

Development of a measurement model based on four dimensions (first contact, coordination, comprehensiveness, continuity (4Cs)) of primary healthcare quality and its verification among chronically ill patients with comorbidities

One of the greatest social and economic challenges facing the European Union is the aging of its population, with an overall increase in the prevalence of chronic diseases. The WHO estimates that a 10% increase in chronic diseases is associated with a 0.5% reduction in annual economic growth. It is estimated that in the coming years, the incidence of chronic diseases will increase rapidly, both due to the unrestrained ageing process of the world population and the prolongation of life of people with chronic diseases. The problem of chronic diseases affects 12.9% of the adult population and 95.1% of the population aged 85 and older. Evidence in the literature shows that one of the main shortcomings in managing chronic and comorbid conditions is the low primary healthcare quality resulting from the lack of coordination, comprehensiveness, continuity of medical care, and appropriate contact at the general practitioner level. Therefore ensuring appropriate primary healthcare quality based on first contact, coordination, comprehensiveness, continuity (4Cs) for chronically ill patients becomes a particularly important issue for healthcare entities and the entire healthcare system. 4Cs are therefore global priorities in tailoring primary healthcare services to people's needs. They are important to all health systems and economies, to healthcare providers in all places and at all stages of life.

Economic research to date on primary healthcare quality based on 4Cs is limited, especially concerning measuring the factors influencing this quality. Research on technological limitations and other barriers of 4Cs, and the reasons why medical care for chronically ill with comorbidities does not always achieve the expected results, remains in the minority. Basically, the provided in the literature justifications for the inadequate functioning of some implementations in the field of telemedicine, which could improve the 4Cs of medical care, are in most cases not supported by reliable research.

There is also a lack of analyses covering the health and economic outcomes of treatment of chronically ill patients with comorbidities as the effects of primary healthcare quality. Measuring the relationships between primary healthcare quality and health and economic outcomes is important because it tells us how the healthcare system works and improves patient satisfaction and health status. It is a necessary step in improving the health of society. The impact of primary healthcare quality based on 4Cs on the health status of chronically ill patients and treatment costs is not well understood. While differences in the medical care quality of medical entities across countries and regions have been documented, empirical evidence of how the primary healthcare quality based on 4Cs affects treatment costs and the health status of chronically ill patients is scarce. Consequently, there is much room for research, both in terms of substance and methodology, on the nexus of technology capability on quality of medical care, and health and economic outcomes at the microeconomic level. **Therefore, the project's objective is to develop and verify a model for measuring the primary healthcare quality based on 4Cs. This model could be used to analyse the causes of this quality and its health and economic outcomes of treatment of chronically ill patients with comorbidities.** Special attention will also be put on those mechanisms shaping primary healthcare quality based on 4Cs that have not been considered in previous studies - technology capability.

In this project, we would like to answer the following research questions:

1. What are the intrrelationships between the individual 4Cs dimensions of primary healthcare quality ?
2. What is the impact of primary healthcare quality based on 4Cs on the health and economic outcomes of treating chronically ill patients with comorbidities?
3. What is the impact of technology capability on primary healthcare quality based on 4Cs?

It is worth adding that the very concept of primary healthcare quality based on 4Cs is oriented towards practical activities. Hence, the research results will be able to form the basis for the development of recommendations for improvement of the entire healthcare system. This knowledge should also provide a significant impetus to the further digital transformation of healthcare entities and the rural development concepts using digital technologies supporting the medical care of chronically ill patients with comorbidities.