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THE ROLE OF HEALTH IN PROMOTING ECONOMIC SUSTAINABILITY

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Abstract: *Health has been and remains one of the fundamental concerns of human society. Ever since the time of Hippocrates, who, more than 300 years before our era, set out to empirically diagnose temperament types and identify typological and psychological personality traits, health has been a major topic of interest. Today, health continues to be an important field of research, as the constant evolution of the means and forces of production generates new opportunities and perspectives for the scientific investigation of health-related problems. The article examines the role of health status in promoting economic sustainability, emphasizing the close link between healthy life expectancy and sustainable economic development. A healthy population with higher life expectancy has a greater capacity to contribute to economic growth through an active and productive workforce. Investing in health not only improves the living conditions of the population, but also reduces health care expenditure, with a positive effect on the economy in the long run. Particularly in low- and middle-income countries, where access to health services is more limited, improving health status and increasing life expectancy can become fundamental drivers for economic sustainability. The article highlights the importance of health policies that support improvements in healthy life expectancy to ensure a prosperous and sustainable future. Health status, economic sustainability, public health, investing in health, life expectancy, healthy life expectancy, health policies.* ***Materials and methods:*** *The research was based on a review of relevant scientific literature and international reports to examine the link between public health status and sustainable economic development. Sources such as the Quality of Life Index by Country Report (Numbeo, 2023), the Institute for Health Metrics and Evaluation (IHME) Report and the WHO Health Emergencies Program Report were used to obtain data on life expectancy and health status of the population. The methodology included comparative analysis to identify correlations between public health and economic performance across countries. The extracted data were synthesized to highlight how investments in health can contribute to economic sustainability.* ***Results and conclusions:*** *The importance of the research lies in identifying the link between health and the economy. The authors emphasize that health status, as reflected in life expectancy, directly influences employability and GDP growth. Efficient management of health spending can bring significant benefits, such as improving prevention, promoting healthy lifestyles and increasing quality of life, thus contributing to greater longevity and overall population satisfaction.*

Key words: *Public health, public health assessment indicators, life expectancy at birth, healthy life expectancy, well-being, work capacity, life satisfaction.*

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Classification JEL: *A10, H56, Q57.*

1. Introduction

Today, health status is recognized as an essential component of quality of life and is one of the most important indicators of population well-being. This complex indicator reflects the results of social, economic and medical efforts aimed at ensuring a long life and contributes significantly to the development of human society. At the same time, health is an expression of the social, economic and moral well-being of the population, living conditions, as well as access to and consumption of services, including health care.

The concept of health status and its links with life expectancy is diverse. Currently there are scientific opinions on the essence of the category of Average Life Expectancy

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(AELS). The world's most famous scientist who has been concerned with the category of AELS has been Prof. U. Grosman, from the USA since 2012, but it should be recalled that conceptual approaches to Average Life Expectancy (AELS) have been demonstrated as early as 1980. The importance and timeliness of the study of the LMS problem stems from the fact that its value as an economic category is determined by the contribution of the population as a labor force that contributes to the production of various goods and the provision of various services. The authors capitalize on the concept of the value of public health in economic growth by maintaining a long life expectancy. They mention the importance of perceiving the essence of VHS as an economic category. Several value researches have been executed in this direction, some overlapping and some contradictory. The concept proposed by the authors advances an approach for the development of manageable models of the dynamics of health status and health-related standard of living/quality of life, which develop and complement each other.

The authors state that, Health status can be defined as a state of the human spirit, when the individual feels well, has the capacity to work and is satisfied with living conditions. Public health and public health protection are two separate intersecting categories: the economic-medical category with the managerial process of its realization; at the same time, which studies the regularities of the influence of socio-economic factors, environmental conditions on the health of the population and substantiates the system of state, public and medical measures for public health protection. Precupețu 2008,states:Health is the result of a complex combination of factors with relevance at the individual and macro levels.

Romanian researcher Elena Cozmin (2009) conceptualizes health as a dimension and domain of quality of life. The dimension of health, like other aspects of human life, is described by subjective and objective indicators, emphasizing how individuals perceive their own health status, access to health services and their evaluation. The indicators used to describe health are analyzed at various levels of depth [1, p. 274].

Gorobievschi S. (2022), points out that Public health is an economic category, because it meets a set of personal characteristics that provide the individual a harmonious interaction with the social environment, as a result of which human biopsychosocial needs are realized through his activities in the social environment. Consequently, a person's social characteristics, together with psychological (mental) and physical characteristics, determine his or her public health [2, p. 207].

WHO considers that public health consists of the scientific and practical aspect of disease prevention, life prolongation and health promotion through coordinated action by society [3]. Most authors mention the multitude of socio-economic indicators used in health assessment, have developed various consistent methodologies in analyzing and forecasting its indicators, having a direct correlation with health status.

Alber and Kohler (2004) have determined that at the societal level, high health status is a key element of each country's human capital, contributing to its competitiveness vis-à-vis other countries [1, p. 274]. Life expectancy at birth reflects the average number of years that people born in a given period will live, assuming that the mortality rate at each age will remain constant throughout their lifetime, similar to the level in the year of birth [4, p. 33].

The scholars Murray, Christopher J. L, Salomon, Joshua A. determine the notion - Healthy life expectancy has a common term for a number of health indicators within which the evolution of life expectancy is adjusted according to health status. [5], Its content refers to the average length of time (years, months, days, weeks) that a person is expected to live in a given state of health at a constant level of morbidity and mortality characteristic for a

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given country. These levels are determined on the basis of epidemio-statistical data, and the paradigm and the set of terms belong to the same category.

Hans Rosling (2012) therefore assesses healthy life expectancy as a statistical abstraction based on existing age-specific mortality rates and the prevalence of health conditions. While average life expectancy continues to be almost the most important indicator of population health, most of the developed world calculates this health indicator specifically.

These are the indicators that most adequately reflect the vitality and longevity of life of different age groups. For example, in Romania the share of employed people in the labor force is 65%, and in Moldova - 40%, of course, the contribution to GDP is different and, first of all, it should be emphasized that it is a decisive factor in people's health. The health status of the population is an essential element of the human capital of each country and plays a fundamental role in defining the quality of life. Indicators such as life expectancy, morbidity, mortality, subjective perceptions of well-being and the level of health expenditure contribute to detailed assessments of health, which are of particular importance in analyzing quality of life [6, p.219].

Precupețu I., Cozmin E. adj. "Health is determined by a complex combination of factors that are significant at both the individual and global level." At the personal level, health depends on a number of interrelated factors such as genetic inheritance, social status, lifestyle choices, behaviors, attitudes and assumed values [1, p. 276].

In general, worldwide, the literature is dominated by numerous studies, which empirically demonstrate the viability of subjective measures of health in assessing the actual level of health (including, by demonstrating their predictive ability in relation to mortality, - Benjamin Gompertz (1825) [7]. One of the most popular models describing the influence of environmental factors on demographic processes is the Gompertz-Makem model, which describes the level of overall mortality in terms of the number of people surviving to old age in the population, taking into account empirical parameters [8]. Although the limit to the possible length of life is a subject that is unlikely to be addressed, to ever be determined, "even if it should exist, it nevertheless appears of interest to dwell on the consequence that would follow if the mortality rate were to be determined in old age.

However, both society and the economy suffer losses not only from premature mortality, but also from poor health, which can lead to total or partial disability, even at the most active ages. These losses have generally received less attention in the literature [7, p. 301].

Life expectancy at birth, also known as average life expectancy, is the average number of years that a newborn would live if he or she lived the rest of his or her life under the age-specific mortality conditions of the reference period. This indicator has been developed based on data on the number of the population as well as deaths by years of birth and ages in the reference period, producing the mortality table evaluated by the WHO [9]. The name and methodology for calculating these indicators (Healthy Life Expectancy (HALE)/Disability Free Life Expectancy (DALE) - were proposed by the scientist DANIEL F. Sullivan (1971) [3, p. 347]. He proposes to study the mortality rate under different aspects, the purpose of this index is to assess the change over time in the health status of the whole nation [3, p. 349].

2. Data and methodology

In terms of health status assessment, in international practice, two approaches are commonly distinguished - subjective and objective [1, p. 291]. The purpose of this mortality-morbidity index is to assess the change over time in the health status of the whole nation. The technique for combining mortality and morbidity rates into a single index - was devised

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and reported by DANIEL F. Sullivan, USA [3, p. 353]. The objective method involves assessment of health status through the prism of an independent observer, a professional, with the use of special methods and instruments in the context of specialized examinations.

The subjective method - is the assessment of the state of health by the person's own feelings. Subjective assessment of health can be obtained based on a survey of the public. The present study is an example of health measurement using the objective approach.

The subjective approach to health assessment has been repeatedly criticized by researchers abroad as reflecting only individual perceptions and often having little to do with "real", objective health as measured by medical examinations. For example, Nobel Laureate A. Amartua Sen (1986), in one of his papers, writes about the discrepancy between the mortality rate in one of the poorest regions of India and the self-assessed level of health. Thus, he concludes that a high mortality rate in certain population groups can be successfully combined with a positive perception of health in general. In contrast, other work based on empirical data from India, as well as other developing countries, has found that self-rated health reflects actual levels of health and shows a positive relationship with socio-economic status [3, p. 33].

The WHO approach widely uses the HALE indicator to monitor health status in different countries, to develop recommendations for increasing healthy life expectancy and to reduce inequalities between countries. The results are published in the WHO World Health Statistics reports and on the World Health Organization website in the Global Health Watch section.

Eurostat approach. The Statistical Office of the European Union, in addition to WHO data, calculates the Healthy Life Years (HLY) indicator, also called Disability Free Life Expectancy (DFLE), which also combines information on mortality and health status, but the methodology differs from that used by the WHO [10, p. 33].

While the World Health Organization's assessment of the loss of healthy life years is mainly based on morbidity statistics and models for calculating losses by disease groups, Eurostat data are mainly based on people's self-assessment of their health status. Eurostat publishes a series of data characterizing the health status of the population, on the basis of which healthy life expectancy is estimated, under the following headings:

1. self-assessment of health and well-being (symptoms of depression according to severity; self-assessment of general health);
2. self-assessment of functional limitations (physical and sensory limitations; difficulties with self-care and household management for people aged 65 and over; self-assessment of long-term limitations in usual activities due to health problems);
3. self-assessed chronic morbidity;
4. injuries due to accidents (as reported by respondents);
5. health determinants (body mass index; recreational physical activity; fruit and vegetable consumption; tobacco and alcohol consumption) [11].

The Healthy Life Expectancy (HALE) indicator, calculated by Sullivan's method [3], characterizes the functional status of the population and, if it is found, that the increase in life expectancy is accompanied by an increase in good health status or, conversely, poor health status. Rosling Hans derived the method of calculation in 2006, arguing the importance of implementing this indicator in the population well-being approach.

The demographer from the Republic of Moldova, Olga Gagauz (2015), mentions the HALE indicator, which divides life expectancy into different health states throughout life [7, p. 8]. This indicator adds a qualitative dimension to the quantitative concept of the average number of years lived. HALE measures how many years, on average, a person is expected to spend in good health at a given age, considering the specific mortality, morbidity, and disability risk rates in the country for the corresponding year [12, p. 8].

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Van Oyen H., Nusselder W., Jagger C. (2016), Kolip P., Cambois E., and Robine J.-M. (2018) emphasize that HALE is a health indicator that reflects the impact of mortality and morbidity. Recent studies conducted by Young-Eun Kim, Yoon-Sun Jung, Minsu Ock, and Seok-Jun Yoon (2022) have demonstrated a trend toward using various HLE indices that comprehensively evaluate or reflect the level of disability or dysfunction, such as QALE or DALE. Murray, Christopher J. L., and Salomon, Joshua A., noted that, in addition, for estimating QALE/DALE, the data scale was larger than in previous studies; thus, it can be predicted that the estimated health weighting validity is higher [5].

The authors consider that the previously expressed opinions are medically valid (from the perspective of evidence-based medicine), but when analyzing the issue from economic, demographic, and sociological positions, they agreed that life expectancy categories can be classified and arranged in the following dependency:

- HLE (Healthy Life Expectancy): Expected life span based on national statistical trends. Life expectancy at birth contributes to maintaining overall life expectancy (SVG) because the more people are born healthy and without disabilities, the larger the labor force. SVN is calculated by a weighted evaluation of all age categories (years), multiplied by their number (unit of measure – people × years); the sum of the products per age group is divided by the total number of inhabitants in the respective country, obtaining the average number of life years from birth;
- HALE (Health-Adjusted Life Expectancy): Life expectancy without morbidity and disabilities, also recognized as active life expectancy, expressed by the duration of working capacity (active labor force, from workforce entry to retirement). The same calculation method is used for this value, but the number of citizens with severe illnesses, chronic diseases, and disabilities is subtracted.

The formula is as follows:

$$HLE \Rightarrow HALE \Rightarrow ALE \Rightarrow GDP - total\ \% - HLE\# \qquad (1)$$

Where:

- HLE – Healthy Life Expectancy;
- HALE – Health-Adjusted Life Expectancy;
- ALE – Average Life Expectancy.

The average life expectancy (SMV) of citizens represents the weighted arithmetic mean of individual life expectancies.

1. HLE (Healthy Life Expectancy at Birth): The average number of years lived in good health from birth;
2. HALE (Health-Adjusted Life Expectancy): The number of years a person is expected to live in good health throughout their life;
3. QALY (Quality-Adjusted Life Years): An indicator combining both life duration and quality, reflecting how many years lived in good health are considered equivalent to a completely healthy life;
4. DALE (Disability-Adjusted Life Expectancy): Represents the number of years lived without disabilities, indicating the duration of life without major health impairments;
5. ALE (Average Life Expectancy): The weighted arithmetic mean of all individual life expectancy values, considering different living conditions, health factors, and economic aspects.

The formula suggests that the weighted average life expectancy (ALE) is calculated as a combination of multiple types of individual life expectancy, each reflecting a different aspect of health status or quality of life, and ultimately relating to GDP and its percentage.

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A more complete formula might look like this:

$$ALE = function(HLE, HALE, QALY, DALE, GDP) \quad (2)$$

This model could be used to examine the relationship between population health (through different types of life expectancy) and economic performance (reflected in GDP).

The logical regulatory chain of these socio-economic categories is reflected in various national and global scientific studies. For example, Young-Eun Kim (2021), Yoon-Sun Jung, Minsu Ock, and Seok-Jun Yoon state that SMV is formed by reducing this value by the number of people with disabilities and morbidity, meaning that this value is equivalent to the number of employable individuals within age groups.

In recent decades, the WHO has widely used the Healthy Life Expectancy (HALE – Health-Adjusted Life Expectancy) indicator in this field. It has been established that, globally, healthy life expectancy averaged 63.1 years (2022) for both sexes. This naturally correlates with the total life expectancy in a country but deviates downward by 9 to 14 years in different countries [5].

The Disability-Adjusted Life Expectancy (DALE) refers only to the period during which a person has lived in good health, up until illness. Life expectancy at birth represents the life expectancy for a given age level starting from 0. The data source for calculating this indicator is a preliminary assessment of the population structure by age and gender and the number of deaths by age group over a year, based on death records from public authorities.

The global life expectancy in 2023 was 73.16 years, marking an increase of 0.24% compared to 2022. The global life expectancy in 2022 was 72.98 years, showing a 0.24% increase from 2021.

Table 1. Life expectancy in rich countries, 2022 (years)

Countries	Life expectancy at birth 2022			Life expectancy at birth 2012			Abatement	
	Both sexes, years.	Men, years.	Women, years.	Both sexes, years.	Men, years.	Women, years.	+, -	% 2022/2012
Hong Kong	85,5	83,2	87,9	83,5	81,1	86,7	5,7	102,4
Japan	84,6	81,5	87,6	83,1	80,7	87,9	6,1	101,8
South Korea	84,2	81,8	86,6	82,4	80,4	85,6	5,2	102,2
Iceland	84,2	81,8	86,3	82,9	81,2	84,6	3,8	101,7
Spain	84,0	81,7	86,2	82,4	82,9	81,2	3,4	101,9
Switzerland	83,7	81,5	85,9	82,7	81,6	83,4	3,8	101,2
Singapore	83,6	81,4	85,9	82,2	80,7	85,2	4,5	101,7
Norway	83,4	81,7	86,0	81,5	81,0	84,2	3,2	102,3
United Kingdom	83,1	81,8	84,3	81,1	80,9	84,9	4,0	102,5
Luxembourg	83,0	81,2	84,8	81,4	81,0	83,4	2,4	102,0
Sweden	82,9	81,4	84,4	81,7	81,5	84,8	3,3	101,5
Italy	82,8	81,3	84,3	83,0	80,9	85,9	5,0	99,8
France	81,3	80,7	81,9	82,0	79,4	85,2	5,8	99,2
Austria	81,1	80,3	80,9	80,1	77,8	82,4	4,6	100,2
Germany	80,7	80,5	80,9	80,2	77,5	83,0	5,5	97,7

Source: Authors' calculations based on data from [19; 20; 21; 22]

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Table 1 presents the Average Life Expectancy at the Global Level, where the healthiest countries worldwide have been identified. These include Hong Kong (85.5), Japan (84.6), South Korea (84.2), Singapore (83.6), Spain (84.2), Sweden (82.9), Luxembourg (83.0), Italy (82.8), and France (80.3). This group consists of the most economically developed countries, where, at present, life expectancy at birth is the highest, reaching 85.5 years.

Table 1 reflects life expectancy in wealthy countries. Over a decade, life expectancy at birth rose by 1.2% to 2.5%, with the UK showing the highest increase. Conversely, France, Italy, and Germany recorded decreases of 0.2%, 0.8%, and 2.3%, respectively. In high-income countries, longevity is boosted by high living standards, economic growth, public health investments, higher wages, well-being, biodiversity, food culture, and lower health risks.

Such investments positively affect public health and life expectancy. In 2021, life expectancy at age 60 reached 19.2 years - 20.9 for women and 17.3 for men.

Among European countries, France and Spain had the highest life expectancy at age 60 in 2021 (21.3 years), while Bulgaria had the lowest (13.6 years). For women at age 65, Spain led with 23.5 years, Bulgaria was lowest with 15.5. For men, Sweden had the highest (19.6), Bulgaria the lowest (11.6).

Table 2. Life expectancy, Healthy life expectancy, infant mortality rate and overall mortality rate in different countries, year 2022

Countries	Healthy life expectancy at birth, years.			Healthy life expectancy at birth, 60 years.			Infant mot. rate[1], %	Overall mort. rate[2], %
	Both sexes	Women	Men	Both sexes	Women	Men	Both sexes	Both sexes
Japan	74,9	72,5	77,2	21,1	18,9	23,1	0,8	235,4
Singapore	73,9	71,8	75,9	20,2	18,2	22,0	0,2	118,4
South Korea	73,2	70,8	70,3	20,0	17,9	21,7	9,1	237,1
Israel	72,8	71,6	73,9	19,5	18,6	20,4	1,8	285,3
Iceland	72,7	68,6	76,5	18,4	15,9	20,4	1.9	
Italy	72,8	71,8	73,7	19,9	18,7	20,9	1,6	289,1
France	72,6	70,6	74,4	20,3	18,7	21,7	2,5	290,1
Sweden	72,1	71,1	73,0	19,1	18,2	20,0	1,4	300,5
Norway	72,0	70,6	73,4	19,0	17,8	20,2	1,3	294,3
United Kingdom	71,4	70,3	72,5	18,8	17,8	19,6	4,8	330,1
Denmark	70,1	69,7	82,9	20,9	20,1	21,9	1,9	342,9
Spain	71,2	70,3	70,8	20,1	20,3	19,4	2,5	284.1
Switzerland	71,7	70,9	71,3	17,7	13,5	19,9	2,6	269,1
Germany	68,9	68,4	69,4	17,9	15,4	20,5	2,1	329,3
Austria	69,8	69,1	70,5	17,6	14,6	20,6	3,0	329,9

Source: Authors' calculations based on data from [19; 20; 21; 22]

1 Per 1000 children

2 Per 1000 Per 100000 inhabitants

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Women generally live longer due to their reproductive function, which renews the immune system and strengthens disease resistance - a fact reflected in Table 2.

According to international data, in 2022, the annual number of deaths among children under five decreased to 4.9 million. Since 2000, the global under-five mortality rate (U5MR) has dropped by more than half. This remarkable achievement has been largely driven by the sustained commitment of governments, organizations, local communities, healthcare professionals, and families. In 2022, the difference in Life Expectancy at Birth between genders in the EU was 5.4 years, with variations among EU countries. That same year, Spain had the highest life expectancy at birth in the EU region.

Table 3. Assessment of public health in middle-income European countries, 2022

European neighboring countries	Health indices in rating	Investment in public health, % GDP	Life expectancy at birth, years	Overall mortality rate[3], %	Mortality rate[4] Both sexes f/b, %
Bosnia and Herzegovina	69,7	9,0	78,8	550,3	368,7-798,7
Albania	68,4	6,7	77,1	601,9	385,6-905,4
Hungary	68,7	6,7	77,2	554,5	398,3-757,3
Romania	66,4	6,5	75,8	555,3	398,6-752,6
Kosovo	59,9	8,0	76, 5	-	-
Montenegro	69,7	6,4	74,0	603,1	417,9-847,5
North Macedonia	60,2	6,2	75,1	733,7	500,6-1032,0
Greece	57.3	8,6	76,8	329,0	247,6-431,8
Serbia	61,9	8,5	74,8	600,8	416,5-845,7
Bulgaria	61,4	8,6	74,3	616,5	432,5-849,3
Moldova	48,3	6,9	72.4	638,0	472,1-837,8
Slovenia	60,3	6,8	74,5	441,8	294,0-690,7
Belarus	45,7	5,6	71.2	608,0	429,6-858,9
Russia	56,8	8,4	71,3	619,5	474,7-788,8
Ukraine	49,1	7,0	68,6	649,0	482,7-870,2

Source: Based on data from [19; 23; 24]

Studies show that declining health status is correlated with aging and influences life expectancy, with differences also observed between men and women regarding longevity and health conditions. The authors determined that life expectancy gaps between men and women recorded the highest values in countries with a medium level of development.

The authors mention that the dynamics of health indicators in other countries show that without significant economic progress, the quality of health will continue to decline. In turn, this will have a strong negative impact on both citizens' health and workforce capacity. This will, in turn, strongly affect the development of the national economy.

Income plays a crucial role in determining life expectancy inequalities at both individual and societal levels (CSDH, 2008; Anderson et al., 2009). Bogdan Voicu (2005) also highlights the close connection between educational level, health status, and economic resources, and this relationship can be supported both theoretically and practically.

3 WHO defines it as standardized and it is assessed Per 100000 population.

4 Per 100000 population.

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Table 4. GDP per capita income and average wages in selected European countries, 2022

Country	Population, persons, thousands	GDP per capita (USD)	Average wage per capita (USD)	Health status	Life expectancy at birth, years
Ukraine	39701738	7 283	480	69,7	78,8
Romania	19237000	4 664	1255	68,4	77,1
Greece	10322307	20571	1627	68,7	77,2
Hungary	9689 010	18728	1140	66,4	75,8
Belarus	9485 000	6289	609	59,9	76, 5
Serbia	8737 000	7243	563	69,7	74,0
Bulgaria	6948 000	23155	800	60,2	75,1
Slovenia	5643455	18344	860	57.3	76,8
Bosnia and Herzegovina	3280000	9831	859	61,9	74,8
Moldova	2900 000	5 995	650	61,4	74,3
Albania	2832439	12 484	461	48,3	72.4
Macedonia	2 083 000	10 366	705	60,3	74,5
Kosovo	1 907 000	3 460	555	45,7	71.2
Montenegro	628 000	15 800	850	56,8	71,3
Russia	141927297	14404	1056	49,1	68,6

Source: Based on OECD Health Statistics 2023 data and authors' calculations from [19, 25, 26]

Moldova differs from Western Europe in mortality structure. In middle-income countries, breast cancer is the leading cause of death among women (e.g., Bulgaria, Moldova, Ukraine, Russia, Hungary, Romania, Belarus). In Bosnia, Romania, Albania, Montenegro, and Russia, strokes are the primary cause, followed by ischemic heart disease and liver cirrhosis. Serbia and North Macedonia also report high mortality from heart disease, stomach cancer, colorectal cancer, and Alzheimer's.

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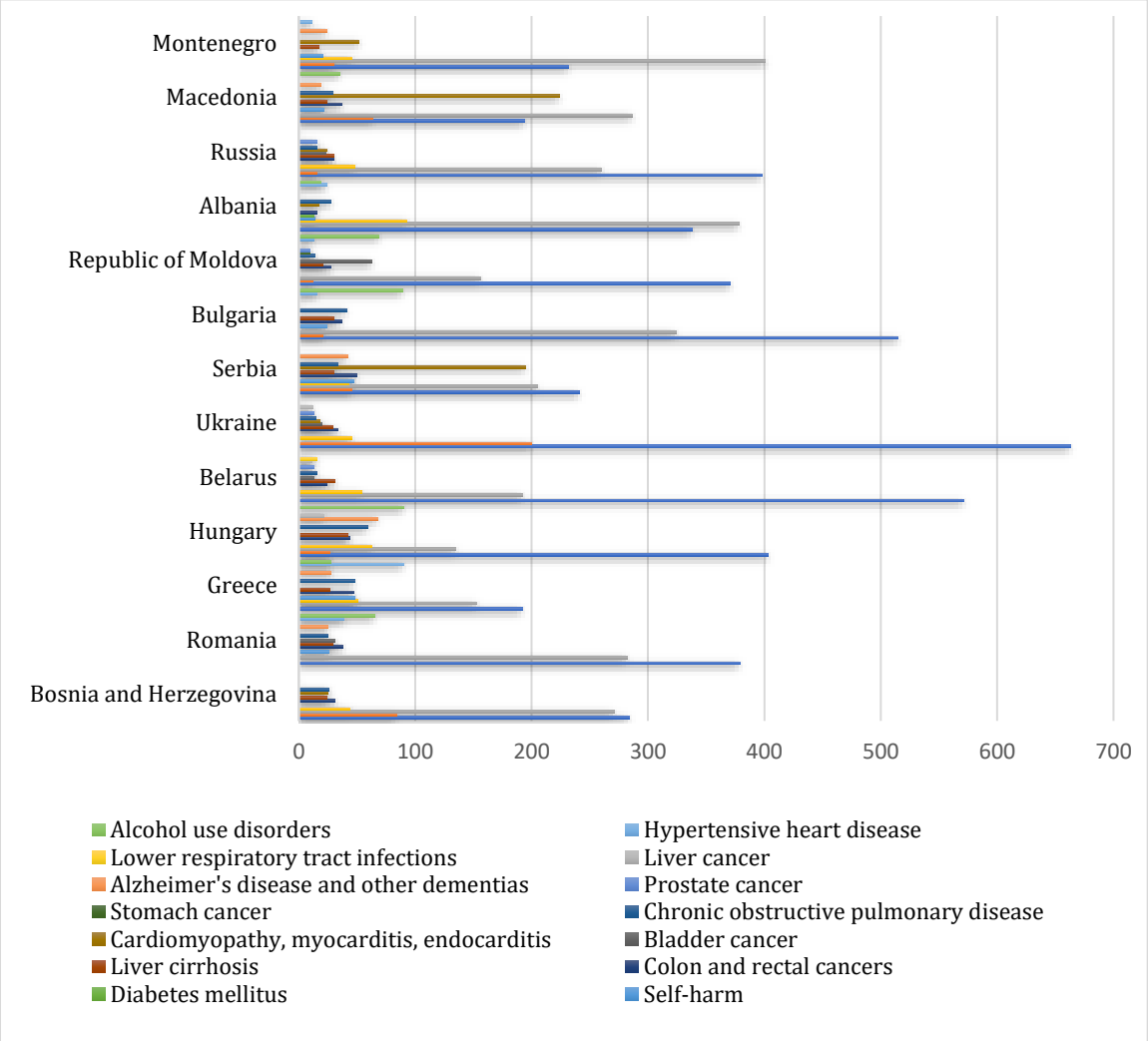

Figure 1. Causes of female deaths per 100,000 inhabitants, 2022
Source: [27]

Developed countries enjoy higher life expectancy due to factors like quality of life, economic growth, public health investments, biodiversity, nutrition, and risk reduction. Figures 1 and 2 illustrate key health factors and causes of death by country per 100,000 people. Negative health factors and mortality rates vary based on socio-economic development, geography, environmental quality, and healthcare investment. In developed countries, ischemic heart disease is the leading cause of death. In Romania, it accounted for 71,810 deaths (30.8% of total deaths), with an age-adjusted mortality rate of 153,780 per 100,000. In Moldova, ischemic diseases caused 14,292 deaths (37% of total deaths), with a rate of 245,760 per 100,000.

Liver cancer deaths in Moldova reached 2,869 cases (7.43% of total deaths). The age-adjusted hypertension mortality rate was 50,570 per 100,000, ranking Moldova 10th globally. In 2021-2022, hypertension deaths totaled 2,287 cases (5.92% of total deaths), with a rate of 39.16 per 100,000.

Lung cancer caused 1,131 annual deaths (2.93% of total), with a mortality rate of 18.69 per 100,000. Colorectal cancer led to 1,030 deaths (2.67% of total), with a rate of 17.43 per 100,000.

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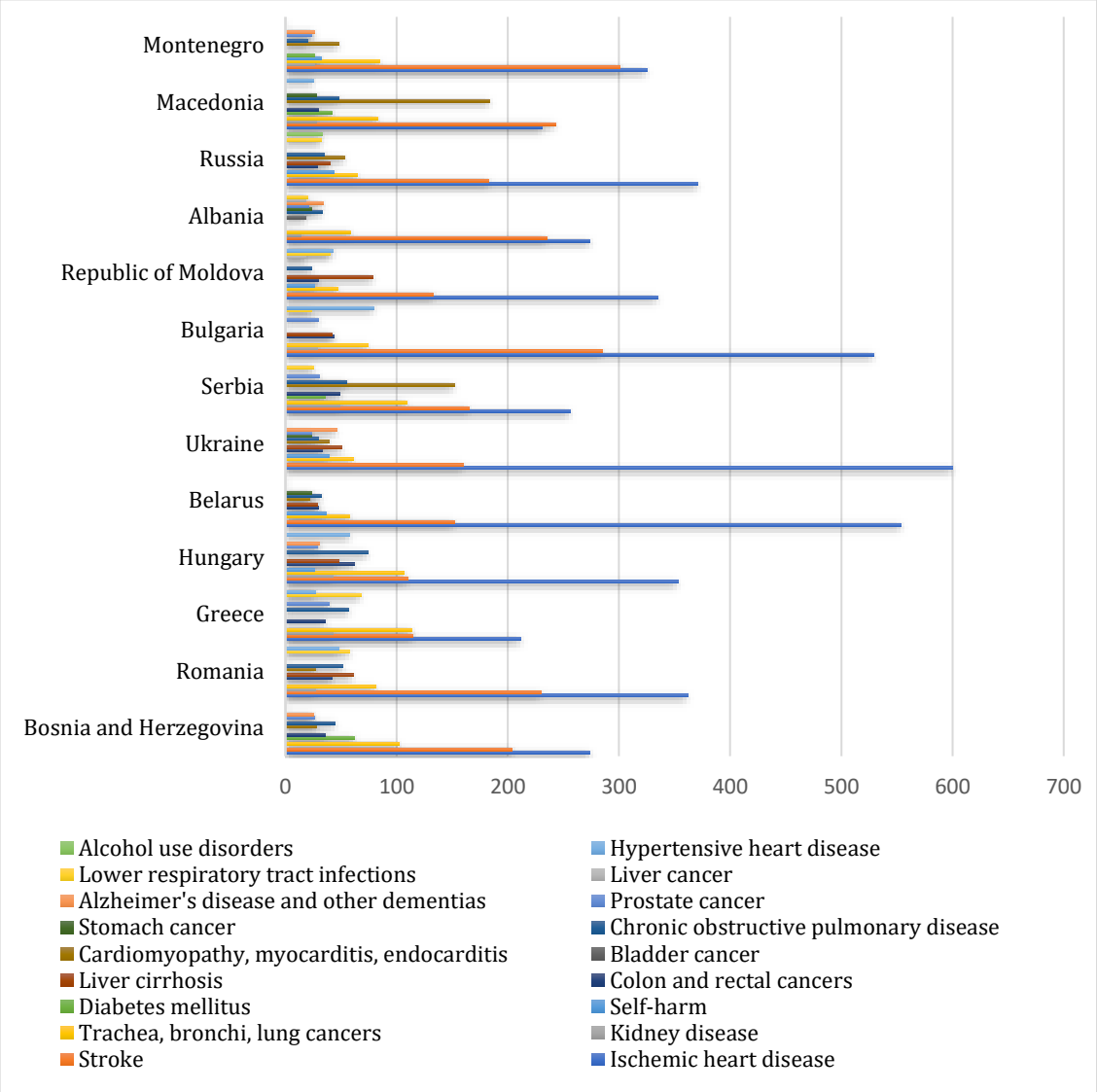

Figure 2. Top causes of death for males. Deaths per 100 000 population.
Source: [28; 29]

In developed countries, major causes of death include physical inactivity, obesity, stress, alcohol, and smoking, while in developing nations, mortality is driven by malnutrition, poor sanitation, low income, and high crime rates. The WHO ranks the leading causes of death by income level: in high-income countries, ischemic heart disease (15.6%), stroke (8.7%), lung cancer (5.9%), and Alzheimer's (4.5%) dominate. Middle-income nations face ischemic heart disease (12.3%), lung cancer (12.3%), and stroke (16.3%), while in low-income countries, diarrheal diseases (8.2%), HIV/AIDS (7.8%), and malaria (5.2%) are most prevalent.

Many low- and middle-income countries face a "double burden" of disease, battling both infectious diseases and rising chronic conditions like obesity, particularly in urban areas. Authors redefine life expectancy as the total lifespan, including healthy and productive years, alongside years lived with chronic conditions. The Global Health Journal [2019, Jun; 9 (1)] highlights the increased use of health indices like DALY and QALY to measure population health and prioritize interventions. However, there is a need for systematic guidelines to ensure their validity [15, p. 40].

Sindyashkina (2022) notes that studying healthy life expectancy involves analyzing social inequalities, public health policies, and demographic trends, particularly aging [16,

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p. 40]. Gorobievschi et al. (2021) emphasize that health indicators, such as life expectancy, mortality, morbidity rates, and healthcare investment, assess medical system efficiency and economic impact [17, p. 80].

Table 5. Top 15 Healthiest Health status in middle-income countries in the European Union and top 15 healthy high-income countries.

Economic indicators	Middle income countries	High income countries	Mathematical deviation
Life expectancy at birth 0 (years)	70,3	76,2	+4,9
Life expectancy at 15 e 15 (years)	58,2	62,4	+4,2
Death risk at 0-5 years (%)	1,6	0,8	-0,8
Death risk at 15-59 years (in %)	19,8	12,2	-7,5

Source: Authors' calculations based on [29, 30]

Aligning socio-medical activities with European standards requires a thorough evaluation of health status, life expectancy, and quality of life. Healthcare services should be effective at all levels, with statistical analyses updated to European and global standards. Public health assessments should incorporate both objective indicators (as per WHO) and subjective perspectives (as per Eurostat), reflecting individual satisfaction with health-related factors. This dual approach helps highlight public health strengths, weaknesses, and unaddressed gaps, contributing to sustainable development and improved life quality.

The elderly workforce should not be feared; rather, they can fill job vacancies unattractive to younger generations. Historically, Average Life Expectancy (SMV) has been seen as a demographic and medical indicator. However, this research presents it as a socio-economic concept, emphasizing its role in economic growth.

Health plays a crucial role in economic sustainability by:

1. Boosting productivity – Healthy individuals contribute more effectively to the workforce.
2. Reducing healthcare costs – Investments in prevention lower long-term medical expenses.
3. Ensuring economic stability – A healthier, longer-living workforce supports long-term economic participation.
4. Enhancing child health and education – Good health improves educational outcomes, strengthening human capital.
5. Reducing inequalities – Access to healthcare fosters social and economic inclusion.
6. Encouraging innovation – A healthy population is more creative and productive.

Investing in health not only enhances life quality but also strengthens economies, creating a sustainable cycle of prosperity.

3. Results and Discussion

The paradigm of life longevity - The healthier an individual is, the higher their life expectancy, and the more sustainable their working capacity becomes. This, in turn, ensures a longer participation in the labor market, ultimately contributing to economic development.

A longer life in good health is a crucial objective for societies facing demographic aging. Identifying health inequalities and disparities in access to medical care provides essential insights for developing and implementing social policies. This study examines the

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socio-economic indicators of life expectancy and the relationships between them, with a focus on achieving healthy longevity.

Aging in relation to health does not merely refer to the absence of diseases but also to maintaining an individual's functional capacity. If the necessary policies are not implemented and adequate investments are not made in public health to promote a healthy life expectancy, the losses to society will be significant and difficult to recover.

Allocating a portion of the GDP to public health has a strong impact on reducing morbidity through health prevention measures, dietary culture, and maintaining a healthy lifestyle. As a result, this contributes to an increase in the longevity of the population while also reflecting an improved state of health.

The significance of this research lies in the fact that the authors have established the interdependent links between health status, life expectancy, workforce capacity, and a country's GDP. This confirms that health should be recognized as a socio-economic category that actively contributes to a nation’s economic growth.

Life expectancy at birth [18, p. 12] - often referred to as Average Life Expectancy - is commonly identified as a comprehensive measure of mortality. However, this indicator also has certain limitations, particularly highlighting the influence of circumstantial factors specific to different time periods.

The research was carried out within the framework of the project "Using Socio-Economic Methods for Public Health Management Research", under the number 23.00208.0807.087.08/PDI

4. Conclusions

1. Public health plays a crucial role in human society. A healthy body nurtures a healthy spirit, one that is capable of innovation and productive work. This, in turn, contributes to the economic growth of nations.
2. Average life expectancy refers to the duration of life from birth to death, encompassing several components: healthy and productive life expectancy, as well as the period spent living with chronic diseases and other health conditions. In modern public health theory, various evaluation indicators are used; however, the most significant one for a nation's economy is recognized as the average life expectancy (ALE) of individuals and society as a whole. The gap in life expectancy between men and women has shown the largest disparities in countries with a medium level of development.
3. Average life expectancy is a complex and multifaceted indicator that varies across countries, genders, and age groups. It is influenced by multiple factors such as living conditions, dietary habits, genetic background, geographical location, environmental conditions, and overall well-being of citizens.
4. A global economic analysis of life expectancy has identified the healthiest countries worldwide, including Japan, South Korea, Singapore, Spain, Sweden, and Luxembourg. These nations make the highest investments in healthcare. Notably, the countries with the strongest economies currently have an average life expectancy of 85.5 years. In contrast, in middle-income countries, this figure is approximately 78.8 years. The largest gender disparities in life expectancy remain prevalent in countries with moderate economic development.
5. The Republic of Moldova lags behind other European middle-income countries such as Hungary, Serbia, Albania, Bulgaria, and Romania in terms of life expectancy for both men and women. The gap is even more significant when analyzed in a global context. Women tend to have a longer life expectancy than men, a difference largely attributed to lifestyle choices and genetic factors.

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6. Investments in public health yield substantial benefits, as they directly contribute to the expected outcomes. Wealthier countries tend to allocate more resources to their healthcare systems, which in turn leads to an increase in national ALE. At the same time, these investments positively impact economic growth.
7. Access to advanced medical care and pharmaceutical innovations directly correlates with increased life expectancy, thereby contributing to overall well-being. It is now widely acknowledged that a rise in active life expectancy plays a significant role in boosting a country's GDP, particularly in nations that prioritize this aspect.
8. Health status plays a fundamental role in analyzing life expectancy, and the correlation works both ways. This indicator is closely linked to numerous socio-economic factors. Continuous monitoring and breaking it down into various aspects allow for a more comprehensive and coherent analysis, incorporating both objective and subjective perspectives.

The importance of the research lies in identifying the link between health and the economy. The authors emphasize that health status, as reflected in life expectancy, directly influences employability and GDP growth. Effective management of health spending can bring significant benefits, such as improving prevention, promoting healthy lifestyles and increasing quality of life, thus contributing to greater longevity and overall population satisfaction.

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