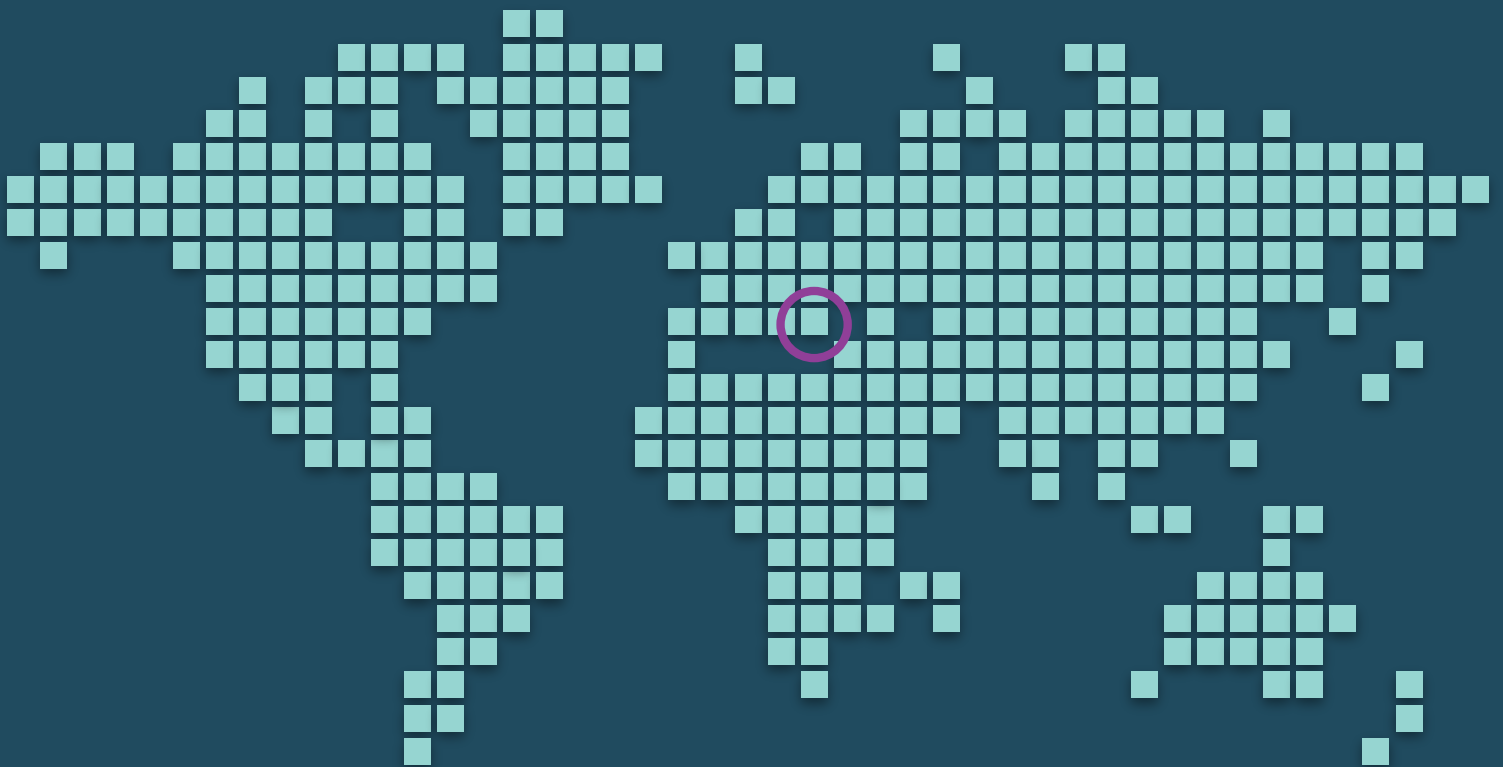


Partnership for Health System Sustainability and Resilience

GREECE

Policy roadmaps for acting early on NCDs



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Contents



List of figures	1
List of tables	2
List of abbreviations	3
Introduction	4
Methodology and stakeholders consulted	8
Executive summary	10
Conclusion	20
DOMAIN 1 Population health	21
Subdomain 1.1: Burden of disease	22
Subdomain 1.2: Behavioural risk factors	31
Subdomain 1.3: Environmental impact on NCDs	33
Subdomain 1.4: Primary prevention	34
Domain 1: Key findings, summary indicators and recommendations	36
DOMAIN 2 Governance	39
Subdomain 2.1: Institutions	40
Subdomain 2.2: Expertise and inclusivity	41
Subdomain 2.3: Data for policy formation	41
Subdomain 2.4: Strategy and targets	42
Subdomain 2.5: Registries	44
Subdomain 2.6: Crisis preparedness and response	45
Domain 2: Key findings, summary indicators and recommendations	46
DOMAIN 3 Service delivery	48
Subdomain 3.2: Risk assessment	49
Subdomain 3.3: Screening	50
Subdomain 3.4: Diagnosis and referral	51
Subdomain 3.5: Secondary and tertiary prevention	52
Domain 3: Key findings, summary indicators and recommendations	55

DOMAIN 4	Financing	57
	Subdomain 4.1: Health spending	58
	Subdomain 4.2: Coverage and financial barriers	61
	Subdomain 4.3: Financial incentives	63
	Domain 4: Key findings, summary indicators and recommendations	63
DOMAIN 5	Workforce	65
	Subdomain 5.1: Workforce supply	66
	Subdomain 5.2: Training and workforce development	68
	Domain 5: Key findings, summary indicators and recommendations	69
DOMAIN 6	Medicines & Technology	71
	Subdomain 6.1: Access to diagnostics and treatment	72
	Subdomain 6.2: R&D capacity	74
	Subdomain 6.3: Digital health and data	75
	Domain 6: Key findings, summary indicators and recommendations	77
DOMAIN 7	Environmental sustainability	79
	Subdomain 7.1: Environmental impact of NCDs	80
	Subdomain 7.2: Climate adaptation of NCD services	81
	Domain 7: Key findings, summary indicators and recommendations	82
	References	84

List of figures



Figure 1: Prevalence of multimorbidity across the lifespan among men and women (%)	23
Figure 2: Number of deaths attributed to malignant neoplasms in Greece (2014 & 2019), by sex	24
Figure 3: Number of deaths attributed to diabetes mellitus in Greece (2014 & 2019), by sex	24
Figure 4: Number of deaths attributed to cardiovascular diseases in Greece (2014 & 2019), by sex	24
Figure 5: Number of deaths attributed to respiratory diseases in Greece (2014 & 2019), by sex	25
Figure 6: Cancer burden of disease (DALYs per 100,000 population), 2014, 2019 & 2021	25
Figure 7: Estimated incidence by cancer – percentage distribution	26
Figure 8: Estimated mortality by cancer – percentage distribution	27
Figure 10: Burden of cardiovascular diseases (DALYs per 100,000 population)	28
Figure 9: Chronic Respiratory Disease burden of disease (DALYs per 100,000 population), 2014, 2019 & 2021	28
Figure 11: CKD distribution per patients per stage	29
Figure 12: Burden of chronic kidney disease (DALYs per 100,000 population)	29
Figure 13: Burden of diabetes (DALYs per 100,000 population)	30
Figure 14: Age-standardised prevalence of oral diseases	31
Figure 15: Age-standardised estimates (%) of current tobacco use, tobacco smoking and cigarette smoking	31
Figure 16: Prevalence of overweight among children and adolescents (%), (both sexes, male, female)	32
Figure 17: Percentage of deaths (by cause) due to air pollution in Greece, 2023	33
Figure 18: Healthcare expenditure as % of GDP	58
Figure 19: Public health expenditure as % of GDP	58
Figure 20: Public financing for health in Greece and the EU27 (% of total expenditure on health)	59
Figure 21: Cumulative changes in health financing in Greece and the EU27, from 2019 to 2023 (%)	59
Figure 22: Health care expenditure by type of service	60
Figure 23: Trends in workforce supply in Greece	67
Figure 24: Availability of CT scanners, MRI units & PET scanners	73
Figure 25: Number of clinical trials	74

List of tables



Table 1. National plans/strategies/policies addressing the indicators in scope	42
Table 2. National plans/strategies/policies addressing specific diseases/risk factors	43
Table 3. Share of households with catastrophic health spending by consumption quintile	62
Table 4. R&D expenditure as % of GDP	74

List of abbreviations



AI	Artificial Intelligence
CHF	Congestive Heart Failure
CKD	Chronic Kidney Disease
COPD	Chronic Obstructive Pulmonary Disease
CRD	Chronic Respiratory Disease
CT	Computed Tomography
CVD	Cardiovascular disease
DALY	Disability-adjusted life year
DRG	Diagnostic Related Group
EMA	European Medicines Association
GDP	Gross Domestic Product
HER	Electronic Health Record
EMR	Electronic Medical Record
EOPYY	National Organisation for the Provision of Health Services
ESRD	End-stage renal disease
EU	European Union
GDP	Gross Domestic Product
GP	General Practitioner
HF	Heart Failure
HPV	Human Papillomavirus
HTA	Health Technology Assessment
LE	Life expectancy
MEA	Managed Entry Agreement
MoH	Ministry of Health
MRI	Magnetic Resonance Imaging
NCD	Non-communicable disease
NHS	National Health System
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-pocket
PaRIS	Patient-Reported Indicator Surveys
PET	Positron Emission Tomography
R&D	Research & Development
RRF	Recovery & Resilience Facility
SMA	Spinal Muscular Atrophy
WHO	World Health Organization

Introduction



This report presents Greece's contribution to the Partnership for Health System Sustainability and Resilience (PHSSR) Policy Roadmaps for Acting Early on Non-Communicable Diseases. As the first in a series covering eight countries, it explores how health systems designed for episodic, acute care can adapt to the reality of chronic diseases.

The Partnership for Health System Sustainability and Resilience (PHSSR) is a non-profit, multi-sector, global collaboration with the goal of building more sustainable and resilient health systems. Member organisations include the World Economic Forum (WEF), the London School of Economics & Political Science (LSE), AstraZeneca, Philips, Roche Diagnostics, IQVIA, the Centre for Asia-Pacific Resilience and Innovation (CAPRI), and the WHO Foundation.

PHSSR recognises that incremental improvements are not enough. Health systems worldwide need fundamental reform: shifting from reactive to preventive, from fragmented to integrated, from volume-based to value-based. This report assesses Greece's current system performance and outlines evidence-based pathways for such change.

Greece is no exception in terms of the toll placed on health systems internationally from Non-Communicable Diseases. Currently, it is estimated that 85% of the total disease burden is attributable to NCDs, a trend which has risen significantly over the past 20 years. More than four in ten adults in the country report suffering from a diagnosed chronic condition – a prevalence that grows sharply with age. Cardiovascular diseases, cancer, diabetes, chronic respiratory illnesses, and chronic kidney disease – an under-acknowledged but emerging threat – are the primary drivers of this rising burden, with their prevalence exacerbated by high levels of population exposure to behavioural risk factors such as smoking, obesity, unhealthy diets, and physical inactivity. An especially concerning trend involves the rise of multimorbidity, which affects more than half of adults over 65 in Greece. This phenomenon creates a sizeable and complex set of healthcare needs that calls for novel approaches to primary care service delivery. The escalating NCD burden is inextricably linked to Greece's profound demographic transition towards an ageing society, where an expanding elderly cohort - inherently more vulnerable to chronic illnesses - will require care within a healthcare system already challenged by economic constraints. This combination of factors creates a "perfect storm" for the future sustainability of the Greek health system that demands the urgent implementation of a set of multifaceted interventions, such as the ones described in this Policy Roadmap.

The Policy Roadmaps are a new chapter of PHSSR research, which will explore key enablers of health system sustainability and resilience emerging from country reports to date. The first PHSSR Policy Roadmaps on "Acting Early on NCDs" will focus on how mature health systems can more effectively address cardiovascular, renal and metabolic diseases, cancers, and chronic respiratory diseases. These four disease groups were chosen as collectively they account for over 80% of all premature deaths from NCDs. While NCDs include a broader range, such as mental health and musculoskeletal conditions, the principles and strategies discussed here – prevention, early detection, integrated care – apply across all chronic diseases.

To guide the research, LSE developed a framework for developing policy roadmaps for early intervention on NCDs, based on a literature review and expert insight. An expert panel, composed of clinicians, policy experts, and patient advocates, validated the framework. The reports derived from this research will define key measures of country performance and include actionable recommendations cutting across the health system's domains.

Our methodology uses a structured framework to analyse seven key areas of health system performance. Population health analysis highlights disease trends and potential intervention points. Governance assessment reviews policy formulation and implementation processes. Service delivery evaluation detects discrepancies between optimal practices and actual care. Financing review investigates how payment models and incentives influence behaviours within the health system. Workforce analysis tackles human resource issues. Medicines and technology assessment focuses on access to innovations. Environmental sustainability examines the connection between health

systems and climate change. For each area, we measure current performance with established indicators, identify measurement gaps, and offer targeted recommendations for improvement.

This report provides a comprehensive overview of the Greek health system's key features across the seven domains of the PHSSR framework.

The evidence and policy analysis indicate a set of persistent systemic challenges. These include: (a) the reactive nature of the health system, as evidenced by its current model of resource allocation, governance, and service delivery; (b) the demographic and epidemiological pressures; (c) the high exposure of the population to behavioural health risk factors (d) inequalities in access to care and financial protection; (e) the lack of robust, routine data both in the public domain and for the formulation of evidence-based policy and monitoring of outcomes; (f) health workforce imbalances; and (g) Greece's vulnerability to climate change.

Nevertheless, a set of insights, actions, and key opportunities have emerged. Following the COVID-19 pandemic, public health has gained prominence as an issue in the policy agenda, incentivising both public and political will for change towards a more proactive health care model. The "Prolamvano" (Prevent) screening programme, primary health care reforms and digital transformation efforts all represent positive developments. However, these policies will require thorough and continuous evaluation in order to strengthen their effectiveness, efficiency and sustainability.

A paradigm shift towards a proactive, preventive, decentralised, integrated and multidisciplinary model of care is essential for future health system sustainability. The potential of data-driven decision making should be further exploited and embedded as a culture in the system, covering all phases of policy formulation, implementation and evaluation. Tackling NCDs effectively demands a Health in All Policies approach that breaks down institutional "silos" and promotes cross-sectoral coordination. Achieving this requires coordinated action among different stakeholders, particularly the Ministries of health, education, environment, social welfare and digital transformation.

Recent years have seen a number of initiatives or programmes to address key challenges or longstanding health policy gaps. While not all are designed with a specific focus on NCDs, proper implementation could set the foundations for a more holistic policy approach to acting early on NCDs. These include the Spyros Doxiadis programme, an umbrella framework for prevention containing a set of national actions; the Prolamvano (Prevent) national screening programme which mainly focuses on cancer detection and cardiovascular risk; the establishment of the personal doctor system and wider efforts to integrate primary health care and public health. Moreover, the rollout of the electronic health record and the MyHealth app, as well as the development of the national cancer registry, contribute to these efforts. A common theme underlining these initiatives is the need to ensure their sustainability, as many of them are currently funded by the Recovery and Resilience Facility, and integrate them within system governance structures.

This report comes at a time of major international developments in the field of NCDs and health policy. It aligns with the European Commission's initiatives for building a strong European Health Union, spearheaded by the Europe's Beating Cancer Plan, the EU Safe Hearts Plan and the European Health Data Space, elements of which can be found in the policies described in this report. It reflects the post-COVID-19 reassessment discussions, which call for proactive policies, enhanced monitoring of threats and resilience building for future crises. It includes a set of evidence and policy implications which align with the agenda of the Fourth High-level Meeting of the UN General Assembly on the prevention and control of NCDs which took place in September 2025. It incorporates elements and actions of the discussion around the greening of health systems and climate change. Finally, it continues and contextualises locally the discussion started by the PHSSR's EU Expert Advisory Group Report ("A stitch in time: Early Intervention to Tackle Europe's NCD Crisis") regarding the necessary policies that must be implemented at the EU level in order to achieve more sustainable and resilient health systems.

This report offers policymakers, healthcare leaders, and stakeholders a thorough assessment and practical advice. It provides specific, actionable recommendations based on evidence and tested through international comparison. By analysing what works, recognising what doesn't, and suggesting concrete solutions, we aim to support a health system that not only prolongs life but is also accompanied by sustained health and quality of life for everyone.

Methodology and stakeholders consulted



This report draws on multiple sources: desk research using publicly available evidence, stakeholder surveys and focus group discussions. The methodology follows the methodological framework of the PHSSR studies, tailored to the Greek context, and aiming to capture a broad range of views on the prevention and management of non-communicable diseases (NCDs).

The process began with a review of the available literature, from national and international sources, that aimed to gather multiple sources of evidence regarding the current status and context of NCD management in Greece. Evidence collection was followed by a survey meeting with key stakeholders. This meeting helped to clarify arguments in support of early intervention in NCDs, highlight barriers to timely action, and identify possible policy responses.

Building on the findings from both the desk research and the survey meeting, a set of key challenges and policy options were developed and structured into a questionnaire. The questionnaire was distributed to the stakeholders, who were asked to anonymously assess each option based on two dimensions: feasibility and potential effectiveness.

Following collection of the responses, a roundtable discussion with the stakeholders was organised to further explore the most highly ranked challenges and policy solutions. This provided space for deeper dialogue and consensus-building around the most pressing challenges and promising policy solutions.

Stakeholders consulted – contributors

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Executive summary



Greece faces a substantial and growing burden of non-communicable diseases (NCDs), which account for approximately 85% of the total disease burden. This burden is projected to intensify as the population ages and multimorbidity becomes increasingly prevalent. More than four in ten adults report a diagnosed chronic condition, with this proportion rising sharply among those aged over 65 years, where 52% report having at least two chronic diseases, one of the highest rates of multimorbidity in the European Union. Acting early on NCDs through prevention, early detection, and timely intervention is therefore essential for maintaining health system sustainability and improving population health outcomes.

The Greek health system has historically been reactive and treatment-oriented, with resource allocation heavily weighted towards hospitals and pharmaceuticals rather than prevention and primary care. Inpatient care accounts for over 40% of health expenditure compared to an EU average of 28%, whilst spending on prevention has historically remained below 2% of total health expenditure, rising temporarily to 4.5% during the COVID-19 pandemic before declining to 3.1% in 2023. This allocation pattern reflects a structural orientation towards treating illness rather than acting early to prevent it. Transitioning towards a proactive, prevention-focused model is critical for addressing the escalating NCD challenge and ensuring long-term system resilience.

DOMAIN 1: POPULATION HEALTH

Greece demonstrates notable vulnerabilities in population health that demand urgent attention. Although life expectancy rebounded to 80.8 years in 2022 following the pandemic, healthy life expectancy at age 65 stands at 8.8 years, below the EU average of 9.1 years. This compressed period of healthy ageing, combined with high rates of multimorbidity, signals substantial future healthcare needs that will strain system capacity without proactive intervention.

The burden of key conditions is increasing and frequently exceeds EU averages. The burden of chronic respiratory diseases, certain cancers, cardiovascular diseases, and chronic kidney disease has risen over the past decade, contrary to declining trends observed elsewhere in Europe. The burden of chronic kidney disease increased from 827 disability-adjusted life years (DALYs) per 100,000 population in 2014 to 1,110 in 2021, more than double the EU average of 548, and Greece records one of the highest incidences of end-stage renal disease among high-income countries, largely attributable to inadequate control of modifiable risk factors.

Behavioural risk factors remain a persistent concern. Although smoking rates have gradually declined from 38.4% in 2015 to 32.8% in 2022, Greece continues to record among the highest rates in the EU, particularly among women. Childhood obesity represents an emerging public health crisis: 34% of children and adolescents aged 5 to 19 years were classified as overweight in 2022, well above the EU average of 23.8%, linked to socioeconomic inequalities and inadequate policy enforcement in areas such as school nutrition.

Greece also demonstrates notable vulnerability to climate change. The country's average PM2.5 levels of 15 micrograms per cubic metre are three times higher than WHO guidelines, contributing substantially to cardiovascular and respiratory mortality, and evidence indicates that 16% of deaths from stroke and ischaemic heart disease in Greece are attributable to air pollution. These environmental determinants of NCDs require urgent integration into prevention strategies.

The health system remains predominantly reactive, with limited systematic measurement of health inequalities in access and outcomes. The Spyros Doxiadis Programme represents a very positive step forward in primary prevention. However, its effectiveness and sustainability depend on stable financing mechanisms beyond the Recovery and Resilience Facility period and the establishment of robust evaluation processes.

RECOMMENDATIONS

1. **Integrate health promotion activities in schools**, focusing on healthy nutrition, regular physical activity, and the removal of unhealthy products from school canteens, targeting both students and their parents or legal guardians. Greece has among the highest rates of childhood overweight in the EU, and acting early is essential to reducing the future burden of diabetes, cardiovascular disease, and other NCDs.
2. **Strengthen public health policy instruments** through behavioural change strategies and communication campaigns designed to facilitate healthier choices, tailored to specific population groups with higher exposure or vulnerability. Smoking remains among the highest in the EU and continues to account for the largest single share of the country's disease burden, and evidence-based fiscal measures hold significant potential to reduce consumption.
3. **Introduce a systematic, country-level measurement of health inequalities** in both access and outcomes, across multiple dimensions including geography, income, occupation, and education. Greece records the highest income-related inequality in unmet healthcare needs among EU member states, yet this inequality is not routinely tracked. Without this evidence base, policies cannot be effectively targeted at the populations carrying the greatest NCD burden.
4. **Promote health literacy and a culture of self-care**, starting from early education and continuing throughout the life course. Low health literacy contributes to late presentation and poor self-management of chronic conditions, undermining the effectiveness of the preventive and screening initiatives already underway.
5. **Improve the coordination between health services and social care services** to identify and support individuals with NCDs who face risk of social isolation. With rising rates of multimorbidity, particularly among those over 65, effective NCD management increasingly requires an integrated response that extends beyond clinical care alone.

DOMAIN 2: GOVERNANCE

Governance of the health sector in Greece has been fragmented, with responsibilities for NCD prevention and management dispersed across multiple entities. This fragmentation has resulted in parallel systems, excessive bureaucracy, weak coordination, and inefficient resource use. Although action plans targeting the main NCD risk factors have been developed, their full implementation has been hampered by the absence of binding provisions, clear accountability mechanisms, and formal evaluation processes. The National Action Plan for Public Health 2021–2025, for instance, sets targets for reducing smoking rates and childhood obesity by 2030, yet lacks specific strategies for monitoring progress or modifying policies if targets are not achieved.

The development of diagnostic and therapeutic protocols is evidence-based but does not currently incorporate cost or cost-effectiveness considerations through a formal health technology assessment (HTA) process. Greece has developed protocols for managing several NCDs, including cancer, chronic respiratory diseases, cardiovascular diseases, and diabetes. The protocols are an essential base for improving quality of care. However, the currently existing protocols tend to have a therapeutic orientation focused on pharmaceuticals, rather than adopting comprehensive disease management frameworks that integrate prevention across all levels of care.

Patient registries are gradually becoming operational and represent an important development for improved NCD monitoring. The National Cancer Registry became operational in February 2025 after years of delays, providing comprehensive monitoring of cancer patients and enabling improved diagnosis, treatment, and research. Extending this model to other major NCDs would significantly strengthen surveillance capacity and evidence-based policymaking, though access to registry data for researchers and other interested parties remains limited.

Scientific associations and expert groups contribute to health policy design on an ad hoc rather than institutionalised basis. Although patient participation in policy formation is legislated through provisions established in 2022, their actual contribution and influence remain unclear. Crisis preparedness plans also currently lack an NCD-specific component, and the COVID-19 pandemic demonstrated both the vulnerability of NCD services during crises and the absence of systematic planning to maintain care continuity for chronic disease patients.

RECOMMENDATIONS

1. **Establish a national committee or authority, in collaboration with the National Statistical Authority (ELSTAT)**, to promote data harmonisation, availability, and interoperability for research purposes and the guidance of policy formation, with work aligned to the European Health Data Space (EHDS) requirements. Greece currently relies on multiple health surveys conducted on differing methodological bases, limiting comparability over time and across subgroups.
2. **Introduce a formal, written process for the participation of patient organisations and civil society** in health policy design and decision-making. Although patient advocacy groups were formally recognised as interlocutors in 2022, no structured mechanism yet exists to define the nature or scope of their input, and establishing one would ensure that policies reflect the lived experiences of the growing population managing chronic conditions.
3. **Enact legislation defining a detailed procedure for developing National Action Plans for NCDs**, including stakeholder selection and participation, targets and KPI setting, monitoring based on SMART criteria, and accountability mechanisms. Successive NCD action plans have been hampered by the absence of binding provisions and formal evaluation processes, limiting both implementation and course-correction when targets are not met. Legislative underpinning with clear accountability would significantly improve the effectiveness of future plans.
4. **Extend the National Cancer Registry model to other major NCDs**, ensuring interoperability to capture information on multimorbidity. Reliable national registries currently exist only for cancer; for other NCDs, the data needed to monitor disease burden, evaluate interventions, and plan services are either absent or fragmented. Closing this gap would create the evidence base needed to respond to Greece's rising burden across these conditions and to address the particular challenge of multimorbidity.
5. **Strengthen data and policy interoperability between the Ministry of Health and the Ministry of Labour and Social Security**, integrating socioeconomic data to support evidence-based policy formulation. Health and social data systems are not currently linked, despite clear evidence that the social determinants of NCD risk are significant in Greece. Linking these systems would enable more targeted and equitable policy responses.

DOMAIN 3: SERVICE DELIVERY

The Greek National Health System has been hospital-centred, with limited care coordination and continuity. National guidelines and protocols for managing major NCDs are in place, yet adherence remains a challenge: a study assessing compliance with national clinical guidelines for diabetes mellitus follow-up found considerable variability in practice. A broadening of focus is necessary to incorporate comprehensive disease management beyond pharmaceutical treatment, including prevention across all levels of care, and the addition of risk-stratified patient pathways would significantly contribute towards better outcomes.

The PROLAMVANO screening programme represents an important initiative in addressing NCDs through early detection. Launched in 2024 with a budget of €200 million from the Recovery and Resilience Facility, the programme targets millions of individuals across breast cancer, cervical cancer, colorectal cancer, and cardiovascular disease prevention. However, clearly defined and

coordinated pathways for follow-up care following positive screening results remain lacking, particularly for vulnerable populations in rural or underserved areas. The programme's sustainability beyond 2025 is also uncertain, as its funding concludes with the Recovery and Resilience Fund and plans for future financing have yet to be announced.

Greece reports high rates of unmet medical need, with 9.0% of the population reporting forgone care due to cost, waiting times, or geographic barriers, compared to an EU average of 2.2%. Unmet need among low-income households is more than three times higher than among high-income groups. Moreover, the distribution of healthcare facilities and professionals is uneven, with over 60% of physicians concentrated in Attica and Central Macedonia and only 10% in island regions, creating substantial access gaps for residents of remote and underserved areas.

Waiting times are considered a significant policy concern. Although some progress has been achieved recently, prolonged waits persist for critical services such as radiation therapy and surgical procedures, and human resource shortages further exacerbate delays in diagnosis.

The critical lack of data on quality of care for major NCDs limits the ability to evaluate health system performance or identify bottlenecks. Key quality indicators such as stage at diagnosis, waiting times for diagnostic procedures, thirty-day mortality after admission for acute myocardial infarction or stroke, and hospital readmission rates for chronic conditions are not systematically reported. The new DRG system currently being implemented could contribute significantly to producing such metrics, provided that data recording and reporting meet adequate quality standards.

Long-standing structural issues including fragmentation, weak coordination, underdeveloped primary care, inadequate referral mechanisms, and unclear patient pathways affect care continuity. The "personal doctor" system under development represents a positive step towards strengthening primary care, though its effectiveness may be affected by the pre-existing shortage of general practitioners, who represent only 6% of physicians compared to an EU average of 21%.

An important evolution in the system, in terms of service delivery and governance, is the ongoing digital transformation of the system. Greece is actively advancing digital health transformation through HDIKA, investing over €250 million via the Recovery Fund. Key initiatives include an updated national Electronic Health Record, digital oncology management, updated e-prescriptions, the planned introduction of a Digital Health Legislative Framework and a National eHealth Interoperability Framework (NeHIF), and the upgrade of the digital infrastructure capacity of the points of care provision. Initiatives to integrate AI tools in service provision are also underway, with the examples including the "digital assistant" for physicians. Greece will also host one of the seven EU AI Factories (the Pharos AI Factory), to serve as a hub for research in areas including health. By 2026, authorities expect a full digital leap, with AI integration and alignment with the EU's European Health Data Space regulation.

RECOMMENDATIONS

1. **Evaluate the PROLAMVANO screening programme for lessons learned**, such as socioeconomic determinants of participation and linkage to care challenges, and reformulate policy accordingly. The programme currently lacks defined and monitored patient pathways following a positive result, particularly for those in rural or underserved areas, and systematic evaluation would identify barriers and enable the programme to convert detection into genuine health gains.
2. **Broaden the scope of existing guidelines and protocols** beyond pharmaceutical treatment to a comprehensive disease management perspective across all levels of care, supported by strategies to enhance adherence. National protocols remain predominantly focused on pharmaceutical management, do not clearly define roles for allied health professionals, and adherence is inconsistent. A broader, implementation-focused approach would reduce variation in quality and improve outcomes.

3. **Deploy the mobile health units (KOMY) system to serve the needs of remote and underserved areas** and reduce geographic inequalities in access, with clear KPIs and annual progress monitoring. In 15 out of 52 NUTS3 regions, fewer than half of residents live within a 15-minute drive of a hospital, creating substantial barriers to NCD diagnosis and management not adequately addressed by the current service configuration.
4. **Integrate early diagnosis programmes, particularly for cancer, with timely diagnostic work-up, timely access to treatment, and a comprehensive treatment plan based on a multidisciplinary team approach.** The absence of risk-stratified, multidisciplinary patient pathways is a recognised structural gap in the Greek system, meaning that early detection does not reliably translate into coordinated follow-up. Closing this gap would significantly improve the impact of screening on NCD mortality.
5. **Introduce systematic assessment of patient-reported outcomes and experiences** to evaluate and enhance service delivery, ensuring transparency by publishing comparative facility-level data to drive accountability and quality improvement. Greece currently lacks robust quality-of-care data for major NCDs, making it difficult to identify and address performance gaps. Accelerating the Ministry of Health's patient-reported experience framework and linking it to public reporting would reorient the system towards outcomes that matter to patients.

DOMAIN 4: FINANCING

Greece spends a lower proportion of GDP on health (8.5%) compared to the EU average (10.4%), and per capita health spending of 2,001 euros (PPP) in 2022 is substantially below the EU average of €3,533 (PPP). The system has historically been characterised by high out-of-pocket expenditure, which accounted for 33% of total health spending in 2021, compared to significantly lower shares in other EU countries. This reliance on direct household payments contributes to inequality and creates financial barriers to access, particularly for vulnerable populations.

Twenty-three per cent of individuals in the lowest income quintile report forgone medical care due to financial, geographic, or waiting time reasons, compared to only 3.4% in the highest; representing the greatest income-related inequality in unmet healthcare needs in the EU. The incidence of catastrophic health expenditure among middle-aged and elderly people rose from 5.8% in 2007 to 13.6% in 2015 during the economic crisis and, although it has since declined, remained at 9.8% in 2022, with the burden falling disproportionately on the poorest quintile. Households with chronic patients face substantially elevated financial risk.

Resource allocation remains heavily weighted towards treating illness rather than preventing it. Inpatient care accounts for over 40% of health expenditure versus an EU average of 28%, whilst spending on outpatient care (21%) and long-term care (2%) remain comparatively low. Prevention spending, after increasing to 4.5% during the COVID-19 pandemic, declined to 3.1% in 2023.

Fee-for-service reimbursement in outpatient care and DRG-based hospital payment incentivise volume over value, with limited financial incentives for outcomes-based, integrated, or coordinated care. The personal doctor system reimburses physicians by annual capitation, risk-adjusted by age group, but does not include explicit performance-based incentives for integrated care or systematic monitoring to evaluate effectiveness.

Budget allocation processes do not systematically account for future healthcare needs, disease burden, or inequality factors such as socioeconomic status and geographic access. Recent healthcare initiatives, including the PROLAMVANO screening programme and digital transformation projects, rely substantially on the EU Recovery and Resilience Facility, a temporary funding mechanism. Measures to ensure their future sustainability are essential, given their importance and potential contribution to NCD management and early detection.

RECOMMENDATIONS

1. **Secure sustainable financing for the PROLAMVANO screening programme** by transitioning from EU Recovery and Resilience Facility-based funding to a stable, long-term model. Without a permanent financing commitment, a programme that introduced organised population screening in Greece for the first time risks discontinuation, forfeiting the public health gains it has begun to generate.
2. **Expand community-based care through dedicated funding** for community and home-based care programmes for chronic disease management. Dedicated funding for community-based NCD management is essential to begin rebalancing the system towards prevention and care closer to patients.
3. **Implement multi-annual, ring-fenced financial frameworks for NCD action plans** to ensure long-term, predictable funding and provide the stability needed to deliver sustained progress on NCDs. Prevention spending has shown itself to be vulnerable to reversal without protected funding streams, and current budgeting does not systematically account for future disease burden or socioeconomic inequality.
4. **Introduce pay-for-performance schemes in primary care**, linking provider compensation to patient outcomes and utilisation of screening, diagnostic, and preventive services. The current reimbursement models incentivise volume over value, with no meaningful financial incentives for integrated or outcome-oriented NCD care. Reforming provider payment would align financial incentives with improved prevention and disease management.
5. **Promote healthy diet and reduce risk factors by lowering VAT on healthy food options, while introducing health taxes on harmful products** such as tobacco and sugar, and earmarking revenue specifically for public health actions in prevention, early diagnosis, and management of NCDs. Modelling evidence suggests that such measures hold significant potential both to reduce consumption and to generate revenue that could directly fund the prevention infrastructure the system currently lacks.

DOMAIN 5: WORKFORCE

Greece has an imbalanced workforce structure characterised by the highest doctor density in the EU (6.6 per 1,000 population versus an EU average of 4.2) combined with the lowest nurse density (3.8 per 1,000 versus an EU average of 8.4), resulting in a nurse-to-doctor ratio of 1.5, substantially below the EU average of 2.2. This imbalance is compounded by severe geographic maldistribution, with over 60% of physicians concentrated in Attica and Central Macedonia and only 10% in island regions.

Critical shortages exist among general practitioners and internists, precisely the specialists most needed for integrated primary care and NCD management. General practitioners represent only 6% of doctors compared to an EU average of 21%, whilst specialists account for 80% versus an EU average of 67%. The system has experienced notable professional outflows, with more than 20,000 doctors emigrating from Greece during the economic crisis, and fewer than 1% of 15-year-olds currently expect to become nurses, well below the OECD average of 2.1%. The Ministry of Health has introduced financial incentives to encourage specialisation in internal and general medicine and to attract doctors to rural and island regions, though the effectiveness of these measures in addressing workforce imbalances remains to be evaluated.

No comprehensive strategy currently exists for health workforce planning, forecasting future needs, or promoting task-shifting and task-sharing approaches. Ring-fencing of professional roles, reinforced by regulatory provisions that restrict delegation or sharing of activities among health professionals, represents a key barrier. The absence of multidisciplinary approaches limits effective

management of multimorbidity. No policy framework exists to prepare the workforce for the digital transformation skills, including artificial intelligence applications in healthcare. The recent establishment of eight university health centres represents a positive step towards bridging the theory-practice gap.

RECOMMENDATIONS

1. **Strengthen the digital capacity of the health workforce** through training in the use of electronic health records, telemedicine platforms, and remote monitoring systems for NCD care. The digital competencies of healthcare professionals have not yet been measured or addressed through any national policy framework, and systematic investment is needed to ensure that infrastructure investments translate into improved NCD management in practice.
2. **Offer financial incentives, housing support, and professional development opportunities** to attract and retain healthcare workers in rural and island regions. The geographic maldistribution of physicians is among the most pronounced in the OECD and directly limits equitable access to NCD prevention, diagnosis, and management.
3. **Establish a formal collaboration between the Ministry of Health and the Ministry of Education** to ensure regular updates to healthcare professional curricula, including new care delivery models such as AI and telemedicine applications, home-based care, NCD prevention and early detection, and comprehensive disease management approaches. No formal coordination mechanism currently exists between the two ministries, and training curricula have not kept pace with the evolving demands of NCD care or digital transformation.
4. **Introduce multidisciplinary, team-based management models for NCD patients in primary care settings** to address the increasing prevalence and complex needs of patients with multimorbidity. Greece has the lowest nurse-to-doctor ratio in the EU, and only 6% of physicians are GPs, making the current physician-centric model poorly suited to managing a population with high rates of multimorbidity. Task-sharing and collaborative care models would make better use of the available workforce while improving outcomes.
5. **Develop a comprehensive multi-annual human resources strategy for health**, incorporating future demographic and epidemiological projections, including NCD burden projections and evolving competency needs. No such strategy currently exists, and the structural workforce imbalances that have accumulated in its absence will worsen without a system-wide strategic response.

DOMAIN 6: MEDICINES AND TECHNOLOGY

Greece appears to have slower formal access to new medicines compared to the EU average. Between 2020 and 2023, of the 173 medicines approved for patients in Europe, 75 (43%) were available in Greece, slightly below the EU average of 80 (46%). For oncology medicines, the mean waiting time from approval to public reimbursement is estimated at 657 days, compared to an EU average of 586 days. These delays can be attributed to several factors, including the “5/11 rule” requiring that medicines be reimbursed in at least 5 out of 11 designated countries before applying for Greek reimbursement, comparatively lower prices due to external reference pricing, and substantial paybacks, factors which collectively create conditions that disincentivise early market entry.

A formal HTA process exists only for pharmaceuticals and has been based primarily on clinical criteria. Economic evaluation is incorporated but remains under-used, and ethical, societal, or institutional considerations are not included. No HTA framework currently exists for medical devices, diagnostics, or digital health technologies, leading to fragmented adoption processes and potential inefficiency. A reform is underway to align HTA processes with EU standards and to extend the framework to include medical devices.

Greece has a high density of advanced diagnostic equipment relative to its population size, ranking fifth among OECD countries for CT scanners, MRI units, and PET scanners in 2021. However, utilisation rates, waiting times for diagnostics, and regional distribution are not systematically measured, which may obscure access inequities and equipment underutilisation.

Core digital infrastructure is in place or under development: the national Electronic Health Record was fully rolled out in 2025 and the MyHealth app allows citizens mobile access to their health data. However, availability of these data for research and policymaking remains limited. Digital health tools for chronic disease management have been introduced, but a comprehensive framework for evaluation, reimbursement, and digital literacy among users and providers is still lacking. The National Telemedicine Network, operational since 2016 in one health region, is being expanded nationwide under the National Recovery and Resilience Plan.

RECOMMENDATIONS

1. **Enhance Greece's capacity to host NCD-focused clinical trials** to foster early access to innovative therapies. Greater involvement in clinical research would expand patient access to treatments not yet available through standard reimbursement pathways, and address the current lag relative to EU average access times for approved medicines.
2. **Scale up the National Telemedicine Network across all health regions** to support NCD management in rural and remote areas. Currently operational in only one health region, the network has clear potential to address geographic inequalities in specialist and primary care access, particularly across island regions where physician density is lowest.
3. **Introduce a health technology assessment and reimbursement framework for medical devices and digital technologies**, including health apps for the management and monitoring of NCDs. The current HTA framework applies exclusively to pharmaceuticals, and no framework exists for devices, diagnostics, or digital health technologies, leading to fragmented adoption. A structured framework would ensure that technologies demonstrating clinical value are assessed and funded systematically.
4. **Promote the adoption of AI-based tools that support clinical decision-making for healthcare professionals**, especially in the primary healthcare setting. Adherence to clinical guidelines for NCDs is inconsistent and early identification of at-risk patients remains limited; AI-enabled decision support has the potential to address both challenges.
5. **Expand the MyHealth app with physician-oriented functions that utilise AI tools for the assessment of NCD risk or early identification**, through the combination of laboratory data and data on behavioural risk factors. Core digital infrastructure is now in place, but a significant gap remains between data collection and its use for clinical decision-making.

DOMAIN 7: ENVIRONMENTAL SUSTAINABILITY

While national climate and energy policies are ambitious, their connection to health and NCDs remains indirect and fragmented. The National Climate Law sets targets for reducing greenhouse gas emissions by 55% by 2030, 80% by 2040, and achieving carbon neutrality by 2050. However, health is recognised as a vulnerable sector without environmental sustainability being a core, integrated component of health policy or NCD management strategies.

Greece faces severe environmental risks that directly impact NCDs. The country records the highest per capita heat-related mortality in Europe, with annual heat-related deaths among adults aged 65 and over increasing by 138.5% between 1990 to 1999 and 2014 to 2023. In the worst-case climate scenario, heat-related mortality could increase to 175.4 people per 100,000 by the end of the century, compared to a projected EU average of 84.3. Air pollution also remains a major concern,

with PM2.5 levels three times higher than WHO guidelines, and evidence indicating that 16% of deaths from stroke and ischaemic heart disease are attributable to air pollution.

The health system's response to these environmental threats remains primarily reactive. The Ministry of Health periodically issues public health guidance during hazardous conditions, and hospitals have developed regularly tested emergency preparedness plans. However, a structured, comprehensive national strategy for climate adaptation within the health sector is required.

The carbon footprint of the Greek health system accounts for 3.7% of national carbon emissions, and Greek hospitals spend at least 4% and, in some cases, up to 7% of their annual budget on energy. There is a absence of routine data collection on the environmental impact of the health system, and no systematic measurement of healthcare emissions, waste, or resource use attributable to NCD services currently exists.

Actions to reduce the environmental footprint of health services, including energy upgrades to hospitals and health centres, funded through the Recovery and Resilience Facility, need to extend beyond the current budgeting period. A One Health approach must be systematically integrated into future health system plans in order to comprehensively address the environmental determinants of NCDs.

RECOMMENDATIONS

1. **Develop a national strategy for mitigating the effects of climate change on NCD mortality**, accompanied by specific actions and measurable outcomes. Greece records the highest per capita heat-related mortality in Europe, yet the health system's response remains primarily reactive. A dedicated national strategy would embed proactive health system preparedness into policy planning.
2. **Implement awareness campaigns on the impact of climate change, air quality, and environmental pollution on the incidence and progression of NCDs**. Environmental links to NCD mortality are well-evidenced in Greece but are not yet systematically communicated to the public, and improved awareness would support both individual protective behaviour and public support for structural reforms.
3. **Systematically integrate environmental considerations into all stages of health policy formulation and implementation**. Environmental factors linked to disease progression, hospitalisation, and exacerbations are acknowledged in Greece but not yet incorporated systematically into health policy decision-making. Embedding environmental considerations across the policy cycle would help close the gap between the country's climate commitments and their translation into NCD prevention and management strategies.
4. **Develop resilient care pathways to ensure continuity of essential NCD services during natural disasters and environmental crises**. Crisis preparedness plans currently lack an NCD-specific component, and Greece's exposure to heatwaves, wildfires, and other climate-related hazards is severe and worsening. Resilient, well-planned pathways would protect the continuity of care for those living with NCDs during such events.
5. **Adopt a "Health-in-All Policies" approach by strengthening intersectoral collaboration with transport, agriculture, and energy sectors** to address environmental determinants of NCDs. The environmental determinants of NCDs in Greece, including air pollution levels and rapidly rising heat-related mortality, cannot be addressed by the health sector alone. Embedding health considerations into policy decisions across sectors would address these determinants and reduce the NCD burden attributable to environmental exposures.

Conclusion

Greece possesses important assets for acting early on NCDs: a constitution that enshrines the right to health, a universal National Health System, a newly operational National Cancer Registry, the recently launched PROLAMVANO screening programme, and a substantial pipeline of reforms targeting primary care, digital infrastructure, and workforce distribution. However, this report reveals a persistent gap between these institutional foundations and their systematic translation into early intervention across the population.

Several structural weaknesses recur across the seven domains. Geographic maldistribution of health professionals and facilities creates profound inequities in access to preventive and diagnostic services. Fragmented governance arrangements, coupled with action plans that lack binding provisions and accountability mechanisms, limit the system's capacity to implement and sustain reform. High out-of-pocket expenditure and unmet need – among the highest in the EU – mean that financial barriers continue to delay care-seeking until disease is advanced. A predominant orientation towards hospital-based, reactive treatment, reflected in resource allocation patterns that consistently underweight prevention and primary care, further constrains earlier intervention across the disease trajectory.

Greece faces particular urgency. A rapidly ageing population with high rates of multimorbidity, childhood obesity trends that will shape tomorrow's chronic disease burden, persistently high rates of smoking, and the highest per capita heat-related mortality in Europe together demand that prevention and early action become the organising principles of health system reform. The window created by current investments; in digital transformation, primary care restructuring, and the Recovery and Resilience Facility; will not remain open indefinitely. Translating these into sustained improvements in healthy life years, equitably distributed across the population, will require acting early at every opportunity.

DOMAIN 1

Population health



Life Expectancy (LE) at birth in Greece was 80.8 years in 2022 (83.4 years for women and 78.3 years for men), closely approximating the European Union (EU) average of 80.6 years. During the COVID-19 pandemic, LE declined sharply from 81.7 to 80.2 years between 2019 and 2021 (a reduction more than double of that in the OECD in the corresponding period). Provisional data for 2023, however, suggest a recovery to pre-pandemic levels (Eurostat, 2024a). Looking further back, two distinct periods can be identified: from 2000 to 2010, LE in Greece increased by 2 years (vs 2.5 years in the EU), while from 2010 to 2019 the rise slowed to 1.1 years (vs. 1.5 years in the EU) (Athanasakis et al., 2022). This trend suggests that Greece has not fully kept pace with improvements in LE observed in peer countries – an issue warranting closer investigation with a broader analytical framework, given the association of LE with a wide range of socioeconomic determinants. In terms of causes of death, stroke, ischaemic heart disease and lung cancer remain the leading contributors (OECD/European Observatory on Health Systems and Policies, 2023).

Healthy life expectancy after the age of 65 – expressed as years lived in good health – was 8.8 years in 2022, lower than the EU average of 9.1 years. The gender differential for women and men (9.0 and 8.6 years, respectively), appears slightly lower than the EU averages (9.2 years for women and 8.9 for men) (Eurostat, 2024b). This disparity assumes particular significance when considered alongside the issue of multimorbidity, which represents a key challenge. Notably, 48% of men and 56% of women over 65 (the second highest and highest in the EU, respectively) report having at least two chronic diseases, compared to EU averages of 40% and 46% (OECD/European Commission, 2024). However, limitations in daily activities are reported by 21% of men and 30% of women over 65, comparable to the respective EU averages (22% and 30% for men and women) (OECD/European Commission, 2024). The decreased healthy LE and the increased multimorbidity, combined with ageing demographics and low fertility, suggest growing and complex healthcare needs that threaten health system sustainability and call for immediate action.

The presence of common underlying risk factors amongst major NCDs (e.g. smoking, obesity, physical inactivity) underscores the importance of developing integrated prevention strategies. Given the absence of routine data collection on health inequalities and the limited integration of social determinants into prevention and monitoring activities, prevention strategies must be tailored to meet the needs of diverse population groups.

Overall, the national health system remains primarily focused on treating disease, rather than proactively protecting and promoting health. A paradigm shift is required: a transition from a reactive and disease-specific perspective to a more holistic proactive approach that places prevention at the core of national health policy.

Subdomain 1.1: Burden of disease

All disease areas

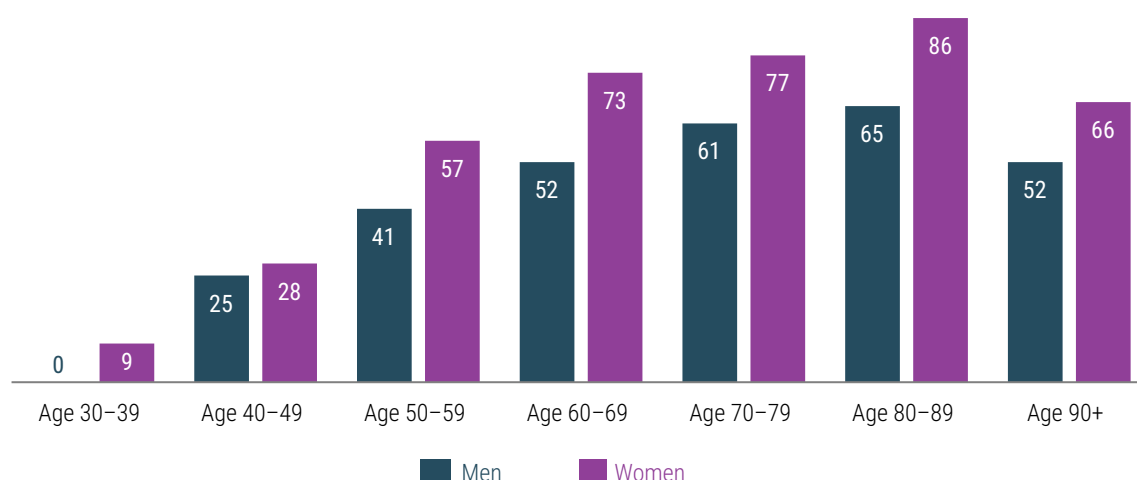
The proportion of individuals aged over 16 years old in Greece who report a longstanding illness or health problem is among the lowest in OECD countries (24.3% vs an average of 35.4%). Additionally, the disparity in income groups appears to be relatively modest (3.8% between the lowest and highest income quintile vs. an OECD average of 15.9%) (OECD, 2023a). Eurostat data show similar patterns: in 2024, one in four people aged 16 or older in Greece report having a long-standing illness or health problem, compared to an EU average of 35.3% (Eurostat, 2025a). The rate for men is 22.1% (vs an EU average of 33.1%), while for women it is 27.1% (vs an EU average of 37.5%).

While these indicators suggest a relatively favourable situation in terms of self-reported long-standing illness in the total adult population, the burden of multimorbidity (defined as having multiple chronic conditions) remains substantial. Multimorbidity affects individuals and societies whilst putting considerable pressure on healthcare systems. In Greece, among individuals (primary care users) aged 45 years and older with chronic conditions, more than six in ten (61%) report

having at least two chronic conditions, slightly lower than the OECD Patient Reported Indicator Surveys (PaRIS) average of 64% (OECD, 2025a). In addition, 69% of people with chronic conditions report good physical health, and 78% report good mental health, both figures approximating the OECD PaRIS average of 70% and 83%, respectively. Based on the Survey of Health, Ageing and Retirement (SHARE) data, 52% of people (48% of men and 56% of women) in Greece aged over 65 report having at least two chronic diseases, well above the EU average which is 44% (40% for men and 46% for women) (OECD/European Commission, 2024).

Nevertheless, data regarding the prevalence of multimorbidity across age groups, at the national level, remain sparse. According to the IKARIA study, a prospective, observational cohort investigation conducted on the Greek island of Ikaria – the prevalence of multimorbidity increases progressively with each decade of life age (Figure 1) (Foscolou et al., 2021). However, robust country-level data are still pre-requisite for evidence-based policymaking in this critical area.

Figure 1: Prevalence of multimorbidity across the lifespan among men and women (%)



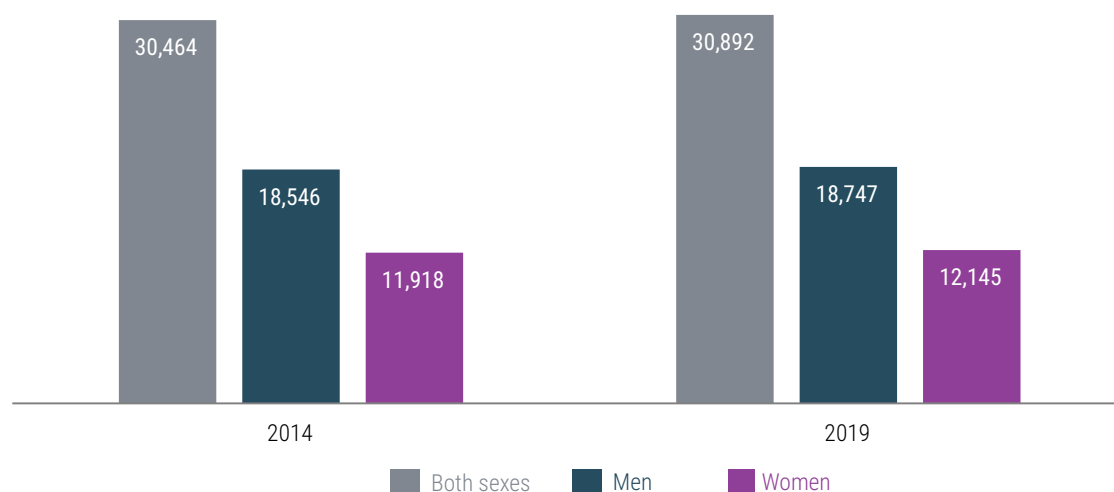
Source: Foscolou et al., 2021.

Mortality from NCDs in Greece is mainly driven by circulatory diseases and cancers, followed by respiratory diseases (OECD/European Observatory on Health Systems and Policies, 2023). In particular, according to the most recent data (2022), Greece recorded a standardised death rate of 324.6 per 100,000 inhabitants for circulatory diseases, compared with the EU average of 336.42. For cancer, the rate was 229.97, slightly below the EU average of 234.70, while for respiratory diseases it was 94.7, notably higher than the EU average of 72.91 (Eurostat, 2025b).

The total age-standardised NCD mortality rate (per 100,000 population) fell from 350 in 2014 to 340 in 2019 (Global Health Observatory, 2025). Avoidable mortality rates in Greece are also lower when compared to other high-income countries. Avoidable mortality from preventable causes is estimated at 128 per 100,000 population, and from treatable causes at 76 per 100,000 population for 2021, both lower than the OECD averages of 158 and 79 per 100,000 population, respectively (OECD, 2023a).

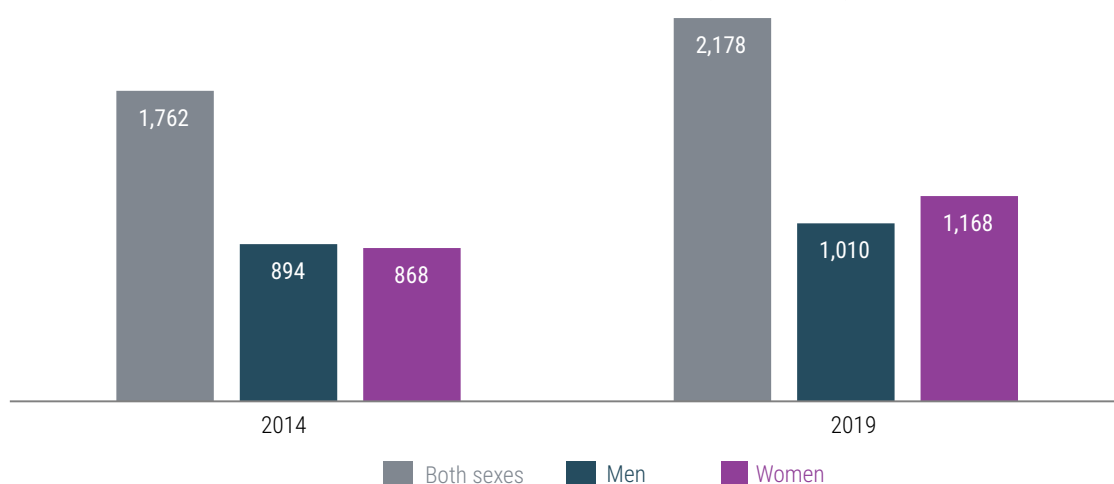
The number of deaths attributed to non-communicable diseases in Greece, by type of disease (malignant neoplasms, diabetes mellitus, cardiovascular diseases and respiratory diseases) and sex (both sexes, men, women), between 2014 and 2019 are presented in Figures 2 – 5.

Figure 2: Number of deaths attributed to malignant neoplasms in Greece (2014 & 2019), by sex



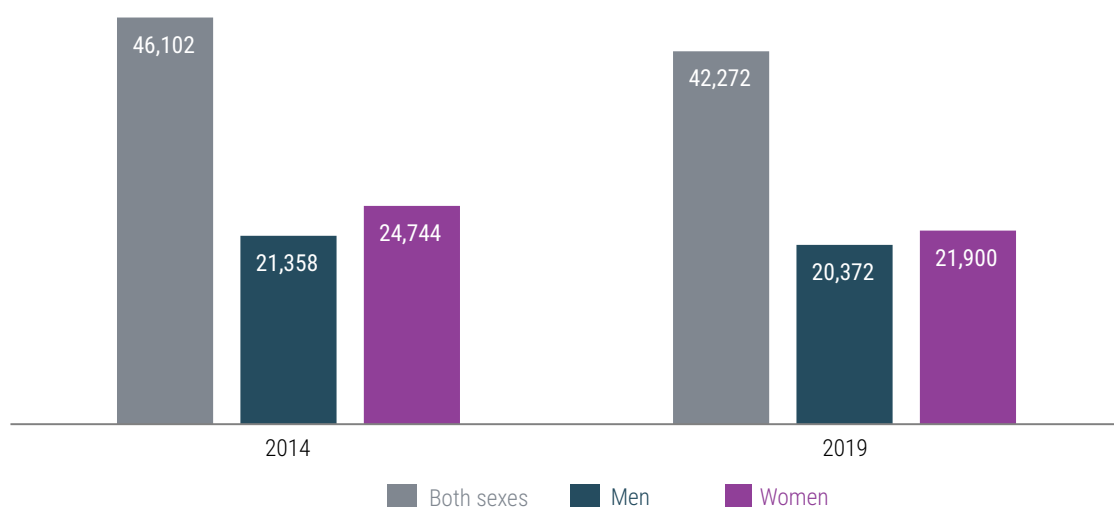
Source: Global Health Observatory, 2019.

Figure 3: Number of deaths attributed to diabetes mellitus in Greece (2014 & 2019), by sex



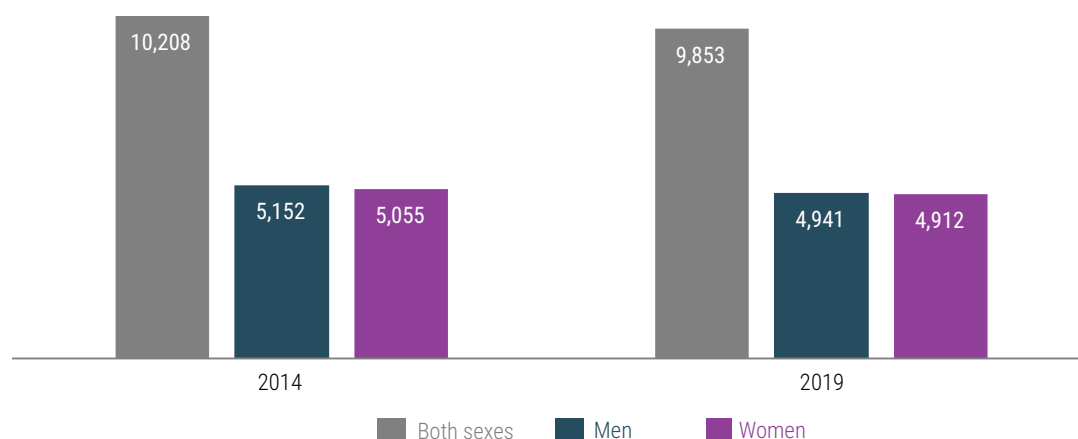
Source: Global Health Observatory, 2019.

Figure 4: Number of deaths attributed to cardiovascular diseases in Greece (2014 & 2019), by sex



Source: Global Health Observatory, 2019.

Figure 5: Number of deaths attributed to respiratory diseases in Greece (2014 & 2019), by sex



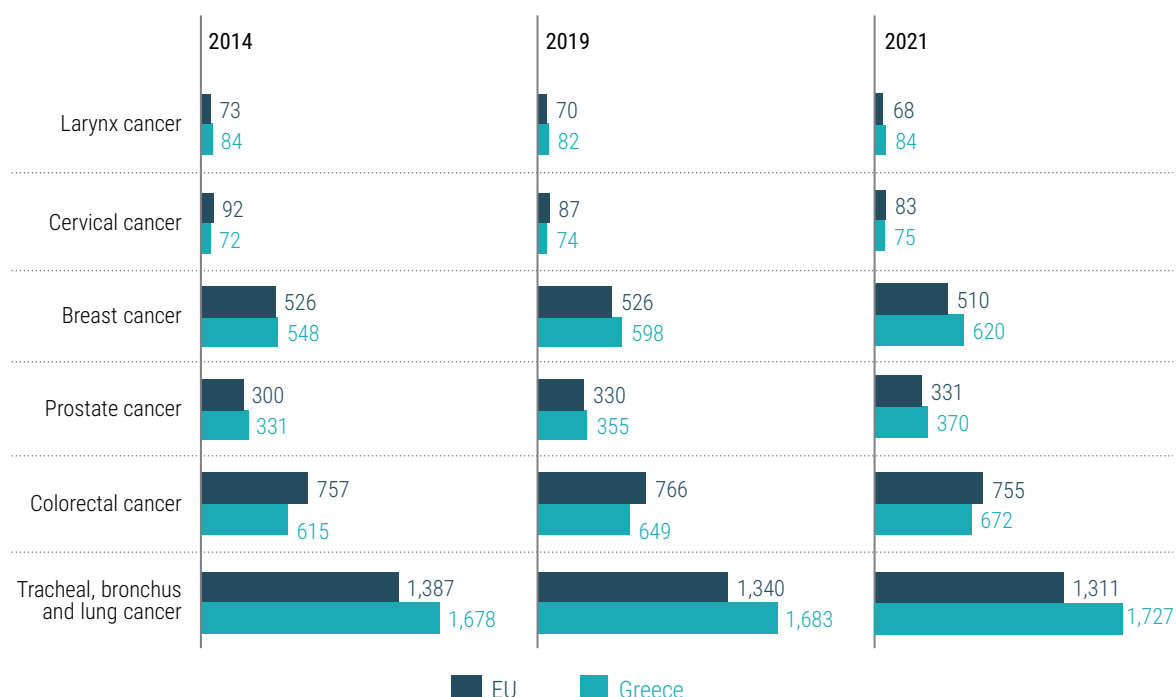
Source: Global Health Observatory, 2019.

Cancer

Largely due to the absence of a national cancer registry, Greece has historically lacked a comprehensive mechanism for monitoring cancer epidemiology and outcomes. Available data on cancer care are limited, often incomplete, and not systemically tracked. The majority of these data sources focus primarily on hospitalisation-related information, rather than offering a broad population-wide perspective of cancer trends. This fragmentation constrains the ability to fully understand cancer patterns and hinders the development of evidence-based health policies and interventions.

The burden of disease attributable to cancer in Greece – expressed as disability-adjusted life years (DALYs) – is substantial and growing. For some of the major cancers for which early detection is feasible, an increasing trend during the past decade, contrary to the EU trend, is observed (Figure 6).

Figure 6: Cancer burden of disease (DALYs per 100,000 population), 2014, 2019 & 2021

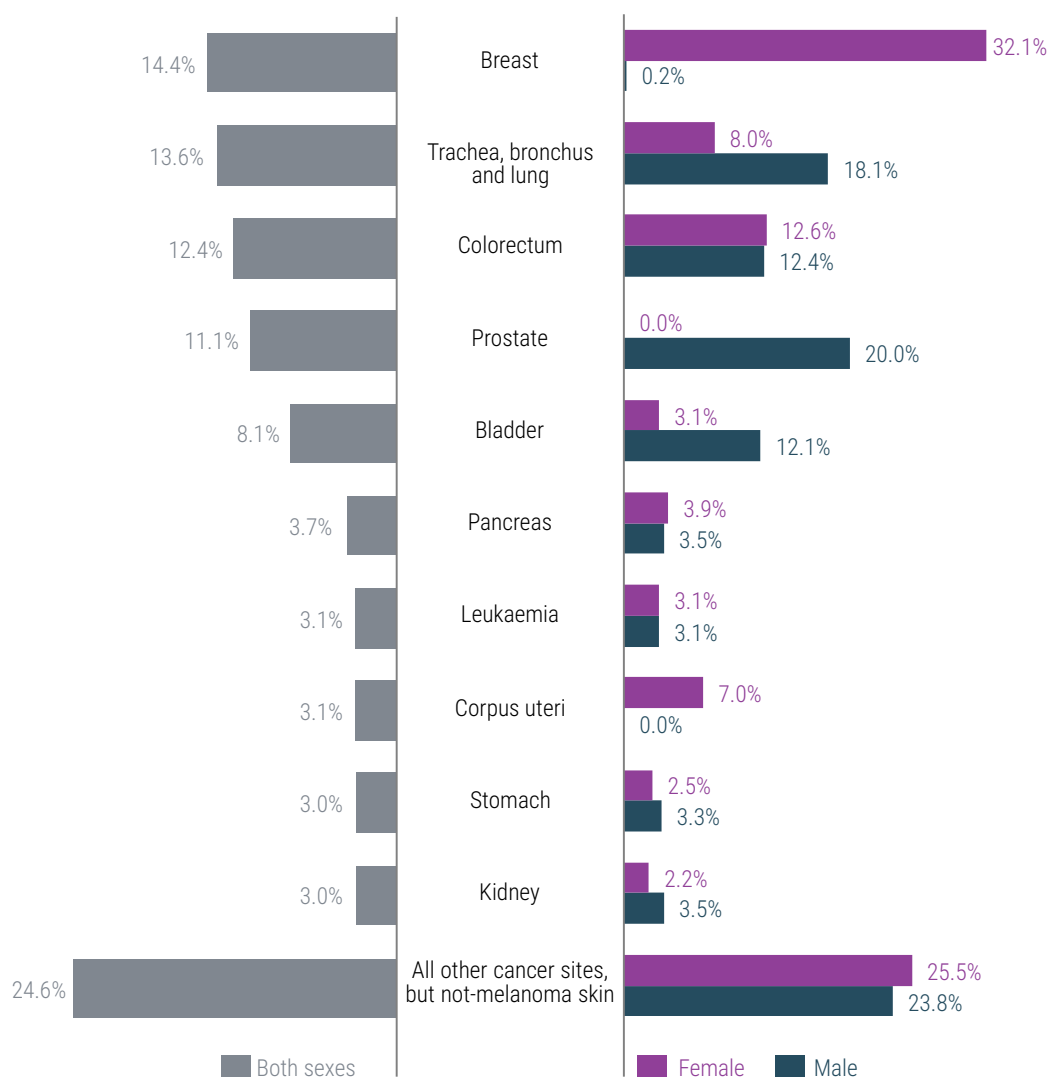


Source: IHME, 2021a.

The age-standardised incidence rate for all cancer sites in Greece is lower than the EU average. In specific, 526 cases per 100,000 population are diagnosed in Greece compared to the EU average of 569 cases per 100,000 population (OECD/European Observatory on Health Systems and Policies, 2023).

The distribution of cancer incidence in Greece (for both sexes, as well as by sex) is presented in Figure 7:

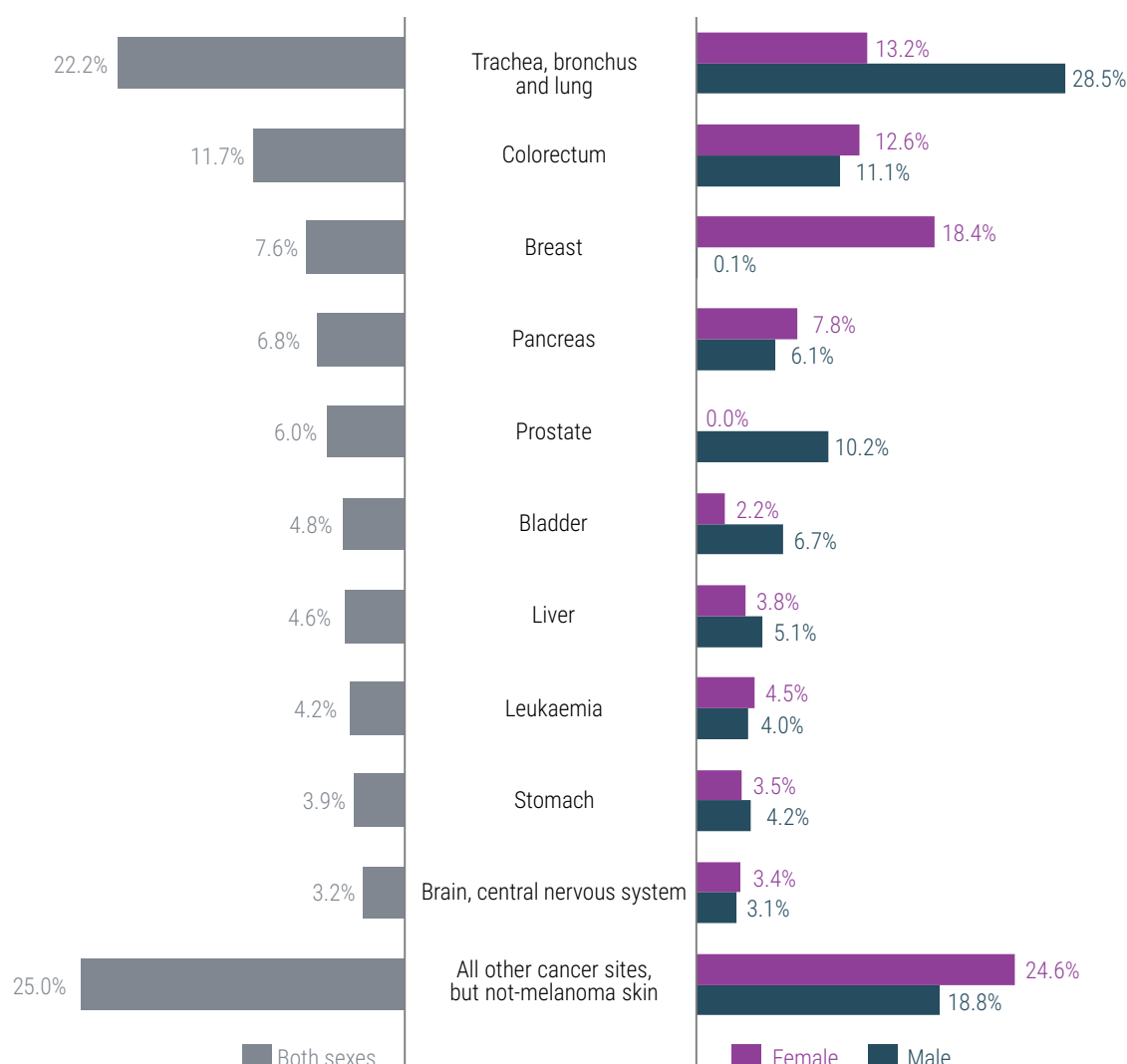
Figure 7: Estimated incidence by cancer – percentage distribution



Source: ECIS – European Cancer Information System, 2022.

The distribution of cancer mortality in Greece (for both sexes, as well as by sex) is presented in Figure 8. Pronounced gender differences in behaviourally related cancer mortality – such as trachea, bronchus and lung cancers between men and women (28.5% vs 13.2% respectively) – highlight significant disparities and underscore the need for targeted public health strategies and interventions.

Figure 8: Estimated mortality by cancer – percentage distribution



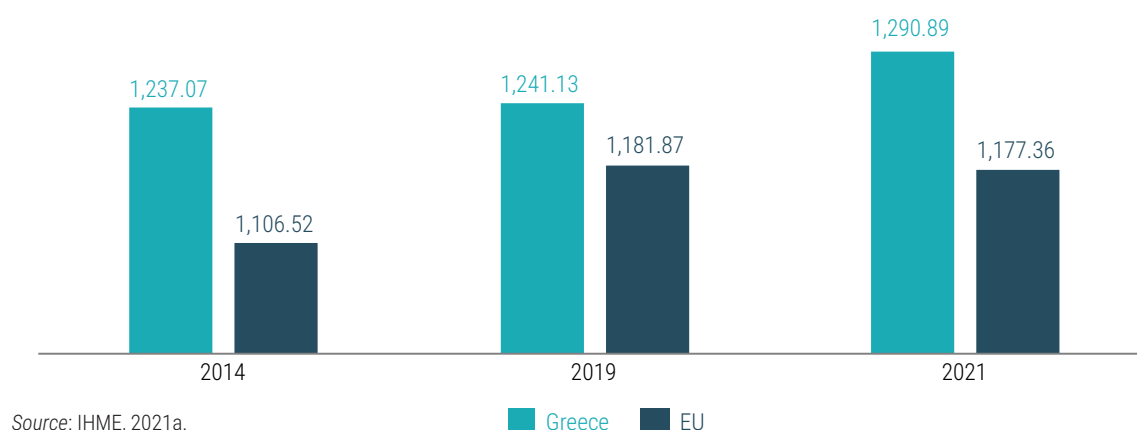
Source: ECIS – European Cancer Information System, 2022.

Until recently, the absence of a centralised, comprehensive cancer registry in the country limited the availability of consistent and detailed data on cancer stages at diagnosis across different types of cancer (OECD/European Observatory on Health Systems and Policies, 2023). This changed in 2025, when a nationwide cancer registry became operational following extensive collaboration among key stakeholders. This is an important development that should be leveraged to inform policy formulation aimed at improving access and outcomes. To this end, it is essential to implement policies ensuring data quality, data privacy, compliance in data entry, and effective data management and analysis, including the use of artificial intelligence. Furthermore, the development of a National Cancer Plan, aligned with Europe's Beating Cancer Plan, focusing on prevention, early detection and treatment of the disease is a crucial requirement.

Chronic Respiratory Disease (CRD)

Greece remains among the countries with the highest prevalence of smoking in the EU (Section 1.2). The burden of CRD is considerable, higher than the EU average, and has increased over the last decade (Figure 9). Although Greece does not routinely monitor hospital admissions for asthma and chronic obstructive pulmonary disease (COPD) in adults (OECD, 2023a), national data from 2017 (latest available) indicate that respiratory tract infections accounted for 9.1% of all hospital

Figure 9: Chronic Respiratory Disease burden of disease (DALYs per 100,000 population), 2014, 2019 & 2021



admissions (Hellenic Statistical Authority, 2023). Beyond smoking, environmental exposure and deteriorating air quality must also be addressed through a coherent set of policies aimed at reducing the future burden of disease and safeguarding the sustainability of service provision. Such policies should encompass data generation, mitigation of exposure to risk factors, and timely diagnosis of CRD (Dimitriou and Mihalopoulos, 2024).

Cardiovascular – Renal – Metabolic diseases

Cardiovascular, renal, and metabolic diseases often coexist due to shared pathophysiological mechanisms and risk factors, such as dysglycaemia, dyslipidaemia, hypertension, and obesity (Ostrominski et al., 2023). This interconnection underscores the need for interdisciplinary approaches in clinical practice, guideline development, research, and planning of public health strategies. In Greece, ischaemic heart disease and stroke are major contributors to the total burden of disease. While the EU has seen a decline in cardiovascular disease burden, Greece's rates have remained relatively stable over time (Figure 10), calling for immediate policy action to strengthen health system performance in this critical domain.

Chronic kidney disease (CKD), despite its rapidly growing disease burden, remains under-recognised and under-prioritised. Greece does not systematically record the CKD stage at diagnosis or routinely track kidney function variables in electronic patient records. Investigator-initiated data, such as the PRESTAT Study (a multicentre, epidemiological study focusing on CKD patients in Greece) demonstrated delayed referrals and high rates of self-referral among patients with CKD (Sombolos

Figure 10: Burden of cardiovascular diseases (DALYs per 100,000 population)

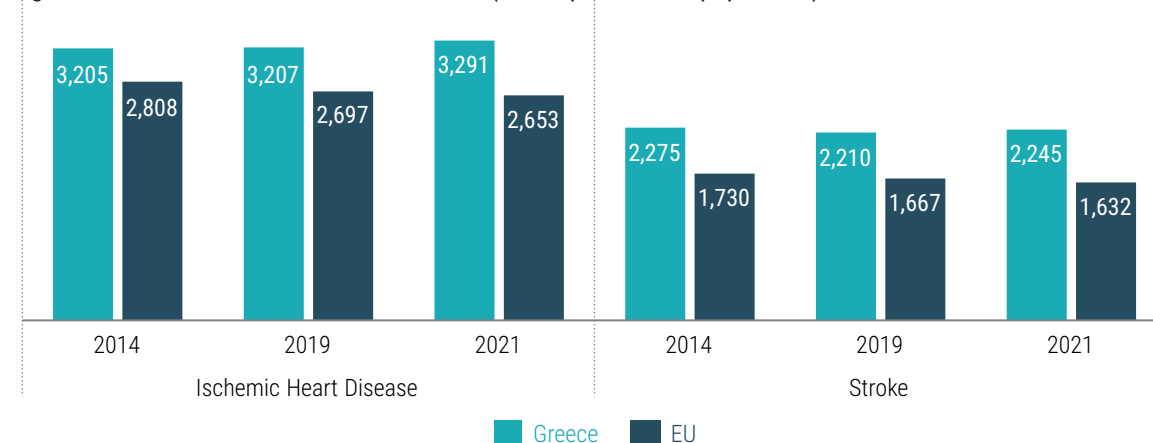
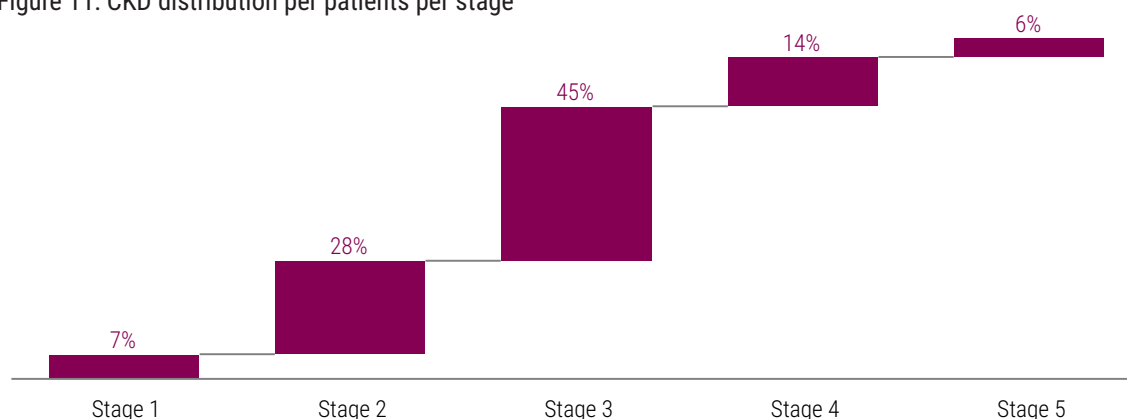


Figure 11: CKD distribution per patients per stage



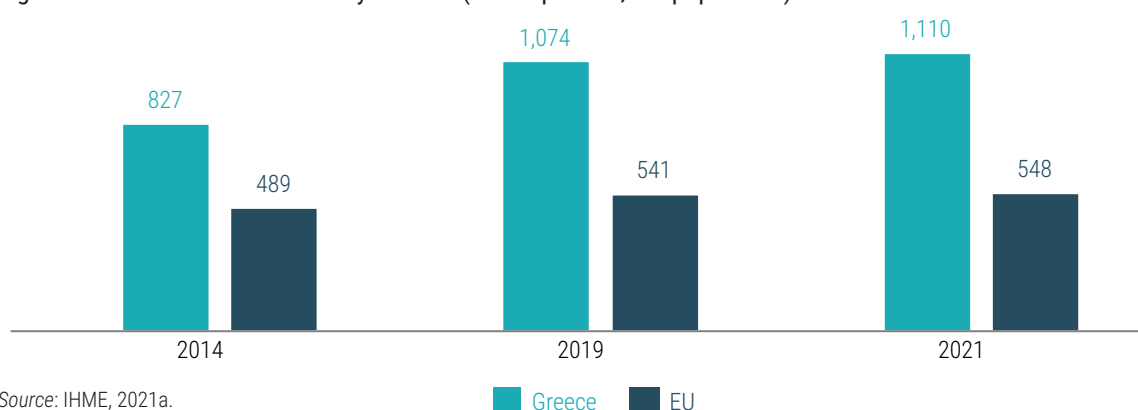
Notes: Average of the results of the four different estimating equations used in the PRESTAR study (CKD-Epi, MDRD, Cockcroft Gault, CG Normalised to Body Surface Area). CKD-Epi: Chronic Kidney Disease Epidemiology Collaboration; MDRD: Modification of Diet in Renal Disease; CG: Cockcroft Gault; CGBSA: CG normalised to Body Surface Area.

Source: Sombolos et al., 2014.

et al., 2014). The distribution of patients per stage is presented in Figure 11. Approximately 44% of all patients were classified as having CKD Stage 3, regardless of the estimating equation applied. In contrast, the CG and CGBSA equations resulted in higher prevalence estimates for CKD Stages 1–2 within the study population (Sombolos et al., 2014).

The incidence of kidney replacement therapy (dialysis and transplantation) in Greece is estimated at 251 cases per million population, while prevalence reaches 1,284 cases per million population (Thurlow et al., 2021). Dialysis incidence per million age-related population has demonstrated a steady increase across age groups since the early 2000s, particularly among those aged over 75 years, where incidence rates increased from 538 per million in 2001 to 982 per million in 2019 (Stel et al., 2025). In addition, Greece reports one of the lowest kidney transplant rates in Europe – 17 kidney transplants per million compared to an EU average of 37 per million, according to European Renal Association (ERA) Registry data (Stel et al., 2024). However, according to recent data from the National Transplant Organization there are positive developments in this field, with Greece recording a steadily increasing kidney transplantations over the last years (National Transplant Organisation, n.d.). Notably, CKD is the main cause of organ failure requiring transplantation. Greece has one of the highest incidences of end-stage renal disease (ESRD) among high-income countries, with rates nearly double the EU average. This is largely attributable to high rates of smoking, obesity, and poor cardiovascular health. The combination of an ageing population and inadequate control of modifiable risk factors amplifies the burden of CKD and calls for comprehensive policy action (Johnston-Webber et al., 2023).

Figure 12: Burden of chronic kidney disease (DALYs per 100,000 population)



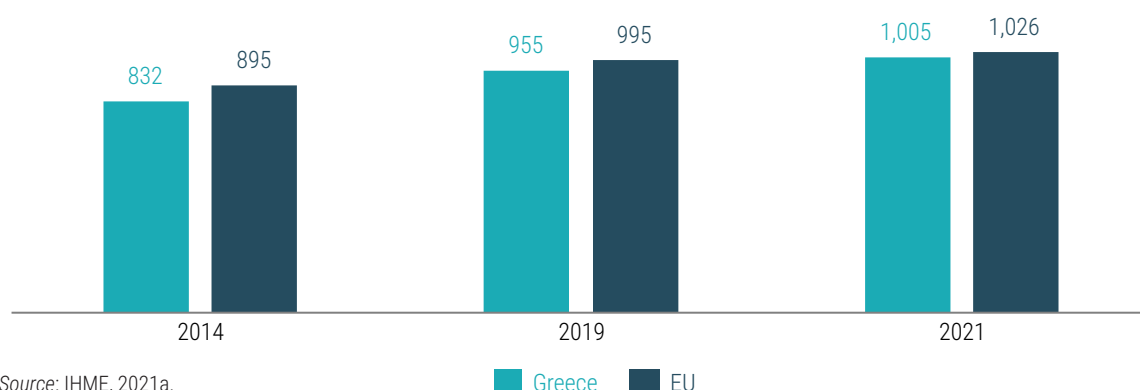
Source: IHME, 2021a.

Similarly to CKD, heart failure (HF), a condition that imposes a significant burden on both individuals and healthcare systems, remains under-recognised and under-prioritised. Greece currently lacks formal policy initiatives or a national strategy to address this challenge (The Heart Failure Policy Network, 2020). Recent data reveal an incidence of HF of 4.0 per 1,000 person-years and a prevalence of 10.0 per 1,000 individuals in Greece, compared with European medians 3.2 per 1,000 person-years and 17.20 per 1,000 people, respectively (Seferović et al., 2021).

The age-standardised prevalence of hypertension among adults aged 30-79 years in Greece decreased modestly from 32.7% in 2014 to 31.3% in 2019, while the EU average fell from 38.4% in 2014 to 36.9% in 2019 (Global Health Observatory, 2021). Additionally, age-standardised stroke mortality decreased from 117.4 deaths in 2011 to 78 deaths per 100,000 population in 2021. However, this remains above the OECD average of 61 deaths per 100,000 population (OECD, 2023a).

The age-standardised prevalence of diabetes (Type 1 and 2) has increased from 5.1% in 2011 to 6.4% in 2021 – below the OECD average of 7.0% for that year (OECD, 2023a). More recent estimates suggest considerably higher rates, when undiagnosed cases are included. Rising trends in obesity, escalating treatment costs, and challenges in achieving glycemic control – leading to costly complications – underscore diabetes as a major and growing public health issue that requires urgent national attention.

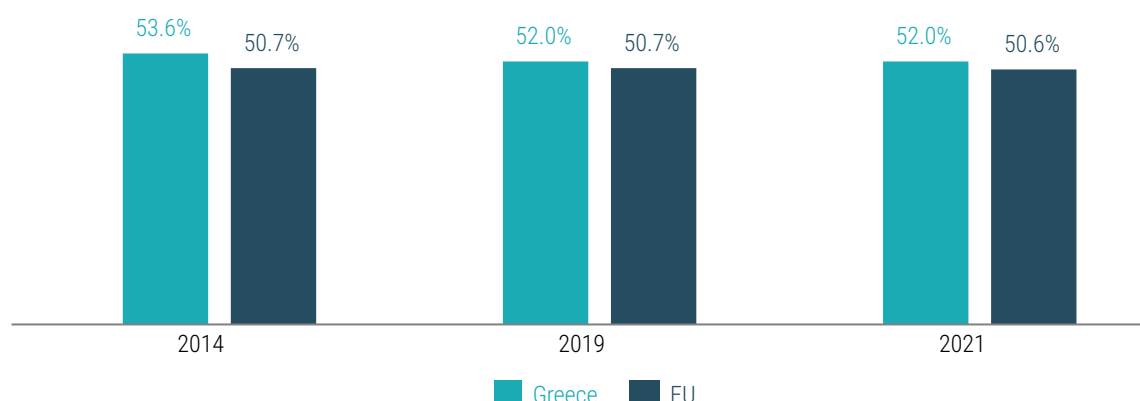
Figure 13: Burden of diabetes (DALYs per 100,000 population)



Oral diseases

Oral and dental health is an area where Greece reports the highest unmet needs among EU countries (27.1% vs 6.3%), especially for people at risk of poverty (Eurostat, 2025c). The age-standardised prevalence rate of oral disorders in Greece is similar to the EU average and showed a slight decrease between 2014 and 2021 (Figure 14). An important concern is that dental services in Greece are mostly uninsured – resulting in high unmet needs. According to the annual household budget surveys, expenditure on dental services accounted for 29.4% of household health spending in 2009, and this reduced to 11.1% in 2023 (Foundation for Economic & Industrial Research, 2025). Whether this is a result of market changes (e.g., prices), reduction in need, or barriers in access is something that remains largely undiscussed. To improve access to dental services, the Ministry of Health (MoH) has commenced a subsidy programme for dentist visits, described in Subdomain 1.4.

Figure 14: Age-standardised prevalence of oral diseases

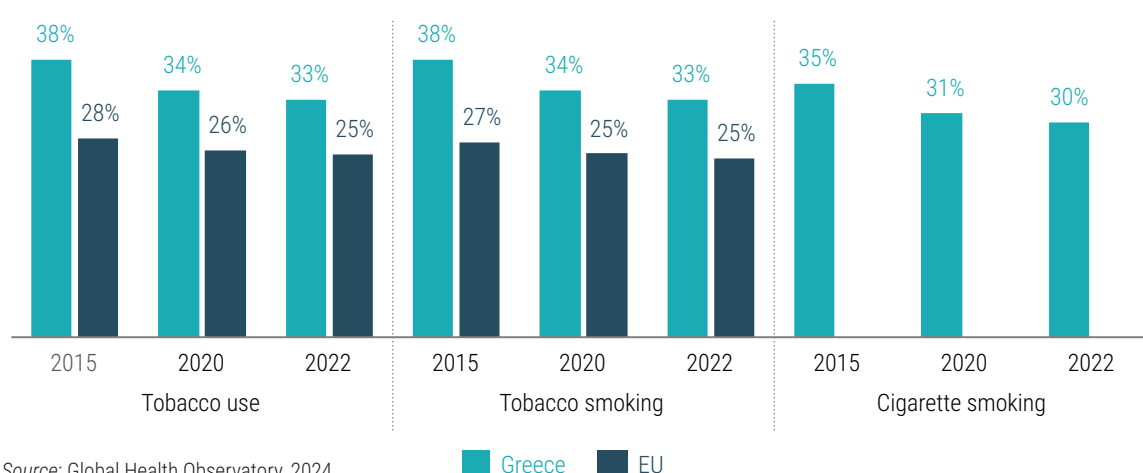


Source: IHME, 2021a.

Subdomain 1.2: Behavioural risk factors

Historically, smoking has been the risk factor with the highest contribution (almost 10% of total) to the country's disease burden (IHME, 2021b). This stems from a high prevalence of smokers. Although Greece's smoking rate has declined over the years from 38.4% in 2015 to 32.8% in 2022, it remains among the highest in the EU, especially in women (Figure 15).

Figure 15: Age-standardised estimates (%) of current tobacco use, tobacco smoking and cigarette smoking

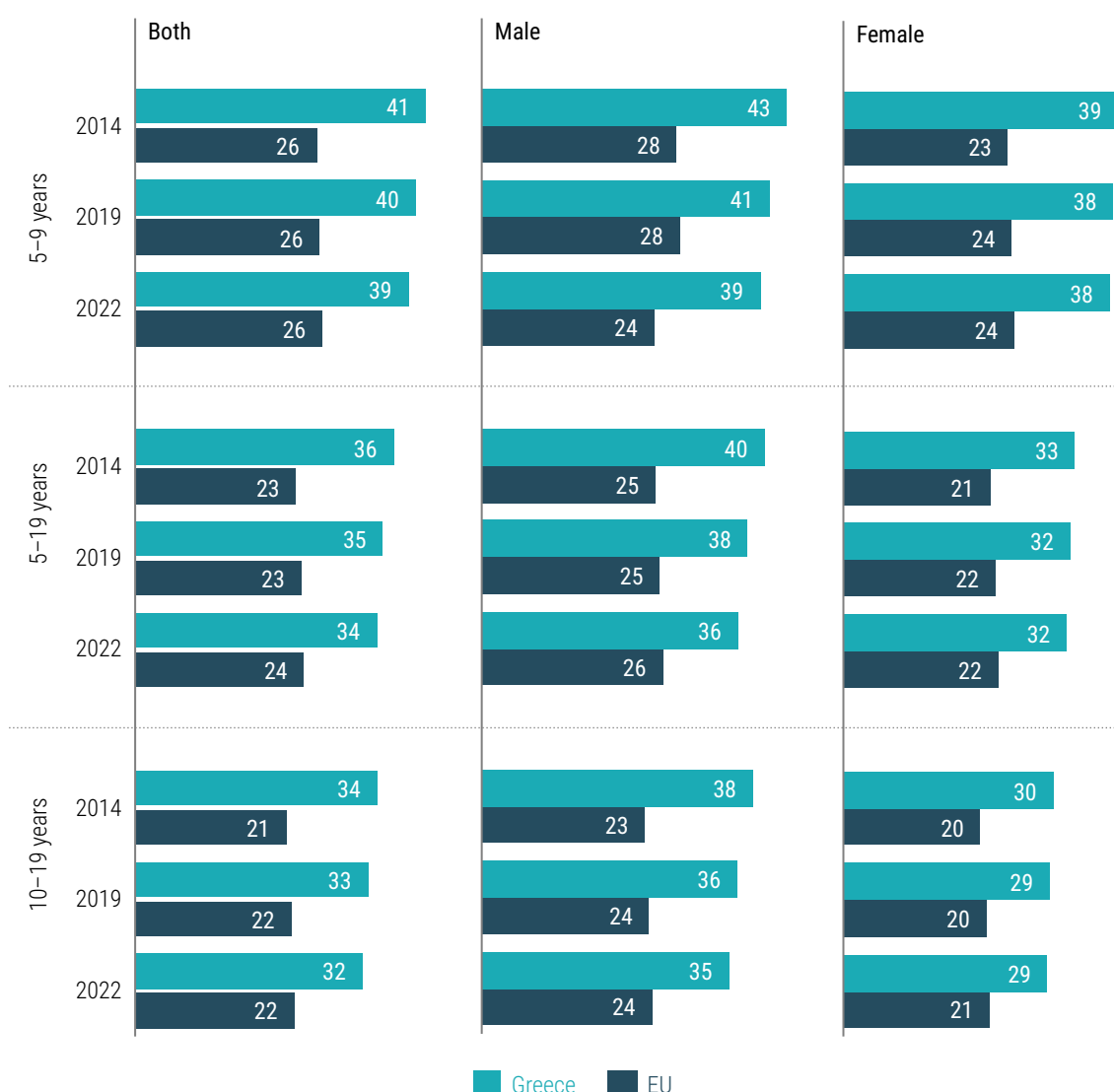


Source: Global Health Observatory, 2024.

The high burden of overweight and obesity, particularly among children and adolescents, represents a major public health issue. These rates are attributable to factors such as dietary habits, physical inactivity and sedentary behaviours (Georgakopoulos, 2022). The mean BMI (kg/m²) (age-standardised estimate) in Greece for both sexes in 2016 was 27.1 (27.5 for men and 26.7 for women) (Koroneou, 2022). The prevalence of overweight among adults (BMI $\geq$ 25, age-standardised estimate) in Greece increased from 59.8% in 2014 to 60.8% in 2019 and 61.4% in 2022 (Global Health Observatory, 2022a).

The prevalence of overweight among children and adolescents has decreased since 2014 (Figure 16). However, despite this reduction, it remains a major public health issue for the country and a significant threat to the sustainability of the system that requires urgent attention. Addressing this multifactorial issue requires a diverse set of policies that must align multiple stakeholders (including Ministries of Health, Education, Agriculture and Food, schools, families, private sector, civil society and academia) (Kyriopoulos et al., 2025).

Figure 16: Prevalence of overweight among children and adolescents (%), (both sexes, male, female)



Note: Overweight defined as BMI > +1 standard deviations above the median (crude estimate)

Source: Global Health Observatory, 2022b.

The percentage of overweight among children and adolescents aged 5–19 years old in Greece in 2022 was among the highest in the EU (34% in total, 36.1% for boys and 31.7% for girls), well above the EU average of 23.8% in total (25.5% for boys and 22% for girls). According to recent data, overweight and obesity affects children and adolescents (aged 11, 13 and 15 years) from all segments of the Greek society, regardless of financial situation. Specifically, 29% of children from the least affluent families (bottom quintile of socioeconomic status) in Greece are overweight or obese, a proportion consistent with the EU average. Accordingly, 27% of children from the most affluent families (top quintile of socioeconomic status) are overweight or obese, a rate substantially higher than the EU average of 18% (OECD/European Commission, 2024).

The mean non-HDL cholesterol (age-standardised) in Greece remained stable from 2014 to 2018 (3.3 mmol l⁻¹), while the EU average for the same period declined from 3.5 to 3.4 mmol l⁻¹ (Global Health Observatory, 2021b). The mean HDL cholesterol (age-standardised) also remained stable from 2014 to 2018 (1.4 mmol l⁻¹), equivalent to the EU average (Global Health Observatory, 2021c).

Total per capita alcohol consumption – measured in litres of pure alcohol per person aged 15 or older – decreased from 7.9 litres in 2014 to 7.0 litres in 2020 in Greece, whilst the EU average declined from 9.8 litres in 2014 to 9.1 in 2020 (Global Health Observatory, 2022c). The decline in alcohol consumption may be linked to the increase of the excise duty rate, as well as to the reduced purchasing power during the Greek economic recession (Danchev et al., 2018).

Subdomain 1.3: Environmental impact on NCDs

Greece is among the countries most susceptible to climate-related phenomena, particularly heatwaves and, to a lesser extent, cold spells. Heat-related mortality has increased significantly across Europe, with Greece experiencing some of the highest rates due to prolonged and intense heat waves (Masselot et al., 2023). A recent study estimated over 61,000 heat-related deaths in Europe during the summer of 2022, with Greece among the worst affected per capita (Ballester et al., 2023). This vulnerability is also compounded by energy poverty, a complex condition defined by a household's inability to access or afford adequate energy for heating, cooling and basic needs. Greece records one of the highest rates of energy poverty among the EU countries (Koukoulis et al., 2024).

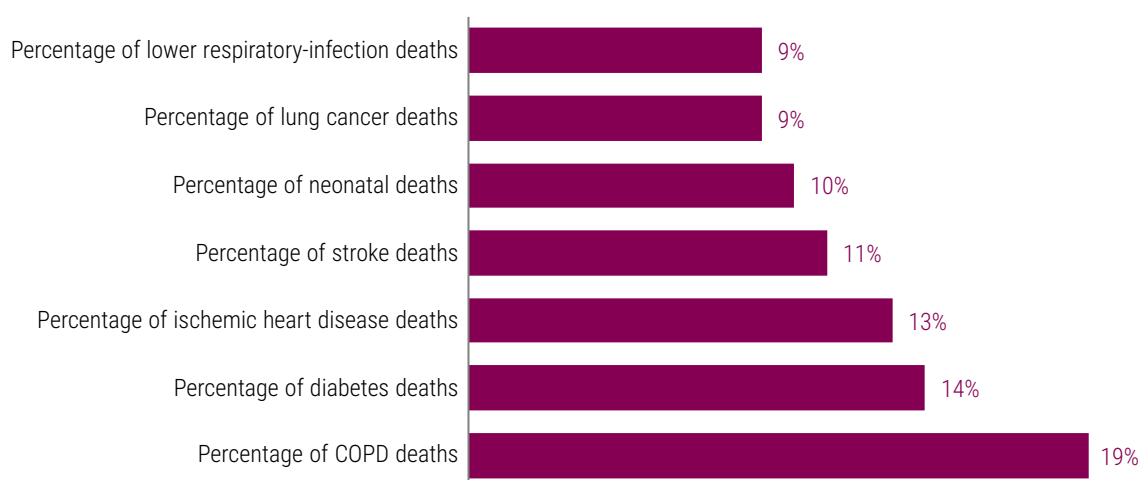
Air pollution also remains a major public health concern. Greece reports average PM_{2.5} levels of 15 µg/m³ – three times higher than the WHO guideline of 5 µg/m³ – contributing substantially to NCDs. Figures on deaths attributable to air pollution vary across sources, reflecting differences in methodology and reference years, but consistently point to a substantial contribution to mortality.

Overall, air pollution accounted for approximately 6% of all deaths in Greece in 2021, lower than the global estimate of 12% (Health Effects Institute and IHME, 2024a, 2024b). Although the age-standardised deaths attributable to air pollution fell from 85.7 per 100,000 population in 2014 to 78.4 in 2021 (Health Effects Institute and IHME, 2024a), the rate remains significantly higher than the EU average of 47.8 per 100,000.

While the WHO estimates that 16% of stroke and ischaemic heart disease deaths stem from air pollution (WHO, 2023a), the Health Effects Institute, reporting its share of all-cause mortality, puts the figures at 11% for stroke and 13% for ischaemic heart disease (Health Effects Institute, 2025) (Figure 17).

Figure 17: Percentage of deaths (by cause) due to air pollution in Greece, 2023

Source: Health Effects Institute, 2025.



The daily (or hourly) concentrations of PM_{2.5}, PM₁₀, SO₂, NO₂ and O₃ are systematically monitored at a representative sample of stations across Greece maintained by the Greek Ministry of Environment and Energy. Major urban areas like Athens and Thessaloniki have denser monitoring networks to track pollution. The European Environment Agency (EEA) also includes data from Greece in its Air Quality Index and reports (European Environment Agency, 2023). Changes in particle concentrations are used to issue public health alerts or advice when thresholds are exceeded. The MoH also issues guidance to protect vulnerable groups during periods of elevated air pollution.

Over the last three decades, mean temperature in Greece has increased by approximately 1.5°C (Lagouvardos et al., 2024). Between 1990–1999 and 2014–2023, annual heat-related deaths among adults aged 65 and over increased by 138.5%. Without temperature increases, the expected increase of annual heat-related deaths of this age group would have been 58.5% (Lancet Countdown, 2023). In the worst-case climate scenario, projections suggest that heat-related mortality, expressed as excess death rates, could increase by 64.2 per 100,000 inhabitants for the period 2050–2054 – nearly double the projected EU average of 36.7 (Masselot et al., 2025). By 2095–2099, this figure is expected to escalate to 175.4, compared to an EU average of 84.3 (Masselot et al., 2025).

Subdomain 1.4: Primary prevention

From a macro perspective, the Greek healthcare system is predominantly reactive, focusing on treating disease rather than on reducing exposure to health risks and promoting healthy living across all ages (Athanasakis et al., 2022; Kyriopoulos et al., 2025). This is evident when comparing the breakdown of total health expenditure by type of service: Greece spends 42% of its health resources on inpatient care and 29% on pharmaceuticals, compared to an EU average of 28% and 19%, respectively. It should be noted that these proportional allocations reflect a total health expenditure that is substantially below the EU average in both GDP share and per capita terms; the underdevelopment of prevention, primary care, long-term care and community services is a key driver of these compositional imbalances, rather than pharmaceutical expenditure being elevated in absolute terms.

After a long period of underinvestment, spending on prevention (as share of total health expenditure) increased during the COVID-19 pandemic in Greece, from 1.3% in 2019 to 4.5% in 2022; subsequently, in 2023, this trend waned, as the share of prevention decreased to 3.1% of total health expenditure, although it remains higher than the pre-pandemic levels (OECD Data Explorer, n.d.; OECD/European Commission, 2024). There has been a recent change of perspective, partially attributable to the introduction of Law 4675/2020, which aims to place disease prevention, health protection, and health promotion at the centre of national health policy. This legislation established the Spyros Doxiadis Programme, designed to deliver public health initiatives across the spectrum of primary, secondary and tertiary prevention. The Ministry of Health oversees its implementation, providing services free of charge to the public. The Programme includes specific national initiatives targeting defined population groups and risk factors. According to its provisions and focusing on prevention, the Programme includes the following actions (Ministry of Health, 2021):

National Programme for the Promotion of Physical Exercise and Healthy Eating

To ensure successful implementation, this programme includes distinct national actions. The first, titled “*National Action Against Childhood Obesity*” is currently implemented by the MoH in collaboration with UNICEF under the National Recovery and Resilience Plan Greece 2.0 – NextGenerationEU (Ministry of Health and Unicef, 2023), funded by the EU. In parallel, the MoH, UNICEF and Harokopio University recently inaugurated the European Centre to Address Child Obesity (Unicef, 2024a). The programme promotes healthy eating and physical activity for children and adolescents aged 0–17 years. It provides free services such as nutritional tele-counseling, clinical assessments, school-based education programmes, and access to sports activities. Its goal is to reduce the prevalence of obesity in children aged 2–14 years from 37.5%

to 24.5% by 2030. A formal evaluation of intermediate outcomes of this action has not yet been published.

The second National Programme, developed by the MoH in collaboration with the University of West Attica, focuses on tackling adult obesity (Ministry of Health, 2023a). It adopts an integrated approach across primary, secondary and tertiary prevention, offering free clinical assessment, dietary counselling, behavioural change support, and, for complex cases, combined therapy (nutrition, behavioural interventions, and medication). The programme also includes a 60-hour certified training course for health professionals on obesity management and collaborative long-term patient follow-up.

Additionally, the MoH has also developed and gradually implemented awareness and health promotion campaigns targeting students nationwide. These initiatives cover thematic areas such as sexual and reproductive health, blood donation, oral health, prevention of tobacco use, promotion of child and adolescents' mental health, accident prevention, environmental health and nutrition education (Ministry of Health, 2023b).

National Action Plan on Alcohol

The National Action Plan on Alcohol 2019-2023 was developed by the MoH in 2019, in an effort to update the legal framework on alcohol availability and misuse, expand counselling services, and raise public awareness on the consequences of alcohol abuse. Initial progress was limited, likely due to competing public health priorities and the relatively lower exposure to alcohol compared with other behavioural health risk factors. In July 2025, new legislation, titled "Protection of minors from tobacco and alcohol products", strengthened controls on minors' access to these substances. The law introduced stricter penalties for violations, mandates age verification by sellers, and extended oversight to include new and non-smoking nicotine products. It also established a digital registry for tracking sales of tobacco, alcohol, and related products and enhanced regulatory mechanisms for market supervision.

National Vaccination Programme

The National Vaccination Programme covers children, adolescents and adults, and is designed by the National Vaccination Committee under the MoH. Greece has integrated Human Papillomavirus (HPV) vaccination into its National Vaccination Programme for children and adolescents to prevent cervical cancer. However, HPV vaccination coverage remains suboptimal, with only 35% of girls aged 11–18 years old fully vaccinated in 2019 (Naoum et al., 2022). Additionally, according to prescription data from IDIKA in the period 2019-2021, vaccination rates are estimated at 43.8% for 11–14-year-old girls and at 55.4% for 11–18-year-old girls (Palmer et al., 2025). Contributing factors include limited knowledge, misinformation about HPV risks and vaccine safety, inconsistent public messaging and policy, cultural and trust barriers, and low awareness, especially in the case of boys.

For adults, influenza vaccination rates for those aged over 65 years follows a mixed trend. In particular, it increased from 48.9% in 2014 to 73.5% in 2020, before declining to 64.7% in 2023 (OECD, 2024). This drop likely reflects pandemic fatigue, reduced perceived risk, and declining trust or misinformation (Logaras, 2024).

Additional interventions, which are also included in the domain of primary prevention, focus on:

Prevention of psychosocial problems in children

The MoH and UNICEF also launched the National Programme "*Promotion of family and child health*", focusing on mental health of children and adolescents. It consists of three pillars and will implement actions targeting three age-based groups, covering from childhood to post-adolescence (Unicef, 2024b):

Pillar 1 concentrates on Family and Child Health promotion through the Paediatric Framework.

Pillar 2 focuses on the promotion of menstrual health of Adolescent Girls through period destigmatisation.

Pillar 3 aims to promote adolescent and youth mental health (17 – 24 years old) addressing self-aggressive and hetero-aggressive behaviour and violence.

Prevention of dental conditions

Under the National Public Health Prevention Programme "Spyros Doxiadis" and funded by the RRF, the Dentist Pass provides free preventive dental care to children aged 6 to 12 years. This initiative seeks to instil good oral hygiene habits early in life, by providing vouchers for preventive and therapeutic oral health services. The aim is to improve children's dental health by reducing financial and access barriers. While no formal assessment of the programme is publicly available, the Greek Federation of Dentists reports that about 30% of eligible children used the provisions of the programme.

Health literacy /patient education programmes

Healthflix and the Health Consultant (Σύμβουλος Υγείας) are also primary prevention initiatives currently under development by the MoH. Both digital tools aim to enhance health literacy and empower citizens to make informed decisions.

In Greece, measures to reduce smoking have historically emphasised reactive rather than preventive policies. In October 2019, the government introduced a more comprehensive anti-smoking law as part of a new tobacco control action plan, accompanied by enforcement measures and penalties. However, following successive COVID-19 lockdowns, monitoring of smoking in public spaces became less stringent. Greece – in compliance with EU directives – also applies special excise taxes on tobacco products and alcoholic beverages to discourage consumption, increase revenue generation and reduce the disease burden linked with harmful use (Tsouma et al., 2020). Recent estimates suggest that implementing a 20% health tax on the average retail price of cigarettes is projected to reduce consumption by approximately 62.7 million packs annually, while generating an additional €371.6 million in fiscal revenue per year (Panagiotopoulos et al., 2024). Similarly, applying a 20% tax on sugar-sweetened beverages is expected to decrease of 133.3 million litres in consumption, accompanied by an increase in annual government revenue of €199.4 million. Moreover, Greece has enforced bans on tobacco advertising, aligned with the EU regulatory framework, primarily aimed at protecting public health by reducing tobacco consumption (Ministry of Health, 2018).

Domain 1: Key findings, summary indicators and recommendations

KEY FINDINGS

- Following the COVID-19 pandemic, life expectancy in Greece rebounded, but long-term gains remain slower than the EU average.
- Low healthy-life expectancy at age 65, combined with a declining demographic profile, presents an important threat for the sustainability and resilience of both the health system and the wider economy.
- Despite low levels of self-reported illness among adults, multimorbidity for those aged over 65 years is high and growing – among the highest in the EU.
- The burden of disease for several key conditions is increasing and is often higher than the EU average. This is particularly relevant for chronic respiratory diseases, certain cancers (lung, breast, prostate), cardiovascular diseases (IHD, stroke), and chronic kidney disease.

- Smoking rate remains among the highest in the EU. This is gradually being supplanted by high rates of overweight and obesity, especially among children and adolescents, which is also linked to socioeconomic inequality.
- Greece is disproportionately vulnerable to climate change, experiencing some of the highest per capita heat-related mortality in Europe
- The health system remains reactive, structurally oriented towards treatment rather than prevention. A paradigm shift toward proactive, prevention-focused policies is essential for its future sustainability
- Inequalities in access and outcomes are not routinely collected and measured, while prevention initiatives do not adequately consider the social determinants of health.
- The development and operationalisation of national registries are crucial for public health surveillance, improving evidence-based decision-making, and ensuring the efficient allocation of resources. Ensuring data standardisation, integration, and interoperability of data is essential to advancing these efforts.
- The introduction of the Spyros Doxiadis Programme, with tailored initiatives targeting specific population groups and risk factors, is a significant step forward. However, its effectiveness and sustainability depend on stable financing mechanisms and the establishment of robust evaluation processes.

SUMMARY INDICATORS

- Healthy Life Years at 65 (i.e., not just living longer but living in good health): this indicator encompasses the performance of the system in reducing exposure to risk factors, addressing multimorbidity and improving quality of life.
- Prevalence of overweight and obesity among children and adolescents: given the extent of this public health issue in Greece, it is crucial to monitor progress towards a strong predictor of future NCD burden.
- Age-standardised mortality rate from NCDs: a key health system performance indicator, which can foster comparisons between Greece and its EU peers while also highlighting time trends in population health outcomes.
- Heat-attributable mortality: given the changes in environmental factors and the high exposure of Greece to heatwaves, this indicator is an essential marker of the system's adaptation to the impact of climate change.
- A set of Key Performance Indicators regarding the implementation of the Spyros Doxiadis Programme based on international best practices; Greece is undertaking a major effort to implement a set of prevention policies. To assess the effectiveness of these policies and adjust accordingly, a set of closely monitored and regularly reported performance indicators is essential.

INDICATORS LACKING DATA

- National prevalence of multimorbidity by population groups, disaggregated by age, sex, and socioeconomic status
- Routine measurement of inequalities in access to health services and in health outcomes
- Stage at diagnosis, especially for diseases such as cancer and CKD
- Uptake and outcome data for primary prevention programmes
- Patient-reported experience and outcome measures for chronic conditions

RECOMMENDATIONS

1. Integrate health promotion activities in schools, focusing on healthy nutrition, regular physical activity, and the removal of unhealthy products from school canteens. These initiatives should target both students and their parents or legal guardians.
2. Strengthen public health policy instruments through the introduction of behavioural change strategies and communication campaigns designed to facilitate healthier choices across risk factors. These measures should be tailored to specific population groups with higher exposure to such factors or vulnerability.
3. Introduce a systematic, country-level measurement of health inequalities, in both access and outcomes, across multiple dimensions, including geography, income, occupation, and education.
4. Promote health literacy and a culture of self-care, starting from early education and continuing throughout the life course.
5. Improve the coordination between health services and social care services to identify and support individuals with NCDs who face risk of social isolation.

DOMAIN 2

Governance



Subdomain 2.1: Institutions

Greece has historically lacked a set of coherent policy initiatives for the prevention and management of NCDs. As a result, disease prevention has not been prioritised, with successive plans focusing on disease treatment rather than on health promotion and protection. Although several evidence-based action plans for NCDs have been launched since mid-2000s, their implementation has been limited, primarily because they lacked legally binding provisions, clear accountability mechanisms, and measurable performance indicators. Responsibilities and services remain fragmented, despite repeated efforts to consolidate them.

Currently, NCD prevention and management operate under multiple administrative domains, including the Ministry of Health (MoH) and the National Public Health Organisation (EODY), which is responsible for promoting health, preventing chronic diseases and reducing the burden of NCDs (Government Gazette Issue, 2019a). To improve coordination and consolidate actions, the General Secretariat for Coordination of the Government Presidency, part of the Prime Minister's Cabinet, has been tasked, since 2019, to ensure coordination and coherence across government actions (Presidency of the Government, 2020), including those related to education, health and labour.

The General Secretariat of Public Health, operating within the Ministry of Health, serves as the main authority responsible for developing, implementing, monitoring and evaluating national health policies aimed at the prevention, control, and management of NCDs, as well as the broader public health strategy (Government Gazette Issue, 2020). The General Secretariat is supported by the Public Health Expert Committee, a multidisciplinary team consisting of 21 members, 11 of which are scientists with expertise in epidemiology, demographics, infectious diseases, chronic diseases, environmental health, health economics, bioethics, etc. and 10 representatives from organisations such as the Greek Patients' Association, the National Medicines Association, the National Organisation for Provision of Health Services (EOPYY), EODY, etc. This committee, among others, recommends the national action plan for public health, sets objectives, priorities and intervention strategies, identifies measurable targets at central and regional levels, and proposes evaluation plans for the quality, effectiveness and efficiency of public health services.

Furthermore, the General Secretariat of Health Services and the Independent Department of Therapeutic Protocols and Patient Registries, both operating within the Ministry of Health, are responsible for developing diagnostic and therapeutic protocols for various health conditions, including pulmonary hypertension, dyslipidaemia, cardiovascular diseases (arterial hypertension, arrhythmias, coronary disease, atrial fibrillation, heart failure), neoplasms, diabetes mellitus, obesity and respiratory diseases (asthma, COPD) (Ministry of Health, 2025a). Protocols are developed by ad-hoc teams that primarily rely on available epidemiological and clinical evidence. Costs and cost-effectiveness are not formally incorporated, and the protocols do not follow a Health Technology Assessment (HTA) process, as in other EU countries. This gap is likely due to the absence of clear guidelines and criteria of assessment, as well as constraints in capacity.

Equity and the mitigation of health inequalities linked to socioeconomic determinants – such as poverty, unemployment, age, disability, gender, and ethnicity – are among the main stated guiding principles of public health policy (Ministry of Health, 2021). However, it remains unclear how these dimensions are operationalised in practice. There is limited evidence on whether such dimensions are systematically considered in policy design, implementation, and evaluation, or whether they are used to adjust interventions to improve access and outcomes for vulnerable population groups. Establishing a formal process to incorporate equity considerations into policy formulation and evaluation is imperative for ensuring accountability, fairness, and effectiveness. This would enable public health initiatives to move beyond rhetoric commitments to equity and embed mechanisms that identify vulnerable groups, monitor disparities, and guide targeted interventions.

The current legislation has explicit provisions about the responsibilities of the relevant authorities. Nevertheless, governance is not systematically characterised by a clear strategic vision with stated

and measurable targets. Resource allocation is largely transparent in terms of where funds are directed. However, the *rationale* of the allocation is not always clear or supported by specific evidence or methodological approaches (i.e., economic evaluation studies), while clear metrics are needed to guide accountability and responsibility. Moreover, the coordination of actions and policies does not follow a standardised process, and parallel systems are expected to collaborate without clear moderation, leading to persistent poor coordination between competent authorities.

Subdomain 2.2: Expertise and inclusivity

Dedicated working groups composed of subject-matter experts are engaged in the development of diagnostic and therapeutic protocols for NCDs. The selection of the members for these groups does not follow a standardised process but is rather conducted on an ad-hoc basis. Nevertheless, certain scientific associations are typically involved in the process. For example, the Hellenic Society of Medical Oncology has contributed to the therapeutic protocols on oncology, while the Hellenic Thoracic Society contributed to the production of the protocols for respiratory diseases. Overall, the involvement of scientific groups in the formation of health policy for prevention is present and promising, but it is not characterised by a systematic process of structured consultation and integration of their input.

Since 2022, patient advocacy groups have been recognised as potential interlocutors of the state on issues concerning the provision of healthcare services (Government Gazette Issue, 2022a). Patient representatives can participate in state bodies that are responsible for decision-making concerning: (a) development of health policies and evaluation of practices, (b) governance of relevant bodies (both public and private), and (c) patient rights. However, the practical framework for their participation and contribution remains unclear, as no established process is yet in place to delineate the nature and scope of their anticipated input or elicit it in a structured manner.

Subdomain 2.3: Data for policy formation

The main source of population health data is the National Health Survey, conducted on a five-year basis by the Hellenic Statistical Authority (Hellenic Statistical Authority, 2025a), in alignment with the methodological standards set by Eurostat. The survey covers a wide range of health-related domains, including health status, healthcare utilisation, and health determinants such as physical activity, diet, smoking and alcohol use. The most recent survey was conducted in 2019, while the next is expected in 2025.

Another useful source for health data is the “Health & Welfare” survey, which has been conducted at several timepoints since 2001 and collects data on various health-related domains including health status, risk factors, NCDs, preventive behaviours, among others. (Charonis et al., 2017; Kyriopoulos et al., 2018, 2014; Nomikos et al., 2022; Zavras et al., 2016). Additionally, the Institute of Social and Preventive Medicine routinely conducts a nationwide household survey titled “Hellas Health”, covering a variety of health determinants, such as dietary habits, smoking, obesity, measurement of cholesterol, blood sugar, and blood pressure.

Although several surveys provide valuable insights into population health, their methodological differences limit comparability across datasets and over time. Enhancing the integration, standardisation, and equity focus of health data collection would be crucial to inform evidence-based policymaking and strengthen population health monitoring.

Subdomain 2.4: Strategy and targets

With respect to developments in Greek health policy over recent decades, public health has been a second-tier issue in policy debates, which have tended to focus more heavily on hospitals and health technologies. Although the COVID-19 pandemic elevated public health on the policy agenda, Greece has so far not been able to capitalise on this momentum to build a more prevention-oriented system.

In recent years, several public health initiatives have been implemented, covering mainly secondary prevention and risk factor exposure reduction (Table 1). The most recent National Action Plan for Public Health 2021–2025 identifies the early diagnosis and management of NCDs – particularly cardiovascular diseases and cancers – as key priorities. It also outlines actions to reduce smoking and alcohol-related harm, and to promote public health. The next National Action Plan for Public Health 2026–2030 is under development.

Historically, screening for NCDs in Greece has been mainly opportunistic. Nevertheless, since the early 2020s, several steps have been taken towards strengthening secondary prevention, particularly through population-based screening programmes for breast, cervical, colorectal cancer and cardiovascular diseases. Notably, a national breast cancer screening programme “Fofi Gennimata”, targeting women aged 45–74, has been operational since August 2022. In 2024, a national screening initiative (PROLAMVANO, translated as PREVENT) was launched, offering free diagnostic tests, with the aim of facilitating the early detection of cardiovascular diseases and specific types of cancer, namely breast, cervical and colorectal. Although the impact of these initiatives is unclear due to the absence of publicly available data on their outcomes – particularly regarding the diagnostic, clinical, and socioeconomic characteristics of detected cases – they fill a longstanding gap in service provision. Nonetheless, the continuity of the national screening programme remains an

Table 1. National plans/strategies/policies addressing the indicators in scope

National Plan/Strategy/Policy	Indicators addressed
National Action Plan for Public Health 2008–2012	Cardiovascular diseases Cancer Tobacco use Diet and dietary disorders Alcohol use Diabetes Hypercholesterolaemia
National Health Strategy 2014–2020	Tobacco use Alcohol use
National Strategic Plan for Public Health 2019–2022	NCDs Childhood obesity-diet Tobacco use
National Action Plan for Public Health 2021–2025	NCDs Tobacco use Diet Alcohol use Cancer
National Screening Programme “PROLAMVANO” 2024	Cancer (Breast – Cervical – Colorectal) Cardiovascular diseases

Sources: Ministry of Digital Governance and Ministry of Health, 2024; Ministry of Health, 2021, 2019a, 2014; Ministry of Health and Social Solidarity, 2008a.

issue of concern, as its funding is currently sourced from the Recovery and Resilience Fund, which concludes in 2025, and plans for the future of the programme have yet to be announced.

Additionally, more targeted action plans have been developed to address specific diseases or risk factors (Table 2), either as subsequent plans stemming from the general national plans for public health or as independent stand-alone plans. Notably, over the past decade, there have been no dedicated action plans focusing on diabetes, respiratory diseases or chronic kidney disease. A particularly notable omission is the absence of a National Cancer Plan aligned with the provisions of Europe's Beating Cancer Plan, despite official statements indicating an intention to pursue such framework (Ministry of Health, 2024a). The need for a national diabetes strategy and the fact that it is not prioritised in the National Action Plan for Public Health has also been highlighted recently (LSE, 2025). Most national action plans include estimated budgets and broad implementation timelines. However, they do not outline contingency mechanisms in the event that targets are not achieved. This omission disrupts the policy evaluation cycle, limiting the ability to tailor or modify policies based on real-world outcomes and performance assessment.

Table 2. National plans/strategies/policies addressing specific diseases/risk factors

Indicator	National Plan/Strategy/Policy
Overweight/obesity	National Action against childhood obesity 2022–2026 National programme for prevention and control of adult obesity 2023
Tobacco use	National Action Plan for Smoking 2008–2012 National Action Plan against Smoking “Health connects us” 2019-2023
Alcohol use	National Action Plan for the Reduction of Harmful Effects of Alcohol on Health 2008–2012 National Action Plan to tackle the harmful effects of alcohol consumption 2019–2023
Cancer	National Action Plan for Cancer 2011–2015
Cardiovascular diseases	National Action Plan for Cardiovascular Diseases 2008–2012 National Programme for the Prevention and Control of Cardiovascular risks 2022–2025
Diabetes	National Action Plan for the Prevention and Treatment of Diabetes mellitus and its complications 2012
Ischaemic/haemorrhagic stroke	National Action Plan for Stroke 2023

Sources: (Ministry of Health, 2023c, 2023d, 2022, 2019a, 2019b, 2019c, 2014; Ministry of Health and Social Solidarity, 2012, 2011, 2008a, 2008b, 2008c, 2008d)

Currently, Greece does not have specific national targets for NCDs outcomes. However, the National Action Plan for Public Health 2021–2025 (Ministry of Health, 2021) includes measurable targets for risk factors – physical activity, smoking, alcohol use and obesity – under its primary prevention axis regarding:

- Participation of 15% of all students in extracurricular athletic activities
- Reduction of smokers from 24% (2017) to 17% (EU average) by 2025
- Reduction of recent alcohol consumption rates among teenagers (under 16 years old) from 66.2% (2015) to below the EU average of 48%
- Reduction of childhood obesity from 25% (2017) to at least 10% (EU average) by 2030.

Moreover, under the National Action Plan for Public Health, the National Screening Programme (Ministry of Health, 2021) had set several targets, over a three-year timeframe¹:

- Free cervical screening for 50% of women 21–65 years old
- Free breast cancer screening for 85% of women 50–69 years old
- Free colorectal cancer screening for 10% of the active population (50–69 years old)
- Free screening for abdominal aortic aneurysm for 20% of the country's active population (50–69 years old)
- Free screening for cardiovascular risk for 20% of the country's active population (50–69 years old)

Although these targets have been published within the plan, the plan lacks a specific strategy describing how the data will be collected and analysed, or how policies will be modified to address potential deviations from expected outcomes.

Historically, policies addressing obesity exemplify Greece's predominantly reactive approach to risk factor control. Since the 1990s, adult overweight and obesity rates have steadily increased, surpassing those of neighbouring countries with similar dietary habits, and ranking amongst the highest in Europe. Despite longstanding awareness, progress has been limited, as compliance with regulatory measures addressing childhood obesity remains weak. For example, although the National Nutrition Policy Committee issued recommendations in 2024 to improve school canteen food offerings, similar past guidelines were never adopted (Greek Ministry of Health, 2017). Past efforts to combat childhood obesity have generally suffered from limited scope, lack of binding targets or legal provisions, low accountability, and insufficient political commitment. Given the multifactorial nature of obesity, interventions must be comprehensive, addressing the complex behavioural and contextual determinants that influence both children and parents. The current national strategy on childhood obesity acknowledges these challenges and aims to adopt a more integrated approach.

Subdomain 2.5: Registries

The establishment of National Patient Registries was legislated in 2019 (Government Gazette Issue, 2019b). However, implementation has been slow, primarily due to interoperability challenges among various IT systems and registries. The National Registry for Patients with Neoplastic Diseases (National Cancer Registry) became operational only in February 2025 (Government Gazette Issue, 2024a). Another registry legally established but not yet implemented is the National Registry for Paediatric Patients with Neoplastic Diseases (Government Gazette Issue, 2021a).

The objective of the national patient registries is to improve recording and monitoring of specific

¹ the eligible age groups have since been updated.

diseases and facilitate diagnosis, treatment, and research. The National Cancer Registry aims to provide more comprehensive monitoring of cancer patients by improving patient care through central data registration, delivering more effective treatment, supporting effective disease management, enabling the design of targeted interventions, and utilising data for scientific research and policymaking.

In addition, the National Organisation for Provision of Health Services (EOPYY) operates several smaller-scale or disease-specific registries for its beneficiaries, covering conditions such as diabetes mellitus, thalassaemia and chronic myelogenous leukaemia. These registries are different from the previously mentioned national patient registries, in the sense that they are mainly administrative and allow the organisation (EOPYY) to track and monitor patient management in terms of disease progression, pharmaceutical treatment, hospitalisations, comorbidities, laboratory test orders and results.

Subdomain 2.6: Crisis preparedness and response

The National Centre for Health Operations (EKEPY, 2025) issues operational contingency plans in case of emergencies that may disrupt the functioning of the healthcare system. Some examples of these plans are (Gika, 2017):

FILOKITITIS: operational plan for managing chemical, biological, radiological and nuclear threats

PERSEAS: operational plan for response to emergencies within hospitals

SOSTRATOS: operational plan for hospital evacuation in the event of earthquakes

ARTEMIS: national operational plan for response to influenza pandemics

ATHINA: action plan for Ebola virus outbreaks

Plans such as PERSEAS and SOSTRATOS focus on ensuring a rapid and coordinated response by hospitals' workforce to safeguard patient safety and restore hospital functionality as quickly as possible, thereby maintaining the continuity of care. However, none of these plans include a specific focus on NCDs.

For more than a decade, Greece has been a primary entry point to Europe for refugees and migrants fleeing conflict-affected countries. In 2015, at the peak of the refugee crisis, the country received more than 860,000 arrivals (UNHCR, 2024). Addressing the healthcare needs of such a large influx of refugees and migrants, while maintaining services for the ongoing needs of the country's population, posed a major challenge to the health care system (Gunst et al., 2019). Initially, care delivery was largely supported by non-governmental organisations (NGOs). In 2017, the EU-funded 'PHILOS' programme was introduced to strengthen health system capacity to facilitate refugee health needs (Orcutt et al., 2020). In July 2024, Greece transitioned to the 'Ippokratis' project, implemented in collaboration with the International Organisation of Migration, to meet refugees' medical and psychosocial needs. By January 2025, the programme had facilitated nearly 27,000 medical consultations, 3,000 psychosocial support sessions, 2,200 gynaecological examinations, 900 childhood vaccinations, and over 10,000 vulnerability assessments.

The COVID-19 pandemic provided lessons for crisis management in the health sector, particularly regarding the availability of materials and equipment, which can be readily expedited in times of emergency. However, other aspects of resilience – such as task-shifting between healthcare professionals – were less utilised. A nationwide policy dialogue to evaluate Greece's performance during the COVID-19 pandemic and to draw lessons from that crisis has not yet taken place, apart from a few ad hoc scientific discussions. Such an assessment is crucial for strengthening preparedness and ensuring effective response planning for future public health crises.

Domain 2: Key findings, summary indicators and recommendations

KEY FINDINGS

- Governance of the health sector in Greece remains fragmented, as responsibilities for NCD prevention and management are spread across multiple entities. This fragmentation leads to parallel systems, weak coordination, and inefficient use of resources.
- Action plans for public health targeting the main risk factors for the NCDs have been, and continue to be, developed. However, their full implementation – supported by binding actions, accountability mechanisms, and formal evaluation processes – has yet to be achieved.
- The development of critical tools such as diagnostic and therapeutic protocols is based on available evidence but does not incorporate aspects such as costs or cost-effectiveness, assessed through an HTA process.
- Patient registries are gradually becoming operational, which will enable improved monitoring of NCDs and the effect of implemented policies. However, access to these data to researchers or other interested parties remains limited, hindering evidence generation.
- Scientific associations and expert groups are occasionally involved in health policy design, but their engagement is primarily ad hoc rather than institutionalised.
- Although patient participation in health policy formation is legislated, their actual contribution and influence remain unclear. A structured mechanism for capturing and integrating patient input and perspectives in decision making is needed.
- Crisis preparedness plans currently lack an NCD-specific component to ensure continuity of care and uninterrupted access to services during emergencies.

SUMMARY INDICATORS (RECOMMENDED)

- National action plan implementation rate; to assess the proportion of planned actions completed within a specified timeframe and strengthen accountability mechanisms.
- Patient representation indicators; to measure the percentage of policy decisions incorporating structured patient input.
- Assessment of the uptake of the PROLAMVANO screening programme in various sub-populations.
- Operational progress of patient registries: to measure the number achieving pre-specified milestones within target timeframes.
- Key performance indicators to track national progress towards established targets for NCDs

INDICATORS LACKING DATA

- Systematic measurement and monitoring of targets set under the National Action Plan for Public Health to evaluate implementation effectiveness.
- Health impact assessment of implemented policies, with a focus on equity across population groups.
- Stakeholder inclusivity indicators to assess the transparency and inclusivity of the policy formulation process.
- Monitoring of action plan implementation using SMART criteria (specific, measurable, attainable, realistic or relevant, time-bound).

- NCD continuity of care indicators during crises: data to identify potential risks to service continuity in case of emergencies.

RECOMMENDATIONS

1. Establish a national committee or authority, in collaboration with the National Statistical Authority (ELSTAT), to promote data harmonisation, availability, and interoperability for research purposes and guidance of policy formation. The committee's work should align with the European Health Data Space (EHDS) requirements.
2. Introduce a formal, written process for the participation of patient organisations and civil society in health policy design and decision making.
3. Enact legislation defining a detailed procedure for developing National Action Plans for NCDs, including stakeholder selection and participation, targets and KPI setting, monitoring based on SMART criteria, and accountability mechanisms.
4. Extend the National Cancer Registry model to other major NCDs, ensuring interoperability to capture information on multimorbidity.
5. Strengthen data and policy interoperability between the MoH and the Ministry of Labour and Social Security, integrating socioeconomic data (e.g. living conditions, income, working status) to support evidence-based policy formulation.

DOMAIN 3

Service delivery



Standardising clinical practice and service delivery through comprehensive guidelines and protocols is essential for the effective and efficient management of risk factors and chronic conditions. Greece is among the countries that have developed national guidelines for the management of major NCDs through a primary care approach (WHO Regional Office for Europe, 2021). As described in Domain 2, the country has developed evidence-based, regularly updated guidelines for managing several conditions, including cancer (by tumour type), chronic respiratory diseases, cardiovascular diseases and diabetes, under the oversight of the Independent Department of Therapeutic Protocols and Patient Registries within the MoH (Ministry of Health, 2025a).

More recently, the MoH has published a diagnostic and therapeutic protocol for obesity management among adults, along with guidelines addressing childhood obesity – a major public challenge in Greece (Ministry of Health, 2025b, 2025c). In oral health, a domain that attracts less policy attention, guidelines have been issued for the use of fluoride in caries prevention (Ministry of Health, 2023e). Notable gaps remain, including the absence of national evidence-based protocols for the management of chronic kidney disease and stroke (ischaemic and/or haemorrhagic). As mentioned in Domain 2, the development of these guidelines is mainly based on epidemiological and clinical evidence, with limited consideration of other domains of HTA evidence.

Although clinical guidelines are in place, they tend to have a therapeutic orientation – especially pharmaceuticals – rather than adopting comprehensive disease management frameworks that integrate prevention across all levels. Furthermore, they do not clearly define the roles for allied health professionals within multidisciplinary care models. Greece has also not yet developed evidence-based national guidelines for managing behavioural risk factors such as physical inactivity, alcohol use disorders, or smoking. Similarly, there are no standardised approaches for early NCD diagnosis within primary care. It is important to note that national guidelines and a national action plan for the management of NCDs serve complementary but distinct roles. In particular, national guidelines provide clinical and technical guidance on how to diagnose, treat, and manage specific NCDs, and their goal is to ensure evidence-based, consistent, and high-quality care across all levels of the health system. A national action plan provides a strategic framework for preventing and controlling NCDs at the population and system level, and its aim is to guide implementation of national NCD policy and coordinate multisectoral action.

Actual adherence to existing guidelines remains a challenge, leading to variations in quality of care and inefficiencies (Economou et al., 2017). For example, a study assessing compliance with national clinical guidelines for diabetes mellitus follow-up found considerable variability in practice, highlighting the gap between clinical guidance and routine medical practice (Papanas et al., 2020). The nationwide rollout of the electronic health record in 2025, together with initiatives for data generation and accessibility, could play a key role in standardising practice and in improving efficiency and effectiveness of healthcare delivery.

Subdomain 3.2: Risk assessment

In recent years, Greece has launched several initiatives for risk assessment and management associated with non-communicable diseases (NCDs). However, these efforts are still evolving and face certain challenges.

The MoH recently developed a framework and process for the assessment and reimbursement of biomarkers in Greece, addressing a longstanding gap in the system's resource allocation decisions. The list of biomarker tests covered by public health insurance was also extensively revised and updated, after nearly a decade of limited revisions. These actions and policies represent steps toward improving effectiveness and efficiency of novel therapies (All.can, 2024). A roadmap for a national framework regarding the introduction and reimbursement of biomarkers has recently been developed (All.can, 2024).

Cancer care is predominantly managed within the hospital sector in Greece, with limited integration of primary care (OECD, 2023a). Although risk stratification models are used in certain areas (e.g. cardiovascular disease), there is significant potential for broader implementation (Panagiotakos et al., 2024). Expanding the use of these tools across various medical specialties could enhance early detection, personalised treatment plans, and improve overall patient outcomes.

The Greek National Health System (NHS), characterised by its hospital-centric structure, has not yet introduced risk-stratified patient pathways that tailor follow-up care to individual needs. Weak coordination between physical and mental health care services, coupled with separate patient pathways, further limits the integration of mental health risk assessment into NCD management models. Furthermore, the historical absence of shared electronic health records has impeded progress towards a more holistic, patient-centred approach to healthcare delivery (Athanasakis et al., 2022).

Proactive engagement with at-risk populations remains a challenge due to the fragmented service organisation, underdeveloped primary care, and poor coordination and communication between specialists and primary care providers. The lack of integrated care models hinders care continuity, resulting in fragmented patient pathways, treatment delays, poor outcomes, and increased costs (Myloneros and Sakellariou, 2021a; Tsiachristas et al., 2015).

Subdomain 3.3: Screening

As described in Domain 2, Greece has recently implemented the National Screening Programme “PROLAMVANO”, an important initiative developed by the MoH towards tackling major NCDs. Funded by the Recovery and Resilience Facility (RRF) with a budget of €200 million until 2025, the programme includes the following actions (Ministry of Digital Governance and Ministry of Health, 2024):

Breast Cancer Screening: Targets 1.4 million women aged 45–74, providing free digital mammogram, ultrasound, and a physician consultation for those with findings.

Cervical Cancer Screening: Covers 2.5 million women aged 21–65, providing a free HPV molecular DNA test (for women aged 30–65), Pap test (for women aged 21–29), colposcopy, and biopsy for women with clinical findings.

Colon Cancer Screening: Available to 3.8 million individuals aged 50–69, including free at-home testing kits from pharmacies and a free diagnostic colonoscopy for positive cases.

Cardiovascular Disease Prevention: Benefiting 5.5 million individuals aged 30–70, offering a free medical consultation and lipid profile blood test.

Beneficiaries receive a digital prescription via SMS or email, facilitating access to these services. Although follow-up is included – mainly through an SMS notification prompting a physician consultation after the testing – a clearly defined and coordinated patient pathway for the necessary care following a positive screening result is still lacking. Individuals in rural or underserved areas may face significant barriers in accessing follow-up diagnostics and care. Moreover, there is no formal, monitored involvement of primary care doctors or other healthcare professionals to support patients throughout this process (the “patient journey”).

Opportunistic screening for non-communicable diseases (NCDs) in Greece is primarily conducted on an ad-hoc basis and served as the primary approach prior to the recent introduction of the National Screening Programme (Guthmuller et al., 2023; Naoum et al., 2018; Stergiou et al., 2021). In particular, EOPYY offers certain preventive services for its beneficiaries, on an opportunistic basis, without copayment:

- Biannual mammography for women 40–50 years old, annual mammography for women aged over 50 years old and women over 35 years old that belong to high-risk groups
- Annual pap smear for all women (that are sexually active) and HPV-DNA testing every 5 years for women aged 21–60 years old
- Biannual prostate specific antigen (PSA) testing for men over 50 years old and annual PSA testing for men aged 60–80 years old
- For the prevention of CVDs, lipidaemic profile testing every 5 years for men and women aged 15–30 years old and every 3 years for men and women aged over 30 years old
- Biannual faecal occult blood test (FOBT) for men and women aged 50–70 years old, colonoscopy every 5 years for men and women over 50 years old or annually for men and women over 40 years old, provided they belong to high-risk groups.
- Blood glucose, HbA1c and glucose tolerance testing every 5 years for men and women aged 15–50 years old and every 3 years for men and women over 50 years old.

However, opportunistic screening can lead to inequalities in access, lower participation rates and potential inefficiencies compared to organised screening programmes (Bozhar et al., 2022; Palencia et al., 2010). In 2019, 65.7% of women aged 50–69 in Greece reported having undergone a mammogram, compared to an EU average of 56.4% (OECD, 2023a). For cervical cancer screening among women aged 20–69, participation reached 72.9%, well above than the EU average of 59.6% (OECD/European Commission, 2024). Given that these screening tests were opportunistic, uptake rates may be considered satisfactory, though underlying inequalities likely persist. Colorectal cancer screening was also opportunistic, and in 2020, Greece recorded one of lowest utilisation rates of faecal tests in Europe – only 10.2% among those aged 50–74 years (Ola et al., 2024). A national lung cancer screening programme has yet to be developed. A pilot programme for lung cancer screening is due to be implemented across four hospitals in 2025 (Hellenic Chest Diseases Society, 2025). In addition, the MoH participates as a partner in a multi-national project (SOLACE), which aims to facilitate the implementation of a lung cancer screening programme with the use of low-dose chest CT (Vlachantoni et al., 2024).

Genetic screening tests are also available, although to a lesser extent. For instance, BRCA1/BRCA2 testing for breast cancer risk is partially covered by social insurance, with patients required to pay a copayment (EOPYY, 2022). Recent developments include newborn genetic testing, conducted by the Greek Institute of Child Health through its National Newborn Screening Programme. Additionally, the Greek MoH and the Institute of Child Health have developed a pilot programme for newborn screening for Spinal Muscular Atrophy (SMA). This initiative, funded by the RRF, aims to detect SMA in newborns at an early stage, facilitating timely intervention and treatment.

Overall, the MoH is responsible for the appraisal of potential screening programmes and the evaluation of the impact of current screening programmes, guided by defined objectives and performance evaluation criteria. A National Expert Committee, comprising of public health experts, advises on target populations, performance indicators, and testing frequency. Its recommendations are grounded on available evidence and best practices from other EU countries. However, the Committee's deliberations are not publicly accessible or open to external review.

Subdomain 3.4: Diagnosis and referral

In Greece, diagnosis and referral of NCDs face persistent gaps and barriers rooted in structural deficiencies within the healthcare system. The fragmentation of the healthcare system undermines coordination between different care levels and hinders continuity of care (Lionis et al., 2019). The absence of a structured referral system and defined care pathways forces patients to seek direct access to specialists (Myloneros and Sakellariou, 2021). Since the Greek NHS has historically been

largely focused on acute care, efforts to mitigate risk factors and ensure early detection had been limited – potentially leading to delays in NCD diagnosis and treatment (Myloneros and Sakellariou, 2021).

The absence of a gatekeeping system and the insufficient resourcing of public primary care services place a burden on hospital emergency departments, compromising the quality of secondary care (Jin and Kalavrezou, 2021, Ntais et al., 2024). Key challenges also include the historical lack of a uniform electronic health record and persistent regional and socioeconomic disparities in access (Athanasakis et al., 2022).

The full rollout of the national Electronic Health Record (EHR) was launched in May 2025, signalling the conclusion of a series of efforts to establish a universal, nation-wide, interoperable health record system. This is considered a major shift towards a modern and efficient health system for the benefit of citizens and healthcare professionals (HSPM Network, 2025). This platform, designed to be secure and user-friendly, provides access to comprehensive health records. Individuals can access their medical information, including diagnoses, prescriptions, test results and hospitalisations, while healthcare professionals can view their patients' comprehensive, up-to-date medical records.

Waiting times are considered a significant policy concern, yet until recently, no systematic monitoring had been conducted (OECD, 2020). A pilot intervention to monitor ER waiting times has now been introduced. Prolonged waiting times persist in some hospitals for critical services, such as radiation therapy and surgical procedures, with no established targets to improve access. This is particularly critical for cancer care. Previous studies have shown that more than 50% of patients reporting barriers to cancer care identified long waiting times as the primary issue (Souliotis et al., 2015). National indicators such as waiting times from diagnosis to treatment and stage of cancer when diagnosed are not systematically measured in Greece (OECD, 2023b).

Reliable data on waiting times remain scarce. There are no available figures for average waiting times for MRI or CT scans. Similarly, there is no monitoring of waiting times for endoscopy, spirometry, and echocardiogram.

The historical absence of a formal framework for access to biomarker testing has also been a key challenge, despite its critical role in determining therapeutic pathways. As a result, biomarker testing was often provided to patients on an ad hoc basis – funded by patient associations, pharmaceutical companies, scientific societies, or private donors (OECD/European Commission, 2025). Recent legislative efforts (see section 3.2) aim to address this gap.

To mitigate waiting times in emergency care, a pilot monitoring programme is planned for implementation in 2025, aimed at tracking time intervals and patient flow in emergency departments in selected public hospitals. If successful, the programme will be expanded to all public hospitals. Furthermore, a new framework for the evaluation, assessment, and reimbursement of biomarkers is expected to be introduced in 2025, with an aim to facilitate insurance coverage.

The lack of national data on waiting times and stage at diagnosis for NCDs raises equity concerns. Research indicates that Greek-born women and immigrant populations report substantially higher rates of NCDs (Eikemo et al., 2018), suggesting these populations may be disproportionately affected by systemic delays, though the data to confirm this is missing.

Subdomain 3.5: Secondary and tertiary prevention

Due to an underdeveloped network of primary care services, patients often experience delays in early diagnosis and treatment. In the absence of robust referral mechanisms, self-referral to specialists has long been common practice. The recent reform of the “personal doctor” (described in domains 4 and 5) seeks to address some of these shortcomings.

Within this fragmented setting, the lack of integrated care pathways for NCD patients with multimorbidity represents a significant gap. Key data on multimorbidity management are not routinely recorded. This limits the system's ability to deliver coordinated, high-quality care. For example, among the 2.5 million adults aged 30–79 with hypertension in Greece, only 60% receive treatment, and 33% are controlled (WHO, 2023b).

Several initiatives that have been developed over recent years aim to reduce hospitalisation and costs, improve quality of life and facilitate access to appropriate health services. First, the establishment of homecare services, under the project “Hospital at Home” which is funded by the RRF (Greece 2.0, 2023). The project aims to provide safe, patient-centred care at home, improve the quality of life, reduce costs and alleviate pressure on health facilities. Within this framework, the “OIKOTHEN” was launched, delivering treatments and nursing care at home for oncology patients (Ministry of Health, 2024b). This pilot has since been extended to patients with neurological disorders and serves as a model for further expansion of homecare areas.

Second, the “FRONTIZO” programme, which is implemented by the Municipality of Athens, provides integrated care to elderly people with chronic diseases through a combination of medical and social services (Municipal clinics of Athens, 2024).

To strengthen capacity in treating NCDs, the MoH has announced the development of 312 chronic disease management centres within the Health Centres across Greece. These centres – distributed across Greece – will monitor and support patients living with chronic conditions, aiming to reduce complications, hospitalisations, and healthcare costs while improving quality of life for patients with chronic diseases throughout the country.

Improving access across geographical areas and population groups is crucial. Greece reports unmet needs for medical care at significantly higher rates than the EU average (9.0% compared with 2.2%). The unmet needs reported by low-income households are more than three times higher than those reported by high-income groups, with cost considered as a major driver of forgone care (OECD/European Observatory on Health Systems and Policies, 2023). Moreover, the distribution of healthcare facilities and professionals is uneven across the country (Domain 5), with rural areas often facing shortages, leading to delays in diagnosis and treatment for residents in these regions (Unicef Greece, n.d.).

An important aspect of policies to improve equity in access is data availability and data-driven policies. As mentioned in Domain 2, Greece has recently established a National Cancer Registry to accurately record and monitor cancer cases – a disease area where inequalities are persistent and acute. This initiative aims to enhance the understanding of cancer epidemiology in the country, facilitating better tracking of disease occurrence, progression, and recurrence (Ministry of Health, 2025d). In addition, the American Society of Clinical Oncology (ASCO) and the Hellenic Society of Medical Oncology (HeSMO) have collaborated to implement the ECHO (Extension for Community Healthcare Outcomes) programme in Greece (Lionis et al., 2024), an initiative that focuses on equipping healthcare providers with the necessary skills and knowledge to offer comprehensive follow-up care, including monitoring for cancer recurrence, thereby improving survival rates.

In an effort to improve access, alleviate surgery backlogs and reduce waiting times for elective surgery, in March 2024, the Greek MoH introduced afternoon surgeries in public hospitals. Initially prioritising patients who have been waiting for more than four months, the service is currently free of charge – supported by RRF funding. After the RRF period, users of the service will be expected to pay a fee, which will be lower than the relevant private sector costs. At launch, approximately 102,634 patients were on surgical waiting lists – 43% had waited for less than four months, 31% between four and twelve months, and 26% over a year (European Observatory on Health Systems and Policies, 2024). Implementation challenges include staff shortages (particularly, anesthesiologists and nurses), excessive workloads, and limited operating room capacity in some hospitals. To further address capacity issues and accelerate the reduction of waiting times, the government has also partnered with private healthcare providers (Economou, 2024). Additionally,

the introduction of the Unified List of Surgeries (Economou, 2024) – a centralised online platform – aims to improve transparency and streamline scheduling.

The lack of standardised and complete data collection hampers the ability to accurately assess patient outcomes, monitor service performance, and identify avoidable readmissions. Notably, comprehensive data on hospital admissions and readmissions remain limited and not routinely documented. Available data of this type is usually found in individual studies, rather than at system level. Examples include reports of the 30-day hospital readmission rate for Congestive Heart Failure (CHF) estimated at 6% (Stafylas et al., 2017), the median delay from the stroke onset to the initial CT scan among ischaemic stroke patients estimated at 255 minutes (approximately 4.25 hours), and the median time from hospital admission to the first CT scan estimated at 60 minutes, with only 53.2% of patients receiving the scan within one hour of arrival (Korompoki et al., 2024). The median door-to-needle time for thrombolysis has been reported at 40 minutes, and the door-to-groin puncture time for thrombectomy at 64 minutes (Palaodimou et al., 2023). The thirty-day mortality rate after admission to hospital for ischaemic stroke in 2020 was 14.1 per 100 patients aged 45 and over versus the EU average of 14.7 (OECD/European Commission, 2024).

To improve service delivery and outcomes for stroke patients, there are plans for the development of stroke units in 19 public hospitals (Government Gazette Issue, 2023a). However, the project remains in the deployment phase, constrained by shortages of the required staff and facilities.

Quality of care has only recently gained prominence on the national health policy agenda. Historically, key quality of care indicators have not been systematically reported, unlike other OECD countries. Some examples include adverse outcomes within one year of discharge after ischaemic stroke and CHF, CHF hospital admissions in adults, thirty-day mortality after admission to hospital for acute myocardial infarction, thirty-day hospital readmission for ischaemic or haemorrhagic stroke, hospital admissions and thirty-day hospital readmission for diabetes, hospital admissions and thirty-day hospital readmission for COPD and thirty-day hospital readmission rates for asthma.

The new DRG (diagnostic-related groups) system – and the subsequent reform on data collection – currently being implemented could significantly contribute to the production of such metrics, not only at the national level, but also in regional, local, or individual (per provider) levels of care, facilitating comparisons, with the quality of data recording and reporting being a prerequisite. However, the actual effect of the DRG system on hospital efficiency and service quality has not yet been reported (Kyriopoulos et al., 2025).

Greece still does not systematically monitor clinical effectiveness and patient outcomes (Kyriopoulos et al., 2025). A recent country visit of the ECDC showed that the antimicrobial resistance (AMR) and healthcare-associated infection situation of the country remains highly concerning (European Centre for Disease Prevention and Control, 2024). The establishment of the National Agency for Quality Assurance in Health (ODIPY) in 2020 represents a positive step towards systematic quality monitoring across the health system. However, a robust quality culture has yet to take root, and patient-centred aspects – such as incorporating patients' views and experiences – have not been systematically considered in the development of health policies. Towards this direction, Greece was among the countries that participated in the international Patient-Reported Indicator Surveys (PaRIS) – a flagship initiative developed by the OECD – that aims to measure how health systems perform from the patient's perspective (OECD, 2025b). In a positive development, the MoH is currently developing a framework to facilitate the collection of patient-reported experiences, and a preliminary version is expected in 2025.

Current and future directions of population screening in Greece – current status and recommendations of this report

Greece has made significant progress in the organisation of population screening programmes in recent years, primarily through the implementation of the National Screening Programme “PROLAMVANO”. Despite the importance of an organised National Screening Programme, significant gaps remain in the coverage of other diseases and conditions, which carry significant clinical, social and economic burden. Expanding the screening programmes to additional therapeutic areas should be considered a strategic priority for the enhancement of early detection, reduction of disease burden, and improvement of health system efficiency.

Future directions for population screening could focus on other cancer indications, in addition to those already covered (breast, cervical, colon cancer), such as lung cancer and melanoma. Recent evidence suggests that implementing a lung cancer screening programme would be a cost-effective intervention for Greece (Pan et al., 2025). However, the eligibility criteria, frequency, and follow-up protocols for such screening should be carefully aligned with international best practices to ensure clinical and cost-effectiveness.

An important step – which this report strongly recommends – would be the expansion of the national screening programme to cover Chronic Kidney Disease (CKD). CKD is a growing public health challenge, characterised by high rates of underdiagnosis and a considerable burden on patients, the health system, and wider economy. Routine microalbuminuria screening – especially among individuals with diabetes – is an essential tool for the early detection and management of diabetic nephropathy. Evidence shows that its implementation could have a sizeable impact on disease burden and future healthcare needs (Feldt-Rasmussen et al., 1996).

Looking ahead, the screening programmes should expand to include conditions with high societal and caregiver burden, such as dementia and cognitive decline, ideally through early-detection screening protocols within primary care.

Finally, ensuring sustainable funding sources for population screening programmes is critical. With the current initiatives financed through the RRF, establishing permanent funding sources is essential for maintaining and expanding these programmes beyond the RRF period.

Domain 3: Key findings, summary indicators and recommendations

KEY FINDINGS

- National guidelines and protocols for the management of major NCDs are in place. However, they primarily focus on pharmaceutical treatment rather than comprehensive disease management (including prevention). Moreover, adherence to their provisions remains a challenge.
- The Greek NHS remains hospital-centred, with limited coordination and continuation of care. Risk-stratified patient pathways have yet to be implemented.
- The introduction of the National Screening Programme is an important initiative in addressing NCDs. Nonetheless, the development of clearly defined and coordinated pathways for follow-up care, especially for vulnerable populations, is necessary.
- Greece reports high rates of unmet medical needs, disproportionately affecting low-income households. Geographic disparities in access also create inequalities for rural residents.
- The critical lack of data on quality of care for major NCDs limits the ability to evaluate health system performance or identify bottlenecks.

- Structural deficiencies, including fragmentation, poor coordination, underdeveloped primary care and referral mechanisms, and the absence of clear patient pathways, impede care continuity.
- There is a need to re-assess whether a “personal doctor” system can effectively meet current and projected needs related to multimorbidity, or whether multidisciplinary team-based approaches would offer more patient-centred and effective care.

SUMMARY INDICATORS (RECOMMENDED)

- Clinical guideline adherence rate: This indicator measures the extent to which health professionals apply national therapeutic protocols. This indicator supports standardisation and ensures quality consistency across providers and care settings.
- Patient Journey Performance Indicators: These indicators capture time intervals from positive findings to specialist consultation, diagnosis confirmation, and treatment initiation. These should be integrated within the national screening programme.
- Unmet needs for medical care: This indicator captures the percentage of population reporting foregone medical care due to financial constraints, geographical barriers, or excessive waiting times. Data should be disaggregated by income quintile to monitor equity across socioeconomic groups.
- Patient experience measures regarding integrated care (i.e. PROMs, PREMs): These indicators should evaluate patient perceptions of care coordination, healthcare provider communication, shared decision-making processes, and overall care integration quality.

INDICATORS LACKING DATA

- Stage at diagnosis (cancer and/or major NCDs)
- Waiting times for key diagnostic or therapeutic procedures
- Percentage of cancers or major NCDs that are diagnosed following an emergency hospital admission
- Percentage of patients with a NCD whose condition is managed within a primary care setting
- Rates of admission and 30-day readmissions for a series of conditions (asthma, COPD, diabetes, stroke, CHF, AMI, etc.)

RECOMMENDATIONS:

1. Evaluate the currently implemented screening programme for lessons learned – such as socioeconomic determinants of participation and linkage to care challenges – and reformulate policy accordingly.
2. Broaden the scope of the existing guidelines and protocols beyond pharmaceutical treatment to a disease management perspective across all levels of care. Support implementation with strategies to enhance adherence to guidelines
3. Deploy the “mobile health units” (KOMY) system to serve the needs of remote and underserved areas, addressing geographic inequalities. Establish clear KPIs and conduct annual progress monitoring.
4. Integrate early diagnosis programmes, particularly for cancer, with timely diagnostic work-up, timely access to treatment, and a comprehensive treatment plan based on a multidisciplinary team approach.
5. Introduce systematic assessment of patient-reported outcomes and experiences to evaluate and enhance service delivery. Ensure transparency by publishing comparative facility-level data to drive accountability and quality improvement.

DOMAIN 4

Financing

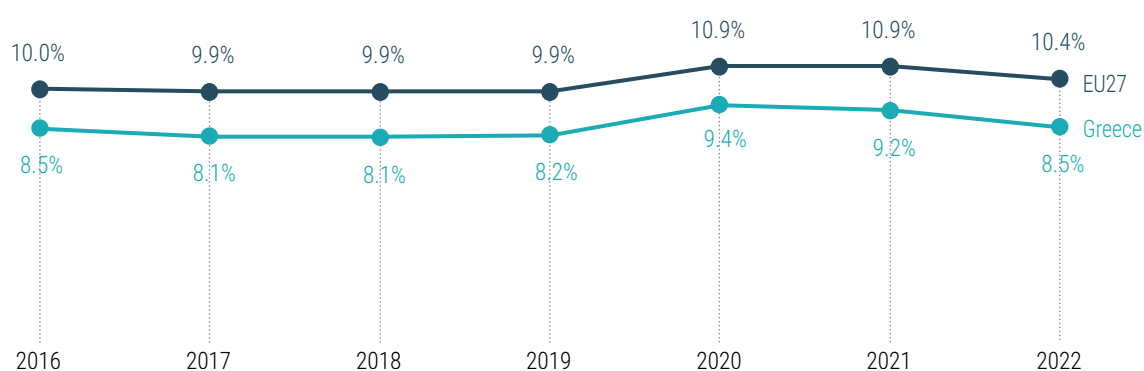


The Greek healthcare system is funded by mandatory social insurance contributions, state subsidies raised through general taxation, and private expenditure, which includes both direct household payments in the form of co-payments and out-of-pocket (OOP) expenses as well as private health insurance premiums. The main public coverage mechanism is provided by the unified social insurance fund (EOPYY). In parallel, the NHS guarantees universal population coverage, irrespective of insurance status. A small proportion of the population also holds supplementary private health insurance, typically to access additional services or faster elective services.

Subdomain 4.1: Health spending

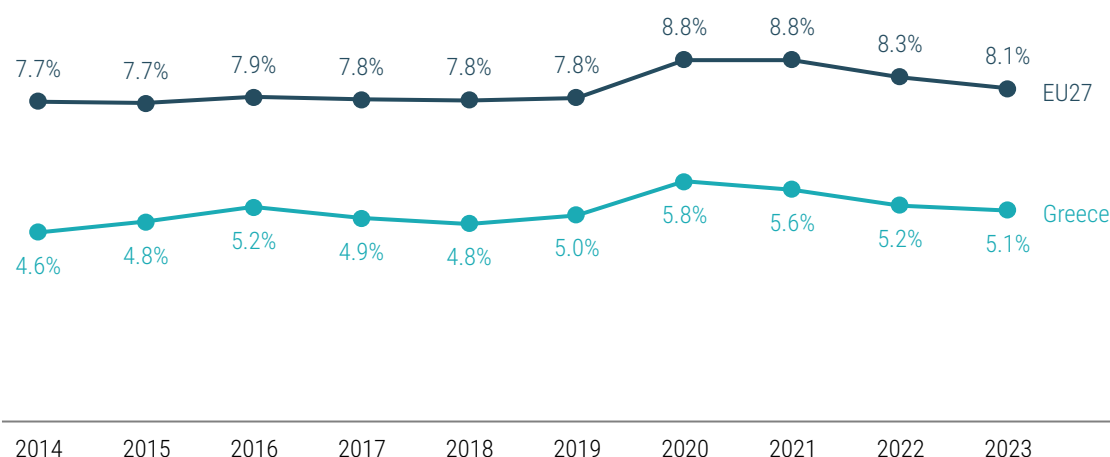
The Hellenic Statistical Authority (ELSTAT) publishes annual data on health expenditure, based on the OECD System of Health Accounts. In recent years, total health expenditure as a share of Gross Domestic Product (GDP) has demonstrated relative stability, with a slight increase observed since the COVID-19 pandemic (Figure 18). When benchmarked against the EU27 average, Greece consistently spends a lower proportion of its GDP on health (Figure 19).

Figure 18: Healthcare expenditure as % of GDP



Sources: Hellenic Statistical Authority, 2025b, 2024a, 2022; OECD/European Commission, 2024.

Figure 19. Public health expenditure as % of GDP

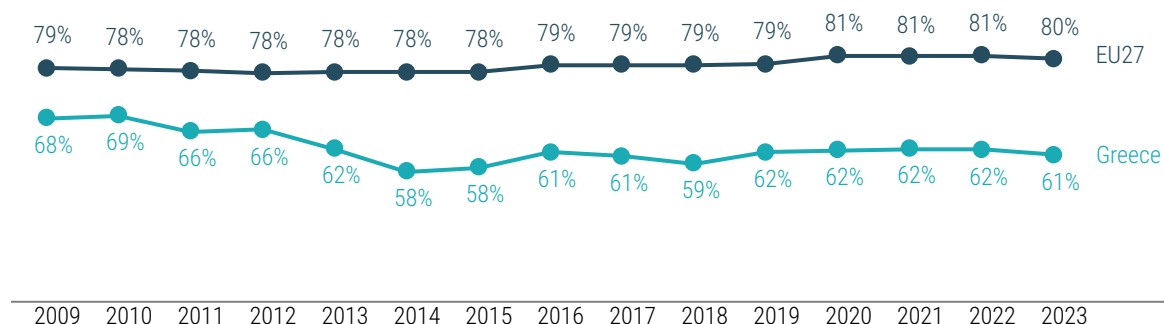


Source: Eurostat, 2025d.

A breakdown of the composition of health expenditure reveals that, in 2021, 62% originated from government and compulsory insurance schemes, 4% from voluntary health insurance, and 33% from out-of-pocket expenditure (OECD/European Observatory on Health Systems and Policies, 2023). Analysis of the expenditure trends demonstrates that Greece exhibits consistently lower public sector participation in health expenditure compared to the EU average (Figure 20). In terms of per capita health spending, Greece recorded €2,001 (PPP) per person in 2022, substantially below the EU average of €3,533 (PPP) (OECD/European Commission, 2024).

The high share of out-of-pocket spending remains a defining feature of the Greek health system and a key driver to health inequalities. Despite the persistent burden of out-of-pocket expenditure, no substantial reforms have yet been enacted to mitigate this issue, leaving long-standing systemic structural distortions – such as unequal access and financial hardship for vulnerable groups – largely unaddressed.

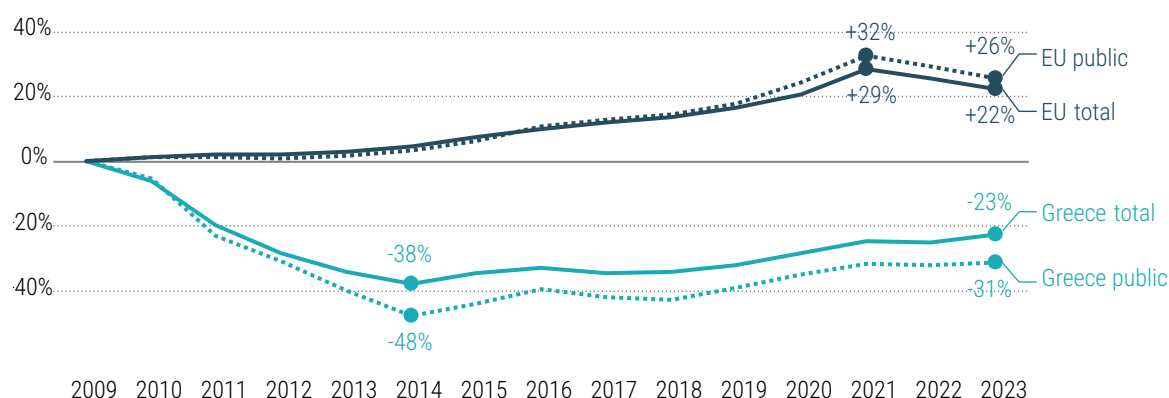
Figure 20. Public financing for health in Greece and the EU27 (% of total expenditure on health)



Source: Foundation for Economic & Industrial Research, 2025.

Expenditure on health declined substantially in Greece, beginning in 2009 – the year of the onset of the economic crisis – with health financing from public sources declining substantially due to the implementation of the fiscal adjustment programmes. Although public expenditure has recovered somewhat since, it remains well below pre-crisis levels. In contrast, total and public health expenditures in the EU increased substantially over the same period (Figure 21).

Figure 21. Cumulative changes in health financing in Greece and the EU27, from 2019 to 2023 (%)

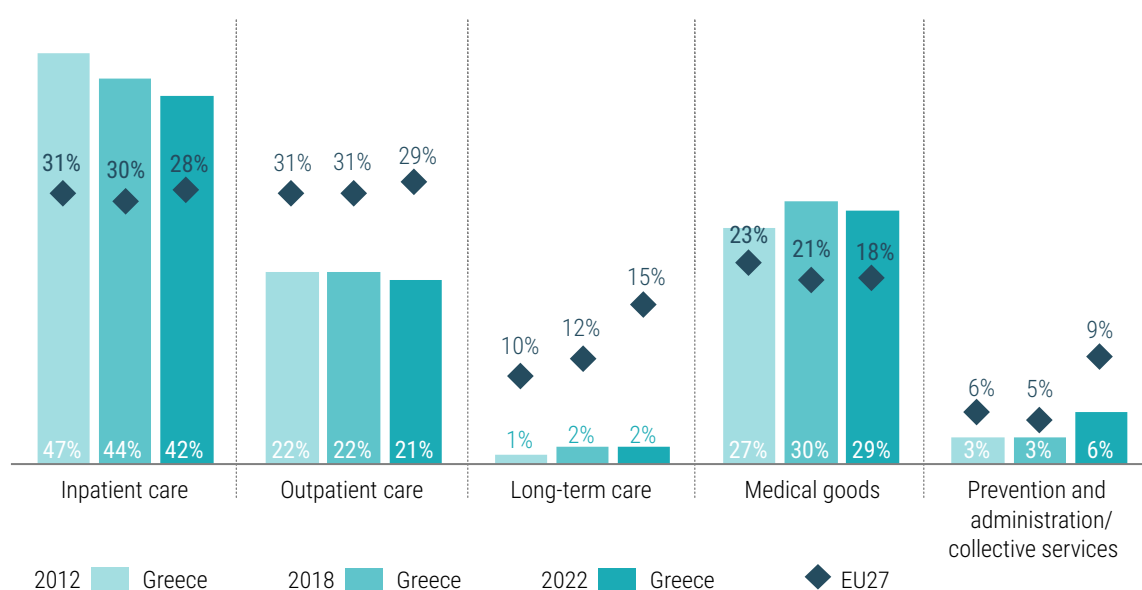


Notes: Percentage changes between 2009 (reference year) and 2023 are calculated using financing data at 2020 constant prices. EU data does not include Malta.

Source: OECD Health Statistics, 2025, adapted from data processing by IOBE.

Health spending is mainly directed to hospitals and pharmaceuticals. Inpatient care has consistently represented more than 40% of health expenditure in recent years – significantly above the EU average. Other types of care, including outpatient and long-term care services, receive a comparatively lower share of funding (Figure 22). This expenditure pattern aligns with the reactive structure of the Greek health system, focused on hospital-based treatments and pharmaceutical interventions, rather than on prevention and health promotion. The pharmaceutical financing system also retains several structural features introduced during the fiscal crisis, notably mandatory payback mechanisms (clawback and rebates), which have become a permanent element of the financing landscape. While these mechanisms have served as cost-containment tools, questions remain about their long-term sustainability and their effects on the availability of medicines relevant to NCD management. A transition towards a more sustainable and predictable pharmaceutical funding framework, one that balances fiscal responsibility with reliable patient access to needed therapies, represents an important medium-term objective for health financing reform.

Figure 22: Health care expenditure by type of service



Sources: OECD/European Commission, 2024; OECD/European Union, 2020, 2014.

NCDs impose a heavy economic burden on the Greek health system. Currently, there is no systematic national data collection on the overall economic impact of NCDs in Greece. Nevertheless, several studies have provided estimates across key conditions, following various perspectives and methodologies.

The annual total cost of cardiovascular diseases is estimated at €4.315 billion in 2021, of which €2.237 billion originated from health and social care expenditure, accounting for 14.2% of total health expenditure (Luengo-Fernandez et al., 2023). The remaining cost is an estimate of productivity losses. Estimates of the financial burden of atrial fibrillation-related stroke amount to €175 million (Vemmos et al., 2022). Heart failure management imposes a mean annual economic burden of €4,411 per patient on the social security system (Stafylas et al., 2017), while hospitalisation costs reach approximately €3,198 per case (Parissis et al., 2015). Hypertension management through home monitoring of blood pressure is estimated to cost €1,336 in the first year of management and €348.9 in subsequent years (Boubouchairopoulou et al., 2014).

The expenditure related to type 2 diabetes has risen substantially over time, with total annual prescription costs rising from €381.54 per patient in 1998 to €1,147.21 in 2018 (adjusted costs, reference year 2018), primarily due to the introduction and widespread adoption of newer glucose-lowering treatments (Athanasakis et al., 2020b). Disease management substantially influences

economic outcomes, as controlled Type 2 diabetes incurs significantly lower direct annual costs (€981.72) compared to uncontrolled cases (€1,566.12) (Athanasakis et al., 2010). Type 1 diabetes management generates direct costs estimated at €2,712 per patient-year, with pharmaceutical costs accounting for 73.7% of the total (Karachaliou et al., 2017).

The total annual direct cost of CKD has been estimated at almost €846 million (Stafylas et al., 2023). CKD progression is associated with substantial cost increases, as the small percentage of CKD patients (1.4%) receiving renal replacement therapy account for more than 4% of the overall public health expenditure (Stafylas et al., 2023).

Regarding chronic respiratory diseases, the mean annual direct cost of stable COPD has been estimated at €1,034.55 per patient (Stafyla et al., 2018). From a societal perspective, the economic burden of COPD management is €2,150 per patient (Kourlaba et al., 2019). Asthma management cost varies depending on the study perspective, with total annual economic burden estimated at €895, €673 and €151 per patient, from the societal, payer and patient perspectives, respectively (Vellopoulou et al., 2019). End-stage renal disease (ESRD) represents a particularly high-cost burden, with total annual costs per patient estimated at €34,012, of which 81.24% is attributed to haemodialysis (Naoum et al., 2016).

Comprehensive studies on the economic burden of cancer remain limited. Available data from 2018 indicate total cancer-related costs of €2.022 billion, of which €942 million were direct costs, accounting for 6.5% of the total health expenditure (Hofmarcher et al., 2020). A recent analysis for hepatocellular carcinoma estimated annual costs at €10,241.5 per patient (Athanasakis et al., 2020a).

As noted above, spending on prevention has historically been a low priority in the Greek healthcare system. Nevertheless, following the response to the COVID-19 pandemic and the subsequent elevation of public health on the health policy agenda, spending on prevention has significantly increased as a share of total health expenditure – from 1.3% in 2019 to 4.5% in 2022 – surpassing the EU27 average of 4.3% (OECD/European Commission, 2024). Nevertheless, this trend was not sustained, as 2023 data indicate a regression, with expenditure on prevention decreasing to 3.1% of total health expenditure (OECD Data Explorer, n.d.). Further improvements in resource allocation should incorporate parameters such as disease burden, socioeconomic characteristics and geographic access disparities as key elements in budget setting. To date, no specific provisions for early action on NCDs are included in the annual state budget report that allocates funds across ministries (Ministry of National Economy and Finance, 2024). Given the critical importance of this issue for the long-term sustainability of the health system and for broader societal cohesion, dedicated allocation policies are essential.

In recent years, Greece's capacity to invest in prevention has been significantly strengthened through the National Recovery and Resilience Plan "Greece 2.0", funded by the European Union's Recovery and Resilience Facility (RRF). This mechanism has funded preventive initiatives that were introduced for the first time in Greece, including the National Screening Programme PROLAMVANO. However, as RRF funding is set to conclude at the end of 2025, concerns have emerged regarding the long-term sustainability of these essential prevention activities. To date, no official announcement has been made regarding future funding mechanisms to ensure the continuation of these programmes beyond the RRF period. Securing stable and sustainable financing for these initiatives is imperative to safeguard potential public health gains and ensure that preventive care remains an integral and permanent component of the national health system.

Subdomain 4.2: Coverage and financial barriers

While access to the NHS services is, in principle, universal and independent of insurance status, many patients with chronic conditions report unmet healthcare needs due to cost, long waiting times or geographic barriers (Kyriopoulos et al., 2014; Souliotis et al., 2015). Greece exhibits the

highest income-related inequality in unmet healthcare needs among EU member states: 23% of individuals in the lowest income quintile report that, during the last 12 months, they felt they needed medical care but did not receive it due to financial, geographic or waiting time reasons, compared to merely 3.4% in the highest income quintile (OECD/European Commission, 2024). Evidence indicates that the presence of at least one chronic disease is associated with unmet healthcare needs due to financial barriers (Zavras et al., 2017).

Beyond financial hardship, geographical accessibility constitutes an additional challenge. Data show that in 15 out of the 52 NUTS3 regions in Greece, less than half of the population lives within a 15-minute drive of a hospital (Eurostat, 2025e). As a result, residents in remote areas often face extended travel times and higher indirect costs, exacerbating inequalities in access to health services.

To mitigate the financial burden on patients with chronic conditions, Greece has introduced differentiated copayment structures based on disease classification, with the standard rate set at 25% (EOPYY, 2024). Reduced copayment rates include 10% for several cardiac conditions and type 2 diabetes, and 0% for cancer, type 1 diabetes, and chronic kidney disease. However, no specific copayment reductions exist for certain chronic respiratory non-communicable diseases, highlighting gaps in protection for these patient groups.

Out-of-pocket (OOP) spending for health has been estimated to constitute 4.3% of total household consumption in 2018, remaining stable up to 2022 (latest available data) (OECD, 2023a; OECD/European Commission, 2024). Medical goods account for the highest proportion of OOP payments (40.3%) followed by inpatient care (32%) (OECD/European Commission, 2024). OOP for medical goods is comparable to the EU average of 43.8%; however, for inpatient care the EU average is significantly lower than Greece, at 8.7% (OECD/European Commission, 2024). In this context, for the mitigation of OOP spending, proposed policies include annual caps on household user charges and exemptions from user charges for specific socioeconomic groups of the population (Kyriopoulos et al., 2025).

Socioeconomic disparities in health expenditure remain stark in Greece and were intensified during the economic crisis. The incidence of catastrophic health expenditure among middle-aged and elderly rose from 5.8% in 2007 (before the crisis) to 13.6% in 2015 (well within the crisis), disproportionately affecting low-income households (Kyriopoulos et al., 2021). This unequal burden persists: households in the lowest income quintile devote on average 9.0% of their overall expenses on medication, compared to only 2.7% among the wealthiest quintile (Crookes et al., 2020). More recent data shows that the overall rate of catastrophic health expenditure fluctuated from 9.7% in 2016, to 8.9% in 2019, and returning to 9.8% in 2022 (OECD, 2023a, 2019; OECD/European Commission, 2024) (Table 3).

Table 3. Share of households with catastrophic health spending by consumption quintile

	2016	2019	2022
Poorest	6.0%	5.3%	6.0%
2nd quintile	1.6%	1.5%	1.6%
3rd quintile	1.0%	0.9%	0.9%
4th quintile	0.6%	0.6%	0.7%
Richest	0.5%	0.6%	0.6%
Total	9.7%	8.9%	9.8%

Sources: OECD, 2023a, 2019; OECD/European Commission, 2024.

Financial vulnerability is particularly high among households managing chronic conditions. Evidence confirms that households with chronic patients face a higher risk of catastrophic expenditure (Kyriopoulos et al., 2021). In particular, patients diagnosed with NCDs such as diabetes, hypertension, and COPD are at substantial financial risk (Skroumpelos et al., 2014).

Subdomain 4.3: Financial incentives

Reimbursement of healthcare services in Greece generally follows horizontal approaches – such as salaries, capitation, or fee-for-service – that are not linked to care outcomes. As a result, providers face few financial incentives to optimise outcomes or deliver coordinated care. This limitation is evident across multiple sectors, from physician services to laboratory and diagnostic provision.

This is exemplified by the personal doctor system in primary care. Personal doctors in primary care are reimbursed by annual capitation, risk-adjusted by age group and capped by a maximum number of patients (Government Gazette Issue, 2024b). Although they are tasked with care coordination, prevention, and health promotion, the scheme does not include explicit performance-based incentives for integrated, coordinated care, nor does it incorporate a systematic monitoring system to evaluate their effectiveness. As of June 2025, the programme had enrolled 5,263 physicians and 5.1 million citizens (58.1% of beneficiaries). However, the existing design offers limited mechanisms to promote integration across levels of care (Hellenic Republic, n.d.).

In inpatient care, hospitals are reimbursed via a DRG system, using fixed prices. While DRGs improve transparency and cost control, in their current form they offer limited incentives for quality improvement. By contrast, private clinics and rehabilitation centres operate under differential contractual arrangements with EOPYY that embed quality – such as quality management systems (e.g. ISO certifications), digital services capabilities, biosecurity measures, outcome indicators (e.g., mortality rates), and equipment standards (Government Gazette Issue, 2023b). Meeting these criteria is tied to differential rebate rates, creating a financial incentive for private facilities to maintain and document the quality of their services. It is important though to distinguish between quality management systems – expressed as compliance with formal standards or certifications such as ISO 9001, including documentation, checklists, and procedural requirements – and actual quality of care, which is reflected in clinical outcomes like mortality, readmissions, patient satisfaction, and adherence to evidence-based practices.

A similar approach applies to diagnostics. Diagnostic laboratories must meet minimum prerequisites to contract with EOPYY. For specific imaging – such as CT and MRI scans – compliance with quality standards is linked to graduated rebate scales (Government Gazette Issue, 2022b).

Domain 4: Key findings, summary indicators and recommendations

KEY FINDINGS

- Greece spends a lower proportion of its GDP on health (8.5%) compared to the EU average (10.4%). The system is characterised by a high share of out-of-pocket (OOP) expenditure (33% of total health spending), which drives inequality and creates significant financial barriers to access.
- Funding allocation remains heavily skewed towards treating illness rather than preventing it. Inpatient care accounts for over 40% of health expenditure (vs 28% EU average), while spending on prevention remains disproportionately low.
- Greece records the highest level of income-based inequality in unmet healthcare needs in the EU. Low-income households and individuals with chronic conditions face a substantially higher risk of catastrophic health expenditure, where health costs threaten a household's ability to meet essential needs.

- The predominant fee-for-service model in outpatient care and the DRG-based reimbursement system in hospitals incentivise volume over value. There are few or no meaningful financial incentives for providers to deliver integrated, coordinated, or high-quality care, or to improve patient outcomes.
- Budgeting processes do not systematically account for future healthcare needs, disease burden, or inequality factors (e.g., socioeconomic status, geographic access). Moreover, recent healthcare initiatives rely heavily on the RRF, a temporary funding mechanism.

SUMMARY INDICATORS (RECOMMENDED OR AVAILABLE)

- Out-of-pocket expenditure as a share of total health expenditure, as a proxy for financial barriers and spending efficiency, highlighting a persistent weakness in Greece's healthcare financing.
- Allocation of expenditure across service types (inpatient, outpatient, medications, long-term care, collective services/prevention), as an indicator of the system's reactive/proactive orientation.
- Rate of catastrophic health expenditure by income quintile, measuring the household financial burden of illness, gaps in insurance coverage, and system performance in meeting healthcare needs
- Share of reimbursement linked to value or quality metrics, serving as a proxy for efficiency and the degree of progress toward value-based healthcare
- Availability and use of financial incentives promoting integrated care of NCD patients, as an indicator of the system's transition towards an outcomes-oriented and efficient model.

INDICATORS LACKING DATA

- Disease-specific expenditure for the major NCDs
- Geographic variation in health expenditure and resource allocation (per capita health spending and financial resources by region)
- Household financial burden by disease, including average OOP costs for households affected by specific chronic conditions
- Return on Investment (ROI) for prevention programmes, i.e., a systematic analysis of the cost savings or health benefits achieved per euro invested in specific preventive activities.
- Performance and outcomes data from pilot projects testing alternative payment models (e.g., bundled payments, capitation with quality bonuses for primary care).

RECOMMENDATIONS

1. Secure sustainable financing for the PROLAMVANO screening programme by transitioning from RRF-based ad hoc funding to a stable, long-term model
2. Expand community-based care through dedicated funding for community and home-based care programmes for chronic disease management
3. Implement multi-annual, ring-fenced financial frameworks for NCD action plans to ensure long-term, predictable funding
4. Introduce pay-for-performance schemes in primary care, linking provider compensation to patient outcomes and utilisation of screening, as well as diagnostic and preventive services
5. Promote healthy diet and reduce risk factors by lowering VAT on healthy food options, while introducing health taxes on harmful products (e.g. tobacco, sugar). Earmark revenue from these taxes specifically for public health actions in prevention, early diagnosis and management of NCDs.

DOMAIN 5

Workforce



A resilient and well-structured health workforce is fundamental to an effective healthcare system. In Greece, however, the absence of a strategic approach to workforce planning has led to critical shortages and maldistribution of staff. The country lacks a comprehensive national health workforce strategy and dedicated systems for forecasting personnel requirements. Consequently, the workforce suffers from persistent imbalances in both its composition and geographical distribution.

Compounding these structural issues is the ongoing challenge of health professional migration, which further undermines system resilience. During the economic crisis, more than 20,000 doctors emigrated from Greece (Athens Medical Association, 2022). This “brain-drain” phenomenon also extends, albeit to a lesser extent, to other health professionals, including nurses, who have chosen to pursue their careers abroad in search of better economic opportunities (Arvanitakou and Kotsiou, 2025).

Subdomain 5.1: Workforce supply

Compared to other EU countries, Greece stands out as a dual outlier in terms of its health workforce composition. It maintains the highest density of doctors in the EU (6.6 practicing doctors per 1,000 population, compared to the EU average of 4.2), while simultaneously recording the lowest density of nurses in the EU (with 3.8 practicing nurses per 1,000 population compared to an EU average of 8.4). This imbalance is reflected on the nurse-to-doctor ratio in Greece, which is 1.5 – substantially below the EU average of 2.2 (OECD/European Commission, 2024). As shown in Figure 23, both the number of practicing physicians and nurses per 1,000 population have increased between 2010 and 2022.

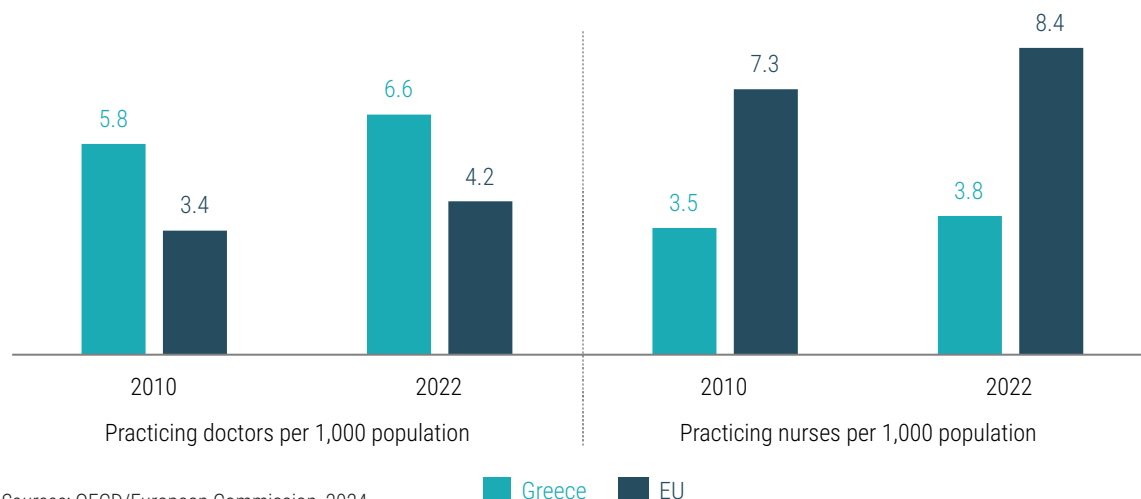
Another notable issue concerns the composition of physician workforce. Greece has a notably low share of general practitioners (GPs) – 6% of physicians compared to the EU average of 21% – and a correspondingly high proportion of specialists (80% vs an EU average of 67%). The remaining 14% consists of other non-specialist medical practitioners, recent medical graduates and other doctors not further defined (OECD/European Commission, 2024). Moreover, there are critical shortages in certain specialties, such as internal medicine, general practice and anaesthesiology. Over 60% of physicians are concentrated in Attica and Central Macedonia, while only 10% are located in the island regions. This imbalance between metropolitan and peripheral regions – one of the most pronounced among OECD countries – undermines equitable access to essential services for the prevention, diagnosis, and treatment of NCDs (Hellenic Statistical Authority, 2024a; OECD, 2023a; OECD/European Commission, 2024).

Data on the regional nursing distribution is not readily available. The most recent available data (2015) indicate that the density of nursing and midwifery professionals (including health visitors) was highest in the Attica region (27 per 10,000 population) followed by Ipiros region (25 per 10,000 population). For nursing associate professionals (including practical nurses), the highest density was observed in Ipiros region (27 per 10,000 population) followed by Attica and Thessalia regions (both at 21 per 10,000 population) (Rafferty et al., 2019). It is also notable that Greece records the highest number of dentists (1.3 per 1,000 population) compared to the EU average of 0.8/1,000 population (OECD/European Commission, 2024).

Regarding the availability of allied health professionals, Greece records a rate of 108 practicing pharmacists per 100,000 population, compared to an OECD average of 85 per 100,000 (OECD, 2023a). Furthermore, the country exhibits the highest rate of community pharmacies among OECD countries, with a rate of 97 per 100,000 population compared to an OECD average of 28 per 100,000 population. The number of physiotherapists has increased significantly – by approximately 40% over the past decade (Hellenic Statistical Authority, 2024b). However, comprehensive data on community health workers remain unavailable. Genetic counselling services face structural limitations, as provision depends on treating physicians collaborating with clinical laboratory geneticists, with no dedicated medical geneticists or genetic counsellors available (Fountzilias et al., 2022).

An additional concern with implications for the future capacity of the Greek health system relates to the career aspirations of adolescents. Fewer than 1% of 15-year-olds expect to become nurses – well below than the OECD average of 2.1%. Additionally, more than 8% expect to become doctors, roughly equal to the OECD average of 8.1% (OECD, 2025c).

Figure 23: Trends in workforce supply in Greece



The Greek MoH has acknowledged these shortages and introduced financial incentives (€40,000 as one-off grant) to encourage medical graduates to specialise in internal medicine and general medicine (Ministry of Health, 2024c). These measures aim to expand the pool of internists and general practitioners and to support the implementation of the personal doctor reform (see below). Notably, only 6% of Greek medical school graduates choose internal and general medicine as their specialty, compared to an EU average of 26% (Ministry of Health, 2023f).

Several financial and non-financial incentives have also recently been introduced to attract doctors to rural and island regions. These include annual allowances ranging from €3,600 to €7,200, reduced mandatory service periods, and increased educational leave allowances for doctors staffing healthcare units in these areas (Kathimerini, 2024).

Beyond the imbalances described, the absence of multidisciplinary approaches to address healthcare needs limits health system's capacity to manage multimorbidity effectively. Moreover, there is no policy framework to promote task-shifting or task-sharing, as strategies to optimise workforce capacity and to meet the growing and complex demand for NCD management. This can be partially attributed to ring-fencing of professional roles across different specialties, reinforced by regulatory provisions that restrict delegation or sharing of activities among health professionals. This represents a key barrier to be addressed, as task shifting can improve access to care and make more efficient use of available human resources, provided that this is supported by adequate training and supervision (European Commission, 2019).

Greece is currently piloting alternative care pathways and integrating technology solutions aimed at enhancing patient care and improving staff utilisation. The use of digital health technologies, such as telehealth platforms and remote patient monitoring, has the potential to improve efficiency of care delivery; however, their implementation is not yet linked to meaningful workforce incentives.

Subdomain 5.2: Training and workforce development

Education and training related to NCDs are generally driven by academic institutions and scientific associations through research initiatives, professional development activities and dedicated training programmes. Greek universities also offer postgraduate programmes in the management of NCDs. However, the absence of a coordinated national policy for the training of health professionals in NCD prevention, diagnosis, and treatment weakens the system's ability to respond to the growing NCD burden. This gap contributes to inconsistent quality of care across regions, increased reliance on hospital services due to inadequate primary-level management, and higher long-term costs for the health system (Tsiachristas et al., 2015). Notably, most visits to primary care physicians in Greece involve prescribing medications, rather than engaging in preventive care or early detection of NCDs (WHO Regional Office for Europe, 2022).

Training and workforce development should therefore be aligned with current population health needs, the evolving roles of health professionals, and projected epidemiological and demographic trends.

According to recently enacted legislation, the duties of the personal doctors include (Government Gazette Issue, 2024c):

- the management of common chronic diseases and conditions within the community, major risk factors, and healthcare and rehabilitation services, as well as the coordination and referral to other specialists and reference hospitals
- the implementation of preventive and screening programmes, vaccinations, and other health promotion activities
- the support, guidance, and navigation of patients within the healthcare system
- the referral of patients to other physicians, other levels of care, and for diagnostic testing, including preventive and screening examinations, in accordance with specific guidelines and protocols established by the MoH based on international standards
- the regular updating and maintenance of each citizen's Electronic Health Record for every individual registered with the personal doctor, in order to ensure continuity and coordination of care

These responsibilities underscore the need for continuous medical education that reflects evolving best practices across all domains of patient-physician interaction and health system engagement. Currently, training standards and university curricula are periodically revised to align educational programmes with contemporary healthcare requirements (Cinoku et al., 2021). However, these updates lack systematic integration of NCD-specific competencies and emerging technological requirements.

Given the rapid pace of scientific knowledge and technological advancements, it is essential to conduct regular reviews of training curricula to ensure that educational content remains up-to-date, incorporates emerging innovations and responds to evolving public health priorities. A further critical gap is the absence of any policy forecasting the workforce needs emerging from digital transformation and the implementation of artificial intelligence (AI) in the health system. Addressing this challenge will require implementation of comprehensive training programmes, to ensure that health staff acquire the relevant skills to use these new technologies effectively.

A positive step towards bridging the theory-practice gap is also found in Law 5157/2024. To promote hands-on training while also strengthening access to primary care, this legislation includes, among others, the transformation of eight health centres into university health centres. These facilities will provide services such as telemedicine, preventive medicine, and public health research, while also functioning as training hubs for primary care professionals. Each centre will be linked to a

designated university medical school and staffed by faculty members (European Observatory on Health Systems and Policies, 2025).

The legislative focus on the personal doctor model raises a fundamental question about its relevance in a healthcare landscape increasingly characterised by multimorbidity. While internationally associated with better outcomes, the physician-centric approach may be insufficient for complex, modern care needs stemming from the increasing prevalence of multimorbidity. In this context, a shift toward multidisciplinary care teams may offer a more suitable solution. This transition warrants a comprehensive discussion encompassing not only clinical considerations but also the structural, financial, and governance implications of implementing such a model.

This shift underscores the importance of investing in training and workforce development across all health professionals, not just physicians. Greek universities currently offer both undergraduate and postgraduate courses in public health, community health, and chronic disease management. However, it is crucial to translate academic training into practice by creating clear career pathways and fully integrated roles for professionals such as nurses, physiotherapists, dietitians, and community health workers within primary care teams. Ultimately, moving from a physician-centric model to a truly collaborative, team-based approach is essential for effectively managing the complexity of NCDs.

To achieve the above, an essential step is the introduction of a national workforce strategy for health. This strategy should include, among others: (a) a comprehensive assessment of current status (b) projections for future needs for healthcare professionals (c) projections on the necessary skillset of health professionals (d) projections for new roles or new specialties, such as data analysts or AI professionals (e) a special focus on wellbeing and career opportunities of health professionals, especially focusing on burnout and retention rates, which are not systematically tracked (f) a set of incentives to attract and retain healthcare professionals, especially in remote areas (g) clear guidelines for the collaboration between the key authorities that can play a role in the activities for continuous education and development of the healthcare sector human capital (the ministries of Health, Education, Digital Governance, Labour and Social Affairs etc.)

Only a strategic, system-wide effort will enable Greece to align its resources and build a resilient health workforce capable of meeting the evolving challenges of the future.

Domain 5: Key findings, summary indicators and recommendations

KEY FINDINGS

- Greece has an imbalanced workforce structure: characterised by the highest doctor density in the EU (6.6/1,000) and the lowest nurse density (3.8/1,000). This is compounded by severe maldistribution, with over 60% of physicians concentrated in two metropolitan regions, creating major access gaps in rural and island areas
- There is a significant shortage of general practitioners (GPs), who represent only 6% of doctors (vs EU avg. 21%), and of internists
- The system has experienced a major outflow of health professionals, especially during the economic crisis. A major future concern is the very low share of young people interested in becoming nurses, which poses an additional challenge.
- There is no comprehensive strategy for health workforce planning, forecasting future needs, or promoting task-shifting/sharing. Similarly, no policy framework exists to prepare the workforce for the skills required by digital transformation, including the use of artificial intelligence (AI) in healthcare.

- The recent establishment of the "personal doctor" role is a positive step towards strengthening primary care. However, its success may be constrained by the pre-existing shortage of GPs. It remains uncertain whether the new financial and non-financial incentives will be sufficient to attract doctors to underserved areas and encourage participation in this new role.
- Task-sharing and task-shifting approaches remain limited, likely due to entrenched ring-fencing between specialties.
- Coordination between the Ministries of Health and Education remains weak, resulting in misalignment between educational curricula and current and future health system needs.

SUMMARY INDICATORS

- General practitioners and internists per 1,000 population, as an indicator of the availability of resources for integrated primary care delivery
- Practicing nurses per 1,000 population, as a key indicator for the availability of important resources in the system, linked to performance and quality-of-care outcomes
- Ratio of nurses to doctors, reflecting the system's resource balance, capacity for holistic care, and potential for expanding task-shifting and task-sharing activities.
- Annual net migration of healthcare professionals, as a measure of overall working conditions and the system's ability to retain its workforce through adequate incentives.
- Uptake of personal doctor enrolment per region, as a key indicator to monitor ongoing primary care, complemented by patient-reported metrics on service quality and care coordination.

INDICATORS LACKING DATA

- Comprehensive data on health workforce, including their skill set
- Data-driven forecasts of future workforce supply and demand by specialty and region
- Regional distribution of nursing staff and allied health professionals
- Percentage of workforce trained in digital health and telemedicine
- Tasks that can be shifted and/or shared between healthcare professionals
- Workforce burnout and retention rates, by sector and region

RECOMMENDATIONS:

1. Strengthen the digital capacity of health workforce through training in the use of electronic health records (EHRs), telemedicine platforms, and remote monitoring systems for NCD care
2. Offer financial incentives, housing support, and professional development opportunities to attract and retain healthcare workers in rural and island regions
3. Establish a formal collaboration between the Ministry of Health and the Ministry of Education to ensure regular updates to healthcare professional curricula. Updates should include new care delivery models such as AI and telemedicine applications, home-based care, NCD prevention and early detection, and comprehensive disease management approaches.
4. Introduce multidisciplinary, team-based management models for NCD patients in primary care settings to address the increasing prevalence and complex needs of patients with multimorbidity.
5. Develop a comprehensive multi-annual human resources strategy for health, which incorporates future demographic and epidemiological projections, including NCD burden projections and evolving competencies needs.

DOMAIN 6

Medicines & Technology



Subdomain 6.1: Access to diagnostics and treatment

Access to medical technologies, including diagnostic equipment and therapeutic interventions, is critical for effective patient management. In this context, Greece faces significant challenges in the assessment, reimbursement, and availability of medical technologies.

The availability of medicines has been a subject of extensive debate in Greece for many years, mainly driven by the pharmaceutical policy measures introduced during the fiscal adjustment period, as well as by subsequent measures in the years that followed. A key element of this debate concerns the number of treatments authorised by the EMA that are available in Greece. For example, between 2020–2023, of the 173 medicines approved for patients in Europe, 75 (43%) were available (i.e., formally reimbursed) in Greece, slightly below the EU average of 80 (46%) (Newton et al., 2025).

In oncology medicine, of the 56 medicines that received EMA approval in the period 2020–2023, 33 (59%) were available in Greece as of January 2025 (Newton et al., 2025). Regarding access to precision medicines in oncology, a recent study (Normanno et al., 2022) showed that 75% of available medicines are reimbursed in Greece. The mean waiting time from approval to public reimbursement for new cancer medicines is estimated at 657 days, compared to an EU average of 586 days (Hofmarcher et al., 2024; Newton et al., 2025). Previous studies had estimated that the time from marketing authorisation to listing was as high as 31.2 months for novel oncology medicines, while for cardiovascular diseases, fixed dose combinations had a waiting time from approval to reimbursement of 17.9 months (Beletsi et al., 2023). As such, the overall waiting time for new molecules has reduced over time, but still remains higher than the EU27 average (Newton et al., 2025).

Delays in the formal reimbursement of medicines have long been an issue of controversy in Greece. These delays can be attributed to several factors, foremost among them the so-called “5/11 rule” – a legal prerequisite stipulating that, for a marketing authorisation holder to apply for reimbursement, the medicine must already be reimbursed in at least 5 out of a designated basket of 11 countries. Additional contributing factors may include comparatively lower prices for on-patent medicines due to the external reference pricing system, substantial paybacks (rebates and clawbacks), and strategic launch sequencing – whereby products are prioritised for launch in larger or more financially favourable markets. Moreover, the availability of the named-patient process (described below) provides an alternative route to market presence, particularly for treatments for rare diseases.

A mechanism that ensures availability of a drug on a named-patient basis has been also implemented and extensively used. This process is executed through the Institute for Pharmaceutical Research and Technology (IFET), a subsidiary of the National Medicines Agency (EOF), which is responsible for importing and supplying medicinal products that are not available in the Greek market but considered necessary for the treatment of patients (IFET, n.d.). While this mechanism addresses essential gaps in patient care – particularly for those with rare diseases – it does not constitute a formal assessment and reimbursement mechanism and has been over-used during recent years. Concerns have also been raised regarding elevated pricing compared to properly marketed and reimbursed medicines (Negkis, 2024), as well as likely inefficiency in the process itself.

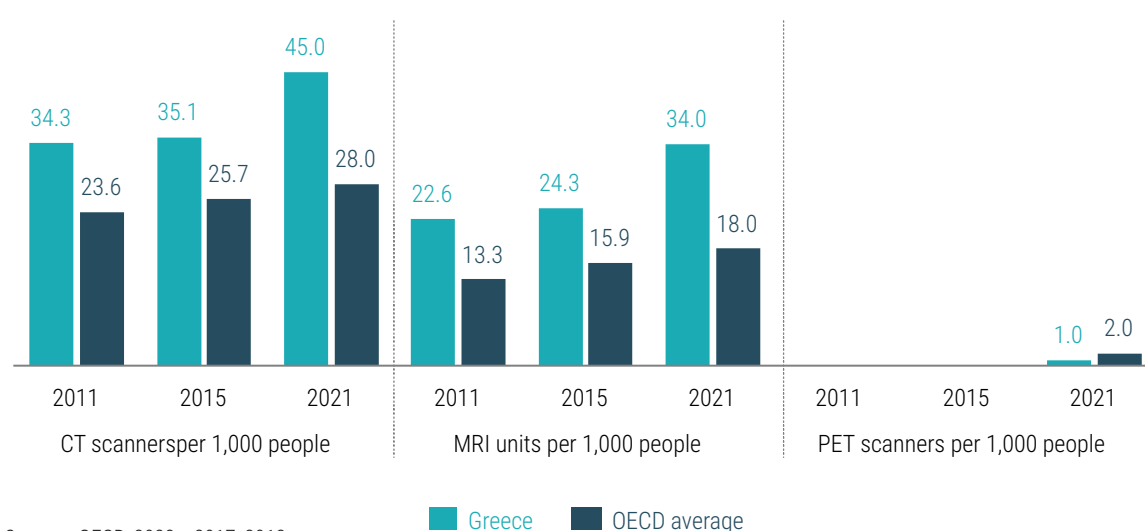
In Greece, discussions surrounding biomedical technologies tend to focus on pharmaceuticals. Over recent years, most regulatory initiatives, including the establishment of a Health Technology Assessment process, have concentrated on this domain. No HTA framework exists for other technologies such as medical devices, surgical approaches, imaging techniques, or digital applications. The existing HTA framework applies exclusively to pharmaceuticals, and the evaluation process is based mainly on clinical criteria, the severity and burden of disease, mortality and morbidity impact, and safety and tolerability profiles (Government Gazette Issue, 2018). While

economic evaluation is incorporated into the appraisal process, it remains under-used, and ethical, societal or institutional considerations are not included. A reform is currently underway to align the current HTA processes with EU standards and best practices as well as to extend the framework to include medical devices.

As noted previously (Domain 2), therapeutic and prescribing protocols have been adopted in Greece for several NCDs. These protocols are intended to set specific pathways for prescribing behaviour, drawing primarily on clinical evidence and, to a much lesser extent, economic considerations. In addition to the protocols, prescribing behaviour is controlled by prescription quotas/limits which are set by the social insurance (Government Gazette Issue, 2021b), typically based on the average prescribing behaviour of a physician by specialty and geographic region. Efforts are currently underway to introduce AI algorithms in monitoring prescribing behaviour to detect trends, provide personalised feedback and identify irrational prescribing, or consistent deviations from clinical guidelines. Beyond direct prescribing controls, mechanisms for managing the introduction of new drugs remain limited. For instance, early access schemes are not routinely employed in Greece. The country's experience thus far has focused primarily on financial-based managed entry agreements (MEAs), rather than performance-based MEAs (Zisis et al., 2024).

Regarding diagnostics, in 2021, Greece ranked fifth among the 38 OECD countries in the cumulative availability of CT scanners, MRI units and PET scanners, after Japan, Australia, USA and Korea (OECD, 2023a) (Figure 24). However, detailed data on the condition and operational status of this equipment, especially within public sector hospitals, has not been available. To address this gap, the MoH has recently commenced a programme to develop a national registry of the available equipment and its characteristics, including data on utilisation rates and maintenance costs. The results of this initiative are expected to be available by the end of 2025.

Figure 24: Availability of CT scanners, MRI units & PET scanners



Sources: OECD, 2023a, 2017, 2013.

In 2022, hospitals were estimated to have 5.5 catheterisation labs per million people, ranking the country third among European countries, well above the European average of 3.1 catheterisation labs per million people (European Society of Cardiology, 2025). However, limited data are available to assess how efficiently or effectively these resources are utilised.

Subdomain 6.2: R&D capacity

Greece's investment in Research and Development (R&D) remains limited, with national expenditure amounting to 1.49% of GDP in 2023, substantially below the EU27 average of 2.24% (Eurostat, 2025f) (Table 4). The business enterprise sector is the largest contributor (0.74% of GDP), followed by higher education (0.44%) and government (0.31%). The pharmaceutical industry's R&D investment reflects this modest baseline, rising from an estimated €76 million in 2019 to €95 million in 2020, before a slight decline to €91 million in 2021, representing 7% of the country's total R&D expenditure (Foundation for Economic & Industrial Research, 2024).

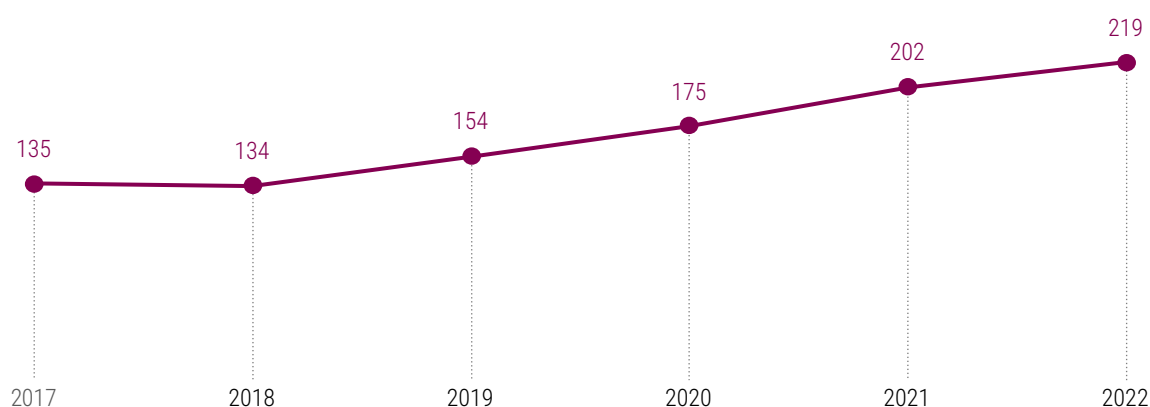
Table 4. R&D expenditure as % of GDP

	2020	2021	2022	2023
Greece	1.49	1.43	1.48	1.49
EU27	2.28	2.24	2.23	2.24

Source: Eurostat, 2025f.

A key indicator of research activity, clinical trials, shows encouraging growth. Between 1998 and 2023, Greece has participated in a total of 4,244 clinical trials, with a clear upward trend being observed in recent years. In particular, the number of trials has risen steadily from 135 in 2017 to 219 in 2022 (Foundation for Economic & Industrial Research, 2024) (Figure 25).

Figure 25: Number of clinical trials



Source: Foundation for Economic & Industrial Research, 2024.

Recent policy efforts aim to build on this momentum. In 2023, legislation was enacted to establish independent clinical studies departments within NHS hospitals (Government Gazette Issue, 2023c). Furthermore, to incentivise research, development, and production of pharmaceuticals in the country, an offsetting clawback mechanism has been introduced for pharmaceutical companies that invest in R&D activities, including industrial research, experimental development, phase I, II and III clinical trials (Government Gazette Issue, 2023d). The initial offset amount was set at €150 million, and subsequently increased to €200 million (Government Gazette Issue, 2024d).

However, progress continues to be hampered by the absence of a cohesive national strategy. The National Council for Research, Technology and Innovation (ESETEK), established as the supreme advisory body for this purpose (ESETEK, 2014), has seen its role diminished (Kathimerini, 2025). Therefore, while recent legislative and financial measures represent important steps forward, their ultimate sustainability will depend on their integration into a broader, coherent national plan for research and innovation.

Subdomain 6.3: Digital health and data

The digital transformation of Greece's health system has gained significant momentum, largely driven by funding from the National Recovery and Resilience Plan ("Greece 2.0"). A central mechanism driving this transformation is the electronic prescription (e-syntagografisi) system which was first introduced in Greece during the implementation of the first Economic Adjustment Programme. This mechanism can control health expenditure by monitoring the prescribing behaviour of physicians. The system now covers prescriptions for medicines, lab and imaging tests, and other relevant services.

Another important element is the development of electronic medical records (EMRs), managed by IDIKA – the body responsible for electronic governance of social insurance (Government Gazette Issue, 2017). The effort for the implementation of the EMR system was initiated in 2018, and by 2025, it was integrated into the National Electronic Health Record. EMRs are accessible to both citizens/patients and their physicians, including information on medical history, previous prescriptions, diagnoses, hospitalisation records, physician visits, vaccinations, allergies and other relevant information. The national electronic health record allows for interconnection with other databases such as patient registries, the national vaccination registry and the digital unified surgery list.

To enhance accessibility and user experience, the application titled "MyHealth" has been launched for smart devices. It serves as a mobile version of the National Electronic Health Record, allowing citizens to access their medication prescriptions, diagnostic test referrals, test results, medical appointments and medical certificates (MyHealth, n.d.).

Physicians can access patient files, enter information such as diagnoses and test results, and prescribe medications, tests, and other healthcare services (e.g., physiotherapy). The use of EMRs was well-received in its initial phase by primary care practices in Greece (OECD, 2023a).

As a result of the establishment of the National Electronic Health Record, healthcare data is now easily collected within the system. The competent authority for the collection of this data is IDIKA (Electronic Governance of Social Insurance S.A.). However, to date, availability of such data for research and policy making has been limited.

A major current priority is the digital transformation of hospitals, funded mainly through the RRF. A key project aims to improve hospitals' digital readiness by transitioning from paper-based to digital records and ensuring interoperability between health facilities (IDIKA, n.d.).

While most necessary actions to achieve hospital digital readiness are expected to be completed by the end of 2025, a long-term strategy will be essential to address future infrastructure and human resource needs, ensuring that hospital digital capacity remains up to date. According to the MoH, additional digital services will continue to be introduced in the public hospitals – among them, a digital system for outpatient appointment scheduling, which became operational in October 2025.

Specific disease-focused digital projects are also underway. One such project is the Oncologic Information System, which will utilise a shared database of chemotherapy and radiotherapy records, providing clinicians with a single access point for patient data. The project aims to improve clinical and economic outcomes through timely and accurate diagnosis, personalised treatment plans, optimised preparation of medications, etc. (IDIKA, n.d.).

Another digital initiative that is currently being developed is Healthflix, a platform that will provide multimedia material to improve health literacy. Healthflix will be interconnected with another digital tool called Health Consultant (Σύμβουλος Υγείας), which aims to promote health by focusing on the management of risk factors (e.g., diet, smoking, and obesity). It will also encourage preventive services for early disease detection and function as a calendar for reminders of medical and diagnostic appointments. Both initiatives are funded by RRF, and a national campaign to raise awareness and encourage uptake is in progress.

Digital tools that facilitate chronic disease management have been also considered. For example, continuous glucose monitoring devices are fully reimbursed for type I diabetes and gestational diabetes (Government Gazette Issue, 2023e). Discussions are ongoing to expand coverage to other forms of diabetes. The introduction of digital technologies into the health system underscores the need for regulatory mechanisms to assess, appraise and reimburse technologies that demonstrate value. HTA can play a pivotal role in this process.

Telemedicine represents another critical area for digital development. Since 2016, the National Telemedicine Network has been operational in the 2nd Health Region of Piraeus and Aegean Islands, providing doctor-patient telemedicine services and home healthcare. An educational centre for telehealth training of medical and nursing staff also operates in Piraeus. Currently, under the National Recovery and Resilience Plan “Greece 2.0”, the National Telemedicine Network is being expanded nationwide (Information Society, 2022).

To further facilitate care coordination, a four-digit helpline (1566) has been introduced, allowing citizens to schedule appointments with primary healthcare services – an initiative that has expanded to hospital services (Ministry of Health and Ministry of Digital Governance, 2025). Additionally, the code of medical conduct was recently updated to include the provision of medical services via digital tools for prevention, diagnosis, treatment and rehabilitation (Government Gazette Issue, 2025, 2024e). However, concerns have been raised regarding the lack of technical specifications, licensing procedures, or certification requirements of such services. In addition, revising the current reimbursement framework to incentivise the use of such services could improve their uptake and reduce geographic disparities for remote populations.

Although the digital transformation of the system has been quite fast-paced, Greece faces considerable challenges in closing the gap with other EU countries. In 2018, Greece ranked among the lowest in the EU27 for the adoption of EMRs (26th), health information exchange (25th) and overall adoption of eHealth (23rd) (European Commission, 2018). By contrast, Greece ranked significantly better at indicators such as adoption of telehealth (8th) and adoption of the personal health record (16th) (European Commission, 2018).

Initiatives to integrate AI tools in service provision is also underway, with the examples including the 'digital assistant' for physicians. Greece will also host one of the seven EU AI Factories (the Pharos AI Factory), to serve as a hub for research in areas including health. By 2026, authorities expect a full digital leap, with AI integration and alignment with the EU's European Health Data Space regulation.

Finally, the human factor is pivotal. Digital literacy is essential for both healthcare professionals and patients to effectively utilise digital health tools. Eurostat data show that, in 2023, 52.40% of individuals in Greece had basic or above basic overall digital skills, close to the EU27 average of 55.56% (Eurostat, 2024c). However, these figures do not necessarily translate into effective utilisation of digital health tools, as those most in need of healthcare may have the lowest digital literacy and limited access to digital resources. Moreover, the digital competency of healthcare professionals – including physicians and nurses – has not yet been systematically measured or assessed.

Domain 6: Key findings, summary indicators and recommendations

KEY FINDINGS

- Greece appears to have a slower formal access to new medicines compared to the EU average. This is partly due to complex pricing and reimbursement rules and a heavy reliance on clawbacks, which act as counterincentives.
- A formal HTA process exists only for pharmaceuticals and is based primarily on clinical criteria, without incorporating critical economic, ethical, and societal considerations.
- No HTA framework currently exists for medical devices, diagnostics, or digital health technologies, leading to fragmented and potentially inefficient adoption.
- Greece has a high density of advanced diagnostic equipment (including CT, MRI scanners and cath labs) relative to its population size. However, utilisation rates, waiting times for diagnostics, and regional distribution are not systematically measured.
- Core digital infrastructure is in place or under development, but a significant gap remains in leveraging collected resulting data for research, quality improvement, and policy formulation. New digital health tools (e.g., telehealth and apps) are being introduced, but a comprehensive framework for evaluation, reimbursement, and digital literacy among users and providers is still lacking.

SUMMARY INDICATORS (RECOMMENDED OR AVAILABLE)

- Time from EMA approval to formal reimbursement for pharmaceuticals, as a summary indicator of the efficiency of the regulatory process
- Degree of availability of medications, as a summary indicator of the efficiency and decision-making aspects of the regulatory process
- Percentage of new pharmaceuticals, medical devices, and digital health tools undergoing comprehensive Health Technology Assessment
- Number of procedures performed per diagnostic device (MRI, CT, PET-scan, etc.), as a measure of the utilisation of resources
- Expenditure on R&D (public-private)
- Number of clinical trials conducted in the country (by phase)

INDICATORS LACKING DATA

- Waiting times for critical diagnostics like MRI, CT, and PET scans, disaggregated by region.
- Number of applications, approvals, and total expenditure of medicines accessed through the IFET mechanism for non-reimbursed drugs
- Uptake and active use of digital tools (e.g. MyHealth app, telemedicine services, and EHRs) by citizens and healthcare professionals.
- Digital health literacy scores for health professionals
- Number of applications for data accessibility and successful data access from researchers and the civil society

RECOMMENDATIONS:

1. Enhance Greece's capacity to host NCD-focused clinical trials, that can foster early access to innovative therapies
2. Scale up the National Telemedicine Network across all the health regions to support NCD management in rural and remote regions
3. Introduce a health technology assessment and a reimbursement framework for medical devices and digital technologies, including health apps for the management and monitoring of NCDs
4. Promote the adoption of AI-based tools that support clinical decision-making for healthcare professionals, especially in the primary healthcare setting, for NCD management
5. Expand the MyHealth app with physician-oriented functions that utilise AI tools for the assessment of NCD risk or early identification, through the combination of laboratory data and data on the behavioural risk factors for health

DOMAIN 7

Environmental sustainability



Subdomain 7.1: Environmental impact of NCDs

Climate change is recognised as one of the greatest global threats to environmental sustainability, human health, and social well-being (Romanello et al., 2024). The integration of environmental sustainability policies with health policies and strategic plans in Greece is emerging but remains underdeveloped and fragmented (Athanasakis et al., 2022).

While Greece's national policy documents acknowledge the role of environmental factors in health, this recognition is not yet comprehensive and is inconsistently reflected in the prevention and control of NCDs. The National Climate Change Adaptation Strategy, published in 2016 by the Greek Ministry of Environment & Energy, identifies health as a vulnerable sector and calls for early warning systems, risk communication, and capacity building for health services to manage climate-related hazards (Greek Ministry of Environment & Energy, 2016).

The National Climate Law (N.4936/2022) as well as the updated National Energy and Climate Plan (Government Gazette Issue, 2024f) set ambitious environmental goals – such as reducing Greenhouse Gas (GHG) emissions by 55% by 2030 and, 80% by 2040 and achievement of carbon neutrality by 2050. Although the relationship between environmental determinants and NCDs is well established and extensively documented in international literature, their translation into integrated national policies in the country remains limited. An important part of the National Climate Law is the establishment of a National Council for Climate Change Adaptation, which serves as the central advisory body to coordinate, monitor, adopt, and evaluate policy actions related to climate change adaptation. In addition, the National Public Health Plan 2021-2025 of the MoH recognises climate change's impact on public health and outlines several targets aimed at improving environmental health:

1. Development of initiatives and networks for the safe management of hazardous waste from healthcare units
2. Upgrading of infrastructure and facilities for waste management in healthcare units
3. Development of guidelines and implementation of certified procedures for the management of infectious waste in private health facilities
4. Creation of guidelines and monitoring systems for the quality of drinking water
5. Development of National Guidelines to ensure environmental health
6. Strengthening the equipment of regional public health services for monitoring environmental health risk factors
7. Initiatives for the protection of biodiversity, focusing on urban ecosystems

At present, environmental factors linked to disease progression, hospitalisation, and exacerbations are acknowledged but not taken into account in a systematic way during the decision-making process in health policy formulation in Greece.

Future reforms, aligned with the European Green Deal and sustainable healthcare goals, could help bridge this gap by promoting policies that are both clinically effective and environmentally sustainable. Specific national data identifying which NCDs have the largest avoidable environmental impact caused by delayed diagnosis in Greece are limited. However, insights can be drawn from the WHO Health and Environment Scorecard. Notably, regarding air pollution, the annual mean of PM_{2.5} in Greece is three times higher than the WHO air quality guideline value (15 µg/m³ compared to 5 µg/m³). This carries a significant health burden, with evidence indicating that 16% of deaths from stroke and ischaemic heart disease in Greece are attributable to air pollution (WHO, 2023a).

Although the health impacts related to climate change are acknowledged, they are not yet systematically incorporated in national policies, and specific actions targeting the link between climate change and NCDs are missing. More specifically, there are no official national estimates quantifying healthcare emissions, waste and resource use attributable to NCDs in Greece, or any measurement of emissions from patient travel for NCD care.

In recent years, the Greek health system has taken steps to reduce its environmental footprint. A recent initiative is the energy upgrade of 67 public hospitals – costing 247 million euros – funded by the National Strategic Reference Framework (Greek Ministry of Economy and Finance, 2024). Moreover, the National Recovery and Resilience Plan includes energy efficiency renovations of public health infrastructure, including 80 hospitals and 156 health centres.

Greece does not routinely collect data on the environmental costs and potential environmental gain from sustainable practices of the health system units. According to an international study, the carbon footprint of the Greek health system accounts for 3.7% of the national footprint, lower than the global average of 4.4% (Karliner et al., 2019). In terms of cost, the annual expenditure on energy consumption for the Greek public hospitals exceeds 4% – and in some cases even 7% – of their total annual budget (Zaza et al., 2022). Regarding healthcare waste generation, this ranges from 0.3 to 3.6 kg per bed per day (Sepetis et al., 2025). A noteworthy policy measure towards the management of waste (including hazardous healthcare waste) was the development of a National Waste Management Plan in 2020 (Sepetis et al., 2022).

Finally, a key concept to consider when designing, developing, and implementing health policies is the “One Health Approach” (WHO, 2023c). This approach underscores the strong interconnections between human, animal, and environmental health, highlighting the need to dismantle sectoral barriers and foster interdisciplinarity and intersectoral collaboration, coordination, communication, and capacity-building to protect and promote health (WHO, 2023d).

Subdomain 7.2: Climate adaptation of NCD services

Greece has undertaken several initiatives to improve resilience to climate change and to mitigate the impacts of extreme weather events. An important initiative is the EU-funded project “LIFE-IP AdaptInGR – Boosting the implementation of adaptation policy across Greece”. The project aims to foster the implementation of the Greek National Adaptation Strategy and the 13 Regional Adaptation Action Plans during 2016–2025. Additionally, it aims to prepare for the transition to the second phase (post-2026), through action at national, regional and local levels (Adaptive Greece Hub, n.d.).

Despite these efforts, specific adaptations aimed at minimising the impact of climate change on NCDs are scarce. Overall, the health sector in Greece lacks a structured strategy or concrete action plan to address climate change adaptation and ensure health system sustainability. This leaves an important policy gap as climate-related health risks (air pollution, heatwaves, wildfires) could exacerbate NCD burdens significantly in coming years (Luyten et al., 2023).

The Greek government has coordinated a flagship action (Ministry of Development, n.d.), with the following main objectives:

- To integrate, harmonise and optimise existing climate services and early warning systems for major natural hazards and disasters in Greece, including corroborative observations and the development of specialised tools by competent national infrastructures
- To utilise new research outcomes and methodologies to introduce novel climate services and early warning systems for natural disasters related to climate change

- To establish a single national database that systematically collects, checks and archives climate and environmental parameters, as well as data from earth observation satellite systems, and data from value-added models and products; and to allow open and free use of the above by the Greek and international scientific community
- To disseminate accurate and timely information to institutional bodies that are responsible for decision-making and intersectoral policies (with an emphasis on tourism, agriculture, forests/ ecosystems, and civil protection). This is expected to enhance citizen protection and safeguard social and economic activities from the impacts of climate change

In Greece, hospitals have developed emergency preparedness and response plans (under the names 'Sostratos' and 'Perseas'), which are regularly tested to ensure readiness. In addition, a joint working group comprising representatives from the MoH and the Ministry of Climate Crisis and Civil Protection is currently developing operational plans for hospitals across the country to better address climate change and its impacts. The MoH also periodically issues public health guidance during hazardous conditions such as heatwaves, air pollution, wildfires, and wildfire smoke.

However, the existing national policy and regulatory framework for climate change adaptation lacks measures and provisions for vulnerable populations, particularly children. Incorporating child-focused strategies into climate policies is essential to building a more sustainable and equitable future for the next generation (Dikaïos et al., 2024). Moreover, adaptation strategies for other vulnerable groups – such as outdoor workers and underserved communities – remain limited and are primarily reactive rather than preventive.

The Greek Ministry of Labour and Social Affairs mandates restrictions on outdoor work during extreme temperatures. These include adjustment of work schedules (e.g., early start and early finish), provision of shaded rest areas and hydration, and suspension of work during severe heat events. Municipalities also actively attempt to protect vulnerable residents from rising temperatures. For example, Municipality of Athens has implemented a Heatwave Action Plan, which includes several actions including training provided by the Hellenic Red Cross, a helpline service, a dedicated website and mobile application, cooling centres and targeted support for the elderly (Municipality of Athens, n.d.).

Finally, climate change adaptation is also recognised among the main priorities by the general public. According to the most recent Climate Survey commissioned by the European Investment Bank (EIB), nearly nine in ten Greek responders acknowledge the need to adapt their lifestyle in response to the effects of climate change and the same proportion (90%) believes that investing in climate adaptation is urgently required to prevent greater costs in the future (European Investment Bank, 2024).

Despite this strong public mandate, Greece currently lacks a dedicated national budget for health sector climate adaptation or environmentally sustainable budget focusing on improving NCD care. Instead, relevant health-related climate initiatives – such as transitioning to renewable energy, installing solar panels and water-heating systems, upgrading to energy-efficient lighting, and improving infrastructure – are partially supported through broader EU co-funded programmes, including the National Strategic Reference Framework (NSRF) and the Recovery and Resilience Facility (RRF) (Athanasakis et al., 2022). This reliance on external and non-dedicated funding streams underscores a persistent gap between policy recognition and fiscal commitment.

Domain 7: Key findings, summary indicators and recommendations

KEY FINDINGS

- While national climate and energy policies are ambitious, their connection to health and NCDs remains indirect and fragmented. Health is recognised as a vulnerable sector, but environmental sustainability is not a core, integrated pillar of health policy or NCD management strategies

- Greece faces severe environmental risks that directly impact NCDs. Extreme heat events and air pollution are significant contributors to cardiovascular and respiratory mortality. However, the health system's response remains primarily reactive (e.g., heatwave warnings) rather than proactively embedded into care pathways
- There is a critical absence of routine data collection on the environmental impact of the health system, particularly in relation to NCDs.
- A structured, comprehensive national strategy for climate adaptation within the health sector is required to ensure the continuity and resilience of NCD services during climate crises.
- There is a need for actions to reduce the environmental impact of the health system, that extend beyond the current budgeting period, supported by the RRF
- The One Health approach – which recognises the interconnection of human health, animal health and environmental health – should be systematically integrated into future health system sustainability plans.

SUMMARY INDICATORS (RECOMMENDED AND AVAILABLE)

- Health system carbon footprint, measured as total annual carbon emissions generated by the health system per capita
- Percentage of healthcare facilities with established protocols to identify and manage NCD patients at high risk from climate events, as a measure of system resilience
- Number of days with extreme heat, a critical measure for Greece, given its exposure to climate change
- Air pollution concentrations
- Healthcare waste generation per facility or per hospital bed per day

INDICATORS LACKING DATA

- Climate resilience indicators in the form of a standardised score for major healthcare facility assessing resilience to climate threats
- Healthcare emissions, waste and resource use attributable to NCDs
- Emissions from patient travel for NCD care
- Avoidable hospitalisations due to environmental exposures
- Procurement budget spent on green/low-carbon products

RECOMMENDATIONS:

1. Develop a national strategy for mitigating the effects of climate change on mortality, accompanied by specific actions and measurable outcomes
2. Implement awareness campaigns on the impact of climate change, air-quality and environmental pollution on the incidence and progression of NCDs
3. Systematically integrate environmental considerations into all stages of health policy formulation and implementation
4. Develop resilient care pathways to ensure continuity of essential NCD services during natural disasters and environmental crises
5. Adopt a "Health-in-All Policies" approach by strengthening intersectoral collaboration with transport, agriculture, and energy sectors to address environmental determinants of NCDs

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