultural differences whereas the latter appears once the above-mentioned factors are under control and involve a poor quality care and possible misuse of resources.

The factors which determine systematic variability can be analyzed on the demand side (morbidity, demographic structure, sociocultural level, patient expectations, etc.) and on the supply side, where we can differentiate between the characteristics of health professionals (knowledge, uncertainty, etc.) and the characteristics of the health system (structure, organization, accessibility, funding, etc.). The proportion of the variability explained by each factor is difficult to determine.<sup>10,15-17</sup>

On the basis of the relative importance of the above factors, several theories have been developed to explain MPV. One theory hypothesizes on the basis of uncertainty, patient practice styles, enthusiastic physicians and technological fascination.<sup>10,15,16</sup>

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