

PART I. DISEASES AND PROBLEMS DISTINGUISHED BY WHO AND FAO

Prevention programs implemented in Poland targeting lifestyle related non-communicable diseases

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- A. Study design/planning
- B. Data collection/entry
- C. Data analysis/statistics
- D. Data interpretation
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- F. Literature analysis/search
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Abstract

Diseases of civilization, such as cardiovascular disease, type 2 diabetes, and cancer, remain a major public health burden in Poland. Preventive health care, consistent with the World Health Organization (WHO) and European Union guidelines, helps reduce modifiable risk factors and supports early detection of non-communicable diseases. The aim of the study was to analyze preventive programs implemented in Poland between 2021 and 2025, with emphasis on screening initiatives and activities in primary health care. The study was based on documents from the National Health Fund and the Ministry of Health, as well as the WHO and European Commission guidelines, assessing national programs and their compliance with international standards. The introduction of the "My Health – Adult Health Assessment" program enabled comprehensive adult health assessment and replaced the earlier "Prophylaxis 40+" initiative. Updated cervical and breast cancer screening programs expanded access to cytology, HPV testing, and mammography. Primary care applies the SCORE algorithm to assess cardiovascular risk, while educational activities increasingly address socioeconomic determinants of health. Preventive programs in Poland support early detection of lifestyle-related diseases, reduction of risk factors, and promotion of healthy behaviors. Further development should focus on strengthening health education and reducing social inequalities to enhance longterm effectiveness.

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Introduction

Lifestyle diseases currently constitute the most serious health challenge in Poland, the European Union (EU), and globally. They account for the majority of premature deaths and are directly linked to individual lifestyles. Recent decades have seen significant changes in the structure of health problems in Polish society. Lifestyle diseases, i.e. chronic conditions related to living conditions and the health behaviors of the population, are becoming increasingly important. Lifestyle, including diet, physical activity levels, stress management, and substance use, has become a major determinant of public health [1]. In Poland, lifestyle diseases account for approximately 70% of all deaths [2]. The most common diseases are cardiovascular disease, type 2 diabetes, obesity, cancer, and mental disorders. It was estimated that over 8.8 million Poles suffer from hypertension, and every second resident of the country dies prematurely due to cardiovascular disease [3]. According to data from the European Commission, non-communicable diseases (NCDs) are the leading cause of death in the EU countries. In 2023, they were estimated to be responsible for 90% of premature deaths in Europe [4]. The most common diseases are cardiovascular disease, cancer, chronic respiratory diseases, and diabetes. According to the World Health Organization (WHO), NCDs account for 74% of all deaths globally [4]. Every year, over 17 million people die prematurely (before the age of 70) due to lifestyle diseases. The main risk factors include: smoking, physical inactivity – in 2022, as many as 1.8 billion adults (31% of the population) did not meet minimum activity standards [5], unhealthy diet, excessive alcohol consumption, and air pollution. Global Burden of Disease (GBD) studies indicate that lifestyle diseases are responsible for over 80% of premature deaths and pose the greatest burden on health systems [6]. Research by Charalampous et al. [7] indicates that the burden of lifestyle diseases in Europe is systematically monitored through projects such as the European Health Interview Survey (EHIS), which analyzes citizens' lifestyles, physical activity levels, diet, and stimulants, such as coffee, energy drinks, alcohol, and tobacco. The lifestyle of Poles remains a key risk factor – only 8-20% of families spend their free time actively, and as many as 70% of children demonstrate insufficient physical activity [8].

Numerous health programs are implemented in Poland, funded by the Ministry of Health and the National Health Fund. The most important include: the Cardiovascular Disease Prevention Program (CHUK) – aimed at people aged 35-65, which includes screening for hypertension, diabetes, and hypercholesterolemia; cancer prevention programs – including mammography, cytology, and colonoscopy, which enable early detection of breast, cervical, and colon cancer; educational programs and local initiatives – promoting physical activity, healthy eating, and reducing substance use, such as the “Quit Smoking Together with Us” campaign or healthy eating initiatives in schools [9-11].

In the EU, the “Healthier Together – EU Non-Communicable Diseases Initiative” (2022-2027) plays a key role, covering five main areas: health determinants, cardiovascular diseases, diabetes, chronic respiratory diseases, mental health, and neurological diseases. The program aims to address health inequalities, support screening, early detection, and improve patients' quality of life. Additionally, cancer prevention and education activities are being conducted as part of Europe's Beating Cancer Plan [12].

At the global level, the WHO is implementing a number of initiatives: the Global NCD Compact 2020-2030 – an international commitment to reducing premature deaths due to lifestyle diseases by implementing anti-smoking policies, limiting alcohol consumption, and promoting physical activity and a healthy diet. As part of the WHO's adopted goals, annual meetings of UN member states are held – UN High-Level Meetings on NCDs – to assess progress in their implementation towards reducing premature mortality (SDG 3.4) [13].

Prevention programs in Poland, the EU, and worldwide focus on reducing the risk factors for lifestyle diseases, such as physical inactivity, unhealthy diets, smoking, and excessive alcohol consumption, through health education, screening, and legislative action. In Poland, particular emphasis is placed on screening and education, while in the EU, the focus is on coordinating activities and addressing inequalities in access to health care. Globally, the WHO promotes comprehensive risk factor reduction strategies. The common denominator of all these initiatives is the emphasis on lifestyle as a key determinant of health and quality of life [14].

Aim of the work

The aim of the study was to analyze and evaluate the assumptions of preventive programs implemented in Poland.

Methods

The study was based on an analysis of current strategic documents of the Ministry of Health and the National Health Fund, including resolutions and orders regarding preventive programs (Resolution No. 5/2021, Order of the President of the National Health Fund No. 36/2025/DSOZ). International guidelines from the WHO and the European Society of Cardiology (ESC) regarding the prevention of NCDs and cardiovascular risk assessment were also taken into account [14-16]. The analysis was descriptive and comparative, covering both national programs (adult health assessment, screening tests) and their compliance with the European recommendations. This paper analyzed preventive programs implemented in Poland, with particular emphasis on:

1. adult health assessment ("My Health – Adult Health Assessment"),
2. cancer screening programs (cervical cancer, breast cancer),
3. activities undertaken in primary health care related to cardiovascular diseases,
4. impact of socioeconomic factors and health education on the effectiveness of preventive care.

To minimize the risk of selection bias, a structured approach to document identification was applied. The search included:

- sources: official websites of the Ministry of Health, National Health Fund, Government Legislation Centre, WHO, and ESC;
- time frame: documents published between 2010 and 2025;
- types of documents included: national strategic documents, resolutions, and orders regulating preventive programs, official program descriptions and implementation reports, international guidelines and recommendations related to prevention of non-communicable diseases, epidemiological and public health reports relevant to the scope of preventive care;
- inclusion criteria: documents directly related to preventive health care, screening programs, or cardiovascular risk assessment, documents with national or international institutional authorship, documents publicly available and officially endorsed by relevant authorities;
- exclusion criteria: non-official publications, commentaries, or opinion pieces, documents unrelated to preventive care or those outside the defined time frame.

All the included documents were reviewed for consistency, scope, and relevance to the research questions. The extracted information was synthesized narratively and compared with the European and WHO recommendations.

Literature review results

“My Health – Adult Health Assessment”

The “My Health – Adult Health Assessment” program is an important element of Poland’s preventive healthcare system. Its primary goal is to provide all adults 20 years of age and older with comprehensive health assessments, conducted at specific intervals: every five years for those aged 20-49, and every three years after age 49. The program includes screening tests, cardiovascular risk assessments, and medical consultations, enabling early detection of chronic diseases such as hypertension, diabetes, and hypercholesterolemia. The program was introduced in May 2025, replacing the previous “Prophylaxis 40+” program. The goal is a comprehensive health assessment, early detection of chronic diseases, and individualized cardiovascular risk assessment. The program responds to global challenges related to insufficient physical activity and the rising incidence of NCDs (Table 1).

Table 1. Advantages and disadvantages of the “My Health – Adult Health Assessment” program

Advantages	Disadvantages
Covers the entire adult population from 20 years of age, not just those over 40.	Expanding the program to the entire population could increase the burden on the healthcare system.
Clearly defined examination frequency (every 5 years for those aged 20-49, every 3 years for those over 49).	Risk of low attendance – some people may not use the tests despite their availability.
Comprehensive health assessment, including cardiovascular risk assessment.	High financial costs associated with implementing the program (tests, personnel, infrastructure).
Early detection of chronic diseases (e.g. hypertension, diabetes, hypercholesterolemia).	Potential persistence of socioeconomic inequalities in access to tests.
	Need to provide additional staffing and organizational resources in primary care.
Promotion of healthy lifestyles and increasing public health awareness.	Potential difficulties in monitoring the quality and effectiveness of program implementation.

The program’s advantage is its universality – it covers the entire adult population, not just those over 40, as was the case with the “Prophylaxis 40+” program. A definite advantage is its systematic nature, resulting from clearly defined testing frequency. Another important advantage is its comprehensiveness, as the program is not limited to individual tests but allows for a comprehensive health assessment and the implementation of preventive measures. This increases the chances of early diagnosis of chronic diseases and improves patients’ quality of life. The program also aligns with the WHO’s global strategies for reducing NCDs through the promotion of healthy lifestyles and early diagnosis, addressing the challenges associated with insufficient physical activity and the rising incidence of lifestyle diseases [17].

At the same time, the program has certain limitations. Expanding its scope to the entire adult population could lead to an increased burden on the healthcare system, lengthening waiting lists for tests, and requiring additional staffing and financial resources. There is also a risk of low participation – some people, despite the availability of tests, may not use the program, limiting its effectiveness. The financial costs associated with implementing the program and persistent socioeconomic inequalities also pose challenges, which may reduce the availability of tests among people from smaller towns or with lower levels of education. The “My Health – Adult Health Assessment” program is an important step towards universal

and comprehensive preventive healthcare in Poland. Its effectiveness will depend on effective patient participation, adequate funding, and educational activities that increase public awareness. The program has the potential to significantly improve the health of the population and reduce the burden of chronic diseases, provided it is effectively implemented and provides equitable access to testing. The analysis indicates a balance between the program's strengths (universality, comprehensiveness, compliance with global recommendations) and its limitations (costs, risk of low participation, system burden).

Cancer screening programs

Cancer screening programs, such as cytological tests in the prevention of cervical cancer and mammography for breast cancer prevention, are a key element of the healthcare system in Poland and throughout the EU (Table 2). Their main goal is the early detection of cancer, which significantly increases the chances of effective treatment and reduces mortality from these diseases.

Table 2. Advantages and disadvantages of cancer screening programs

Advantages	Disadvantages
Early detection of cancerous lesions, often at the asymptomatic stage.	Low participation – many people do not use tests despite their availability.
Increased chances of effective treatment and improved patient prognosis.	Risk of false positive or false negative test results.
Tests are free and available for specific age groups.	High financial and organizational costs for the healthcare system.
Compliance with the WHO and European recommendations – high quality of content.	Socioeconomic and geographic inequalities in access to tests.
Raising public health awareness and promoting prevention.	Need for constant monitoring of the quality and effectiveness of programs.
Reduced mortality from breast and cervical cancer.	Potential for stress and anxiety in patients with ambiguous results.

The primary advantage of screening programs is the possibility of early diagnosis, which allows for the detection of the disease at an asymptomatic stage, thus enabling the implementation of rapid and effective treatment. Tests are free and available for specific age groups (breast cancer (mammography) – 45-74 years, cervical cancer (cytology/HPV) – 25-64 years [9]), which increases their population potential. These programs also have educational significance – they raise public health awareness, encourage regular screenings, and promote preventive care as a lifestyle element. An additional advantage is that they are consistent with the recommendations of international health organizations such as the WHO and the European Society of Oncology, ensuring their high quality of content.

At the same time, screening programs have their limitations. Screening attendance is often too low, which reduces their effectiveness in the population – many people choose not to use the tests despite their availability. There is also a risk of false positive or false negative results, which can lead to unnecessary patient stress or a delay in diagnosis. Programs also require significant financial and organizational resources, which places a burden on the healthcare system. Socioeconomic and geographic inequalities are an additional problem – people from smaller towns or with lower levels of education are less likely to participate in screening, limiting their availability and effectiveness. Cervical and breast cancer screening

programs are an extremely important tool in the fight against cancer, as they enable early detection and improve patient prognosis. However, their effectiveness depends on high attendance, adequate funding, and educational activities that increase public awareness and address inequalities in access to screening.

Cardiovascular Disease Prevention Program (CHUK)

The CHUK program is one of the most important elements of preventive health care in Poland (Table 3). It is aimed at people aged 35-65 and implemented within primary health care. Its primary goal is the early detection of cardiovascular disease risk factors, such as hypertension, diabetes, and hypercholesterolemia, as well as the implementation of preventive and educational activities. The program includes screening tests, blood pressure, glucose, and cholesterol measurements, as well as a lifestyle assessment. This allows for the rapid identification of individuals at risk of cardiovascular disease and referral for further diagnosis or treatment.

Table 3. Advantages and disadvantages of the CHUK program

Advantages	Disadvantages
Early detection of cardiovascular risk factors.	Low participation – many patients do not take advantage of screening tests.
Free and available within primary care.	Limited coverage – does not cover all at-risk individuals.
Promotion of a healthy lifestyle and patient education.	High organizational and financial costs for the healthcare system.
Compliance with the WHO and ESC recommendations.	Inequal access – difficulties for people from smaller towns.
Potential to reduce mortality from cardiovascular disease.	Need for constant monitoring of the program's quality and effectiveness.

The greatest advantage of the CHUK program is its focus on early diagnosis, which helps reduce the risk of developing serious cardiovascular diseases. The program is free and available through primary care, increasing its accessibility to a wide range of patients. Furthermore, CHUK is educational in nature, promoting a healthy lifestyle, physical activity, and a proper diet. It also aligns with the recommendations of the WHO and the ESC regarding the prevention of cardiovascular disease. A limitation of the program is its relatively low attendance rate – many patients do not attend preventive screenings despite their availability. There is also a risk that the program will not cover all at-risk individuals, especially those who infrequently use health care. Another challenge is the organizational and financial costs associated with providing laboratory tests and medical personnel. Access to testing is also unequal – people from smaller towns may have less access to testing.

Influence of socioeconomic factors and health education on the effectiveness of prevention

The effectiveness of preventive programs depends largely on social and economic conditions, which determine access to testing and willingness to undertake health-promoting activities (Table 4).

Table 4. Influence of socioeconomic factors and health education on prevention

Advantages/positive impact	Barriers/negative impact
A higher level of education promotes more frequent participation in preventive health screenings.	Lower socioeconomic status limits access to testing and lowers participation.
A better financial situation facilitates access to health care.	Geographical inequalities – access to testing is more difficult in smaller towns.
Health education increases awareness and motivation to take care of one's health.	Lack of knowledge and low health awareness lead to neglect of preventive care.
Information campaigns and medical counseling promote a healthy lifestyle.	Concerns, lack of trust, or fear of testing may discourage participation.
Equalizing social inequalities improves the effectiveness of programs.	Need for additional funding for education and local activities.

Socioeconomic factors play a key role, as individuals with higher levels of education and a better financial situation are more likely to participate in preventive screenings, have greater health awareness, and have easier access to medical care. Conversely, groups with lower socioeconomic status experience lower participation in preventive programs, limited access to medical facilities, and a higher risk of chronic diseases. These inequalities lead to differences in the effectiveness of preventive measures and require additional interventions, such as local initiatives or programs targeted at vulnerable groups.

Health education is the second pillar of effective prevention. Raising public awareness through information campaigns, school and media activities, and individual medical counseling increases motivation to participate in research and implement healthy habits. Education allows for a better understanding of the importance of prevention, reduces test-related anxiety, and promotes lasting lifestyle changes such as increased physical activity, a healthy diet, and abstaining from substance use. Socioeconomic factors and health education are crucial to the effectiveness of prevention because they directly influence the reach of programs and whether they actually reach the entire population and produce the desired results. Reducing social inequalities and investing in health education are essential for the full achievement of prevention goals and improving public health (Table 5).

Table 5. Prevention programs and factors influencing their effectiveness

Area	Scope/purpose	Advantages	Disadvantages/barriers
My Health – Adult Health Assessment	From age 20; screenings every 5 years (20-49 years) and every 3 years (≥ 49 years); comprehensive health and cardiovascular risk assessment	Universal, systematic, comprehensive, early diagnosis, compliance with the WHO recommendations	System burden, risk of low participation, financial costs, inequalities in access
Cancer Screening Programs (pap smears, mammography)	Cytology – cervical cancer; mammography – breast cancer; free screenings for specific age groups	Early detection of cancer, improved prognosis, reduced mortality, compliance with the WHO/EU recommendations, health education	Low participation, risk of false positives, organizational costs, socioeconomic and geographic inequalities
CHUK – cardiovascular diseases	People 35-65; screening tests at primary care (PHC) (blood pressure, glucose, cholesterol, lifestyle)	Early diagnosis of risk factors, free access, promotion of a healthy lifestyle, compliance with the WHO/ESC recommendations	Low participation, organizational costs, limited coverage, inequalities in access

Area	Scope/purpose	Advantages	Disadvantages/barriers
Socioeconomic factors and health education	Determines the availability and effectiveness of preventive care; education increases awareness and motivation	Higher status promotes more frequent testing, education promotes healthy habits, and information campaigns increase participation	Lower status limits access, geographic inequalities, lack of knowledge and fear of testing, and additional costs required

Discussion of the review results

Preventive programs in Poland (Table 5), from adult health assessments to cancer screening and CVD, have a strong substantive foundation and are consistent with international recommendations, but their impact is limited primarily by low participation and fragmented activities. Systemic analyses indicate overloaded hospital care, underfunding of preventive care, and a lack of long-term program coordination, which weakens their population-based effectiveness and hinders the scaling of good practices. From a cardiology perspective, reviews of local, regional, and national activities from 2012 to 2022 reveal organizational and quality gaps, from insufficient monitoring to inconsistent implementation of recommendations, that translate into lower health outcomes from preventive programs [18,19]. The socioeconomic gradient remains a key barrier: people with lower social status have less access to preventive services, are less likely to participate in screening tests, and are more likely to accumulate risk factors, leading to poorer health outcomes.

Population studies and literature reviews indicate that excess risk and mortality among individuals with lower levels of education or income are only partially explained by known mediators (e.g. smoking, diet, activity), necessitating addressing broader social determinants of health. Polish survey data and health policy reports perpetuate an image of unequal access: financial, geographic, and informational barriers combine to reduce participation in screening programs and limit the effective reach of preventive care [20,21].

Health education acts as an accelerator of program effectiveness: it improves awareness, motivation, and health literacy, which increases participation in research and promotes lasting behavioral changes (physical activity, diet, and substance use reduction). Review papers and scientific commentaries emphasize that well-designed educational interventions rooted in the community, based on credible sources and multichannel communication, reduce inequalities and enhance the effectiveness of chronic disease prevention. Furthermore, research on information preferences among adult Poles shows that the choice of program information sources (e.g. primary care physician, public media, institutional campaigns) depends on sociodemographic characteristics, indicating the need for message segmentation and tailoring communication channels to different audiences [22].

At the level of systemic goals, coherence with the Sustainable Development Agenda (SDG 3) requires simultaneous investment in prevention, education, and social policies. Assessment of progress in achieving SDG 3 confirms that social and institutional factors (including anti-smoking policies, limiting harmful alcohol consumption, and activity-friendly urban planning) are critical for reducing non-communicable diseases, while health programs without such support achieve lower results. Reports on the Polish healthcare system, in turn, emphasize the need for digitization, better quality monitoring, and integration of prevention data to more effectively manage population-based interventions and increase their health value [14,15,19]. Therefore, a dual strategy is needed: strengthening the coordination and quality of

prevention programs (monitoring, standards, financing) and intensive, segmented educational activities targeted at groups with lower socioeconomic status. This combination increases participation in research, reduces inequalities, and accelerates the achievement of goals to reduce premature mortality from chronic diseases.

Limitation of the study

This study is based exclusively on the analysis of secondary sources, including strategic documents, official guidelines, and publicly available reports. No primary data were collected, which limits the ability to directly assess the effectiveness of preventive programs in practice. The narrative character of the review also introduces the risk of selection bias, as the analysis depends on the availability, completeness, and transparency of institutional documents. Although a structured identification process was applied, the study may not capture all relevant initiatives or unpublished program evaluations. These limitations should be taken into account when interpreting the findings and their generalizability.

Conclusions

Prevention programs implemented in Poland, such as “My Health – Adult Health Assessment” cancer screening programs (cytology and mammography), and the CHUK, are an important element of the public health strategy aimed at reducing the burden of chronic diseases and cancer. Their primary goal is the early detection of risk factors and asymptomatic diseases, which enables the implementation of effective therapeutic interventions and reduces mortality. The advantages of these programs include their universality, free access, and compliance with international recommendations (the WHO, European Society of Oncology, ESC). Early diagnosis and educational activities contribute to improved patient prognosis and the development of health-promoting behaviors in the population.

However, the effectiveness of programs is limited by low participation rates, high organizational costs, and persistent socioeconomic and geographic inequalities. In this context, health education is crucial. It increases public awareness, motivates participation in research, and supports lasting lifestyle changes such as increased physical activity, a healthy diet, and abstaining from substance use. In summary, preventive health care in Poland requires the integration of medical interventions with broad-based health education and social policy to ensure equal access to research and increase patient participation in programs. Only such an approach will allow for the full potential of prevention and a real reduction in the burden of chronic diseases and cancer in the adult population.

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