

## COMMENTARY

# Hospitalisations Due to Ambulatory Care Sensitive Conditions and the Results of Medical Care

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Many studies have examined the relationship between primary health care (PHC) and hospitalisation due to ambulatory care sensitive conditions (ACSC) as an indicator of the results of medical care. Despite this, and the fact that ACSC have been recommended by the Agency for Healthcare Research and Quality as an indicator of patient quality and safety, there is still some resistance to its use by medical professionals and health managers. Several factors might explain this resistance, such as, the use of secondary data, factors associated with the hospitalisation process outside the control of PHC or the interval between the time of medical action and hospitalisation due to ACSC, among others. However the majority of these can be minimised by applying suitable methodology criteria. This article attempts to provide a better understanding of this indicator by means of a short review of the literature that includes: *a)* selecting the ACSC conditions; *b)* the relationship of the ACSC with the type of medical care; and *c)* the methodology management of non-medical factors that influence the disease and the hospitalisation process.

## The Selection of ACSC Conditions

There are 4 criteria for selecting the medical conditions that may represent potentially avoidable, foreseeable or ACSC hospitalisations: *a)* consensus criteria on the basis of previously published studies; *b)* the importance of the clinical condition for the patient; *c)* the validity of the clinical signs and the clarity of the information (ICD-9-CM codes) as a care sensitive condition in PHC; and *d)* identification of these patients—although they may not be hospitalised—at risk from experiencing a preventable hospitalisation (risk rate).

The ACSC medical conditions should only be selected to identify all these patients who have the same clinical condition or risk rate, particularly when trying to compare the effectiveness of medical performance between PHC centres. Above all, this is the criteria that largely guarantees validity, so that the indicator “measures what is hoped to be measured” and minimises the influence of the hospitalisation process factors outside PHC. Tetanus is an exam-

## Key Points

- Hospitalisation by ACSC is a measurement indicator of the effectiveness of primary health care (PHC). This concept is supported in that a timely and effective medical care makes prevention or early detection or control of a disease possible in an earlier phase of the clinical state that requires hospitalisation.
- There are factors associated with the hospitalisation process that fall outside the control of PHC professionals. However, the rigorous application of the methodology minimises this effects and makes it possible to make a comparison between PHC centres.
- The type of primary care and the time of applying it may vary depending on the health problem being treated. For this reason, the time factor that makes it difficult to understand the cause-effect relationship in the hospital prevention process for certain ACSC. Examples of this disparity are: tetanus, diabetes or high BP.

ple of ACSC: tetanus is an illness which, when it occurs always requires the patient to be hospitalised and is considered an ACSC because this hospitalisation could have been avoided by immunising the patient at the first care level.<sup>1</sup> The type of medical care and the time of applying it varies depending on the health problem being treated. Therefore, time is a relevant factor which also makes it difficult to understand the cause-effect relationship in the prevention process of hospitalisations for determined ACSC.<sup>2</sup>

There is a wide variety of ACSC lists, many of which are useful for analysing the effectiveness of the health system as a whole<sup>1,3</sup> which could cause confusion if applied exclusively to evaluate and compare PHC centres without introducing all the necessary control covariables.

## The Relationship of ACSC With the Type of Medical Care

Medical care episodes are classified into episodes of, health preservation, ailments, diseases, and medical care. Depending on their relationship with these events, PHC consultations are likewise divided into preventive, associated with an illness or linked to an episode that requires hospital care.

Fleming<sup>4</sup> proposes a taxonomy that groups the medical consultations according to the disease type, care type, and their relationship with hospitalisation episodes. The diagnoses associated with medical consultations are classified into, preventive, relationships with the condition studied, directed towards a comorbid condition which could increase the treatment of the condition studied, or directed towards an independent comorbid condition. While the types of consultations can be divided into PHC sensitives, provided that there is continuity by the care source, and in ad hoc consultations, the doctor, besides continuity, can provide total patient care. It would also have to be determined which medical consultations are associated with previous or subsequent hospitalisation episodes and how coordination between both levels is established.<sup>2,3</sup>

## Methodology Management of the Non-Medical Factors That Influence the Disease and the Hospitalisation Process

Medical consultations are determined by economic factors, factors associated with the patient and the type and resources of the health care. Hospitalisation depends on the same factors. The final results of medical care may be represented by mortality, which in turn may be determined by demographic variables, comorbidity, type of admission and origin, hospitalisation variables and consultation variables. The existence of comorbidity to distinguish between PHC clinics specifically dedicated to the condition studied, or to a comorbid condition that could increase the treatment of the condition studied, or an independent comorbid condition, should always be taken into account.

The diversity of factors that explain the results of medical care requires a methodology that includes risk rate models to calculate the probability of hospitalisations due to ACSC, PHC clinics, and mortality. These models are composed of three elements: risk rate, survival function, and the probability density function. This approach en-

ables us to determine whether PHC reduces the probability of hospitalisation due to an ailment, or whether PHC has to have, preventive care, or care of an ailment or of a related comorbidity as its aim.

To control the effect of the diversity of the variables described, the Health Care Financing Administration (HCFA), based on demographic variables, comorbidity, hospital admissions, and readmissions, and which also includes PHC clinics as determining variables, is suggested.<sup>4</sup> Other good alternatives include the mathematical models designed to monitor the diversity of interactions between various levels of analysis that provide very important information to identify organisational aspects associated to PHC.<sup>6</sup>

In conclusion, the emphasis of the health system on PHC will improve the quality and access to health services and, as a result, may reduce hospitalisations and costs due to ACSC.<sup>1,2,4,5</sup> The risk rates and the survival functions may determine the influence of certain covariables on the probability of carrying out clinics in PHC, while the analysis of medical care results may explain the influence of the diversity of factors on health results.

The quality and availability of hospital register systems—the minimum basic hospital discharge data set—the application of suitable methodology in evaluating the complexity of health results, and the use of evaluation as a useful tool to improve the quality of medical care, makes it advisable to use the indicator with caution and that more research is needed.

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