



# Case Management for pluripathological chronic patients: Development and validation of a scheduled follow-up intervention in Valencia La Fe Health Department

## Abstract

### Introduction

In the past few years, healthcare systems are facing a growing demand related to high prevalence of chronic diseases. Case Management (CM) programs have emerged as a new approach for the management of chronic disease focused on improving individual's health and serving social needs. Nevertheless, there is no great scientific evidence about the impact on healthcare of using generic CM program for high-complexity chronic patients.

### Methodology

We evaluated a CM model based on a reengineering care process that has aligned the health care levels implied, providing the attention from a patient centred perspective and promoting the patient empowerment through education and self-care. A retrospective cohort study has been carried out using a sample of 714 adult chronic patients admitted at the Valencia-La Fe Health Department Chronic CM program between January 2012 and January 2015.

### Results

The results of the one-tailed matched Wilcoxon's hypothesis test ( $\alpha=5\%$ ), show statistically significant differences for the rate of unplanned admissions and for the rate of emergency room (ER) visits. The rate of admissions in Hospital at Home (HaH) did not show a significant difference. The results showed statistically significant differences for the rate of unplanned hospitalization Length of Stay (LoS) and for HaH. The results of the RR of admission show that the risk of unplanned admission decreases to a 58.4%, and the risk of visits to the ER decreases to a 73.5%. However, the HaH admission relative risk increases in 50.2%.

### Discussion

The positive results can be based on two facts. Firstly, the proactive character of the intervention through Primary Health scheduled intervention; and secondly, the support of the CM nurses from the Telemedicine Unit and the advanced care at home, developed by the HaH unit when needed.



Self-management educational interventions have positive effects on hospital consumption, such as hospital admission. Two studies evaluated a home-based educational intervention on patients with heart failure achieving fewer emergency department visits and unplanned readmissions, improving quality of life and reducing mortality. We may expect that the induction program in our model empowers patients for self-care interventions and early identification of risk situations.

Additionally, the close follow-up of patients and families by primary healthcare team could explain our results. The possibility of scheduled home visits and/or consultations performed by general practitioner, staff nurse and community case manager nurse facilitate the accessibility to medical attention. This may explain the relationship between complex chronic CM and the decrease of Hospital admissions, LoS and ER visits.

Our model had also the support of the Telemedicine unit led by case manager nurses. Their aim is to promote self-care, early risk identification and an appropriate management of sources when social and clinical needs appear. Studies reflect that the benefit of telephone follow-up is observed regardless of home visits and consultations, concluding that a positive effect could exist between the role of the telemedicine unit and the results. Also, the increase in the number of HaH admissions once the patient is included in the program is a good indicator of appropriate use of Hospital-based home care as an alternative to conventional hospitalization.

From the institutional perspective, we can estimate a global bed savings per year. We expect to save around 5 days of a bed per patient. Taking into account that we manage around 243 patients per year in the CM intervention, this may imply a number of around 1,215 bed savings per year.

## Conclusion

Our CM intervention has a significant hospital resource savings in average with a positive impact on patient admissions and LoS. We suggest that policies and strategies should keep promoting CM interventions both for healthcare network for patients and families and for research.

Whether the CM intervention is profitable for reducing the use of hospital resources for other clinical profiles is still a question under study. It seems clear that the CM intervention reduces hospital resources, which of course leads to economic savings. However, the CM intervention also entails new economic costs that should be analyzed. A future step is to carry out a cost-effectiveness analysis to compare if the CM intervention implies economic savings apart from the observed hospital resources savings.

The adoption of this type of intervention to a different health center may require a careful implementation according to the characteristics of chronic patients. In elderly patients, the assessment of social environment is an aspect of relevance as well as the cultural aspects and organizational issues.

## Location

Spain

## Year

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## Related Integrated Care keywords



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- DIGITAL HEALTH: ICT (INFORMATION AND COMMUNICATION TECHNOLOGY) SOLUTIONS, DEVICES, MONITORING
- PATIENT EDUCATION
- PERSONALISED CARE
- PERSON-CENTRED
- SINGLE POINT OF ACCESS

## Pervasiveness

Small scale in a local jurisdiction

## Status

Ongoing

## Links

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