



FutuResilience

Building sustainable futures together

POLICY BRIEF #5

MAY 2025

BUILDING A RESILIENT HEALTHCARE SYSTEM: PREVENTIVE CARE AND TECHNOLOGY ECOSYSTEM

Key points

Bulgaria and other European countries face significant health care challenges, including rising costs, workforce shortages and the growth of the noncommunicable disease burden. This policy brief proposes the strategic initiatives needed for building a resilient health care system with an emphasis on preventive approaches and an evolving health technology ecosystem.

The findings from the **BAPEMED Lab** identified several core areas for strategic policy interventions, including the following:

- Strong governance for coordinated digital health leadership should be built.
- AI and digital tools can be used to improve care and decision-making.
- Data systems are aligned with EHDS to enable secure interoperability.
- Preventive care should be promoted through digital engagement and monitoring.
- Upskill a health workforce with essential digital competencies.
- Innovation should be supported via cross-sector collaboration and scaling.





Introduction

Bulgaria's healthcare system faces mounting pressures and financial sustainability challenges. While the country has made progress in the development of its health technology capabilities, significant gaps between policy and implementation remain. Commitment to **shifting from treatment to prevention** requires policy coordination, digital health governance, patient-centred design, and systematic workforce development. A comprehensive digital health innovation ecosystem can transform healthcare delivery while creating economic opportunities through local expertise and public-private partnerships. Thus, building resilience requires not only improving the response to crises but also creating adaptive systems capable of anticipating challenges and transforming healthcare in the face of unsustainable 50-year-long trends of cost increases in healthcare.

The FutuResilience project aims to strengthen European economic and social resilience through an enhanced ability to respond quickly to future crises. The **BAPEMED Lab serves as a testing ground for innovative policy solutions**, generating both locally relevant insights and contributing to a broader European knowledge base across borders.

The BAPEMED Lab has used foresight tools to test policy recommendations against multiple scenarios with the aim of selecting robust strategies to develop a more resilient healthcare system. Policies aimed at advancing these areas are vital for building societal resilience, not only directly as they promote healthcare resilience but also indirectly as they promise to significantly reduce vulnerabilities with wider societal implications.



Challenges of healthcare systems

Bulgaria faces diverse healthcare challenges driven by rising costs and a heavy disease burden, including high rates of preventable mortality from cardiovascular disease, cancer, and diabetes (World Bank, 2023). An ageing population, expected to exceed 30% over age 65 by 2040, further strains the system. Despite the existence of the National Health Information System, limited interoperability hampers care coordination and creates inefficiencies. Workforce shortages, driven by medical emigration and a widespread digital skills gap, especially among elderly individuals, hinder the effective use of digital health tools. Additionally, fragmented governance and poor collaboration across the public and private sectors obstruct the integration and scaling of digital health solutions.





Rising healthcare costs are not just a challenge in Bulgaria. Healthcare in many countries is witnessing rising costs measured as a share of GDP and, if continued, increasingly displaces other areas in government budgets, such as defence spending, education, or efforts to mitigate and adapt to climate change, thus potentially serving as a facilitating factor for multiple different crises. We demonstrate that this 50-year long, slow creeping, unsustainable crisis has occurred in many countries. (Fig. 1, Source: OECD database).

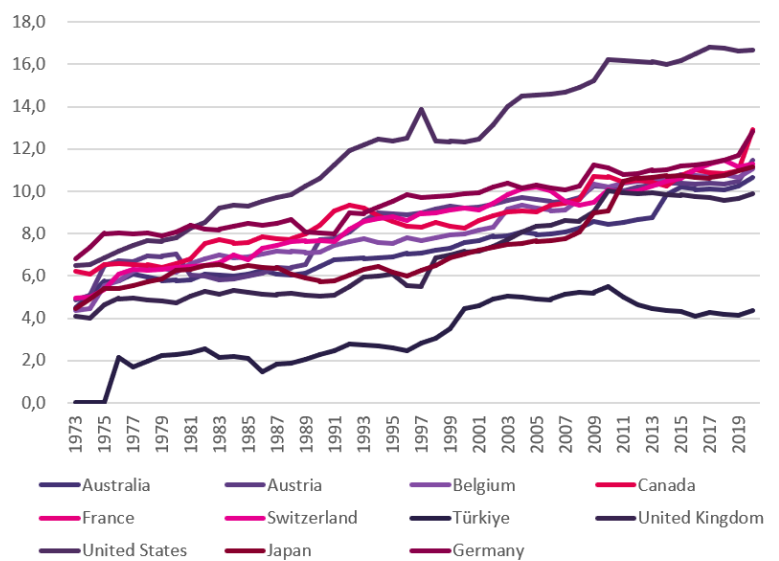


Figure 1 Expenditures on health share of GDP (all providers, all financing systems)

Strategic priorities for a resilient healthcare system

Strategic investments are needed to build healthcare systems capable of not only withstanding shocks but also becoming stronger and more adaptive to future challenges. Building true resilience requires collaboration and investments in key areas:

- **Governance and collaboration:** The governance framework for digital health transformation should be strengthened to ensure strategic alignment with the European Health Data Space (EHDS) governance framework and promote stakeholder collaboration. A multistakeholder governance network should be established to identify synergies and dependencies across the government and prevent silo thinking. Ensuring that decisions are guided by expertise rather than short-term political cycles.
- **Enhanced health information systems:** Patient-centred care requires a robust health information system architecture. This requires strengthening electronic health records and accessibility and data governance. It requires modernising the national health information infrastructure with unified standards and interoperable systems across all levels of care, both public and private, ensuring secure, high-quality data flows that support clinical decisions and emergency response. The establishment of robust data governance that enables secure data exchange with academic and innovation partners is needed to accelerate healthcare research and secondary data use.
- **Surveillance and early warning systems:** The COVID-19 pandemic demonstrated that resilient health systems need more than technological solutions. Policies must enable the integration of monitoring mechanisms to enable swift actions when threats are detected. This requires standardised structured data and the integration of diverse sources to enable real-time alerts and AI-driven epidemic intelligence. Surveillance systems that support crisis response with clear protocols and simulation-based training using digital tools should be strengthened.



- **Workforce agility and enhancing digital health literacy:** With the rapid pace of health technological advancements, building an agile healthcare workforce ensures that people and health professionals' skills are continuously updated to respond effectively to changing dynamics. This requires a new systematic approach to healthcare education and training, developing reskilling and creating certification programs in digital health and informatics, such as the SUSA Project, which is developing 20 bachelor's and 26 master's programs focused on digital health competencies. Additionally, workforce resilience should be supported through training, fair pay, mental health support, and cross-training, as well as leveraging artificial intelligence and augmented reality for emergency support and training.
- **Reinforcing digital health ecosystems:** Successful digital transformation requires solutions designed around the needs of patients and healthcare professionals. The implementation of emerging technologies and AI solutions can help build resilience and accelerate health system transformation. Additionally, strengthening national innovations through public private partnerships can accelerate the development and implementation of locally relevant solutions, which are important for uptake.
- **Shifting from treatment to prevention:** The Bulgarian National Health Strategy 2030 focused on prevention by promoting nationwide preventive healthcare programs and awareness campaigns needed to increase citizen-wide health literacy. This is accomplished by using predictive analytics and digital tools for early detection, community health promotion, chronic disease monitoring, expanding telehealth and aligning reimbursement mechanisms to support preventive care.

Policy implications

Building resilient healthcare systems centred on prevention and digital transformation represents both an urgent challenge and a strategic opportunity for EU Member States. Success necessitates political commitment to transcend electoral cycles, multistakeholder collaboration across sectors, and systematic implementation that balances immediate needs with long-term vision. By embracing digital health technologies, EU Member States cannot only address current healthcare challenges but also position themselves within an integrated European health data ecosystem that enhances care delivery, improves outcomes, and controls costs.

Strategic policy recommendations include the following:

- Cross-sector collaboration can be enhanced by **strengthening coordination across ministries** (health, education, climate, economy, digital governance) to break down siloes and align public and private healthcare efforts.
- Sustainable financing for **digital health transformation** through national budgets, EU funds, NGO support, and private sector investment should be secured to build resilience.
- Healthcare **regulations to support innovative care models** such as telemedicine, AI-assisted diagnostics, and home-based care should be modernised, ensuring that they are safe and scalable.
- **Prevention and digital health literacy** should be promoted, privacy concerns should be addressed, and the public should shift from reactive to proactive healthcare.
- Foster **national, regional, and EU-level collaboration** by participating in initiatives such as the European Health Data Space and AI research networks and expanding local efforts.
- Develop a **robust digital health ecosystem** through public-private partnerships, patient-centred design, workforce upskilling, and alignment with EU strategies.





Project Identity

Project Name	Creating FUTure societal RESILIENCE through innovative, science-based co-creation labs [FUTURESILIENCE]
Consortium	[Coordinator] European Future Innovation Systems (EFIS) Centre – Belgium; NTNU Social Research – Norway; Fraunhofer ISI – Germany; University of Ferrara – Italy; University of Urbino – Italy; Maastricht University – Netherlands; Regional Development Institute – Greece; Polytechnic University of Cartagena – Spain; Copenhagen Institute for Futures Studies – Denmark; Foresight Centre at the Riigikogu – Estonia; Mid-Sweden University – Sweden; Bulgarian Association of Personalised Medicine – Bulgaria; Municipality of Murcia – Spain; Municipality of Chios – Greece
Funding Scheme	Horizon Europe / HORIZON-WIDERA-2022-ERA-01: An experimentation space for the uptake and use of R&I results for EU resilience and future preparedness
Website	www.futuresilience.eu
Duration	36 months (January 2023 – December 2025)
Budget	€2,889,406.25

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