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Recent Multimorbidity Trends in Catalonia: Are Younger Generations Ageing Worse?

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In recent decades and on a global scale, there has been an impressive increase in life expectancy. The Spanish experience has been especially striking. After starting from a disadvantage after the calamities of the Civil War, Spain presently rates as one of the countries with the longest life expectancy in the world. To be more specific, in 1940, life expectancy in Spain barely reached fifty years, and by 2025, the figure stabilised at about 84 years, which is only surpassed by a few countries like Switzerland, Japan, and South Korea.

This issue of *Perspectives Demogràfiques*, produced by researchers from the Autonomous University of Barcelona, the Center for Demographic Studies and the Pompeu Fabra University, explores one of the major challenges associated with increased longevity. To what extent have improved prospects of survival come together with lesser or greater morbidity? In particular, we analyse multimorbidity trends (which is to say, the presence of several chronic ailments in one person) among members of the different cohorts in Catalonia in recent years. The results suggest that, despite increased life expectancy, the rate of accumulation of chronic diseases tends to move faster in younger generations. We attempt to explain this apparently paradoxical result (with important implications for health and care systems) by studying the evolution of mortality risk among the multimorbid population.

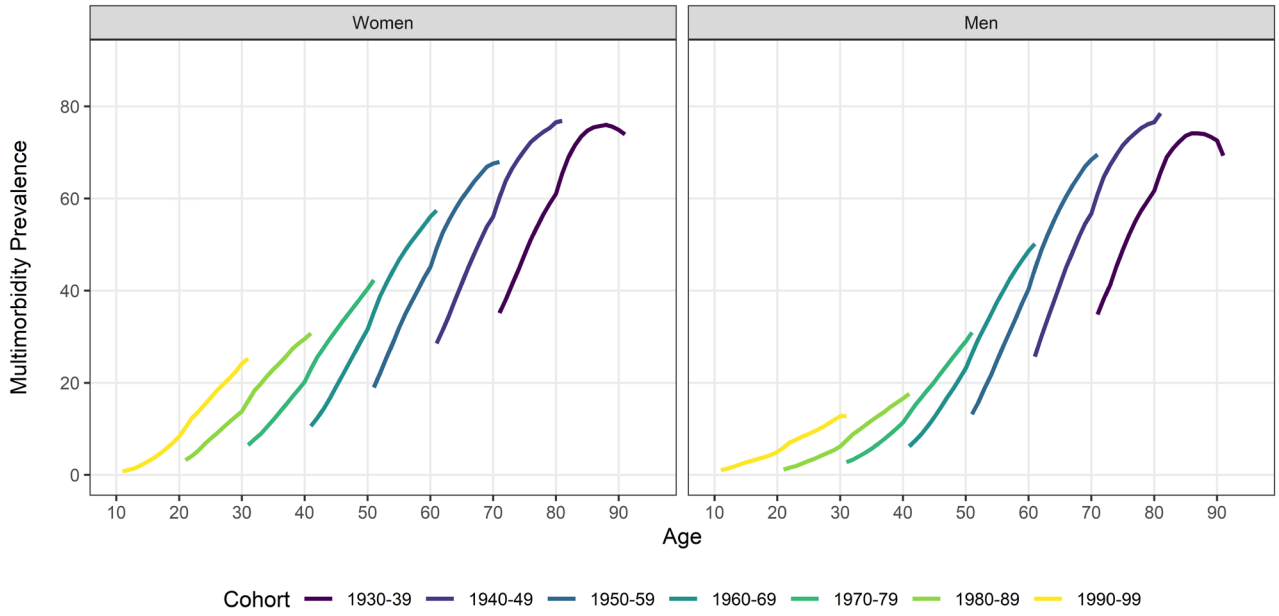
Challenges that come with success

One consequence of the general increase in longevity is an important debate about the quality of the additional years of life. If delayed age of death does not happen with an equivalent postponement of the onset of morbidity or disability, individuals would be living in poor health for more years. This situation poses structural challenges to the viability of health and pension systems, and also care services (Gruenberg, 1977). When projecting future health scenarios in this respect, it is essential to systematise the evidence of patterns of development of chronic diseases that impair people's functional autonomy. It is therefore necessary to analyse not only the prevalence of such ailments but also their incidence over time.

At what rate are different cohorts becoming ill?

With the aim of shedding light on these issues, we turned to the so-called "HEALIN cohort" (Solé-Auró et al 2025)—a huge database built from health and mortality records in Catalonia which has tracked the evolution of more than 1.5 million individuals since 2005—in order to compare the state of health of different Catalan generations in the years from 2010 to 2021. The results, adjusted for age and based on the prevalence of what is known as "complex multimorbidity" (the percentage of the population suffering from three or more chronic diseases), show that younger generations exhibit a higher presence of multimorbidity than their predecessors at the same age (see Graph 1). For example, at the age of 25, 7.9% of women born between 1980 and 1989 suffered from complex multimorbidity, by comparison with the figure of 16.7% observed among women of the same age but born a decade later (between 1990 and 1999). This pattern is not exclusive to these two cohorts alone but is systematically repeated across all generations and ages for which such comparisons can be made.

What are the main groups of diseases that most affect these cohorts? In Table 1, we show the five major disease groups that most frequently appeared in 2021 in each of the cohorts represented in Graph 1. For the oldest generations (those born between 1930 and 1929) the prevalence is evidently higher than that observed for other cohorts, with an especially notable presence of metabolic diseases and disorders of the circulatory and musculoskeletal systems. At the other end of the spectrum, among the youngest generations (those born between 1990 and 1999), mental illness and



Graph 1. Trends in the prevalence of multimorbidity by age and cohort (for women in the left panel and men in the right panel) between 2010 and 2021.
Source: Authors' elaboration using data from the HEALIN cohort.

musculoskeletal disorders are particularly prominent, especially among women who tend to suffer higher levels of multimorbidity than men. The growing prevalence of mental health disorders is one of the main factors contributing to increased multimorbidity in Catalonia, especially among the younger generations. In this regard, it should be noted that, on a worldwide scale, Spain is one of the countries with the highest prescription rates for benzodiazepines and other sedatives.

Broadly speaking, these results coincide with the findings of earlier research on health dynamics in different regions of the European Union and the United States (see, for example, Gimeno et al., 2024). Using a wide range of indicators (like prevalence of chronic diseases, disability, mobility measures, obesity, et cetera), these studies confirm that the younger cohorts present less favourable health indicators than their predecessors at the same age, leading the researchers to wonder if a "generational health drift"

Women

1930–39	1940–49	1950–59	1960–69	1970–79	1980–89	1990–99
Muscular (75.1%)	Muscular (75.7%)	Muscular (70.6%)	Muscular (62.4%)	Muscular (56.8%)	Muscular (50.6%)	Muscular (39.3%)
Circulatory (73.6%)	Circulatory (66.4%)	Endocrine (57.5%)	Mental (43.7%)	Mental (39.2%)	Mental (36.4%)	Mental (27.4%)
Endocrine (60.1%)	Endocrine (64.1%)	Circulatory (50.2%)	Endocrine (40.6%)	Endocrine (24.5%)	Circulatory (19.7%)	Circulatory (19.3%)
Mental (45.8%)	Mental (42.2%)	Mental (44.2%)	Circulatory (34.1%)	Circulatory (23.3%)	Endocrine (18.2%)	Endocrine (15.5%)
Genitourinary (29.7)	Ear (24.1%)	Nervous (18.6%)	Nervous (17.8%)	Blood (14.2%)	Nervous (10.9%)	Blood (9%)

Men

1930–39	1940–49	1950–59	1960–69	1970–79	1980–89	1990–99
Circulatory (71.9%)	Circulatory (67.7%)	Muscular (60%)	Muscular (52.1%)	Muscular (45.1%)	Muscular (39.9%)	Muscular (34.2%)
Muscular (66.1%)	Muscular (66.7%)	Circulatory (52.3%)	Endocrine (36.8%)	Mental (30%)	Mental (28.7%)	Mental (20.7%)
Genitourinary (55.5%)	Endocrine (58.8%)	Endocrine (51.6%)	Mental (33.4%)	Endocrine (21.4%)	Circulatory (14.3%)	Circulatory (15.1%)
Endocrine (53.1%)	Genitourinary (52.6%)	Mental (34.6%)	Circulatory (33.2%)	Circulatory (18.7%)	Endocrine (11.2%)	Endocrine (10.9%)
Mental (33.7%)	Mental (33.2%)	Genitourinary (33.4%)	Genitourinary (13.6%)	Nervous (6%)	Nervous (4.8%)	Respiratory (5.6%)

Table 1. Prevalence of the five most frequent disease groups for the different Catalan cohorts in 2021. Note: the labels of cells correspond to the different chapters of the WHO's International Classification of Diseases (ICD-10). Hence, "Blood" refers to Chapter III, "Endocrine" to Chapter IV, "Mental" to Chapter V, "Nervous" to Chapter VI, "Ear" to Chapter VIII, "Circulatory" to Chapter IX, "Respiratory" to Chapter X, "Muscular" to Chapter XIII, and "Genitourinary" to Chapter XIV.
Source: Authors using data from the HEALIN cohort.

is occurring. The evidence presented in Graph 1 suggests that this phenomenon could also be occurring in Catalonia and, by extension, throughout Spain, given the similarity of mortality and health patterns in the two geographic regions.

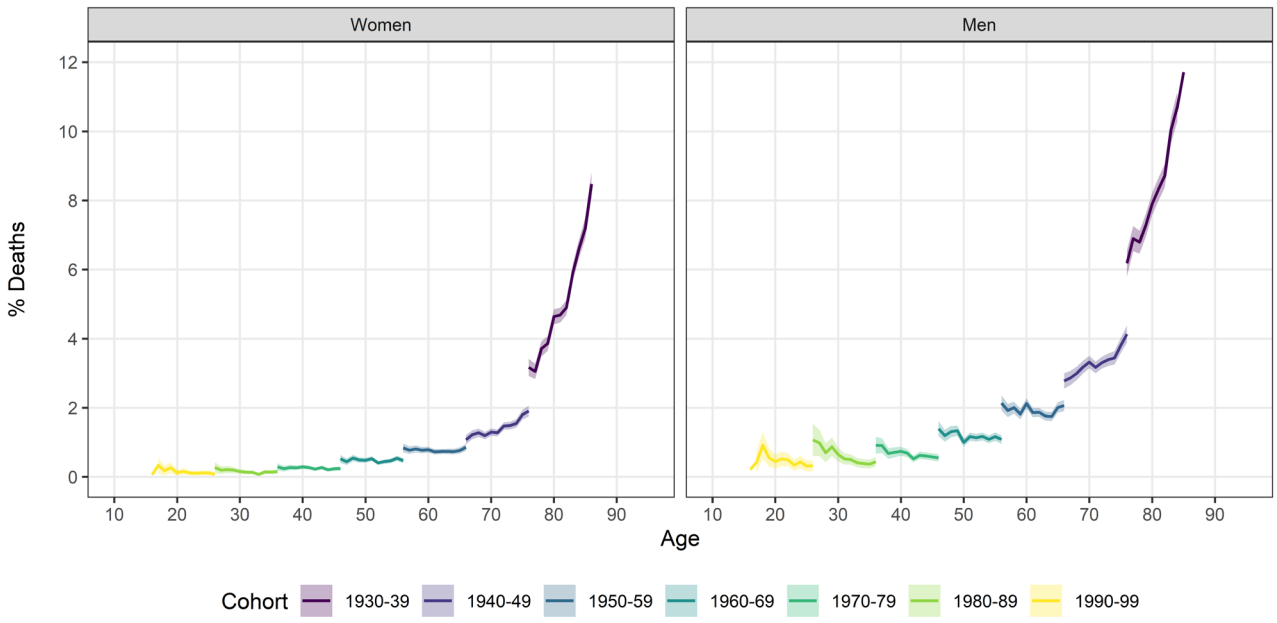
Worse health or more diagnoses?

A key question arising from the results shown here is whether the health of younger generations is actually declining, whether the health system is more able to detect chronic diseases (either due to a tendency to overdiagnosis or technological advances that enable increasingly earlier diagnoses), or whether individual responses to health matters may have changed. When setting out to explore this question, we took the set of multimorbid individuals of different ages and from different cohorts and counted how many of them died within a year. Applying this method, we can infer the degree of severity of state of health, and identify individuals whose state of health is so weakened that they die within a short time. The results are shown as percentages in Graph 2. Logically, the percentage of deaths among multimorbid individuals increases with age, and it is also higher among men than among women. Examining the relative position of curves at the ages where cohorts overlap, one sees how, at the same age, the probability of death among the multimorbid population is lower in the younger cohorts. This pattern is repeated at all ages where comparison can be made, for both women and men.

Is Catalonia heading for a generational health drift?

The results in Graph 1 raise serious questions that warrant careful examination. First, it should be asked whether the higher rates of multimorbidity observed in the younger generations will mean a poorer quality of life and higher levels of disability in the future. Second, the factors that have led to this situation must be investigated in order to understand it and, if possible, remedy it. Hypothetically, the patterns shown above could reflect deterioration of health in certain subgroups of the population, for example, immigrants and low-income people. In this regard, a recent study demonstrates how the prevalence and incidence of multimorbidity in Catalonia are much greater among lower-income individuals (Permanyer et al 2025). Alternatively, the apparent decline in the health of younger generations could be due to a growing tendency of overdiagnosis by professionals in the health sector (O'Sullivan 2025). From this standpoint, although the presence of multimorbidity at increasingly earlier ages is not good news, the results presented above suggest that survival prospects for the multimorbid population have improved over time. In other words, for whatever reason, there is a greater presence of multimorbidity, but its lethalness seems to have diminished.

Furthermore, it should be asked whether these patterns could be due to progressively earlier detection (in the early stages) of diseases, improved medical treatment,



Graph 2. Proportion of deaths among multimorbid individuals belonging to different cohorts and at different ages (women in the left panel and men in the right panel).

Source: Authors elaboration using data from the HEALIN cohort.

changes in the diagnostic thresholds for certain diseases, and other factors, all of which are issues that should be addressed in future research. It is reasonable to assume that improvements in disease detection would translate into increased morbidity prevalence, just as the massive use of antigen tests revealed the extent of COVID-19 during the 2020-2022 pandemic. Besides, it is important to bear in mind that the observed patterns of multimorbidity might be influenced by behavioural changes arising from health-conscious attitudes of individuals, which would make them more likely to visit medical centres as soon as they notice early or mild symptoms. This behaviour might, in turn, be conditioned by certain public health policies like screening programmes for early detection. In addition, the emergence of disruptive technologies such as AI-assisted diagnostic tools could enable ever earlier diagnoses that would eventually prevent the progression of some diseases, thus bringing about a radical change in early disease detection possibilities.

Regardless of the underlying causal mechanism, the results point to a rising demand for medical attention in public health systems. This situation presents a major challenge requiring that the design of public policies should be based on scientific evidence. For better understanding of the issues arising from these trends and to address the challenges presented by demographic ageing, it is essential to inquire more thoroughly into their fundamental determinants, which could vary over space and time. This will require consolidating highly disaggregated databases that integrate longitudinal clinical records with sociodemographic and contextual variables, as well as fostering interdisciplinary collaboration that would bring together knowledge from the health sciences, the social sciences, and the humanities.

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