

Chronic Care Model and multi-morbidity patients. Insights from patients' perception

More and more countries have been implementing chronic care programs, such as the Chronic Care Model (CCM) to manage non-acute conditions of diseases in a more effective and less expensive way. Among the CCM components there are the integration of community resources, self-management support, delivery system redesign, decision support systems, clinical information systems, and organizational support.

One of the criticisms raised to this kind of programs is the fact that it adopted a pathology centred approach (usually diabetes, COPD and chronic heart failure) instead of a person-oriented care. Hence, it may fail to meet all the multifaceted requirements of comorbidity at the level of the individual which are – in this ageing societies- one the most relevant challenge to cope with.

The study analyzes the differences in satisfaction and better self-management of patients (representing the *outcomes*) with single or multiple chronic diseases in relation to the other components of CCM: the *process*, measured in terms of education, proactivity and monitoring; and the *intermediate outcomes* represented by the relational continuity. In addition, the study provides with results of patients enrolled in the CCM program vs those who are not.

In 2014 a random sample of around 1300 patients over 18 years old resident in the province of Siena with either chronic heart failure or diabetes were enrolled. Respondents (around 74%) were divided into four groups: i) single chronic disease patients enrolled in the CCM; ii) single chronic disease patients not enrolled in the CCM; iii) patients with multiple chronic diseases enrolled in the CCM; iv) patients with multiple chronic diseases not enrolled in the CCM.

The three strategies of process put in place by chronic care programs (education, proactivity and monitoring) and the relational continuity of care did not always affect the two observed outcomes (overall satisfaction and better self-management). The results showed that *monitoring* was the sole strategy associated with overall satisfaction and better self-management for both single and multiple chronic patients. Relational continuity also showed a significant positive association with better self-management perception for both patient groups, but had a positive association with patient satisfaction only for single chronic patients. Enrolment in the CCM was not associated with both overall satisfaction and better management for the two patient groups.

While education did not influence patient satisfaction nor better management, the monitoring strategy positively affects both of them. Educational programs that generally have a positive effect, especially for single disease chronic patients, in this study were shown not have any. It may depend on how the program is deployed by GPs. Conversely, monitoring strategies has been confirm as fundamental components in the chronic management applied in Siena. However, the CCM program designed and adopted in Siena seems not make any difference to either the overall

satisfaction or better self-management for single and multiple chronic patients. That can be explained by the wider performance evaluation and monitoring system adopted in the whole Regions.

Relational continuity for both single and multiple chronic patients had a highly positive effect on better self-management. This confirms the pivotal role that the accumulated knowledge of GP plays in primary care in terms of patients' perception. The higher the relational continuity, the higher the probability of better self-management. However, relational continuity was mildly associated with overall satisfaction only for single chronic patients. This evidence suggests that multiple chronic patients may have different expectations.

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