

Projecting the Future Demand for Long-Term Care in the EU

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Introduction

Long-term care (LTC) encompasses a wide range of medical, personal, and social services to provide support to individuals who require assistance with everyday activities over an extended period. Long-term care can be delivered in institutional settings, such as residential centres or hospitals, in the community, or at home. It can be provided by specialised professionals within the formal care system, or by family or community members offering support outside of formal employment, referred to as informal care. The type of care provided depends on the context of the country and individual choices [1].

Older people are the main users of LTC services, and an ageing population will continue to increase the demand for LTC. Although most of the gains in life expectancy across EU countries in the last few decades have been in good health, the proportion of remaining life years that can be expected to be lived free of disability decreases with age [2]. The need for long-term planning is therefore urgent. However, policy design in this domain is complicated by the scarcity of harmonised data, the diversity of national care models and the complex interplay between demographic, social and health factors that determine care needs.

Modelling and projection approaches can play a crucial role in anticipating future LTC demand [3]. Projection models generate alternative scenarios, enabling researchers and policymakers to explore how LTC demand may change in response to changes in the underlying assumptions, such as life expectancy, disease prevalence, disability rates and household structures.

In this context, we propose a projection model for the Member States of the European Union (EU27) that estimates changes in LTC demand up to 2070. The model integrates demographic projections, health and functional status data, and household composition to provide an analytical framework for scenario-based analysis at the EU level.

Data and methods

We propose a projection model designed to estimate changes in the LTC future demand in the EU up to the year 2070. The model aims to provide a harmonised, long-term EU-wide perspective on LTC demand, expressed in terms of both the number of people in need of care and the corresponding requirements for a formal workforce. Rather than

focusing on absolute figures, the model's main purpose is to evaluate the relative changes in LTC demand compared to the current situation under various demographic, health, and social scenarios.

Our model uses a cell-based macrosimulation approach, dividing the population into 'cells' (i.e. groups) according to age and gender [4]. The analysis focuses on the population aged 50 years and over, which corresponds to the target population of the Survey of Health, Ageing and Retirement in Europe (SHARE), one of the model's primary data sources. The population structure by age and gender at the start of the modelling period and during the projection period is obtained from the latest Eurostat projections.

The population is further disaggregated to calculate the proportion of individuals in need, i.e. the dependency rate, for each cell. Using SHARE Wave 9 data [5] we test different indicators derived from self-reported functional limitations and disabilities to classify individuals in each cell as either in need of LTC or not.

Responses to questions about support received at home due to physical, mental, emotional or memory problems in the SHARE survey are used to calculate the proportion of individuals in each cell receiving informal help, formal help (which may include professional nursing care and paid assistance with domestic tasks), both types of support (i.e. integrated care) or no help at all.

In the baseline scenario, proportions of people in need and their patterns of care use by age and gender are held constant over time. When applied to projected population structures, estimates of future LTC needs and service use can be obtained under a "status quo" assumption.

Alternative scenarios are then developed to explore how LTC demand might evolve under different assumptions regarding health, disease prevalence, and form of care provided. In the *healthy ageing* scenario¹, it is assumed that all or part of the projected gains in life expectancy (obtained from Eurostat population projections) are spent free of disability. Within the model, this is represented by a shift in the age- and gender-specific proportions of individuals in need, reflecting a delayed onset of LTC needs.

The *epidemiological* scenario links LTC needs to the prevalence of chronic diseases associated with care dependency. This scenario incorporates projections from the Global Burden of Disease (GBD) Study [6], a comprehensive global effort to measure health loss across time and place. Disease-specific forecasts are incorporated to estimate how shifts in disease prevalence will influence future demand for LTC services.

¹ Mirroring a corresponding scenario in the 2024 Ageing Report (European Commission. Directorate General for Economic and Financial Affairs, 2024)

Finally, the *household* scenario captures changes in household structures and the resulting availability of informal caregivers. Future household compositions are projected using a cohort simulation model in which individuals transition between household types — for example, from single to coupled — based on entry and exit probabilities derived from the EU Labour Force Survey (EU-LFS). The projected household structures are then used to estimate the potential supply of informal care. The model assumes that older individuals living alone are more likely to depend on formal care services, whereas those living with partners or adult children have greater access to informal support. Consequently, changes in household composition directly impact the balance between informal and formal LTC provision, thereby influencing the demand for professional care staff.

Across all scenarios, the model outputs both the estimated number of people in need of LTC and the associated workforce requirements. Workforce projections are derived by applying country-specific ratios of care recipients to full-time equivalent staff, obtained from the EU-LFS.

Expected results

This cell-based, scenario-driven model allows for consistent, comparable projections of changes in LTC demand across the EU27. By integrating demographic, health, and social variables, our model allows to explore the implications of alternative assumptions. The resulting outputs provide an analytical foundation for understanding the future evolution of LTC needs across Europe.

Preliminary results suggest a substantial increase in LTC demand across the EU27 up to 2070, mainly driven by population ageing. By exploring different assumptions on healthy life expectancy and health trajectories, we aim to understand how improvements in population health could offset part of the demographic pressure.

On the other hand, in the *household* scenario, we illustrate also the social dimensions of LTC demand. A continued decline in multi-generational households and reduced informal caregiving availability could shift a growing share of care provision toward formal services. This structural change would amplify workforce needs, highlighting the interdependence between social and health determinants of LTC systems.

While many previous LTC projections have relied on single-country data or narrow demographic assumptions, our EU-wide model provides a harmonised, cross-national perspective. By integrating demographic ageing, health trends, and household dynamics, this model enhances understanding of Europe's future long-term care landscape and supports the development of sustainable and equitable care systems capable of meeting the evolving needs of an ageing population.

References

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