Public health in Germany: structures, dynamics, and ways forward

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Despite Germany's robust economy, comprehensive social welfare system, and the country ranking third among Organisation for Economic Co-operation and Development countries in terms of per-capita health spending, its health indicators still lag behind those of other European nations. Germany also has one of the highest prevalences of major modifiable risk factors for non-communicable diseases within the EU. This Health Policy provides an overview of the development, structures, and actors in public health in Germany, highlighting possible explanations for the country's underperforming health indicators and suggesting a way forward. This Health Policy is structured along the essential public health operations. We identify the absence of a strong central institution for public health, inadequate funding for disease prevention and health promotion, and little interoperability in data collection as major challenges. The country's decentralised governance structure allows flexibility, especially at the community level, but leads to scattered responsibilities and little coordination between sectors. We also note the absence of a public health strategy. The current system's focus on curative care and individualised medicine has led to a neglect of disease prevention and health promotion. Furthermore, the country's strong economic interests and powerful lobbies have hindered the implementation of effective public health policies. To address these challenges, we recommend developing a public health identity, creating a comprehensive public health strategy, fostering a culture of health promotion and disease prevention that encompasses all areas and does not shy away from tackling the commercial determinants of health, and strengthening the connection between medicine, public health practice, and research.

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Introduction

Germany is the country with the largest population in the EU. Despite ranking third among Organisation for Economic Co-operation and Development (OECD) countries in health spending per capita and an advanced health-care and social system, Germany continues to have a comparatively low overall life expectancy, primarily due to elevated cardiovascular mortality.[1] Additionally, in the German population aged 16 years and older, the proportion of individuals reporting very good or good health falls below the EU average.[2] The Institute of Health Metrics' Burden of Disease study reveals that the six foremost risk factors contributing to mortality and disability in Germany are: elevated blood pressure, smoking, obesity, raised blood glucose levels, unhealthy diets, and excessive alcohol consumption, with air pollution ranking tenth.[3] Linked to that, Germany exhibits one of the highest prevalences of major non-communicable disease risk factors within the EU, notably heavy drinking episodes,[4] the share of people drinking sugar-sweetened soft drinks at least once per day,[5] and the share of daily cigarette smokers.[6] Inequity in health, indicated, for example, by socioeconomic differentials in overall and cause-specific mortality or regarding overweight and obesity in children, has risen in the last 10–15 years and has been aggravated by the COVID-19 pandemic.[7,8] These observations indicate public health shortcomings.

Public health, in its broad definition (eg, that given by Acheson, "the science and art of preventing disease, prolonging life and promoting health through the organized efforts of society"[9]), encompasses all aspects that contribute to health, covering not only the health sector itself but also agriculture, transportation, and housing, among others. It includes preventive, promotional, and curative efforts, and interventions that address the individual or the population level. Not all these aspects and their relevance for public health in Germany can be covered in depth in this Health Policy. Therefore, we focus on health promotion and disease prevention (and related aspects of public health), and only briefly touch on the curative health system, which has been described elsewhere.[10]

This Health Policy aims to provide an analytical overview of the development, structures, and actors in public health in Germany. More specifically, it intends to highlight possible explanations for the underperforming health indicators in Germany and suggest a way forward. After a short glimpse into key historical developments, we describe and analyse public health in Germany along the essential public health operations (EPHOs),[11] which we have condensed into five groups: governance, financing, structures, and actors; surveillance, monitoring, and population health data; health promotion and disease prevention; advocacy and communication; and research and training. The discussion provides an overarching analysis and offers future perspectives for public health in Germany. The law to establish a new national institute with public health responsibilities has been halted due to the dissolution of the German coalition Government. New public health developments thus remain uncertain.

Historical underpinnings of today's public health in Germany

The implementation of health-related policies, especially legal regulations or bans, faces challenges in Germany, both among some policy makers and sections of the general population. Historical reasons are likely to play a part in this dynamic. Johann Peter Frank, the author of

the book series *Medicinische Polizey* (*Medical Police*) published in the late 18th and early 19th century, was one of the first individuals to emphasise the state's responsibility for the health of the population.[12] In the 19th century Samuel Neumann and Rudolf Virchow (often quoted as saying "politics is nothing but medicine at a larger scale"), known for their focus on the social determinants of health and social hygiene, even entered the political arena. Their endeavours and ideas, and those of other leading physicians of their time, were eroded and undermined when social medicine deteriorated into so-called racial hygiene in Germany and elsewhere.[13] In the 1930s, the Nazi regime used racial hygiene and eugenics as policy to justify involuntary sterilisations and mass murder.[14,15] The notion of population health and health promotion then became closely entangled with the Nazi ideology, putting local health offices (*Gesundheitsämter*) under national jurisdiction and enforcing inhumane racial hygiene measures. This association discredited public health in West Germany in the post-war period for decades,[14] and proved a burden for local health offices, which were under the jurisdiction of the federal states following 1949; they were maintained after the Second World War, but their activities in setting-based prevention and health promotion were rather limited and continue to be so. Attempts to establish a School of Public Health in Heidelberg, modelled after Johns Hopkins University, failed due to disagreements between American initiators and their German counterparts.[16] East Germany established a socialist health system, partly continuing ideas of social hygiene and promoting a close relationship between the government and health care. Emphasis was placed on preventive measures, including extensive vaccination programmes, regular check-ups, and health education, but there were substantial problems in providing modern curative care.[17,18] In contrast, West Germany relied more on curative and individualised health care provided by primary care physicians.[19]

After German reunification in 1989, the joint (public) health system was modelled after the West German system, with only a small role for the state in public health. Prominence was given to individual autonomy and individualised medicine provided by physicians in private practice. Simultaneously, the concept of public health (a term not translated into German) gained momentum within German academia. The Federal Ministry of Education and Research temporarily funded five regional research associations for public health, each integrating several academic institutions. Outside academia, the Ottawa Charter for Health Promotion also set in motion many public health activities, for example the German Healthy Cities Network founded in 1989. In parallel, health insurance funds began to engage in the funding of primary preventive measures, as legally enshrined in the 1989-enacted Fifth Social Code. At the same time, a broad range of non-governmental organisations at local or regional level set out to implement public health efforts and work with citizens.

However, a clear public health identity that builds on a comprehensive strategy and fosters an open dialogue about the definition, tasks, and limits of public health, and the relationship between the state and its citizens, is notably absent in Germany. This gap became particularly evident during the COVID-19 pandemic, when some segments of the population disputed the Government's authority to restrict personal freedoms, and is continuously reflected in public reactions to attempts to regulate unhealthy lifestyles.

These developments have led to a public health system that is characterised mainly by three features: a health system dominated by curative medicine, which is covered by social (and private) insurance; a governmental public health system (*Öffentlicher Gesundheitsdienst*) with a limited scope (and scarce resources); and an academic public health approach influenced by international perspectives, advocating for a broader public health perspective including Health In All Policies approaches and a focus on upstream determinants of health. Although this situation is not structurally unique compared with other countries, historical developments might have contributed to these contradictions and disconnections being comparatively more pronounced in Germany.

Governance, financing, structures, and actors

Building on political and constitutional decisions after the Second World War, a decentralised, federal structure is one of the hallmarks of the public health system in Germany. According to the German constitution, public health is subject to the legislation of the respective federal state, except for those health issues that affect the whole population, such as infection protection or drinking water regulations. Consequently, there is a broad array of structures and actors and a fragmented distribution of responsibilities. A 2022 publication identified 307 different actors at the supra-regional level.[20] In this section, we highlight specific features of different system levels with respect to public health.

The federal level

At the federal level, the Ministry of Health defines the legal framework for the control and prevention of communicable (and in parts for non-communicable) diseases, the prevention of substance use, and provisions on rehabilitation and disability. The Federal Ministry of Health supervises four federal agencies that act partly as regulatory authorities but also have their own research and advisory roles. The Robert Koch Institute (RKI) is Germany's central institution in the field of biomedicine and public health. The RKI's tasks include health monitoring and reporting on diseases and public health trends, research and evaluation regarding highly contagious diseases, and pandemic preparedness, among

others. The Federal Centre for Health Education (BZgA) specialises in health communication and education, and covers health promotion and disease prevention to some extent. The Federal Institute for Drugs and Medical Devices acts as the authority for medicinal products and devices. The Paul-Ehrlich-Institute is responsible for vaccines and biomedicines. Many more agencies and institutes under the competence of other federal ministries hold public-health-related responsibilities, including (among others) the Federal Institute for Risk Assessment, the Federal Institute for Occupational Safety and Health, and the Federal Research Institute of Nutrition and Food.

Although comparisons with other countries in Europe and with the USA can only be indicative due to different tasks and structures, the funding for federal public health institutions in Germany seems low: for example, even taking into account different remits, the annual budgets of the French public health institute[21,22] and the Centers for Disease Control and Prevention in the USA[23] are substantially higher than that of the RKI.

Political plans for the restructuring of public health at the federal level have taken shape since 2023, with a draft law to merge the BZgA with the RKI's (non-communicable-disease-focused) department of epidemiology and health monitoring to form a new national institute alongside the RKI. Health information, education, disease prevention, and all non-communicable-disease-related health reporting and monitoring would be the core tasks of this new institute. The RKI would instead focus solely on infectious diseases. These plans have raised substantial criticism from the German public health community, as they contradict lessons learned and re-learned during the COVID-19 pandemic, highlighting the close interlinkage of communicable and non-communicable diseases.[24] Critics are also concerned that the well-functioning federal non-communicable disease monitoring and surveillance system currently managed by the RKI could be compromised, and structures unnecessarily duplicated. However, these plans are currently on hold and whether they will be revived after the next election remains highly uncertain.

The state level

At the state level, each of the 16 German states is in charge of operational processes and regulatory details (eg, public health services and the running of local public health offices), and school policies and medical education. Each state has its own laws or regulations for public health and related services, and there are regional centres with responsibilities for public health. State health commissions or similar institutions are supposed to initiate and consolidate the collaboration of all formal stakeholders. Their aim is to identify priority areas for public health on the basis of health monitoring results. For example, in 2022, the State Health Conference of North-Rhine Westphalia agreed on joint measures for climate protection and adaptation in health-care facilities in the state, such as implementing energy-saving measures in health-care buildings and teaching the health risks of climate change in basic and advanced training for health-care professions.[25] However, the resolutions of state health commissions or similar bodies are non-binding recommendations. Beyond these commissions, independent state associations for health promotion and prevention exist in 13 of 16 federal states. They foster networking for the plethora of actors in disease prevention and health promotion and often have a focus on reducing health inequalities. These associations provide policy advice to government agencies and political decision makers to secure the importance of health promotion and prevention in the political agenda. However, there is widely differing policy and financial support to these associations, resulting in untapped potential to strengthen evidence-based public health practice. Nevertheless, some state associations have become important actors in the regional public health arena and beyond, for example by annually organising the largest German public health conference entitled Poverty and Health.

For more on **Poverty and Health** see https://www.armut-und-gesundheit.de/

The municipal level

At the municipal level, local public health offices are expected to fulfil a broad range of tasks such as monitoring and surveillance, infection control, coordination of disease prevention and health promotion, and school entrance health examinations and specific medical assessments. Unfortunately, local public health offices in Germany have experienced a long history of downsizing, poor functioning, and little political support, leading to their low attractiveness for the medical profession and a further decrease in relevance. The COVID-19 pandemic eventually resulted in a temporary initiative from the federal government to provide substantial support to local public health offices (the Pact for the Public Health Service). However, sustained long-term funding is clearly needed to strengthen outbreak and pandemic preparedness, and to establish core reference institutions for public health at the municipal level.

The Health in All Policies approach should in principle be implemented at all levels, but only sporadic initiatives have been launched in Germany. One successful example is the system of early support during pregnancy and early childhood established in Germany in 2007, which has managed for the first time to overcome to a large extent the complicated network of responsibilities between federal, state, and local authorities. Supported by a National Centre on Early Prevention, it comprises a wide range of coordinated measures and services at the local and regional level, all aimed at the very early promotion of healthy child development. The table provides an overview of public health actors in Germany, arranged by core public health functions.

	Contribution of key actors	Actors with the potential for further contributions	Contribution of potential actors
Public health surveillance and monitoring			
Public health departments of the federal states	Health reporting on the basis of their own data collections	Local public health departments	Systematic data provision for surveillance purposes on state or federal levels could be improved
Robert Koch Institute*	Surveillance of NCDs and communicable diseases and health reporting on a federal level	Health-care providers	Systematic use of patients' health data could be improved; currently there are only select research networks
Statutory health insurance companies	Health claims data, made available for research purposes and a new law that improves the accessibility of health data	..	..
Health promotion			
Local public health departments and NGOs	Implementation of community-based health promotion	Sectors other than health	Traffic, housing, labour, and youth sectors could be more involved in building supporting environments for health (ie, Health in All Policies)
Statutory health insurance companies	Funding of health promotion in settings such as schools, workplaces, or communities and health promotion campaigns via mass media	Citizens	Participatory approaches and empowerment could be widened and systematised to foster grassroots movements
Federal Centre for Health Education*	Hands-on guidelines for health promotion in different settings, networking events, trainings on health promotion, and health promotion campaigns via mass media	..	Participatory and tailored approaches could be widened and close collaboration with other national and state institutions could be strengthened
Disease prevention and early detection			
Health-care providers	Vaccinations, implementation of NCD screening programmes (including cancer, cardiovascular disease, and child screening examinations)	Health-care providers	Implementation of systematic risk reduction counselling or extension of brief motivational interventions and implementation of community partnerships for prevention
Federal Centre for Health Education*	Guidance for disease prevention, health education, awareness-raising campaigns, helplines, prevention programmes for schools, etc	Community pharmacies	Could offer preventive counselling (eg, falls prevention and cardiovascular disease prevention)
Statutory health insurance companies	Funding of NCD screening for eligible members and health education on early detection of childhood diseases, cancer, and cardiovascular disease	..	..
Health protection			
Local health departments	Quality control of drinking water, action plans for protection against extreme heat, and control and enforcement of hygiene standards	Local partnerships	Community coalitions on central topics of local concern (eg, heat plans and protecting older citizens) across sectors
Federal and state ministries	Enacting of legislation that regulates food safety, road safety, occupational safety, clean air, etc	..	..
Other federal authorities (eg, BfARM, PEI, BfR, BAUA, and MRI)	Monitoring and assessing health risks and advising on consumer protection and prevention	..	..
Accident insurance institutions	Release of rules for occupational health and safety and coordination of prevention activities in the workplace	..	..
Management of Public Health emergencies and response to health hazards			
Local public health departments	Execution of local crisis management measures	All local public health actors	Play a key role in the event of a health crisis, but should have back-up staff for these emergencies
State ministries	Civil protection and disaster control and the storage of medications and vaccines	All actors	Improve coordination of response plans and develop structured management plans for different emergencies with more focus on equity issues relevant for responses
Federal and state authorities with regular surveillance activities	Provision of data for action (eg, data on infections, pollution, or weather)	..	..
Federal ministries or the Federal Chancellery	Coordination of emergency responses if requested, development of national response plans, and civil defence	..	..
Private sector	Required to have individual response plans, protective clothing, etc	..	..

BAUA=Federal Institute for Occupational Safety and Health. BfARM=Federal Institute for Drugs and Medical Devices. BfR=Federal Institute for Risk Assessment. MRI=Federal Research Institute of Nutrition and Food. NCDs=non-communicable diseases. NGOs=non-governmental organisations. PEI=Paul-Ehrlich-Institute. *Research institutes and universities are relevant actors for all areas, supporting policies and interventions with evidence and methods expertise.

Table: **Selected essential public health operations and their key actors alongside selected actors with the potential for further contribution**

The curative system

As noted in the introduction, comprehensive overviews of the curative system are available.[10,26] In this Health Policy, we briefly focus on only key aspects with relevance for public health.

Germany has a largely self-governed decentralised curative medical system of out-patient, hospital, rehabilitative, and nursing care for which the Ministry of Health sets the legal frame. The country has one of the oldest social security and solidarity-based health insurance schemes, dating back to the 1880s. Currently, the 95 different compulsory health insurance funds cover health care for approximately 90% of citizens.[27,28] Individuals earning above a particular income level, self-employed individuals, and civil servants can enrol in private health insurance companies, which typically provide a similar, slightly broader range of service coverage and better payment to health-care providers. In essence, the health insurance system has a strong orientation towards paying for curative service, with some funding for individual behavioural prevention and, since 2015, very scarce funding for setting-based health promotion. The health system provides almost universal health coverage but is comparatively expensive with its above-EU numbers per 1000 population of hospital beds (7·8 *vs* 4·8), physicians (4·5 *vs* 4·1), and nurses (12·0 *vs* 8·5).[27] Unsurprisingly, oversupply, discontinuity of care, and overly strong profit orientation (particularly in the hospital sector) are crucial issues.[26]

From a public health perspective, the extensive social welfare system in Germany is clearly an asset—providing, for example, unemployment benefits, pensions, and other support directed at families and individuals in need. Although not all subpopulations such as people experiencing homelessness, asylum seekers, and other marginalised groups benefit equally from the full range of provisions of the social security system,[29] it can generally be seen as a strong basis for population health and welfare. However, unlike in primarily tax-based universal health systems such as those in the UK or Finland,[30] the social security system contributes to a gap at the interface between individual, primarily curative care and the government's population-based health system. Health system and social care reforms are missing a focus on the attainment of public health objectives, in particular by adjusting structures and shifting funding towards disease prevention and health promotion.

Surveillance, monitoring, health protection, and population health data

Health data collected through surveillance and monitoring systems are essential to plan and implement public health measures. Care needs to be taken that data from different sources are harmonised and interoperable. Swift processes and timely dissemination are necessary for a functioning surveillance and health reporting system that supports appropriate public health action.[30,31] In Germany, health reporting is conducted at local, regional, and national levels, with the aim to identify public health needs and corresponding measures, estimate their impact, and evaluate processes and results after implementation.[32]

Federal health reporting is carried out by the RKI, together with the Federal Statistical Office. In addition to official statistics and the increasingly used routine data from social insurance institutions, primary data from the RKI health monitoring system are a core data source. Until 2022, federal monitoring was based on large surveys and field studies performed at intermittent intervals, such as the Survey for Children and Adolescents and the Survey for Adults.[33] However, the approach followed in these studies was of little help after the COVID-19 pandemic. Since 2023, the RKI has realigned its data collection strategy. Federal monitoring now draws on a representative cohort of approximately 45 000 participants that is regularly surveyed on a quarterly basis with epidemiological core indicators of health and its determinants. This strategy is expected to open the way for a constant, indicator-based public health surveillance.[34] Methods such as modelling and forecasting, however, are not yet part of routine health monitoring and reporting. An online Health Information System was set up in 2024 to present and visualise monitoring results in a fast and accessible way.

For more on the **online Health Information System** see https://www.gbe.rki.de/

Health reporting is also conducted by public health departments on the local and federal state level. Unfortunately, not all federal state departments provide the full set of indicators agreed upon, and health data are not always generated in a harmonised way. Consequently, valuable data sources (eg, mandatory school entry health examinations) are currently not sufficiently exploited for public health purposes. Currently, school entry health examinations are mainly used for individual medical feedback to parents rather than for national or regional health reporting or public health purposes.

Population-based cancer registries in the federal states provide comprehensive epidemiological and clinical data on new cancer cases that are centrally collated at the German Centre for Cancer Registry Data. Extensive environmental monitoring and numerous large-scale, population-based studies such as the German National Cohort[35] also contribute to the database for public health. However, poor interoperability between different data sources is notable, as health data governance is spread across different political and sectoral levels. The high concern for data protection and privacy makes linkage of individual health data across data sources very cumbersome or impossible.[36] This limited interoperability became evident during the COVID-19 pandemic when infection reporting was scaled up quickly, but timely information on the impact of, for example, non-pharmacological interventions and vaccines at the population level could not be generated. Consequently, German researchers and public health authorities

routinely had to draw inferences from studies, registries, or health information systems from other countries such as England, Denmark, and Israel.

In summary, some aspects of this EPHO are not well implemented in Germany, as relevant health information only becomes available with delay or is not used for public health action, and health data governance remains weak.

Health promotion and disease prevention

The health promotion and disease prevention landscape in Germany, as with the whole public health system, is characterised by various state and non-state actors with different responsibilities.[37] The main legal and operational responsibility is with the federal states, whereas the national level can pass laws for health insurances and occupational health.

The BZgA is responsible for health promotion and disease prevention as a federal agency—its core domains being communication and education. Agencies in other countries with similar scopes but more independence are Swiss Health Promotion (a foundation) and the Austrian Health Promotion Fund (as part of the National Public Health Institute). The BZgA was very successful in the 1980s and 1990s in the era of HIV infection when its frank and direct communication, avoiding stigma and exclusion, was considered ahead of its time. This is in stark contrast to its role during the COVID-19 pandemic when the BZgA's services were dismissed and sidelined. Over the past few years, the BZgA has extended its portfolio, including a view to reduce social inequalities in health (eg, through the Health Inequalities portal). The BZgA also fosters health promotion at the community level by providing practical guidelines and toolboxes and by hosting conferences with stakeholders. However, given its rather low annual budget of approximately €17 million[21] and its roots in communication and education, the BZgA is not sufficiently positioned to effectively implement a comprehensive programme for health promotion and disease prevention.

For more on the **Health Inequalities portal** see https://health-inequalities.eu/

Federal states and municipalities take on leading roles in disease prevention and health promotion, often implemented by a variety of institutions including non-governmental organisations (NGOs). The independent state associations mentioned earlier play a coordination role, linking different local government actors and agencies, but also run their own programmes. However, this approach is not the case everywhere, and the whole sector is marked by substantial heterogeneity in terms of functions and structures. This issue also applies to the role of local public health offices in disease prevention and health promotion, which remains an optional portfolio element in some states.

With the 2015 Act to Strengthen Health Promotion and Prevention in Germany, new structures including a national prevention commission, called the National Prevention Conference, were inaugurated, overseeing regular national prevention reports. The bill also led to numerous new initiatives by health insurance companies to invest in workplace and setting-based health promotion, mainly implemented by local actors. Overall, the law has led to numerous new programmes and projects at the local level, but strategic and coordinated approaches remain scarce. The statutory health insurance funds are the largest providers of funds for disease prevention in Germany, with annual expenditure of about €167 million for setting-oriented programmes (eg, financing structural measures for physical activity promotion in schools or community-based health promotion), nearly €269 million for workplace-based programmes, and about €194·5 million for individual health promotion and disease prevention.[38] The total expenditure of €630·5 million is equivalent to 0·2% of the total expenditure of about €306 billion (2023 data) on all health-care expenditures of statutory health insurance funds. Summary figures from Eurostat indicate that Germany's preventive health-care expenditure as a share of the overall health-care expenditure for 2021 (which includes COVID-19 vaccination costs) is slightly above the EU average, with Austria, Denmark, and the Netherlands ranking highest.[39]

A key weakness of disease prevention and health promotion in Germany is the absence of a strategic approach: the manifold actors and activities are not adequately coordinated to promote harmonised action on population health resources and risk factors. Although funding has increased somewhat over the years, it remains overshadowed by the growing expenses of the curative system. Additionally, monitoring and evaluation of progress in this area is not well established.

Advocacy for public health

The reluctant implementation of key public health measures for disease prevention and health promotion in Germany results from little political will, strong industry lobbying, and insufficient integration of evidence in public health decision making. Expectedly, public health policies addressing unhealthy behaviours such as poor nutrition, tobacco use, and excessive alcohol consumption continue to remain ineffective or inadequate.[40,41] For example, Germany is slow and inefficient in implementing tobacco control policies, largely due to extensive tobacco lobbying;[42] a tax on sugar-sweetened beverages has not been implemented yet; limiting advertising for unhealthy foods targeted at children has failed so far; and alcohol continues to be cheap and easily available, and alcohol taxes are very low. In addition, health-promoting environments receive insufficient attention: traffic density remains high, speed limits in cities have not yet been reduced, and there are no speed limits on motorways to reduce harmful noise and particulate matter.

Fore more on the **National Prevention Conference** see https://www.npk-info.de

This situation is at least partly a reflection of the weakness of public health advocacy in the country. Although there are examples of collective activities that

attempt to contribute to systemic change by influencing policy processes, most of these activities are neither bundled, nor systematically planned. Instead, they build on various independent measures initiated by stakeholders that work together for a short period of time. Some activities start as bottom-up movements (eg, citizens or interest groups forming initiatives in order to influence smoke-free legislation).[43] Other advocacy efforts are orchestrated by scientific public health associations that temporarily collaborate to emphasise a specific joint concern or express a specific political demand (eg, a sugar tax). An example that stands out is the Strategy for a tobacco-free Germany 2040,[44] an elaborate plan demanding ten tobacco-control measures, supported by more than 50 medical associations, NGOs, hospitals, and other stakeholders. Although too often medical associations and stakeholders cooperate only temporarily for public health advocacy, there are some exceptions (panel).

Part of the relative weakness of public health advocacy is the absence of an overarching organisation explicitly and strongly dedicated to public health. The federal structure and self-governance entail a differentiation of responsibilities for public health, which hinders strong advocacy. Examples from other countries, such as the Surgeon General of the United States, an appointment through which individuals can act as spokespeople for public health promotion, are therefore not directly applicable to the German context. Since 2018, several medical associations have started placing greater emphasis on public health issues, particularly in relation to sustainability and climate concerns.[46] Overall, these examples show the great potential in bringing together different interests and actors in networks to pursue common public health goals.

***Panel*: Examples of public health advocacy**

- The German Alliance Against Non-Communicable Diseases (NCD Alliance) is an association, supported and funded by numerous medical associations such as the German Diabetes Society and the German Heart Foundation, formed with the explicit aim to lobby for health. This lobbying is done by initiating discourse with politicians, conducting studies and surveys (eg, on the hazards of food marketing for children), and strategically using media. The introduction of a front-of-pack nutrition label in Germany can at least partly be attributed to the lobbying work of this NCD Alliance.
- The Future Forum Public Health was set up in 2016 as an open forum for public health researchers, practitioners, and policy makers. The overall aim of this initiative is to strengthen public health as the decisive approach to creating health-promoting living conditions and reducing social inequalities in health. Through its annual symposia and other activities, it provides foundations for a public health strategy for Germany and advances key current and future public health topics.[45]

For more on the **German Alliance Against Non-Communicable Diseases** see https://www.dank-allianz.de/

For more on the **Future Forum Public Health** see https://zukunftsforum-public-health.de/

Public health research and training

Academic research in public health is predominantly conducted at universities; national institutes such as the RKI; and public, non-university research entities including the Helmholtz and Leibniz institutes. Although public health research is often situated in medical faculties, there are several dedicated public health or health–life sciences faculties. The absence of a coherent national strategy for public health research is compounded by the weak linkage between academic public health and public health services.[47] For example, a funding scheme by the German Ministry of Health to foster collaboration between academic public health and public health services launched in 2020 is an attempt to address this issue, as are new dedicated professorships at four universities. Additionally, in 2019, the German Research Foundation set up three research units in the field of public health for the first time, aiming to strengthen Germany as a centre of research in this area and enhance its international visibility. However, these initiatives are too scarce; more sustained engagement is required given the size of the public health service and the extensive public health landscape. Compared with the *Innovationsfonds*, which allocates €200 million annually[48] for health services research within the primarily curative and individualised health system, the funding dedicated to public health research is not substantial.

Public health has a small part in medical training curricula. However, over the past three decades, the educational public health landscape outside medical training has evolved substantially. Today, there are over 100 German bachelor's degree courses and about 50 master's programmes in public health. Consequently, increasing numbers of young professionals have already started their public health training during their undergraduate studies.

Three academies of public health services, the largest of them serving 13 federal states, are responsible for the training and continuing education of public health personnel and provide a comprehensive training portfolio. Structured programmes are offered for public health specialists with a medical degree, for hygiene and food control and for social medical assistance. However, for academically trained public health experts from disciplines other than medicine, there is no overarching structured training programme that enables entry into formal public health services. This absence represents a missed opportunity for closer linkage between academic public health and the public health services.

Discussion and ways forward

Our analysis showed that Germany performs worse than most similar countries in terms of life expectancy, selected health indicators, and behaviour-related risk

factors. To identify weaknesses and potential areas for improvement, we reviewed the German public health system along the EPHOs. We identified several overarching topics that characterise the public health system in Germany, for better or worse. Some of these are more specific to Germany, whereas others are similar to those in other countries. In addition to these overarching topics, there are issues related to specific EPHOs only.

Health is strongly related to social conditions such as the economic situation, social security, and equity. Germany's strong economic indicators and extensive social welfare system suggest that its below-average health indicators cannot be explained by these factors. Although Germany lags behind most European countries in economic indicators related to equity, it still scores similarly or better than other countries that perform better in health. A weak social security system and the highest economic inequality among high-income OECD countries can help explain the rather weak health equity performance of the USA, but not for Germany.[49]

One feature of Germany is the country's decentralised governance system, in which most responsibilities for public health services lie within the states. This system can generate welcome flexibility and reference to local health situations but sometimes leads to scattered responsibilities. This issue became apparent during the COVID-19 pandemic, when central bodies such as the Federal Ministry of Health and the RKI could communicate with and advise the public but often could not implement regulations or sanctions. The 16 federal states in Germany were rather autonomous in deciding which measures to implement and which to ignore, leading to sometimes contradictory decisions, thereby further unsettling an already disturbed population. The situation was similar to that observed in the USA, where it was even aggravated by sometimes confusing messaging from the federal administration. In contrast, Scandinavian countries rely on central health governance, and communication seemed to be eased by this system.

Beyond the COVID-19 pandemic, scattered responsibility might explain why a comprehensive public health strategy is missing. Such a strategy on the basis of the Health in All Policies approach would need to not only involve the central government and all 16 federal states but also encompass areas that are beyond the reach of the ministries of health alone. The political will to take up this challenge has been largely missing so far.

The absence of a strong central institution for public health might also explain the rather weak commitment regarding tackling commercial determinants of health. Unlike many other countries, there have been no serious efforts to introduce specific taxes on alcohol or products containing large amounts of sugar, such as soft drinks. Taxes on tobacco are still lower than in many similar countries, smoking restrictions were implemented inconsistently and with delay across all federal states, and Germany's motorways still allow reckless speeding. Similarly, public health surveillance is impaired due to wide heterogeneity in the implementation of core health indicators and missing interoperability in data collection. The situation is completely different from, for example, Denmark, where every inhabitant receives a single identifier at birth, allowing for the connection of data from different sources. Also, the strong focus on privacy at times puts narrow limits on data-based public health programming.

Another weakness is the absence of a so-called public health identity in Germany. As outlined previously, Germany, after being at the forefront of public health in the 18th and 19th centuries, has a contested history in the 20th century, especially until 1945. In the years following, a dominant biomedical model of health emerged, which viewed health as merely the absence of disease. This approach resulted in a health policy that focused on disease treatment and medical care. The absence of a holistic approach to health, combined with the fragmentation of the German health system, are key drivers of poor awareness of public health issues and an underemphasis of its many facets, including the absence of a strong, highly visible public health institution.

Gaps between medicine and public health are also evident in the very small role of public health in medical training curricula, which results in superficial and sometimes false ideas about the public health workforce. The same applies to funding for public health research, which is rather restricted for public health institutions. This funding scarcity became especially obvious during the COVID-19 pandemic when university hospitals, but not core public health institutions, received funding for research.

Despite the strengths and opportunities discussed earlier, public health in Germany suffers from substantial weaknesses that ought to be addressed in the near future. To improve the situation, Germany must leverage its strengths and learn from its failures and from other countries. The country's available resources are an asset that needs to be better distributed. Moving forward, we offer four key recommendations: develop a public health identity; create a comprehensive public health strategy; promote health and prevent diseases; and strengthen the connection between medicine, public health practice, and research. First, Germany needs to develop a public health identity. Although the absence of such an identity is not unique to Germany, the country's history renders this process more challenging. Developing an identity is a long-term endeavour, but it could be substantially reinforced by a core institution supported by federal states and the national level alike that addresses and promotes public health across all fields, including the Health in All Policies approach. Second, one of the first tasks for the Federal Ministry of Health, together with key stakeholders, should be to develop a comprehensive public health strategy that aligns with other major strategic plans and links to core strategic topics such as

sustainability, climate change, and equity. This strategy should foster collaboration between public health and other sectors, including education, economy, transportation, and housing, and should provide interfaces to the German global health strategy. The existing cornerstones for a public health strategy, developed by the Future Forum Public Health, can serve as a starting point. Third, Germany (notably the Federal Ministry of Health together with its *Länder* counterparts) should prioritise fostering a culture of health promotion and disease prevention that encompasses all areas and does not shy away from addressing the commercial determinants of health. This prioritisation would include a much stronger response to lobbying (eg, by the agriculture and nutrition, tobacco and alcohol, or automotive industries). And finally, Germany should strengthen the connection between medicine, public health practice, and research, and make use of existing strengths in its medical services and research and foster integration with public health (eg, through dedicated collaborative structures and research funding). A continuation and further development of the Pact for the Public Health Services could be an important step in this direction.

All these recommendations need to be seen in the light of the necessary digital transformation of the health and social sector in Germany. Since 2020, several laws have accelerated the notoriously slow pace of digitalisation, leading, for example, to the compulsory introduction of electronic health records in 2025. However, the limited interoperability of services and systems and the public's critical stance regarding data protection and privacy are some of the barriers to this progress. Nevertheless, public health in Germany will increasingly rely on digital tools and skills as it advances in the coming years.

Contributors

HZ coordinated this Health Policy. All authors contributed to the conceptualisation, literature search, original draft, and writing (review and editing). All authors have reviewed the final version and agreed to its submission.

Declaration of interests

HZ is Chair, DS is Vice-Chair, AG is former Chair, and KG is a former board member of the German Public Health Association. HZ is a member of two Robert Koch Institute advisory boards on health monitoring and environmental public health. AG and KG were members of the Robert Koch Institute advisory board on diabetes surveillance and are members of a Federal Ministry of Health advisory board for the Pact for the Public Health Services. DS reports receiving expert fees from the Swiss Agency of Accreditation and Quality Assurance and the German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, and is a member of the Robert Koch Institute advisory board on health monitoring. DS and TA are board members of the Federal Society for Prevention and Health Promotion. SM is Co-Chair of the Expert Advisory Board "Health/Resilience" of the Federal Government, a member of two Robert Koch Institute advisory boards, and an advisor to the Berlin School of Public Health and the Leibniz Science Campus Ruhr. SM and TA are members of an advisory board of the Federal Ministry of Health for the establishment of a new public health institute. All authors are members of the Future Forum Public Health.

References

1 Jasilionis D, van Raalte AA, Klüsener S, Grigoriev P. The underwhelming German life expectancy. *Eur J Epidemiol* 2023; **38:** 839–50.

2 Eurostat. Key figures on European living conditions, 2023 edition. Luxembourg: European Union, 2023.

3 Institute of Health Metrics and Evaluation. Health research by location: Germany. https://www.healthdata.org/research-analysis/health-by-location/profiles/germany (accessed Dec 14, 2024).

4 Eurostat. One in twelve adults in the EU consumes alcohol every day. 2020. https://ec.europa.eu/eurostat/web/products-eurostat-news/-/edn-20210806-1 (accessed Dec 14, 2024).

5 Eurostat. Sugar-sweetened soft drinks. 2021. https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20210727-1 (accessed Dec 14, 2024).

6 Eurostat. Tobacco consumption statistics. 2022. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tobacco_consumption_statistics (accessed Dec 14, 2024).

7 Tetzlaff F, Sauerberg M, Grigoriev P, et al. Age-specific and cause-specific mortality contributions to the socioeconomic gap in life expectancy in Germany, 2003–21: an ecological study. *Lancet Public Health* 2024; **9:** e295–305.

8 Hoebel J, Waldhauer J, Blume M, Schienkiewitz A. Socioeconomic status, overweight, and obesity in childhood and adolescence—secular trends from the nationwide German Kiggs study. *Dtsch Arztebl Int* 2022; **119:** 839–45.

9 Acheson ED. On the state of the public health (the fourth Duncan lecture). *Public Health* 1988; **102:** 431–37.

10 Blümel M, Spranger A, Achstetter K, Maresso A, Busse R. Germany: health system review. *Health Syst Transit* 2020; **22:** 1–272.

11 WHO Regional Office for Europe. Strengthening public health services and capacity: an action plan for Europe. Copenhagen: World Health Organization Regional Office for Europe, 2012.

12 Locher WG. Geschichte des Öffentlichen Gesundheitsdienstes—von den Anfängen bis heute. *Public Health Forum* 2014; **22:** 4–6.

13 Cohen MM Jr. Genetic drift. Overview of German, Nazi, and Holocaust medicine. *Am J Med Genet A* 2010; **152A:** 687–707.

14 Razum O, Bozorgmehr K. Public health in Germany: a new "Golden Age"?. *Public Health Forum* 2018; **26:** 189–91.

15 Bachrach S. In the name of public health—Nazi racial hygiene. *N Engl J Med* 2004; **351:** 417–20.

16 Ellerbrock D. Die Etablierung von Public Health in der BRD. Von der Sozialhygiene zu Public Health: Traditionsverlust oder Innovation? Berlin: Kongress Armut und Gesundheit, 2010: 1–9.

17 Bruns F. Illness, conflicts, and medical supply problems: patients and their petitions in the last decade of the GDR. *Medizinhist J* 2012; **47:** 335–67.

18 Bruns F, König C, Frese T, Schildmann J. General practice in the German Democratic Republic (1949–1990): a discipline between threat and professionalization. *Wien Klin Wochenschr* 2023; **135:** 45–51.

19 Labisch A, Woelk W. Geschichte der Gesundheitswissenschaften. In: Hurrelmann K, Razum O, eds. Handbuch der Gesundheitswissenschaften. Weinheim: Beltz Juventa, 2016: 55–98.

20 Hommes F, Mohsenpour A, Kropff D, et al. Supra-regional public health actors in Germany-an overview and categorization. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz* 2022; **65:** 96–106.

21 Federal Ministry of Finances. Entdecken Sie den Bundeshaushalt interaktiv. Federal Ministry of Finances, 2024. https://www.bundeshaushalt.de/DE/Bundeshaushalt-digital/bundeshaushalt-digital.html (accessed Dec 14, 2024).

22 Santé Publique France. 2023 annual report. Santé Publique France, 2024.

23 US Centers for Disease Control and Prevention. CDC operating plan. US Centers for Disease Control and Prevention, 2023.

24 Biedermann F. German public health reforms draw ire. *Lancet* 2024; **403:** 714.

25 Landesgesundheitskonferenz Nordrhein-Westfalen. Klimaschutz und Klimaanpassung sind Gesundheitsschutz. Landesgesundheitskonferenz Nordrhein-Westfalen, 2022.

26 Busse R, Blümel M, Knieps F, Bärnighausen T. Statutory health insurance in Germany: a health system shaped by 135 years of solidarity, self-governance, and competition. *Lancet* 2017; **390:** 882–97.

27 Organisation for Economic Co-operation and Development. Germany: country health profile 2023. https://www.oecd.org/en/publications/germany-country-health-profile-2023_21dd4679-en.html (accessed Dec 14, 2024).

28 Verband der Ersatzkassen. Daten zum Gesundheitswesen. Prävent Gesundhförd, 2024.

29 European Commission. Inequalities in access to healthcare—a study of national policies. Brussels: European Union, 2018.

30 Tynkkynen L, Keskimäki I, Karanikolos M, Litvinova Y. Finland: health system summary. European Observatory on Health Systems and Policies, 2023.

31 Thacker SB, Berkelman RL. Public health surveillance in the United States. *Epidemiol Rev* 1988; **10:** 164–90.

32 Ziese T, Prütz F, Rommel A, Reitzle L, Saß AC. Federal health reporting at the Robert Koch Institute-status quo and current developments. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz* 2020; **63:** 1057–66.

33 Robert Koch Institute. Health surveys. Robert Koch Institute, 2024. https://www.rki.de/EN/Content/Health_Monitoring/HealthSurveys/HealthSurveys_node.html (accessed Dec 14, 2024).

34 Lemcke J, Loss J, Allen J, et al. Corrigendum: health in Germany: establishment of a population-based health panel. *J Health Monit* 2024; **9** (suppl 2)**:** 21.

35 Peters A, German National Cohort (NAKO) Consortium, Peters A, et al. Framework and baseline examination of the German National Cohort (NAKO). *Eur J Epidemiol* 2022; **37:** 1107–24.

36 Intemann T, Kaulke K, Kipker D-K, et al. White paper—Verbesserung des Record Linkage für die Gesundheitsforschung in Deutschland. National Research Data Infrastructure for Personal Health Data, 2023.

37 Kaba-Schönstein L, Trojan A. Gesundheitsförderung 5: Deutschland. In: Blümel S, Franzkowiak P, Kaba-Schönstein L, et al, eds. Leitbegriffe der Gesundheitsförderung und Prävention Glossar zu Konzepten, Strategien und Methoden: Bundeszentrale für gesundheitliche Aufklärung. Bundeszentrale für gesundheitliche Aufklärung, 2018: 308–44.

38 Medizinischer Dienst Bund, GKV. Präventionsbericht 2024. Medizinischer Dienst Bund, GKV, 2024.

39 Eurostat. Preventive care. 2024. https://ec.europa.eu/eurostat/de/web/products-eurostat-news/w/ddn-20240523-2 (accessed Dec 16, 2024).

40 Mackenbach JP, Karanikolos M, McKee M. The unequal health of Europeans: successes and failures of policies. *Lancet* 2013; **381:** 1125–34.

41 von Philipsborn P, Geffert K, Klinger C,et al. Nutrition policies in Germany: a systematic assessment with the Food Environment Policy Index. *Public Health Nutr* 2022; **25:** 1691–700.

42 Graen L. Index zur Einflussnahme der Tabakindustrie in Deutschland 2023. Heidelberg: Deutsches Krebsforschungszentrum, 2023.

43 Gassner L, Zechmeister-Koss I, Reinsperger I. National strategies for preventing and managing non-communicable diseases in selected countries. *Front Public Health* 2022; **10:** 838051.

44 Graen L, Schaller K. Strategy for a tobacco-free Germany 2040. Heidelberg: German Cancer Research Center, German Cancer Aid, German Smokefree Alliance, 2021.

45 Matusall S, Dragano N, Moebus S, Razum O, Ziese T. Future Forum Public Health—a German initiative to strengthen public health on a national level. *Eur J Public Health* 2018; **28** (suppl 4)**:** 234–35.

46 Lehmkuhl D. Klimawandel und Gesundheit: Initiativen, Akteure und Handlungsfelder. *Gesundheit und Gesellschaft Wissenschaft* 2020; **20:** 23–30.

47 German National Academy of Sciences Leopoldina, acatech - National Academy of Science and Engineering. Public health in Germany. Berlin: Union of the German Academies of Sciences and Humanities, 2015.

48 DLR. For better medical care —Innovation Fund sets impulses. DLR, 2024. https://projekttraeger.dlr.de/en/references/for-better-medical-care-innovation-fund-sets-impulses (accessed Dec 16, 2024).

49 Organisation for Economic Co-operation and Development. OECD Data Explorer—income distribution database. Organisation for Economic Co-operation and Development, 2024. http://tiny.cc/dqc1001 (accessed Dec 14, 2024).