

THE IMPACT OF POPULATION AGEING ON THE HEALTHCARE SYSTEM IN ROMANIA: CHALLENGES AND STRATEGIC DIRECTIONS

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BACKGROUND: Population ageing represents a major challenge for the sustainability of healthcare systems, particularly in the context of the increasing prevalence of chronic diseases.

OBJECTIVE: To analyze the impact of population ageing on the healthcare system in Romania.

MATERIALS AND METHODS: A descriptive analysis based on secondary data from national and international reports.

RESULTS: The increase in the proportion of the elderly population and the old-age dependency ratio is associated with a higher prevalence of chronic diseases, increased care needs, and growing pressure on healthcare system resources. The deficit of services addressing this age group—particularly home care, rehabilitation services, and primary care—as well as the low level of funding, contribute to the overuse of hospital services.

CONCLUSIONS: Adapting the healthcare system requires a shift toward prevention, chronic disease management, and the development of integrated and community-based services to ensure the long-term sustainability of healthcare for the ageing population.

Keywords: population ageing, healthcare system, chronic diseases, prevention, integrated services, sustainability

INTRODUCTION

Population ageing is one of the most significant demographic transformations of the 21st century, with major implications for the sustainability of healthcare systems and the organization of medical services [1]. The sustainability of the healthcare system refers to its capacity to provide adequate medical services over the long term without exceeding available financial and human resources. This phenomenon results from the combined effect of increased life expectancy and declining birth rates, and in Romania it is further amplified by the migration of the active population and changes in traditional family structures [2,3].

Romania is currently undergoing a complex demographic and epidemiological transition, characterized by an increasing proportion of elderly individuals and, simultaneously, a high prevalence of chronic diseases and multimorbidity. The proportion of the population aged over 65 increased from approximately 16% in 2012 to 18.5% in 2018 and to around 20% in 2024 (2,3), indicating a significant shift in the country's demographic structure, with direct implications for healthcare demand. This evolution is accompanied by an increase in life expectancy (76.4 years) and in the old-age dependency ratio, which rose from approximately 24% in 2012 to 28% in 2018 and to 31.2% in 2024, with projections of 40% in 2035 and 50% in 2050 [9,10].

The old-age dependency ratio expresses the number of individuals aged over 65 per 100 persons of working age (15–64 years) and reflects the pressure exerted on the active population and on healthcare financing mechanisms. The increase in this indicator suggests a reduction in the contributor base alongside a growing number of beneficiaries of healthcare and social services, generating additional pressure on system sustainability.

Within an extensive body of literature on population ageing, the novelty of this analysis lies in integrating demographic indicators (proportion of elderly population, dependency ratio) with indicators related to healthcare utilization and system capacity in Romania. Unlike existing descriptive approaches that address demographic or clinical dimensions separately, this study proposes an integrated, management-oriented perspective, highlighting the relationships between demographic trends, resource pressures, and healthcare service organization. Thus, the study contributes to understanding the mechanisms through which population ageing affects healthcare system sustainability and provides an analytical framework for evidence-based health policy decision-making.

THE AIM of this study is to analyze the impact of population ageing on the Romanian healthcare system by correlating demographic indicators with healthcare utilization, available resources, and financing mechanisms. The study seeks to identify the main challenges generated by this process and to outline strategic directions for adapting the healthcare system to the needs of an ageing population.

THE METHODOLOGY consists of a descriptive narrative analysis based on the synthesis of secondary data from institutional reports and scientific literature, using an integrative approach to explore the relationship between demographic indicators and healthcare service utilization.

Data were analyzed regarding the demographic structure of Romania's population (3), the prevalence of chronic diseases among the elderly (5,6), healthcare

utilization and system resources [9,10], as well as studies on healthcare organization and integration [8,12].

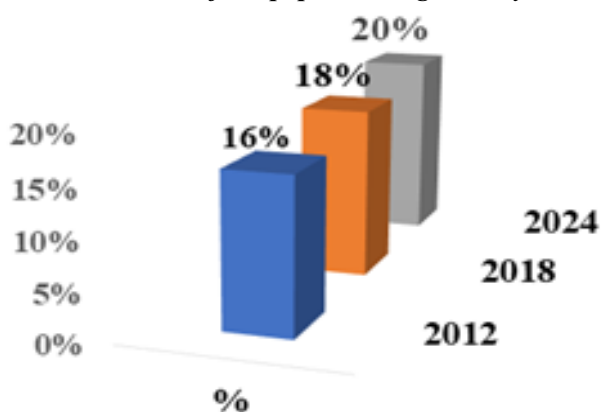
RESULTS

1. Growth of the Elderly Population

The proportion of the elderly population has steadily increased over the past decade, from 16% in 2012 to 18.5% in 2018 and to approximately 20% in 2024, representing a relative increase of about 25% (2,3). This trend reflects an acceleration of demographic ageing, which may exceed the adaptive capacity of the healthcare system.

The increase in the elderly population is accompanied by a higher prevalence of chronic diseases, leading to increased long-term care needs. As the proportion of elderly individuals rises, the healthcare system faces growing demand for monitoring, treatment, and long-term care services, implying a structural shift in the types of services required across age groups. (Figure 1)

Figure 1. Evolution of the population aged ≥ 65 years



Source: Eurostat (2) for 2012 and 2018 and National Institute of Statistics (3) for 2024

2. Demographic Imbalance

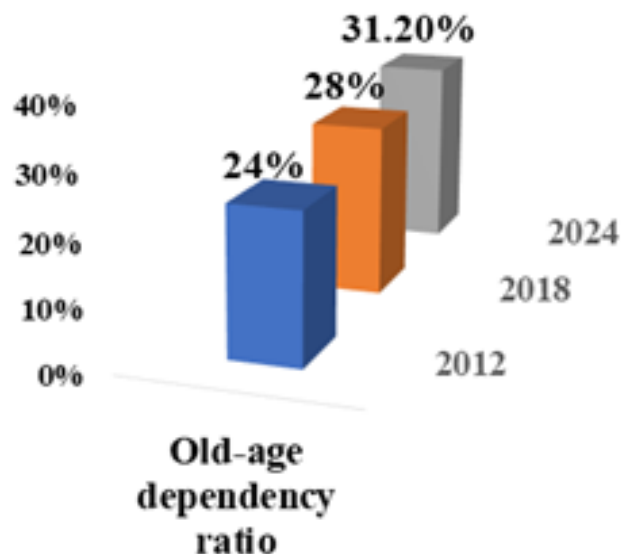
The old-age dependency ratio, calculated as the population aged ≥ 65 divided by the population aged 15–64 multiplied by 100, increased from 24% in 2012 to 28% in 2018 and to 31.2% in 2024, and is projected to reach approximately 40% in 2035 and 50% in 2050 (9).

This trend indicates a significant decline in the working-age population relative to the elderly population, with direct implications for the financial sustainability of the healthcare system. The increase in the dependency ratio leads to a reduced contributor base, increased pressure on public budgets, and rising demand for healthcare and social services. (Figure 2)

3. Increasing Care Needs

Approximately 80% of elderly individuals suffer from at least one chronic disease, and around 50% present multimorbidity (≥ 2 chronic conditions) (5,6). Only about 20% of elderly individuals are free from significant chronic conditions.

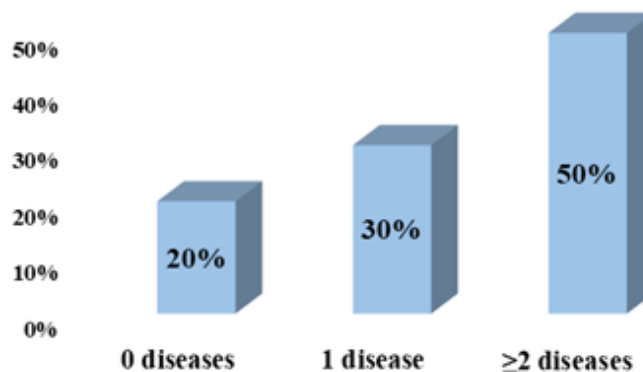
Figure 2 - Raport dependență vârstnici



Source: processed data based on European Commission – Ageing Report [9]

Furthermore, hospitalization rates among individuals aged over 65 are reported to be approximately 1.5–2 times higher than in the general adult population. This situation leads to increased frequency of consultations and hospitalizations, as well as longer hospital stays, requiring more complex therapeutic plans. (Figure 3)

Figure 3. Distribution of chronic diseases among elderly individuals (≥ 65 years)



Source: processed data based on literature [5,6]

4. Deficit of Long-Term Care Services

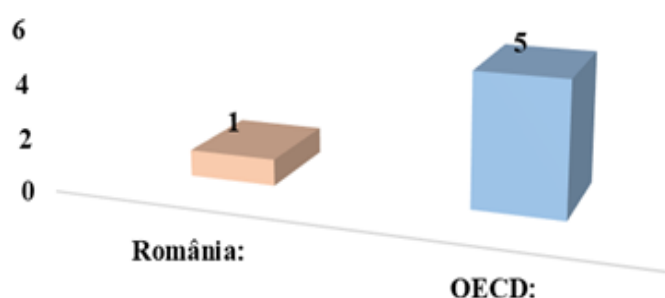
In Romania, the capacity of long-term care services is limited, reflected both in the low number of dedicated personnel and in insufficient specialized facilities. There are approximately 1 long-term care professional per 100 elderly individuals, compared to about 5 per 100 elderly individuals in OECD countries (10).

“Long-term care professionals” include staff providing daily care for elderly individuals, such as nurses, caregivers, home care workers, and personnel in residential care facilities. This disparity highlights a major structural deficit in long-term care services, limiting access

to adequate care and shifting a significant share of responsibility to families.

The consequences include increased inequalities in access to services and the overuse of hospital services for conditions that could be managed at the community level. (Figure 4)

Figure 4. Long-term care personnel: Romania vs OECD



Source: processed data based on OECD – Health at a Glance: Europe [10]

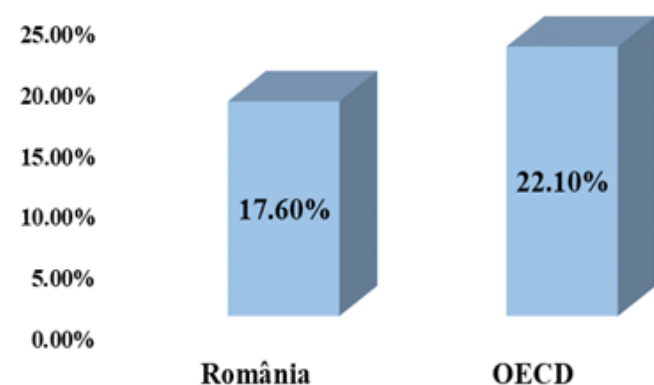
5. Financing Imbalance

Social expenditures in Romania account for approximately 17.6% of GDP, compared to around 22.1% in OECD countries (9,10), including public spending on pensions, healthcare services, social assistance, unemployment benefits, and other forms of social support.

Regarding prevention, Romania allocates less than 3% of its healthcare budget, while the OECD average is approximately 5–6% [10]. Prevention includes interventions aimed at reducing the risk of disease onset or progression, such as screening, chronic disease monitoring, health education, and lifestyle interventions.

These differences reflect a predominantly curative orientation of the healthcare system, at the expense of prevention and community-based services, leading to increased pressure on hospitals, higher long-term costs, and reduced efficiency of interventions, as illustrated in Figure 5.

Figure 5. Social expenditure (% of GDP)



Source: processed data based on European Commission – Ageing Report [9] and OECD – Health at a Glance: Europe [10]

DISCUSSION

The results highlight a profound structural transformation of the healthcare system, driven by the simultaneous increase in the elderly population, the dependency ratio, and the prevalence of chronic diseases. The increase in the proportion of the elderly population by approximately 25%, associated with a prevalence of chronic diseases exceeding 80%, indicates a fundamental change in the patient profile and in the type of services required. The increase in the dependency ratio from 24% to 31.2% reflects a structural change in the demographic balance, with direct implications for the financial sustainability of the healthcare system. From a managerial perspective, this phenomenon requires a transition from a reactive model to a proactive one. The reactive model of the healthcare system is centered on treating acute episodes of disease, while the proactive model involves early interventions, prevention, and continuous monitoring, with the aim of reducing disease progression and the use of hospital services.

In this context, chronic disease management involves continuous monitoring, coordination of care, and adaptation of treatment according to the patient's evolution, with the aim of preventing complications and reducing the need for repeated hospitalizations.

At the same time, integrated medical-social services represent the coordination of medical and social services, so that the patient benefits from continuous care adapted to their needs, especially in the case of elderly individuals with chronic conditions and functional dependency.

This analysis has certain limitations, generated by the use of secondary data and by the descriptive nature of the study, which does not allow the establishment of causal relationships, but only the identification of trends and associations.

CONCLUSIONS

Population ageing in Romania represents a major structural transformation, with profound implications for the organization, financing, and sustainability of the healthcare system. The accelerated increase in the proportion of the elderly population, associated with the high prevalence of chronic diseases and demographic imbalance, generates significant pressure on available resources and on the system's capacity to respond.

The results highlight that the current model, predominantly reactive and hospital-centered, no longer corresponds to the needs of an ageing population. In the absence of structural interventions, these trends risk amplifying existing inefficiencies and affecting equity in access to healthcare services.

Adapting the healthcare system requires a strategic reconfiguration oriented towards prevention, chronic disease management, and the development of community and integrated medical-social services. Strengthening these components can contribute to reducing avoidable hospitalizations, optimizing resource use, and improving the quality of life of the elderly population.

In this context, health policies must prioritize investments in extra-hospital services, integration of care, and the specialization of the workforce in the field of long-term care. Addressing these challenges is not only a necessity for

adaptation, but also an essential condition for ensuring the long-term sustainability of the healthcare system in Romania. In the absence of such transformation, the healthcare system risks becoming progressively inefficient in relation to the needs of an ageing population.

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