

Chapter 6

Assessment of Logistics Capabilities Maturity of Home Healthcare Providers: Case of Study for a Metropolitan Area in Colombia

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ABSTRACT

In home healthcare (HHC) services, patients receive coordinated medical care at home based on previous medical prescriptions. Given geographical dispersion of patients and medical staff within an urban area, the design, provision, and control of HHC service delivery imply a set of complex logistics capabilities that impact service quality. Consequently, the maturity of such capabilities is a key factor to guarantee that patients receive the prescribed medical attention, by the right medical staff, at the right time, and at the right place. Thereby, this chapter presents and assessment of the logistics capabilities maturity of HHC providers certified by the Ministry of Health and Social Protection to provide HHC services in the metropolitan area of the second largest city in Colombia. Results show that an average maturity level of 3.2/5.0 for logistics processes, and 4.0/5.0 for service processes, evidence the need to improve service delivery.

DOI: 10.4018/978-1-5225-8160-4.ch006

INTRODUCTION

Home Health Care (HHC) services are growing worldwide, due to the use of safer and effective medical interventions and technologies, in and out hospital settings, and to a growing population with increasing demand, especially in urban areas. HHC services appeared around 1950 (Cotta et al., 2001), as an alternative to improve the performance of health care providers and the utilization of scarce resources, at lower general costs for the health system (Borsani, Matta, Beschi, & Sommaruga, 2006). Increases in HHC services are reported in the U.S., where more than 4.7 million patients receive HHC in 2011 (Harris-Kojetin, Sengupta, Park-Lee, & Valverde, 2013), in Europe, where between 1% and 5% of the total public health budget is spent in HHC (Fikar & Hirsch, 2017; Genet, Boerma, Kroneman, Hutchinson, & Saltman, 2012), and in Colombia, where HHC providers increased from 482 as of December 2013, to 1,644 as of April 2018 (Colombia, 2018).

A HHC system can be viewed as a health service network which operates in urban settings, that includes the patient and his/her family, the interested party or institution who seek/provide home care, the people involved in logistics and financial aspects of home care, and the home care team (Bricon-Souf, Anceaux, Bennani, Dufresne, & Watbled, 2005). Coordination of this health service delivery network is a complex task, particularly given the geographical dispersion of patients and medical staff within an urban area. Furthermore, health managers face several logistics decisions when designing, planning and operating the system. According to the framework proposed by Gutiérrez & Vidal, (2013a), HHC managers face a set of logistics decisions, defined by each of the logistics functions in a service network. Moreover, the framework identifies service processes as the set of steps performed when the HHC service is delivered to a patient, which also have to be coordinated by HHC managers.

Despite the increase of HHC services, measured in the number of patients that receive such care, in the number of health services offered in such scheme, and in the number of HHC providers, only few studies have addressed the assessment of logistics capabilities of HHC providers. Based on the model proposed by Paulk, Curtis, Chrissis, & Weber (1993), logistics capabilities in HHC can be defined as the capacity of HHC providers' logistics and service processes to deliver coordinated medical care at home patients. Moreover, only few works assess maturity levels of logistics capabilities, creating a gap between the existent literature and the real operations of HHC providers. The literature evidences a significant growth on models and methods to support management decisions in health services, but most of them have small application in real systems and focus on operative decisions, in general health services (Brailsford & Vissers, 2011; Turner, Mehrotra, & Daskin, 2010), and in particular for HHC services (Gutiérrez & Vidal, 2013b). Additionally, most works in the literature study HHC systems in developed countries, and in Colombia, to the best of our knowledge, only one work refers to these services from the medical perspective (Echeverri, Manzano, Gomez, Quintero, & Cobo, 1972), and two study the maturity levels of logistics capabilities (Gutiérrez et al., 2014; Gutiérrez, Cortés, & Jaén, 2018).

Consequently, the aim of this chapter is to assess the logistics capabilities maturity of HHC providers, through the application of a logistics capability maturity model, with focus on the metropolitan area of the second largest city in Colombia. The model proposed by Gutiérrez et al. (2018) is implemented with health care institutions certified by the Ministry of Health and Social Protection (MHSP) to provide HHC services in the metropolitan area of *Valle de Aburrá*, Colombia. The chapter is organized as

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