ELF Study 11

Live Long and Prosper

How Caring Liberalism and Friendly Markets Can Make Europe Healthier Than Ever

Edited by
Alva Finn
Maartje Schulz



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If we want people to live longer, healthier and more active lives, we need healthcare that learns, adapts and innovates. The ELF Study *Live Long and Prosper* offers valuable liberal ideas on how to strengthen innovation and prevention, give people greater choice and control over their health, and enable them to remain active participants in society

Sophie Hermans, Dutch Minister of Health, Welfare and Sport

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Foreword

Stine Bosse

ABOUT

Stine Bosse, MEP, Vice-President of the Renew Europe Group and Vice-Chair of the European Parliament's Committee on Public Health



Health is freedom: the freedom to live independently, to work, to care for the people we love and to make our own choices. It is not a cost to contain, but an investment in Europe's prosperity, resilience and security.

Yet Europe is losing the race to turn its science into treatments. In a decade, our share of global commercial clinical trials has almost halved, while China's has more than tripled. And Washington is openly pressing Europe to pay more for medicines.

None of this is inevitable. Europe has world-class researchers, a strong life sciences industry and a market of 450 million people. What we do lack is a single market for medicines and the tools to bring innovation to patients more quickly.

An ambitious European Biotech Act is a first step: making Europe the best place to run clinical trials, with the option to conduct one European ethics review; incentivising companies to invent and make medicines in and for Europe; and building cross-border pathways for diagnosis and care for those patients who need them most.

But the last mile runs through national capitals. Pricing and reimbursement are national, so Member States must work together far more on assessments, procurement and health data. The Nordic countries show it works. For a child with a rare disease, pooling expertise across borders can be the only route to a diagnosis. Joint action is cheaper for Member States and better for patients.

Living longer must also mean living better. That means taking prevention seriously, from chronic disease to brain and mental health, so people stay active and independent for longer.

I warmly welcome this ELF Study, *Live Long and Prosper*. Its message is fundamentally liberal: health is freedom, and well-functioning markets help deliver it. The goal is simple: medicines invented in Europe, made in Europe and reaching every patient who needs them, wherever they live.

Introduction

Alva Finn, Maartje Schulz

ABOUT

Alva Finn is the Executive Director of ELF.

Maartje Schulz is the Policy and Research Manager of ELF.



Europeans are living longer, but not necessarily healthier, lives. At the same time, European healthcare is reaching a breaking point. Challenges such as an ageing population, inflationary cost pressures, workforce shortages, and regulatory sluggishness mean that waiting lists are lengthy, clinical trials are fleeing to North America and Asia, and 'one-size-fits-all' state systems are failing to meet the personalised needs of our citizens.

Europeans care deeply about their health. In recent Eurobarometer surveys, health has consistently ranked among the top priorities of citizens. In the 2026 Eurobarometer, physical and mental health were identified as the leading determinants of life quality (at 51%), scoring even higher than respondents' financial situations. This underlines the fact that for Europeans there is no wealth without health. In some countries (such as Ireland and Portugal), health is the number one issue for voters. With a global pandemic behind us, and drawing on the lessons for resilient liberal health systems explored in Chapter 9, liberals have a unique opportunity and imperative to connect market dynamism and European competitiveness with human-centred care.

For liberals, the goal is clear: we want people to be able to lead long, healthy lives in which they can prosper and thrive. We want people to be able to do and achieve the things that matter to them, and not be impaired by illness for longer than necessary. This includes mental health. In Chapter 7, Camille Roux makes the case for earlier intervention and support that protects individual autonomy.

In our view, healthcare is neither solely a public service nor a market, but a precondition for liberty and democracy. To 'bring back care' into liberalism, we must move beyond the false dichotomy of state-run systems versus predatory private providers. We therefore propose a 'Caring Liberalism', as outlined in the opening chapter by Martin McKee and Nathan Murphy, that empowers patients as consumers and citizens, incentivises prevention and homegrown small and medium-sized enterprise (SME) innovation, and creates a competitive European Health Union.

The liberal vision we advocate can restore Europe's leadership in health, end the needless suffering caused by inadequate care and preventable illness, and turn Europe back into the global laboratory for life-saving cures. This Study challenges liberals to put health at the heart of their manifestos and political agendas and recognise it as a driver of individual freedom, wellbeing, and economic growth in Europe.

Before diving into the main chapters of the Study, we further diagnose the state of health in Europe and its competitiveness and outline five pillars for a Caring Liberal approach to health.

THE DIAGNOSIS: HOW DID WE GET HERE?

The EU is lagging behind the US in the most dynamic market segments – including biological medicines, orphan medicines, and advanced therapy medicinal products – due to a slow, fragmented, and overly complex regulatory environment, which increasingly deters investment and delays patient access to innovation.[1]

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Europe stands at a historic crossroads of health and liberty. On one hand, the continent remains a global beacon of human longevity; by 2024, average life expectancy in the EU reached a record high of 81.7 years, with leaders like Italy, Sweden, and Spain exceeding 84 years.[2] This achievement is a testament to our high standards of living and legacy of medical excellence. However, a 'Great Divergence' has emerged. While we excel at adding years to life, we are falling behind in adding *quality* to those years. The average woman in Europe can expect only 63.[3] healthy life years, while the average man can count on around 62.8 years, which means that nearly two decades are spent with chronic illness or limitations.3 This means that many Europeans' lives are constrained by poor health. There is also a major geographic disparity, with healthy years in Europe ranging from 71.7 in Malta to just 51.2 in Latvia.

Yet, in the vision of futurists like Ray Kurzweil, we are approaching 'longevity escape velocity' – the moment when science overcomes the decay of time. Chapter 5, by Andrew J. Steele and Kamen Shoylev, explores this topic and details how Europe can turn its ageing population into a longevity dividend.

1. M. Draghi (2024), *The future of European competitiveness: A competitiveness strategy for Europe* (Brussels: European Commission), available at https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en. See part B, section 1 ('Pharmaceuticals').
2. Eurostat (2025), 'EU life expectancy estimated at 81.7 years in 2024', 11 September, ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20250911-1.
3. On the 20-year gap between life expectancy and healthy life-years, see OECD/European Union (2024), *Health at a glance: Europe 2024 – State of health in the EU cycle* (Paris: OECD Publishing).

THE GREAT DIVERGENCE

The 'glory days' of European healthcare innovation were characterised by a 50% share of global R&D. Today, we are witnessing a structural decline that threatens not just our economy but our social contract. In the 1990s, Europe was the world's leader in pharmaceutical innovation. Since then, the centre of gravity has shifted decisively across the Atlantic and the Pacific.

- **The global share:** In 2001, Europe accounted for 41% of global pharmaceutical R&D spending. By 2024, that share plummeted to 31%, and current projections suggest it could hit 21% by 2034.

- **The investment gap:** Two decades ago, the US spent roughly €2 billion more than Europe on R&D annually. Today, that gap has exploded to over €25 billion – a 1,000% increase in the deficit.[4]

Clinical trials are the 'factories' of health innovation. When trials leave, patients lose early access to life-saving treatments, and hospitals lose cutting-edge expertise.

- **Shrinking footprint:** Europe's share of global clinical trials has nearly halved in just 10 years, falling from 22% in 2013 to 12% in 2023.[5]

- **The rise of China:** In high-tech fields like cell and gene therapy, Europe's share dropped from 25% to 10%, while China's rocketed to 42%.[6] Chapter 2, by Dennis Kwok, maps how China is gearing up to make biotech the next sector for Chinese domination using the same playbook through which it came to dominate solar power.

- **The human cost:** This decline translates to roughly 60,000 fewer clinical trial spots available for European patients today compared to a decade ago.[7] Chapters 1 and 4, by Mark Canavan of Sanofi and Hugh Pullen of Novartis respectively, offer industry perspectives on bringing clinical trials back to Europe and restoring Europe's strength in health innovation, outlining the real impact on European patients.

THE SME AND VENTURE CAPITAL 'DESERT'

While Europe excels at academic research, it fails at the 'translational efficiency' required for turning a lab discovery into a homegrown company. This is why the Capital Markets Union is so vital, not just for European industry but for European health innovation. A few key figures underscore the need for action.

- **Capital flight:** In 2001, Europe held a 28% share of global biotech venture capital (VC). Today, it sits at a mere 13%.[8]

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4. On the 1,000% increase in the R&D spending gap between the US and EU, see European Commission (2023), *The 2023 EU Industrial R&D Investment Scoreboard* (Luxembourg: Publications Office of the European Union).
5. See p. 14 in IQVIA (2024), *Assessing the clinical trial ecosystem in Europe*, October, available at efpia.eu/media/3edpooqp/assessing-the-clinical-trial-ecosystem-in-europe.pdf.
6. Alliance for Regenerative Medicine (2023), *Cell and gene therapy: A global sector report*.
7. Vaccines Europe (2024), *60,000 fewer clinical trial places for Europeans: A Decade of decline* (Industry position paper).
8. European Commission (2024), *Communication: Building the future with nature – Boosting biotechnology and biomanufacturing in the EU* (COM/2024/137 final).

- **Productivity gap:** US pharmaceutical workers are now twice as productive (in terms of gross value added per hour) as their European counterparts, largely due to better digital integration and scale.

It bears repeating that market levers can revive European clinical trials, attract biotech investment, empower SMEs, and enhance patient choice. A range of legislative initiatives has been introduced or proposed in response to these challenges, including the Biotech Act that resulted from the Strategy for European Life Sciences, the implementation of the new pharma legislative package, and the Critical Medicines Act. The AI Act is also a factor, as applications of AI in healthcare can be classified as high-risk under the Act.

THE PORTFOLIO PARADOX: WHO TAKES HEALTH?

In coalition governments, which are the norm in Europe, the health portfolio is traditionally seen as a 'spending' or 'service-delivery' portfolio. Chapter 8, by Richard Robinson, argues that EU fiscal policy too often treats health as a cost rather than an investment, and explores how the European Semester could help change that. Yet despite its importance to both individual wellbeing and economic growth, many liberals have shied away from this portfolio. They have instead left its oversight to social democrats or conservatives, who tend to treat health ministries primarily as public services or administrative institutions, rather than as engines of wellbeing and growth. There are a few exceptions, of course, such as Sophie Hermans, the liberal Dutch minister for health.

Incorporating a range of perspectives, from researchers and industry representatives to the young liberals who authored Chapter 10, this Study urges policymakers to take up the challenge of health. In doing so, they can make good on liberal promises of dignity and choice while putting Europe back on a path towards economic growth and research leadership. Below, we outline a framework for achieving this.

Core Pillars for a Caring Liberal approach to health

1. **From patient to participant:** Shifting the power dynamic from bureaucratic rationing to individual choice, including through greater access to and control over health data (see Chapter 3 on the European Health Data Space).

2. **From curing to prevention:** Moving the focus from curing illness to preventing people from getting sick by making it easier to adopt healthy lifestyles for people from all socioeconomic backgrounds (see Chapter 6 by Jochen O. Mierau).

3. **Clinical sovereignty:** Clearing the EU regulatory thicket to bring R&D and trials back to European soil.

4. **Market vitality:** Using competition to drive down costs and drive up quality, ensuring 'caring' isn't synonymous with 'inefficient'.

5. **Futuristic vision:** Imagining (and taking steps to realise) a Europe where illness no longer goes unaddressed but is instead prevented – a world where all citizens can enjoy long, healthy, productive lives.

REFERENCES

Alliance for Regenerative Medicine (2023). *Cell and gene therapy: A global sector report*.

Draghi, M. (2024). *The future of European competitiveness: A competitiveness strategy for Europe*. Brussels: European Commission. Available at: https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en.

European Commission (2023). *The 2023 EU Industrial R&D Investment Scoreboard*. Luxembourg: Publications Office of the European Union.

European Commission (2024). *Communication: Building the future with nature – Boosting biotechnology and biomanufacturing in the EU* (COM/2024/137 final).

Eurostat (2025). 'EU life expectancy estimated at 81.7 years in 2024', 11 September, ec.europa.eu/eurostat/web products-eurostat-news/w/ddn-20250911-1.

IQVIA (2024). *Assessing the clinical trial ecosystem in Europe*, October. Available at: efpia.eu/media/3edpooqp/assessing-the-clinical-trial-ecosystem-in-europe.pdf.

Organisation for Economic Co-operation and Development (OECD)/European Union (2024). *Health at a glance: Europe 2024 – State of health in the EU cycle*. Paris: OECD Publishing.

Vaccines Europe (2024). *60,000 fewer clinical trial places for Europeans: A Decade of decline* (Industry Position Paper).

Caring Liberalism: Health as Freedom, Prosperity, and Democratic Resilience

Martin McKee, Nathan Murphy

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ABSTRACT

Europeans are living longer, but many of those extra years are spent in poor health. This carries economic and political costs that Europe's competitiveness agenda has largely ignored. This chapter makes the case for Caring Liberalism. It draws on the behavioural framework described in *Liberalism That Wins* (2025), grounding political legitimacy in four preferences: care, fairness, cooperation, and group belonging. Health sits within the care domain. It is essential to cooperation and held in balance with fairness and group belonging. It matters for individual freedom, too: poor health limits personal autonomy, and inadequate care weakens trust in democratic institutions. This chapter shows how neglected health systems act as structural constraints on growth, why prevention is foundational to human capability, and how health, treated as an investment, drives innovation and prosperity. It concludes with a blueprint for reform that positions health as a cornerstone of Europe's long-term competitiveness and democratic resilience.

ABOUT THE AUTHOR

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Nathan Murphy is Political strategist and author of *Liberalism that Wins*.

INTRODUCTION

Europeans are living longer than ever,[1] which is something to celebrate. However, for many, these additional years are spent in poor health.[2] This is something that health policymakers have long been concerned about, but it also has consequences for other sectors, especially those that pro-

1. Eurostat (2026), 'Life expectancy by age and sex 2026', https://ec.europa.eu/eurostat/databrowser/view/demo_mlexpec__custom_11055020/bookmark/table.

2. European Commission (2025), 'Healthy life years statistics 2025', https://ec.europa.eu/eurostat/statistics-explained/SEPDF/cache/1101.pdf.

mote economic growth. Individuals whose health, whether physical or mental, is poor are less productive, less likely to participate in the labour market, and may be less able to adapt to a rapidly changing work environment.

Despite a now substantial body of evidence, the contribution of population health to economic growth is often overlooked. This link is ignored, for example, in the Draghi Report, which set out an agenda for industrial transformation, including investment in life sciences.[3] The Draghi Report is not alone – an emphasis on health is largely missing from Europe's competitiveness agenda.[4] The failure to prioritise the creation of a healthy workforce (and to assign this investment the same importance as educational, digital, transport, and other forms of infrastructure) limits Europe's capacity to compete, innovate, and maintain social cohesion, and constrains liberals' ability to mount a unified response to the challenges Europe faces.

The stakes are not only economic. Healthcare is one of the most emotionally potent electoral issues in Europe.[5] From childcare to emergency services to elderly care, system failures erode trust in both health systems and in the political institutions that oversee them.6 For this reason, the structural decline of Europe's healthcare system is an inseparable component of the broader crisis of democratic legitimacy.

Liberalism puts freedom first, but one strand of this tradition has long held that freedom rests on care. Liberal and social democratic thinkers were central to the great healthcare advances of twentieth-century Europe. Whatever their differences, they shared a belief that population health was a matter of both freedom and civic investment – a conviction that has since faded from view. Reclaiming care as a liberal priority requires more than reverting to old, contested reasoning; the case that must be made should be new, positive, and grounded in first principles.

This chapter uses the behavioural framework first developed in the 2025 *Liberalism That Wins* to argue for a shift toward a Caring Liberalism – one that treats health as foundational to individual freedom, competitive economies, and democratic legitimacy. The framework identifies four innate preferences that underlie how people experience political legitimacy: care, fairness, cooperation, and group belonging.[5] Health sits within the care domain, and it underwrites the other three.

The rest of the chapter builds that argument. It first sets out the behavioural framework and establishes why care is a precondition of freedom, then applies it to Europe's health crisis, addressing how and why health systems too often act as structural impediments to growth, why prevention is essential for building human capability, and how health drives growth. It contends that, collectively, this evidence can support a renewed liberal vision,[7] in which health is recognised as a strategic public good and a cornerstone of Europe's long-term competitiveness. Finally, it asks what a Caring Liberal blueprint for reform entails.

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3. M. Draghi (2024), 'The Draghi report on EU competitiveness 2024', https://commission.europa.eu/topics/competitiveness/draghi-report_en.

4. M. McKee, A. de Ruijter, and T. Hervey (2025), 'Health, the Missing Chapter in the Draghi Report on Europe's Future', *The Lancet Regional Health Europe*, 48 (101150). DOI: 10.1016/j.lanepe.2024.101150.

5. Eurobarometer (2024), 'European Parliament's Eurobarometer Spring 2024 Survey', https://europa.eu/eurobarometer/surveys/detail/3272.

6. A. Menon, N. M. Kavanagh, M. Falkenbach, et al. (2025), 'The Role of Health and Health Systems in Shaping Political Engagement and Rebuilding Trust in Democratic Institutions', *The Lancet Regional Health Europe*, 53(101326). DOI: 10.1016/j.lanepe.2025.101326.

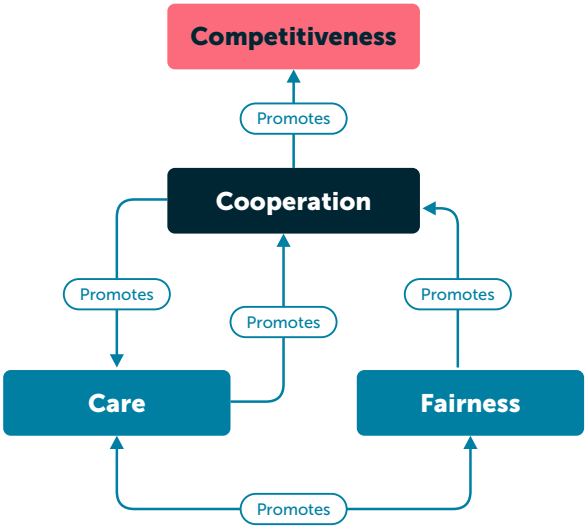
7. Liberal International (2026), 'Our Mission 2026', https://liberal-international.org/who-we-are/our-mission/.

CARE AS A PREREQUISITE OF FREEDOM: THE BEHAVIOURAL GROUNDING

The framework to be described here grounds liberal politics in the psychological drivers of political legitimacy. Drawing on converging evidence from neuroscience, moral psychology, evolutionary biology, and anthropology, it identifies four consistent preferences through which people evaluate whether a political system is worth cooperating with: care, fairness, cooperation, and group belonging.[8]

These preferences are evolved features of human moral psychology, consistent across cultures, partially heritable, and experienced as moral truths rather than political choices. Together, they form the human social model (Figure 1). Within groups, these preferences bias humans toward social conditions that confer competitive advantages. Systems that align with these moral preferences earn voluntary cooperation, accrue legitimacy, and, downstream, enjoy greater political stability. Those that neglect any of these moral domains lose trust over time because they become misaligned with what people are psychologically hardwired to expect.

Figure 1: The Human Social Model in *Liberalism that Wins* describes how these evolved preferences interact to confer competitive advantage.

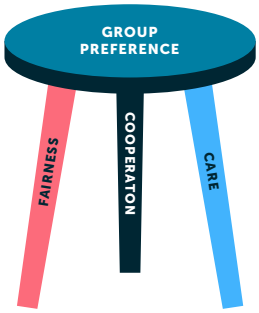


In this framework, the moral domain of care contains education, healthcare, and welfare; fairness encompasses equality before the law, property rights, and equality of opportunity; and cooperation includes the voluntary institutions, markets, infrastructure, and civic systems through which people coordinate and generate shared prosperity. Preference for group belonging both reflects a basic human need and carries the expectation that membership imposes mutual obligations (Figure 2). That is, people contribute to a shared system on the understanding that the group will look after its constituents in return. Healthcare is one of the most tangible expressions of that bargain: it is what membership feels like in practice.

8. N. J. Murphy (2025), *Liberalism That Wins: Scientific Liberalism – A New Foundation for Democratic Renewal* (London: Prepolitica).

In this respect, care is not a liberal add-on. It is a human expectation, and political systems that treat it as a cost, rather than a foundation, pay a price in participation, stability, and competitiveness.

Figure 2: A stool as a metaphor for stable political systems that strike a pluralistic balance between fairness, care, and cooperation, within the context of group preference.



Liberty is not the starting point from which care follows – it is the outcome of societies that are fair, caring, and cooperative. Formal rights matter, but they are not enough: freedom from coercion, ignorance, disease, and poverty requires the social conditions that enable tangible, genuine legal protection. Societies that meet these expectations require less coercion to sustain cooperation. And it is those conditions of voluntary cooperation – not the absence of undue constraints alone – that constitute freedom.

Poor health, neglect, and inadequate care narrow the lives people can live – and with them, the capacity to participate in economic, social, and civic life. A society that fails to provide a foundation of care limits what its members can become. This is clearest at the beginning of life. Early neglect compounds across every domain: poor childhood care produces worse health outcomes,[9] lower levels of educational attainment,[10] and reduced economic participation.[11] Underfunded schools restrict opportunity; inadequate welfare removes the resilience to recover and contribute; and addiction – often rooted in social exclusion and untreated pain and trauma – is often a symptom of care failures.[12] That chain frequently finds its endpoint in prisons, which can exacerbate the very problems they are meant to address.[13]

These systemic failures also affect later life. Average life expectancy in the EU is now 81 years, but healthy life years number just 63.3 for women and 62.8 for men.[14] The fact that most people now spend close to a quarter of their lives with activity limitations or in poor health is in direct conflict with the liberal commitment to individual agency and full participation in society.

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9. M. A. Bellis, K. Hughes, K. Ford, et al. (2019), 'Life Course Health Consequences and Associated Annual Costs of Adverse Childhood Experiences across Europe and North America: A Systematic Review and Meta-analysis', *The Lancet Public Health*, 4(10), e517–e528. DOI: 10.1016/S2468-2667(19)30145-8.

10. A. Villadsen, M. Asaria, I. Skarda, et al. (2023), 'Clustering of Adverse Health and Educational Outcomes in Adolescence Following Early Childhood Disadvantage: Population-Based Retrospective UK Cohort Study', *The Lancet Public Health*, 8(4), e286–e293. DOI: 10.1016/s2468-2667(23)00029-4.

11. J. Bonnet, C. Clarke, O. Thévenon, et al. (2022), *The Economic Costs of Childhood Socio-economic Disadvantage in European OECD Countries* (Paris: OECD Publishing). Available at https://www.oecd.org/en/publications/the-economic-costs-of-childhood-socio-economic-disadvantage-in-european-oecd-countries_8c0c66b9-en.html.

12. B. Konkolÿ Thege, L. Horwood, L. Slater, et al. (2017), 'Relationship between Interpersonal Trauma Exposure and Addictive Behaviors: A Systematic Review', *BMC Psychiatry*, 17(1), here 164. DOI: 10.1186/s12888-017-1323-1.

13. V. Tomaz, D. Moreira, and O. Souza Cruz, O. (2023), 'Criminal Reactions to Drug-Using Offenders: A Systematic Review of the Effect of Treatment and/or Punishment on Reduction of Drug Use and/or Criminal Recidivism', *Frontiers in Psychiatry*, 14. DOI: 10.3389/fpsyt.2023.935755. A. Testa, D. B. Jackson, K. T. Ganson, et al. (2022), 'Adverse Childhood Experiences and Criminal Justice Contact in Adulthood', *Academic Pediatrics*, 22(6), 972–980. DOI: 10.1016/j.acap.2021.10.011.

14. Eurostat (2025), 'Healthy Life Years Statistics: European Commission'.

EUROPE'S HEALTH SYSTEMS AS AN ECONOMIC CONSTRAINT

The Human Social Model framework predicts that a system which neglects care will face reduced economic cooperation, legitimacy, and ultimately competitiveness. Europe's health systems are a demonstration of that pattern.

Healthcare, like education and some other sectors, involves a high degree of human engagement. Quite simply, caring for someone who is in pain, who is frightened, and who is confronted with settings they don't understand, demands human reassurance. While much can be achieved by automation, especially in areas such as administration, the care of patients with complex conditions, often in combination with each other, is entirely different from the industrial production lines where the workers of years past have been replaced by robots. While much of care is simple and routine, success depends in large part on bringing together the right mix of health professionals, with the right skills and equipment, in the right place at the right time. This is like the difference between a fast-food outlet and a fine dining restaurant.

Recruiting foreign-trained professionals has increasingly become relied upon rather than a bridge measure: by 2023, over 40% of doctors in Norway, Ireland, and Switzerland, and over 50% of nurses in Ireland, were foreign-trained

Managing this process, which is becoming increasingly complex with the rise of personalised medicine – where, for example, a patient with cancer will be treated with antibodies developed specifically against their tumour – is growing ever more difficult. Health and care systems have been struggling for years to recruit and retain staff, with rates of retirement far outpacing new hires.[15] The staff who remain work under ever more intense pressure, experiencing burnout and reduced morale, and in some cases leading to managerial responses that limit their professional autonomy.[16] Such conditions deter recruits, increase attrition, and perpetuate a vicious cycle of disillusionment and understaffing.

The scale of that shortfall is quantifiable: the estimated deficit across Europe stands at approximately 1.2 million doctors, nurses, and midwives.[17] Recruiting foreign-trained professionals has increasingly become relied upon rather than a bridge measure: by 2023, over 40% of doctors in Norway, Ireland, and Switzerland, and over 50% of nurses in Ireland, were foreign-trained.[18]

The problems are exacerbated by failure to invest in modern infrastructure or to adopt new diagnostics and therapies in many countries. This is not helped by Europe's shrinking share of global clinical research.[19] The decline is broad. Europe's share of major-market pharmaceutical R&D investment has fallen from 41% in 2001 to 31% two decades later, and the annual gap with the US

15. World Health Organization Regional Office for Europe (2022), *Health and Care Workforce in Europe: Time to Act* (Copenhagen: World Health Organization).

16. R. Greenley, L. H. Aiken, W. Sermeus, et al. (2024), *Strengthening Europe's Nursing Workforce: Strategies for Retention* (Copenhagen: European Observatory on Health Systems and Policies). Available at: https://eurohealthobservatory.who.int/publications/i/strengthening-europe-s-nursing-workforce-strategies-for-retention.

17. OECD (2024), *Health at a Glance: Europe 2024* (Paris: OECD Publishing). Available at: https://www.oecd.org/en/publications/health-at-a-glance-europe-2024_b3704e14-en.html.

18. OECD, *Health at a Glance*.

19. EFPIA (2024), '60,000 fewer clinical trial places for Europeans, despite global surge in research projects 2024', 22 October, https://www.efpia.eu/news-events/the-efpia-view/statements-press-releases/60-000-fewer-clinical-trial-places-for-europeans-despite-global-surge-in-research-projects/.

has widened from around €2 billion in 2002 to roughly €25 billion.[20] European life sciences venture capital now makes up just 7% of the global market, against 63% in the United States and 14% in China.[21] In no small part, this is a regulatory problem: fragmentation across European Member States means that companies must navigate a patchwork of national rules rather than a single market, deterring investment and impeding innovation.

Taken together, these developments have led to reduced access to timely care in many parts of Europe. Long waiting times for GP appointments, diagnostics, mental health services, and specialist treatment have become normalised.[22] Populations already disadvantaged, such as those living in deprived or remote areas, are particularly hard hit. The resulting delays in diagnosis and treatment extend sickness absences, slow recovery, and increase the likelihood of long-term complications, all of which reduce labour supply at a time when ageing is already limiting Europe's workforce.

Once, injury and ill health were seen as a particularly important reason for premature exit from the labour market in physically demanding jobs.[23] Now, as more people are enabled to survive previously fatal health shocks and to remain alive with often multiple chronic conditions, including poor mental health, workers in every sector are affected.[24] Many leave the labour force permanently, either through early retirement or on long-term sickness benefits, while others remain working but with significantly diminished productivity. Some will exhibit the characteristics of presenteeism, a phenomenon where people who are physically present in workplaces fail to perform effectively, in this case due to their health problems. The consequences are especially severe in small and medium-sized enterprises (SMEs), where the loss or reduced performance of a single worker can disrupt production or worsen service quality.

The situation is especially concerning in places where deprivation, lack of opportunity, selective outmigration, and low skills combine to create so-called 'left behind' communities with high levels of what have been termed 'deaths of despair'. These places find it especially difficult to attract and retain the health workforces they need.

As ill health increases and care becomes harder to obtain, public trust in health institutions declines. People are less likely to seek care until it is too late, skilled graduates are less likely to seek a career in the health sector, and politicians become less willing to invest in health services.[25] This has political ramifications. As health services are among the most visible public services, people often generalise their disillusionment to the wider state, creating fertile ground for populist political messaging.[26] This broader loss of trust in institutions can undermine economic resilience. High-trust societies are better able to adapt to shocks and support collective problem-solving.

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20. T. Wilsdon, H. Armstrong, A. Sablek, et al. (2022), *Factors Affecting the Location of Biopharmaceutical Investments and Implications for European Policy Priorities: Final Report*, Charles River Associates for EFPIA, 3 October. Available at: https://www.efpia.eu/media/676753/cra-efpia-investment-location-final-report.pdf.

21. Invest Europe (2026), *European Life Sciences Coalition launched to strengthen Europe's life sciences investment ecosystem* [Press release], 12 February, https://www.investeurope.eu/news/newsroom/european-life-sciences-coalition-launched-to-strengthen-europe-s-life-sciences-investment-ecosystem/.

22. N. Viberg, B. C. Forsberg, M. Borowitz, et al. (2013), 'International comparisons of Waiting Times in Health Care: Limitations and Prospects', *Health Policy*, 112(1), 53–61. https://doi.org/10.1016/j.healthpol.2013.06.013.

23. O. Lenhart (2019), 'The Effects of Health Shocks on Labor Market Outcomes: Evidence from UK Panel Data', *European Journal Health Economics*, 20(1), 83–98. DOI: 10.1007/s10198-018-0985-z.

24. A. Demenet (2016), *Health shocks and permanent income loss: The household business channel* (Working paper, Université Paris-Dauphine). Available at: https://dial.ird.fr/wp-content/uploads/2021/10/2016-11Health-shocks.pdf.

25. M. McKee, M. C. van Schalkwyk, R. Greenley, et al. (2024), 'Placing Trust at the Heart of Health Policy and Systems', *International Journal of Health Policy and Management*, 13, 8410. DOI: 10.34172/ijhpm.2024.8410.

26. Menon, Kavanagh, Falkenbach, et al., 'The Role of Health and Health Systems'.

These failings can easily create a vicious cycle (Figure 3) of a kind that the framework described here predicts: worsening health reduces participation in the workforce; reduced participation combines with poor health to weaken productivity; low productivity restricts capacity to generate funds for investment in business and the community; and reduced investment feeds back into poorer health services. Without addressing this systemic constraint, Europe cannot regain competitiveness or sustain the social contract that underpins liberal democracy.

Figure 3: The health–productivity vicious cycle

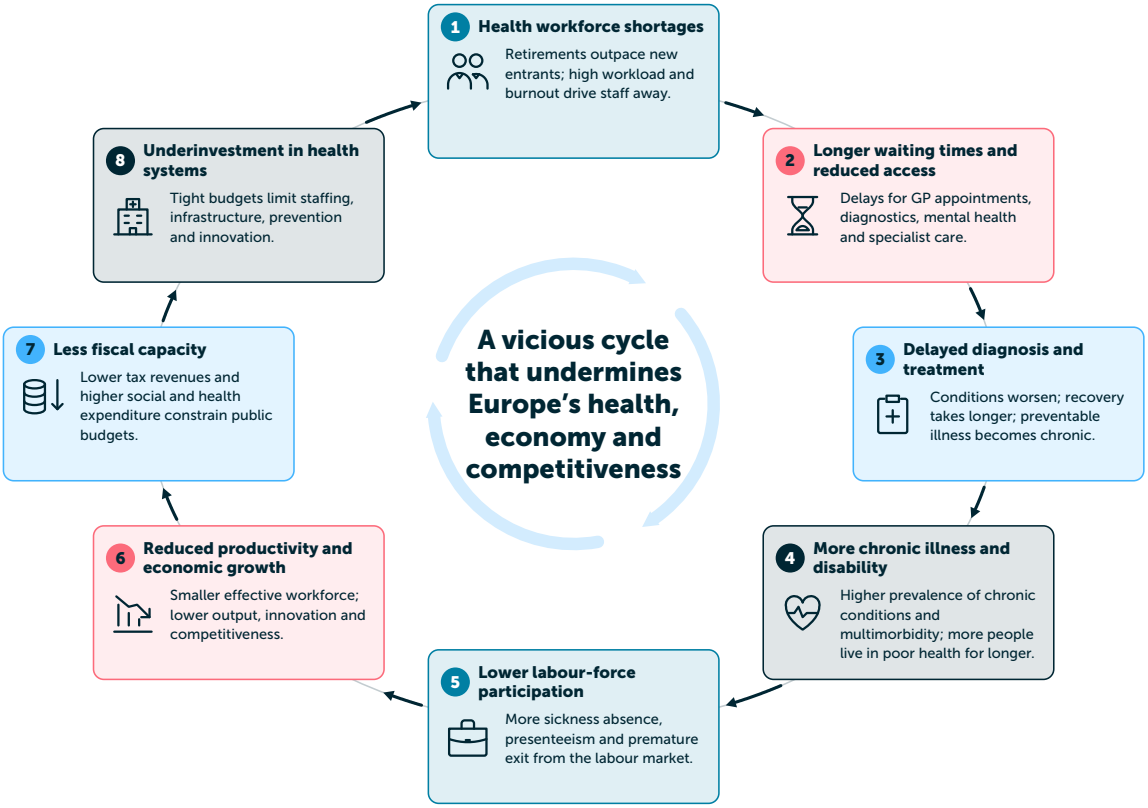


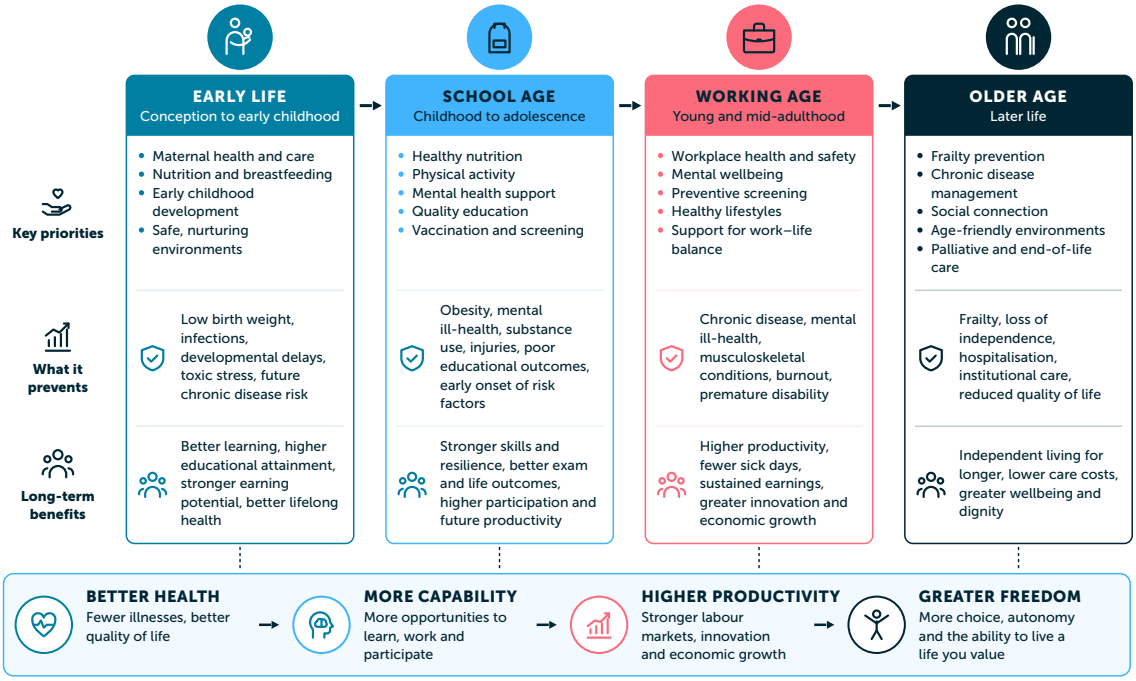
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PREVENTION AS THE FOUNDATION OF HUMAN CAPABILITY AND FREEDOM

The preceding section argued that strengthened health systems are essential to address the existing burden of ill health that is holding back growth. However, it is at least as important to prevent ill health in the first place. To understand why this is so, it is helpful to consider Nobel Laureate Amartya Sen's concept of capability.[27] People in good health are better able to develop skills, pursue ambitions, and exercise agency. Those in poor health have fewer such capabilities at every stage in their life. This is the evidentiary counterpart to the claim made earlier, that care is a precondition of freedom. The field of life-course epidemiology, which began with research on the association between birth weight and health in adulthood, has shown how maternal health coupled with nutrition, stress, and environment throughout childhood and adolescence can have profound repercussions stretching into later life. To take one example, children who start life in poorer health are less likely to achieve good educational outcomes and more likely to have lower lifetime earnings.[28]

As a consequence, the benefits of investing in prevention across the life course build on each other (Figure 4). Good nutrition, mental health support, and physical activity programmes in childhood improve educational outcomes. Workplace health initiatives and early detection of chronic conditions in adulthood increase productivity and lengthen working lives. Preventative care in later life delays the onset of frailty, reduces dependency, and supports active ageing.[29]

Figure 4: Prevention across the life course as an investment in capability



Note: Figure created in Google Notebook LM

27. A. Sen (2001), *Development as Freedom* (Oxford: Oxford University Press).

28. Villadsen, Asaria, Skarda, et al., 'Clustering of Adverse Health and Educational Outcomes'.

29. C. Wagner, C. Carmeli, J. Jackisch, et al. (2024), 'Life Course Epidemiology and Public Health', *The Lancet Public Health*, 9(4), e261–e269. DOI: 10.1016/S2468-2667(24)00018-5.

A focus on prevention is now more important than ever. Advances in areas such as precision diagnostics, genomics, and AI-driven risk prediction offer many new opportunities to expand the scope of prevention, enabling earlier intervention. Yet caution is warranted, given the many ethical and governance challenges involved

From this perspective, the case for prevention is clear. Yet, in reality, it often struggles to reach the policy agenda. There are several reasons. First, the results are often invisible: while lives lost can easily be counted, tallying lives saved requires epidemiological research. Second, the benefits often materialise long in the future, typically beyond a single electoral cycle, although there are so-called 'quick buys' that achieve results sooner.[30] But third, and most important, there are many powerful forces that profit from the circumstances that give rise to much ill health. Individual behaviour occurs within environments heavily shaped by commercial, regulatory, and social forces. Food systems, urban design, advertising, and market pressures strongly influence behaviour, often in ways that promote unhealthy choices.[31] Caring Liberalism rejects simplistic narratives of personal responsibility and instead emphasises the creation of environments that enable autonomy, rather than ones where harmful products are everywhere and people, especially but not only children and young people, face huge pressure to buy them.

A focus on prevention is now more important than ever. Advances in areas such as precision diagnostics, genomics, and AI-driven risk prediction offer many new opportunities to expand the scope of prevention, enabling earlier intervention. Yet caution is warranted, given the many ethical and governance challenges involved.[32] It is also crucial to understand that responsibility for prevention goes far beyond the health sector. This is now well known, giving rise to the notion of 'health in all policies', whereby health can be improved by incorporating appropriate measures into areas such as transport, taxation, urban planning, agriculture, or education. More recently, this has been replaced by the concept 'health for all policies', which recognises that this is a two-way relationship, with the benefits of investment in health and other sectors often flowing in both directions.[33] In these ways, a Europe that prioritises prevention builds not only healthier individuals but a more capable, resilient, and equitable society.

30. G. Galea, A. Ekberg, A. Ciobanu, et al. (2025), 'Quick Buys for Prevention and Control of Noncommunicable Diseases', *The Lancet Regional Health Europe*, 52, 101281. DOI: 10.1016/j.lanepe.2025.101281.

31. A. B. Gilmore, A. Fabbri, F. Baum, et al. (2023), 'Defining and Conceptualising the Commercial Determinants of Health', *The Lancet*, 401(10383), 1194–1213. DOI: 10.1016/s0140-6736(23)00013-2.

32. P. del Rey Puech, R. Payne, J. Saund, et al. (2026), 'Mind the (Widening) Gap: Why Public Health Must Engage with AI Now', *Public Health*, 250, 106047. DOI: 10.1016/j.puhe.2025.106047.

33. S. L. Greer, M. Falkenbach, L. Siciliani, et al. (2022), 'From Health in All Policies to Health for All Policies', *The Lancet Public Health*, 7(8), e718–e720. DOI: 10.1016/s2468-2667(22)00155-4.

HEALTH AS A DRIVER OF GROWTH AND INNOVATION

Prevention reduces the economic drag of poor health. Conversely, when health is treated as an investment, it is a positive source of growth in its own right. The macroeconomic evidence is unambiguous. Healthier populations are more productive, more economically active,[34] and they cost the state less. Research estimates that increasing life expectancy by just one year generates an annual benefit of approximately 4–5% of GDP,[35] while scaling access to proven health interventions could boost global GDP by $12.5 trillion annually by 2050 – a return on investment of around four to one.[36] The cost of inaction runs the opposite way. Without action, GDP per capita growth across the Organisation for Economic Co-operation and Development (OECD) is projected to slow by around 40% due to ageing.[37] Chronic diseases already account for 70–80% of all EU healthcare costs, approximately €700 billion annually,[38] and public health spending across the OECD is projected to reach 8.6% of GDP by 2040, with long-term care costs set to nearly double by 2050.[39] By ensuring that people arrive at old age in good health, this trajectory can be averted.

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Beyond these aggregate effects, health systems generate growth directly. Scientific advances are a reminder of how health systems, in and of themselves, contribute to economic growth in other mutually reinforcing ways. They play a crucial role in creating and sustaining innovation ecosystems. Research-active hospitals attract investment, draw and retain scientific and clinical talent, and host clinical trials that underpin regional clusters of biomedical innovation. In this way, such hospitals can become focal points for collaboration among universities, industry, and technology entrepreneurs, helping regions specialise in high-value research and development. These innovations can in turn augment clinical research capacity and lead to new digital health tools and AI applications, stimulating local and regional economies, attracting companies, and bringing jobs, both within companies themselves and in their associated supply chains.

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34. D. E. Bloom, D. Canning, R. Kotschy, et al. (2024), 'Health and Economic Growth: Reconciling the Micro and Macro Evidence', *World Development*, 178, 106575. DOI: 10.1016/j.worlddev.2024.106575.

35. A. Scott, J. Ashwin, M. Ellison, et al. (2023), 'International Gains to Achieving Healthy Longevity', *Cold Spring Harbor Perspectives in Medicine*, 13(2), a041202. DOI: 10.1101/cshperspect.a041202.

36. A. Beauvais, B. Herbig, M. Wilson, et al. (2026), The health of nations: S*tronger health, stronger economies*, McKinsey Health Institute. Available at: https://www.mckinsey.com/mhi/our-insights/the-health-of-nations-stronger-health-stronger-economies.

37. OECD (2025), *OECD Employment Outlook 2025* (Paris: OECD Publishing). Available at: https://www.oecd.org/en/publications/2025/07/oecd-employment-outlook-2025_5345f034.html.

38. M. A. Bujang (2026), 'Key Strategies for Addressing the Rising Global Burden and Cost of Healthcare', *Journal of Public Health Research*, 15(1). DOI: 10.1177/22799036251388595. See also B. Polanco, A. Oña, A. Gemperli, et al. (2025), 'Excess Healthcare Utilization and Costs Linked to Chronic Conditions: A Comparative Study of Nine European Countries', *European Journal of Public Health*, 35(2), 216–227. DOI: 10.1093/eurpub/ckaf012.

39. A. Llena-Nozal, S. Kim, and R. Milstein (2025), *The Economic Benefit of Promoting Healthy Ageing and Community Care* (Paris: OECD Publishing). Available at: https://www.oecd.org/en/publications/the-economic-benefit-of-promoting-healthy-ageing-and-community-care_0f7bc62b-en.html.

The potential economic importance of hospitals and similar institution bears reiterating – health facilities can act as 'anchor institutions' in local economies. Like universities, they generate large numbers of high-skilled jobs,[40] activate diverse supply chains ranging from medical technologies to construction and digital services, and contribute directly to regional development strategies. In many places, hospitals and healthcare networks are among the largest and most stable employers, providing economic resilience during periods of volatility.

These are assets that Europe possesses but is allowing to deteriorate. In the framework's terms, that is a failure of cooperation: the weakening of markets, institutions, and infrastructure.

A LIBERAL BLUEPRINT FOR SYSTEM REDESIGN

If Europe is to restore its competitiveness, rebuild trust, and secure long-term prosperity, then its governments will have to undertake a comprehensive redesign of their health systems. This requires investing in four pillars: workforce, innovation, regulation, and prevention.

The first pillar – a stable, well-supported workforce – is the main foundation of a resilient health system. Historically, this need has been addressed by expanding training sites and attracting skilled migrants, often from low- and middle-income countries. Yet this approach misses the point. The present situation can be likened to trying to fill a bucket with a hole in it. While training pipelines are part of the solution, retaining existing staff is even more important. Once again, we see a vicious cycle, whereby chronic understaffing leads to burnout, which in turn drives those who remain to seek opportunities elsewhere. The problems are often compounded by poor leadership and dysfunctional organisational cultures. Health professionals are less likely to leave, even in high-pressure situations, if they feel respected and able to influence their working environment.[41] This means creating structured career pathways and providing appropriate development opportunities designed to foster long-term commitment. Health facilities also need to embrace the digital tools that have become ubiquitous in other sectors. They must do so, however, in ways that genuinely reduce the administrative load (rather than, as is too often the case, increase it), while taking account of the specific issues that arise in relation to the privacy of health data. Employers must adopt policies that recognise the challenges facing families in a changing world. Taken together, such measures can make health professionals feel valued, a crucial first step in attracting and retaining them.

The second pillar is innovation. Europe is a scientific superpower, but its clinical research footprint is shrinking. Innovation is central to competitiveness, requiring more research-active hospitals that attract talent, investment, and clinical trials. Strengthening innovation capacity depends on interoperable digital infrastructure that enables secure data movement and supports technologies that can be deployed at scale. The EU AI Act offers an opportunity to accelerate the safe introduction of advanced digital tools, while clearer regulatory pathways, especially for small and medium-sized enterprises, are essential to encourage development.[42] Crucially, digital solutions must expand clinical capacity rather than replicate outdated processes, freeing clinicians to focus on care. By creating an environment that nurtures innovation, Europe can support health systems as they seek to deliver high-quality care while promoting the economic growth that is necessary to pay for it.

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40. H. K. Koh, A. Bantham, A. C. Geller et al. (2020), 'Anchor Institutions: Best Practices to Address Social Needs and Social Determinants of Health', *American Journal of Public Health*, 110(3), 309–316.

41. L. H. Aiken, W. Sermeus, M. McKee, et al. (2024), 'Physician and Nurse Well-Being, Patient Safety and Recommendations for Interventions: Cross-Sectional Survey in Hospitals in Six European Countries', *BMJ Open*, 14(2), e079931. DOI: 10.1136/bmjopen-2023-079931.

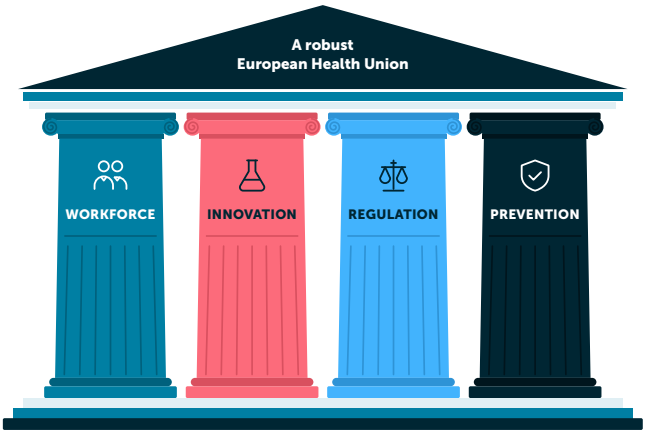
42. P. del Rey Puech, J. Saund, D. Panteli, et al. (2026), *Demystifying Artificial Intelligence in Health: What Health Policy-Makers Need to Know* (Copenhagen: European Observatory on Health Systems and Policies).

The third pillar is regulation. Europe's regulatory systems are often slow and risk-averse. This is especially true of rules and guidelines covering health and technology. This creates barriers that delay access to modern diagnostics and therapeutics, as well as innovations in care models. A supportive regulatory environment would accelerate approval processes without compromising safety, reducing duplicative or inconsistent requirements among Member States. This will also require more progress towards creating a functioning European Health Data Space that can provide real-time evidence and support continuous learning internationally.

The fourth pillar, prevention, must become a reality and not just political rhetoric. It must be at the heart of public policy, embedded in the machinery of the state rather than treated as a peripheral concern. In many countries, this will demand a redesign of primary care, enabling it to become the frontline of early detection, where risks are identified before they evolve into costly and debilitating conditions. This requires investment in innovative risk-prediction tools, which should be seamlessly integrated into routine practice so that clinicians can intervene earlier and more effectively. But individualised prevention is only part of the solution. Effective prevention requires coordinated action across all levels and branches of government – urban planning, taxation, food and agriculture policy, transport, and education – to maximise health benefits and minimise harms. At the European level, this means stronger action to tackle cross-border threats is necessary, to the extent permitted by the existing Treaties. However, as contemporary discussions on reducing further the harms associated with tobacco show, the Treaties can be far more permissive of public health measures than is often realised.[43] This scope for action should be utilised to make meaningful improvements.

It is also necessary to strengthen systems that monitor progress in health and its determinants. In this regard, successive failures to expand the role and responsibilities of the European Centre for Disease Prevention and Control have been missed opportunities. The gap between information collected to track economic and health performance is striking: data on the former is often published with delays of a few months at most, while policymakers may wait years for the latter. Crucially, prevention must be treated as an economic investment rather than a discretionary expense, reflecting its capacity to bolster human capability, reduce future healthcare costs, and support sustainable prosperity.

These four pillars – workforce, innovation, regulation, and prevention – are mutually reinforcing. This strengthens the case for a robust European Health Union, where health workers are valued, medical research thrives, technologies are adopted rapidly, and regulatory frameworks enable safe experimentation rather than obstructing progress.[44] The blueprint makes the liberal character of the reform clear. Reclaiming care does not mean abandoning markets, personal freedom, or fiscal responsibility. It means recognising that investment in care enables all three – combining a shared commitment to health with innovation, regulation that enables rather than obstructs, and increased professional and patient autonomy.



43. V. Delhomme, A. de Ruijter, T. Hervey, et al. (2026), 'Tobacco End-Game Policies and the Intrinsic Connection of Health and EU Market Law', *Health Economics, Policy and Law*, 21(3), 269–284. DOI: 10.1017/s1744133126100541.

44. M. McKee and A. de Ruijter (2024), 'The Path to a European Health Union', *The Lancet Regional Health Europe*, 36, 100794. DOI: 10.1016/j.lanepe.2023.100794.

RECLAIMING HEALTH AS A LIBERAL CAUSE: THE OPPORTUNITY AND THE IMPERATIVE

Liberal thinking on care has moved in cycles – from the deficit mindset of the 1920s, to the expansive civic investment of the post-war decades, to the fiscal retrenchment of the 1980s. Each shift was a reaction to the last, and the result is a tradition that has never quite settled whether care is central to the liberal project or peripheral to it. From the 1980s onward, the question shifted from 'how do we build capacity?' to 'how do we control costs?' Settling it in care's favour – as a precondition of freedom rather than a concession or a responsibility of the left – lands policy in fertile political ground. Healthcare is electorally potent, and it offers a rare opportunity to deliver generational improvement for hundreds of millions of people.

Caring Liberalism restores health to the centre of political thinking by emphasising the sovereignty of the patient, the importance of capability, and the role of health in sustaining freedom and democratic legitimacy. This vision places the patient at its centre, recognising that genuine empowerment depends on clear and understandable information, secure and interoperable health data, and care that is tailored to each individual's needs. It demands that health systems treat people as active participants capable of making informed choices, rather than passive recipients of services. When patients are given meaningful agency, they gain greater autonomy, reinforcing one of liberalism's core values.

This vision also highlights the importance of health as part of the social contract, based on the mutual obligations integral to Caring Liberalism. Health systems that deliver timely, equitable, and high-quality care reinforce trust in all public institutions and strengthen the bonds that hold democratic societies together. Conversely, care that is inaccessible or inconsistent leads to erosion of trust and increased political fragmentation. Viewed this way, health is more than a matter of personal wellbeing. It is a pillar of democratic resilience.

If they are to uphold this social contract, governments must measure what truly matters. Conventional aggregate metrics, such as life expectancy, tell only part of the story. A more meaningful assessment includes both the level and distribution of healthy life years, the responsiveness of health services, rates of early diagnosis, mental and physical wellbeing, and trust in health systems. Together, these provide the necessary information to know whether people are genuinely able to live well, participate fully in society, and realise their potential.

This chapter has argued that health is inseparable from opportunity. Populations in good health are better equipped to work and engage in civic life. Those in poor health face persistent disadvantage and reduced social mobility. A liberal society committed to fairness must therefore ensure that every individual can lead a good life, treating health not only as a personal asset but as a foundation for equal opportunity and shared prosperity. Caring Liberalism thus positions health as a unifying cause that ties freedom to wellbeing, productivity to justice, and individual empowerment to collective resilience.

CONCLUSION

Europe is at a crossroads. It can stand back and allow health, productivity, and public trust to slowly erode, or it can recognise that health is a basis for economic renewal and democratic strength. Healthy populations learn more, work more, participate more, and trust more.[45] Unhealthy societies fragment, stagnate, and lose confidence in the democratic process.

Caring Liberalism offers a meaningful way forward. It reframes health as a prerequisite for capability, freedom, and competitiveness. It argues that empowered patients, motivated clinicians, and prevention-focused systems are essential for Europe's long-term prosperity. It also offers a blueprint – involving transformation of the workforce, accelerated innovation, regulation that enables progress, and embedded prevention – for redesigning health systems as drivers of human potential.

Such a blueprint, though, needs a political tradition willing to carry it forward – one that can balance care, markets, and individual freedom. Liberalism is best placed to meet that challenge, and liberals, more than any others, should know why and be willing to act on it. The task is urgent. The direction is clear. Health must become a defining European advantage and a central pillar of a renewed liberal vision.

REFERENCES

Aiken, L. H., Sermeus, W., McKee, M., et al. (2024). 'Physician and Nurse Well-Being, Patient Safety and Recommendations for Interventions: Cross-Sectional Survey in Hospitals in Six European Countries'. *BMJ Open*, 14(2), e079931. DOI: 10.1136/bmjopen-2023-079931.

Beauvais, A., Herbig, B., Wilson, M., et al. (2026). *The health of nations: Stronger health, stronger economies*. McKinsey Health Institute. Available at: https://www.mckinsey.com/mhi/our-insights/the-health-of-nations-stronger-health-stronger-economies.

Bellis, M. A., Hughes, K., Ford, K., et al. (2019). 'Life Course Health Consequences and Associated Annual Costs of Adverse Childhood Experiences across Europe and North America: A Systematic Review and Meta-analysis'. *The Lancet Public Health*, 4(10), e517–e528. DOI: 10.1016/S2468-2667(19)30145-8.

Bloom, D. E., Canning, D., Kotschy, R., et al. (2024). 'Health and Economic Growth: Reconciling the Micro and Macro Evidence'. *World Development*, 178, 106575. DOI: 10.1016/j.worlddev.2024.106575.

Bonnet, J., Clarke, C., Thévenon, O., et al. (2022). *The Economic Costs of Childhood Socio-economic Disadvantage in European OECD Countries*. Paris: OECD Publishing. Available at https://www.oecd.org/en/publications/the-economic-costs-of-childhood-socio-economic-disadvantage-in-european-oecd-countries_8c0c66b9-en.html.

Bujang, M. A. (2026). 'Key Strategies for Addressing the Rising Global Burden and Cost of Healthcare'. *Journal of Public Health Research*, 15(1). DOI: 10.1177/22799036251388595.

Del Rey Puech, P., Payne, R., Saund, J., et al. (2026). 'Mind the (Widening) Gap: Why Public Health Must Engage with AI Now'. *Public Health*, 250, 106047. DOI: 10.1016/j.puhe.2025.106047.

Del Rey Puech, P., Saund, J., Panteli, D., et al. (2026). *Demystifying Artificial Intelligence in Health: What Health Policy-Makers Need to Know*. Copenhagen: European Observatory on Health Systems and Policies.

45. M. McKee, J. Figueras, and R. B. Saltman (2011), Health Systems, Health, Wealth and Societal Well-Being: *Assessing the Case for Investing in Health Systems* (Buckingham: McGraw-Hill Education (UK)).

Delhomme, V., de Ruijter, A., Hervey, T, et al. (2026). 'Tobacco End-Game Policies and the Intrinsic Connection of Health and EU Market Law'. *Health Economics, Policy and Law*, 21(3), 269–284. DOI: 10.1017/s1744133126100541.

Demenet, A. (2016). *Health shocks and permanent income loss: The household business channel* (Working paper). Université Paris-Dauphine. Available at: https://dial.ird.fr/wp-content/uploads/2021/10/2016-11Health-shocks.pdf

Draghi, M. (2024). 'The Draghi report on EU competitiveness 2024', https://commission.europa.eu/topics/competitiveness/draghi-report_en.

European Federation of Pharmaceutical Industries and Associations (EFPIA) (2024). '60,000 fewer clinical trial places for Europeans, despite global surge in research projects 2024', 22 October, https://www.efpia.eu/news-events/the-efpia-view/statements-press-releases/60-000-fewer-clinical-trial-places-for-europeans-despite-global-surge-in-research-projects/.

Eurobarometer (2024). 'European Parliament's Eurobarometer Spring 2024 Survey', https://europa.eu/eurobarometer/surveys/detail/3272.

European Commission (2025). 'Healthy life years statistics 2025', https://ec.europa.eu/eurostat/statistics-explained/SEPDF/cache/1101.pdf.

Eurostat (2025). 'Healthy Life Years Statistics: European Commission'.

Eurostat (2026). 'Life expectancy by age and sex 2026', https://ec.europa.eu/eurostat/databrowser/view/demo_mlexpec__custom_11055020/bookmark/table.

Galea, G., Ekberg, A., Ciobanu A., et al. (2025). 'Quick Buys for Prevention and Control of Noncommunicable Dis eases'. *The Lancet Regional Health Europe*, 52, 101281. DOI: 10.1016/j.lanepe.2025.101281.

Gilmore, A. B., Fabbri, A., Baum, F., et al. (2023). 'Defining and Conceptualising the Commercial Determinants of Health'. *The Lancet*, 401(10383), 1194–1213. DOI: 10.1016/s0140-6736(23)00013-2.

Greenley, R., Aiken, L. H., Sermeus, W., et al. (2024). *Strengthening Europe's Nursing Workforce: Strategies for Retention*. Copenhagen: European Observatory on Health Systems and Policies. Available at: https://eurohealthobservatory.who.int/publications/i/strengthening-europe-s-nursing-workforce-strategies-for-retention.

Greer, S. L., Falkenbach, M., Siciliani, L., et al. (2022). 'From Health in All Policies to Health for All Policies'. *The Lancet Public Health*, 7(8), e718–e720. DOI: 10.1016/s2468-2667(22)00155-4.

Invest Europe (2026). *European Life Sciences Coalition launched to strengthen Europe's life sciences investment ecosystem* [Press release], 12 February, https://www.investeurope.eu/news/newsroom/european-life-sciences-coalition-launched-to-strengthen-europe-s-life-sciences-investment-ecosystem/.

Koh, H. K., Bantham, A., Geller, A. C., et al. (2020). 'Anchor Institutions: Best Practices to Address Social Needs and Social Determinants of Health'. *American Journal of Public Health*, 110(3), 309–316.

Konkolÿ Thege, B., Horwood, L., Slater, L., et al. (2017). 'Relationship between Interpersonal Trauma Exposure and Addictive Behaviors: A Systematic Review'. *BMC Psychiatry*, 17(1). DOI: 10.1186/s12888-017-1323-1.

Lenhart, O. (2019). 'The Effects of Health Shocks on Labor Market Outcomes: Evidence from UK Panel Data'. *European Journal Health Economics*, 20(1), 83–98. DOI: 10.1007/s10198-018-0985-z.

Liberal International (2026). 'Our Mission 2026', https://liberal-international.org/who-we-are/our-mission/.

Llena-Nozal, A., Kim, S., & Milstein, R. (2025). *The Economic Benefit of Promoting Healthy Ageing and Community Care*. Paris: OECD Publishing. Available at: https://www.oecd.org/en/publications/the-economic-benefit-of-promoting-healthy-ageing-and-community-care_0f7bc62b-en.html.

McKee, M. & de Ruijter A. (2024). 'The Path to a European Health Union'. *The Lancet Regional Health Europe*, 36, 100794. DOI: 10.1016/j.lanepe.2023.100794.

McKee, M., de Ruijter, A., & Hervey, T. (2025). 'Health, the Missing Chapter in the Draghi Report on Europe's Future'. *The Lancet Regional Health Europe*, 48 (101150). DOI: 10.1016/j.lanepe.2024.101150.

McKee, M., Figueras, J., & Saltman, R. B. (2011). *Health Systems, Health, Wealth and Societal Well-Being: Assessing the Case for Investing in Health Systems*. Buckingham: McGraw-Hill Education (UK).

McKee, M., van Schalkwyk, M. C., Greenley, R., et al. (2024). 'Placing Trust at the Heart of Health Policy and Systems'. *International Journal of Health Policy and Management*, 13, 8410. DOI: 10.34172/ijhpm.2024.8410.

Menon, A., Kavanagh, N. M., Falkenbach, M., et al. (2025). 'The Role of Health and Health Systems in Shaping Political Engagement and Rebuilding Trust in Democratic Institutions'. *The Lancet Regional Health Europe*, 53(101326). DOI: 10.1016/j.lanepe.2025.101326.

Murphy, N. J. (2025). *Liberalism That Wins: Scientific Liberalism – A New Foundation for Democratic Renewal*. London: Prepolitica.

Organisation for Economic Co-operation and Development (OECD) (2024). *Health at a Glance: Europe 2024*. Paris: OECD Publishing. Available at: https://www.oecd.org/en/publications/health-at-a-glance-europe-2024_b3704e14-en.html.

Organisation for Economic Co-operation and Development (OECD) (2025). *OECD Employment Outlook 2025*. Paris: OECD Publishing. Available at: https://www.oecd.org/en/publications/2025/07/oecd-employment-outlook-2025_5345f034.html.

Polanco, B., Oña, A., Gemperli, A., et al. (2025). 'Excess Healthcare Utilization and Costs Linked to Chronic Condi tions: A Comparative Study of Nine European Countries'. *European Journal of Public Health*, 35(2), 216–227. DOI: 10.1093/eurpub/ckaf012.

Scott, A., Ashwin, J., Ellison, M., et al. (2023). 'International Gains to Achieving Healthy Longevity'. *Cold Spring Har bor Perspectives in Medicine*, 13(2), a041202. DOI: 10.1101/cshperspect.a041202.

Sen, A. (2001). *Development as Freedom*. Oxford: Oxford University Press.

Testa, A., Jackson, D. B., Ganson, K. T., et al. (2022). 'Adverse Childhood Experiences and Criminal Justice Contact in Adulthood'. *Academic Pediatrics*, 22(6), 972–980. DOI: 10.1016/j.acap.2021.10.011.

Tomaz, V., Moreira, D., & Souza Cruz, O. (2023). 'Criminal Reactions to Drug-Using Offenders: A Systematic Review of the Effect of Treatment and/or Punishment on Reduction of Drug Use and/or Criminal Recidivism'. *Frontiers in Psychiatry*, 14. DOI: 10.3389/fpsyt.2023.935755.

Viberg, N., Forsberg, B. C., Borowitz, M., et al. (2013). 'International comparisons of Waiting Times in Health Care: Limitations and Prospects'. *Health Policy*, 112(1), 53–61. https://doi.org/10.1016/j.healthpol.2013.06.013.

Villadsen, A., Asaria, M., Skarda, I., et al. (2023). 'Clustering of Adverse Health and Educational Outcomes in Ado lescence Following Early Childhood Disadvantage: Population-Based Retrospective UK Cohort Study'. *The Lancet Public Health*, 8(4), e286–e293. DOI: 10.1016/s2468-2667(23)00029-4.

Wagner, C., Carmeli, C., Jackisch, J., et al. (2024). 'Life Course Epidemiology and Public Health'. *The Lancet Public Health*, 9(4), e261–e269. DOI: 10.1016/S2468-2667(24)00018-5.

Wilsdon, T., Armstrong, H., Sablek, A., et al. (2022). *Factors Affecting the Location of Biopharmaceutical Investments and Implications for European Policy Priorities: Final Report*. Charles River Associates for EFPIA, 3 Octo ber. Available at: https://www.efpia.eu/media/676753/cra-efpia-investment-location-final-report.pdf.

World Health Organization Regional Office for Europe (2022). *Health and Care Workforce in Europe: Time to Act*. Copenhagen: World Health Organization.

Part 1

HEALTH AS EUROPE'S COMPETITIVE ADVANTAGE

Why Clinical Trials Are Leaving Europe — And How to Win Them Back

Mark Canavan

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ABSTRACT

Europe is losing ground as a destination for clinical research despite possessing world-leading scientific expertise, infrastructure, and pharmaceutical manufacturing capacity. Its share of global industry-sponsored clinical trials has fallen sharply over the past decade, with early-phase and first-in-human studies particularly affected. This chapter argues that Europe's central weakness is not scientific capability but regulatory and market fragmentation. Lengthy and unpredictable trial authorisation, divergent national ethics processes, and slow site activation make Europe less competitive than alternative research destinations. The chapter examines the consequences for vaccine development and proposes three reforms: faster and more coordinated implementation of the EU Biotech Act; stronger political leadership and accountability for clinical trial performance; and a voluntary '28th Regime' enabling participating Member States to operate through a genuinely integrated framework. Finally, it argues that supply-side regulatory reform must be matched by measures to create a more coherent medicines market and restore Europe's role in innovation.

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Disclosure statement: Sanofi is a biopharmaceutical company whose business depends on efficient clinical trial pathways in Europe and on the regulatory conditions and market access affecting medicines pricing and reimbursement. Sanofi is a member of the European Federation of Pharmaceutical Industries and Associations (EFPIA) and Vaccines Europe. Some sources cited in this article were commissioned by EFPIA and Vaccines Europe or produced by consultancies for industry clients, including an EFPIA/IQVIA analysis of the clinical trial ecosystem in Europe as well as an analysis of prevention and immunisation budgets by The European House – Ambrosetti. These sources are identified as such in the references, and wherever possible the argument rests on official and independent sources, including the European Commission, the U.S. Food & Drug Administration (FDA), and China's National Medical Products Administration (NMPA).

INTRODUCTION

Europe has long been regarded as the 'pharmacy of the world', as President von der Leyen has often remarked. According to the numbers, she is right: Europe manufactures around 64% of the world's on-patent medicines.[1] It employs about two million people in medicines and vaccines research, development, and production.[2] Its universities are world-class. Its scientists are among the best.

So why are clinical trials leaving Europe?

Europe now accounts for roughly 12% of global industry-sponsored clinical trials, down from approximately 22% a decade ago

Europe now accounts for roughly 12% of global industry-sponsored clinical trials, down from approximately 22% a decade ago.[3] This is not a gentle decline – and it is accelerating. The United States, China, Australia, and other regions are not simply competing with Europe; they are winning on speed, simplicity, and predictability.

Moreover, the headline numbers mask another reality: early-phase trials – the Phase I and first-in-human studies that define development pathways, anchor investment decisions, and signal where the next generation of medicines will be born – are shifting away from Europe at an alarming rate. This is not a story about scientific capability; Europe has that in abundance. It is a story about regulatory fragmentation, a structural failure that is quietly strangling one of Europe's most strategically important industries. And at its core, it is a story about the freedom to innovate: whether Europe chooses to be a place where bold scientific ideas can be tested quickly, or whether it continues to bury them under ever increasing layers of national bureaucracy.

THE DIAGNOSIS: FRAGMENTATION AS A COMPETITIVE HANDICAP

The numbers tell a stark story, but the practical reality of running a clinical trial in Europe tells a starker one.

Today, a multinational clinical trial in Europe takes a median of 106 days just to receive regulatory and ethics approval – before a single patient has been enrolled, before a single site has been activated.[4] In the United States, the equivalent process takes around 60 days;[5] in China, around 90 days.[6]

1. EFPIA and IQVIA (2024), *Assessing the clinical trial ecosystem in Europe: Final report*, October. Available at: assessing-the-clinical-trial-ecosystem-in-europe.pdf.
2. Estimate based on Draghi's analysis of direct and indirect employment in the pharmaceutical sector. See M. Draghi (2024), 'Chapter 9: Pharma', in European Commission, *The future of European competitiveness: In-depth analysis and recommendations*. Available at: https://commission.europa.eu/document/download/ec1409c1-d4b4-4882-8bdd-3519f86bbb92_en?filename=The%20future%20of%20European%20competitiveness_%20In-depth%20analysis%20and%20recommendations_0.pdf.
3. EFPIA and IQVIA, *Assessing the clinical trial ecosystem*.
4. On the estimate of 106 days, see European Commission (2025), *Proposal for a Regulation establishing the European Biotech Act* (COM/2025/1022 final). The Commission identifies a median 106-day authorisation timeline for multinational clinical trials under the current Clinical Trials Regulation and proposes reducing this to 75 days; see the European Biotech Act Proposal (COM/2025/1022).
5. The estimate of 60 days is based on the FDA's statutory 30-day Investigational New Drug (IND) review period plus typical Institutional Review Board (IRB) review timelines of around 20–30 days. No nationally reported median approval timeline exists. See U.S. Food & Drug Administration (n.d.), 'IND applications for clinical investigations: overview', https://www.fda.gov/drugs/investigational-new-drug-application-ind/ind-applications-clinical-investigations-overview?utm_source=chatgpt.com.
6. This estimate is based on China's 60-day implied approval pathway for clinical trial applications under the NMPA, together with typical ethics committee review of around 30 days. Actual timelines vary by institution. See clinical trials information on the English-language version of the National Medical Products Administration website, https://english.nmpa.gov.cn/?utm_source=chatgpt.com.

But approval timelines are only part of the picture. While it is difficult to draw exact international comparisons, the overall trajectory is unmistakable. Europe takes significantly longer than other major research regions to get trials up and running. An IQVIA analysis shows that trial start-up timelines (depending on the therapeutic area) are typically 26–47% longer than in the United States, while many global R&D leaders now regard China as faster still.[7]

The root cause is not how Europe regulates clinical trials in theory. It is that Europe regulates them 'in practice' through 27 national systems. While the scientific assessment of a clinical trial (Part I) has been increasingly coordinated through the EU Clinical Trials Regulation, the ethics review (Part II) remains stubbornly national. The result is multiple parallel assessments, each with its own procedural quirks and varying interpretation of what constitutes an acceptable protocol. Delays are not driven by substantive differences in ethical standards – they arise from differences in the wording of similar questions, the inclusion of issues outside core ethics (such as financing or contractual provisions), and simple administrative processing backlogs. The underlying ethical considerations are often identical. The paperwork is not.

For a company deciding where to run a global trial, this is not an abstract concern. Every week of delay has a cost. Every additional country-level amendment to a protocol introduces operational and potential strategic risk. And when running a time-sensitive study – a seasonal vaccine trial, or a first-in-human study for a novel therapy – the margin for error is small.

Companies respond rationally – they route their trials elsewhere. Increasingly, Europe is becoming a market that firms include as an obligation or necessity, rather than the first choice for global clinical development.

VACCINE TRIALS: THE COST OF FRAGMENTATION

To understand what regulatory fragmentation means in practice, it is enough to look at vaccine trials. Few areas expose the costs more starkly.

Vaccines are given to healthy people. That single fact changes everything: the tolerance for safety signals is extremely low, and the risk–benefit threshold is exceptionally high. In around 70% of vaccine trials, there is no validated correlate of protection (a biological marker that reliably predicts whether a vaccine will work). As a result, developers cannot rely on small efficacy studies. They need very large numbers of participants, often tens of thousands, followed over long periods, with tight windows for analysis and almost zero tolerance for attrition. Given these scale requirements, vaccine trials must typically be conducted across multiple Member States – making Europe's fragmented regulatory environment particularly costly.

Add to this the complexity of seasonal pathogens. A flu vaccine trial must begin administering doses two to three months before the season starts, otherwise it becomes impossible to distinguish vaccine-induced immunity from natural infection. Strain selection is determined by the World Health Organization (WHO) twice a year. Miss the window, and an entire development cycle can be lost. For paediatric vaccines, study visits must be carefully scheduled around routine immunisation programmes. For therapeutic vaccines (an emerging and exciting frontier) case definitions are still evolving, adding another level of complexity.

Now layer onto this Europe's fragmented regulatory framework. National authorities often request divergent amendments to the same protocol. Site contracting remains a persistent bottleneck, with many academic institutions renegotiating contracts for every trial rather than adopting standardised agreements. Despite the ambitions of the Clinical Trials Regulation, sponsors continue to navigate multiple interpretations of a single clinical trial. The underlying ethical principles are largely the same. The administrative processes are not.

7. EFPIA and IQVIA, *Assessing the clinical trial ecosystem*.

For many sponsors, the commercial calculus is clear: whenever possible, conduct trials elsewhere. Latin America, the United States, and Australia have become attractive alternatives, while Europe is often included only when scientific or regulatory considerations make it essential. Early-stage trials in Europe are becoming increasingly rare. The expertise, infrastructure, and institutional knowledge that come from running these studies are steadily migrating to other continents.

Europe's ability to respond rapidly to the next pandemic – to develop, test, and deploy medical countermeasures at speed – depends on maintaining a world-class clinical trials ecosystem at home

This is not just a commercial problem. It is a sovereignty problem. Europe's ability to respond rapidly to the next pandemic – to develop, test, and deploy medical countermeasures at speed – depends on maintaining a world-class clinical trials ecosystem at home. COVID-19 exposed the risks of relying on external clinical research capacity. Europe cannot afford to relearn that lesson in the next pandemic.

THE SOLUTION: THREE INTERLOCKING REFORMS

The good news is that Europe knows what needs to be done. The Biotech Act, currently moving through the legislative process, contains important reforms. The question is whether the political will exists to go far enough, fast enough.

First, procedural reform. The Biotech Act's proposal to reduce multinational trial authorisation timelines from 106 to 75 days is a genuine step forward. Sanofi estimates it could reduce clinical trial start-up times by up to 40%. But 75 days is still longer than the US benchmark of 60 days, and the broader start-up gap – driven by site activation and patient recruitment – will remain. Procedural reform must be accompanied by a serious effort to coordinate ethics reviews, reduce duplicative national assessments, and build a genuinely integrated European clinical research environment. The goal should be to match the US and China.

Second, political leadership on implementation. This is the most important element – and the one most often overlooked. Legislative reform is necessary but not sufficient. The history of European health policy is littered with well-designed frameworks that were poorly implemented, unevenly applied, and quietly undermined by national inertia. The Biotech Act will only deliver if it is accompanied by a serious, sustained political commitment to implementation: Commission guidance, common interpretation, shared performance indicators, and a willingness to hold Member States accountable for their clinical trial environments.

Europe needs a coordinated implementation agenda, one that encourages Member States to develop national clinical trial strategies, rebuilds early-phase research capacity, and treats clinical trial performance as a matter of strategic industrial policy, not just regulatory administration. The decline in Phase I and first-in-human studies is not inevitable. It is a policy choice. And it can be reversed – but only if political leaders decide that reversing it matters.

Third, the '28th Regime'. This is where liberal and centrist instincts should find their natural expression. The 28th Regime – a voluntary, opt-in framework for Member States willing to apply a more integrated approach to multinational clinical trials – is a classically European solution to a classically European problem. It does not require harmonisation. It does not override national competence in the areas of ethics, healthcare systems, or patient protection. It simply creates an optional pathway: a single coordinated assessment led by a Reference Member State, mutual recognition of Part I and Part II assessments among participating Member States, shared documentation requirements, and a core dossier approach.

The beauty of the 28th Regime is that it goes with the grain of European politics rather than working against it. Member States that want to move faster can do so. Those that are not ready do not have to. But those at the vanguard can serve as inspiration – providing proof that deeper cooperation works, a model for wider adoption over time, and a powerful signal to the global industry that Europe is serious about competing for clinical research investment.

SUPPLY-SIDE REFORM IS NOT ENOUGH

There is one final point that deserves emphasis – and it is one that liberals, in particular, should be willing to make.

The debate about clinical trials, and about European pharmaceutical competitiveness more broadly, tends to focus on the supply side: faster regulation, better incentives, more efficient procedures. All of that is necessary. But it is not sufficient.

Europe also has a demand problem. The EU market now accounts for just 23% of global pharmaceutical sales, compared to 53% in the US and Canada. Europe manufactures the majority of the world's on-patent medicines – and then exports most of them, because the domestic market is too fragmented, too cost-constrained, and too slow to adopt innovation to sustain the investment required to develop them.

A company deciding where to run a clinical trial is not just asking: where can I get approval fastest? It is also asking: where will this medicine eventually be used? Where will it be reimbursed? Where will patients have access to it? If the answer to those questions points consistently away from Europe, then faster trial approvals will only partially address the problem.

The Single Market for medicines remains, in practice, 27 separate markets. Pricing, reimbursement, and access decisions are national. The result is that a medicine approved centrally by the European Medicines Agency (EMA) can take years to reach patients in some Member States – and may never reach them in others. Availability of newer cancer medicines in Europe ranges from 6% in Lithuania to 96% in Germany.[8] That is not a Single Market. That is a patchwork.

Fixing this requires political courage. It means treating medicines access as a Single Market issue, not just a health systems issue. It means exploring European co-financing mechanisms that reward innovation and reduce the fragmentation of national reimbursement decisions. It means recognising that spending on prevention and immunisation – currently a small proportion of healthcare spending in Europe (prevention: <5%; vaccines: 0.5%) – is productive investment, not an expense.[9]

We need more than supply-side reform. We need demand-side reform. We need a European market that is worthy of the European science that feeds it.

CONCLUSION: THE FREEDOM TO INNOVATE

The freedom to innovate is not just a slogan. It is a precondition for everything else Europe wants to achieve in health: pandemic preparedness, medicines access, industrial competitiveness, and strategic autonomy.

8. The availability of innovative medicines varies substantially across European countries, reflecting differences in national access, pricing, and reimbursement systems. See EFPIA (2024), *Patients W.A.I.T. Indicator 2024*.

9. The European House – Ambrosetti (supported by IFPMA and Vaccines Europe) (2024), *The value of prevention for economic growth and the sustainability of healthcare, social care and welfare systems*, 12 September, https://www.vaccineseurope.eu/media-hub/publications/the-value-of-prevention-for-economic-growth-and-the-sustainability-of-healthcare-social-care-and-welfare-systems/?utm_source=chatgpt.com.

Clinical trials are the bridge between scientific discovery and medical progress. When they leave Europe, they take with them expertise, investment, institutional knowledge, and – ultimately – the next generation of medicines. Reversing that trend clearly requires regulatory reform. But it also requires political leadership, a willingness to use the tools of the Single Market, and a recognition that Europe's ambition to be the pharmacy of the world must be matched by the ambition to be its most innovative clinical research destination.

The Biotech Act is a beginning. The question now is whether Europe's political leaders have the boldness to see it through.

REFERENCES

Draghi, M. (2024). 'Chapter 9: Pharma'. In European Commission, *The future of European competitiveness: In-depth analysis and recommendations*. Available at: https://commission.europa.eu/document/download/ec1409c1-d4b4-4882-8bdd-3519f86bbb92_en?filename=The%20future%20of%20European%20competitiveness_%20In-depth%20analysis%20and%20recommendations_0.pdf.

European Federation of Pharmaceutical Industries and Associations (EFPIA) (2024). *Patients W.A.I.T. Indicator 2024*. Available at: https://www.efpia.eu/media/oeganukm/efpia-patients-wait-indicator-2024-final-110425.pdf.

European Federation of Pharmaceutical Industries and Associations (EFPIA) & IQVIA (2024). *Assessing the clinical trial ecosystem in Europe: Final report*. October. Available at: assessing-the-clinical-trial-ecosystem-in-europe.pdf.

European Commission (2025). *Proposal for a Regulation establishing the European Biotech Act* (COM/2025/1022 final).

The European House – Ambrosetti (supported by IFPMA and Vaccines Europe) (2024). *The value of prevention for economic growth and the sustainability of healthcare, social care and welfare systems*. 12 September, https://www.vaccineseurope.eu/media-hub/publications/the-value-of-prevention-for-economic-growth-and-the-sustainability-of-healthcare-social-care-and-welfare-systems/?utm_source=chatgpt.com.

Beijing's Next Playbook: What Solar and EVs Tell Europe about the Coming Fight for Pharma

Dennis Kwok

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ABSTRACT

Europe has twice watched an industry it once led pass into Chinese hands: first solar manufacturing, then electric vehicles. In both cases Beijing had designated the sector a strategic priority years before European regulators treated it as one. That sequence has not yet run its course for pharmaceuticals and biotechnology, however, and European firms remain at the global frontier. Drawing on Chinese planning documents, State Council decrees, and provincial measures, this chapter shows that Beijing has placed biopharmaceuticals in the same category as it did electric vehicles and solar and has built within a single year the instruments needed to convert that priority into external market position. The chapter offers four recommendations for Europe: expanding investment screening to biotechnology and NewCo structures; requiring a data-provenance standard in European Medicines Agency review; extending the Critical Medicines Act to the innovation pipeline; and coordinating with Washington.

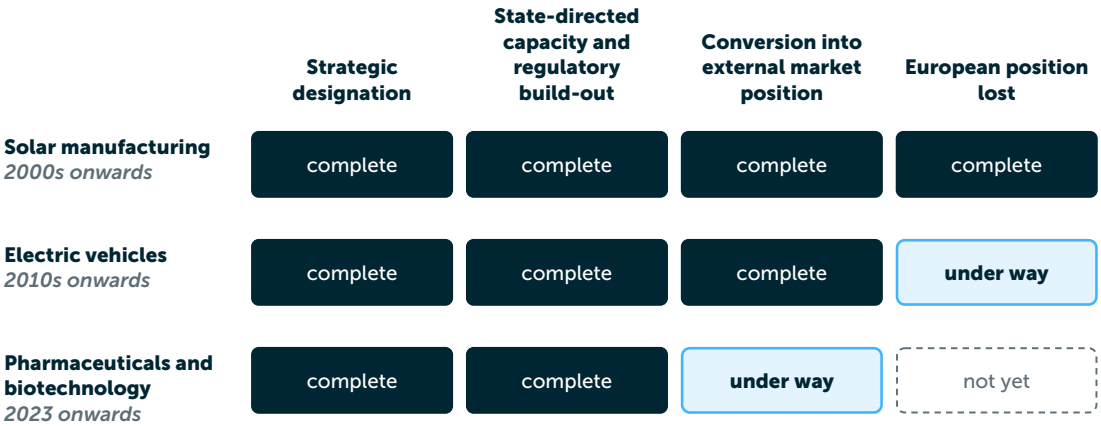
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INTRODUCTION

In recent years, the same sequence of events has seen Europe lose ground in several industries. Solar technology manufacturing, which Europe led commercially through the 2000s, was ceded to Chinese producers within a decade of Beijing designating it a strategic priority. The European electric vehicle industry is now falling into a similar pattern, with Chinese manufacturers taking ever increasing market share thanks to state-directed capacity growth and battery supply-chain control that European carmakers cannot match. Pharmaceuticals are on a similar trajectory (see Figure 1).

Figure 1: The same sequence in three sectors.



If this tendency appears irreversible for solar manufacturing and electric vehicle production, the situation is different for biotechnology and pharmaceuticals, where Europe still holds a genuine advantage. Sanofi and Bayer (within the Union), Novartis and Roche (in Switzerland), and AstraZeneca (in the United Kingdom) are among the last industrial domains in which European firms sit at the global frontier.

That advantage is not secure. China's 15th Five-Year Plan makes biotechnology and pharmaceuticals a centrepiece of the next phase of industrial development.[1] Around that ambition Beijing has assembled, in under a year, the instruments a state needs to turn a domestic priority into external market position: a reclassification of outbound investment, a legal architecture for industrial security, and a mechanism for retaliation.

This chapter sets out what is on the record in Beijing's own planning language, why the sequence of events that claimed Europe's dominance in solar technology and electric vehicles now threatens its standing in pharmaceuticals, and what policymakers can do while Europe still leads.

BEIJING HAS ALREADY STATED ITS INTENTIONS

China's strategic logic was established before the pharmaceutical programme took shape. Addressing the Politburo Standing Committee in April 2020, Xi Jinping urged for a tighter dependency of international industrial chains upon China. By building on that dependency, he continued, a capability to deter and take countermeasures against any foreign attempt to cut off supply could be developed.[2] These instructions were directed at industrial policy generally, but they closely match the approach that has since been applied to pharmaceuticals. In his remarks of August 2023, recorded in the Chinese Communist Party's theoretical journal, Xi described the biopharmaceutical field as a strategic emerging industry with bearing on the state economy, people's livelihoods, and national security, and called for China to take firm control of its development. That formulation has become the refrain of Chinese biopharmaceutical policy.

1. National De velopment and Reform Commission (2026), Outline of the 15th Five-Year Plan for National Economic and Social Development (Beijing: NDRC). Available at: https://www.ndrc.gov.cn/fggz/fzzlgh/gjfzgh/202603/U020260317369114704096.pdf. Adopted by the 14th National People's Congress 12 March 2026.

2. Xi Jinping (2020), 'Remarks to the Politburo Standing Committee, April 2020' [Transcript], Xinhua, 31 October, http://www.xinhuanet.com/politics/leaders/2020-10/31/c_1126681658.htm.

Officials have translated this ambition into more specific terms. Chen Kaixian, an academician of the Chinese Academy of Sciences and deputy technical chief engineer of the State Council's principal new drug programme, wrote about the leap from pharmaceutical hegemon to innovative drug powerhouse in the *People's Daily Overseas Edition* in April 2025. He spoke of a 'DeepSeek moment' for Chinese innovative medicines, drawing a comparison to artificial intelligence, where the gap between Chinese actors and Western competitors could be closed at a fraction of the Western cost.[3] A deputy director of drug registration at the National Medical Products Administration has described the sector's progress on state television as a leap from following, to running alongside, to leading in some areas.[4]

The most direct statement of intent concerns the licensing channel itself. Commentary posted on *People's Daily Online* in September 2025 held that going overseas was no longer an expedient but a strategic choice for Chinese pharmaceutical companies, and that the trend was irreversible. It described Chinese firms' embedding themselves in the global pharmaceutical innovation system as a strategic step through which China could take centre stage in worldwide pharmaceutical innovation.[5] The party secretary of the state-supervised China Chamber of Commerce for Import and Export of Medicines and Health Products has put it more plainly, likening the licensing deals Chinese firms have concluded with Western pharmaceutical companies to 'borrowing a ship to go to sea'.[6]

The 15th Five-Year Plan gives this approach an institutional form. It names biomanufacturing among six industries for the future, lists biopharmaceuticals with semiconductors and aerospace as a strategic pillar, and commits at legislative-agenda level to advancing legislation in the sector over the coming five years.[7] The 2026 Government Work Report instructs central state-owned enterprises to lead industrial policy execution in it.[8] Beijing has placed biopharmaceutical leadership in the same strategic category, and uses the same language to discuss it, as it did for solar technology and electric vehicles preceding the build-out of state capacity.

BUILDING THE MACHINERY, DECREE BY DECREE

Ambition of this kind is not unusual. What distinguishes the current push is the speed with which China has developed the regulatory instruments that, in electric vehicles and solar, followed their strategic designation. Five State Council decrees issued between September 2025 and May 2026 now form a national architecture. What they achieve in combination matters more than their individual provisions: they accelerate the domestic clinical pipeline, insulate it against foreign restric-

3. K. Chen (2025), 'Accelerating the leap from "pharmaceutical great power" to "innovative-drug powerhouse"', *People's Daily Overseas Edition*, 14 April, http://paper.people.com.cn/rmrbhwb/pc/content/202504/14/content_30067657.html. Chen Kaixian is an academician of the Chinese Academy of Sciences, deputy technical chief engineer of the State Council's Major New Drug Creation national science and technology project, and deputy chair of the Chinese Pharmacopoeia Commission.

4. Lan Gongtao (2025), 'Remarks on the 2025 innovative-drug approval landscape' [Televised remarks], China Central Television. Lan Gongtao is the deputy director of the Drug Registration Department, National Medical Products Administration.

5. M. Zhang (2025), 'The innovative drug "going overseas" trend is irreversible', Securities Daily, 18 September, republished by *People's Daily Online*, http://finance.people.com.cn/n1/2025/0918/c1004-40566716.html.

6. D. Meng (2024), 'Remarks at the first Biopharma "Going Overseas" Conference, Beijing Daxing International Airport Economic Zone, 31 August', as reported by *Beijing Daily*, https://www.ncsti.gov.cn/kjdt/kjrd/qtrd_kjrd/202409/t20240901_177419.html. Meng Dongping is the party secretary of the China Chamber of Commerce for Import and Export of Medicines and Health Products, a body supervised by the Ministry of Commerce.

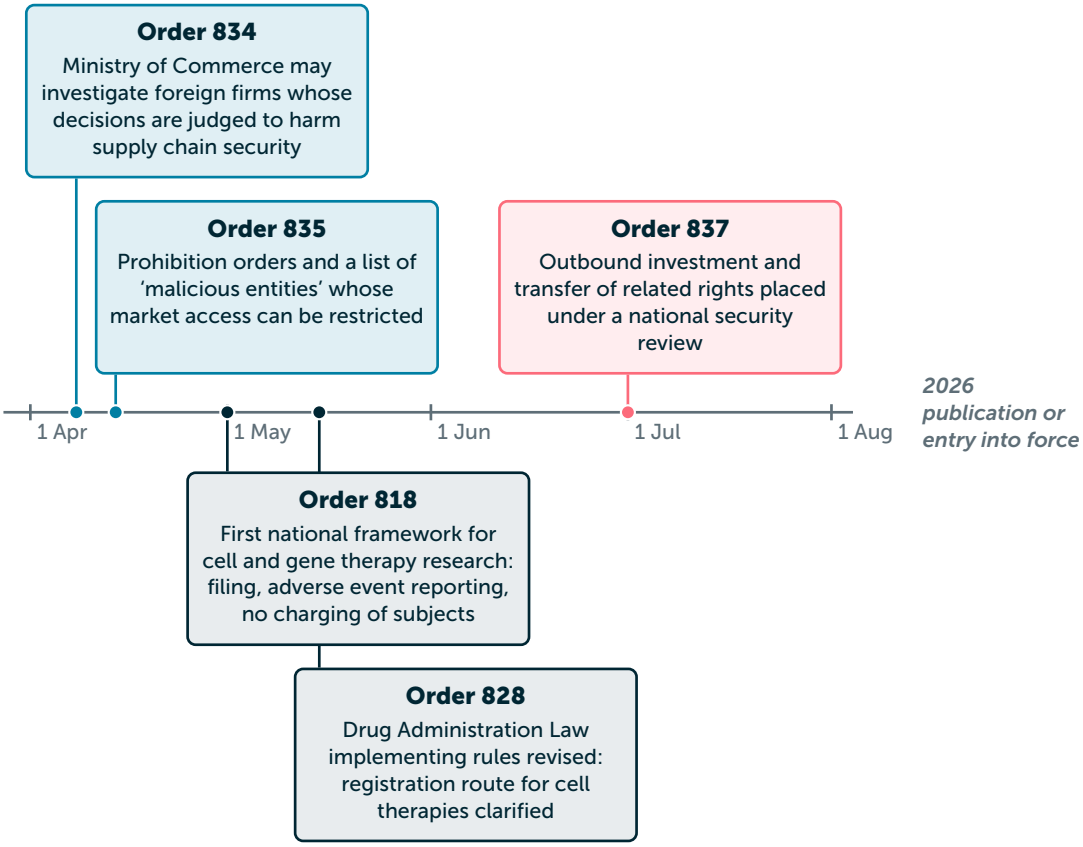
7. National Development and Reform Commission, Outline of the 15th Five-Year Plan. The Plan's legislative-agenda commitment is to advance legislation in biopharmaceuticals and other emerging fields.

8. State Council of the People's Republic of China (2026a), 2026 *Government Work Report*, delivered to the 14th National People's Congress, 5 March, http://lianghui.people.com.cn/2026/n1/2026/0313/c461827-40681711.html.

tion, and place the transfer of its output abroad under a security review the Chinese state controls (see Figure 2).

Figure 2: China's biopharmaceutical regulatory architecture: five State Council decrees, organised by date of publication or entry into force.

Instruments directed outward



Instruments governing the domestic pipeline

Two of the decrees govern the pipeline itself. Since May 2026 China has had, for the first time, a national framework for cell therapy, gene therapy, gene editing, stem cell technology, and tissue engineering.[9] It confines such research to the highest tier of hospitals, requires studies to be filed with the national health regulator, obliges institutions to report serious adverse reactions promptly,

9. State Council of the People's Republic of China (2025), Order No. 818, Regulations on the Administration of Clinical Research and Clinical Translational Application of New Biomedical Technologies (Beijing: State Council), effective 1 May 2026.

and prohibits charging research subjects. A parallel revision of the rules implementing the Drug Administration Law clarifies the registration route for cell therapies.[10] Compared to Europe, the significant feature of these decrees is what they *do not* require. Reporting goes directly to the regulator; there is no mandated public disclosure or notification of a foreign partner. China's investigator-initiated trial pathway, which allows certain early-phase studies to proceed on hospital ethics approval alone, continues to operate.

Two further decrees, published in April 2026, arm the state in the external sphere, raising China's counter-sanctions architecture from departmental rule to State Council regulation. The first brings supply chain security formally within the national security system, allows the state to designate lists of key sectors (biopharmaceuticals among them), and empowers the Ministry of Commerce to respond to commercial decisions judged to threaten it.[11] The second creates a counter-extra-territoriality mechanism, including orders prohibiting any party in China from complying with a targeted foreign measure and a list of 'malicious entities' whose access to the Chinese market can be restricted.[12] Together they give the Chinese state what it lacked a decade ago, when solar and battery manufacturing were built out: the means to secure domestic supply chains against foreign constraints and a back-up retaliatory instrument to use against foreign firms operating in China.

The fifth of these recent decrees bears most directly on European licensing. In force since July 2026, it is China's first administrative regulation dedicated to outbound investment, consolidating rules previously dispersed across two ministries.[13] It defines outbound investment broadly enough to capture the contribution of assets or rights by which a Chinese party indirectly acquires an interest in an asset abroad. That definition gets to the core of the structure at issue. A 'NewCo' is a company formed solely to hold rights to a particular drug candidate: Western investors capitalise it, and the Chinese originator contributes the asset by licence or assignment, taking equity in the vehicle rather than paying for the rights. This is increasingly how Western pharmaceutical companies license in Chinese-originated drug candidates. The decree subjects outbound investment and the transfer of related rights to a national security review and prohibits the transfer of restricted technology, extending expressly to the secondment of technical personnel and the training of personnel abroad. Where a licensing arrangement runs through offshore equity, it now sits inside a security review in which the Chinese state has the final say.

The sequence of this legislation is worth noting. A month after the second of the April decrees was published, the Chinese readout of the May 2026 meeting between Xi and President Trump listed health as second among six areas for bilateral cooperation, immediately after trade.[14] Deeper engagement with Western pharmaceutical companies and a legal architecture capable of restricting them are being advanced at the same time.

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10. State Council of the People's Republic of China (2026b), Order No. 828, Implementing Regulations of the Drug Administration Law, fourth revision (Beijing: State Council), effective 15 May 2026.

11. State Council of the People's Republic of China (2026c), Order No. 834, Regulation on Industrial Chain and Supply Chain Security (Beijing: State Council), passed 13 March 2026, signed 31 March 2026, published 7 April 2026, https://www.news.cn/politics/leaders/20260407/612b208a067240b68587ee05bdfc9081/c.html.

12. State Council of the People's Republic of China (2026d), Order No. 835, Regulation on Counter-Foreign Improper Extraterritorial Jurisdiction (Beijing: State Council), passed 27 March 2026, signed 7 April 2026, published 13 April 2026, http://www.xinhuanet.com/politics/leaders/20260413/0a29d45b57bb4d688ea056415e9d26eb/c.html. The Regulation introduces, at administrative-regulation level, a prohibition order against compliance with targeted foreign measures and a Malicious Entity List.

13. State Council of the People's Republic of China (2026e), Order No. 837, Regulations on Outbound Investment (Beijing: State Council), effective 1 July 2026.

14. Ministry of Foreign Affairs of the People's Republic of China (2026), 'Xi Jinping holds talks with US President Trump', 14 May, https://www.mfa.gov.cn/zyxw/202605/t20260514_11910264.shtml. The six areas listed are trade and the economy, health, agriculture, tourism, people-to-people exchange, and law enforcement.

THE PROVINCES SUPPLY THE ACCELERATOR

Beneath the national decrees, a ministerial and provincial layer compresses the clinical trials timeline itself. An implementation plan issued in April 2025 by seven bodies, the drug regulator among them, directs the industry towards artificial intelligence-driven research, virtual trials, substitution of real-world data with remote inspection, and turns the regulator's own standard-setting toward international market expansion.[15] A State Council-approved plan of August 2025 establishes the Jiangsu free trade zone as a national priority cluster; that province alone accounts for about 15% China's pharmaceutical revenue.[16]

Provincial measures address the review stage directly. Zhejiang requires lead ethics committees to report within 15 working days and sets the total ethics review target at four weeks.[17] Beijing has committed to reducing trial start time to 20 weeks and to raising mutual recognition of multi-centre ethics review to above 90%.[18] Other provinces attach money and career advancement to trial volume. Guangdong treats clinical trials as equivalent to research projects for performance assessment and professional promotion; Shenzhen pays up to RMB 3 million (approximately EUR 370,000) for each good clinical practice registration; and Chengdu rewards first-class innovative drugs with up to RMB 7 million per phase, capped at RMB 100 million (approximately EUR 12 million) per enterprise each year.[19] Nationwide, registered trial activity is treated as a marker of academic standing in the assessment of hospitals.

The effect of these provincial rules and initiatives is to shorten precisely the timelines that national decrees leave untouched: faster ethics approval, faster trial starts, and faster movement from laboratory to licensable asset, without a corresponding increase in independent, arm's-length oversight.

This architecture rests on a manufacturing base Beijing already controls. According to figures published by the Council on Foreign Relations, the raw or key starting materials behind 94% of the amoxicillin, 74% of the heparin, and 70% of the acetaminophen reaching the American market originate in China.[20] Amoxicillin shows why the finished-goods picture is misleading. The final stage

15. Ministry of Industry and Information Technology et al. (2025), Implementation Plan for the Digital and Intelligent Transformation of the Pharmaceutical Industry (2025–2030), 3 April, jointly issued by seven bodies including the National Medical Products Administration, https://www.gov.cn/zhengce/zhengceku/202504/content_7020857.htm.

16. Ministry of Commerce and Jiangsu Provincial People's Government (2025), Plan for Open and Innovative Development of the Whole Biopharmaceutical Supply Chain in the China (Jiangsu) Pilot Free Trade Zone, 22 August, issued pursuant to State Council Reply Guo Han (2025) No. 80, https://www.mofcom.gov.cn/zwgk/zcfb/art/2025/art_2dca2844092b40e3acce845b355a4531.html.

17. Office of the Zhejiang Provincial People's Government (2024), Measures Supporting the High-Quality Development of Innovative Drugs and Devices Across the Whole Chain, Zhe Zheng Ban Fa (2024) No. 44, issued 30 December 2024, effective 15 February 2025, https://zjic.zj.gov.cn/ywdh/cyfz/202502/t20250211_23238385.shtml.

18. Beijing Medical Insurance Bureau and eight municipal departments (2025), Measures Supporting the High-Quality Development of Innovative Medicine, Jing Yi Bao Fa (2025) No. 5, 7 April, https://ybj.beijing.gov.cn/zwgk/2024zcwj/202504/t20250407_4058418.html.

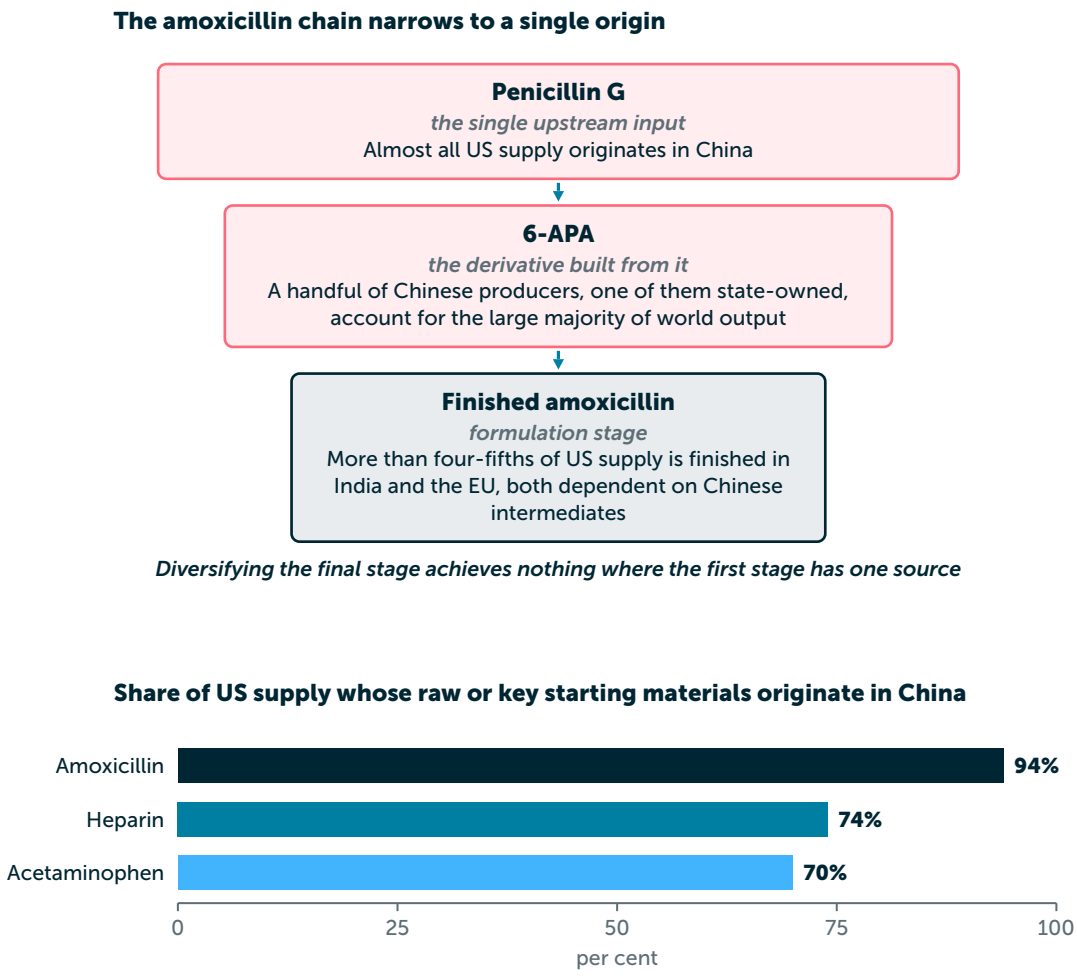
19. General Office of the Guangdong Provincial People's Government (n.d.), Action Plan for Further Promoting the High-Quality Development of Guangdong's Biopharmaceutical Industry, http://wjw.gz.gov.cn/ztzl/zyygz/content/post_10409630.html; National Health Commission (2024), National Tertiary Public Hospital Performance Assessment Operating Manual (2024 edition), Guo Wei Ban Yi Zheng Han (2024) No. 87, March; Shenzhen Municipal Development and Reform Commission (2022), Measures Promoting the Clustered Development of the Biopharmaceutical Industry, Shen Fa Gai Gui (2022) No. 10; Office of the Chengdu Municipal People's Government (2025), Policy Measures Promoting the High-Quality Development of the Biopharmaceutical Industry, effective 20 February, http://cdswjq.sczwfw.gov.cn/art/2025/2/20/art_21905_282448.html. Euro equivalents are the author's approximations at RMB 8.2 to EUR 1, given for orders of magnitude only.

20. T. Bollyky, R. Doshi, O. Kosloff, P. Yadav, and E. Every (2026), 'The pharma choke point: How to reduce U.S. dependence on Chinese pharmaceutical and biotechnology supply chains', Council on Foreign Relations, 4 June, https://www.cfr.org/reports/the-pharma-choke-point.

According to figures published by the Council on Foreign Relations, the raw or key starting materials behind 94% of the amoxicillin, 74% of the heparin, and 70% of the acetaminophen reaching the American market originate in China

of production for more than four fifths of the American supply takes place in India and the European Union, both dependent on Chinese intermediates, and the chain then narrows to a single upstream input – penicillin G – and its derivative. Diversification at the last stage achieves nothing when the first stage is dominated by a single player (see Figure 3).

Figure 3: The amoxicillin production chain and its dependence on Chinese starting materials



Source: Council on Foreign Relations (2023), The Pharma Choke Point

The same report weighs the risk of such supply being withheld in peacetime as an instrument of pressure. The winter of 2022 offered a preview absent any such intent, when an ordinary rise in demand reduced amoxicillin prescribing in American children's hospitals by 30.8%. Europe faces the same situation at both ends of the value chain, supplying the ingredients of the medicines it dispenses today and increasingly setting the terms on those it has yet to develop.

WHAT ACCELERATION WITHOUT OVERSIGHT HAS ALREADY PRODUCED

The consequences of acceleration outpacing oversight are already well-documented. According to news reports in the West, two paediatric deaths in China's investigator-initiated trial pathway came to light within a fortnight of each other in July and August 2026, both having occurred in 2025. A six-year-old girl treated at Xinhua Hospital in Shanghai died seven days after an experimental base-editing therapy was infused into her spinal fluid. Her family had paid some USD 860,000 towards the preclinical work, and the death went undisclosed for 16 months until a joint press investigation brought it to light.[21] Weeks later, after a months-long investigation, the Shanghai-based company HuidaGene Therapeutics revealed that a boy in its Duchenne muscular dystrophy trial had died of acute respiratory distress syndrome during a severe immune reaction. He was the fourth patient enrolled and had received the highest dose given to that point. The asset involved in the trial holds Orphan Drug Designation from the U.S. Food & Drug Administration, so a Western regulator was already involved; the public record makes no mention of a data monitoring committee.[22]

These news reports require further verification. It is worth noting that both studies ran before the new national framework took effect, and both would now fall within its filing and reporting regime. Even so, the framework lacks any requirement of public disclosure, nor does it call for independent data safety monitoring boards to be set up for clinical trials. Two deaths, revealed only under media pressure and more than a year after they occurred, are the clearest available evidence of what results from speed without oversight.

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WHY BIOPHARMACEUTICALS ARE NEXT IN LINE

The parallel this chapter has drawn to solar technology and electric vehicles is not merely rhetorical. An International Monetary Fund (IMF) working paper modelling the effects of industrial subsidies across strategic sectors finds that such subsidies raise net exports, especially for China, at the direct expense of competing economies in the same sectors.[23] The processing of rare earth minerals, solar panel manufacturing, lithium ion battery production, and electric vehicles were each in turn the focus of sustained state support that converted a domestic capacity-building programme

21. Science and Retraction Watch (2026), 'Exclusive: Death of girl in Chinese gene-editing trial was never made public', 23 July, https://www.science.org/content/article/exclusive-death-girl-chinese-gene-editing-trial-was-never-made-public. See also CNN (2026), 'Girl's undisclosed death in gene-editing trial raises red flags in booming Chinese industry', 30 July, https://www.cnn.com/2026/07/30/china/china-death-gene-editing-trial-intl-hnk.

22. STAT News (2026), 'Second death in Chinese clinical trial rekindles debate on safety', 5 August, https://www.statnews.com/2026/08/05/china-clinical-trial-fatality-safety-questions-investigator-led-studies/; Science (2026), 'Second gene-editing death in China disclosed after long delay', https://www.science.org/content/article/second-gene-editing-death-china-disclosed-after-long-delay.

23. L. Rotunno, M. Ruta, and P. Verma (2026), 'Industrial Policy and Trade Tensions in Strategic Sectors', IMF Working Papers, 2026(155), 24 July, https://www.imf.org/en/publications/wp/issues/2026/07/24/industrial-policy-and-trade-tensions-in-strategic-sectors-578065.

into durable export dominance, and corresponding market-share loss for Europe. The structural similarities between these industries and pharmaceuticals/biotechnology bears repeating: the same strategic pillar designation, the same stated ambition, and, as of 2026, comparable regulatory scaffolding around outbound technology transfer and supply-chain security.

The approach to pharmaceuticals differs in one important respect, however. Solar and electric vehicle leadership was built through manufacturing scale and cost. Pharmaceutical dominance, if it follows the same trajectory, would run through the in-licensing channel: Chinese-originated biologic and cell- and gene-therapy assets moving into Western pipelines on terms set in Shanghai and Beijing, with the intellectual property – and increasingly the clinical data – remaining inside a Chinese regulatory and investment-security architecture that European players do not control and no foreign regulator can verify. The channel is already wide: a *People's Daily* press group publication reported at the end of 2025 that more than nine out of ten multinational pharmaceutical companies had entered into cooperation with Chinese firms.[24]A European company that licenses a promising Chinese asset today is not doing anything unusual, and the deal itself may be sound. The risk is cumulative rather than transactional. A European sector built increasingly on licensed-in Chinese innovation is one whose long-run competitive position depends on terms it does not set, in a domain regulators have not yet been asked to treat as strategically sensitive.

WHY BIO-PHARMA IS EUROPE'S LAST GREAT INDUSTRY

Compared to electric vehicles and solar, the stakes for Europe are higher when it comes to pharmaceuticals. When China moved into solar, Europe's manufacturing base in that sector was one competitive industry among several, and its loss, though costly, left other industries at the frontier.

Pharmaceuticals and biotechnology are different. They are among the few remaining sectors in which European firms are at the vanguard (rather than racing to catch up with it), supported by a strong research base, a credible regulator in the European Medicines Agency, and a cluster of firms that are one of the continent's genuine sources of high-value industrial and scientific standing. If the pipeline supporting that position becomes structurally dependent on Chinese-originated assets licensed on terms set elsewhere, Europe would not be losing one competitive sector among several. It would be losing the last one in which it still maintains a substantial lead.

The commercial terms of a licensing deal sit outside European control. Increasingly, so do underlying safety records and clinical data. When an asset's foundational trials run under China's investigator-initiated pathway, without a national regulator's review and without an independent safety monitoring board, the resulting data are stored in a system that no outside regulator has the authority to access. European due diligence can review whatever the licensing party chooses to disclose, but it cannot audit what happened inside the original trial. The question for European regulators is whether they are content to build the next generation of European medicine on data they cannot independently verify.

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24. People's Daily Press Group (2025), 'Chinese innovative drugs break through globally in 2025', International Finance News, 29 December, http://paper.people.com.cn/gjjrb/pc/content/202512/29/content_30127757.html.

WHAT EUROPEAN POLICYMAKERS CAN STILL DO

Bring biotechnology and NewCo structures into national screening before 2028

The revised European screening framework is settled law. Regulation (EU) 2026/1386 entered into force in July 2026 and becomes fully applicable on 17 January 2028.[25] Its mandatory minimum scope covers dual-use items, military equipment, semiconductors, quantum technologies, certain artificial intelligence technologies, critical infrastructure, strategic raw materials, and financial market and electoral infrastructure. Biotechnology is absent, which leaves in-licensing and NewCo transactions to Member State discretion.

Two consequences follow. First, the scope just described is a floor rather than a ceiling, so Member States remain free to bring biotechnology within their national regimes when they revise them during the transition; that is where the available leverage now resides. Second, the Regulation also lets the Commission review and amend the minimum scope by delegated act, which is the route to any later change at Union level.[26]

One definitional problem has to be faced. The Regulation governs foreign investment coming into the Union. A European company that simply licenses in a Chinese asset makes no inbound investment, so the Regulation does not cover it. It likewise does apply to cases in which a Chinese counterparty takes equity in a European entity, which is exactly what a NewCo involves. Member States should therefore begin with NewCo structures, where the legal basis is strongest, and address conventional in-licensing by other means. Chinese practice offers a legislative precedent: Beijing's own outbound investment decree defines the transaction by the contribution of assets or rights in exchange for offshore equity, rather than by share acquisition.

Require a data-provenance standard in EMA review of licensed-in assets

A meaningful share of early-stage Chinese biologic and cell- and gene-therapy data originates under the investigator-initiated pathway rather than full national review, and provincial policy is compressing ethics review further. European regulators should require licensing parties and their foreign partners to attest to the oversight history of the clinical data underlying any licensed-in asset: the regulatory route under which each trial ran, whether an independent data safety monitoring board was constituted, and the date on which any serious adverse event was identified and reported. This is a verifiability requirement, applicable irrespective of the country of origin, and it addresses the mechanism of dependency directly.

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25. European Union (2026), 'Regulation (EU) 2026/1386 of the European Parliament and of the Council of 17 June 2026 on the screening of foreign investments in the Union and repealing Regulation (EU) 2019/452', *Official Journal of the European Union*, 26 June 2026. See also Council of the European Union (2025), *Foreign direct investment: Council and Parliament reached political agreement to improve FDI screening* [Press release], 11 December, https://www.consilium.europa.eu/en/press/press-releases/2025/12/11/foreign-direct-investment-council-and-parliament-reached-political-agreement-to-improve-fdi-screening/.

26. Herbert Smith Freehills Kramer (2026), 'The new EU FDI Screening Regulation: Key changes and implementation timeline', https://www.hsfkramer.com/notes/crt/2026-07/the-new-eu-fdi-screening-regulation-key-changes-and-implementation-timeline; and Freshfields Bruckhaus Deringer (2026), 'New draft EU FDI Screening Regulation published: What investors need to know now', https://www.freshfields.com/en/our-thinking/blogs/transactions/new-draft-eu-fdi-screening-regulation-published-what-investors-need-to-know-now-102mimc.

Extend the Critical Medicines Act to the innovation pipeline

The Critical Medicines Act is the Union's response to shortages of essential medicines, intended to strengthen European manufacturing and diversify supply of the medicines Europe already relies on. The European Council and Parliament reached a provisional agreement in May 2026; adoption is pending and publication is expected late in 2026.[27]

Its re-shoring logic answers where Europe's existing medicines are made. It leaves open where the next generation will come from, and on what terms. There is still time for a modest extension of the Act's Strategic Projects mechanism to support European and European-partnered clinical development of early-stage assets alongside manufacturing capacity. That would address the innovation pipeline dimension of the same dependency the Act already treats as a legitimate policy issue.

Coordinate with Washington

The United States has taken action. The Biotech Investment National Security Act, introduced in both chambers of the U.S. Congress in 2026, would subject pharmaceutical and biological product development and clinical research to Treasury review. Its covers licensing deals, joint ventures and equity investments involving Chinese covered persons, and explicitly addresses technology and intellectual property licensing.[28]

One asymmetry should be recognised. The American bill is an outbound instrument, restraining American capital and technology flowing into China; Regulation (EU) 2026/1386 is an inbound one. The two address different halves of the problem; merely aligning the legal language defining transactions will not stop a deal being routed to the more permissive jurisdiction. The Union's own outbound investment monitoring track is the closer counterpart to the Biotech Investment National Security Act and should be developed to encompass biotechnology. If the European Union and the United States work together, the effect on policy and market behaviour will be considerably greater than if either acts alone.

CONCLUSION

Europe did not lose solar or electric vehicles because Chinese firms out-innovated European ones on a level playing field. It lost them because Beijing designated both sectors strategic priorities years before European industry or European regulators treated them as such and built the capacity to match the ambition.

Pharmaceuticals and biotechnology now carry the same designation, in Xi Jinping's own words, backed by a national and provincial regulatory architecture that reaches into the specific transaction forms, in-licensing, and NewCo structures through which Chinese innovation enters Western pipelines. Europe still holds the advantage in biopharmaceuticals. Whether it keeps it will depend on decisions European regulators make now.

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27. Council of the European Union (2026), *Critical medicines act: Council and Parliament reach provisional deal* [Press release], 12 May. See also European Parliament (2026), *Critical Medicines Act, Parliament position of January 2026 and provisional political agreement with the Council of 12 May 2026*, as reported in Health Policy Watch, 'EU Parliament backs Critical Medicines Act, sparking supply concerns in Africa', https://healthpolicy-watch.news/eu-parliament-backs-critical-medicines-act/.

28. U.S. House of Representatives (2026), Biotech Investment National Security Act, introduced 2 June 2026 (U.S Senate companion introduced 6 August 2026). The bill would amend the Comprehensive Outbound Investment National Security Act of 2025.

REFERENCES

Beijing Medical Insurance Bureau & eight municipal departments (2025). Measures Supporting the High-Quality Development of Innovative Medicine, Jing Yi Bao Fa (2025) No. 5, 7 April. https://ybj.beijing.gov.cn/zw-gk/2024zcwj/202504/t20250407_4058418.html.

Chen, K. (2025). 'Accelerating the leap from "pharmaceutical great power" to "innovative-drug powerhouse"'. *People's Daily Overseas Edition*, 14 April, http://paper.people.com.cn/rmrbhwb/pc/content/202504/14/content_30067657.html.

CNN (2026). 'Girl's undisclosed death in gene-editing trial raises red flags in booming Chinese industry', 30 July, https://www.cnn.com/2026/07/30/china/china-death-gene-editing-trial-intl-hnk.

Council of the European Union (2025). *Foreign direct investment: Council and Parliament reached political agreement to improve FDI screening* [Press release], 11 December, https://www.consilium.europa.eu/en/press/press-releases/2025/12/11/foreign-direct-investment-council-and-parliament-reached-political-agreement-to-improve-fdi-screening/.

Council of the European Union (2026). *Critical medicines act: Council and Parliament reach provisional deal* [Press release], 12 May.

Bollyky, T., Doshi, R., Kosloff, T., Yadav, P., & Every, A. (2026). 'The pharma choke point: How to reduce U.S. dependence on Chinese pharmaceutical and biotechnology supply chains', Council on Foreign Relations, 4 June, https://www.cfr.org/reports/the-pharma-choke-point.

European Parliament (2026). Critical Medicines Act: Parliament position of January 2026 and provisional political agreement with the Council of 12 May 2026, as reported in Health Policy Watch, 'EU Parliament backs Critical Medicines Act, sparking supply concerns in Africa', https://healthpolicy-watch.news/eu-parliament-backs-critical-medicines-act/.

European Union (2026). 'Regulation (EU) 2026/1386 of the European Parliament and of the Council of 17 June 2026 on the screening of foreign investments in the Union and repealing Regulation (EU) 2019/452'. *Official Journal of the European Union*, 26 June 2026.

Freshfields Bruckhaus Deringer (2026). 'New draft EU FDI Screening Regulation published: What investors need to know now', https://www.freshfields.com/en/our-thinking/blogs/transactions/new-draft-eu-fdi-screening-regulation-published-what-investors-need-to-know-now-102mimc.

General Office of the Guangdong Provincial People's Government (n.d.). Action Plan for Further Promoting the High-Quality Development of Guangdong's Biopharmaceutical Industry. http://wjw.gz.gov.cn/ztzl/zyygz/content/post_10409630.html.

Herbert Smith Freehills Kramer (2026). 'The new EU FDI Screening Regulation: Key changes and implementation timeline', https://www.hsfkramer.com/notes/crt/2026-07/the-new-eu-fdi-screening-regulation-key-changes-and-implementation-timeline.

Lan, G. (2025). 'Remarks on China's innovative-drug approval landscape' [Televised remarks], China Central Television.

Meng, D. (2024). 'Remarks at the first Biopharma "Going Overseas" Conference, Beijing Daxing International Airport Economic Zone, 31 August', as reported by *Beijing Daily*, https://www.ncsti.gov.cn/kjdt/kjrd/qtrd_kjrd/202409/t20240901_177419.html.

Ministry of Commerce and Jiangsu Provincial People's Government (2025). Plan for Open and Innovative Development of the Whole Biopharmaceutical Supply Chain in the China (Jiangsu) Pilot Free Trade Zone, 22 August. https://www.mofcom.gov.cn/zwgk/zcfb/art/2025/art_2dca2844092b40e3acce845b355a4531.html.

Ministry of Foreign Affairs of the People's Republic of China (2026). 'Xi Jinping holds talks with US President Trump', 14 May, https://www.mfa.gov.cn/zyxw/202605/t20260514_11910264.shtml.

Ministry of Industry and Information Technology et al. (2025). Implementation Plan for the Digital and Intelligent Transformation of the Pharmaceutical Industry (2025–2030), Gong Xin Bu Lian Xiao Fei (2025) No. 79, 3 April. https://www.gov.cn/zhengce/zhengceku/202504/content_7020857.htm.

National Development and Reform Commission (2026). Outline of the 15th Five-Year Plan for National Economic and Social Development. Beijing: NDRC. Adopted by the 14th National People's Congress, 12 March 2026. Available at: https://www.ndrc.gov.cn/fggz/fzzlgh/gjfzgh/202603/U020260317369114704096.pdf.

National Health Commission (2024). National Tertiary Public Hospital Performance Assessment Operating Manual (2024 edition), Guo Wei Ban Yi Zheng Han (2024) No. 87, March.

Office of the Chengdu Municipal People's Government (2025). Policy Measures Promoting the High-Quality De velopment of the Biopharmaceutical Industry, effective 20 February. http://cdswjq.sczwfw.gov.cn/art/2025/2/20/art_21905_282448.html.

Office of the Zhejiang Provincial People's Government (2024). Measures Supporting the High-Quality Development of Innovative Drugs and Devices Across the Whole Chain, Zhe Zheng Ban Fa (2024) No. 44, 30 December 2024, effective 15 February 2025. https://zjic.zj.gov.cn/ywdh/cyfz/202502/t20250211_23238385.shtml.

People's Daily Press Group (2025). 'Chinese innovative drugs break through globally in 2025', I*nternational Finance News*, 29 December, http://paper.people.com.cn/gjjrb/pc/content/202512/29/content_30127757.html.

Rotunno, L., Ruta, M., & Verma, P. (2026). 'Industrial Policy and Trade Tensions in Strategic Sectors'. *IMF Working Papers*, 2026(155), 24 July. https://www.imf.org/en/publications/wp/issues/2026/07/24/industrial-policy-and-trade-tensions-in-strategic-sectors-578065.

Science (2026). 'Second gene-editing death in China disclosed after long delay', https://www.science.org/content/article/second-gene-editing-death-china-disclosed-after-long-delay.

Science & Retraction Watch (2026). 'Exclusive: Death of girl in Chinese gene-editing trial was never made public', 23 July, https://www.science.org/content/article/exclusive-death-girl-chinese-gene-editing-trial-was-never-made-public.

Shenzhen Municipal Development and Reform Commission (2022). Measures Promoting the Clustered Develop ment of the Biopharmaceutical Industry, Shen Fa Gai Gui (2022) No. 10.

STAT News (2026). 'Second death in Chinese clinical trial rekindles debate on safety', 5 August, https://www.statnews.com/2026/08/05/china-clinical-trial-fatality-safety-questions-investigator-led-studies/.

State Council of the People's Republic of China (2025). Order No. 818, Regulations on the Administration of Clinical Research and Clinical Translational Application of New Biomedical Technologies. Beijing: State Council. Effective 1 May 2026.

State Council of the People's Republic of China (2026a). *2026 government work report*, delivered to the 14th National People's Congress, 5 March 2026. http://lianghui.people.com.cn/2026/n1/2026/0313/c461827-40681711.html.

State Council of the People's Republic of China (2026b). Order No. 828, Implementing Regulations of the Drug Administration Law, fourth revision. Beijing: State Council. Effective 15 May 2026.

State Council of the People's Republic of China (2026c). Order No. 834, Regulation on Industrial Chain and Supply Chain Security. Beijing: State Council. Passed 13 March 2026, signed 31 March 2026, published 7 April 2026. https://www.news.cn/politics/leaders/20260407/612b208a067240b68587ee05bdfc9081/c.html.

State Council of the People's Republic of China (2026d). Order No. 835, Regulation on Counter-Foreign Improper Extraterritorial Jurisdiction. Beijing: State Council. Passed 27 March 2026, signed 7 April 2026, published 13 April 2026. http://www.xinhuanet.com/politics/leaders/20260413/0a29d45b57bb4d688ea056415e9d26eb/c.html.

State Council of the People's Republic of China (2026e). Order No. 837, Regulations on Outbound Investment. Beijing: State Council. Effective 1 July 2026.

U.S. House of Representatives (2026). Biotech Investment National Security Act. Introduced 2 June 2026.

Xi, J. (2020). 'Remarks to the Politburo Standing Committee, April 2020' [Transcript], Xinhua, 31 October, http://www.xinhuanet.com/politics/leaders/2020-10/31/c_1126681658.htm.

Xi, J. (2023). 'Remarks of August 2023', quoted in 'Helping Build a Healthy China through High-Level Scientific and Technological Innovation', *Qiushi*, 1 April 2024, https://cpc.people.com.cn/n1/2023/0801/c64387-40048239.html.

Zhang, M. (2025). 'The innovative drug "going overseas" trend is irreversible', *Securities Daily*, 18 September, republished by *People's Daily Online*, http://finance.people.com.cn/n1/2025/.

EHDS: Europe's Untapped Data Potential

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ABSTRACT

Taking an optimistic, liberal approach to the future of Europe's health data landscape could bring many benefits. In this chapter, we set out how the European Health Data Space Regulation (EHDS) is a fundamental building block to enable care delivery, reduce health inequalities, foster better research opportunities, and improve the EU's attractiveness to research sponsors – features crucial for any modern, future-proof healthcare system. Its implementation requires a high-quality platform and shared approaches to data access and regulation across Europe. EHDS can streamline the clinical trials process and promote innovation, making Europe a more appealing destination for research. There are barriers to overcome but using policy mechanisms like data vouchers, developing a common understanding and interpretation of GDPR and other regulations, as well as agreeing to principles around the use of data, will be key to EHDS delivering on its value and promise.

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INTRODUCTION

Every day, millions of Europeans generate health data through interactions with healthcare systems, from visits to a general practitioner to hospital treatments and diagnostic tests. The value of patient data at many levels – provider, regional, and national – is huge. If this data is of reasonable quality and interoperable, it could be used for research purposes as well as to manage population health and healthcare planning more effectively, enabling a better understanding of the value of different interventions.

Moreover, most patients believe that access to their data, at least in an anonymised way, could benefit both them and their family and friends.[1] Indeed, patients and their families often expect data to be accessible and shared, and many of the current barriers are imposed by organisations and regulation. A more liberal approach to regulation, with a common interpretation across Europe, could help unlock the full potential of health data for patients, healthcare systems, and research.

There are, however, some challenges to be faced. At present, the European health data landscape is fragmented, with information often stored in separate systems at regional and provider level.[2] While many countries are moving towards digital, interoperable, and nationally coordinated health records, progress is uneven.[3] Improving the quality, interoperability, and usability of this data would create substantial benefits for healthcare delivery, planning, and research.

A further challenge is the current high regulatory barrier for accessing and processing health-related data in Europe.[4] Again, a consistent approach and shared interpretation of GDPR, together with an emphasis on liberal standards and reasonable protections, would enable wider access to relevant data fields, shorten the lead times for using this information, and support the interoperability of datasets. In a world of generative artificial intelligence, reaching these aims is increasingly possible.

The limited quality and usefulness of health data in its publicly available form is another obstacle. Improving data cleansing and developing a mature data pipeline would help address these shortcomings, allowing more data to be released more promptly. Today, the wait time for data release in Germany is 18 months, but with appropriate guardrails, data could become available almost in real time. This would enable commercial planning, improve the efficiency of patient recruitment to clinical trials, and greatly augment the value and benefits from the wider use of this information.

In a system reflecting liberal ideals, data would be both high-quality and readily accessible. This could make Europe a more attractive destination for pharmaceutical companies and other clinical research sponsors, who are increasingly choosing to run trials in countries like China.[5] Consequently, the establishment of the European Health Data Space (EHDS) is an important step in the right direction – it promises to improve the competitiveness of Europe in clinical research and strengthen its leadership in the development of innovative medicines. Taking a more liberal approach to the design of EHDS would help clear many of the obstacles standing in the way of this ambition, and it would enable European patients to access innovative medicines earlier.

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1. C. Atkin, B. Crosby, K. Dunn, et al. (2021), 'Perceptions of anonymised data use and awareness of the NHS data opt-out amongst patients, carers and healthcare staff', *Res Involv Engagem*, 7(40), https://doi.org/10.1186/s40900-021-00281-2.
2. A. C. Ramos, B. B. Buceta, Á. F. da Silva, and R. B. Lorenzo (2021), 'eHealth in Spain: Evolution, Current Status and Future Prospects', *Saúde e Sociedade*, 29(4), e190886. https://doi.org/10.1590/S0104-12902020190886.
3. N. von Kalckreuth, M. Kopka, C. Schmid, C. Kratzer, A. Reptuschenko, and M. A. Feufel (2025), 'Trustworthiness of the Electronic Health Record in Germany: An Exploratory, User-Centered Analysis', *Frontiers in Digital Health*, 7, 1473326. https://doi.org/10.3389/FDGTH.2025.1473326/TEXT.
4. R. Richards (2022), 'Barriers on Cross-Border Sharing of Health Data for Secondary Use and Options to Overcome These', *European Journal of Public Health*, 32(Supplement 3). https://doi.org/10.1093/EURPUB/CKAC129.367. J. Vukovic, D. Ivankovic, C. Habl, and J. Dimnjakovic (2022), 'Enablers and Barriers to the Secondary Use of Health Data in Europe: General Data Protection Regulation Perspective', *Archives of Public Health*, 80(1), 115. https://doi.org/10.1186/S13690-022-00866-7.
5. EFPIA (n.d.), 'Turning EU excellence in science into commercial success could add more than €120 billion to EU economy in 10 years', https://www.efpia.eu/news-events/the-efpia-view/statements-press-releases/turning-eu-excellence-in-science-into-commercial-success-could-add-more-than-120billion-to-eu-economy-in-10-years/.

THE EHDS HAS HUGE POTENTIAL

Among other goals, EHDS seeks to establish a unified dataset across countries, one which comprehensively covers a range of health data, different forms of which reside with providers, prescribers, insurance companies, pharmacies, as well as other stakeholders in the healthcare ecosystem. EHDS also aims to build the data around patients, thereby providing a systematic overview of individuals' health records in Europe.

The richness of the data would aid clinical trial design and make EHDS an invaluable support to the conduct of such research in Europe. Patient recruitment to clinical trials, which has long been an expensive and time-consuming step, is a case in point. By making large amounts of data more readily available, EHDS could help trial sponsors identify locations with adequate numbers of eligible patients, provide them with clear guidance for targeting recruitment efforts, and reduce the cost and time required to finish the process. The benefits could be vast: higher-quality trials with a higher likelihood of success thanks to more representative patient cohorts; faster completion of trials; and ultimately, shorter time-to-market and higher lifetime value for innovative medicines.

EHDS could help trial sponsors identify locations with adequate numbers of eligible patients, provide them with clear guidance for targeting recruitment efforts, and reduce the cost and time required to finish the process

Additionally, EHDS legislation explicitly permits secondary use of health data to support a variety of purposes, with research, innovation, algorithm training, and evaluation being among the most relevant for clinical research. The openness of EHDS data offers trial sponsors the legal basis to access it. And with EHDS ensuring that information is comprehensive and high-quality, several aspects of trial design can be dramatically simplified, facilitating site selection, decisions around target subject cohort sizes, and similar challenges facing research sponsors in Europe today. This is particularly needed, since disease registries do not always reflect patient availability (especially in terms of treatment status) and provide only limited means of increasing trial population diversity. With patient recruitment speed currently flagged as a major area of underperformance in Europe,[6] and with trials moving elsewhere, a unified health dataset cannot come too soon.

EHDS legislation clearly defines a data access mechanism with designated Health Data Access bodies to handle access requests from data processors. It also aims to remove some of the barriers created by GDPR. By laying out a coherent legal and regulatory framework for trial sponsors' access to clinical data in Europe, it allows the private sector to avoid some of the legal pitfalls seen in recent years (like the IQVIA fine issued by France).[7]

Good intentions, however, are not enough – what matters are real-world results. Whatever its ambitions, EHDS cannot be counted as a success unless it shortens timelines and reduces per patient costs of conducting clinical trials, as well as lowering the barrier to market access in Europe. The approach to implementation is critical.

6. Vaccines Europe (n.d.), 'Assessing the clinical trial ecosystem in Europe', https://www.vaccineseurope.eu/media-hub/publications/assessing-the-clinical-trial-ecosystem-in-europe/.

7. CNIL (n.d.), 'Health data: fine of 5 million euros against IQVIA', https://www.cnil.fr/en/health-data-fine-5-million-euros-against-iqvia.

DATA VOUCHERS AS A TOOL FOR SUCCESS

Data vouchers – authorisation tokens which grant holders access to designated datasets within EHDS – could be an attractive solution to some of the challenges of implementation. They are like library passes, allowing whoever holds them to access the collections. In practical terms, they reduce the need to review individual requests, cutting down wait times and delivering all the benefits provided by EHDS datasets more quickly. As a result, vouchers can also lower access barriers for qualified researchers, building a liberal framework for clinical research and the life sciences sector.

Such vouchers could be modelled after similar instruments used in other sectors for fast tracking regulatory decisions, like the Priority Review Vouchers and National Priority Vouchers of the U.S. Food & Drug Administration (FDA).[8, 9] These vouchers liberalise the regulatory environment by shortening review periods and providing certainty to innovative medicine developers when planning for regulatory submission and commercial launches. To be truly effective, however, data vouchers must have some fundamental functions and features: access, flexibility, and transferability.

First, vouchers should guarantee clearly defined access to EHDS datasets – that is, to be valuable, they must provide 'pre-approval'. At a minimum, they should offer access to the most widely used types of information – demographic data, medical and prescription history, and biomarker results – that are employed for a range of purposes associated with clinical research and development. When considering further restrictions, the potential risks and benefits for patients must be considered and balanced via reasonable safeguards for data privacy and security.

Second, such vouchers should give holders the ability to adapt their scope of data access and processing, within acceptable boundaries. Trial design can be complex, constantly changing, and require large volumes of data to facilitate decision-making. Data vouchers, especially those that could be gifted to researchers and trial sponsors to promote innovation, should not come with restrictions that limit them to a single use case. Excessive constraints would diminish the value of these vouchers, in turn reducing their capacity to foster innovation.

Third, the option of transferring vouchers in the market would be vital. Given the high costs and risks associated with clinical trials, decisions about research development are sometimes impacted by factors outside the study itself. The risk appetite of initial recipients or requestors of data vouchers might change in a period of weeks. A mechanism for recovering some of the costs and efforts originally committed when receiving/applying for a data voucher would ensure that the risk-taking necessary for pathbreaking research is supported and rewarded, building a virtuous cycle. A transferable voucher system also permits EHDS to manage overall access volume and plan infrastructure and operational support accordingly to ensure proper performance of the platform, as well as improving utilisation of its services.

In light of the foregoing discussion, one issue that bears mentioning is the possibility of the misinterpretation or even abuse of GDPR to impede legitimate use of health data. Although EHDS regulation is structured as a special law based on GDPR, which provides a legal foundation for EHDS to take precedence over GDPR in the field of health data, some of the challenges associated with an inconsistent (and often divergent) interpretation of GDPR rules may be inherited in future EHDS access requests. This could create problems for data processors and undermine trust in EHDS. A dedicated review panel – affiliated with EHDS, aligned with its objectives, and reflecting a liberal vision – could resolve these interpretation issues to the benefit of both EHDS and its users.

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8. U.S. Food & Drug Administration (FDA) (n.d.a), 'Commissioner's National Priority Voucher (CNPV) pilot program', https://www.fda.gov/industry/commissioners-national-priority-voucher-cnpv-pilot-program.

9. U.S. Food & Drug Administration (FDA) (n.d.b), 'Rare pediatric disease designation and priority review voucher programs', https://www.fda.gov/industry/medical-products-rare-diseases-and-conditions/rare-pediatric-disease-designation-and-priority-review-voucher-programs.

HOW TO SCALE

Like every new platform, we expect that EHDS will experience 'growing pains' during the early phase of adoption and scaling, which needs to be well planned and executed. The aspects and implications of this process are myriad, but we will focus here on those most directly impacting clinical trials.

To start with, it would be wise to set up a smaller-scale 'trial run' of EHDS, with data from a group of 'super volunteers' that are representative of different cohorts and are comfortable having their health information used in a test setting. This trial period should leverage industry and academic partners who are identified as future users of EHDS. A range of test cases should be run by partners, reflecting true use cases of EHDS once it goes live. During the test period, partners would need a high level of flexibility so they could uncover as many design flaws of the platform as possible and provide feedback for continuous improvement and future scaling. Here, too, data vouchers could be helpful if offered as an incentive to participate in testing.

Ideally, testing should proceed in all Member States to confirm genuine interoperability; in reality, however, different nations will be ready for the transition into EHDS at different times. Therefore, extensive testing with 'early adopters' will be particularly important. Lessons can be drawn from UK NHS Secured Data Environments (SDE) – different regions were prepared for SDE rollout at different times, with horizontal knowledge transfer from early SDEs to later SDEs. Eventually, these SDEs will be folded into the national Health Data Research Service (HDRS),[10] and thanks to the experience provided by SDEs, HDRS is now closer to reality than ever.

The HDRS/SDE journey in the UK teaches us to start small – it is better to go live with only a subset of available data than to endlessly delay. For example, in the early days some SDEs did not fully integrate GP data due to the associated complexity. But going live provides a data space with momentum, crucial feedback, and the revenue to incentivise further expansion.

European lawmakers, national policymakers, and health data custodian organisations should also prepare for the arrival of EHDS and the key role they will play in its success

European lawmakers, national policymakers, and health data custodian organisations should also prepare for the arrival of EHDS and the key role they will play in its success. At the level of the European Parliament and other EU institutions, leaders should continue to refine the relevant regulation and rollout plans. National policymakers should be enlisted as close collaborators, giving reliable insight to EU-level legislators on the progress and challenges specific to their respective Member States and engaging in horizontal knowledge transfer. Individual health data custodians are vital in such conversations, contributing expertise on the features of their national health data infrastructures and the wider healthcare ecosystem. This more liberal approach supports productive collaboration and communication channels with clinical researchers across industry and academia, as well as with potential future stakeholders in EHDS use cases – especially patients and healthcare providers.

10. C. Lally and M. Jones (2026), *Accessing national health data for research* (Research briefing). https://doi.org/10.58248/PN774.

CONCLUSION

EHDS is a fundamental piece of infrastructure to enable care delivery, reduce burdens on health research, improve the EU's attractiveness to research sponsors, and liberalise the European life science sector. It is also pivotal for the development of a genuine single market for healthcare in Europe. Its success depends on the quality of the platform itself and on shared approaches to data access and regulation across Europe. We encourage policymakers to take this opportunity to liberalise research and information access. Vouchers, a well-designed scale-up process, and meaningful collaboration, as described in this chapter, can be key to unlocking the potential of EHDS – and simultaneously, to realising a European future in which health data supports economic growth, innovation, and improved patient outcomes.

REFERENCES

Atkin, C., Crosby, B., Dunn, K. et al. (2021). 'Perceptions of anonymised data use and awareness of the NHS data opt-out amongst patients, carers and healthcare staff'. *Res Involv Engagem*, 7(40). https://doi.org/10.1186/s40900-021-00281-2.

Commission Nationale de l'Informatique et des Libertés (CNIL) (n.d.). 'Health data: fine of 5 million euros against IQVIA', https://www.cnil.fr/en/health-data-fine-5-million-euros-against-iqvia.

European Federation of Pharmaceutical Industries and Associations (EFPIA) (n.d.). 'Turning EU excellence in science into commercial success could add more than €120 billion to EU economy in 10 years', https://www.efpia.eu/news-events/the-efpia-view/statements-press-releases/turning-eu-excellence-in-science-into-commercial-success-could-add-more-than-120billion-to-eu-economy-in-10-years/.

Lally, C. & Jones, M. (2026). *Accessing national health data for research* (Research briefing). https://doi.org/10.58248/PN774.

Ramos, A. C., Buceta, B. B., da Silva, Á. F., & Lorenzo, R. B. (2021). 'eHealth in Spain: Evolution, Current Status and Future Prospects'. *Saúde e Sociedade*, 29(4), e190886. https://doi.org/10.1590/S0104-12902020190886.

Richards, R. (2022). 'Barriers on Cross-Border Sharing of Health Data for Secondary Use and Options to Overcome These'. *European Journal of Public Health*, 32(Supplement 3). https://doi.org/10.1093/EURPUB/CKAC129.367.

U.S. Food & Drug Administration (FDA) (n.d.a). 'Commissioner's National Priority Voucher (CNPV) pilot program', https://www.fda.gov/industry/commissioners-national-priority-voucher-cnpv-pilot-program.

U.S. Food & Drug Administration (FDA) (n.d.b). 'Rare pediatric disease designation and priority review voucher programs', https://www.fda.gov/industry/medical-products-rare-diseases-and-conditions/rare-pediatric-disease-designation-and-priority-review-voucher-programs.

Vaccines Europe (n.d.). 'Assessing the clinical trial ecosystem in Europe', https://www.vaccineseurope.eu/media-hub/publications/assessing-the-clinical-trial-ecosystem-in-europe/.

Von Kalckreuth, N., Kopka, M., Schmid, C., Kratzer, C., Reptuschenko, A., & Feufel, M. A. (2025). 'Trustworthiness of the Electronic Health Record in Germany: An Exploratory, User-Centered Analysis'. *Frontiers in Digital Health*, 7, 1473326. https://doi.org/10.3389/FDGTH.2025.1473326/TEXT.

Vukovic, J., Ivankovic, D., Habl, C., & Dimnjakovic, J. (2022). 'Enablers and Barriers to the Secondary Use of Health Data in Europe: General Data Protection Regulation Perspective'. *Archives of Public Health*, 80(1), 115. https://doi.org/10.1186/S13690-022-00866-7.

Cancer, Radioligands and the Future of Precision Medicine: How Europe Can Keep Leading on Cancer Care

Hugh Pullen

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ABSTRACT

Radioligand therapy is emerging as an important pillar of precision cancer care, combining advanced diagnostics with targeted radiation delivery to treat cancer cells while limiting exposure to healthy tissue. This chapter highlights radioligand therapy as a European success story, rooted in European science, cross-border collaboration, advanced manufacturing, and specialist healthcare infrastructure. It argues that Europe has the scientific and industrial capabilities to lead in this field, but must address regulatory complexity, fragmented implementation, and healthcare capacity challenges to ensure timely patient access. The chapter calls for innovation to be treated as a strategic investment, supported by strong intellectual property, modernised regulatory frameworks, harmonised standards, and well-prepared healthcare systems. Radioligand therapy illustrates how Europe can translate scientific excellence into patient benefit, industrial leadership, and long-term competitiveness in life sciences.

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Disclosure statement: Novartis is a global healthcare company that research, develops, and manufactures innovative medicines, including radioligand therapies for cancer. Novartis is a member of the European Federation of Pharmaceutical Industries and Associations (EFPIA) and EuropaBio – The European Association for Bioindustries. Cited references include industry-sponsored research from IQVIA and the WiFOR Institute, from organisations working with life sciences stakeholders, as well as evidence from peer-reviewed scientific publications and public institutions, including the European Commission Joint Research Centre.

A RAPIDLY EVOLVING PILLAR OF CANCER CARE

When discussions turn to Europe's competitive strengths, the conversation often focuses on aerospace, green tech, or luxury goods. Yet one of Europe's most remarkable achievements receives far less attention – our ability to produce medical breakthroughs that improve and extend millions of lives.

Radioligand therapy is one such breakthrough. Combining advanced diagnostics with targeted treatment, radioligand therapy enables the targeted delivery of radiation directly to cancer cells while limiting exposure to healthy tissue. Already used for certain neuroendocrine tumours and advanced prostate cancer, it is increasingly viewed by many experts as an emerging pillar of cancer care. More than 250 clinical studies are currently underway worldwide, reflecting the scale of scientific and clinical interest in the field.[1] A recent study published in *The Lancet* and led by the European Commission's Joint Research Centre estimates that the number of EU-27 patients potentially eligible for radioligand therapy could increase from approximately 11,000–13,000 today to 130,000–180,000 by 2035 under projected modelled scenarios.[2] Europe has the expertise to advance this innovative technology, the challenge is ensuring eligible European patients can benefit from it.

A recent study published in The Lancet and led by the European Commission's Joint Research Centre estimates that the number of EU-27 patients potentially eligible for radioligand therapy could increase from approximately 11,000–13,000 today to 130,000–180,000 by 2035 under projected modelled scenarios

RADIOLIGAND THERAPY: A EUROPEAN SUCCESS STORY

What is less widely appreciated is that radioligand therapy is a European success story. This technology emerged from European science, European collaboration, and European industrial know-how. The company that developed today's approved radioligand therapies grew from a Franco-Italian partnership built by scientists from CERN, Europe's flagship international particle physics research organisation on the French–Swiss border. That cross-border spirit continues today, with manufacturing sites spread across Italy, Spain, and the Netherlands, and new facilities being developed in France and Germany.

Radioligand therapy treatment relies on an innovation ecosystem of scientific research, clinical trials, advanced manufacturing, highly trained professionals, specialist healthcare infrastructure, and sophisticated transnational supply chains. Every treatment is effectively made-to-order for each individual patient, and as radioisotopes begin to decay almost immediately after production every dose must move through a tightly coordinated chain of manufacture, transport, and clinical delivery in a matter of days. Radioligand therapy demonstrates the promise of modern medicine, and the value of an integrated European approach to research, manufacturing, and healthcare delivery.

1. J. N. Howell et al. (2026), 'Industry Sponsorship and Disease Site Focus in Therapeutic Radiopharmaceutical Clinical Trials Over the Past Decade', *International Journal of Radiation Oncology*, Biology, Physics, 124(3), 575–580. DOI: 10.1016/j.ijrobp.2025.09.028.
2. U. Holzwarth et al. (2026), 'Estimation of Future Patient Populations Eligible for Radioligand Therapies in the EU and the UK: A Modelling Study', *The Lancet Regional Health Europe*, 67, 101733.

The benefits extend far beyond healthcare. Investment in radioligand therapy supports highly skilled jobs, strengthens industrial capabilities, creates opportunities for public–private collaboration, and helps build expertise in advanced technologies that will shape the future of medicine. That broader impact offers important lessons for policymakers.

HOW CAN EUROPE MAINTAIN ITS LEADERSHIP?

In an era of anxiety about Europe's ability to collaborate and compete, radioligand therapy offers a powerful example of what Europe can achieve when it does both. But can it continue to do so?

For decades, Europeans have enjoyed the many advantages of being at the forefront of pharmaceutical innovation. Patients gained early access to breakthrough treatments, and universities attracted top scientific talent. Manufacturers invested in high-value production facilities, while health systems benefited from clinical research, specialised expertise, and highly skilled jobs.

Yet in a world of growing geopolitical competition, scientific leadership alone is no longer enough. The regions that succeed will be those that can not only discover pioneering technologies, but also develop, manufacture, and deliver them at scale.

INNOVATION AS AN INVESTMENT IN EUROPE'S FUTURE

The first lesson is that innovation must be recognised as a strategic investment, not simply a healthcare cost. Recent data suggests that every €1 invested in new medicines returns €5.67 to Europe,[3] but realising that value depends on timely patient access to innovation and the healthcare capacity needed to deliver it.

The company that developed today's approved radioligand therapies grew from a Franco-Italian partnership built by scientists from CERN, Europe's flagship international particle physics research organisation on the French–Swiss border. That cross-border spirit continues today, with manufacturing sites spread across Italy, Spain, and the Netherlands, and new facilities being developed in France and Germany

Radioligand therapies exemplify how scientific breakthroughs can do far more than improve individual patient outcomes – they can support advanced manufacturing, create jobs, attract expertise, bolster research leadership, and fortify Europe's long-term competitiveness. Strong intellectual property protection is essential to sustaining this ecosystem, providing the incentives and investment needed to turn scientific discoveries into medicines that reach patients sooner. When thinking about innovation, policymakers should look beyond healthcare budgets and consider the wider economic, industrial, and societal value it creates.

WHEN SCIENCE OUTPACES REGULATION

The second is the importance of regulatory effectiveness. In some areas, Europe's regulations, infrastructure, and investment are simply not keeping pace with innovation.

3. WifOr Institute (2026), *How innovation drives health and growth in Europe: Assessing the return on investment of innovative medicines*, June, available at https://www.wifor.com/en/he_en_download-form_efpia-report-2026/.

With other regions competing aggressively for life sciences investment, the ability to adapt quickly is increasingly essential (for a case in point, see Dennis Kwok's contribution to this Study, 'Beijing's Next Playbook').

While patient and public safety must remain paramount, some of the existing frameworks don't fully reflect the realities of modern medicine. Reviewing and modernising these frameworks is key to reduce avoidable barriers, streamline implementation, and enable more patients to benefit from breakthrough therapies without compromising safety

Advanced therapies like radioligand therapy still face overlapping clinical trial, radiation protection, and administrative requirements that create unnecessary complexity and slow patient access.[4] Many of the rules governing radioactive materials were developed decades ago, often with traditional nuclear applications in mind rather than precision cancer treatments delivered in specialist hospitals. While patient and public safety must remain paramount, some of the existing frameworks don't fully reflect the realities of modern medicine. Reviewing and modernising these frameworks is key to reduce avoidable barriers, streamline implementation, and enable more patients to benefit from breakthrough therapies without compromising safety.

PREPARING HEALTHCARE FOR THE NEXT GENERATION OF MEDICINE

The third lesson is the value of investing in modern healthcare systems. Precision medicine depends on more than scientific discovery. It requires effective diagnostics, coordinated referral pathways, multidisciplinary expertise, and healthcare systems capable of identifying the right patient for the right treatment at the right time. As medicine becomes increasingly personalised, connected healthcare systems will become as important as the therapies themselves.[5]

France offers a glimpse of what it looks like when a healthcare system is ready for this type of innovation. From December 2021 to April 2025, 3,709 patients from 46 centres were treated with radioligand therapy for a form of metastatic cancer,[6] showing how investment in infrastructure and clinical capacity can translate scientific advances into patient benefit.

Countries such as France, Italy, and the UK practice shorter hospital stays for certain radioligand therapies, while others have adopted different approaches to hospital stay requirements

There is also a broader European dimension. The Single Market was built on the idea that innovation should be able to scale across borders. Yet in practice, the same therapy can face different operational requirements depending on where a patient lives. Variations in rules governing how long patients must remain in hospital after treatment, and in how radiation protection frameworks are implemented, can

4. A. R. Gonzalez et al. (2025), 'Bridging Gaps for Radioligand Therapy: Policy Priorities for Scaled Implementation', *Juniper Online Journal of Public Health*, 10(3), 555786. DOI: 10.19080/JOJPH.2025.10.555786.

5. IQVIA Institute (2023), 'Succeeding with innovation: The state of radioligand therapy readiness in Europe', 12 December, https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/succeeding-with-innovation-state-of-radioligand-therapy.

6. C. Bailly et al. (2026), 'Real-World Outcomes of [177Lu]Lu-PSMA-617 in the French Early-Access Program for Patients with Metastatic Castration-Resistant Prostate Cancer', *The Journal of Nuclear Medicine*, 67(10). https://doi.org/10.2967/jnumed.126.272721.

affect how quickly patients are ultimately treated. Countries such as France, Italy, and the UK practice shorter hospital stays for certain radioligand therapies, while others have adopted different approaches to hospital stay requirements.[7] The result is that European innovation is met with very different conditions across the Union.[8] To remain at the frontier of medical science, Europe will need smarter, better harmonised standards supported by evidence.

The Biotech Act is a welcome initiative to boost Europe's innovation ecosystem, and this opportunity must be seized. As implementation measures are developed, they should remain sufficiently adaptable to support emerging therapeutic platforms, including radioligand therapies, and continue to reflect the pace and diversity of cutting-edge research.

CONCLUSION: TURNING LEADERSHIP INTO LASTING ADVANTAGE

Europe has repeatedly demonstrated its ability to generate top-tier scientific discoveries. But it cannot rest on reputation – continued success means translating that potential into faster patient benefit, sustained industrial leadership, and long-term economic growth.

Radioligand therapies illustrate what can be achieved when scientific excellence, advanced manufacturing capabilities, and cross-border collaboration come together. By creating policy frameworks that can evolve alongside innovation, Europe can help ensure that patients profit from the next generation of medical advances while reinforcing its position as a global leader in life sciences.

REFERENCES

Associazione Italiana di Fisica Medica e Sanitaria (AIFM) (2024). *Aspetti di radioprotezione nelle terapie con 177Lu-DOTATATE e 177Lu-PSMA-617*. Available at : https://fisicamedica.it/wp-content/uploads/Documenti/AIFM/Professione/Documento%20AIFM-AIMN%20Luteziati%20firmato.pdf.

Autorité de sûreté nucléaire et de radioprotection (ASNR) (2020). 'Évolution des conditions d'autorisation des services de médecine nucléaire par l'ASN pour la détention et l'utilisation du lutétium-177'. Available at: https://reglementation-controle.asnr.fr/espace-professionnels/activites-medicales/medecine-nucleaire/lettres-circulaires-en-medecine-nucleaire/evolution-des-conditions-d-autorisation-des-services-de-medecine-nucleaire-par-l-asn-pour-la-detention-et-l-utilisation-du-lutetium-177.

Autorité de sûreté nucléaire et de radioprotection (ASNR) (2026). 'Avis de l'ASNR sur l'utilisation des radionucléides dans le cadre de la recherche clinique en médecine nucléaire', 30 June, https://www.asnr.fr/actualites/avis-de-lasnr-sur-lutilisation-des-radionucleides-dans-le-cadre-de-la-recherche-clinique.

7. Associazione Italiana di Fisica Medica e Sanitaria (AIFM) (2024), *Aspetti di radioprotezione nelle terapie con 177Lu-DOTATATE e 177Lu-PSMA-617*, available at https://fisicamedica.it/wp-content/uploads/Documenti/AIFM/Professione/Documento%20AIFM-AIMN%20Luteziati%20firmato.pdf; ASNR (2020), 'Évolution des conditions d'autorisation des services de médecine nucléaire par l'ASN pour la détention et l'utilisation du lutétium-177', available at https://reglementation-controle.asnr.fr/espace-professionnels/activites-medicales/medecine-nucleaire/lettres-circulaires-en-medecine-nucleaire/evolution-des-conditions-d-autorisation-des-services-de-medecine-nucleaire-par-l-asn-pour-la-detention-et-l-utilisation-du-lutetium-177; ASNR (2026), 'Avis de l'ASNR sur l'utilisation des radionucléides dans le cadre de la recherche clinique en médecine nucléaire', 30 June, https://www.asnr.fr/actualites/avis-de-lasnr-sur-lutilisation-des-radionucleides-dans-le-cadre-de-la-recherche-clinique; and Gonzalez et al., 'Bridging Gaps'.

8. Holzwarth et al., 'Estimation of Future Patient Populations'.

Bailly, C. et al. (2026). 'Real-World Outcomes of [177Lu]Lu-PSMA-617 in the French Early-Access Program for Patients with Metastatic Castration-Resistant Prostate Cancer'. *The Journal of Nuclear Medicine*, 67(10). https://doi.org/10.2967/jnumed.126.272721.

Gonzalez, A. R. et al. (2025). 'Bridging Gaps for Radioligand Therapy: Policy Priorities for Scaled Implementation'. *Juniper Online Journal of Public Health*, 10(3), 555786. DOI: 10.19080/JOJPH.2025.10.555786.

Holzwarth, U. et al. (2026). 'Estimation of Future Patient Populations Eligible for Radioligand Therapies in the EU and the UK: A Modelling Study'.*The Lancet Regional Health Europe*, 67, 101733.

Howell, J. N. et al. (2026). 'Industry Sponsorship and Disease Site Focus in Therapeutic Radiopharmaceutical Clinical Trials Over the Past Decade'. *International Journal of Radiation Oncology*, Biology, Physics, 124(3), 575–580. DOI: 10.1016/j.ijrobp.2025.09.028.

IQVIA Institute (2023). 'Succeeding with innovation: The state of radioligand therapy readiness in Europe', 12 December, https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/succeeding-with-innovation-state-of-radioligand-therapy.

WifOr Institute (2026). *How innovation drives health and growth in Europe: Assessing the return on investment of innovative medicines*, June. Available at: https://www.wifor.com/en/he_en_download-form_efpia-report-2026/.

Part 2

LIVING LONGER, LIVING BETTER

Europe's Longevity Dividend: Turning an Ageing Population into an Opportunity

Andrew J. Steele and Kamen Shoylev

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ABSTRACT

Europe's ageing population is usually framed as a demographic and fiscal problem to meet with pension reform, immigration, and higher birth rates. This chapter argues that its underlying driver, the biology of ageing, is missing from that discussion, and that preventative longevity medicines should be central to European health and industrial policy. More than 90% of deaths in the EU are attributable to ageing, yet ageing biology receives a tiny fraction of Europe's health research funding. Ageing can now be slowed in animals and, increasingly, measured in humans. This raises the prospect of treatments that prevent multiple age-related diseases at once. More healthy years mean more years of autonomy, and each additional year of healthy life expectancy is worth an estimated 4–5% of GDP annually. We propose policies spanning research funding, datasets, pragmatic trials, innovation incentives, and regulatory pathways that could make Europe a leader in longevity science.

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INTRODUCTION

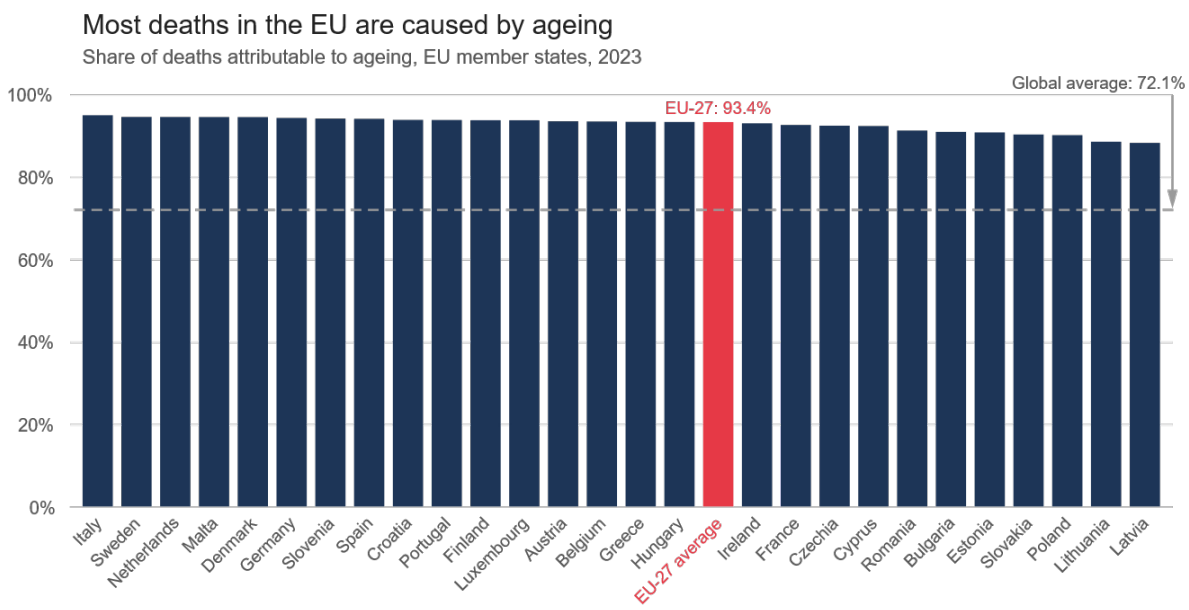
Biology is rarely considered a geopolitical issue. Mutations in our mitochondrial DNA probably would not be thought of as a pressing problem for Europe's workforce, and epigenetic reprogramming is not what most pundits reach for when discussing solutions to declining birth rates. It is also rarely considered a liberal one, even though ill health is one of the major ways that personal liberty can be constrained.

Yet ageing underpins many of Europe's largest contemporary challenges: the continent's changing demographics, the knock-on effects for workforces and pension systems, and increasing strain on systems for health and care. What is missing from most analyses is the link to biology: preventative medicine, especially when guided by a new understanding of the biology of ageing, could allow us

to tackle what is often seen as a collection of separate demographic, economic, and population health concerns at their source.

Scientists increasingly understand the mechanisms underpinning ageing: the changes to our DNA, cells, and organs that not only cause us to become wrinkled and grey, but also dramatically increase the risk of everything from frailty and incontinence to cancer and dementia. By targeting these processes, scientists now have dozens of ways to keep animals like mice in the lab alive and healthier for longer. Real anti-ageing treatments would be a powerful form of preventative medicine, delaying or preventing multiple age-related diseases simultaneously.[1] Treatments for ageing could compound with improvements in diet and lifestyle to increase the time people can spend independent, economically active, and socially engaged.

Figure 1: Ageing is the leading cause of death in the EU.



Source: The Longevity Initiative

Over 90% of deaths in the EU-27 are caused by the consequences of ageing: almost all European citizens die from either a disease caused by it – such as cancer, heart disease, or dementia – or due to their decreased resilience to external stressors like infectious disease or injury that a younger person would ordinarily shrug off (Figure 1).[2] This is not just a problem for rich countries: globally, over 70% of deaths are caused by ageing. However, it is a particular problem for Europe,

Over 90% of deaths in the EU-27 are caused by the consequences of ageing

1. A. J. Steele (2020a), *Ageless: The New Science of Getting Older w ithout Getting Old* (Bloomsbury Publishing).
2. Calculations based on IHME Global Burden of Disease data for 2023 by Andrew Steele and Tom Etminan, using the methodology developed by Steele for his book A*geless: The New Science of Getting Older without Getting Old*. The Longevity Initiative is currently working on a report about estimating this quantity. See A. J. Steele (2020b), 'Deaths caused by ageing', https://ageless.link/deaths.

where over 90% of deaths can be attributed to ageing. Taking deaths attributable to ageing as a metric, 21 of the top 30 countries globally are in the EU.

The good news is that Europe also has the scientific and institutional capacity needed to turn ageing into an opportunity: world-leading research universities and institutes; some of the best-integrated medical data systems in the world following the 2025 adoption of the European Health Data Space;[3] and the ambition to grow its biotech and pharmaceutical sectors to keep pace with global competitors.

This chapter argues that translating these capacities and ambitions into a coherent policy programme – one focused on addressing ageing biology in general, rather than single diseases like cancer or dementia one at a time – is the most consequential thing Europe can do for the health and economic prospects of its citizens.

From demographic deficit to longevity dividend

Commonly cited statistics suggest that Europe is ageing fast. Europe's median age rose from 39.3 years in 2004 to 44.7 in 2024, and is projected to be 51.5 by 2100.[4] The conventional old-age dependency ratio (OADR), defined as people aged 65 and over relative to the working-age population, climbed from 26% in 2010 to roughly 34% in 2024, and is expected to reach almost 60% by 2100.[5] The latter scenario would see every working-age adult supporting 0.6 older people, plus a further 0.24 children, for a total of 0.84 dependents per worker.

However, these statistics do not capture what we care about most: governments want to know what fraction of the population is healthy enough to work, and what fraction are so ill they require extensive health and care spending; individuals want to know whether they will be healthy enough to enjoy their pension or spend time with their grandchildren, and how much they might need to save for future costs of care.

The definition of 'dependency' within the OADR is already outdated: people who are 65 today can expect to live almost a decade longer than those in the early twentieth century, when the first pension schemes were introduced. This is because contemporary 65-year-olds are much healthier on average. Demographers have developed various approaches to account for this.[6] For example, the 'health-adjusted dependency ratio' (HADR) defines dependents as those less healthy than a globally average 65-year-old.[7] It substantially changes the narrative in many European countries: across the EU-27, the OADR is around 34%, but the HADR is just 21%. In short, improving population health substantially offsets rising chronological age (see Figure 2).

3. M. Cornel (2025), 'Unlocking Health Data for Research: The European Health Data Space as a Game-Changer for Science and Innovation', *The European Journal of Public Health*, 35(Suppl 4), ckaf161.302. https://doi.org/10.1093/eurpub/ckaf161.302.

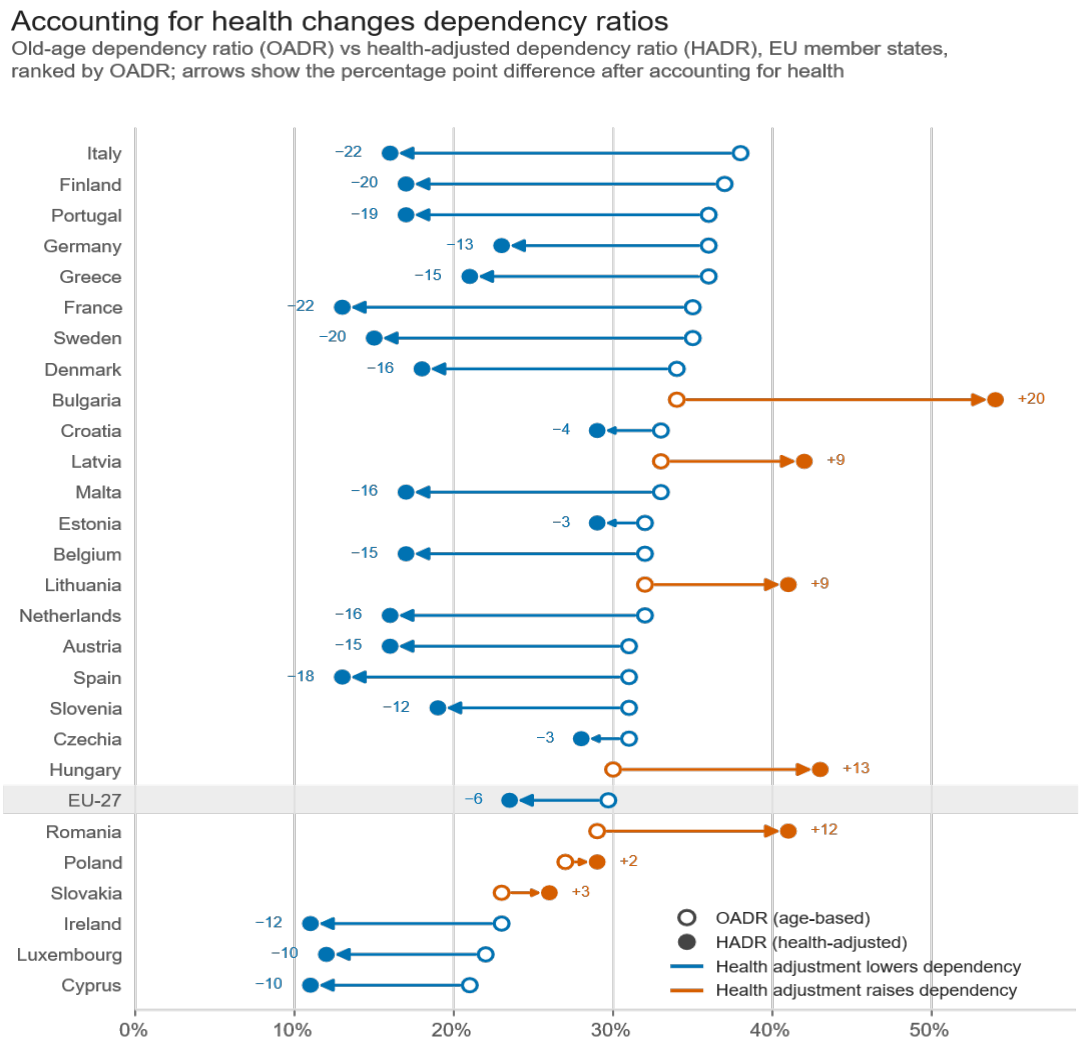
4. Eurostat (2025), *Demography in Europe 2025: Take a guess!*. https://doi.org/10.2785/5077379.

5. Eurostat (2026), 'Population structure and ageing', 2 February, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_structure_and_ageing.

6. W. C. Sanderson and S. Scherbov (2010), 'Remeasuring Aging', *Science*, 329(5997), 1287–1288. https://doi.org/10.1126/science.1193647.

7. V. Skirbekk et al. (2022), 'The Health-Adjusted Dependency Ratio as a New Global Measure of the Burden of Ageing: A Population-Based Study', *The Lancet Healthy Longevity*, 3(5), e332–e338. https://doi.org/10.1016/S2666-7568(22)00075-7.

Figure 2: Accounting for health changes dependency ratios.



The graph shows old-age dependency ratio (OADR) vs health-adjusted dependency ratio (HADR) for EU Member States, ranked by OADR; arrows show the percentage-point difference after accounting for health.

Demography, in the simple sense of population age structure, is not destiny. Investing in the biology of ageing could play a significant role in keeping populations healthier for longer. Economist Andrew Scott and colleagues have estimated that adding just a single year of healthy life expectancy by slowing ageing would be worth 4–5% of GDP annually to many European countries.[8]

8. A. Scott et al. (2023), 'International Gains to Achieving Healthy Longevity', *Cold Spring Harbor Perspectives in Medicine*, 13(2), a041202. https://doi.org/10.1101/cshperspect.a041202.

THE BIOLOGY OF AGEING

In 2009, an experiment showed that the molecule rapamycin could increase the longevity of mice, even if given late in their lives.[9] The scientific and policy implications are enormous: those of us born longer ago could still stand to benefit from anti-ageing treatments. Human trials of similar drugs have shown that they can improve immunity in older people.[10]

There are now dozens of options for drugs and other treatments that can slow, or even reverse, aspects of ageing in the lab. Some are existing drugs prescribed for something else that we could 'repurpose', such as rapamycin, diabetes drugs like metformin, acarbose, and SGLT-2 inhibitors, as well as GLP-1 'weight-loss drugs'.

Novel drugs are also being developed to target the mechanisms of ageing directly. The field has now coalesced around the so-called 'hallmarks of ageing' – from damage and mutations to DNA, to the ageing of proteins, cells, and whole systems – processes thought to underpin most of the age-related changes in humans.

Some of the hallmarks have received much more research interest and funding than others. Senolytics – drugs that selectively destroy 'old' cells that accumulate and accelerate ageing in the rest of the body – have spawned dozens of biotech companies. Another successful field is epigenetic reprogramming, which inspired the founding of the world's biggest ever 'startup', the US-based Altos Labs set up with a reported initial investment of $3 billion.

LONGEVITY AS A LIBERAL CAUSE

Liberalism is concerned with the freedom to shape one's own life, and ageing removes that freedom through frailty, dependence, and cognitive decline. Extending the years in which people are healthy enough to make their own choices is the most direct way to expand individual opportunity across the life course. Other reasons that this should be a liberal focus include the following.

Inequality. Healthy life expectancy varies more, by income and education, within European countries than does total life expectancy.[11] Acting on ageing itself increases years of self-determination, with the fastest increase for those who currently have fewest.

Prevention. Preventing multiple diseases at once is the highest-leverage intervention available to European health systems, so dealing with ageing directly has the potential to reduce the burden on taxpayers and insurance systems, as well as boost economic growth.

Supporting markets. Public money is needed to support longevity science because of the nature of the barriers to private investment, including unpatentable generic drugs and long, expensive clinical studies. Public funding can create public goods like datasets and standards that support biotech and pharma in pursuit of future treatments.

Openness. A European longevity sector depends on deep and integrated capital markets, mobile researchers, and streamlined regulation, all of which align with liberal goals more broadly.

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9. D. E. Harrison et al. (2009), 'Rapamycin Fed Late in Life Extends Lifespan in Genetically Heterogeneous Mice', *Nature*, 460(7253), 392–395. https://doi.org/10.1038/nature08221.

10. H. E. Walters and L. S. Cox (2018), 'mTORC Inhibitors as Broad-Spectrum Therapeutics for Age-Related Diseases', *International Journal of Molecular Sciences*, 19(8). https://doi.org/10.3390/ijms19082325.

11. Volksgezondheid Toekomst Verkenning (2018), 'How will health inequalities develop in the future?', https://www.vtv2018.nl/en/node/171.

HOW TO TURN AGEING INTO AN OPPORTUNITY

By applying a liberal vision to ageing, what might seem like a problem to be solved can be transformed into an opportunity to be seized. These potential benefits will not happen automatically, however. Concrete steps, described below, are needed to turn ageing into an asset and ensure the economic growth and innovation leadership of the European Union – and, most importantly, the health and dignity of its citizens.

Biomarkers: science and regulation

By quantifying biological age with 'epigenetic clocks', blood-based biomarkers, or other tests, we could slash the time and money required to do clinical trials for ageing and radically increase the number of new therapies that could be developed.[12] Rather than giving people interventions for years and waiting to see if it reduces the risk of disease and death in otherwise healthy people, we could simply do a before-and-after biological age measurement.

Longevity medicines validated by ageing biomarkers might be suited to the 'regulatory sandboxes' proposed under the EU's revised general pharmaceutical legislation.[13] These are intended for products that cannot be developed and authorised under standard requirements because of their distinctive scientific characteristics, and yet would meet genuine needs of efficacy, safety, or quality or improve the patients' access to prevention, diagnosis, or care. Anti-ageing drugs would be strong candidates for the reasons outlined in this chapter.

European medicines regulators have in the past accepted so-called surrogate markers (for example, cholesterol as a marker of heart disease risk.[14] However, there is as yet no consensus on which, if any, of the currently known biomarkers track the underlying ageing process well enough to serve as a surrogate endpoint, and consequently no qualified ageing biomarker that regulators will accept for that purpose.[15]

It is also critical that longevity medicine is accounted for in the Health Technology Assessment,[16] which currently assumes a defined patient population and an established comparator treatment. Preventative anti-ageing medicine for people whom the current healthcare system would define as 'healthy', or which lack an obvious comparator (an established therapy of ageing), could easily fall through the cracks.

The most direct approach to validating biomarkers would be to fund studies directly, ideally by attaching them to the longevity drug clinical trials discussed in later recommendations – if a drug moves both a biomarker and a 'hard endpoint' (like deferring disease or causing patients to live longer or remain healthier and more functional), that is evidence that the biomarker is tracking the underlying ageing process.

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12. M. Moqri et al. (2023), 'Biomarkers of Aging for the Identification and Evaluation of Longevity Interventions', Cell, 186(18), 3758–3775. https://doi.org/10.1016/j.cell.2023.08.003.

13. European Commission (2025b), 'Reform of EU pharmaceutical legislation', December, https://health.ec.europa.eu/medicinal-products/reform-eu-pharmaceutical-legislation_en.

14. Cholesterol Treatment Trialists' (CTT) Collaboration (2010), 'Efficacy and Safety of More Intensive Lowering of LDL Cholesterol: A Meta-analysis of Data from 170 000 Participants in 26 Randomised Trials', *The Lancet*, 376(9753), 1670–1681. https://doi.org/10.1016/S0140-6736(10)61350-5.

15. M. Moqri et al. (2024), 'Validation of Biomarkers of Aging', *Nature Medicine*, 30(2), 360–372. https://doi.org/10.1038/s41591-023-02784-9.

16. European Commission (n.d.), 'Health technology assessment', https://health.ec.europa.eu/health-technology-assessment_en.

A second approach would engage regulators early through the existing Qualification of Novel Methodologies pathway of the European Medicines Agency (EMA). This approach has already identified surrogate endpoints for other diseases, such as the rate of decline in kidney function in chronic kidney disease.[17] Because a validated biomarker benefits every developer at once and is akin to a standard setting, this is work better suited to public, philanthropic, or private consortium funding than to any single company.

Large-scale datasets for AI

Arguably the most valuable resource for the development of AI is data. In biology and health, this is an area where Europe already has advantages, which strategic investment could amplify.

The Human Genome Project and UK Biobank are examples of how large, not-for-profit data-gathering initiatives can have wide-ranging scientific and commercial impact. A larger, pan-European databank targeted specifically at health and longevity could be hugely impactful.

This would be particularly useful if participants' data could be linked to their electronic health records (EHRs). The European Health Data Space's secondary-use regime allows researchers to apply to national health data access bodies for permission to use pseudonymised records across Member States within secure processing environments. If 'healthy ageing' were designated a priority category for secondary use, data permits for ageing biology could become routine.

Collecting such data as soon as possible is imperative to ensure that such information is ready for use by biology AI models for future treatments, not least because human ageing data will reveal patterns that take years or decades to emerge.

Pragmatic trials in healthcare systems

Many longevity drugs could be tested in 'pragmatic' trials as part of routine clinical care. Drugs like rapamycin and metformin have well-established clinical pedigrees and well-understood safety profiles and, as such, are likely to be low-risk for most patients. One approach would be to simply offer them to a selection of patients during routine healthcare visits and monitor the outcomes in terms of disease risk and potential side effects through EHRs.

The RECOVERY trial of COVID-19 treatments is a well-known example of a pragmatic study. Thanks to a radically streamlined study design embedded in UK hospitals, it identified dexamethasone as a cheap and very effective treatment for COVID-19 patients within months.18 Such trials have reduced administrative costs, and they also test whether an intervention works in the real world, as opposed to the ideal but artificial conditions typical of a more formal trial. Europe, with its well-integrated health data systems, is ideally placed to conduct these studies.

Public and philanthropic funding for longevity research

To become reality, longevity medicine needs something that Europe already excels at: basic scientific research. Many aspects of ageing require further exploration of mechanisms and potential

17. European Medicines Agency (EMA) (2020), 'Qualification of novel methodologies for medicine development', 27 May, https://www.ema.europa.eu/en/human-regulatory-overview/research-development/scientific-advice-protocol-assistance/qualification-novel-methodologies-medicine-development.

18. The RECOVERY Collaborative Group (2021), 'Dexamethasone in Hospitalized Patients with Covid-19', *New England Journal of Medicine*, 384(8), 693–704. https://doi.org/10.1056/NEJMoa2021436.

interventions in academic lab settings before they are ready for commercialisation. This is clearly within the remit of public and philanthropic funding. 'Regenerative Therapies' are included as an example theme for a Horizon Europe 2028–2034 moonshot project,[19] which provides a potential point of entry. Still, it is important to distinguish regenerative therapies for ageing from other aspects of regenerative medicine, such as tissue repair after age-related diseases like Parkinson's or heart attack, or improved healing from serious injuries.

The hallmarks of ageing offer a natural structure for such funding, as a set of moonshots generating the foundational knowledge that later underpins spinouts in pharma and biotech.

Public investment can 'crowd in' private capital by de-risking early-stage science and signalling a credible future market.[20] Philanthropy can complement this, but public research budgets dwarf philanthropic funding, and most charitable giving takes place in North America rather than Europe. It is unlikely to substitute for sustained public funding at the scale the science requires.

From a liberal perspective, public funding should be designed to deliver value for money and to preserve pluralism, supporting a diversity of independent researchers and firms rather than entrenching incumbents. The risk of public money displacing private investment is real where markets already function, but is limited in a field as underfunded as ageing biology.

Prizes and advance market commitments

The market's inability to produce longevity drug trials could also be addressed with 'pull funding', which rewards a defined outcome rather than funding research directly.

Innovation prizes pay a fixed sum to whoever first meets a specified target. The EU already runs inducement prizes through Horizon Europe and the European Innovation Council, so the mechanism is familiar. A prize for the first intervention to move a validated ageing biomarker, or reach a defined clinical endpoint, would attract effort to precisely the off-patent ('generic') drug candidates that traditional market incentives fail to support. The XPRIZE Healthspan, backed by $101 million in funding, provides an example of how this model might work.

An AMC committing to reimburse a qualifying longevity treatment at an agreed price, irrespective of patent status, would reward the developer who runs the trial rather than the competitors who would otherwise freeride on the result

Advance market commitments (AMCs) require a funder to commit in advance to purchasing a product at a set price if it meets an agreed specification, guaranteeing a market and de-risking the development and manufacturing investment. A $1.5 billion global pneumococcal AMC pledged in 2007 and launched in 2009 helped bring three vaccines to market and immunise more than 150 million children, saving an estimated 700,000 lives.[21] Pandemic-era

19. European Commission (2025a), 'European Commission: Moonshots', available at: https://research-and-innovation.ec.europa.eu/document/download/a64d902e-c508-4694-a0da-60504d071f82_en?filename=ec_rtd_mff-moonshots.pdf.

20. J. Sussex et al. (2016), 'Quantifying the Economic Impact of Government and Charity Funding of Medical Research on Private Research and Development Funding in the United Kingdom', *BMC Medicine*, 14(1), 32. https://doi.org/10.1186/s12916-016-0564-z.

21. M. Kremer et al. (2020), 'Advance Market Commitments: Insights from Theory and Experience', *National Bureau of Economic Research*. https://doi.org/10.3386/w26775.

advance purchase agreements, including those under the US Operation Warp Speed, applied the same logic to COVID-19 vaccines. An AMC committing to reimburse a qualifying longevity treatment at an agreed price, irrespective of patent status, would reward the developer who runs the trial rather than the competitors who would otherwise freeride on the result.[22]

Innovation policy

Longevity's total addressable market is every living human, so it has the potential to be one of the century's largest industries. Capturing even a fraction of its economic value could create European companies capable of competing with the biggest globally, and could repay any investment many times over. The Draghi report on European economic competitiveness suggests that the capital base of European ventures is too shallow and fragmented in comparison to their US and Chinese counterparts, even if the talent pool in sciences may be deep.[23]

The EU should make longevity part of its industrial and innovation strategies, creating a regulatory route for interventions that target the biology of ageing – for example, by ensuring ageing is recognised by the European Medicines Agency as an indication.[24] It should also consider direct financing – including through the European Innovation Council – toward retaining longevity companies and talent in Europe. Such measures would complement initiatives like BioTechEU, the joint EC–EIB Group initiative to mobilise €10 billion of investment in the biotech and life sciences sectors in 2026–2027.[25]

Biomedical research funding audit

The United States is, as far as we are aware, unique in the world for having a national-level public research funding stream devoted specifically to ageing biology: the National Institute on Aging. Its Division of Aging Biology is responsible for most publicly funded longevity science in the US, with a roughly $350 million annual budget. However, in spite of this dedicated institution, ageing biology still receives 20 times less than the US National Cancer Institute, even though most cancer is caused by ageing.[26]

This model may be less applicable to Europe, where ageing research is fragmented across funding bodies, dedicated institutes, and university research groups.[27] However, a recent investigation by *Science|Business* found that ageing biology had received €23 million of Horizon Europe funding since 2021, 0.48% of the €4.8 billion total funding for health research, and 0.08% of the €27.9 billion spent through Horizon's 'Pillar 2' funding stream as a whole.[28]

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22. J. C. Castillo et al. (2021), 'Market Design to Accelerate COVID-19 Vaccine Supply', *Science*, 371(6534), 1107–1109. https://doi.org/10.1126/science.abg0889.

23. European Union (2024), *The future of European competitiveness*. Available at: https://commission.europa.eu/topics/competitiveness/draghi-report_en.

24. European Medicines Agency, 'Qualification of novel methodologies'.

25. European Investment Bank (2025), 'European Commission and EIB Group announce new initiative to mobilise €10 billion investment for Europe's biotech sector', 16 December, https://www.eib.org/en/press/news/european-commission-and-eib-group-announce-new-initiative-to-mobilise-eur10-billion-investment-for-europe-s-biotech-sector.

26. The Longevity Initiative (2026a), 'Ageing kills 83% of Americans. It gets 0.8% of the research budget', 27 May, https://thelongevityinitiative.org/2026/05/research-funding-deaths-ageing-a4li/.

27. B. Schumacher et al. (2026), 'Connecting Fragmented Aging Research through the European Federation for Aging Research', *Nature Aging*, 1–2. https://doi.org/10.1038/s43587-026-01128-9.

28. D. Matthews (2025), 'Anti-ageing therapies: Have we got health research funding wrong?', *Science|Business*,

An official audit of funding at the EU and Member State level would allow a fact-based assessment of whether ageing biology research is receiving support commensurate with its urgency and potential for health and economic impact in Europe.

Study of the impacts of ageing on societies

While common sense tells us that ageing and demographic shifts have powerful societal impacts, the extent of these effects and the areas where they are most pronounced remain to be properly quantified. Some key topics for further research are presented below.

Costs. Academics and charities regularly make estimates of the costs of specific diseases. For example, a recent article estimated that cardiovascular disease costs the EU around €282 billion a year by summing health and care costs, productivity, and 'informal care' by family and friends.[29] A formal European 'cost of ageing' would sum the costs of diseases caused by ageing – such as cancer, dementia, and stroke – and the costs of frailty and cognitive decline outside the context of disease. This would be the single most useful piece of evidence for the policy case made in this chapter.

Projections of the consequences of increased longevity. Many citizens have legitimate social, economic, and ethical concerns about longevity medicines, such as who would get access, what they would mean for pension systems and labour markets, and whether they could deepen inequality. Without transparent work on these questions, and credible institutional voices discussing benefits and risks, longevity medicine risks the kind of backlash that defined the European debate around genetically modified food in the 1990s.[30]

Updating demographic projections. Current demographic projections assume very conservative improvements in life expectancy – Eurostat, for example, assumes that life expectancy will only rise by around ten years by 2100. This is lower than the historic rate of around 2.5 years per decade in the world's longest-lived countries, maintained since the mid nineteenth century. If the longevity programme described in this chapter succeeds even modestly, those projections could be very wrong, upending plans for healthcare systems, state and private pensions, and more.[31] Demographic modelling that includes scenario analysis for different rates of progress in longevity science would help governments and businesses plan for futures with healthier older populations.

CONCLUSION

The demographic challenges of ageing populations, the liberal case for personal autonomy enabled through health, and the biological processes of ageing organisms are usually discussed separately. We need to bring them together: the diseases straining healthcare systems, the population shifts threatening public finances, and the loss of independence that defines old age all trace back to an area of biology that is, for the first time, becoming something we can study, and perhaps slow and treat.

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7 August, https://sciencebusiness.net/news/drug-development/anti-ageing-therapies-have-we-got-health-research-funding-wrong.

29. R. Luengo-Fernandez et al. (2023), 'Economic Burden of Cardiovascular Diseases in the European Union: A Population-Based Cost Study', *European Heart Journal*, 44(45), 4752–4767. https://doi.org/10.1093/eurheartj/ehad583.

30. J. S. Legge Jr. and R. F. Durant (2010), 'Public Opinion, Risk Assessment, and Biotechnology: Lessons from Attitudes toward Genetically Modified Foods in the European Union', *Review of Policy Research*, 27(1), 59–76. https://doi.org/10.1111/j.1541-1338.2009.00427.x.

31. The Longevity Initiative (2026b), 'Can longevity save us from a population crisis?', 19 May, https://thelongevityinitiative.org/2026/05/longevity-population-crisis-owid-projections/.

For individuals, more healthy years are more years of autonomy: the capacity to work, to care for others, to contribute, and to choose. For governments, acting on ageing is the only intervention that addresses demographic and fiscal pressure at its source rather than rationing its consequences. For markets, a well-designed set of incentives could build dominant European industries in a potentially huge sector. A liberal Europe that cares about its citizens and believes in innovation should treat the science of healthy ageing as a core component of health policy, industrial strategy, and geopolitical standing. To live long and prosper is, increasingly, a research programme we can choose to fund.

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REFERENCES

Castillo, J. C. et al. (2021). 'Market Design to Accelerate COVID-19 Vaccine Supply'. *Science*, 371(6534), 1107–1109. https://doi.org/10.1126/science.abg0889.

Cholesterol Treatment Trialists' (CTT) Collaboration (2010). 'Efficacy and Safety of More Intensive Lowering of LDL Cholesterol: A Meta-analysis of Data from 170 000 Participants in 26 Randomised Trials'. *The Lancet*, 376(9753), 1670–1681. https://doi.org/10.1016/S0140-6736(10)61350-5.

Cornel, M. (2025). 'Unlocking Health Data for Research: The European Health Data Space as a Game-Changer for Science and Innovation'. *The European Journal of Public Health*, 35(Suppl 4), ckaf161.302. https://doi.org/10.1093/eurpub/ckaf161.302.

Eurostat (2025). *Demography in Europe 2025: Take a guess!*. https://doi.org/10.2785/5077379.

European Commission (n.d.). 'Health technology assessment', https://health.ec.europa.eu/health-technology-assessment_en.

European Commission (2025a). 'European Commission: Moonshots'. Available at: https://research-and-innovation.ec.europa.eu/document/download/a64d902e-c508-4694-a0da-60504d071f82_en?filename=ec_rtd_mff-moonshots.pdf.

European Commission (2025b). 'Reform of EU pharmaceutical legislation', December, https://health.ec.europa.eu/medicinal-products/reform-eu-pharmaceutical-legislation_en.

European Investment Bank (2025). 'European Commission and EIB Group announce new initiative to mobilise €10 billion investment for Europe's biotech sector', 16 December, https://www.eib.org/en/press/news/european-commission-and-eib-group-announce-new-initiative-to-mobilise-eur10-billion-investment-for-europe-s-biotech-sector.

European Medicines Agency (EMA) (2020). 'Qualification of novel methodologies for medicine development', 27 May, https://www.ema.europa.eu/en/human-regulatory-overview/research-development/scientific-advice-protocol-assistance/qualification-novel-methodologies-medicine-development.

European Union (2024). *The future of European competitiveness*. Available at: https://commission.europa.eu/topics/competitiveness/draghi-report_en.

Eurostat (2026). 'Population structure and ageing', 2 February, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_structure_and_ageing.

Harrison, D. E. et al. (2009). 'Rapamycin Fed Late in Life Extends Lifespan in Genetically Heterogeneous Mice'. *Nature*, 460(7253), 392–395. https://doi.org/10.1038/nature08221.

Kremer, M. et al. (2020). 'Advance Market Commitments: Insights from Theory and Experience'. *National Bureau of Economic Research*. https://doi.org/10.3386/w26775.

Legge Jr., J. S. & Durant, R. F. (2010). 'Public Opinion, Risk Assessment, and Biotechnology: Lessons from Attitudes toward Genetically Modified Foods in the European Union'. *Review of Policy Research*, 27(1), 59–76. https://doi.org/10.1111/j.1541-1338.2009.00427.x.

Luengo-Fernandez, R. et al. (2023). 'Economic Burden of Cardiovascular Diseases in the European Union: A Population-Based Cost Study'. *European Heart Journal*, 44(45), 4752–4767. https://doi.org/10.1093/eurheartj/ehad583.

Matthews, D. (2025). 'Anti-ageing therapies: Have we got health research funding wrong?', *Science|Business*, 7 August, https://sciencebusiness.net/news/drug-development/anti-ageing-therapies-have-we-got-health-research-funding-wrong.

Moqri, M. et al. (2023). 'Biomarkers of Aging for the Identification and Evaluation of Longevity Interventions'. *Cell,* 186(18), 3758–3775. https://doi.org/10.1016/j.cell.2023.08.003.

Moqri, M. et al. (2024). 'Validation of Biomarkers of Aging'. *Nature Medicine*, 30(2), 360–372. https://doi.org/10.1038/s41591-023-02784-9.

Sanderson, W. C. & Scherbov, S. (2010). 'Remeasuring Aging'. *Science*, 329(5997), 1287–1288. https://doi.org/10.1126/science.1193647.

Schumacher, B. et al. (2026). 'Connecting Fragmented Aging Research through the European Federation for Aging Research'. *Nature Aging*, 1–2. https://doi.org/10.1038/s43587-026-01128-9.

Scott, A. et al. (2023). 'International Gains to Achieving Healthy Longevity'. *Cold Spring Harbor Perspectives in Medicine*, 13(2), a041202. https://doi.org/10.1101/cshperspect.a041202.

Skirbekk, V. et al. (2022). 'The Health-Adjusted Dependency Ratio as a New Global Measure of the Burden of Ageing: A Population-Based Study'. *The Lancet Healthy Longevity*, 3(5), e332–e338. https://doi.org/10.1016/S2666-7568(22)00075-7.

Steele, A. J. (2020a). *Ageless: The New Science of Getting Older Without Getting Old*. Bloomsbury Publishing.

Steele, A. J. (2020b). 'Deaths caused by ageing', https://ageless.link/deaths.

Sussex, J. et al. (2016). 'Quantifying the Economic Impact of Government and Charity Funding of Medical Research on Private Research and Development Funding in the United Kingdom'. *BMC Medicine*, 14(1), 32. https://doi.org/10.1186/s12916-016-0564-z.

The Longevity Initiative (2026a). 'Ageing kills 83% of Americans. It gets 0.8% of the research budget', 27 May, https://thelongevityinitiative.org/2026/05/research-funding-deaths-ageing-a4li/.

The Longevity Initiative (2026b). 'Can longevity save us from a population crisis?', 19 May, https://thelongevityinitiative.org/2026/05/longevity-population-crisis-owid-projections/.

The RECOVERY Collaborative Group (2021). 'Dexamethasone in Hospitalized Patients with Covid-19'. *New England Journal of Medicine*, 384(8), 693–704. https://doi.org/10.1056/NEJMoa2021436.

Volksgezondheid Toekomst Verkenning (2018). 'How will health inequalities develop in the future?', https://www.vtv2018.nl/en/node/171.

Walters, H. E. & Cox, L. S. (2018). 'mTORC Inhibitors as Broad-Spectrum Therapeutics for Age-Related Diseases'. *International Journal of Molecular Sciences*, 19(8). https://doi.org/10.3390/ijms19082325.

Shaping Healthy Markets: A Liberal Framework to Prevention and Prosperity

Jochen O. Mierau

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ABSTRACT

Healthy economies require healthy citizens – lower rates of illness make populations more productive, resilient, and innovative. Conversely, no matter how advanced our technologies or well-educated our workforce, Europe cannot support economic growth if its population suffers poor health. The greatest cost of illness is therefore not unsustainable healthcare spending, but lost productivity. This chapter argues that prevention is, above all, an economic challenge. Markets, left to their own devices, externalise the health costs of consumption and production, while selectively investing in treatments that can be monetised. In doing so, they both create and respond to disease – but they do not prioritise health. Hence, a liberal approach to prevention requires aligning market forces with population health through dynamic guardrails that constrain health-harming activities, internalise their costs, and create conditions in which markets contribute to, rather than undermine, population health. Doing so not only improves health but also strengthens European prosperity.

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HEALTH AS EUROPE'S ECONOMIC FOUNDATION

After decades of steady increases, life expectancy in the European Union (EU) is starting to stall. More concerning, healthy life expectancy (that is, years lived without chronic disease and/or in good/excellent self-assessed health) is not keeping pace.[1] Europeans are living longer, but an increasing share of the extra years is spent in poor health.

These trends are not uniformly distributed. Individuals with a lower socioeconomic position (i.e., lower income and/or lower level of educational attainment) consistently report worse health than

1. S. Hay, P. Nam, H. Saqib et al. (2023), 'Global, Regional, and National Trends in the Morbidity Gap and Contributing Diseases, Injuries, and Risk Factors, 1990–2023: A Systematic Analysis for the Global Burden of Disease Study', *The Lancet Public Health*, 11, e487–e505.

their more privileged counterparts.[2] Evidence from Danish population-wide registries shows that these socioeconomic health inequalities present themselves in nearly all diseases.[3] Population ageing compounds these issues. As European societies age, the prevalence of chronic diseases increases, and health inequalities widen. Without further action, the societal burden of disease will only grow.

The impact of disease extends well beyond healthcare systems. Chronic disease reduces labour market participation through absentee- and presenteeism, early retirement, work disability, and unemployment. Viewed in this way, Europe is facing a population health-induced recession.

To face contemporary health threats requires looking beyond the traditional pillars of medicine. While anatomy, biochemistry, pathology, and physiology remain necessary, they are no longer sufficient – even public health and epidemiology cannot fully capture the determinants of contemporary well-being. It is likewise imperative that we understand how markets shape prosperity while also generating health harm, particularly through their ability to privatise the benefits from health-damaging activities while shifting the costs to society.

From a liberal perspective, this is not an argument against markets but for their careful governance. It builds on the insight that freedom is not merely the absence of coercion (negative freedom), but also the ability to participate meaningfully in society (positive freedom). Poor health undermines autonomy, limits opportunities, and forces individuals to devote substantial resources to healthcare. Protecting population health, therefore, expands freedom by enhancing people's ability to pursue their own goals. Mill's Harm Principle suggests that liberty can be constrained when actions impose harm on others. Where economic activity systematically shifts health burdens onto workers, consumers, and taxpayers, liberal principles provide the basis for a remedy.

This chapter starts from that premise. It explores how markets shape population health, why they produce harm as well as solutions, and how policy can provide effective guardrails. The aim is not to weaken markets, but to ensure that they operate within boundaries that protect population health, expand freedom, and support a strong economy.

WHY MARKETS CREATE BOTH HEALTH AND HARM

The Organisation for Economic Co-operation and Development (OECD) estimates that non-communicable diseases (NCDs) are responsible for four out of every ten premature deaths in the EU. Jointly they account for 40% of healthcare spending and reduce the EU GDP by about 4%.[4] At a time of economic uncertainty, this is a loss that Europe cannot afford.

The World Health Organization (WHO) further estimates that health-harming industries contribute to a quarter of all deaths in the European region,[5] amounting to 2.7 million deaths annually. The main culprits are tobacco, alcohol, ultra-processed foods, fossil fuels, and occupational hazards. Increasingly, however, it is becoming clear that many more features of contemporary life are harming health. Recent legal developments, for example, indicate that social media platforms are actively contributing to the mental health difficulties of their users.

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2. OECD (2025), *Perceived Health by Socioeconomic Status* [Data set], OECD Data Explorer, https://data-viewer.oecd.org?chartId=316c9066-87c4-4d29-ae31-8fddc5e124ff.
3. A. V. Pallesen, J. O. Mierau, F. Christensen, and L. H. Mortensen (2024), 'Educational and Income Inequalities across Diseases in Denmark: A Register-Based Cohort Study', *The Lancet Public Health*, 9, e916–e924.
4. OECD (2026), *The Health and Economic Benefits of Tackling Non-Communicable Diseases* (OECD Health Policy Studies) (OECD Publishing: Paris). https://doi.org/10.1787/e20cbbc3-en.
5. WHO (2024), *Commercial determinants of noncommunicable diseases in the WHO European Region* (Copenhagen: WHO Regional Office for Europe).

Taken together these insights bring us to a crucial paradox: while economic prosperity depends on a healthy population, existing market structures allow economic activity to undermine public health for private gain. Addressing today's health challenges therefore requires confronting this misalignment and moving toward a system in which economic activity and population health are mutually reinforcing.

Competition, incentives, and morality

It is tempting to view the actions of health-harming industries through a moral lens. Yet health harm is not the objective, it is a by-product. In competitive markets, firms need to generate profits to survive.[6] If a business can thrive by offering healthy products, it will do so. But conversely, if health-harming products also deliver financial returns, firms may well choose that route. The market does not select for health; it selects for profit.

This is not to imply that firms or their executives are immoral – many of them may have strong ethical convictions. Yet these ideals melt under economic pressure. What prevails in the marketplace is not the 'average morality', but the lowest level compatible with competitiveness. Generally, this is a legal boundary. The implication is straightforward: legal standards encode the moral limits within which competition takes place.

The business of treatment and disease

Markets do not only generate health harms; they also generate responses to them. But they do so selectively, prioritising profitable solutions.

This creates two 'business models of disease'. Some firms benefit from creating health harm, while others profit from managing the consequences. The obesity pandemic illustrates this dynamic well. Ultra-processed food manufacturers and many other firms have gained from the commercial activities that triggered the pandemic, while producers of weight-loss drugs have capitalised on countering it. Even if the treatments offered by the latter are effective, they are addressing the symptoms, not the cause, of a broader health crisis.

Tobacco control provides a useful historical analogue. If policy had focused primarily on improving treatment for lung cancer, chronic obstructive pulmonary disease (COPD), and cardiovascular disease, progress in combatting the health impact of tobacco would have been limited. Instead, since the 1980s the legislative approach in many countries has focused on attacking the problem at its root – smoking. In doing so, policy effectively intervened to reduce health harm.

The market prioritisation of treatment rather than the control of risk factors (i.e., prevention) is structural. Preventing disease generates broad societal benefits, but these are typically hard for a single firm to monetise. Consequently, markets apply a 'profit filter' to potential solutions. Interventions that yield financial returns are developed, while those that do not are left behind.

This creates a fallacy of composition. The rational choice for individual firms – profiting from health-harming goods, services, and occupational practices or monetising health harms through treatment – does not align with the optimal strategy for the market as a whole – curtailing the production of health threats. Improving population health and fostering prosperity in the EU relies on overcoming this misalignment.

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6. L. L. Hagenaars, U. Bosma, M. J. van der Linden, and J. O. Mierau (2026), 'A Structuralist Perspective on the Commercial Determinants of Health: Corporate Survival Strategies in Competitive Landscapes', *Social Science & Medicine*, 119500.

DYNAMIC REGULATION: RULES THAT MAKE MARKETS WORK FOR HEALTH

Markets are powerful engines of prosperity, but they can also bring great harm. The objective, therefore, is not to replace them, but to shape them – to design a framework within which the pursuit of profit occurs without harming health. This means guardrails, which can come from government regulation but can also arise from coordinated industrial action.

The goal should be to create a level playing field in which firms compete while meeting minimum standards for goods, services, and working conditions. These standards can be set top-down by governments or emerge through industrial coordination. ISO standards for occupational health (45001) and food safety (22000) show that industries can converge on common standards to protect the health of workers and customers. In practice, however, these rules may fail to deliver on their promise without enforcement by public inspectorates.

Firms do not participate in policymaking out of benevolence. When profitability is threatened, some firms may opt to dilute or delay new regulation. These industry tactics are well-documented and have led to tobacco firms being excluded from the decision-making process regarding tobacco control. While that is an extreme option, it is an important one when conflicts of interest are irreconcilable.

Nor is government action necessarily beyond critique. Ill-designed policies can stymie innovation, discourage entrepreneurship, entrench incumbents, and create barriers to entry. Examples include occupational licensing that restricts market entry, procurement procedures whose complexity favours established firms, or zoning regulations that constrain housing supply. Moreover, regulation is often static or slow to respond, while markets are dynamic. Just as companies innovate to outcompete each other, they also innovate to outrun regulation.

This dynamic can be seen in a host of sectors. Vaping products were introduced as healthy alternatives, enabling aggressive marketing which had been forbidden for tobacco firms. Uber and Airbnb presented themselves as digital platforms, where in practice their profits arose from bypassing taxi regulation and circumventing zoning laws and hotel standards, respectively.

Pushing the boundaries of existing regulation through entrepreneurship is not inherently a bad thing – innovation often challenges outdated or ineffective rules. Problems arise, however, when innovation reinstates practices that had been restricted due to their harmful health impact.

Industry response to sugar taxes is a case in point. Some firms reformulated their products to lower sugar content, while others added small quantities of dairy (which was exempted from the sugar tax). In both instances the firms lowered their exposure to sugar taxes. However, while the former is an example of healthy market adaptation, the latter is not. Eventually regulation catches up with these practices. Yet the damage done in the meantime has a societal cost, and that cost is seldom paid by the parties that inflicted the harm. This highlights the need for carefully designed policy that can respond to, and preferably anticipate, market reactions to regulation.

Calls for regulation are often met by arguments of impeding market exit and loss of economic growth and dynamism. The truth is that firms generally adapt; if they lose profitability, this is preferable to shifting the burden to society. And the extreme case – going out of business – points above all to an unsustainable business model. History offers abundant support for this view. The abolition of child labour and the reduction of working hours were initially resisted on economic grounds, yet they eventually contributed to increased productivity and prosperity.

Bringing together the relationship between markets and health, and between regulation and innovation, we arrive at a model of dynamic regulation. The interplay between markets and regulation is not static, it is a *dialectical dance*. Markets continuously generate new opportunities for profit, while regulation sets the guardrails within which these opportunities can be pursued without harming health.

BUILDING HEALTHY AND PROSPEROUS MARKETS

The above perspective does not prescribe a single policy programme. Rather, it suggests the functions that well-designed health guardrails should perform. They should define societal health objectives, align market incentives with population health, create healthy working and living conditions, and monitor contemporary health threats. The examples below illustrate how these functions can be translated into concrete policy.

The overarching principle is simple: economic activity should not come at the expense of population health

The overarching principle is simple: economic activity should not come at the expense of population health. When it does cause harm, the costs should be borne by those who benefit from it.

Defining health objectives

Operationalising this principle begins with aligning market incentives and public health objectives. Like fiscal, environmental, or inflation targets, public health targets should be set to define the boundaries within which market competition takes place.[7] If economic activity undermines population health, these targets should trigger policy action aimed at re-aligning profits and health.

The Sustainable Development Goals (SDGs) can be used as a starting point for the targets. Regarding health, they call for a one-third reduction in premature mortality from non-communicable diseases. Several European countries have translated these ambitions into more concrete goals. The Netherlands, for instance, has set targets aimed at increasing healthy life expectancy by five years while reducing health disparities by 30%. The Dutch National Prevention Agreement further specifies targets for obesity, smoking, and alcohol use. Germany and Flanders have likewise set comparable public health goals.

Targets alone do not protect health – their role is to create a binding mechanism that initiates policy responses

The policy challenge, therefore, is not the absence of targets but their enforcement. In their current form, such goals are aspirational. Fiscal, environmental, and inflation targets are, by contrast, binding in the sense that failing to meet them triggers a policy response. Strengthening public health across the EU requires giving the relevant targets similar institutional weight within governance. Targets alone do not protect health – their role is to create a binding mechanism that initiates policy responses.

Aligning Incentives with Health

A central implication of setting binding public health targets is that health-related externalities should be internalised, so that decision-making considers the full costs of products, services, and production processes.

Various existing policy instruments already bring this principle into practice. Excise taxes on tobacco, alcohol, and fossil fuels are well-known examples, while sugar taxes are a new measure based on this idea. Other tools can complement these fiscal instruments by limiting the availability and promotion of health-harming goods and services, as has long been done for tobacco. Moreover,

7. J. O. Mierau and B. C. Toebes (2023), 'Towards Legally Mandated Public Health Benchmarks', *International Journal of Health Policy and Management*, 12(1), 1–3.

fiscal instruments can serve a dual purpose: in addition to discouraging use, their revenues can support public health transition funds that help public and private actors shift toward healthier economic activity.

Fostering healthy living and working conditions

The same logic applies to working conditions. Employment should be organised in such a way that workers can remain healthy throughout their working lives, and beyond into retirement. If harmful conditions cannot be eliminated completely, compensation mechanisms need to be put in place, ensuring that costs are borne by employers rather than shifted to workers and society.

Employee health is also shaped by income security. Many European countries have vast welfare states that help make up for insufficient wages. While such programmes are commonly perceived as assisting workers, they allow employers to pay their workers below what is necessary to survive. Effectively, they subsidise business models that rely on workers being compensated below subsistence levels. Ensuring living wages is therefore not merely a social objective but part of aligning market outcomes with population health, while potentially reducing the need for welfare systems to prop up low-wage business models.

Requiring employers to pay sufficient wages has substantial economic implications. While higher minimum wages are often predicted to reduce employment, empirical evidence suggests that such effects are often limited.[8] At the same time, linking wages to living conditions creates strong incentives for affordable housing, energy stability, and other factors reducing cost-of-living pressures. The EU Directive on Minimum Wages is an important step in this direction, as it explicitly places wage adequacy at the centre of wage-setting. This gives force to the idea that employment should provide the resources needed for healthy lives.

The implications of the overarching no-harm principle go beyond firms. Urban planning and transport policy, for instance, can encourage active mobility by prioritising walking, cycling, and public transport over car dependency. Compact urban designs and extensive public transport systems are not utopian – Japanese urban planning has long been based around well-developed public transport both within and between cities.

This logic can be expanded to other policy areas. This thinking has often been framed as 'health in all policies' and most recently even as 'all policies for health', requiring other sectors to incorporate health considerations into their decision-making. However, viewing health as a production factor also suggests a reverse perspective: *health for all policies*.[9] In this view, incorporating health into decision-making generates co-benefits for sectors themselves. Schools focusing on their pupils' and teachers' health can also expect benefits in terms of overall educational performance.

Monitoring and anticipating health threats

Implementing the above approach requires robust monitoring. If the objective is to avoid health harm, health itself must be measured. Currently there is no pan-European health monitoring infrastructure. Scandinavian and Dutch health registries provide detailed insights into disease, but because health is not systematically measured, they offer limited guidance for health monitoring. Prospective, population-based cohort studies such as Lifelines in the Netherlands and the National Cohort in Germany provide building blocks on which pan-European health monitoring can be built.

8. J. Azar, E. Huet-Vaughn, I. Marinescu, B. Taska, and T. von Wachter (2024), 'Minimum Wage Employment Effects and Labour Market Concentration', *The Review of Economic Studies*, 91(4), 1843–1883.

9. S. L. Greer, M. Falkenbach, L. Siciliani, M. McKee, M. Wismar, and J. Figueras (2022), 'From Health in All Policies to Health for All Policies' *The Lancet Public Health*, 7(8), e718–e720.

Finally, the burden of proof for health harm needs to be considered. At the present, health harm needs to be proven before action is taken. A precautionary principle would shift the burden of proof to firms introducing products, services, and production processes at scale. If such evidence is not forthcoming, wide market access should not be granted by default. Conditioning market access on adequate evidence would also create strong incentives for firms to contribute to public health monitoring infrastructures.

PREVENTION AS A STRATEGY FOR PROSPERITY

The challenge for contemporary public health is no longer simply to expand healthcare systems or develop new medical technologies – it is designing markets that do not damage the health of the workers on whom they depend. Markets are crucial drivers of prosperity, but without guardrails they generate health harms whose costs are externalised onto society. Modern prevention policy should, therefore, not seek to weaken markets but align economic incentives with population health.

A liberal perspective acknowledges that free societies depend on citizens who are sufficiently healthy to fully participate in them. The challenge is thus not to choose between markets and health, but to shape markets in ways that foster both economic and human flourishing

This policy requires moving beyond the paradigm wherein prevention is primarily an individual or medical responsibility. Health is a production factor; protecting it is not only socially desirable, but also an economic necessity. A liberal perspective acknowledges that free societies depend on citizens who are sufficiently healthy to fully participate in them. The challenge is thus not to choose between markets and health, but to shape markets in ways that foster both economic and human flourishing. If the EU succeeds in doing so, it will not only extend lives, but also strengthen freedom, resilience, and prosperity.

REFERENCES

Azar, J., Huet-Vaughn, E., Marinescu, I., Taska, B. & von Wachter, T. (2024). 'Minimum Wage Employment Effects and Labour Market Concentration'. *The Review of Economic Studies*, 91(4), 1843–1883.

Greer, S. L., Falkenbach, M., Siciliani, L., McKee, M., Wismar, M., & Figueras, J. (2022). 'From Health in All Policies to Health for All Policies'. *The Lancet Public Health*, 7(8), e718–e720.

Hagenaars, L. L., Bosma, U., van der Linden, M. J., & J.O. Mierau (2026). 'A Structuralist Perspective on the Commercial Determinants of Health: Corporate Survival Strategies in Competitive Landscapes'. *Social Science & Medicine*, 119500.

Hay, S., Nam, P., Saqib, H. et al. (2023). 'Global, Regional, and National Trends in the Morbidity Gap and Contributing Diseases, Injuries, and Risk Factors, 1990–2023: A Systematic Analysis for the Global Burden of Disease Study 2023'. *The Lancet Public Health*, 11, e487–e505.

Mierau, J. O. & Toebes, B. C. (2023). 'Towards Legally Mandated Public Health Benchmarks'. International Journal of Health Policy and Management, 12(1), 1–3.

Organisation for Economic Co-operation and Development (OECD) (2025). *Perceived Health by Socioeconomic Status* [Data set]. OECD Data Explorer. https://data-viewer.oecd.org?chartId=316c9066-87c4-4d29-ae31-8fddc5e124ff.

Organisation for Economic Co-operation and Development (OECD) (2026). *The Health and Economic Benefits of Tackling Non-communicable Diseases* (OECD Health Policy Studies). Paris: OECD Publishing. https://doi.org/10.1787/e20cbbc3-en.

Pallesen, A. V., Mierau, J. O., Christensen, F. & Mortensen L. H. (2024). 'Educational and Income Inequalities across Diseases in Denmark: A Register-Based Cohort Study'. *The Lancet Public Health*, 9, e916–e924.

World Health Organization (WHO) (2024). *Commercial determinants of noncommunicable diseases in the WHO European Region*. Copenhagen: WHO Regional Office for Europe.

Empowering Europe's Mind: Mental Health Prevention and the Liberal Future

Camille Roux

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ABSTRACT

Mental health across Europe has reached a defining political and economic threshold, yet existing systems remain predominantly reactive and late-stage and restrict individual agency. This chapter establishes a caring liberal framework for mental health reform that places individual autonomy, personal responsibility, and community participation at its core. Moving beyond crisis-driven mental healthcare, it advocates for a systematic shift toward population-wide promotion, early intervention, and mental health literacy. Aligning with the UN Convention on the Rights of Persons with Disabilities, the chapter looks at coercive practices and institutionalisation through a caring liberal lens while proposing community-based models that preserve dignity throughout recovery. Finally, it highlights the role of democratic, scientific, and human-centred technological innovation in expanding choices and building resilient, future-oriented mental health systems across Europe.

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INTRODUCTION

Across Europe, mental health has become one of the defining public policy challenges of our time. Anxiety, depression, burnout, and loneliness affect millions of people, placing growing pressure on healthcare systems, labour markets, and communities. The economic consequences of this crisis are substantial, with mental ill-health being estimated to cost countries in the Organisation for Economic Co-operation and Development (OECD) more than 4.2% of GDP every year through healthcare expenditure, lower employment, and reduced productivity.[1] But the situation becomes even more dire when looking at the human cost behind this number. In 2021 alone, poor mental health accounted for at least 11.1 million years of life either lost or spent with disability across the Europe-

1. OECD (2021), *A New Benchmark for Mental Health Systems: Tackling the Social and Economic Costs of Mental Ill-Health* (OECD Health Policy Studies) (Paris: OECD Publishing). https://doi.org/10.1787/4ed890f6-en.

an Union; depression and anxiety were responsible for almost two thirds of this burden.[2] According to the latest Eurobarometer, physical and mental health are considered the most important contributors to quality of life, ahead of almost every other policy area.[3] It is no wonder that EU citizens increasingly expect political leaders to respond.

Mental health is therefore no longer solely a health issue; it has become a political, social, and economic priority. For liberals, however, the question is not whether mental health matters, but why it should matter to liberal politics. Previous work of the European Liberal Forum (ELF) and other chapters in this Study already made the case that health is a prerequisite for freedom and prosperity.[4] Building on that premise, this chapter asks a different question: what would a genuinely caring liberal mental health system look like?

The argument developed here is that a caring liberal society organises itself so that people can remain autonomous, informed, responsible, and connected to their communities throughout periods of good mental health, mental distress, and recovery. Achieving this requires moving beyond a system primarily structured around responding to crises and viewing mental health through the lens of illness and treatment. Instead, liberal values call for smart investments in promotion and prevention to cultivate societies that protect individual rights when care becomes necessary, strengthen communities, and innovate in ways that expand rather than restrict people's freedom.

This chapter therefore examines why many current mental health systems remain poorly aligned with these ideals before exploring how such principles can help build a model that better embeds the values of autonomy, participation, and responsibility into daily life.

WHY TODAY'S MENTAL HEALTH SYSTEM FALLS SHORT

Despite unprecedented political attention following the COVID-19 pandemic, mental health outcomes across Europe continue to deteriorate. Almost one in two young Europeans reported unmet mental healthcare needs in 2022,[5] and although comparable data remain limited for older age groups, there is little reason to believe access problems are confined to younger people. But equally worrying, Eurofound has reported that 46% of people who had experienced emotional or psychosocial problems rated the quality of the mental healthcare they received below five out of 10, suggesting that improving access alone will not be enough if services do not meet people's needs.[6] Together, these are important warning signs, indicating that Europe's challenge goes beyond simply expanding access. It should also explore ways of designing systems that genuinely meet people's needs.

But equally worrying, Eurofound has reported that 46% of people who had experienced emotional or psychosocial problems rated the quality of the mental healthcare they received below five out of 10, suggesting that improving access alone will not be enough if services do not meet people's needs

2. Eurofound (2025), *Mental health: Risk groups, trends, services and policies* (Luxembourg: Publications Office of the European Union).
3. Eurobarometer (2026), *EP Spring 2026 survey*, https://europa.eu/eurobarometer/surveys/detail/3752.
4. ELF (2024), *Fundamental Health: Addressing Mental Health Issues in Europe*, available at https://liberalforum.eu/publication/fundamental-health-addressing-mental-health-issues-in-europe/.
5. OECD/European Union (2022), *Health at a Glance: Europe 2022 – State of Health in the EU Cycle* (Paris: OECD Publishing). https://doi.org/10.1787/507433b0-en.
6. Eurofound, *Mental health*.

If liberal societies seek to maximise people's ability to exercise autonomy and responsibility, then mental health systems too should be organised around these objectives. Yet many continue to reward activity rather than outcomes, crisis management rather than promotion and prevention, and institutional responses rather than community support. Two shortcomings are particularly striking. First, public investment often reinforces a model that intervenes late and sometimes too late. Second, many systems still tolerate practices that undermine the very autonomy they are meant to support and, in some cases, help to restore.

The first problem is not purely organisational; it has strong financial implications. Funding mechanisms in many European countries continue to reimburse consultations, hospital admissions, or occupied beds, creating incentives to respond once problems have developed rather than to invest in prevention, community-based support, or innovative outpatient services.

From a liberal perspective, this represents a profound misalignment of incentives and investment. Public (and private in some cases) investment should reward what ultimately matters: improved wellbeing, sustained recovery, community participation, and the ability of people to lead lives they value. Measuring success primarily through service volume risks preserving systems that respond to crises while doing too little to prevent them.

The second shortcoming concerns human rights. Persons with psychosocial disabilities continue to experience some of the most serious violations of their rights under the UN Convention on the Rights of Persons with Disabilities (UN CRPD). While the UN CRPD is the only UN Convention that has been ratified by the EU itself and by all the Member States, remain realities across Europe.[7] These human rights concerns are also fundamentally incompatible with the liberal commitment to autonomy, personal responsibility, and equal citizenship.

The denial of legal capacity illustrates this particularly clearly. Without equal recognition before the law, people lose the ability to make legally recognised decisions about their finances, healthcare, family life, and participation in society. Despite important reforms in countries such as Ireland and Spain, no European Union Member State has yet established a legal capacity regime that fully complies with Article 12 of the UN Convention on the Rights of Persons with Disabilities as interpreted by the UN CRPD Committee.[8]

The same tension appears in institutionalisation. More than 1.4 million persons with disabilities continue to live in institutional settings across Europe, where the European Union Agency for Fundamental Rights has documented violence, overmedication, the undue use of physical restraint, and severe restrictions on autonomy.[9] The combination of segregation from the wider community and institutions' operational structure can easily lead to patients' loss of decision-making abilities, even where choices directly concern their own wellbeing. This is not a criticism of mental health professionals, who often work under immense pressure, but of systems whose incentives reward the wrong outcomes and create conditions in which abuses occur. Viewed through a liberal lens, these shortcomings reveal a broader failure. Mental health systems too often intervene only after people's autonomy and capacity to take part in society has already been diminished – and the same systems may simultaneously restrict these rights further still. A caring liberal alternative should pursue the opposite aim: creating the conditions in which autonomy is protected *before* crises emerge and preserving it whenever care becomes necessary.

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7. Eurofound (2024), *Paths towards independent living and social inclusion in Europe* (Luxembourg: Publications Office of the European Union).

8. European Disability Forum (2024), 'EDF Human Rights Report 2024: Legal capacity – Personal choice and control', https://www.edf-feph.org/publications/human-rights-report-2024-legal-capacity/.

9. FRA (2025), *Places of Care = Places of Safety? Violence against persons with disabilities in institutions*, available at https://fra.europa.eu/en/publication/2025/institutions-places-care-and-places-safety.

BUILDING THE FOUNDATIONS OF GOOD MENTAL HEALTH

Mental health promotion and prevention are not about eliminating distress or shielding individuals from every challenge that life may bring. Promotion seeks to strengthen individuals, communities, and the environments around them, while prevention aims to identify and address difficulties before they escalate into crises. Together, they allow people to participate, exercise self-determination, and seek support early. These are not only foundations of good mental health systems but also ideals of a liberal democracy, and they point to a more rational and effective allocation of public resources. Yet their potential remains largely untapped.

The discussion so far brings us to a key point: improving a population's mental health cannot be achieved through medical services alone. Education, employment, housing, social protection, the environment, and access to community life can all either protect or undermine mental health, which means that policymakers have far more levers at their disposal than the organisation of healthcare alone.

With the adoption of its Communication on a Comprehensive Approach to Mental Health in 2023, the European Union adopted a 'mental health in all policies' approach. All policies? In theory, yes. From fisheries to healthcare, transport to employment, and housing to digital regulation, public decisions can influence the mental health of the population, even when mental health is not their stated purpose.

At first glance, the implications of 'mental health in all policies' seem overwhelming, but is it really so radical to ask legislators to consider these consequences? Liberal economic policy already attempts to anticipate the financial and economic effects of public decisions, so why shouldn't mental health impacts also be weighed? Given the cost of mental distress to the economy, it seems logical to reduce it. The ideal would be for every policy to contribute positively to the conditions for good mental health, but a more immediate and realistic starting point could be to apply a 'do no harm' principle, requiring policymakers to consider whether a proposed measure is likely to cause significant mental health harm to the population as a whole or to particular groups.

This is not about directing every individual towards a single state-approved version of wellbeing, nor about denying that people make choices and mistakes, take risks and respond differently to the same circumstances. It is about recognising that choices are never made in a vacuum. A person cannot simply choose their way out of insecure housing, discrimination, an abusive workplace, or the absence of accessible support, and a society cannot credibly celebrate individual responsibility while ignoring the conditions that make its exercise possible.

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There are, of course, limits to what public policy can achieve. No government can remove grief, uncertainty, failure, conflict, or every other adverse experience from human life, nor should it attempt to do so. Promotion alone is therefore insufficient: it must be accompanied by prevention and, whenever necessary, appropriate care and support.

Yet despite the political attention now given to mental health, and the growing recognition of the importance of prevention, OECD countries devoted only around 3%

Yet despite the political attention now given to mental health, and the growing recognition of the importance of prevention, OECD countries devoted only around 3% of total health expenditure to preventive care in 2023

of total health expenditure to preventive care in 2023.[10] This figure covers prevention across health rather than mental health alone, which makes the amount specifically devoted to preventing mental health difficulties even harder to identify.

Early intervention is an essential part of prevention. It involves identifying and addressing signs of mental distress before difficulties become more severe and begin to disrupt every aspect of a person's life. To be effective, however, early intervention cannot remain confined to specialist mental health services. It must be woven into the social fabric through schools, primary healthcare, workplaces, community services, and public-awareness programmes. This does not mean turning teachers, employers, or community workers into mental health professionals, nor encouraging the constant surveillance of people's emotions. It means ensuring that professionals who encounter people in everyday life can recognise when something may be wrong, respond without judgement, and direct them towards appropriate support.

Mental health literacy within a society enables individuals to recognise distress in themselves and others, seek the assistance needed, and make informed decisions about their wellbeing. It can help people navigate support systems more independently and understand the options available to them, strengthening rather than replacing their role in decisions concerning their lives. Equally important, it can help individuals distinguish between ordinary emotional experiences and situations in which professional support may be useful or necessary. This distinction matters because a society can fail in two directions. It can dismiss serious distress until it amounts to a mental health problem, but it can also pathologise and overmedicalise understandable reactions to grief, insecurity, discrimination, or difficult life events.

Promotion, prevention, early intervention, and mental health literacy therefore belong to the same political project. Together, they create conditions in which people have a greater chance of remaining autonomous, understanding what they are experiencing, and obtaining support before their choices become severely constrained by crisis.

RETHINKING CARE FOR A MEANINGFUL LIFE

A future-oriented mental health system must ask a different question: when care becomes necessary, how can it support people without undermining the very autonomy it is supposed to protect? As we have seen, today's system often fails precisely those who rely on it most. In a liberal democracy, the future of care could be organised around three interlinked ideas: recovery, community, and participation.

The recovery-oriented approach changes how are outcomes are understood. Unlike the more traditional perspective where persons encountering adverse mental health experience would first require care and then support for reintegration, the view of recovery proposed here does not create two separate phases. From this it follows that a successful mental health system is not simply one that reduces symptoms or facilitates discharge from hospital, but one that enables people to continue making decisions about their own lives, maintaining relationships, and, if they wish, participating in education, employment, and civic life while receiving appropriate support. Mental health challenges, therefore, are not only problems to be treated but experiences that people can navigate while still leading meaningful lives.

10. OECD (2025), *Health at a glance 2025: OECD indicators* (Paris: OECD Publishing).

If we accept this as the objective, then community-based care seems the logical way of organising said services – recovery takes place wherever people call home. Mental health services should not operate as isolated healthcare providers, but as connectors between healthcare, housing, employment, education, cultural activities, and civic participation. Community-based care is about organising support around people's lives and not the other way around, and therefore reducing levels of institutionalisation.

Yet communities are not homogeneous, and neither are people's experiences of mental health. Community-based services are better placed to respond to differences in language, culture, religion, disability, age, gender, or sexual orientation, making support more accessible while reducing barriers to care and stigma.[11] Allowing services to adapt to the diverse realities and needs of the communities they serve, rather than expecting individuals to adapt to standardised provision, gives rise to a more responsive system and a fairer distribution of public resources.

BUILDING THE NEXT GENERATION OF MENTAL HEALTH SYSTEMS

Innovation in mental health is often understood as the development of new technologies or treatments. While these undoubtedly have an important role to play, a caring liberal perspective calls for a broader understanding. Innovation should not be measured solely by what is invented, but by whether it helps people remain autonomous, connected, and able to participate fully in society throughout their lives. Building the next generation of mental health systems therefore requires innovation in governance, knowledge, and technology.

The first innovation looks inward. For too long, mental health policy has been designed *for* people rather than *with* them. People with lived experience possess knowledge that professional expertise alone cannot provide. Recogni sing lived experience as expertise goes beyond tokenistic representation; it is a different way of designing policy. Involving people with lived experience in the liberal party, research, service design, and political decision-making leads to policies that better reflect people's needs while reinforcing one of the central principles of liberal democracy: those affected by decisions should have a meaningful voice in shaping them. When people with lived experience are viewed not only as recipients of care but also as professionals, researchers, advocates, and policymakers, stigma decreases.

As evidence-based policymaking is the goal, innovation must also transform the questions asked through research. Europe has made important progress in understanding mental health conditions. Comparable effort should now be directed toward understanding what protects mental health and enables people to flourish throughout life. Looking at how to reduce burnout is important, but isn't the more interesting question how can we make work a protective factor of mental health? We need to invest in finding better pathways to prevention, protective factors, and the social determinants of mental health.

Finally, technological innovation should remain firmly centred on people and the values that liberal societies seek to protect. Digital tools, artificial intelligence, and telehealth can expand access to information and support, particularly for people facing geographical, financial, or social barriers. Used well, they strengthen prevention, facilitate early intervention, and expand individual choice. Recovery, participation, and resilience are built through trust, empathy, and meaningful social connection, qualities that no algorithm can replicate. Used poorly, these technologies can also reinforce bias, surveillance, and exclusion. Innovation therefore requires robust safeguards for privacy,

11. Mental Health Europe (2024), The mental health impacts of racial discrimination, available at https://www.mentalhealtheurope.org/library/report-the-mental-health-impacts-of-racial-discrimination/; Mental Health Europe (2025), Rethink to rebuild: Towards rights-based and gender-just mental health systems in Europe, available at https://www.mentalhealtheurope.org/report-rethink-to-rebuild-towards-rights-based-and-gender-just-mental-health-systems-in-europe/.

informed consent, and transparency, alongside a commitment to ensuring that individuals always retain meaningful choice over how they access care and support.

CONCLUSION

This chapter has not attempted to answer every question surrounding mental health policy. It has said little about children and young people, ageing, loneliness, or the many practical challenges of implementation, since other experts in this Study go more into depth on these issues. Instead, this chapter has sought to answer a simpler question: what would a caring liberal approach to mental health look like?

The answer, I believe, is that mental health should no longer be treated as a peripheral health issue. It is central to the liberal agenda. If liberals value autonomy, informed choice, responsibility, and participation, then they should also care about the conditions that make these values possible. Mental health is one of them.

What we are discussing here requires the courage to look beyond short-term policy fixes and embrace longer-term structural and cultural change. Liberal democracies and decision-makers have the power to shift our focus from systems that primarily intervene once people reach crisis to societies that promote good mental health, avert avoidable suffering, and provide care that preserves autonomy rather than restricting it. It means investing in prevention, organising support around people's lives rather than around institutions, and recognising that recovery is measured not only by clinical outcomes but by people's ability to continue participating in society on their own terms.

REFERENCES

Eurobarometer (2026). *EP Spring 2026 survey*, https://europa.eu/eurobarometer/surveys/detail/3752.

Eurofound (2024). *Paths towards independent living and social inclusion in Europe*. Luxembourg: Publications Office of the European Union.

Eurofound (2025). *Mental health: Risk groups, trends, services and policies*. Luxembourg: Publications Office of the European Union.

European Commission (2023). Communication from the Commission: A Comprehensive Approach to Mental Health (COM/2023/298 final), 7 June. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023DC0298.

European Disability Forum (2024). *EDF human rights report 2024: Legal capacity – Personal choice and control*. Available at: https://www.edf-feph.org/publications/human-rights-report-2024-legal-capacity/.

European Liberal Forum (ELF) (2024). Fundamental Health: Addressing Mental Health Issues in Europe. Available at: https://liberalforum.eu/publication/fundamental-health-addressing-mental-health-issues-in-europe/.

European Union Agency for Fundamental Rights (FRA) (2025). *Places of care = Places of safety? Violence against persons with disabilities in institutions*. Luxembourg: Publications Office of the European Union. Available at: https://fra.europa.eu/en/publication/2025/institutions-places-care-and-places-safety.

Mental Health Europe (2024). *The mental health impacts of racial discrimination: The misunderstood challenges and how to respond*. Available at: https://www.mentalhealtheurope.org/wp-content/uploads/2025/12/MHE_GenderReport2025_Final.pdf.

Mental Health Europe (2026). *Rethink to rebuild: Towards rights-based and gender-just mental health systems in Europe*. Available at: https://www.mentalhealtheurope.org/wp-content/uploads/2025/12/MHE_GenderReport2025_Final.pdf.

Organisation for Economic Co-operation and Development (OECD)/European Union (2022). *Health at a Glance: Europe 2022 – State of Health in the EU Cycle*. Paris: OECD Publishing. Available at: https://doi.org/10.1787/507433b0-en.

Organisation for Economic Co-operation and Development (OECD) (2021). *A New Benchmark for Mental Health Systems: Tackling the Social and Economic Costs of Mental Ill-Health* (OECD Health Policy Studies). Paris: OECD Publishing. https://doi.org/10.1787/4ed890f6-en.

Organisation for Economic Co-operation and Development (OECD) (2025). *Health at a glance 2025: OECD indicators.* Paris: OECD Publishing.

Part 3

OPEN SOCIETIES, RESILIENT HEALTH SYSTEMS

The Investment Europe Does Not Count: Innovative Medicines at the Heart of the Fiscal and Competitiveness Agenda

Richard Robinson

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ABSTRACT

European policymakers often treat public spending on innovative medicines as an annual cost to be contained, while spending on energy, digital infrastructure and transport is assessed as investment based on the returns it generates. This chapter argues that health innovation should be approached in the same way. Ill health already costs EU Member States hundreds of billions of euros each year through higher public spending and lost revenues, while population ageing is increasing the economic and fiscal costs of under-treatment. The tools finance ministries need already exist within the European Semester and the reformed EU fiscal framework. What is missing is a more systematic approach to assessing health innovation according to the same investment logic applied to other strategic sectors. This chapter has five recommendations: reflect the returns of health innovation in the European Semester; make national spending on innovative medicines comparable across Member States; judge health investment over the years in which it pays back; keep short-term savings measures consistent with the strategic status of life sciences; and build national capability to assess the long-run and cross-border effects of pricing decisions.

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Disclosure statement: Bristol Myers Squibb (BMS) is a biopharmaceutical company which seeks to discover, develop, and deliver innovative medicines that help patients prevail over serious diseases and therefore has a commercial interest in the pricing and reimbursement of innovative medicines. BMS is a member of the European Federation of Pharmaceutical Industries and Associations (EFPIA). Several studies cited in this chapter were commissioned by EFPIA or conducted by consultancies for industry clients, including analyses by the WifOR Institute, Charles River Associates, PwC, Fron-

tier Economics, and IQVIA; one cited report (*Rebalancing resources allocated to medicines: How much is enough?*) includes a BMS employee among its authors. These sources are identified as such in the references, and wherever possible the argument rests on official and independent sources, including the European Commission, Eurostat, the Organisation for Economic Co-operation and Development (OECD), and peer-reviewed research.

A POLICY GAP: EUROPE ASSESSES STRATEGIC SECTORS AS INVESTMENTS, BUT MEDICINES AS A COST

Europe's economic future depends in part on how it chooses to finance medical innovation. Medicines treat, prevent, and cure disease, offering individual patients more time in better health with their loved ones. But they also keep people at work and sustain a research and manufacturing base of highly skilled jobs. For semiconductors, clean technology, or digital infrastructure, Europe applies multiplier analysis and long-run cost–benefit assessment to the public money involved, accepting that it is buying industrial capability as well as a service. Innovative medicines are not evaluated on those terms. The expenditure appears as an annual cost line inside a health budget, even though the sector scores highly on every criterion that normally earns strategic treatment.

The question has become urgent because European fiscal policy has entered its first constrained phase since the Stability and Growth Pact was reactivated. The revised economic governance framework, in force since 2024, restores binding deficit limits while lengthening the adjustment horizon through medium-term fiscal-structural plans.[1] The central question for finance ministries is how to pay for defence, the green transition, and everything else out of a budget that is no longer growing. Since spending more on everything is not an option, the practical course is to distinguish spending that returns something to the public purse from spending that does not. Health does not get that treatment. It sits in its own budget box, to be capped and trimmed, and nobody weighs what it gives back.

Efficiency, in budget discussions, usually means spending less, but that is not how the Commission uses the term. The assessment of the Commission's Directorate-General for Economic and Financial Affairs (DG ECFIN) is that cutting public health care expenditure across the board is not a viable option, because it lowers the accessibility and quality of care and ultimately harms population health. Where a system combines low expenditure with poor outcomes, efficiency improves by adding resources in a targeted way; where a system already spends heavily and performs well, it improves through reforms that reduce resource allocation without making outcomes worse.[2] The relevant question for a finance ministry therefore concerns the composition of the health envelope more than its size.

The instruments used to manage medicines budgets demonstrate the problem. Expenditure caps, clawbacks, reference pricing, mandatory rebates, and restrictive health technology assessment (HTA) are all built for short-term predictability. Applied together over decades, they delay or block access to authorised medicines and reduce the return on an investment the public has already underwritten. The guidance of the Organisation for Economic Co-operation and Development (OECD) to governments on restoring public finances identifies pharmaceuticals as one of the areas most frequently targeted by savings measures.[3] The evidence on what health spending returns has

1. European Commission (2024b), *The New Economic Governance Framework* (Brussels: Directorate-General for Economic and Financial Affairs), available at https://economy-finance.ec.europa.eu/economic-governance-framework/what-economic-governance-framework/evolution-eu-economic-governance/new-economic-governance-framework_en.

2. B. Goranova and S. Calvo Ramos (2026), *The impact of ageing on the fiscal sustainability of EU health care systems: Projections and policy responses*, European Economy Economic Brief 088 (Brussels: European Commission, Directorate-General for Economic and Financial Affairs). https://doi.org/10.2765/772825.

3. OECD (2026), *Restoring public finances: Enabling effective government* (Paris: OECD Publishing), here chapter 6. https://doi.org/10.1787/fbcf9161-en.

simply stayed inside health policy and never reached fiscal policy. The gap is institutional, and this chapter sets out what closing it would involve.

THE INVESTMENT CASE: THE RETURNS FROM MEDICINES LAND IN BUDGETS THAT NEVER PAID FOR THEM

Disability and lost productivity are large, measurable items on national balance sheets (see Figure 1). Across the EU, disability benefits and paid sick leave cost more than €480 billion per year, even before lost income tax revenue, foregone social contributions, and the higher acute-care spending that comes with poorly managed chronic disease are counted.[4] These costs will rise as populations age: across the OECD, the population aged 65 and over has grown from 21% of the working-age population three decades ago to 33% today, and is projected to reach 55% within the next 30 years.[5] Recent liberal policy work reaches the same conclusion from the opposite direction: demographic change is a redesign challenge, and the question is which investments can turn longevity into a dividend.[6]

Figure 1: The fiscal weight of ill health in an ageing Europe.

€480bn+

the annual cost of ill health in the EU, in disability benefits and paid sick leave alone, in euros per year

Source: Eurostat, ESSPROS

1/3

the share of the projected increase in public health spending to 2070 that arrives within the next ten years

Source: DG ECFIN, Economic Brief 088, 2026

33% → 55%

the population aged 65 and over as a share of the working-age population across the OECD, today and within thirty years

Source: OECD, Pensions at a Glance 2025

DG ECFIN projects public health care spending to rise from 6.6% of GDP in 2024 to 7.3% by 2070, with one third of that increase arriving within the next 10 years – well above what a straight-line path across the projection horizon would imply.[7] The pressure is front-loaded, so decisions made in this budget cycle carry more weight than the length of the horizon suggests.

4. The €480 billion figure combines two Eurostat series. According to the first series (*Social protection statistics*), disability benefits accounted for around 7% of the €4,925 billion the EU spent on social protection benefits in 2024, around €345 billion. The combined figure listed by the second series (*How much is spent on paid sick leave*) is conservative, since spending on paid sick leave has risen with total benefit expenditure since 2014. Eurostat (2025), *Social protection statistics: early estimates* (Dataset, spr_exp_func), ESSPROS, 2024 data, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Social_protection_statistics_-_early_estimates; Eurostat (2018), *How much is spent on paid sick leave benefits in the EU?* (Dataset), https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20180111-1.

5. OECD (2025), *Pensions at a glance 2025: OECD and G20 indicators* (Paris: OECD Publishing). https://doi.org/10.1787/e40274c1-en.

6. A. Vindics (2025), *Ageless ambition: A liberal vision to reap Europe's demographic dividend* (Brussels: European Liberal Forum), here pp. 3, 7. Available at: https://liberalforum.eu/wp-content/uploads/2026/04/IPL-Demography-3.pdf.

7. Goranova and Calvo Ramos, *The impact of ageing*. In the absence of reform, most Member States will have to finance 30% of the projected increase in the first decade, and some as much as 50%. The underlying long-term projections are provided in European Commission (2024a), *2024 ageing report: Economic and budgetary projections for the EU Member States (2022–2070)* (Brussels: Directorate-General for Economic and Financial Affairs), available at https://economy-finance.ec.europa.eu/document/download/971dd209-41c2-425d-94f8-e3c3c3459af9_en?filename=ip279_en.pdf.

Demography is not the only driver of that cost curve. The OECD classifies health as a non-progressive sector, meaning that wages rise in line with the rest of the economy, while productivity does not.[8] The OECD's long-term care work estimates that lifting productivity growth in the care sector to even half the rate of the wider economy would cut projected 2050 spending by around 13%.[9] Pharmaceuticals are the part of health spending that behaves progressively. They are precisely the technology that displaces labour input, through fewer hospital days and carer hours, and an earlier return to work. Analyses of ageing systems point to technology-enabled efficiency in care as the main route to closing that gap, and medicines that keep people out of hospital and long-term care help close it.[10] Long-term care is the single largest driver of the expected increase in age-related spending: the Commission projects it to rise from 1.7 to 2.6% of GDP between 2022 and 2070, ahead of both healthcare and pensions.[11] It is also the part of the envelope with the least scope for productivity gains, which makes the largest component of the ageing bill a productivity problem.

Access to innovative therapies changes these trajectories, and by amounts that can be counted. Peer-reviewed research across 27 countries found that the launch of new medicines was associated with significant reductions in premature mortality and in years lived with severe morbidity,[12] and a recent analysis from Canada found that without the innovative medicines launched in earlier decades, life-years lost before age 75 would have been 49% higher by 2022.[13] In Europe, the indirect economic cost of cancer, driven mainly by productivity losses, fell from €97 billion to €82 billion between 1995 and 2023, even as incidence rose.[14] That €15 billion per year is work no longer lost: people stay in their jobs, keep paying taxes, and draw fewer benefits. Most of that gain lands with the finance ministry, while the medicine was paid for from the health budget.

A 2026 study by WifOR covering 29 European countries between 2014 and 2022 found that an additional €11.67 billion of spending associated with more innovative medicines generated approximately €66.18 billion in socioeconomic benefit, a return of €5.67 for every euro invested (see Figure 2), with hospital savings alone offsetting about 80 cents on each euro.[15] These figures measure socioeconomic value rather than fiscal multipliers; the element that flows directly to health budgets is the hospitalisation saving. Over that period, new medicines are associated with 1.83 million fewer

8. OECD (2024a), Fiscal sustainability of health systems: How to finance more resilient health systems when m*oney is tight?* (Paris: OECD Publishing), https://doi.org/10.1787/880f3195-en.

9. T. Blavet, L. Lorenzoni, and T. Rapp (2026), *Future long-term care expenditure trajectories across OECD countries*, OECD Health Working Papers No. 194 (Paris: OECD Publishing), https://dx.doi.org/10.1787/800aba3e-en. See also OECD (2024b), *Is care affordable for older people?* (Paris: OECD Publishing), available at https://www.oecd.org/en/publications/is-care-affordable-for-older-people_450ea778-en.html, which reports the productivity scenario against the high-coverage baseline.

10. Vindics, *Ageless ambition*, here chapter 3, pp. 67–88.

11. European Commission, *2024 ageing report*. According to the baseline scenario, EU public long-term care expenditure is projected to rise from 1.7 to 2.6% GDP between 2022 and 2070, against 6.9 to 7.3% for health care and 11.4 to 11.8% for pensions.

12. F. R. Lichtenberg (2019), 'How Many Life-Years Have New Drugs Saved? A Three-Way Fixed-Effects Analysis of 66 Diseases in 27 Countries, 2000–2013', *International Health*, 11(5), 403–416, https://doi.org/10.1093/inthealth/ihz003.

13. F. R. Lichtenberg (2025), 'The Impact of Pharmaceutical Innovation on Mortality and Hospital Utilization in Canada, 2000–2022', *Canadian Health Policy*, August, e1–e21, available at https://canadianhealthpolicy.com/wp-content/uploads/2022/01/LICHTENBERG-11-AUG-2025.pdf.

14. A. Manzano, C. Svedman, T. Hofmarcher, and N. Wilking (2025), *Comparator report on cancer in Europe 2025: Disease burden, costs and access to medicines and molecular diagnostics*, IHE Report 2025:2 (Lund: IHE), available at https://ihe.se/app/uploads/2025/03/IHE-REPORT-2025_2_.pdf.

15. M. Müller, A. Atitallah, H. Liaqat, and F. R. Lichtenberg (2026), *How innovation drives health and growth in Europe: Assessing the return on investment of innovative medicines* (Darmstadt: WifOR Institute for EFPIA), available at https://efpia.eu/media/iymhhttr/how-innovation-drives-health-and-growth-in-europe-assessing-the-return-on-investment-of-innovative-medicines.pdf.

years of life lost before age 85 and 20.9 million fewer hospital days. Set these returns against the tests other sectors have to pass: in UK appraisal practice, a benefit–cost ratio above two is treated as high value for money and a ratio above four as very high; transport and energy projects clear that bar every year.[16]

Figure 2: The return on innovative medicines, 29 European countries, 2014–2022.

€5.67

returned in socio-economic benefit for every €1 of additional spending on innovative medicines

Source: WifOR Institute, 2026

80%

of each euro offset by hospital savings alone, the part that flows directly back to health budgets

Source: WifOR Institute, 2026

20.9m days

fewer days spent in hospital, alongside 1.83 million fewer years of life lost before age 85

Source: WifOR Institute, 2026

These returns also shape Europe's intergenerational fiscal contract: the implicit bargain under which each working generation finances the pensions, care, and health services of the generation before it, expecting the next to do the same for them. Public health systems and pensions assume that a working-age population contributes for four to five decades before being supported in retirement. Ageing strains that contract, and the pressure already shows in the care economy, where informal responsibilities keep an estimated 7.7 million European women out of employment.[17] There is a liberal argument here as well as a fiscal one. A caring liberalism is not a refusal to make choices; it is asking what each euro does before deciding where the cuts should be made, and spending where the evidence says the money works. The pandemic showed what it costs to run health systems with no margin, and a fiscal framework that now repeats the pattern with medical innovation has not taken that lesson on board.

THE COMPETITIVENESS CASE: TWO DECADES OF PRICE CONTAINMENT HAVE WEAKENED A STRATEGIC INDUSTRY

The fiscal case does not stand alone: the same pricing decisions will also settle the fate of a strategic industry (see Figure 3). The pharmaceutical sector employs around 950,000 people in Europe directly and roughly three times that number indirectly, invests €55 billion a year in R&D, and runs a trade surplus of around €220 billion, among the largest of any European sector.[18] Its gross value

16. Department for Transport (2025), *Value for Money Framework* (London: Department for Transport), here Table 5.1, available at https://www.gov.uk/government/publications/dft-value-for-money-framework. Benefit–cost ratios between 2.0 and 4.0 are categorised as high value for money and above 4.0 as very high. See also HM Treasury (2022), *The Green Book: Central Government Guidance on Appraisal and Evaluation* (London: HM Treasury), available at https://www.gov.uk/government/collections/the-green-book-and-accompanying-guidance-and-documents.

17. Vindics, *Ageless ambition*, here p. 10; European Commission (2022), *A European care strategy for caregivers and care receivers* [Press release], https://ec.europa.eu/commission/presscorner/detail/en/ip_22_5169.

18. EFPIA (2025), The pharmaceutical industry in figures: Key data 2025 (Brussels: EFPIA), available at https://www.efpia.eu/media/uj0popel/the-pharmaceutical-industry-in-figures-2025.pdf. For the trade surplus figure, see Eurostat (2026), 'International trade in medicinal and pharmaceutical products', Statistics Explained, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=International_trade_in_medicinal_and_pharmaceutical_products.

added per worker is around €225,000, roughly three times the EU average,[19] and it carries the highest R&D intensity in the EU industrial scoreboard.[20]

Figure 3: A strategic industry by any definition.

€311bn

gross value added contributed by the pharmaceutical industry to the European economy each year

Source: EFPIA and PwC, Economic Footprint, 2024

€55bn

invested by the sector in European R&D every year, the highest R&D intensity of any EU industry

Sources: EFPIA, Key Data 2025; EC JRC, EU R&D Scoreboard 2024

€220bn

the sector's trade surplus, among the largest of any European industry

Source: Eurostat, trade in goods statistics, 2025

The life sciences are routinely described as a strategic sector, but the label rarely changes how they are treated. In pharmaceuticals, public payers sit close to public procurers in defence, rail, and large-scale infrastructure: they shape the addressable market, and their pricing decisions determine whether private capital can be recovered at scale. The difference is that the upstream R&D behind innovative medicines is overwhelmingly privately financed, capital-intensive, and subject to extreme attrition over 10 to 15 years, so pricing decisions determine whether the investment in discovery is made at all. Yet pharmaceutical budgets across Europe have generally grown more slowly than inflation for a decade – a real-terms contraction in the revenue base of a strategic sector that is rarely framed as the industrial-policy choice it has become, and one that runs against the stance the Union has endorsed in the Letta report and the competitiveness agenda.[21] Pharmaceutical spending itself remains a modest and stable portion of total health expenditure, averaging around 15% across European countries over two decades.[22]

Europe's share of global clinical trial starts has roughly halved over the last decade, from about 22% in 2013 to about 12% in 2023, while China's share of trial starts has risen from about 8% to 29%, and only around 39% of the new medicines launched anywhere in the world are available in Europe, against about 85% in the United States.[23] Even among the medicines that have secured EU authorisation, 49% were not available to European patients in 2025, up from 46% in 2019, and

19. EFPIA and PwC (2024), 'Economic footprint of the pharmaceutical industry in Europe', available at: https://www.efpia.eu/media/3dqjpl3x/economic-footprint-of-the-pharmaceutical-industry-in-europe-report.pdf.

20. European Commission, Joint Research Centre and Directorate-General for Research and Innovation (2024), *The 2024 EU Industrial R&D Investment Scoreboard*, JRC140129 (Luxembourg: Publications Office of the European Union), https://iri.jrc.ec.europa.eu/scoreboard/2024-eu-industrial-rd-investment-scoreboard.

21. IQVIA Institute for Human Data Science (2022), *Understanding net pharmaceutical expenditure dynamics in Europe* [IQVIA White paper], available at https://www.iqvia.com/library/white-papers/understanding-net-pharmaceutical-expenditure-dynamics-in-europe; E. Letta (2024), *Much more than a market: Empowering the Single Market to deliver a sustainable future and prosperity for all EU citizens* (Brussels: European Council).

22. IQVIA Institute, *Understanding net pharmaceutical expenditure dynamics*.

23. Charles River Associates and EFPIA (2026), *Assessing Europe's competitiveness as a location for the life sciences industry* (Brussels: EFPIA), available at https://www.efpia.eu/media/5mvbnamw/assessing-europe-s-competitiveness-as-a-location-for-the-life-sciences-industry.pdf. The EU average launch rate is 39%, against 85% in the United States.

the time from authorisation to availability now runs at a median of 532 days and a mean of 597.[24] Clinical trials are where the industrial return and the health return meet: industry-sponsored trials generated €35.7 billion in economic value across the EEA in 2025 (of which €21.7 billion was gross value added) and supported around 165,000 jobs; the 11% increase in trial numbers targeted by the European Medicines Agency would add roughly €4 billion per year.[25]

Europe's research strength remains among the highest in the world, so scientific excellence does not explain the decline. Regulatory and structural factors also play their part, and under-investment is not the sole cause. The decline is, however, closely bound up with how Europe prices and pays for medicines, and it fits the wider pattern the Draghi report identifies: Europe leads in basic science and then loses the commercial and manufacturing activity it creates.[26]

THE NEW US PRICING POLICY RAISES THE COST OF EUROPEAN UNDER-INVESTMENT

For four decades, the global financing of pharmaceutical innovation rested on an asymmetric arrangement in which United States revenues provided the principal share. That arrangement is now being rebalanced. Since January 2026, the United States has introduced a 'most-favoured-nation' (MFN) pricing model in Medicaid, referred to in this chapter as the new US pricing policy. It benchmarks against the second-lowest net price in a basket of the other G7 countries plus Denmark and Switzerland, adjusted for GDP per capita, and two further models under consultation would extend the approach to Medicare.[27]

European prices already move together through international reference pricing. The new US pricing policy carries that interdependence across the Atlantic, so that a net price agreed in a large European market now feeds directly into United States reimbursement and shapes the revenue base against which companies decide where to run trials and launch first, and where to manufacture. It is particularly problematic because net European prices are generally a fraction of those in the United States. This interdependence also changes how a country should weigh its own contribution to financing global innovation. That judgement is better made against each country's health needs, demography, wealth, and the wider economic returns it captures.[28]

Responses have so far differed in pace and ambition. Denmark, heavily exposed under the US pricing policy, has set up a cross-government task force with industry and is examining options to raise national investment substantially. Germany and France have jointly declared their intention to strengthen the pharmaceutical industry in Europe.[29] In most Member States, though, cost contain-

24. EFPIA and IQVIA (2026), *Patients W.A.I.T. Indicator 2025 Survey* (Brussels: EFPIA), available at https://www.efpia.eu/media/mnfdwzax/efpia-patients-wait-indicator-2025.pdf.

25. EFPIA and Frontier Economics (2026), *The economic impact of industry clinical trials across Europe* (Brussels: EFPIA), available at https://efpia.eu/media/zdzg0bey/the-economic-impact-of-industry-clinical-trials-across-europe.pdf.

26. M. Draghi (2024), *The future of European competitiveness: A competitiveness strategy for Europe* (Brussels: European Commission), available at https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en.

27. Centers for Medicare and Medicaid Services (2025), *Most Favored Nation Drug Pricing Model: GENEROUS Model (November 2025) and GLOBE/GUARD Models (December 2025), Implementation Framework* (Baltimore, MD: U.S. Department of Health and Human Services), https://www.cms.gov/priorities/innovation/.

28. A. Fowler, M. Kyle, A. Parnaby, A. Petrova, D. Pouradier Duteil, and T. Wilsdon (2026), *Rebalancing resources for healthcare and medicines: How much is enough?* (London: Charles River Associates), available at https://www.crai.com/insights-events/publications/rebalancing-resources-for-healthcare-and-medicines-how-much-is-enough/.

29. Federal Ministry of Health (Germany) and Ministry of Health (France) (2026), *Joint Declaration on Strengthening the Pharmaceutical Industry in Europe*, signed on the margins of the 79th World Health Assembly (Geneva), 17–18 May 2026, https://www.bundesgesundheitsministerium.de/en/news-preview-detail/germany-and-france-sign-joint-declaration-pm-19-05-26.

ment has continued to tighten. The United Kingdom has gone furthest. Under its December 2025 arrangement with the United States, implemented during 2026, the cost-effectiveness threshold used by the National Institute for Health and Care Excellence (NICE) rose from £20,000–£30,000 to £25,000–£35,000 per quality-adjusted life year, its first increase in more than two decades. The rebate rate on newer branded medicines fell from 22.9% to 14.5%, with a ceiling of 15% secured for the remaining years of the scheme to 2028. Moreover, the government committed to doubling NHS spending on new medicines as a share of GDP, from 0.3% to at least 0.6% by 2036.[30] Ireland has also taken action, agreeing a multi-year framework with industry that shortens reimbursement timelines.[31] Across Europe, meanwhile, early signals point to reduced availability, including a recorded decline of around 35% in launches.[32] The new US pricing policy did not create the under-investment built up in Europe over two decades, but it exposes it and speeds up its consequences.

FOUR GAPS: WHY BUDGET FRAMEWORKS CANNOT SEE WHAT MEDICINES RETURN

Political will is necessary but not sufficient. Even where a finance ministry accepts the returns, the frameworks it uses to assess pharmaceutical expenditure will not show them, because those frameworks were built to control spending within the year rather than to manage fiscal outcomes over a decade. Four gaps in those frameworks follow: the assessment horizon, cross-budget spillovers, industrial consequences, and international spillovers. The first is that the assessment horizon is too short and too narrow, because annual budgets and most health technology assessment methods cannot capture benefits that arrive over five, 10, or 20 years. The second is that cross-budget spillovers are not internalised: the savings that follow from better population health (in the forms of reduced disability payments, higher tax receipts, and lower long-term care costs) land outside the health budget,[33] so the ministry that carries the cost is not the ministry that collects the saving, and under-investment remains rational for any single ministry. The third is that nothing in these frameworks scores industrial and competitiveness consequences, even though the effects on research, trials, and manufacturing location are large fiscal items in themselves. The fourth is that the frameworks do not model international spillovers. Few finance ministries can weigh the cross-border effects of their own pricing decisions, and what is missing is the national analytical capability to do so, not a new coordination mechanism at EU level.

Health technology assessment is not the problem. It is built for a different task – establishing whether a medicine is worth its cost to the health system – and it does that well. A societal perspective would capture more of the labour-market, carer, and cross-budget value that current methods leave out, but HTA was never designed to reflect returns that fall outside the health system. What is missing is a finance ministry assessment that sits alongside HTA and weighs those wider returns.

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30. House of Commons Library (2026), *What is the UK–US pharmaceuticals deal?* (Research Briefing CBP-10850) (London: House of Commons Library), available at https://commonslibrary.parliament.uk/research-briefings/cbp-10850/; Department of Health and Social Care (2025), *The 2024 Voluntary Scheme for Branded Medicines Pricing, Access and Growth (VPAG): Investment Programme and Access Reforms* (London: Department of Health and Social Care), available at: https://www.gov.uk/government/publications/the-2024-voluntary-scheme-for-branded-medicines-pricing-access-and-growth.

31. Department of Health (Ireland) (2026), *Framework Agreement on the Supply and Pricing of Medicines between the State and the Irish Pharmaceutical Healthcare Association, 2026–2029*, agreed in principle on 20 January 2026 and signed in March 2026 (Dublin: Government of Ireland), https://www.gov.ie/en/department-of-health/press-releases/minister-announces-framework-agreements-on-the-supply-and-pricing-of-medicines-with-medicines-for-ireland-and-the-irish-pharmaceutical-healthcare-association/.

32. GlobalData (2026), *Price intelligence (POLI) analysis of European pharmaceutical launch and withdrawal trends following United States most favoured nation pricing* (London: GlobalData). Proprietary subscription database; data on file.

33. OECD, *Fiscal sustainability of health systems*.

A MORE COHERENT APPROACH: FIVE RECOMMENDATIONS FOR TREATING HEALTH SPENDING AS INVESTMENT

The principle stated at the outset, that public spending should be judged on what it returns, works in both directions. Applied honestly to the current evidence, it points to under-spending on innovative medicines relative to what they give back, and equally to spending elsewhere in the system that earns little, such as interventions the evidence shows to be of low value and admissions that better disease management would avoid. This is also how the OECD frames the task in its guidance to finance ministries, describing it as making fiscal room for innovation while taking savings where cheaper equivalents are available.[34] Within existing budgets, a greater share should go to prevention and to the innovation-intensive categories where the returns are strongest. DG ECFIN's own analysis finds that where a system starts from a low base and poor outcomes, adding resources in a targeted way improves efficiency.[35] The direction that follows concerns how spending is assessed and made visible rather than how much is spent. It can be set out as five recommendations.

Recommendation 1: Assess health innovation in the European Semester on the same terms as other investment. The European Commission should reflect the returns to health innovation in the analytical work of the European Semester, applying the multiplier and cost–benefit tests already used for transport, energy, and digital infrastructure in its country reports and in the analysis behind country-specific recommendations. Finance ministers could support this through Council conclusions on the quality of public finances.

Recommendation 2: Make national spending on innovative medicines visible and comparable. Member States currently report pharmaceutical expenditure on definitions that vary too much to allow comparison. Eurostat and national statistical offices should agree to a common definition of spending on innovative medicines, so that governments can see what they invest and what it returns relative to their peers. Council conclusions, prepared jointly by health and finance ministers, would be the natural route to such a mandate.

Recommendation 3: Judge health investment over the years in which it pays back, not against one annual budget. The reformed EU fiscal framework already assesses national plans over four to seven years. Finance ministries should use that horizon and put growth-enhancing health investment in their medium-term fiscal-structural plans, so it is not squeezed out by an annual ceiling. Several Member States have already included health measures in their plans, and there is no reason this should continue to be an exception.

Recommendation 4: Check that short-term savings measures do not undo the EU's own industrial strategy. Spending controls of the kind described at the beginning of this chapter keep pharmaceutical budgets predictable, and they will remain part of how governments manage them. The point is not to remove them. It is for health and finance ministries to look at their combined effect on a sector the Union has designated strategic, and to adjust where a savings measure undoes what the same government's industrial policy is trying to build.

Recommendation 5: Build national capability to assess the long-run and cross-border effects of pricing decisions. Each finance ministry should be able to model how its own pricing decisions feed through international reference pricing and the new US pricing policy into revenues, launches, and trial location. The Commission's Technical Support Instrument and the OECD's work with finance ministries can support Member States that lack this capability today.

These recommendations require no new EU competence in health. They ask only that health expenditure be assessed with the same seriousness, and the same instruments, as other productive

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34. OECD, *Restoring public finances*, here chapter 6.

35. Goranova and Calvo Ramos, *The impact of ageing*.

public investment. The European Semester and its country-specific recommendations are the normal route for budget guidance to Member States, and the medium-term fiscal-structural plans already carry health measures: several Member States that have asked to lengthen the period over which they correct their deficits (from four years to up to seven, as the framework allows) have included health measures in their plans – Belgium among them, with a doubling of prevention spending in Wallonia.[36] All five recommendations work through budget instruments that already exist. That is why they can carry the argument without extending EU competence into how Member States organise their own health systems.

CONCLUSION: ADJUST THE FRAMEWORK NOW, OR LATER UNDER TIGHTER CONSTRAINTS

Europe has the scientific base, the public health systems, the demand structure, and the skilled workforce it needs to lead in health innovation. Turning those foundations into fiscal and economic returns requires two things together. The first is political will. Finance ministries, and EU-level bodies, would need to treat investment in innovative medicines as something that shapes long-term fiscal sustainability and the competitive position of a strategic industry, not as an annual cost to be contained. The second is the alignment of EU instruments (the European Semester, the medium-term fiscal-structural plans, and the country-specific recommendations), so that multiplier analysis is applied consistently across sectors, the flexibility in the fiscal rules is used deliberately, and short-term containment tools stop working against industrial strategy. The five recommendations provided above give that alignment practical form: assessment of health innovation in the European Semester, comparable data on what Member States spend, a multi-year test for health investment, savings measures that do not cut against industrial strategy, and the national capability to weigh pricing decisions.

The rebalancing of global pharmaceutical financing, the new US pricing policy included, does not change that logic, but it shortens the time available to act. Member State finance ministries can adjust the framework now, on their own analytical terms, or later and under tighter constraints. This is not an easy ask. Finance ministries would have to act on returns that are well supported but not certain, under annual budget pressure. The present system, though, carries a cost that rises with every year it continues. Liberal thinking on demography reaches the same conclusion: the medicines and technologies that keep an ageing population healthy and in work should be part of the answer to ageing.[37] Europe already counts what its spending on energy, digital infrastructure, and defence buys for its future. Health innovation should be counted the same way.

36. Goranova and Calvo Ramos, *The impact of ageing*.

37. Vindics, Ageless ambition, here p. 7.

REFERENCES

Blavet, T., Lorenzoni, L., & Rapp, T. (2026). *Future long-term care expenditure trajectories across OECD countries*. OECD Health Working Papers No. 194. Paris: OECD Publishing. https://dx.doi.org/10.1787/800aba3e-en.

Centers for Medicare and Medicaid Services (2025). *Most Favored Nation Drug Pricing Model: GENEROUS Model and GLOBE/GUARD Models, Implementation Framework*. Baltimore, MD: U.S. Department of Health and Human Services. https://www.cms.gov/priorities/innovation/.

Charles River Associates & European Federation of Pharmaceutical Industries and Associations (EFPIA) (2026). *Assessing Europe's competitiveness as a location for the life sciences industry*. Brussels: EFPIA. Available at: https://www.efpia.eu/media/5mvbnamw/assessing-europe-s-competitiveness-as-a-location-for-the-life-sciences-industry.pdf.

Department for Transport (2025). *Value for Money Framework*. London: Department for Transport. https://www.gov.uk/government/publications/dft-value-for-money-framework.

Department of Health and Social Care (2025). *The 2024 Voluntary Scheme for Branded Medicines Pricing, Access and Growth (VPAG): Investment Programme and Access Reforms*. London: Department of Health and Social Care. Available at: https://assets.publishing.service.gov.uk/media/69f9d311a96f4d06cda76fd8/2024-voluntary-scheme-for-branded-medicines-pricing-access-and-growth-may-2026-update.pdf

Department of Health (Ireland) (2026). *Framework Agreement on the Supply and Pricing of Medicines between the State and the Irish Pharmaceutical Healthcare Association, 2026–2029*. Dublin: Government of Ireland. https://www.gov.ie/en/department-of-health/press-releases/minister-announces-framework-agreements-on-the-supply-and-pricing-of-medicines-with-medicines-for-ireland-and-the-irish-pharmaceutical-healthcare-association/.

Draghi, M. (2024). *The future of European competitiveness: A competitiveness strategy for Europe*. Brussels: European Commission. Available at: https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en.

European Commission (2022). *A European care strategy for caregivers and care receivers* [Press release]. https://ec.europa.eu/commission/presscorner/detail/en/ip_22_5169.

European Commission (2024a). *2024 ageing report: Economic and budgetary projections for the EU Member States (2022–2070)*. Brussels: Directorate-General for Economic and Financial Affairs. Available at: https://economy-finance.ec.europa.eu/document/download/971dd209-41c2-425d-94f8-e3c3c3459af9_en?filename=ip279_en.pdf.

European Commission (2024b). *The New Economic Governance Framework*. Brussels: Directorate-General for Economic and Financial Affairs. Available at: https://economy-finance.ec.europa.eu/economic-governance-framework/what-economic-governance-framework/evolution-eu-economic-governance/new-economic-governance-framework_en.

European Commission, Joint Research Centre & Directorate-General for Research and Innovation (2024). *The 2024 EU Industrial R&D Investment Scoreboard* (JRC140129). Luxembourg: Publications Office of the European Union. https://iri.jrc.ec.europa.eu/scoreboard/2024-eu-industrial-rd-investment-scoreboard.

European Federation of Pharmaceutical Industries and Associations (EFPIA) (2025). *The pharmaceutical industry i in figures: Key data 2025*. Brussels: EFPIA. https://www.efpia.eu/media/uj0popel/the-pharmaceutical-industry-in-figures-2025.pdf.

European Federation of Pharmaceutical Industries and Associations & Frontier Economics (2026). *The economic impact of industry clinical trials across Europe*. Brussels: EFPIA. Available at: https://efpia.eu/media/zdzg0bey/the-economic-impact-of-industry-clinical-trials-across-europe.pdf.

European Federation of Pharmaceutical Industries and Associations & IQVIA (2026). *Patients W.A.I.T. Indicator 2025 Survey*. Brussels: EFPIA. Available at: https://www.efpia.eu/media/mnfdwzax/efpia-patients-wait-indicator-2025.pdf.

European Federation of Pharmaceutical Industries and Associations & PwC (2024). *Economic Footprint of the Pharmaceutical Industry in Europe*. Brussels: EFPIA. Available at: https://www.efpia.eu/media/3dqjpl3x/economic-footprint-of-the-pharmaceutical-industry-in-europe-report.pdf.

Eurostat (2018). *How much is spent on paid sick leave benefits in the EU?* (Dataset), https://ec.europa.eu/eurostat web/products-eurostat-news/-/DDN-20180111-1.

Eurostat (2025). *Social protection statistics: Early estimates* (Dataset), https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Social_protection_statistics_-_early_estimates.

Eurostat (2026). 'International trade in medicinal and pharmaceutical products', https://ec.europa.eu/eurostat/statistics-explained/index.php?title=International_trade_in_medicinal_and_pharmaceutical_products.

Federal Ministry of Health (Germany) & Ministry of Health (France) (2026). *Joint Declaration on Strengthening the Pharmaceutical Industry in Europe*. Signed at the World Health Assembly (Geneva), 17–18 May, https://www.bundesgesundheitsministerium.de/en/news-preview-detail/germany-and-france-sign-joint-declaration-pm-19-05-26.

Fowler, A., Kyle, M., Parnaby, A., Petrova, A., Pouradier Duteil, D., & Wilsdon, T. (2026). *Rebalancing resources allocated to medicines: How much is enough?* London: Charles River Associates. Available at: https://www.crai.com/insights-events/publications/rebalancing-resources-for-healthcare-and-medicines-how-much-is-enough/.

GlobalData (2026). *Price intelligence (POLI) analysis of European pharmaceutical launch and withdrawal trends following United States most favoured nation pricing*. London: GlobalData. Proprietary subscription database; data on file.

Goranova, B. & Calvo Ramos, S. (2026). *The impact of ageing on the fiscal sustainability of EU health care systems: Projections and policy responses*, European Economy Economic Brief 088. Brussels: European Commission, Directorate-General for Economic and Financial Affairs. https://doi.org/10.2765/772825.

HM Treasury (2022). *The Green Book: Central Government Guidance on Appraisal and Evaluation*. London: HM Treasury. Available at: https://www.gov.uk/government/collections/the-green-book-and-accompanying-guidance-and-documents.

House of Commons Library (2026). *What is the UK–US pharmaceuticals deal?* (Research Briefing CBP-10850). London: House of Commons Library. Available at: https://commonslibrary.parliament.uk/research-briefings/cbp-10850/.

IQVIA Institute for Human Data Science (2022). *Understanding net pharmaceutical expenditure dynamics in Europe* [IQVIA White paper]. Available at: https://www.iqvia.com/library/white-papers/understanding-net-pharmaceutical-expenditure-dynamics-in-europe.

Letta, E. (2024). *Much more than a market: Empowering the Single Market to deliver a sustainable future and prosperity for all EU citizens*. Brussels: European Council. Available at: https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf.

Lichtenberg, F. R. (2019). 'How Many Life-Years Have New Drugs Saved? A Three-Way Fixed-Effects Analysis of 66 Diseases in 27 Countries, 2000–2013'. *International Health*, 11(5), 403–416. https://doi.org/10.1093/inthealth/ihz003.

Lichtenberg, F. R. (2025). 'The Impact of Pharmaceutical Innovation on Mortality and Hospital Utilization in Canada, 2000–2022'. *Canadian Health Policy*, August, e1–e21. Available at: https://canadianhealthpolicy.com/wp-content/uploads/2022/01/LICHTENBERG-11-AUG-2025.pdf.

Manzano, A., Svedman, C., Hofmarcher, T., & Wilking, N. (2025). *Comparator report on cancer in Europe 2025: Disease burden, costs and access to medicines and molecular diagnostics*. IHE Report 2025:2. Lund: IHE. Available at: https://ihe.se/app/uploads/2025/03/IHE-REPORT-2025_2_.pdf.

Müller, M., Atitallah, A., Liaqat, H., & Lichtenberg, F. R. (2026). *How innovation drives health and growth in Europe: Assessing the return on investment of innovative medicines*. Darmstadt: WifOR Institute for EFPIA. Available at: https://efpia.eu/media/iymhhttr/how-innovation-drives-health-and-growth-in-europe-assessing-the-return-on-investment-of-innovative-medicines.pdf.

Organisation for Economic Co-operation and Development (OECD) (2024a). *Fiscal sustainability of health systems: How to finance more resilient health systems when money is tight?* Paris: OECD Publishing. https://doi.org/10.1787/880f3195-en.

Organisation for Economic Co-operation and Development (OECD) (2024b). *Is care affordable for older people?* Paris: OECD Publishing. Available at: https://www.oecd.org/en/publications/is-care-affordable-for-older-people_450ea778-en.html.

Organisation for Economic Co-operation and Development (OECD) (2025). *Pensions at a glance 2025: OECD and G20 Indicators*. Paris: OECD Publishing. https://doi.org/10.1787/e40274c1-en.

Organisation for Economic Co-operation and Development (OECD) (2026). *Restoring public finances: Enabling effective government*. Paris: OECD Publishing. https://doi.org/10.1787/fbcf9161-en.

Vindics, A. (2025). Ageless ambition: *A liberal vision to reap Europe's demographic dividend*. Brussels: European Liberal Forum. Available at: https://liberalforum.eu/wp-content/uploads/2026/04/IPL-Demography-3.pdf.

Preparedness without Permanent Emergency: A Liberal Resilience Model after COVID-19

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ABSTRACT

COVID-19 should not be remembered only as a public health emergency, but as a stress test of institutional design. Some systems reacted by concentrating power, suspending ordinary rules, and treating citizens and private actors as passive instruments of emergency command. Others relied more successfully on early alertness, civic trust, digital tools, decentralised providers, and rapid cooperation between public authorities, professionals, companies, and citizens. This chapter draws lessons from Taiwan and Spain to suggest a liberal model of pandemic preparedness for Europe and proposes 10 principles for liberal responses to future health crises. Resilient health systems should combine universal protection with patient choice, regulatory neutrality, decentralised preparedness, professional responsibility, fair competition, and open information. Looking ahead, liberals must also make artificial intelligence, nuclear medicine, quantum technologies, and personalised prevention serve the individual's own health priorities. A caring liberalism should prepare Europe for future crises without normalising permanent emergency government.

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PREPAREDNESS IS A LIBERAL ISSUE

A pandemic is never only a medical event. It is also a test of freedom, trust, incentives, state capacity, civil society, and institutional humility. When a new health threat emerges, governments must act. But how they act matters. A liberal society should not confuse preparedness with unlimited command, nor care with permanent control.

The central lesson of COVID-19 is not that governments need more arbitrary power. It is that health systems need more capacity to adapt. Future crises will require rapid detection, transparent information, decentralised decision-making, interoperable data, flexible regulation, and the full mobilisation of public, private, and civic actors. Europe cannot afford health systems that are formally universal but functionally rigid.

A caring liberal approach recognises health as a precondition for freedom: people cannot fully live, work, learn, create, care for others, or participate in democratic life if avoidable illness limits their choices. But health is too important to be monopolised by political management. As Friedrich Hayek observed, social coordination depends on 'the utilization of knowledge which is not given to anyone in its totality'. Much of it concerns the 'particular circumstances of time and place' that no central authority can fully apprehend or continuously update. In healthcare, that knowledge is dispersed across patients, families, professionals, laboratories, insurers, entrepreneurs, researchers, local communities, and public institutions. Knowledge is also increasingly diffused on and offline, with health data used increasingly to innovate and personalise healthcare. A resilient system is one that allows that knowledge to move quickly.

The purpose of future liberal health policy should be to empower the sovereign patient: the individual who can choose, compare, consent, refuse, share data, protect privacy, use technology, and pursue health according to personal priorities. Taiwan shows that universal access can coexist with a limited state provision, digital integration, market dynamism, civic technology, individual responsibility, and high trust. Spain shows the costs of rigidity, asymmetric rules, emergency recentralisation, and underused private capacity. Both cases help answer a practical question: how can Europe prepare for future health crises without weakening liberty, equality before the law, or innovation?

TAIWAN'S LESSON: OPENNESS CAN OUTPERFORM COMMAND

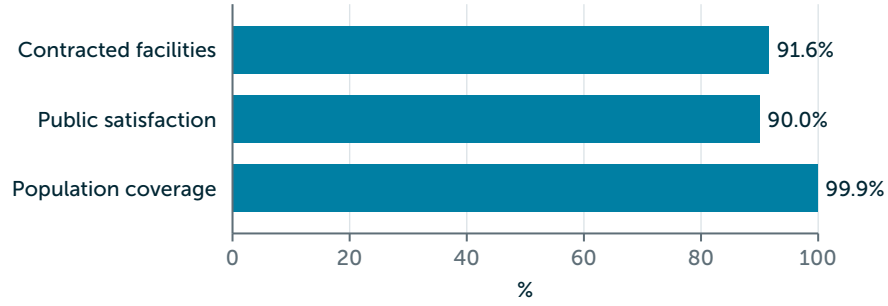
Taiwan designed its healthcare system by integrating free-market incentives to ensure competition among health providers offers benchmarking capability to the people. But there is also a simplification element of the system to ensure that the universality principle is applied: its National Health Insurance is a single-payer scheme with near-universal coverage. Taiwan's relevance for European liberals also lies in the fact that it combines universal protection with a delivery system largely based on non-state providers. The involvement of private entities such as foundations, companies, and cooperatives, together with strong digital infrastructure and civic technology, supports public trust and a political culture that does not equate coordination with control. The state operates as a financial instrument to guarantee universal access but does not deliver the actual health service – it does not intervene in the relation between patients/customers and provider/hospital/clinics/doctors.

This same logic is relevant beyond ordinary care: advanced diagnostics, precision oncology, nuclear medicine, and other complex technologies work best when universal access is combined with a plurality of providers, clear safety standards, and openness to innovation.

Taiwan's National Health Insurance Administration reports coverage of 99.9% of the population, and official information also points to high levels of public satisfaction with the system.[1] International perception-based rankings likewise repeatedly place Taiwan among the strongest healthcare systems globally; in Numbeo's 2026 Health Care Index, Taiwan ranked first (see Figures 1 and 2).

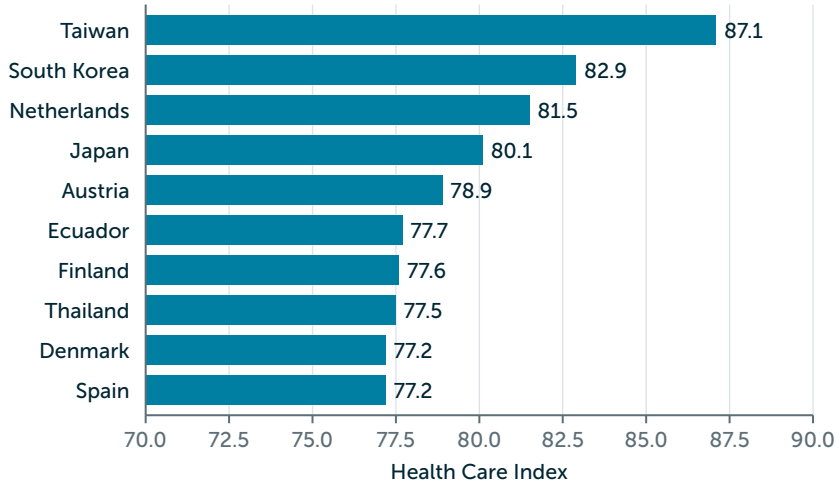
1. National Health Insurance Administration, Ministry of Health and Welfare, Taiwan (n.d.), *Official statistics on coverage and public satisfaction*.

Figure 1: Taiwan national health insurance: near-universal coverage and high satisfaction.



Source: Taiwan National Health Insurance Administration. Chart prepared by Fundalib.

Figure 2: Numbeo Health Care Index 2026: Top-ranked countries.



Source: Numbeo Health Care Index by Country 2026, perception-based ranking. Chart prepared by Fundalib.

In an interview with Fundalib during the COVID period, Audrey Tang, Taiwan's Digital Minister, explained the logic behind this model in liberal terms: Taiwan tries to design markets in which competition creates public value, while social protection, communication rights, and health rights provide a shared floor.[2] She also stressed that government should work *with* people, not merely *for* people.

2. Fundalib (2020), Leaders: Audrey Tang, Digital Minister of Taiwan. Interview transcript.

The liberal takeaway is not to weaken universal protection, but to design it around choice, technological capacity, regulatory neutrality, and the individual's ability to obtain care when and where it is needed

Along the same lines, there is an important lesson to be learnt when we look at the traits of countries at the top of the Numbeo Health Care Index in 2026. What these nations have in common is instructive: broad health protection is combined with plural provision, patient access, professional competence, affordability, and, in the highest-ranked cases, digital integration. Taiwan, Japan, South Korea, and the Netherlands are especially relevant because they show that universal coverage need not imply state monopoly. Indeed, structured pluralism with a universal baseline appears across the top 10 nations (Taiwan, South Korea, the Netherlands, Japan, Austria, Ecuador, Finland, Thailand, Denmark, and Spain). The liberal takeaway is not to weaken universal protection, but to design it around choice, technological capacity, regulatory neutrality, and the individual's ability to obtain care when and where it is needed.

When COVID-19 hit, Taiwan did not find itself improvising digitalisation overnight. Its health insurance card, digital infrastructure, pharmacies, data tools, telemedicine rules, and civic-tech culture already existed. Tang described Taiwan's pandemic response through three principles: fast, fair, and fun. 'Fast' meant early warning and rapid reaction; 'fair' meant universal and transparent access to scarce resources; 'fun' meant public communication that used humour and creativity to replace rumours with reliable information.[3]

On 31 December 2019, Taiwan contacted the World Health Organization's International Health Regulations focal point regarding reports of atypical pneumonia in Wuhan and requested further information.[4] Taiwan also began health inspections for passengers arriving from Wuhan very early, while Spain was receiving the Wuhan Soccer Team for a friendly game in Malaga in January 2020 in spite of the early signs of the pandemic. The institutional lesson is not only that Taiwan acted quickly. It is that the system was able to pick up on signals outside formal bureaucracy. Information circulated through civic channels, doctors and citizens could speak openly, and the authorities trusted society enough to react before certainty was complete.

In a health emergency, the relevant question should not be whether the source is diplomatically convenient or whether it creates discomfort for a powerful authoritarian regime (like the Chinese dictatorship back in 2019 in its relation to Taiwan) and its credibility as a source to the World Health Organization. The question should be whether the information is reliable and whether acting on it can protect lives. Viruses do not respect diplomatic formulas. Global health governance should follow evidence and science rather than political hierarchy.

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Taiwan's mask distribution also offers a practical lesson. The national health insurance card supported rationed access through local pharmacies. Stock levels were maintained on data interfaces and updated frequently. Civic technologists built tools so citizens could see where masks were available. Pharmacists became trusted decentralised nodes, not mere agents of central command. This was not the absence of government, but government that did not pretend to know everything. It was coordination through transparency, not obedience secured by fear.

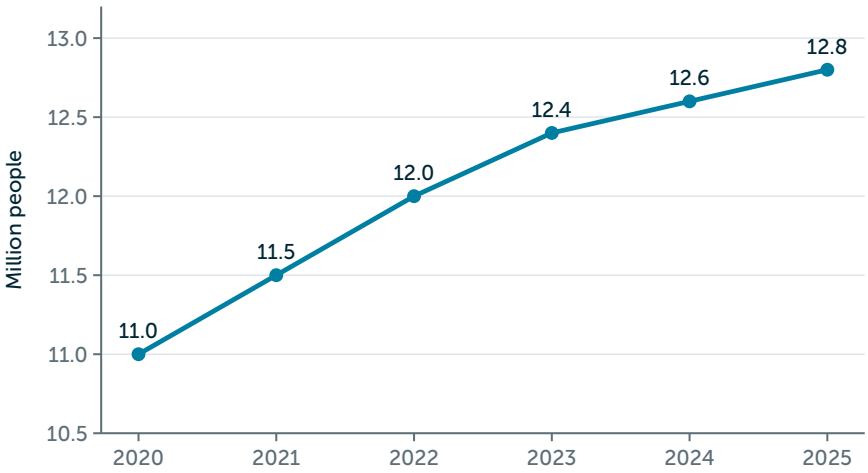
3. A. Tang (2020), 'The key to Taiwan's Pandemic Success: Fast, Fair and Fun'. *Global Asia*, 15(3).

4. Taiwan Centers for Disease Control (2020), 'The facts regarding Taiwan's email to alert WHO to possible danger of COVID-19', 11 April.

SPAIN'S LESSON: RIGIDITY IS NOT RESILIENCE

Spain has important strengths: a broad decentralised National Health System, highly trained professionals, a large hospital network, and a significant private healthcare sector. Those strengths also matter for advanced fields such as radiology, oncology, nuclear medicine, and personalised therapies, where resilience depends on mobilising specialised public and private capacity rather than relying on a single administrative channel.[5] Millions of citizens use private insurance because they value faster access, continuity of care, choice of doctor, shorter waiting times, and a more personalised experience (see Figure 1).

Figure 3: Private health insurance in Spain, 2020–2025.



Source: ICEA. Chart prepared by Fundalib from the statistics cited in the notes.

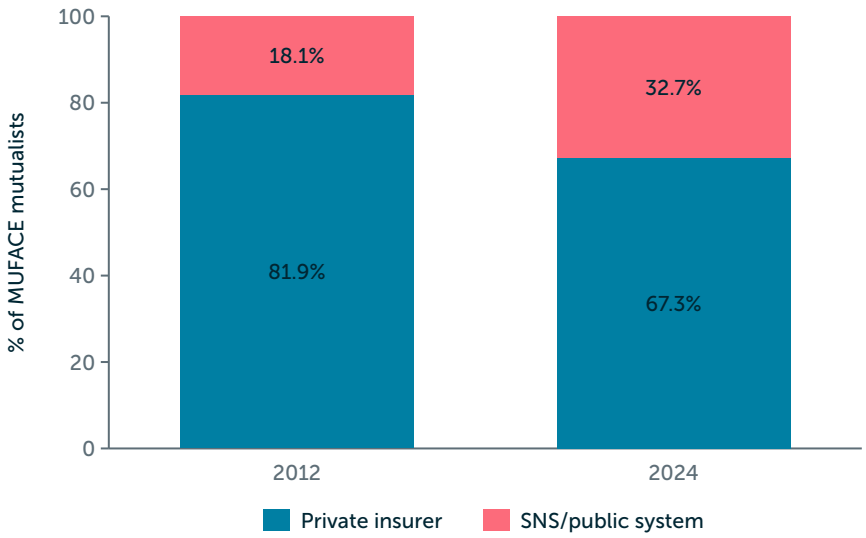
The mutualist model reinforces this point. In MUFACE, the Spanish public body managing health benefits for civil servants 81.92% chose a private insurer in 2012, though the figure had fallen to 67.3% by October 2024.[6] For the wider administrative mutualism system, the Instituto para el Desarrollo e Integración de la Sanidad (Institute for the Development and Integration of Healthcare; IDIS) reported that 1.68 million out of 2.41 million mutualists chose private insurance in 2023, around 69.6% overall.[7] The lesson remains clear: when citizens are given a real choice between public provision and private insurance financed through a public scheme, a large majority still chooses the private option. That choice should not be a privilege of public servants (see Figure 4).

5. ICEA (2026), 'Asistencia Sanitaria, con un crecimiento en primas del 11,9%'. Servicio de estadísticas y estudios del sector seguros en España, 4 March.

6. Ministerio de Sanidad (2024), 'MUFACE: del seguro privado al Sistema Nacional de Salud'.

7. Fundación IDIS (2024), 'Sanidad privada, aportando valor: Análisis de situación 2024'.

Figure 4: Choice under Spanish administrative mutualism (private insurer versus public system).



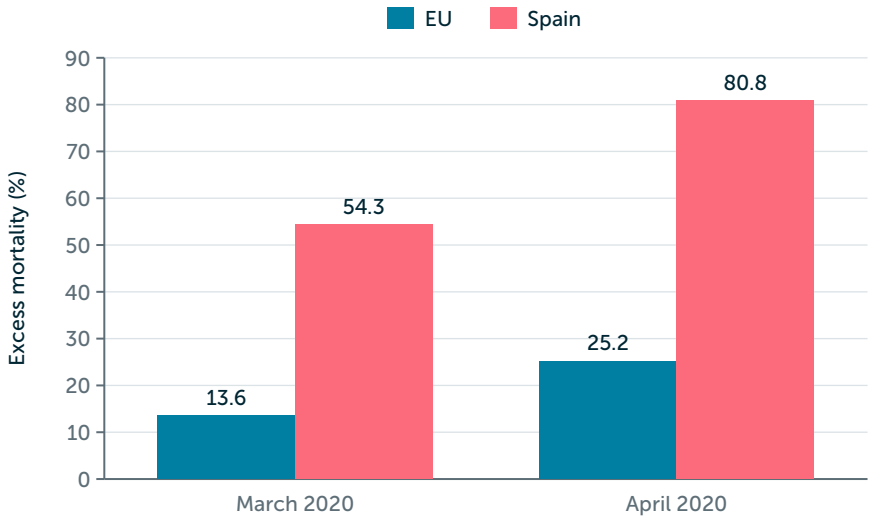
Source: Spanish Ministry of Health, MUFACE transition report, 2024. Chart prepared by Fundalib.

Note: The abbreviation 'SNS' stands for Sistema Nacional de Salud (National Health System).

COVID-19 also revealed the fragility of decentralisation when emergency re-centralised politics takes over. Health competences in Spain are largely managed by the autonomous communities. That territorial diversity should have been treated as an asset, since regions faced different epidemiological realities at different moments. Yet the first warning signs of the crisis to come moved the system abruptly towards central command. Royal Decree 463/2020, passed 14 March 2020, declared a state of alarm for the whole country, made the government the competent authority, and placed civil health officials under the direct orders of the Minister of Health where necessary. Spain later suffered one of the most severe first-wave mortality shocks in Europe (see Figure 5).

The result was to impose uniformity at the wrong level. A region with few or no detected cases did not always need the same response as a region with overwhelmed hospitals. Going forward, Spain should not repeat this mistake. National authorities should set transparent standards, share data, coordinate procurement when useful, and guarantee interterritorial cooperation. Regional and local authorities should retain the capacity to act early, adapt measures to local risk, and mobilise nearby public and private resources before a crisis becomes national.

Figure 5: Excess mortality in the first COVID-19 wave: Spain and the EU.



Source: Eurostat excess mortality data; chart prepared by Fundalib.

Spain also lacked a neutral framework to rapidly integrate private capacity. Private hospitals, clinics, insurers, laboratories, pharmacies, logistics operators, and companies with international procurement experience were not initially treated as equal contributors. Vaccination was essentially organised through public and regional channels; private providers later offered infrastructure to accelerate the campaign, and in March 2021 the Spanish private healthcare association reported that five regions, representing 56% of the population, would rely on private healthcare for vaccination support.[8] That should have been part of preparedness from the beginning, not an improvised correction.

Under pressure, some positive steps were taken. Home delivery of medicines to vulnerable or quarantined patients was authorised through pharmacies and the Red Cross, while hospital pharmacy services developed telepharmacy and home delivery programmes.[9] Masks were eventually sold via supermarkets and other retail channels. These examples underscore the same crucial point: many innovations considered impossible in normal times become possible when the cost of bureaucracy is brought to light. Earlier use of competitive supply chains, retailers, e-commerce, and decentralised procurement would have helped responsible citizens and organisations protect themselves sooner.

Despite the benefits of public-private collaboration, unequal rules continue to limit the contribution of private healthcare. Ordinary taxpayers must finance the tax-funded public system in all cases and, if they want private coverage, pay again. A private doctor is fully qualified, but a private pre-

8. ASPE (2021), 'Private healthcare sector communication on vaccination support', March.

9. Royal Decree-Law 21/2020 and regional and hospital pharmacy protocols on medicine delivery and telepharmacy during the COVID-19 crisis. See also Ministry of Health (Spain) (2020), Order SND/293/2020, of 25 March, sections 3–5, https://www.boe.es/eli/es/o/2020/03/25/snd293.

scription does not normally give access to the same publicly financed pharmaceutical pathway as a public prescription. The patient must either pay the full pharmacy price or repeat the process in the public system. Fundalib's policy brief on medical prescriptions (which tracks the differences between public- and private-system pathways), as well as the brief on temporary incapacity, shows the same duplication in sick leave: often, patients diagnosed in the private sector must then go through the public system merely to obtain the [10]certificate. A liberal model should apply equal rules for equal competence.

A LIBERAL MODEL FOR FUTURE CRISES

The comparison between Taiwan and Spain is not intended to present one country as a failure and the other as a model to copy mechanically. Rather, both cases help identify the institutional conditions that make health systems more adaptive, more open, and more respectful of individual agency when a crisis arrives.

Based on these lessons, and on good liberal practice, we identify ten cornerstones for a liberal framework capable of responding more effectively to future health crises and pandemics.

1. **Plural capacity.** Public hospitals, private hospitals, insurers, laboratories, pharmacies, civil society organisations, universities, technology companies, retailers, logistics operators, and local communities must be pre-integrated before the emergency begins. Accreditation should be ownership-neutral: what matters is competence, safety, reporting capacity, and accountability.

2. **Decentralised preparedness.** Decisions should be taken by those closest to the relevant patients, professionals, and local evidence. National coordination is necessary, but it should not erase local initiative. Regional and local authorities, hospitals, laboratories, pharmacies, professional associations, and private providers often detect pressures earlier than central ministries.

3. **Regulatory agility.** Europe should develop regulatory sandboxes for diagnostics, telemedicine, digital triage, remote monitoring, clinical trials, supply-chain adaptation, pharmacy-led services, and home delivery of medicines. These sandboxes should be transparent, time-limited, auditable, and open to all qualified actors.

4. **Patient agency.** Liberal preparedness models treat citizens as participants, not passive recipients of instructions. Public health communication should explain risks, trade-offs, and incentives honestly. Individual responsibility is not an obstacle to public health. It is one of its conditions.

5. **Digital trust and cyber-resilience.** The next crisis will require interoperable records, portable health data, open dashboards, privacy-preserving analytics, and rapid feedback loops between patients, professionals, and authorities. Digitalisation should not mean surveillance by default. It should mean that information moves securely to where it is needed, and that decisions can be audited. Health databases must also be resilient against future technological threats, including decryption tools and the long-term risks posed by quantum computing. Europe should build health data systems with strong encryption, post-quantum migration plans, decentralised resilience, and tamper-evident audit trails. Blockchain or distributed-ledger technologies can play a useful role when used to verify integrity, record access logs, and strengthen trust in interoperable health records, as Estonia's digital

10. M. J. Hernández Leal (2026), 'Reforming medical prescription in Spain: Towards an interoperable system between the public and private healthcare sectors'; R. Caviedes Duprá and M. J. Hernández Leal (2026), *Sick leave reform in Spain: proposals focused on the patient and on the system's efficiency* (Madrid: Fundación para el Avance de la Libertad).

health infrastructure already illustrates.[11] The liberal goal is not to centralise all medical data in one vulnerable repository, but to give patients secure, portable, and trustworthy control over their own health information.

6. **Artificial intelligence for the sovereign patient.** AI can help detect outbreaks earlier, prioritise diagnostic tests, support clinical decision-making, match patients with trials, personalise prevention plans, reduce administrative burdens, and identify hidden risks in large datasets. But liberals should reject both blind technocracy and prohibitionist fear. The EU AI Act and the medical-device framework should make AI systems transparent, auditable, contestable, and safe, while preserving space for innovation. AI in health should assist doctors and empower patients, not become a new layer of opaque rationing.

7. **Nuclear medicine and technological neutrality.** Europe's future health resilience will depend not only on hospitals and doctors, but on access to advanced diagnostics and therapies. Radiology, radiotherapy, radiopharmaceuticals, and medical radioisotopes are essential for cancer detection and treatment. The EU's Strategic Agenda for Medical Ionising Radiation Applications (SAMIRA) Action Plan recognises the usefulness of ionising radiation in medical applications. A liberal health policy should defend nuclear medicine from ideological prejudice and treat it as a patient-centred technology.

8. **Quantum and frontier technologies.** Quantum computing, quantum sensing, advanced simulation, and secure communications may contribute to better imaging, drug discovery, personalised medicine, logistics optimisation, and protection of sensitive health data.[12] These technologies are still developing, but the liberal lesson is clear: Europe should not regulate the future as if it were a threat by default. The zero-risk policy dominating Brussels in the past decades led to stagnation and limits capacity for resilience, competition, and preparedness. Responsible experimentation, competitive research, venture investment, and rapid clinical translation are vital.

9. **Regulatory neutrality.** Health regulation must treat public and private providers, incumbent and new actors, and politically convenient and inconvenient sources of evidence with neutrality. This applies internationally, as the Taiwan–WHO episode showed, and domestically, as Spain's unequal public and private medical acts illustrates.

10. **Market vitality.** A sound healthcare system needs innovation, investment, competition, and spare capacity. Fiscal and regulatory policy should not punish the private health insurance, private medical services, or private providers that reduce pressure on public systems. Fundalib's earlier work on the fiscal treatment of private healthcare made precisely this point: the private sector should be considered an asset.[13] Governments should not take advantage of a health crisis to increase taxes on private health services and products. During the COVID-19 period, Spain increased the general Insurance Premium Tax from 6% to 8%, a signal of greater fiscal strain on insurance at a time when private health coverage could have helped relieve pressure on the public system.[14]

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11. European Parliament and Council of the European Union (2025), Regulation (EU) 2025/327 on the European Health Data Space; e-Estonia (n.d.), 'Estonian e-Health Records'; ENISA (n.d.), *Post-quantum cryptography: Current state and quantum mitigation*, available at https://www.enisa.europa.eu/publications/post-quantum-cryptography-current-state-and-quantum-mitigation.

12. European Commission (2025), Quantum policy and Quantum Europe Strategy materials.

13. Ó. Timón (2020), *Reforma fiscal de la sanidad privada* (Madrid: Fundación para el Avance de la Libertad).

14. Boletín Oficial del Estado (2020), Ley 11/2020, de 30 de diciembre, de Presupuestos Generales del Estado para el año 2021, Article 73.

A liberal model should recognise accredited private doctors, clinics, hospitals, laboratories, insurers, pharmacies, and logistics partners as full participants in preparedness. Private prescriptions for medicines included in the public pharmaceutical portfolio should access the same reimbursement pathway when issued through interoperable systems. Sick leave certificates should be valid when issued by qualified doctors under traceable digital conditions. Experimental programmes and advanced therapies should be opened to all providers that meet common standards. Tax relief or portable financing should allow citizens to choose coverage without being punished for using private alternatives.

At the European level, the priority should not be to centralise health delivery in Brussels. It should be to remove fragmentation where fragmentation prevents resilience: mutual recognition of professional capacity, common data standards, real universal integration for all EU citizens in any European health care system without layers of bureaucracy, faster clinical trial authorisation, cross-border emergency procurement rules, and trusted partnerships with democratic allies such as Taiwan. Europe should learn from Taiwan not by copying its every institution, but by adopting its deeper logic: early signals matter, citizens can be trusted, digital tools can strengthen freedom, and plural systems adapt faster.

PREPAREDNESS WITHOUT PERMANENT EMERGENCY

COVID-19 revealed two tendencies that are all too easy to fall into: complacency before the crisis and centralisation during it. Preparedness means taking future risks seriously, but it does not require placing health permanently under the purview of emergency politics.

A caring liberalism must defend universal access but reject the idea that universal access requires state monopoly and the health services provided directly by the state without market incentives. It must support public health coordination but reject the suppression of private and civic capacity. By integrating free-market incentives into the system's DNA, the system becomes more robust and adaptable. Such a system must value science and professional expertise but reject burdensome bureaucratic pathways that force patients to repeat consultations merely to obtain the correct administrative stamp, making care even more expensive. It must protect vulnerable citizens, but also trust individuals, families, professionals, and entrepreneurs to contribute to its success.

Spain shows that a country can have skilled professionals and strong private capacity while still wasting critical resources and time through asymmetric rules and emergency centralisation. Taiwan shows that democratic openness, civic technology, digital infrastructure, regulatory neutrality, and plural provision can make a society more resilient than command-and-control systems. AI, nuclear medicine, quantum technologies, and personalised data will now test whether Europe is willing to trust innovation as much as it trusts regulation.

The liberal lesson is not to choose between care and markets. It is to design institutions in which care is reinforced by freedom, and markets are judged by the public value they help create. The next health crisis will not wait for perfect zero-risk legislation. Europe must prepare now by building systems that are faster, fairer, more open, more advanced, and more trusting. Preparedness should not mean permanent emergency governance. It should mean a society ready to act without panic, cooperate without coercion, innovate without waiting for permissions, and protect health without sacrificing liberty.

REFERENCES

ASPE (2021). 'Private healthcare sector communication on vaccination support', March.

Boletín Oficial del Estado (2020). Ley 11/2020, de 30 de diciembre, de Presupuestos Generales del Estado para el año 2021, Article 73.

Caviedes Duprá, R., & Hernández Leal, M. J. (2026). *Sick leave reform in Spain: proposals focused on the patient and on the system's efficiency*. Foundation for the Advancement of Liberty.

e-Estonia (n.d.). 'Estonian e-Health Records'.

European Union Agency for Cybersecurity (ENISA) (2021). *Post-quantum cryptography: Current state and quantum mitigation*. Available at: https://www.enisa.europa.eu/publications/post-quantum-cryptography-current-state-and-quantum-mitigation.

European Commission (2021). 'SAMIRA action plan', https://energy.ec.europa.eu/topics/nuclear-energy/radiological-and-nuclear-technology-health/samira-action-plan_en.

European Commission (2025). Quantum policy and Quantum Europe Strategy materials.

European Liberal Forum (2026). *Live long and prosper: How caring liberalism and friendly markets can make Europe healthier than ever* (Concept note).

European Parliament & Council of the European Union (2024). Regulation (EU) 2024/1689 laying down harmonised rules on artificial intelligence.

European Parliament & Council of the European Union (2025). Regulation (EU) 2025/327 on the European Health Data Space.

Fundación IDIS (2024). 'Sanidad privada, aportando valor: Análisis de situación 2024'.

Fundalib (2020). Leaders: Audrey Tang, Digital Minister of Taiwan. Interview transcript.

Hayek, F. A. (1945). 'The Use of Knowledge in Society'. *The American Economic Review*, 35(4), 519–530.

Hernández Leal, M. J. (2026). 'Reforming medical prescription in Spain: Towards an interoperable system between the public and private healthcare sectors'

ICEA (2026). 'Asistencia Sanitaria, con un crecimiento en primas del 11,9%. Servicio de estadísticas y estudios del sector seguros en España', 4 March.

Ministerio de Sanidad (2024), 'MUFACE: del seguro privado al Sistema Nacional de Salud'.

National Health Insurance Administration, Ministry of Health and Welfare, Taiwan (n.d.). *Official statistics on cover age and public satisfaction*.

Numbeo (2026). Health Care Index by Country 2026.

Royal Decree 463/2020, of 14 March, declaring the state of alarm for the management of the health crisis caused by COVID-19. Issuing authority: Government of Spain. Official publication: https://www.boe.es/eli/es/rd/2020/03/14/463.

Royal Decree-Law 21/2020 and regional and hospital pharmacy protocols on medicine delivery and telepharmacy during the COVID-19 crisis.

Taiwan Centers for Disease Control (2020). 'The facts regarding Taiwan's email to alert WHO to possible danger of COVID-19', 11 April.

Tang, A. (2020). 'The key to Taiwan's Pandemic Success: Fast, Fair and Fun'. *Global Asia*, 15(3).

Timón, Ó. (2020). *Reforma fiscal de la sanidad privada*. Madrid: Fundación para el Avance de la Libertad.

The Next Generation's Vision for Health: Personalised, Digital, and Free

Dimitra Papadopoulos and Margot Padilla

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ABSTRACT

Europe's healthcare systems, largely shaped by twentieth-century demographic and epidemiological conditions, are struggling to keep pace with a generation defined by mobility, high expectations for technology, and a growing mental health crisis. This paper sets out a liberal vision for a healthcare model that is personalised, digital, and portable across borders. It argues that precision medicine and the European Health Data Space can shift care from reactive treatment towards prevention tailored to the individual, while artificial intelligence, properly regulated, can support rather than replace clinical judgement. It further contends that healthcare rights should travel with the citizen, not remain tied to national residence, and that patients should be free to choose providers across the Union. Rather than proposing centralisation, the paper calls for subsidiarity: national systems reinforced by targeted European cooperation on data, research, and crisis preparedness.

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INTRODUCTION

For generations, young people have been told, 'Enjoy being young and healthy, it will not last forever.' While this advice is well-intentioned, it no longer reflects current realities. Today's generation understands that health is a lifelong priority, and early choices shape a fulfilling future. Advocating for health is about not only living longer but also living better.

For today's youth, health is a central political issue. COVID-19 exposed weaknesses in healthcare systems, disrupted lives, and demonstrated that health threats transcend national borders. At the same time, the pandemic accelerated innovation and highlighted the value of cooperation among healthcare professionals, researchers, and governments.

Young people also have firsthand knowledge of the lasting mental health crisis triggered by COVID-19. Across Europe, anxiety, loneliness, depression, and burnout have become increasingly common experiences. A systematic review analysing 177 studies across 20 European countries found significant increases in mental health problems during the pandemic.[1] The review showed that depression prevalence increased in 23 out of 30 studies, with rises ranging from 0.25% to 31%, while studies on generalised anxiety disorder reported increases of up to 28.2%. Whether it is a personal experience or that of a familiar face, the impacts of the mental health crisis are dire. It is due to the advocacy of young people, who have fought for the de-tobooisation of mental health struggles, that there is a new consensus: mental health is central to equal opportunities, social participation, and individual freedom. A society cannot truly empower young people if they are unable to access timely, affordable, and high-quality mental healthcare when it is most needed.

In an increasingly interconnected Europe, healthcare systems must evolve alongside the people they serve. Administrative borders should never become barriers to treatment, and innovation should simplify healthcare rather than complicate it

For young liberals, health policy is not merely about advocating for mental health or evaluating singular aspects of the healthcare systems. We believe that health policy is ultimately about enabling individuals. Every person should have the freedom to make informed decisions about their own health, the confidence that their healthcare rights travel with them across Europe, and access to modern, excellent care wherever they choose to study, work, or live. In an increasingly interconnected Europe, healthcare systems must evolve alongside the people they serve. Administrative borders should never become barriers to treatment, and innovation should simplify healthcare rather than complicate it.

The European Liberal Youth (LYMEC) has consistently advocated for accessible, patient-centred, preventative, and up-to-date healthcare. Prevention, mental healthcare, digital innovation, and European cooperation are essential components of resilient twenty-first-century health systems.

This chapter presents a young liberal vision for healthcare that is personalised, digital, and universally accessible. Healthcare should adapt to individual needs, technology should empower patients, and every European should have the freedom to choose providers and move without losing health rights.

EMBRACE MOBILITY AND DIGITAL INNOVATION

While healthcare systems have remained predominantly organised within national borders, the lives of young Europeans have become increasingly European. The principle of free movement has transformed education, employment, and everyday life for millions of young people. Programmes such as Erasmus+, increasing opportunities for cross-border employment, international internships, remote work, and the rise of digital nomadism mean that young Europeans are more geographically mobile than any previous generation. While the European Single Market has resulted in unprecedented freedom of movement for people, goods, services, and capital, healthcare remains largely bound by national borders.

1. N. Ahmed, P. Barnett, A. Greenburgh, T. Pemovska, T. Stefanidou, N. Lyons, S. Ikhtabi, S. Talwar, E. R. Francis, S. M. Harris, P. Shah, K. Machin, S. Jeffreys, L. Mitchell, C. Lynch, U. Foye, M. Schlief, R. Appleton, K. R. K. Saunders, H. Baldwin, et al. (2023), 'Mental Health in Europe during the COVID-19 Pandemic: A Systematic Review', *The Lancet Psychiatry*, 10(7), 537–556. https://doi.org/10.1016/S2215-0366(23)00113-X.

The Market opportunities but also exposes the limitations of nationally fragmented healthcare systems. Students studying abroad frequently encounter difficulties accessing healthcare services, transferring medical records, or navigating unfamiliar administrative systems. Cross-border workers often face uncertainty regarding reimbursement, insurance coverage, or continuity of treatment. Young professionals working remotely from different Member States increasingly lead transnational lives that existing healthcare systems were never designed to support. Although Directive 2011/24/EU on patients' rights in cross-border healthcare established an important legal framework, practical barriers continue to constrain citizens' ability to benefit from these rights. Complex reimbursement procedures, varying national administrative requirements, limited interoperability of health records, and uncertainty regarding prescriptions frequently discourage patients from seeking care abroad.

The consequences are measurable: according to Backhaus-Hoven et al.,[2] young adults represent the most mobile generation in Europe while simultaneously reporting some of the highest levels of unmet healthcare needs, particularly among women and urban populations. Recent Eurobarometer findings illustrate how central European mobility has become to younger generations. The 2025 Flash Eurobarometer found that freedom of movement is regarded as one of the European Union's greatest advantages by young people, while travelling freely across Member States is the aspect they associate most strongly with EU citizenship. Furthermore, public health ranks among the key policy priorities that young Europeans expect the European Union to address, alongside security, climate change, and affordable housing.[3]

Expanding patients' ability to choose healthcare providers across Europe offers benefits that extend beyond individual preference. Greater patient choice can encourage healthcare providers to compete through higher quality, innovation, responsiveness, and patient satisfaction

The mismatch between cross-border lives and state-based healthcare is pervasive, and for young people, it is especially problematic. This situation presents serious obstacles to a generation whose activities and identities are increasingly European. If European citizenship is to represent genuine freedom of movement, healthcare should become an integral component of that freedom rather than one of its remaining limitations.

Addressing these challenges requires more than technical reforms; it requires a new understanding of the relationship between citizens and healthcare systems. From a liberal perspective, healthcare should empower individuals rather than constrain them. Access to treatment should not depend on administrative complexity or national borders but should enable people to pursue education, employment, and personal opportunities throughout Europe.

These principles closely align with contemporary approaches to youth-friendly healthcare. The UK's 'You're Welcome' standards emphasise the idea that health services should actively involve young people in decision-making, support their autonomy, provide accessible digital services, improve continuity of care, and adapt to the changing needs of youths as they transition through education, employment, and adulthood.[4] Although developed nationally, these principles reflect broader European expectations regarding modern, patient-centred healthcare.

2. Backhaus-Hoven, I., Gero, K., Balaj, M., Vidaurre i Texidó, M. del P. and Eikemo, T. A. (2025), 'The Health and Well Being of People in Europe'. *INFRA4NEXTGEN*.

3. European Commission, Directorate-General for Communication (2025), *Flash Eurobarometer 556: EU Challenges and Priorities – Young Europeans' Views* (Luxembourg: Publications Office of the European Union), https://europa.eu/eurobarometer/surveys/detail/3373.

4. UK Government Office for Health Improvement and Disparities (2023), '"You're welcome": Quality criteria for young people-friendly health services', https://www.gov.uk/government/publications/establishing-youth-friendly-health-and-care-services/youre-welcome-establishing-youth-friendly-health-and-care-services.

Freedom of choice is itself a defining characteristic of liberal societies, and healthcare should be no exception. Expanding patients' ability to choose healthcare providers across Europe offers benefits that extend beyond individual preference. Greater patient choice can encourage healthcare providers to compete through higher quality, innovation, responsiveness, and patient satisfaction. When patients have genuine alternatives, healthcare providers are incentivised to improve services rather than relying solely on geographical monopolies. Importantly, expanding choice does not imply marketisation or privatisation of healthcare. Instead, it recognises that publicly financed healthcare systems can coexist with greater patient autonomy. Ultimately, the challenge facing European healthcare is not merely one of financing or organisation but of adapting institutions to contemporary realities. The next generation requires healthcare systems that recognise mobility, embrace digital innovation, and place individuals, not administrative borders and providers, at the centre of healthcare delivery.

PERSONALISED HEALTHCARE: PUTTING THE INDIVIDUAL FIRST

For too long, healthcare has treated patients as statistical averages rather than individuals. A treatment protocol designed for the 'average patient' inevitably underserves the many people who do not fit that profile – whether due to their genetic makeup, lifestyle, environment, or gender. But healthcare should start from the individual and build outward, not the other way around.

Personalised medicine is not a futuristic concept; it is already an established policy direction at EU level. In their 2015 Council Conclusions on Personalised Medicine for Patients, EU health ministers defined the model as one that uses characterisation of a patient's phenotype and genotype – through molecular profiling, medical imaging, and lifestyle data – to tailor the right therapeutic strategy to the right person at the right time, or to identify predisposition to disease early enough for targeted prevention.[5] The European Commission has since reaffirmed that personalised medicine should be understood as an evolution of medicine rather than a revolution, built incrementally on existing clinical practice rather than replacing it wholesale.[6] This framing matters for young liberals: it confirms that personalisation is achievable within current healthcare systems, provided the right regulatory, digital, and funding architecture is put in place.

The clinical case for this shift is strongest where it is most visible: oncology. The Personalised Cancer Medicine for all EU Citizens (PCM4EU) consortium, a 17-partner initiative across 15 countries co-funded under the EU4Health programme, was established specifically to broaden access to genomically guided cancer treatment across the Union, building on the success of national drug rediscovery trials that match patients to therapies based on their tumour's molecular profile rather than its location in the body.[7] These trials demonstrate that personalisation improves outcomes; the policy challenge now is to make such approaches the norm rather than the exception, and to ensure that a young person diagnosed with a rare or aggressive cancer in one Member State has the same access to molecularly tailored treatment as a patient in another.

Personalised care cannot function without personal data. This is why the European Health Data Space (EHDS) Regulation establishes a common framework for accessing, sharing and reusing electronic health data across the EU. For a generation that studies, works, and lives across multiple Member States, this is not a technical detail; it is the difference between a medical history that fol-

5. Council of the European Union (2015), 'Council Conclusions on Personalised Medicine for Patients (2015/C 421/03)', *Official Journal of the European Union*. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015XG1217(01).

6. European Commission (n.d.b). 'Personalised medicine', https://health.ec.europa.eu/medicinal-products/product-types/personalised-medicine_en.

7. Personalized Cancer Medicine for all EU Citizens (PCM4EU) Consortium (2025), 'A Comprehensive Assessment of the Existing Landscape of Personalized Cancer Medicine in the European Union', *ESMO Open*, 10(11), 105872. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC12639420/.

lows a person through their life and one that is lost the moment they cross a border.HealthData@EU", through which researchers and health authorities can responsibly use pooled data to develop better diagnostics, treatments, or even prevention strategies.

This trajectory is consistent with the broader direction of the field: as Johnson et al. argue,[8] advances in artificial intelligence, electronic health records, and precision medicine are transforming healthcare by integrating clinical, behavioural, and genomic information into personalised care pathways. Rather than replacing healthcare professionals, these technologies augment clinical decision-making and improve continuity of care through more comprehensive patient information. Similarly, Marques et al. emphasise that precision medicine increasingly relies on interoperable digital infrastructures, wearable technologies, genomic data, and electronic health records to deliver patient-centred healthcare.[9] Their review argues that future healthcare systems will follow the individual more than the institution, enabling healthcare that is personalised, data-driven, and continuously available across different care settings.

We recognise that the EHDS will take years to become fully operational, with its core data-sharing obligations phased in between 2029 and 2031.[10] Young liberals should not treat this as a reason for patience but as a reason for vigilance: implementation must be resourced, monitored, and defended against attempts to weaken patients' control over their own data, particularly the right to opt out of secondary data use where they choose to.

Personalisation is not only about treating illness more precisely; it is about preventing it altogether. Genomic and phenotypic profiling allow clinicians to identify predisposition to disease long before symptoms appear, shifting healthcare from a reactive model to a preventative one.[11] For young Europeans, who are statistically more likely to interact with the healthcare system for preventative or reproductive care than for chronic disease management, this orientation is especially relevant. A healthcare system that tailors screening, vaccination, and lifestyle interventions to an individual's actual risk profile respects both clinical evidence and personal autonomy, rather than applying generic, age-based guidelines to everyone.

Personalisation is ultimately a question of power: does the healthcare system adapt to the patient, or does the patient have to adapt to the system? Youth-friendly healthcare standards, such as the UK's 'You're Welcome' framework, emphasise that health services should actively involve young people in decisions about their own care, respect their autonomy, and adapt as their needs change through education, employment, and adulthood.[12] These principles should not remain a national good practice; they should become a European benchmark.

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8. K. B. Johnson, W. Q. Wei, D. Weeraratne, M. E. Frisse, K. Misulis, K. Rhee, J. L. Snowdon, et al. (2021), 'Precision Medicine, AI, and the Future of Personalized Health Care', *Clinical and Translational Science*, 14(1), 86–93.

9. L. Marques, B. Costa, M. Pereira, A. Silva, J. Santos, L. Saldanha, N. Vale, et al. (2024), 'Advancing Precision Medicine: A Review of Innovative In Silico Approaches for Drug Development, Clinical Pharmacology and Personalized Healthcare', *Pharmaceutics*, 16(3), 332.

10. Sidley Austin LLP (2025), 'European Health Data Space Regulation adopted: What's next for life sciences companies?', 28 March, https://www.sidley.com/en/insights/publications/2025/03/european-health-data-space-regulation-adopted-whats-next-for-life-sciences-companies.

11. G. Bertier et al. (2022), 'An Overview of Personalized Medicine Landscape and Policies in the European Union', *European Journal of Public Health*, 32(6), 844–851. https://academic.oup.com/eurpub/article/32/6/844/6777816.

12. UK Government Office for Health Improvement and Disparities, '"You're welcome": Quality criteria'.

DIGITAL HEALTH: BUILDING A EUROPEAN HEALTH SPACE

Digital technology has already transformed how young Europeans manage almost every part of their lives – except, too often, their health. We check bank balances instantly, book travel across borders in minutes, and message doctors' offices through apps that still print out paper referral slips. For the New Generation, this gap is neither acceptable nor necessary. Digital health is not a 'nice-to-have' feature layered on top of the healthcare system; it should be the infrastructure through which a genuinely European and patient-centred healthcare model becomes possible.

Digital health is not a 'nice-to-have' feature layered on top of the healthcare system; it should be the infrastructure through which a genuinely European and patient-centred healthcare model becomes possible

The EHDS Regulation, which entered into force in March 2025, is the clearest expression yet of what a European health space could look like.[13] At its core is MyHealth@EU, the cross-border infrastructure through which patient summaries, e-prescriptions, and eventually medical imaging and lab results will be exchanged between Member States, alongside HealthData@EU for research and policy use.[14] Concretely, this portability should extend beyond emergency treatment. It encompasses the mutual recognition of prescriptions, streamlined reimbursement procedures, interoperable electronic health records, continuity of specialist referrals, and insurance arrangements that minimise administrative burdens for patients. Instead of repeatedly navigating national bureaucracies, Europeans should be able to access healthcare through systems that communicate seamlessly across borders. This is precisely the architecture that a mobile generation needs: a young Erasmus+ student in Lisbon should not have to explain their full medical history from scratch to a pharmacist because their prescription was issued in Warsaw.

AI has a role to play here too. Interoperability alone does not guarantee understanding: a patient summary exchanged flawlessly between two Member States is only as useful as the clinician's ability to read it. AI-assisted translation, already being explored in EU-funded digital health projects, could be built into MyHealth@EU so that mobility never comes at the cost of being understood by the treating person, provided such tools remain subject to human oversight given the clinical stakes involved.

The timeline, however, is sobering. Most primary-use obligations only become operational in 2029, with the remaining categories of health data following in 2031.[15] Young liberals should treat this multi-year runway not as a distant technical milestone but as a live political test: implementation depends on 27 Member States building compatible digital health authorities and infrastructure on schedule, and on sustained political will across several European Commission mandates.[16] Liberals should lead by example on this front, championing full digitalisation and frontloading primary-use obligations in their own policy platforms rather than waiting for the 2029 deadline. We call on the European institutions to treat EHDS implementation with the same urgency as any other flagship digital priority, and to resist pressure to delay it further.

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13. European Commission (n.d.a), 'European Health Data Space Regulation (EHDS)', https://health.ec.europa.eu/ehealth-digital-health-and-care/european-health-data-space-regulation-ehds_en.

14. Uroweb (n.d.), 'The European Health Data Space Regulation (EHDS)', https://uroweb.org/the-european-health-data-space-regulation-ehds.

15. Sidley Austin LLP, 'European Health Data Space Regulation adopted'.

16. emarchetti (2026c), 'EHDS progress report: Where does Europe's Health Data Space stand?', Healthy Europe, 12 February, https://healthyeurope.eu/european-health-data-space/.

We have just touched upon the role of AI in interoperability, but its applications go further. Artificial intelligence is already part of clinical practice in Europe, most visibly in diagnostic imaging, it assists in detecting conditions from lung nodules to diabetic retinopathy.[17] The EU AI Act rightly classifies most clinical AI systems – diagnostic software, decision-support tools, triage algorithms – as high-risk, requiring risk management, data-quality standards, transparency, and mandatory human oversight before such tools reach patients.[18] For the New Generation, this is not red tape for its own sake: it is what makes AI in healthcare trustworthy rather than merely fast. Bias remains a genuine and documented risk – AI diagnostic tools trained predominantly on data from lighter-skinned or Western European populations have shown measurably weaker performance for underrepresented patients, a failure mode the regulatory framework can identify but not resolve on its own.[19]

At the same time, we recognise that regulatory uncertainty carries its own costs. Ongoing discussions over the 'Digital Omnibus' package, and proposals to push back compliance deadlines for high-risk medical AI, illustrate the tension between protecting patients and giving innovators the stability to build in Europe rather than elsewhere.[20] Young liberals support a pragmatic middle path: firm safety and human-oversight requirements for AI that makes or shapes clinical decisions, paired with predictable, non-shifting timelines so that European start-ups and public health systems alike can plan with confidence.

Digital health infrastructure is only as good as people's ability to use it. Evidence compiled across OECD countries shows that a substantial share of health workers report lacking the digital competencies needed to use modern health information systems effectively, while e-health literacy remains consistently weaker among older citizens and residents of rural regions than among younger, urban cohorts.[21] This is a rare case where the New Generation is not the vulnerable group – but that is precisely why we have a responsibility to act. A digitally divided healthcare system will entrench exactly the kind of two-tier Europe that liberals have always opposed: one where a well-connected, digitally fluent minority benefits from personalised, data-driven care, while others are left behind by systems they were never taught to navigate.

The EU's Digital Education Action Plan and initiatives such as the Horizon Europe-funded IDEAHL project are steps toward closing this gap, but they remain fragmented and under-resourced relative to the scale of the challenge.[22] We also flag a related risk that is too seldom discussed: the explosive growth of unregulated digital mental health tools. While there is genuine clinical evidence supporting certain app-based interventions, the European market contains thousands of mental health apps with little or no clinical evaluation behind them, leaving young people – often the heaviest users of such tools – to distinguish credible support from digital snake oil largely on their own.[23]

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17. emarchetti (2026a), 'AI in European healthcare: Promise, regulation, and reality', Healthy Europe, 17 February, https://healthyeurope.eu/ai-european-healthcare/.

18. Tandem Health (2026), 'EU AI Act explained: What healthcare organisations need to know', 10 May, https://tandemhealth.ai/resources/knowledge/eu-ai-act-explained-what-healthcare-organisations-need-to-know.

19. emarchetti, 'AI in European healthcare'.

20. S. Palmieri and H. Nolte (2026), 'Simplification or back to square one? The future of EU medical AI regulation', Petrie-Flom Center, Harvard Law School, 5 March, https://petrieflom.law.harvard.edu/2026/03/05/simplification-or-back-to-square-one-the-future-of-eu-medical-ai-regulation/.

21. emarchetti (2026b), 'Closing Europe's digital health skills gap: A policy roadmap', Healthy Europe, 20 January, https://healthyeurope.eu/digital-health-skills-europe/.

22. European Public Health Alliance (2024), 'Online pathways to health equity: Digital health literacy in the EU's Digital Education Plan', 30 September, https://epha.org/online-pathways-to-health-equity-digital-health-literacy-in-the-eus-digital-education-plan/.

23. emarchetti, 'AI in European healthcare'.

A LIBERAL VISION FOR EUROPEAN HEALTH GOVERNANCE

A liberal vision of European healthcare does not require harmonising national healthcare systems into a single model. Healthcare organisation rightly remains rooted in national democratic traditions, reflecting different historical, cultural, and institutional contexts. As Oliver and Mossialos demonstrated in their comparative analysis of European health system reforms, healthcare systems have evolved through distinct institutional pathways that reflect national political cultures and governance traditions.[24] Consequently, successful reform cannot rely on a single model applicable to every Member State.

WHERE EUROPEAN COOPERATION ADDS VALUE

Nevertheless, there are numerous areas where European cooperation creates clear added value without undermining national competence. Joint procurement of medicines and medical equipment can increase resilience during health emergencies while strengthening Europe's negotiating position. Collaborative research enables faster development of innovative treatments, particularly for rare diseases where individual Member States often lack sufficient patient populations or research capacity. Coordinated crisis preparedness enhances Europe's ability to respond collectively to future pandemics or cross-border health threats. Likewise, greater workforce cooperation can help address persistent shortages of healthcare professionals while facilitating professional mobility within the Single Market.

Furthermore, evidence increasingly demonstrates that health outcomes are influenced not only by healthcare systems themselves but also by broader social, economic, and environmental determinants. The previously mentioned study by Backhaus-Hoven et al. show that housing conditions, employment quality, financial security, and access to healthcare continue to produce significant health inequalities among young Europeans. Addressing these shared challenges therefore requires coordinated European action alongside national reforms.

Ultimately, European cooperation should follow the principle of subsidiarity: acting together where collective action delivers greater benefits while preserving national responsibility where diversity better serves citizens. Such an approach reflects a distinctly liberal understanding of European integration – one that strengthens individual freedom, increases resilience, encourages innovation, and reinforces rather than replaces national healthcare systems.

FUTURE PERSPECTIVES: THE NEW GENERATION'S RECOMMENDATIONS

Europe's healthcare systems must evolve alongside the lives of the people they serve. Young Europeans are more mobile than any generation before them. We study abroad, work remotely, travel freely, and increasingly expect public services to be as interconnected as the Single Market itself. Healthcare should not stop at national borders. Instead, Europe should strive for a Health Union that empowers individuals, embraces innovation, and protects fundamental freedoms. The following recommendations set out how that vision can be achieved.

- **Individual empowerment.** Personalised medicine, genomics, and AI should give every European greater control over their health journey. The EU should keep investing in innovation while ensuring access across all Member States, not just wealthier regions.

- **A true European electronic health record.** Citizens should be able to securely access and share their medical data anywhere in the Union, whether on Erasmus+, relocating for work,

24. A. Oliver and E. Mossialos, E. (2005), 'European Health Systems Reforms: Looking Backward to See Forward?', *Journal of Health Politics, Policy and Law*, 30(1–2), 7–28.

or travelling. Interoperable health records, e-prescriptions, and secure digital identities would improve continuity of care and cut red tape.

- **Data ownership and safeguards.** Citizens must retain ownership of their health data, with clear consent mechanisms and strong cybersecurity and privacy standards. AI should support, not replace, medical professionals, underpinned by transparent algorithms and human oversight.

- **Pandemic preparedness.** COVID-19 showed the cost of fragmented national responses. The EU should strengthen coordination, reinforce agencies like the European Centre for Disease Prevention and Control (ECDC), and build joint procurement, crisis planning, and surveillance systems, without undermining national healthcare systems.

- **Antimicrobial resistance.** Drug-resistant pathogens are among the greatest long-term threats to public health. The EU should invest in new antibiotics and alternative treatments, encourage responsible prescribing, and promote a One Health approach.

- **Mental health.** Rising anxiety and loneliness among young people call for greater access to mental health services, more telehealth options, and mental health literacy in schools and universities, including cross-border care for a mobile generation.

- **Freedom and equality.** Every individual should be free to make informed choices about their own healthcare, with equal access regardless of nationality, gender, disability, sexual orientation, or place of residence.

CONCLUSION

Young liberals advocate for a healthcare model built upon several core principles. First, healthcare should strengthen individual autonomy by enabling citizens to make informed choices about their care through personalised medicine and improved access to health information. Second, equal opportunities require that high-quality healthcare remains accessible regardless of where a person studies, works, or resides within the European Union. Third, innovation should be embraced as a means of improving health outcomes rather than viewed as an administrative challenge. Digital health technologies, interoperable health records, and data-driven medicine have the potential to enhance efficiency while improving patient experiences. Finally, European cooperation should reduce unnecessary bureaucracy by facilitating seamless cross-border healthcare and ensuring that mobility does not come at the expense of healthcare access.

Our generation does not simply want healthcare that treats disease – we want healthcare that travels with us, adapts to our individual needs, protects our rights, and prepares Europe for the challenges of tomorrow. A personalised, digital, and free European Health Union is not only an ambition; it is the next step in ensuring that every European can live a healthier, freer, and more resilient life.

REFERENCES

Ahmed, N., Barnett, P., Greenburgh, A., Pemovska, T., Stefanidou, T., Lyons, N., Ikhtabi, S., Talwar, S., Francis, E. R., Harris, S. M., Shah, P., Machin, K., Jeffreys, S., Mitchell, L., Lynch, C., Foye, U., Schlief, M., Appleton, R., Saunders, K. R. K., Baldwin, H., et al. (2023). 'Mental Health in Europe during the COVID-19 Pandemic: A Systematic Review'. *The Lancet Psychiatry*, 10(7), 537-556. https://doi.org/10.1016/S2215-0366(23)00113-X.

Backhaus-Hoven, I., Gero, K., Balaj, M., Vidaurre i Texidó, M. del P. and Eikemo, T. A. (2025), 'The Health and Well Being of People in Europe'. *INFRA4NEXTGEN*. Available at: https://infra4nextgen.com/resources/data-summaries/healthy/.

Bertier, G., et al. (2022). 'An Overview of Personalized Medicine Landscape and Policies in the European Union'. *European Journal of Public Health*, 32(6), 844–851. https://academic.oup.com/eurpub/article/32/6/844/6777816.

Council of the European Union (2015). 'Council Conclusions on Personalised Medicine for Patients (2015/C 421/03)'. *Official Journal of the European Union*. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015XG1217(01).

emarchetti (2026a). 'AI in European healthcare: Promise, regulation, and reality', Healthy Europe, 17 February, https://healthyeurope.eu/ai-european-healthcare/.

emarchetti (2026b), 'Closing Europe's digital health skills gap: A policy roadmap', Healthy Europe, 20 January, https://healthyeurope.eu/digital-health-skills-europe/.

emarchetti (2026c), 'EHDS progress report: Where does Europe's Health Data Space stand?', Healthy Europe, 12 February, https://healthyeurope.eu/european-health-data-space/.

European Commission (n.d.a). 'European Health Data Space Regulation (EHDS)', https://health.ec.europa.eu/ehealth-digital-health-and-care/european-health-data-space-regulation-ehds_en.

European Commission. (n.d.b). 'Personalised medicine', https://health.ec.europa.eu/medicinal-products/product types/personalised-medicine_en.

European Commission, Directorate-General for Communication (2025). *Flash Eurobarometer 556: EU challenges and priorities – young Europeans' views*. Luxembourg: Publications Office of the European Union. Available at: https://europa.eu/eurobarometer/surveys/detail/3373.

European Public Health Alliance (2024). 'Online pathways to health equity: Digital health literacy in the EU's Digital Education Plan', 30 September, https://epha.org/online-pathways-to-health-equity-digital-health-literacy-in-the-eus-digital-education-plan/.

Johnson, K. B., Wei, W. Q., Weeraratne, D., Frisse, M. E., Misulis, K., Rhee, K., Snowdon, J. L., et al. (2021). 'Precision Medicine, AI, and the Future of Personalized Health Care'. *Clinical and Translational Science*, 14(1), 86–93.

Marques, L., Costa, B., Pereira, M., Silva, A., Santos, J., Saldanha, L., Vale, N., et al. (2024). 'Advancing Precision Medicine: A Review of Innovative In Silico Approaches for Drug Development, Clinical Pharmacology and Personalized Healthcare'. *Pharmaceutics*, 16(3), 332.

Office for Health Improvement and Disparities, Government of the United Kingdom (2023). '"You're welcome": Quality criteria for young people-friendly health services', https://www.gov.uk/government/publications/establishing-youth-friendly-health-and-care-services/youre-welcome-establishing-youth-friendly-health-and-care-services.

Oliver, A. & Mossialos, E. (2005). 'European Health Systems Reforms: Looking Backward to See Forward?'. *Journal of Health Politics, Policy and Law*, 30(1–2), 7–28.

Palmieri, S. & Nolte, H. (2026). 'Simplification or back to square one? The future of EU medical AI regulation', Petrie-Flom Center, Harvard Law School, 5 March, https://petrieflom.law.harvard.edu/2026/03/05/simplification-or-back-to-square-one-the-future-of-eu-medical-ai-regulation/.

Personalized Cancer Medicine for all EU Citizens (PCM4EU) Consortium (2025). 'A Comprehensive Assessment of the Existing Landscape of Personalized Cancer Medicine in the European Union'. *ESMO Open*, 10(11), 105872. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC12639420/.

Regulation (EU) 2025/327 of the European Parliament and of the Council of 11 February 2025 on the European Health Data Space. *Official Journal of the European Union*. https://eur-lex.europa.eu/eli/reg/2025/327/oj/eng.

Sidley Austin LLP (2025). 'European Health Data Space Regulation adopted: What's next for life sciences companies?', 28 March, https://www.sidley.com/en/insights/publications/2025/03/european-health-data-space-regulation-adopted-whats-next-for-life-sciences-companies.

Tandem Health (2026). 'EU AI Act explained: What healthcare organisations need to know', 10 March, https://tandemhealth.ai/resources/knowledge/eu-ai-act-explained-what-healthcare-organisations-need-to-know.

Uroweb (n.d.). 'The European Health Data Space Regulation (EHDS)', https://uroweb.org/the-european-health-data-space-regulation-ehds.



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