OLSZTYN ECONOMIC JOURNAL
2026, 21(2), 21–34
ISSN 1897-2721 e-ISSN 2083-4675 DOI: 10.31648/oej.13007

ORIGINAL PAPER

THE AGEING OF SOCIETY AND THE STABILITY OF THE RETIREMENT AND HEALTHCARE SYSTEMS IN POLAND

Natalia Duda
Faculty of Medicine
University of Warmia and Mazury in Olsztyn
ORCID: https://orcid.org/0009-0003-9475-1728
e-mail: n.natalia.duda@gmail.com

JEL Classification: H51, H55, J11.

K e y w o r d s: ageing population, healthcare expenditure, retirement benefits, forecasts.

A b s t r a c t

The demographic transformations observed in recent years, particularly the ageing of society and the decline in the fertility rate, constitute one of the key structural challenges for the Polish economy and stability of public finances. The dynamic growth in the number of elderly people is becoming a serious issue, as it generates the need to increase spendings on healthcare, long-term care, and pension benefits against the backdrop of shrinking taxpayer base. Progressive ageing of population may lead to increase in public expenditure beyond sustainable levels, which will require the implementation of systemic adaptive reforms. Therefore, the aim of the research was to assess the current demographic situation in Poland and the changes forecasted in this area, in the context of their impact on the stability of the retirement and healthcare systems.

STARZENIE SIĘ SPOŁECZEŃSTWA A STABILNOŚĆ SYSTEMÓW EMERYTALNEGO I OCHRONY ZDROWIA W POLSCE

Natalia Duda
Wydział Lekarski
Uniwersytet Warmińsko-Mazurski w Olsztynie

Kody JEL: H51, H55, J11.

S ł o w a k l u c z o w e: starzenie się społeczeństwa, wydatki na ochronę zdrowia, świadczenia emerytalne, prognozy.

How to cite: Duda, N. (2026). The Ageing of Society and the Stability of the Retirement and Healthcare Systems in Poland. *Olsztyn Economic Journal*, *21*(2), 21-34, https://doi.org/10.31648/oej.13007

Abstrakt

Obserwowane w ostatnich latach przemiany demograficzne, a w szczególności proces starzenia się społeczeństwa i spadek dzietności, stanowią jedno z kluczowych wyzwań strukturalnych dla polskiej gospodarki oraz stabilności finansów publicznych. Dynamiczny wzrost liczby osób starszych staje się poważnym problemem, bowiem generuje konieczność zwiększania nakładów na ochronę zdrowia, opiekę długoterminową i świadczenia emerytalne, w warunkach kurczącej się bazy podatników. Postępujące starzenie się populacji może doprowadzić do wzrostu wydatków publicznych powyżej poziomu możliwego do utrzymania, co będzie wymagało wdrożenia systemowych reform adaptacyjnych. Celem badań stała się więc ocena bieżącej sytuacji demograficznej w Polsce oraz zmian prognozowanych w tym zakresie, w kontekście ich wpływu na stabilność systemów emerytalnego i ochrony zdrowia.

Introduction

Demographic changes, manifested among other things by population ageing, have become a global issue in recent years. According to the European Commission's 'EUROPOP2025' forecasts, the percentage of young people (aged 0–19) in the total population of the European Union will decrease from 19.8% in 2025 to 16.7% in 2100, the proportion of the working-age population (aged 20–64) will decline from 58.3% to 49.7%, and the percentage of older people (aged 65 and over) will increase from 21.9% to 33.6% (by 11.7 percentage points). In the case of Poland, these forecasts look even worse. The share of young people in the total population is expected to decrease from 20.7% in 2025 to 15.4% in 2100, the percentage of the working-age population is projected to drop from 58.8% to 49.4%, and the proportion of elderly people (aged 65+) is expected to rise from 20.5% to 35.1%, which is an increase of as much as 14.6 percentage points (Eurostat, 2026). Poland belongs to the group of countries where the process of societal ageing is particularly rapid. In the horizon of the last 5 years, Poland has found itself among the fastest-ageing societies. The median age in Poland increased by as much as 2 years between 2019 and 2024 (Pawlonka, 2025).

The consequences of the problem of societal ageing include, among others, the need for the professional activation of older people in the labour market and the need to ensure this social group has access to broadly defined social services (Wierzbicka & Farelnik, 2024, p. 1). Therefore, a challenge at both national and local government levels is the proper orientation of socio-economic policy, including towards the so-called silver economy, as well as ensuring an appropriate quality of life for seniors (*National Urban Policy...*, 2022, p. 132). On the other hand, demographic changes present state policy, and particularly public finance, with significant challenges. This concerns guaranteeing an adequate level of benefits to future retirees and ensuring balance in the sphere of public finance (Jodko, 2017, p. 84). The dynamic increase in the percentage of people aged 65+ carries numerous implications for the functioning of public institutions, especially the healthcare system and social assistance (Przybyłka, 2025, p. 75).

In light of the above, the aim of the research was to assess the current demographic situation in Poland and the changes forecasted in this area, in the context of their impact on the stability of the retirement and healthcare systems. The choice of these two areas stems from their sensitivity to the process of societal ageing. Expenditure on healthcare and pension benefits is strongly correlated with ongoing demographic changes, and the resulting burden may be difficult for the state budget to sustain.

The article utilises the following research methods: literature analysis, comparative analysis of secondary data, and quantitative methods, including the analysis of the dynamics of changes. The assessment of the demographic situation in Poland, the level of healthcare expenditure, and the condition of the Polish pension system was conducted for the years 2015–2024. Selected forecasts in this area were presented up to the year 2080. Secondary data for the empirical research were obtained from the Local Data Bank (BDL) as well as reports from the Central Statistical Office of Poland (GUS) and the Social Insurance Institution (ZUS).

Literature review

Nowadays, the ageing of society is a crucial demographic issue, the consequences of which go far beyond the mere change in the population's age structure. This process is multifaceted and affects almost every sphere of life – economic, social, political, and medical (Warner *et al.*, 2025, p. 79). Population ageing is one of the key long-term phenomena influencing the shape of modern economies and posing a serious challenge to them. (Jurek, 2024, p. 5; Piotrowski *et al.*, 2025, p. 286). As a result of radical improvements in nutrition, healthcare accessibility, and economic prosperity, and increase in life expectancy accompanied by a simultaneous decline in fertility rates can be observed in most countries, which causes the ageing of society to affect increasing number of nations worldwide, including Poland.

The ageing of society is understood as a demographic process and, in the simplest terms, is defined as a process of increasing the share of the elderly population in the total population (GUS, 2026), as increasing the percentage of older people while simultaneously decreasing the percentage of children (Przybyłka, 2025, p. 76), or as a relative increase in the number of elderly people caused by a long-term decline in mortality rates, and particularly by a decrease in birth rates (Holzer, 2003, p. 16). In a broader sense, this process is understood as a result of successes achieved in medicine and public health, resulting from a reduction in the risk of premature death and socio-economic development, which leads to an increase in the number and share of older people in many countries worldwide (Chen *et al.*, 2024, pp. 113-114). In a wider perspective of

this process, emphasis is placed on the fact that population ageing does not end with an increase in the percentage of older people in the total population but is a process whose dynamics and course depend on improving the health status of older generations (Kotschy & Bloom, 2023, pp. 1-2). It is worth emphasising that the process of societal ageing is currently two-dimensional. On the one hand, the percentage of older people (65+) in the overall population is growing; on the other hand, the number of the oldest-old, i.e. people aged 85+, is rapidly increasing. This issue is referred to as the problem of 'double ageing' (Zalega, 2016, p. 63). It results in a huge burden on the healthcare system and a growing demand for care services, thereby fundamentally altering the structure of public expenditure.

Regardless of how the process of societal ageing is defined, it generates extensive social and economic consequences. The effects of this process are observed both on a macroeconomic scale (e.g. in the labour market, in social security funded from budget resources, etc.) and on a microeconomic scale (e.g. in terms of demand for health services, the need for professional activation and social integration of older people, etc.) (Szwarc, 2024, p. 131). The consequences of demographic shifts are particularly severe in the sphere of public finance. A growing number of pension system beneficiaries, combined with a shrinking contribution base provided by the professionally active workforce, poses a genuine threat to the fiscal stability of social security systems (Maier, 2016, pp. 236-238).

The progressive ageing of society implies increasing pressure on the healthcare system. Older people are characterised by higher morbidity, higher rates of hospitalisation, and demand for long-term and costly medical care related to the treatment of chronic illnesses and ailments typical of advanced age. The growing demand for health services therefore poses a major challenge to the healthcare system, which requires systemic solutions and reforms (Przybyłka, 2025, pp. 77-78). A similar problem is observed in the social care system. The rising demand for care services, including long-term care, constitutes one of the key challenges of social policy in demographically ageing economies, forcing the search for new models of financing and organising such services (Chojnacka & Napora, 2025, p. 117). Since support for older people is primarily directed in the form of long-term care benefits (nursing and care benefits), medical rehabilitation, or palliative and hospice care benefits, it can be expected that the costs of these specific services will show an upward trend (Mitek, 2016, p. 798).

In summary, the growth in the number of senior citizens results, among other things, in an increase in the value of social benefits paid, as well as rising expenditure on medical care and nursing and care services, particularly institutional ones. The result of these changes is an increase in public expenditure beyond a level that is sustainable in the longer term (Szukalski, 2012, p. 1). The process of population ageing, perceived in both individual and social dimensions, therefore poses difficult challenges not only in the economic sphere,

but also in the medical, social, and psychological spheres. Poland, for which forecasts are currently unfavourable, will have to face all the problems arising from demographic trends that are negative to it (GUS, 2025a, p. 12).

The ageing of society in Poland – current situation and forecasts

The ongoing process of population ageing in Poland is confirmed by numerous demographic data. An important characteristic of Poland's current demographic situation is the persistent actual population decline since 2012, which results from two factors: a negative natural increase and a negative net migration. The declining population in Poland, broken down by biological age groups, is presented in Figure 1.

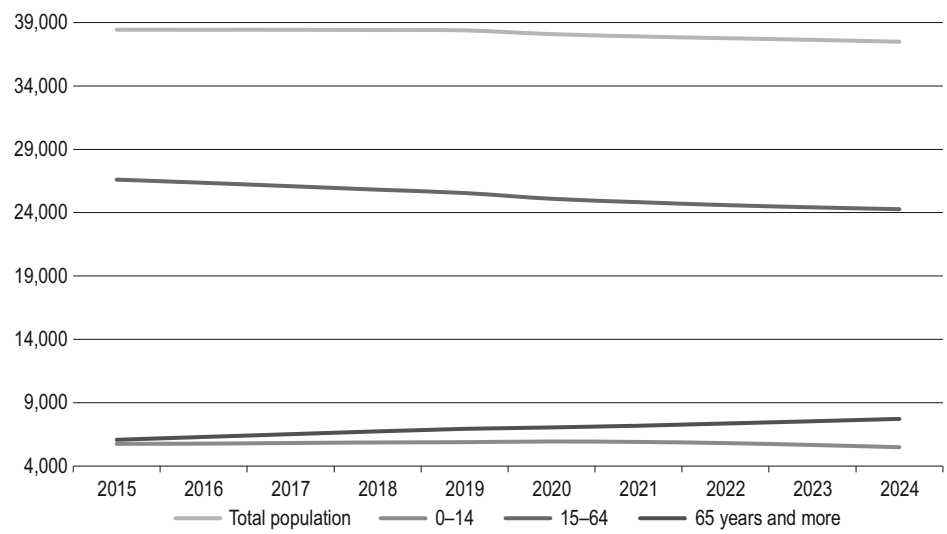


Fig. 1. Population in Poland in the years 2015–2024 (in thousands of people)
Source: own elaboration based on data from BDL (2026a).

The population of Poland decreased during the analysed period by over 948 thousand people, i.e. by approximately 2.5%. In the year 2024 alone, our population declined by over 147 thousand people, and the actual population decrease rate amounted to nearly 0.4%. The most dynamic change was observed in the number of people aged 65+, which increased during the analysed period by as much as 27.1% (1,648 thousand people). The population of people aged 15–64 decreased by 8.8% (2,333 thousand people), while the population of children aged 0–14 declined by 4.6% (263 thousand people). The trend over the last

10 years is clear – the number of people of post-working age is continuously rising, while the number of working-age individuals is falling. Forecasts by the Central Statistical Office (GUS) indicate that by 2060, the population of Poland will decrease by 6.6 million people compared to 2024 (GUS, 2025a, p. 43).

The progressive process of societal ageing in Poland is also confirmed by data regarding the median age, the share of people aged 65+ in the total population, the fertility rate, and the old-age dependency ratio (Tab. 1).

Table 1

Selected demographic data for Poland, 2015–2024

Years	Median age	Percentage of people aged 65+ in the total population	Fertility rate	Old-age dependency ratio
2015	39.9	15.8	1.289	22.8
2016	40.2	16.4	1.357	23.9
2017	40.6	17.0	1.453	25.0
2018	40.9	17.5	1.419	26.1
2019	41.3	18.1	1.387	27.2
2020	41.6	18.5	1.330	28.1
2021	41.9	18.9	1.261	28.9
2022	42.3	19.5	1.158	29.9
2023	42.8	20.1	1.099	30.9
2024	43.3	20.6	1.069	31.8

Source: own elaboration based on data from BDL (2026b, 2026c, 2026d).

The median age of Poland's inhabitants in 2024 was over 43.3 years, i.e. over 7 years more than in 2000. This indicator has been growing continuously since 2015 by 0.3–0.5 years year-on-year. In 2060, the median age of the population will reach over 50.25 years, which is approx. 7 years more than in 2024, meaning that half of Poland's inhabitants will be over 50 years old. The group of people aged 65 and over is steadily growing – in 2024, it increased by 175 thousand people to a size of over 7.7 million, which accounts for 20.6% of the total population (GUS, 2025a, pp. 39, 43). The growth rate of this indicator has been approx. 0.4–0.6 percentage points annually over the last 10 years. One of the main reasons for these increases is the falling fertility rate, which also decreased from a level of 1.289 in 2015 to 1.069 in 2024. A slight increase was recorded only in the years 2015–2017 following the introduction of the 500+ programme, which unfortunately did not help for long. The old-age dependency ratio is naturally linked to the other indicators and has been rising continuously over the last 10 years by an average of 1 percentage point annually.

The ageing of society is empirically verifiable through the observation of changes in the shape of the population pyramid (Fig. 2).

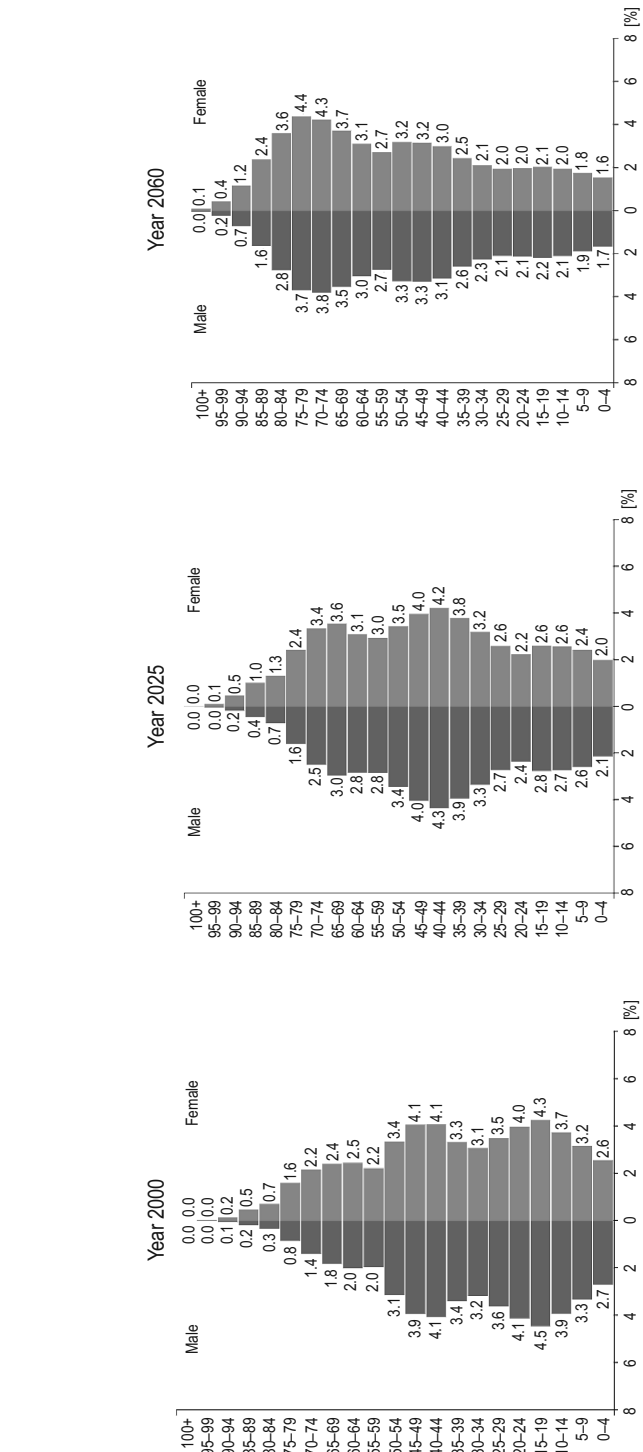


Fig. 2. Population pyramid in Poland in the years 2000, 2025 and 2060

Source: PopulationPyramid.net (2026).

The analysis of the presented population pyramids confirms that the Polish economy is undergoing a process of population ageing. The base of the pyramid is shrinking as a result of a decline in fertility rates, while the upper sections of the pyramid are expanding, indicating a growing proportion of older people. In 2000, the most numerous groups in society were children, adolescents, and young adults. By 2025, the percentage share of these groups had decreased significantly. The forecast for 2060 indicates that the most numerous group will consist of people aged 70–79, who in previous decades accounted for only a small percentage of the total population. These changes will lead to a clear increase in the old-age dependency ratio and will naturally contribute to a further decline in the number of working people.

Population ageing and pension benefits

Increasing life expectancy, combined with declining fertility rates, results in a successive increase in the number of people retiring, alongside a simultaneous decrease in the number of people entering the labour market, which directly impacts the stability of the pension system in Poland (Tab. 2).

Table 2

Forecasts regarding the stability of the pension system in Poland

Year	2026	2030	2040	2050	2060	2070	2080
Number of pensioners (in millions)	7.5	7.9	8.9	10.2	10.6	10	9.7
Number of insured persons (in millions)	16.3	16.2	15.3	13.6	12.2	11.3	10.2
System load factor	0.46	0.49	0.58	0.75	0.87	0.88	0.95

Source: ZUS (2025, p. 48).

As forecasts indicate, the number of pensioners will increase significantly in the coming decades, at least until 2060, while the number of people paying contributions will successively decrease. Unfortunately, this will translate in a highly noticeable way into significantly lower pensions for future generations. A decline in the total population, combined with a simultaneous increase in the number of post-working age people, will cause an increase in the systemic burden. In 2012, the value of this ratio was approximately 0.27, which meant that there were approximately 4 working people per single pensioner (Stasiak & Stasiak, 2023, p. 107). In 2080, the forecasted value of the indicator is expected to reach around 0.95, meaning that there will be approximately only 1 working person per single pensioner.

In the Polish pension system (based on defined contributions), the replacement rate, i.e. the value of a pension relative to the last salary, is not constant. With an increase in the number of pensioners and a simultaneous decrease in the number of working people, it automatically falls (Fig. 3).

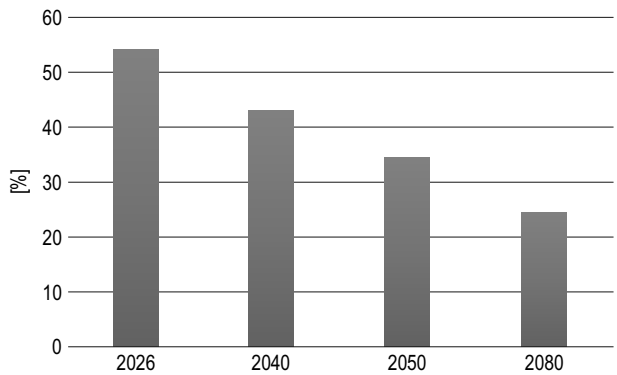


Fig. 3. Forecasts of the replacement rate in Poland in the years 2026–2080
Source: own study based on simulations by the ZUS (2025).

From the presented data, it can be inferred that individuals starting work today may in the future receive pensions constituting only one-quarter of their previous salary. As emphasised by Malec and Tyrowicz (2017, p. 30), by 2040, half of all pensioners will receive the minimum benefit, and around 70% of cohorts born at the turn of the 1980s and 1990s can expect only the lowest pension. The burden of supporting pensioners will therefore shift to the state budget, meaning all taxpayers. Not only will public expenditure increase due to the budget burden from minimum benefits, but at the same time, budget revenues will decrease. Fewer people employed means a drop in income tax revenues. A tax increase therefore seems inevitable.

Current pensioners receive significantly higher benefits than those who will retire in a few decades. Due to the existing baby bust, with an increasing number of people drawing pensions, the number of working individuals will undergo a substantial decline. This growing disproportion threatens to collapse current pension systems. If demographic trends persist, financing benefits at the current level will become impossible within a few decades, forcing the state to reduce the real value of payouts. As a result, most of the private savings of senior citizens will be forcibly channelled into paying for basic services and meeting life needs. The existing financing model is becoming unsustainable, forcing the state to change budget priorities and shift funds towards elderly care. The state's financial situation is further worsened by the fact that expenditures incurred on healthcare benefits provided to older people are usually higher than in other age groups, and moreover, they are characterised by growing dynamics of increase.

The observed demographic trends will cause immense challenges for public finances due to the burden of servicing the pension system. Recently introduced mechanisms of additional financial security (IKE, IKZE, PPK) are a step in the right direction, but they will only partially alleviate the expected financial and social problems of future generations.

Population ageing and expenses on healthcare

The ageing of society drastically increases the pressure on public finances. Elderly people suffer from chronic illnesses more often and require expensive long-term care. As the number of working-age people decreases, the state generates lower tax revenues, making the maintenance of the healthcare system a huge challenge, as healthcare expenditure grows continuously year after year (Tab. 3).

Table 3

Expenses on healthcare in Poland (in billions of PLN)

Years	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total expenditure	114.1	121.1	130.1	134.2	147.8	151.9	169.4	196.2	246.6	293.6
Including public	79.9	84.6	90.4	96.0	106.1	109.8	122.8	144.6	192.0	229.1
Including private	34.3	36.5	39.7	38.3	41.7	42.1	46.7	51.6	54.6	64.5

Source: own analysis based on data from GUS (2025b).

Current expenditure on healthcare in 2024 amounted to over PLN 293 billion and was nearly PLN 180 billion higher than in 2015. Their growth rate therefore reached as much as 157%. The increase in expenditure concerned both public and private spending (which includes, among others, household expenditure). At the same time, public expenditure recorded a higher growth dynamic, with its growth rate reaching 187%. Private healthcare expenditure increased by 88% during this period. The relationship between the level of this expenditure and GDP is also significant (Fig. 4).

Current expenditure on healthcare in 2024 accounted for 8.1% of GDP, and this ratio was 1.8 percentage points higher than that of 2015. At the same time, public spending on healthcare funding in 2024 amounted to 6.3% of GDP, whereas in 2023 it stood at 5.6% of GDP. Importantly, since 2023, the growth rate of total healthcare expenditure has been higher than the GDP growth rate, which necessitates restricting spending in other areas of the economy or burdening future generations by increasing the budget deficit.

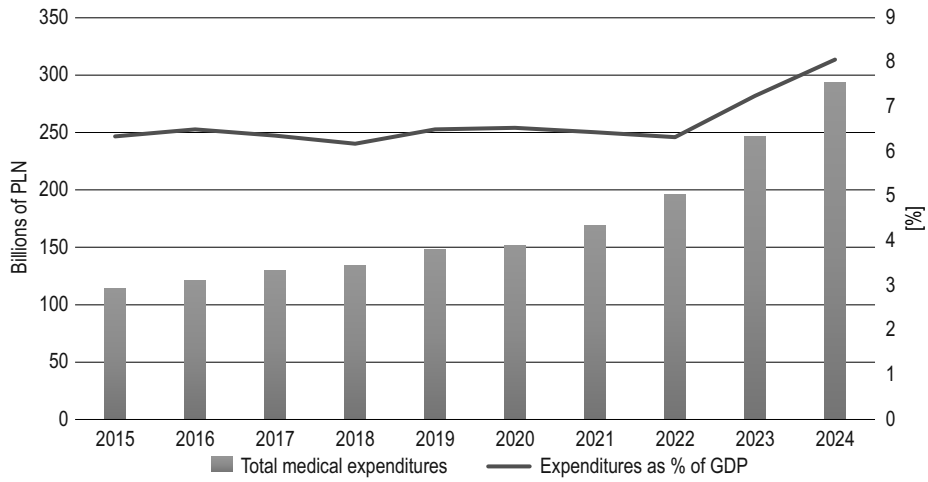


Fig. 4. Expenditures on healthcare in 2015–2024 (% GDP)
Source: own analysis based on data from GUS (2025b).

Based on the PASH model (used for forecasting the long-term financial sustainability of healthcare systems), the WHO estimated the financial gap of Poland's healthcare system up to 2060, resulting both from revenue constraints and an increased demand for increasingly expensive healthcare services. In the baseline scenario, it was assumed that the cost growth of medical services would significantly exceed general price inflation in the economy (the growth path is based on a coefficient of 1.5 relative to per capita GDP growth dynamics). However, the alternative scenario reflects the easing of the additional cost pressure – which has been most pronounced since 2022 – and accounts solely for the demographic effect and the convergence of the treatment cost structure towards the EU average (Kozłowski *et al.*, 2025, pp. 10-11).

The WHO estimates are presented in Table 4.

Table 4

Healthcare funding gap in Poland up to 2060

Breakdown	2024	2030	2040	2050	2060
Baseline scenario					
Financial gap (in PLN billion, constant 2024 prices)	24.7	71.8	170.8	275.6	433.5
Increase in private out-of-pocket expenditure required to fill the gap (percentage relative to 2024)	0%	102%	328%	540%	920%
Alternative scenario					
Financial gap (in PLN billion, constant 2024 prices)	24.7	50.1	112.3	192.3	333.1
Increase in private out-of-pocket expenditure required to fill the gap (percentage relative to 2024)	0%	47%	173%	311%	582%

Source: Kozłowski *et al.* (2025, p. 17).

According to WHO estimates, the financial gap in the Polish healthcare system is projected to rise from nearly PLN 25 billion in 2024 to PLN 171 billion in 2040, reaching as much as PLN 434 billion in 2060. A slightly smaller increase is expected in the alternative scenario, where the gap is projected to reach PLN 333 billion by 2060. Unfortunately, this gap will have to be covered partly by citizens' private spending or supplemented with additional public funds originating outside the contribution stream. The forecasted increase in private spending required to cover the gap compared to 2024 would have to amount to as much as 920% (in the baseline scenario) and 582% (in the alternative scenario).

Although healthcare expenditure is already rising steadily, its structure will need to change due to shifts in the age structure of the population. The progressive ageing of society will create further increases in healthcare spending. Older people generate medical costs that are several times higher than those of younger people. This is mainly due to the co-occurrence of multiple chronic conditions at the same time. The growing demand for long-term care and specialist geriatric services will also force a fundamental overhaul of the entire healthcare system towards prevention and proper management of chronic diseases.

Conclusions

The conducted analysis of demographic data confirms that the ageing process of Polish society is permanent and structural in nature. In the years 2015–2024, the population of Poland decreased by almost 950,000 people, while the number of individuals aged 65+ increased by approximately 27%, accompanied by a systematic rise in median age and a decline in the total fertility rate. Furthermore, the shape of the population pyramid projected up to 2060 indicates that these trends will deepen in upcoming decades.

The consequence of these transformations is a growing threat to the stability of the pension system. The system dependency ratio, which stood at just 0.27 in 2012, is forecasted to rise to around 0.95 in 2080, representing a shift from a ratio of four working-age individuals per pensioner to nearly one-to-one. This phenomenon translates directly into a lower replacement rate and will result in half of the beneficiaries receiving a minimum pension from 2040 onwards, which in practice shifts the financial burden onto the state budget and taxpayers.

Concurrently, pressure on the healthcare system is intensifying. During the analysed period, expenditure for this purpose grew by 157%, reaching 8.1% of GDP in 2024. WHO estimates based on the PASH model indicate that the healthcare system's financial gap could rise from just under PLN 25 billion in 2024 to PLN 333 billion or PLN 434 billion in 2060, depending on the scenario adopted, which will require a significant increase in the share of private household expenditure.

The ageing of society places an immense burden on the state budget and poses a challenge regarding pension payouts and healthcare funding. In the coming years, spending will have to grow much faster to keep up with demographic changes. There are no simple solutions to the problem of adverse demographic trends, including the ongoing ageing process of society. Unfortunately, the most stringent solution entails the rationing of healthcare services in old age, burdening the individual with full financial responsibility (Stasiak & Stasiak, 2023, p. 109). The healthcare system, which is already operating inefficiently today, therefore faces monumental challenges. Increasing the number of doctors is undoubtedly essential. Digitalisation, reducing bureaucracy, and simplifying procedures are just some of the changes worth considering.

In summary, the ageing of Polish society creates growing and long-term fiscal and health challenges, the scale of which demands urgent, multi-dimensional reforms of the pension system, healthcare, and the structure of the state budget. Even if adverse fertility trends can be reversed, we will still have to contend with a situation for some time in which the economy and the healthcare system face immense challenges.

Translated by Author

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