

Healthcare systems in Poland and Germany: historical outline and comparative analysis

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Medical Studies

DOI: <https://doi.org/10.5114/ms.2026.160794>

Key words: delivery of health care, quality of health care, social security, insurance.

Abstract

In public debate in Poland, the experiences of other countries are often considered in an effort to optimize the healthcare system. One of the countries frequently mentioned in this context is Germany. The purpose of this article is to compare the German and Polish healthcare systems with special attention being paid to indicators related to the functioning of the healthcare system as well as indicators of the population health status. Presentation of selected indicators was made, among others, on the basis of data available from the Organization for Economic Co-operation and Development (OECD). Conclusions can be drawn regarding clear differences in the organization of the healthcare systems in Poland and Germany. The vast majority of health status indicators, as well as indicators related to the functioning of the healthcare system, look better in Germany than in Poland.

Introduction

Social security systems are particularly important for the functioning of societies due to their being an element of security, both at the level of individual perception and at the level of the state and state institutions [1, 2].

Sometimes, social security is considered in two aspects. The first aspect relates to non-health effects, when an illness causes certain losses (including material losses) without directly affecting an individual's health, or when assistance is required by an individual for other reasons. Said assistance is then provided through social welfare institutions and social benefits, including financial benefits [3]. The second aspect relates to cases involving the need to contact the healthcare system, and thus the term health security system has been introduced to include, among other factors, the accessibility of health services [4, 5].

The very idea of social welfare and medical care has been around since ancient times. Over the centuries, it continued to evolve, from almsgiving and various, usually Church-operated, care institutions to formalized, often complex insurance systems [6, 7].

The origins of modern health insurance systems had not been developed until the late 19th century and

were secondary to the concept of social insurance. In 1883, the Mandatory Health Insurance Act was introduced in Germany, followed by the Accident Insurance Act in 1884 and the Disability/Old-Age Pension System Act in 1891. These three acts formed the foundation of the German insurance system [8, 9]. The so-called Bismarck model was historically the oldest “classic” model, and solutions developed therein have remained in force in many countries until today. Another model for the organization of the healthcare system was introduced in the former USSR and named after its creator, the first People's Commissar for Health, Nikolai Semashko. The system had played a significant role at one time, only to disintegrate with the collapse of the country [10]. Two other models still relevant today are those of the United Kingdom's National Health Service model (the so-called Beveridge model), and the market-based model otherwise known as the residual model [11, 12].

The basic aspects of any health security system include the financing method (out-of-pocket expenses, taxes, premiums, or combinations thereof), the financing levels, and legal regulations (regarding interactions between providers, beneficiaries, and funders) [13]. When comparing the types of health security

systems, a key role is played by the financial aspect, namely the financing levels and structures. The last of these elements is the central aspect that differentiates the two major health security systems in European countries: the Bismarck (insurance-based) system, and the Beveridge (provision-based) system [14]. In fact, mixed forms of both of these systems, drawing their main ideas from one of them while integrating aspects from the other, are in force in all countries of the European Union [15].

In the public debate in Poland, consideration is often given to using the experience of other countries in an effort to optimize the operation of the Polish healthcare system [16]. One proposal relates to possibly making use of the experience of the German healthcare system.

The purpose of this article is to compare the German and Polish healthcare systems with a focus on indicators related to the functioning of the healthcare systems and indicators of the population health status. Identification of these differences can provide arguments for further debates in the context of the possibility and desirability of using the German experience within the Polish healthcare system.

The description of the health security systems in Germany and Poland was made on the basis of a non-systematic review of the literature and a review of legal acts regulating the organization and functioning of healthcare systems. The contents of the government websites in both countries were also analyzed. The search for literature sources and legal acts was conducted using electronic databases such as PubMed and Google Scholar. In addition, national repositories of legal acts and the websites of ministries of health and governmental institutions responsible for the healthcare system were reviewed. Only the most recent publications with clearly defined and described methodologies were included. In turn, popular science publications, journalistic materials, and sources lacking full data access or not based on verifiable evidence were excluded.

Presentation of selected indicators related to the functioning of healthcare systems was made on the basis of data available from the website of the Organization for Economic Co-operation and Development (OECD) [17, 18] and the Institute for Health Metrics and Evaluation (IHME) [19]. The information available in these repositories was cited because they provide comparable and standardized health indicators for many countries, including Germany and Poland, which enables reliable international comparisons.

The OECD maintains a portal presenting a set of indicators from different social areas. Among these indicators are those related to health and the healthcare systems. The indicators originate from official national sources (e.g., ministries of health, statistical offices), and the OECD applies data validation and verification procedures. We have analyzed the following data related

to the functioning of the healthcare systems: numbers of physicians, nurses, hospital beds, magnetic resonance imaging (MRI) units, MRI exams, computed tomography (CT) scanners, CT exams, and medical consultations, influenza vaccination rates, cesarean section rates, hospitalization lengths, hospital discharge rates, populations eligible for core services, populations satisfied with the availability of quality healthcare, governmental and obligatory insurance spending, populations reporting unmet medical care needs, antibiotic prescriptions, avoidable hospital admissions, and mammography screenings within the past 2 years.

In addition to indicators related to the functioning of the healthcare systems, indicators of population health status were also analyzed, including those related to health behaviors such as life expectancy at birth, infant mortality rates, potential years of life lost (PYLL), disability-adjusted life years (DALY), deaths from cancer, suicide rates, prevalence of diabetes, population in poor health (%), daily smokers, alcohol consumption, overweight or obese population, daily vegetable consumption, daily consumption of five or more portions of fruit and vegetables, and spending at least 150 minutes per week on physical activity. Data were also extracted from the OECD portal, and the Global Burden of Disease (GBD) survey as available from the IHME website.

The health security system in Germany: the history and present day

Germany was the first country in the world to introduce a health insurance system based on universal health coverage funded by contributions from workers and employers through the Chancellor Otto von Bismarck's 1883 Health Insurance Act [20]. Under pressure from the growing labor movement, Bismarck had initiated the process of developing a welfare state system designed primarily to protect workers from the risk of illness, accidents, and the resulting loss of earnings. To this end, health insurance was established in addition to pension and accident insurance. The basic idea of health insurance was simple: employees contributed a small portion of their wages to the insurance, another portion being contributed to the fund by the employer (at the time, at a ratio of 2 to 1). The insurance entitled people to benefits, the costs of which were covered by premiums paid by all the insured. The benefits as financed by the premiums were rather basic and included simple medical treatments, certain medications and hospital stays [21]. Sickness allowances were also provided from the premiums to effect at least an alleviation of hunger for the family of an incapacitated worker [22]. The allowance was the main benefit of the system for the first decades [23]. The system, introduced nearly 140 years ago, has essentially survived to the present day, albeit with major changes.

The central pillar of the financing of health services in the German model consists in health insurance premiums paid monthly by all citizens. The insurance is obligatory, and the obligation can be fulfilled in two ways: through statutory health insurance (*gesetzliche Krankenversicherung*, GKV) or private insurance (*private Krankenversicherung*, PKV) [24].

GKV is a form of insurance regulated by law, i.e. the Social Code (*Sozialgesetzbuch*), in Book/Part V (SGB V) [25]. The obligation for holding a GKV insurance extends to all those whose income does not exceed the compulsory threshold (in 2024, it is EUR 69,300 per year, or EUR 5,775 per month) [26]. If the monthly income exceeds this limit, a citizen can remain within the GKV as a voluntarily insured member or choose private health insurance (PKV). Certain groups of citizens are exempt from GKV obligations even if their income is below the compulsory threshold. These include, for example, civil servants and self-employed citizens, who are free to choose between the GKV and PKV. Insurance under the PKV system is offered by joint stock or mutual insurance companies. A voluntary legal relationship is established on the basis of the concluded contract, including the policyholder being obliged to pay the agreed premiums and having the right to contractual benefits when an insurance event occurs.

Insured individuals pay health insurance premiums. The GKV premium is income-based. It currently amounts to 14.6 percent of gross wages and is paid by the employee and the employer in a 50/50 ratio. Under the PKV, insurance premiums are calculated on the basis of the principle of equivalence as a relationship exists between the benefit and the premium. The PKV premiums are calculated according to health status, age at enrollment, and individual risk while the benefits and any deductibles are determined individually in the contract [27, 28].

Under the GKV, health services are financed by health insurance funds (also called as sickness funds) – public, non-profit legal entities. The funds function to collect and manage contributions from members and to ensure that service providers are paid for the provision of health services to the fund members. They should also monitor the quality and necessity of services to ensure that unnecessary or ineffective treatment is not being offered. Since 1996, citizens have been able to freely choose their health insurance fund, albeit with few exceptions. In order to ensure fair competition between the various health insurance funds, a risk structure compensation scheme (*Risikostrukturausgleich*, RSA) was introduced. The mechanism equalizes the risk of inequality in the structure of the beneficiaries to prevent the unequal distribution of higher- vs. lower-income, younger vs. older, healthy vs. sick members [29]. The assumption was that following the implementation of the RSA, each health insurance fund would have

a member structure corresponding to that of the average GKV. The RSA is also aimed to create incentives to improve the efficiency of services, as well as to prevent anti-selection risks [30–32].

For the past 25 years, the structure of the GKV has been continuously reformed with the goal to strengthen the healthcare system by increasing its efficiency and quality outcomes. Health insurance funds have gradually gained the ability to cooperate with physicians, medical associations, and hospitals, to enter into individual contracts for cash services (so-called selective contracts). In addition, health insurance funds gained the ability to sign discount contracts with drug manufacturers, whereby the drug manufacturer grants discounts on particular drugs to the health insurance fund and, in return, the health insurance fund drugstores supply the fund beneficiaries only with the medicinal products from contract suppliers.

The next step in reforming the GKV has consisted in the establishment of the central Health Fund, put into force as of January 1, 2009. For the first time in the approximately 125-year history of statutory health insurance, the federal government assumed responsibility for statutory health insurance revenues. The Health Fund receives contributions from members of health insurance funds, employers, and other social security institutions, as well as federal subsidies. In return, health insurance companies receive the risk structure-compensated funds they need to finance services for their beneficiaries. In addition to the uniform premium rate paid into the Health Fund, an additional premium rate to be paid by the insured directly to individual health funds is defined and collected directly by the health funds as a competitive element. A uniform rate predefined by the state would create the danger that in the future, the premium rates would depend not only on the need to secure a specific range of health services but also on political factors [33].

However, even after the establishment of the Health Fund and despite the significant growth of the federal government, the health security system in Germany remains a self-governing one. Its financing is dominated by income-based contributions. From an international perspective, it is possible to identify a kind of shift from the conservative Bismarck system toward a more social-democratic or state-run one. However, the new German health system should be considered a hybrid form rather than a clear departure from the Bismarck type.

The health security system in Poland: the history and present day

Poland's regaining of independence in 1918 after 123 years of being partitioned by the neighboring states marks the start of the country's attempts at establishing a health insurance system. To this end, the act on compulsory sickness insurance was imple-

mented in 1920 [34]. Under it, separate sickness funds were established to operate in each *powiat*. Separate sickness funds could be established in cities with populations of more than 50,000. All individuals, male or female, remaining within employment relationship were subject to the insurance obligation. Individuals acting directly as owners of industrial and commercial enterprises (directors, proxies) were exempt from the obligation as long as their annual earnings exceeded 30,000 Polish marks, and appointed (as opposed to those employed on the basis of employment contract) civil servants. The sickness funds could be joined on a voluntary basis by individuals below the age of 45 and not subject to obligatory insurance whose annual earnings did not exceed 30,000 Polish marks. A health certificate had to be presented for admission to the fund as admission could be refused to members presenting with poor health status. The establishment of the health funds allowed only about 14% of the population to be covered by health insurance. The fund financed certain mandatory benefits, such as medical assistance for fund members and their families, funeral benefits, sickness and puerperium/postpartum/childbirth/maternity benefits. Sick members were provided with free medical assistance from the first day of illness up to a maximum of 26 weeks. Assistance also included the provision of medications, dressings, eyeglasses, and other minor medical supplies aimed to restore the patient's health and earning capacity. A patient could be admitted to hospital on the basis of medical indication from a physician regardless of their consent, as non-compliance could result in the Fund depriving its member of all benefits. Medical assistance was provided only by certified physicians and dentists who had signed a contract with the fund and held a state-issued medical practice license. The members of the funds had the right to freely choose their physicians from among those having a valid contract with that particular fund [34].

The aforementioned act was repealed by the Social Insurance Law of 1933, regulating health insurance as well as pension, sickness, and accident insurance [35]. The sickness funds were transformed into social insurance companies. The insurance obligation was maintained to include all individuals, male or female, remaining in an employment relationship. In addition, the insurance obligation was extended to schoolchildren, apprentices, relatives, and in-laws of those employed by the employer, with the exception of spouses, as well as outworkers and working prisoners. Agricultural workers were not covered by the insurance obligation. In case of illness, the insured were entitled to medical assistance lasting no longer than 26 weeks. This assistance included medical care, medications, and dressings, as well as remedies and aids against deformity and disability. The organization of the healthcare system was regulated by the Public Health Service Act of 1939 [36].

In the period between the end of World War II and 1948, the healthcare system in the People's Republic of Poland functioned on the basis of legislation passed in the period of the Second Republic of Poland [37]. A characteristic feature of the pre-war legal and organizational arrangements was the poor accessibility as well as the inconsistency of the various elements of the healthcare system. The system consisted of several separate segments which, taken together, ensured healthcare being provided only to 20–25% of the country's residents. Although the most important element of the system consisted in insurance premium-based treatment, its inherently limited subject coverage (the system being extended only to those employed outside of agriculture) resulted in the majority of the country's residents having no opportunity to benefit from the services of social insurance physicians [38].

In 1948, the Social Establishments and Planned Economy in Healthcare Act was passed to introduce socialist state mechanisms into the country's healthcare [39]. The system was based on the Semashko model (a centrally planned model), with the state assuming the duty to provide health care, medical assistance, and social welfare to the entire population. The citizens' right to healthcare and assistance in case of illness or incapacity was included as a civil right in the 1952 Constitution of the People's Republic of Poland. Healthcare, financed by the state budget, could be used by all those covered by social insurance as well as other individuals such as children and young students, soldiers in basic military service, and individuals receiving treatment for tuberculosis and venereal diseases. Medications dispensed in inpatient treatment, as well as basic anti-tuberculosis drugs, anti-cancer drugs and some drugs used in the treatment of mental illnesses and certain chronic diseases, were provided free of charge. Free medications were available to veterans. In Poland, the Semashko model was never implemented in full, possibly due to Polish cultural and economic peculiarities (including individual farming), as well as political changes after 1956. The system could thus be referred to as the "Polish variant of the Semashko model". Throughout the period of the People's Republic of Poland, private medical offices and medical cooperatives functioned alongside social healthcare facilities [40].

Fundamental changes in the functioning of the healthcare system in Poland were introduced by a reform that took effect on January 1, 1999. Under the Act of February 6, 1997, on universal health insurance, a health insurance system was introduced [41]. The system extended to Polish citizens who were subject to obligatory health insurance (the vast majority of the population) or to those taking out voluntary insurance. The insured paid 7% of their income as insurance premium. From January 2003 to the present, the premium rate amounts/has amounted to

9% of income. At the same time, 16 regional Sickness Funds were established (one per province) along with a separate Uniformed Services Sickness Fund (with the central office in Warsaw). The reform was a systemic revolution as Sickness Funds took over the financing of the vast majority of services from the state. Some health services, such as certain specialized services, continued to be financed from the state budget.

However, changes in power led to a rapid collapse of this system for the organization of health services. In 2003, an act was passed to establish universal insurance through the National Health Fund, a centrally operated institution disposing of the funds obtained from insurance premiums [42]. After numerous protests, the act was referred to the Polish Constitutional Tribunal which ruled most of the provisions unconstitutional. The final form of health insurance-based financing of healthcare services which remains, with some modifications, in effect until today, was defined in the Act of August 27, 2004 on health care services financed from public funds [43]. The act defines the principles and procedures of financing as well as the scope of public-funded benefits (the so-called guaranteed benefits) along with the principles for supervision and control of service financing and implementation, tasks of public authorities aimed at ensuring equal access to benefits, the principles of universal (obligatory) and voluntary health insurance, and the principles of the payer's operation, organization and tasks.

The payer is the aforementioned National Health Fund (the headquarters + 16 provincial branches), its task being to finance the guaranteed services (as defined in the regulations of the Minister of Health) following the conclusion of contracts with healthcare providers. Beneficiaries include those covered by universal (obligatory) and voluntary health insurance. In addition, uninsured individuals (including women during pregnancy, childbirth, and puerperium) residing in Poland

, having Polish citizenship or having obtained refugee status or supplementary/subsidiary ?????? protection in Poland, or holding a temporary residence permit (pursuant to the rules set forth in separate legislation) are also entitled to receive healthcare services financed from public funds. Under the terms of the Act, beneficiaries can receive healthcare services only from providers having a valid contract with the National Health Fund for the provision of the given type of services [43].

The comparison of healthcare systems in Poland and Germany

Table 1 shows the most important features of the health security systems in Germany and Poland.

Table 2 shows selected indicators related to the functioning of the healthcare system [17, 18].

Differences between both countries are evident. Poland has far fewer physicians, nurses, and hospital beds per 1,000 people. The number of magnetic resonance imaging units and CT scanners is also smaller in Poland than in Germany, resulting in fewer examinations performed. At the same time, the number of cesarean sections is significantly higher in Poland, as is the quantity of antibiotics prescribed.

The healthcare systems should also be linked to the indicators of citizens' health status. It is assumed that access to healthcare is one of the factors affecting the health of the population. Table 3 presents several indicators revealing the differences in health status between Polish and German residents [17–19].

Clear differences to the disadvantage of Poland can be observed in the vast majority of indicators. Only the prevalence of diabetes, self-assessed health status, and daily consumption of vegetables show slight differences in favor of the Polish population. At the same time, life expectancy at birth is shorter by more than 3 years, a higher percentage of the population is overweight or obese, and a higher percentage of the population dies from cancer.

The most important differences between the Polish and the German healthcare system

The healthcare systems of Poland and Germany are evidently different, starting from the organizational model (a clearly outlined insurance-based model in Germany as compared to a mixed insurance- and provision-based system in Poland) to the choice of the insuring institution (no choice due to the monopoly of the National Health Fund in Poland vs. choice available due to the existence of numerous health funds in Germany) and, finally, the level of financing (6.7% of GDP for health in Poland vs. 12.7% of GDP for health in Germany). It can be assumed that the significant difference in health expenditures becomes apparent in the indicators of the functioning of the healthcare systems and the health status of the population.

The difference in health spending is probably not the only reason for the observed differences in population health indicators. Indeed, numerous other reasons can be assumed to be responsible for this state of affairs including, for example, shortages of medical personnel, limited access to modern medical equipment, or insufficient health education [44, 45]. While the latter should be implemented from an early age, Polish schools fail to prepare students for a healthy life. In many cases, due to the limited health knowledge of the parents, children also lack good role models in their homes. Plans to introduce a subject called "health education" into the school curricula are scheduled only for September 2025 [46], with several years being required to observe the overall effects of such education. Based on the presented data, the deci-

Table 1. Features of the health insurance systems in Poland and Germany (data as of 2024)

Feature	Poland	Germany
System type	Mixed (features of both insurance- and provision-based systems)	Insurance-based system
Free choice of the insuring institution	No – monopoly of the National Health Fund (headquarters + 16 provincial branches)	Yes – the existence of numerous health insurance funds
Free choice of the provider	Yes – full choice	Yes – selection from among healthcare providers having signed a contract with the health insurance fund
Funding of benefits	Mainly through health insurance premiums	Mainly through health insurance premiums
Monthly health premium rate	9% of income (fully paid by the employee)	Average of 14.6% of income (7.3% paid by the employee, 7.3% paid by the employer) Additional insurance premiums to the individual health insurance funds at an average of 1.5% of income
Percentage of GDP allocated to health (all types of spending)*	6.7%	12.7%
Contracting of benefits	Bid competitions/Tender procedures announced by provincial branches of the National Health Fund	Contracting based on the rules adopted by the health insurance fund
Co-payment for hospital stays	None	Yes – EUR 10 for each day of hospital stay, but no more than for 28 days of stay

*Data as of 2022.

sion to introduce comprehensive health education in school curricula is fully justified though decades overdue. Theoretically, classes on human anatomy and certain health issues should be discussed during biology lessons; however, the teachers are usually not prepared to impart this knowledge in a comprehensive and audience-appropriate manner.

In Poland, access to quality services within the public healthcare system remains a significant problem [47]. One of the reasons for the exclusion from the public system or a significant limitation of access thereto may consist in the shortage of physicians and nurses as well as their uneven distribution in different areas of the country [48]. The comparison of data for Poland (3.4 physicians and 5.7 nurses per 1,000 inhabitants) and Germany (4.5 physicians and 12.0 nurses per 1,000 inhabitants) reveals a considerable difference. Recently, Poland has taken steps to educate more doctors, allowing medical faculties to open at smaller universities, mainly outside of large cities. Although the direction of change seems right, the manner of its implementation is controversial, mainly due to the lack of adequate teaching facilities as well as the inadequate availability of highly qualified staff in some of the newly authorized universities [49].

Also noteworthy is the significant difference in access to modern diagnostic equipment (MRI, CT) between Poland and Germany. This may be directly

related to the level of health spending. The demand for this type of examinations in Poland is high while the availability is limited. This results in patients often opting for MRI scans in the private sector when needed. The scale of the problem is shown by the fact that even in that setting, patients have to wait for the exam to be performed.

Overconsumption of antibiotics is also a public health problem in Poland [50, 51]. A significant difference can be seen when comparing Poland (18.8 daily doses of antibiotics per 1,000 people) and Germany (8.1 daily doses of antibiotics per 1,000 people). Numerous campaigns aimed at reducing antibiotic consumption are targeted at patients while the major role in this regard is played by the doctors. Over-prescribing of antibiotics is indicative of non-compliance with European and global guidelines [52–54]. The significant rate of cesarean sections (717.8 procedures per 100,000 women) is another worrying phenomenon.

When analyzing the health system in Poland, a mix of financing methods can be seen, the burden of outpatient care being increasingly shifted to the private health services sector, the latter bringing together an increasing number of qualified physicians [55]. Due to the working conditions, a significant number of these physicians do not take up further employment in the public sector, which only adds to the healthcare crisis.

Table 2. Selected indicators related to the functioning of the healthcare systems (data as of 2021)

Indicator	Poland	Germany
Doctors (per 1,000 inhabitants)	3.4	4.5
Nurses (per 1,000 inhabitants)	5.7	12.0
Hospital beds (per 1,000 inhabitants)	6.3	7.8
Magnetic resonance imaging (MRI) units (per 1,000,000 inhabitants)	11.4	35.3
Magnetic resonance imaging (MRI) exams (per 1,000 inhabitants)	52	158
Computed tomography (CT) scanners (per 1,000,000 inhabitants)	22	36.5
Computed tomography (CT) exams (per 1,000 inhabitants)	117	160
Doctors' consultations (per person)	6.0	9.4
Influenza vaccination rates (% of population aged 65+)	10.0	47.3
Cesarean sections (procedures per 100,000 women)	717.8	579.2
Hospital stay lengths [days]	Acute care	7.4
	Childbirth	2.7
Hospital discharge rates (per 100,000 inhabitants)	14,352	21,790
Population eligible for core services (% population)	94.0	99.9
Population satisfied with availability of quality healthcare (% of population)	51	85
Government and obligatory insurance spending (% of total health spending)	Hospital care	97
	Outpatient medical care	90
	Dental care	67
	Medications	82
Population reporting unmet medical care needs (% of population)	2.6	0.1
Antibiotics prescribed (daily dose per 1,000 people)	18.8	8.1
Avoidable hospital admissions (per 100,000 people, age- and gender-adjusted)	663	728
Mammography screenings within the past 2 years (% of women aged 50-69)	33.2	47.5
30-day mortality following acute myocardial infarction (per 100 admissions aged 45 years and over, age- and gender-adjusted)	5.2	8.6

Limitations of the review

The unsystematic way of conducting the literature review is beyond doubt a limitation of this article. At the same time, due to the specificity of issues analyzed (i.e. the organization of the healthcare system), it is reasonable to refer primarily to legal acts, Internet sources, and the most recent literature. Bearing in mind the changes that have taken place in recent years in the healthcare systems of both Poland and Germany, the authors decided that it was sufficient to base this review on publications as identified herein. Another limitation consists in that not all of the indicators could be presented within a single time frame. On the OECD website, the most up-to-date indicators are shown in different periods ranging from 2019 to 2022. Thus, some of these data originate from as long as 5 years ago, significantly affecting the authors' ability to interpret the results and relate them to the current state of affairs in both countries. All the identi-

fied information on the population health status and the functioning of the health system should be approached with caution due to the possibility of changes in the subsequent reporting periods. At the same time, the risk of abrupt changes in the presented parameters is negligible, as many data from various sources indicate that the health situation as well as parameters describing the healthcare systems over much longer periods are worse for Poles than for Germans.

Summary

The healthcare systems of Poland and Germany are evidently different, starting from the organizational model to the choice of insuring institutions and, finally, the level of financing. The lower level of financing of the healthcare system as observed in Poland compared to Germany may translate into problems in the functioning of the healthcare system and worse indicators of the population health status.

Table 3. Comparison of selected indicators of health status within the Polish and German populations

Indicator	Latest data available [year]	Poland	Germany
Life expectancy at birth	2022	77.2	80.7
Infant mortality rates (deaths/1,000 live births)	2021	3.9	3.0
Potential years of life lost (PYLL) (per 100,000 inhabitants aged 0–69)	2020	7,047	4,041
Disability-adjusted life years (DALY) (per 100,000 population: all causes; all ages)	2021	Total: 40,596 Women: 36,176 Men: 45,307	Total: 34,574 Women: 34,272 Men: 34,878
Deaths from cancer (per 100,000 inhabitants)	2020	240	206
Suicide rates (per 100,000 inhabitants)	2020	11.5	9.7
Diabetes prevalence (% of adults, adjusted for age)	2021	6.8	6.9
Population in poor health (% of population aged 15+, self-rated)	2021	10.3	12.4
Daily smokers (% of population aged 15+)	Poland: 2019 Germany: 2021	17.1	14.6
Alcohol consumption (liters per capita for population aged 15+)	Poland: 2021 Germany: 2019	11.0	10.6
Overweight or obese population (% of population aged 15+)	Poland: 2019 Germany: 2021	56.6	52.7
Daily consumption of vegetables (% of population aged 15+)	2021	51	46
Daily consumption of five or more portions of fruit and vegetables (% of population aged 18+)	2019	9	11
Spending at least 150 minutes per week on physical activity (% of population aged 18+)	2019	20	49

The difference in health spending may be one but not the only reason for the observed differences in population health indicators; one may also assume contribution from other causes, such as shortages of medical personnel, limited access to modern medical equipment, or insufficient health education.

Funding

No external funding.

Ethical approval

Not applicable.

Conflict of interest

The authors declare no conflict of interest.

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Received: 30.06.2025

Accepted: 10.10.2025

Online publications: 9.04.2026