

Clinical management in nephrology: outcomes and costs

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It is sometimes said that “the economy is not everything, but it is in everything”. Nowadays, providing an adequate healthcare service involves guaranteeing its future for the next generation, at least with similar conditions. A national health system financed by taxes and subject to budget constraints is a good example of “zero-sum”: that is, although we do not perceive it, whenever someone earns (or spends) more than necessary, no doubt, somewhere else someone will lose out, at the very least, the taxpayer.

The responsibility that we have as nephrologists is important due to the clinical, social and economic implications of our decisions. Approximately 0.5% of doctors in the whole Spanish National Health System allocate more than 2% of all healthcare spending¹⁻³, which amounts to State expenditure of 1.829 billion euros per year⁴. Ensuring that this is carried out with maximum efficiency should be a concern of patients, nephrologists, institutions and taxpayers.

The demonstration of variability in the outcomes obtained by different centres is an opportunity for improvement. The “centre effect”, reported in the nineteen-nineties, found that in 196 different haemodialysis units, the main factor that determined the different dialysis dose received by patients was the centre to which they belonged⁵. In our setting, significant differences have also been observed between dialysis centres in indicators such as dialysis dose, vascular access or mineral and bone metabolism⁶. That is, different centres systematically obtain different healthcare outcomes.

Another aspect of great interest in the assessment of health services is the lack of a clear linear correlation between outcomes and costs: a higher cost in providing health services does not necessarily imply better outcomes⁷. This situation

makes us carefully monitor and analyse both aspects, outcomes and costs, without prejudice, in order to identify potential deviations and corrections in each of them.

When we analyse what makes excellent healthcare institutions, what they have in common and what sets them apart, the main thing we learn is that the organisation and activities carried out by their members are aimed at achieving excellence. These organisations consist of specialist subunits that plan their activities, they place in each one the right patients and staff at the appropriate time, they invariably measure their individual critical outcomes and add, analyse and compare them in a multidisciplinary manner, and they detect and correct their mistakes and systematically generate knowledge that they use to redirect activities and processes, both at a micro and macro scale of the organisation⁸. That is, they create organisational habits conducive to generating value.

Investing a very small percentage of the total cost of renal replacement therapy, around 0.1%-0.2% to procure instruments that determine the efficiency of nephrology services would not be an additional cost to the system, but rather an investment that would be expected to provide a quick social return in terms of health and costs.

We could have a vision of nephrology in Spain of the many centres that provide nephrology services with different functional and institutional facilities, organised autonomously, but which share the lowest common denominator of the excellent organisations: measuring relevant outcomes and comparing them with those of other centres, with the sole aim of stimulating the changes that are necessary to improve them. The main idea that we wish to emphasise in this article is that the effective use of an outcomes register would be the single most important activity that we could develop for this purpose. This register may be basic (by basic we do not mean that it is of little merit), such as that of renal replacement therapy in the United Kingdom; likewise, this category would include the haemodialysis quality register of the Spanish Society of Nephrology (S.E.N.). Moreover, the register could also be designed as a “maximums register”, which would constitute a challenge.

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A major limitation of the basic register, for example, in the assessment of haemodialysis centres, is that only 15% of the variability in their morbidity and mortality may be explained by the quality indicators normally used, such as haemoglobin, dialysis dose, type of vascular access and mineral and bone disease⁹. Therefore, the design of an assessment system based solely on these traditional indicators is inadequate.

Recently, many authors from both the institutional and scientific setting have been advocating the assessment of processes from the perspective of the main stakeholders involved as the best strategy for achieving an overall, acceptable assessment¹⁰⁻¹⁵. As such, the assessment of centres should integrate the views of patients, clinicians, nurses, researchers and healthcare managers, reflecting their values and preferences, and thus, a system should be configured to align their different perspectives and interests, all of which are legitimate. This is what we would call a maximums register.

The concept of efficiency reflects the relationship between the outcomes obtained and the costs, that is the value contributed to society. Guaranteeing optimal efficiency necessarily involves measuring, recording and processing this critical information. Without this register, we cannot guarantee it. Value is defined as the benefit obtained by patients who have a specific medical condition for each monetary unit invested by the healthcare systems^{16,17}. The value must be proportional to the final outcomes from the patient's perspective and the process indicators must be considered as merely tactical in the service of the main objective. Therefore, the patient's perspective is essential in determining value.

Thus, determination of the value produced by dialysis centres could be estimated, theoretically, as a function of the outcomes obtained by each centre, from the perspective of stakeholders involved (numerator), in relation to their cost (denominator). The numerator would include the outcomes that contain all the centres' relevant information: evidence-based outcomes (type of vascular access, dialysis dose, haemoglobin, etc.), morbidity, mortality, health-related quality of life and satisfaction with the dialysis centre, with their importance being weighed by the different stakeholders involved. The denominator would constitute the cost of centres, which is an absolute determinant of the value produced.

Within our specialty, we can equip ourselves with the tools needed to implement an objective with these characteristics. From the methodological point of view, we can adjust the outcomes for the case-mix of the different populations and determine their morbidity using proxy indicators such as hospitalisation. We have valid questionnaires to estimate health-related quality of life and appropriate cost accounting tools to determine costs homogeneously. Centres should be provided with the IT tools necessary to obtain this information automatically, if they do not already have them, without duplicating tasks or increasing transaction costs (those

derived from operating the system). Today, we have multiple feasible solutions in the market to meet this need. While there may be controversy over the relative effectiveness of certain strategies for improvement, having a clinical management tool based on the systematic measurement of outcomes would mean possessing the single most important tool for promoting the translation of knowledge from theory to practice¹⁸.

The vision described is compatible with all the institutions or organisational models present in our State of Autonomies. It is also compatible with the organisational innovation that we are witnessing¹⁹ and with the incorporation of technologies and pharmacological resources. Furthermore, in such an environment, this innovation is desirable, since in the end, the results obtained would allow that which functions most efficiently to be determined and reproduced and they would allow activities and costs that do not add value to be simultaneously identified and dispensed with. Perpetuating the status quo and stovepiping information minimises the likelihood of improvement. Leaving room for innovation and sharing critical information on outcomes maximises the likelihood of improvement.

The strategy described is also compatible with current knowledge-sharing models, according to which the latter progresses and regresses, finding its way with difficulty and not without uncertainty²⁰. Therefore, an assessment of the value produced by the centres would be an empirical way of validating the different delivery models, technologies and drugs used based on data, not of efficacy, but rather of effectiveness and efficiency, that is, closer to real life.

Our specialty is a unique platform within the different medical specialties that allows the implementation of an enterprise with these characteristics. It is organised into small sub-specialties that are generally very homogeneous, which provide their analysis: chronic kidney disease, haemodialysis, peritoneal dialysis and renal transplantation. Clinical nephrology is a much more difficult part to structure from this point of view due to its heterogeneity.

The problems we face in acquiring a register of these characteristics are obviously major, but not insurmountable; this would not be a short-term objective but rather a medium and long-term objective. There are all types of obstacles to overcome: methodological, technological, economic and organisational obstacles, lack of incentives and even administrative, political and ideological obstacles. But, above all, the main limitation is the lack of a strong collective will at all levels of the organisation: nephrological, institutional, administrative and political.

Without wishing to detract from the achievements made to date, indeed these achievements should be respected and even admired by all, the time may have come for us to be more ambitious and take a leap forward. The S.E.N.

is currently organising a Nephrology Management Group, which has accommodated all those interested in management. Furthermore, the recent “Consensus document for the detection of chronic kidney disease management” with nine other scientific societies is heading down this route²¹. From this perspective, despite the logistical difficulties involved and the limitations of having seventeen different administrations, we could consider attempting to assume the role of a leader institution that is firmly committed to transforming often diverging and short-term interests and championing the creation of an exemplary nephrology register for the 21st century. This would involve embracing and supporting a challenge with a forward-looking, multidisciplinary, multi-institutional, brave and exciting vision and one that is decidedly aimed at ensuring a nephrology that is respectful of the next generation.

Conflicts of interest

The authors declare that they have no conflicts of interest related to the contents of this article.

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