European University Hospital Alliance

From Technology Transfer to Innovation Ecosystem Hubs

The Evolving Role of University Hospitals

EUHA Whitepaper

Full Title: From Technology Transfer to Innovation Ecosystem Hubs: The Evolving Role of University Hospitals

Credits
Tenna Andreasen (Aarhus University Hospital), Robert Al (Erasmus MC), Jasper Albertus Nijkamp (Aarhus University Hospital), Roberto Buccione (Ospedale San Raffaele), Pekka Kahri (Helsinki University Hospital), Elina Reponen (Helsinki University Hospital), Coralie Cuif (Assitance Publique - Hôpitaux de Paris), Anne-Florence Fay (Assitance Publique - Hôpitaux de Paris), Gabriela Fuentes (Vall d'Hebron Barcelona Hospital Campus), Thomas Gazlig (Charité - Universitätsmedizin Berlin), Bart de Greef (UZ Leuven), Michelle Heijke (Erasmus MC), Tim Huse (Charité - Universitätsmedizin Berlin), Pekka Kahri (Helsinki University Hospital), Helga Kroschewsky (University Hospital Vienna), Christina Lehrer (Charité - Universitätsmedizin Berlin), Anouk Neureiter di Torrero (Erasmus MC), Rafael Navajo (Vall d'Hebron Barcelona Hospital Campus), Sarah Odoi (King's Health Partners), Jenn Owen (King's Health Partners), Michael Peterlunger (University Hospital Vienna), Anke Van der Perren (UZ Leuven), Johan Van Eldere (EUHA), Benjamin Riedl (University Hospital Vienna), Anna Sahlström (Karolinska University Hospital), Anna Sala (Vall d'Hebron Barcelona Hospital Campus).

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Rafael Navajo and Gabriela Fuentes (Vall d'Hebron Barcelona Hospital Campus) coordinated the writing group and wrote the final version.

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Executive Summary

University Hospitals across Europe stand at a pivotal moment. Faced with unprecedented demographic, economic and technological pressures, these institutions have an extraordinary opportunity — and responsibility — to evolve from traditional centres of care, education, research and sporadic innovation into fully recognised Hubs for thriving innovation ecosystems. At the same time, they are powerful drivers of the economy, as healthcare itself is a cornerstone of knowledge-based societies and a key engine for sustained growth.

Until now, their contribution to innovation has often been limited not only by a narrow focus on traditional knowledge and technology transfer activities such as publications and patents, but also by a lack of effective incentives **to encourage hospitals, research centres and individual researchers to engage more actively in innovation beyond the traditional academic output parameters.** As highlighted in the Draghi Report, Europe urgently needs to strengthen its capacity to turn scientific and clinical excellence into **real-world impact.** Achieving this requires enabling its University Hospitals to play a central role in bridging the gap between research and tangible solutions that benefit patients, tackle health challenges, drive regional economic development, and **safeguard Europe's technological sovereignty and global competitiveness.**

This whitepaper, prepared by the European University Hospital Alliance (EUHA), sets out a clear facts- and figures-based argument for why **Europe's leading University Hospitals must be recognised and supported as true Innovation Hubs like healthcare system transformation leaders.** It provides evidence of their collective scale and impact, identifies the barriers that still limit their innovation capacity — facing significant hurdles in accessing agile funding mechanisms, from heavy and costly regulatory processes and fragmented policy frameworks to a **lack of harmonised impact indicators** — and demonstrates how these challenges risk eroding Europe's leadership in areas such as clinical trials and translational research.

Most importantly, this paper **proposes concrete, actionable solutions.** EUHA presents a roadmap to strengthen internal capacity and culture, scale up public-private collaboration and clinical trials, and lead a joint action across Europe to develop a harmonised framework and methodology for **evaluating innovation impact**. The goal is clear: **to ensure that investments in research translate into measurable outcomes that matter for patients, health systems and that strengthen the European innovation capacity at large.**

EUHA calls on policymakers, funders, industry partners and regional stakeholders to work together to make this ambition a reality. By unlocking and aligning the full innovation potential of Europe's University Hospitals, we can deliver health, economic and societal impact, and ensure that Europe remains a global leader in the decades ahead.

Context & Health Challenges

Europe's healthcare systems are facing unprecedented and multi-layered challenges. The demographic reality of an ageing population[1], the steady rise in chronic and multi-morbid conditions[2], and the increasing costs of delivering high-quality care are straining health budgets and human resources alike[3]. At the same time, rapid technological advances from digital health solutions and artificial intelligence-based tools to personalised medicine, are reshaping the way care is delivered, research is conducted, and innovation is brought to market[4,5,6].

This transition requires new models that bridge the traditional silos between care delivery, research, education, and innovation. As large, complex organisations, University Hospitals are uniquely positioned to drive this change. They provide highly specialised care, generate clinical data at scale, and combine scientific research with real-world patient interaction. All of which are critical ingredients for meaningful, evidence-based health innovation.

The 2024 Draghi Report[7] calls for a **more resilient, competitive, and cohesive Europe**, emphasizing the role of strategic public investment in innovation. A critical part of this ambition is strengthening Europe's capacity to translate scientific excellence into real-world impact[8]. Yet, structural and cultural barriers continue to limit this potential[9]. The absence of common metrics means that the innovation impact of University Hospitals remains undervalued and under-recognised. Moreover, there is a widespread lack of effective incentives and enablers, both for hospitals and research centres to adopt innovation-driven models, and for individual researchers to engage in entrepreneurial or collaborative activities beyond traditional academic outputs[10].

Additionally, the **processes imposed by regulations** to develop and deploy new health technologies and therapies, such as those under the EU Medical Device Regulation (MDR) and the In Vitro Diagnostic Regulation (IVDR), are often **complex, resource-intensive, and time-consuming**, and are largely tailored to the capacities of large pharmaceutical companies. For academic research centres, start-up companies, or spin-offs with limited financial resources, successfully navigating these requirements can be particularly challenging. Health institutions also face significant hurdles, as the regulations restrict the development and especially the sharing of in-house devices beyond their own organisation. As a result, the transformation of promising research and prototypes into viable products and services that reach patients and markets is significantly slowed down.

[1] European Commission (2023). The 2023 Ageing Report: Economic and Budgetary Projections for the EU Member States (2021–2070). Publications Office of the European Union.
[2] OECD & European Union (2023). Health at a Glance: Europe 2022. OECD Publishing
[3] WHO Europe (2022). European Health Report 2021 – Taking stock of the health-related Sustainable Development Goals.
[4] European Commission (2023). European Health Data Space – Regulation Proposal.
[5] OECD (2023). Artificial Intelligence in Health: State of Play and Perspectives.
[6] European Council (2021). Council Conclusions on personalised medicine for patients.
[7] European Commission (2024). The Future of European Competitiveness: Report by Mario Draghi.
[8] European Commission (2024). Strategic Report on the Future of EU Competitiveness.
[9] OECD (2021). Boosting health innovation: Barriers and enablers. OECD Publishing.
[10] European Court of Auditors (2023). Special Report: EU support for health research – results not sufficiently exploited.

When these hurdles accumulate, they not only delay innovation uptake but also influence the strategic decisions of industry partners and sponsors regarding where to place their trials. As a result, leading European University Hospitals are increasingly **losing their competitive position in the clinical trials landscape**, with trials and research partnerships often shifting towards regions with more agile (regulatory) processes, clearer incentives, and stronger support for translational research. This trend undermines their role as engines of innovation and weakens the transfer of research outcomes into tangible impact for patients and society while also limiting European patients' access to new drugs under trial that may otherwise not become available to them.

There is a **lack of harmonised criteria and standardised indicators to measure innovation performance and impact** consistently across institutions and countries. This makes it **difficult** to compare progress, **demonstrate value to policymakers**, and allocate resources effectively within innovation ecosystems.

Combined with fragmented and inconsistent health policy frameworks, these hurdles create an environment where **Europe's strong research base does not always translate into recognised innovation leadership.**

EUHA recognises that if Europe is to obtain its leadership in medical research, health technology, and patient-centred innovation, it must unlock and scale the unique strengths of its University Hospitals. The opportunity is clear: by acting as Hubs for innovation ecosystems, EUHA members can help close the gap between scientific discovery and real-world solutions that improve lives, strengthen regional economies, and ensure Europe's continuing global competitiveness.

This evolution requires deliberate and prompt action: clear policy recognition, streamlined and supportive regulatory frameworks, harmonised and meaningful innovation 'impact indicators' and 'output parameters', sustainable funding models, a culture that rewards entrepreneurship and cross-sector collaboration, and robust platforms for sharing best practices across borders. Tackling these structural, cultural and regulatory barriers including reversing the decline in clinical trial leadership, is the first step to transform today's health challenges into opportunities for sustainable innovation and long-term impact.

Europe does not lack innovation—it lacks the conditions for that innovation to reach patients. Europe's real competitiveness will depend on its ability to turn knowledge into better health.

University Hospitals as Innovation Hubs

University Hospitals have always held a unique position within Europe's health and research landscape. They bring together th**e 'triple mission' of high-quality patient care, education and research (& innovation)**, all within complex organisations that serve millions of citizens every year. This distinctive role gives them an unquestionable advantage to act as bridges between scientific discovery and real-world impact. An additional dimension is their pivotal role in th**e adoption of new technologies and innovations**, which opens opportunities for public–private collaboration and fosters innovative procurement practices.

However, fulfilling this potential means going beyond the traditional model of technology transfer, which too often focuses narrowly on publications, patents, licensing agreements or spin-out creation. To truly **function as Innovation Hubs**, University Hospitals must adopt an integrated, ecosystem-based approach that combines their clinical, scientific, and educational strengths with open, cross-sector and cross-border collaboration, all focusing on supporting best-in-class technologies and research to deliver real-world solutions for patient needs.

One of the most powerful instruments to enable this role for Industry collaboration is their **capacity to conduct large-scale, high-quality validations and clinical trials.** Real-world patient data and clinical trials are a cornerstone for turning research insights into validated therapies, medical devices, and digital health solutions. They provide a trusted framework for public-private partnerships, connecting hospitals with the pharmaceutical, biotech, and medtech industries, as well as with start-ups and small and midsize enterprises (SMEs) in those domains. Strengthening the capacity and competitiveness of European University Hospitals in the clinical trials landscape is essential to maintain Europe's position as a global leader in health innovation.

In addition to clinical trials, **in-house development of medical devices** also plays an important role. Researchers and healthcare professionals often design solutions to address the challenges they face in daily practice. Article 5.5 of the MDR[11] and IVDR[12] regulation provides the regulatory basis for in-house development of medical devices for internal use when no suitable alternative is available on the market. University Hospitals widely utilize this provision, generating innovations that are relevant to other healthcare institutions. However, limited resources often prevent these solutions from being fully developed into market-ready products. By providing adequate support to strengthen compliance with regulatory requirements, improve product quality, and enhance documentation, in-house developments could serve as a foundation for further (co-)development in collaboration with industry. At the same time, current regulatory restrictions limit the possibility of sharing in-house developed devices with other healthcare institutions, creating a barrier to scaling potentially valuable innovations—an essential step in the development process.

[11]Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, OJ L 117, 05.05.2017.
[12]Regulation (EU) 2017/746 of the European Parliament and of the Council of 5 April 2017 on in vitro diagnostic medical devices, OJ L 117, 05.05.2017.

EUHA firmly believes that reinforcing clinical trial capabilities and streamlining collaboration frameworks should be a priority for national and EU-level health policies.

At the same time, becoming fully-fledged Innovation Hubs requires **a shift in organisational culture, funding, and governance.** University Hospitals need to invest in dedicated innovation offices and translational research units, expand their traditional 'triple mission' of care, research, and education to **explicitly include innovation,** and introduce **clear innovation output metrics to evaluate academic personnel.** They should also cultivate and further enforce strategic partnerships with industry and academia, and voluntary/third sector/charity, and build strong connections with regional innovation clusters, accelerators, and investors. This collaborative approach must extend to actively involving patients and citizens as active stakeholders in co-designing solutions that genuinely address societal needs.

A critical enabler of this transformation is the adoption of **harmonised and meaningful 'impact indicators'**. Measuring success solely through publications or patents no longer reflects the true contribution of University Hospitals to societal and economic value. While output metrics are important, they do not in themselves capture the real-world impact of these activities. **Impact indicators must reflect outcomes:** the scale-up and adoption of validated solutions in clinical practice, measurable improvements in patient outcomes, efficiency gains for health systems, and socio-economic benefits for regions and societies. Together, outputs metrics and impacts indicators provide a fuller, more accurate picture of the value generated by Europe's University Hospitals.

Developing such a framework directly contributes to the EU's ambition, **to strengthen Europe's position as a global leader in health innovation,** as outlined in the European Innovation Agenda[13] and the EU Innovation Compass[14] . By enabling data-driven evaluation of University Hospitals — one of Europe's most critical innovation infrastructures — we can demonstrate their value and guide strategic investment. EUHA sees this as a fundamental step to demonstrate the return on investment for public funding and to build trust with policymakers, industry, and society at large. In this way, Europe's University Hospitals can transform from "traditional conduits of technology transfer to active, resilient catalysts within innovation ecosystems, accelerating the journey from research to real-world solutions benefiting patients, communities, and Europe's global competitiveness.

Innovation starts in research, but it becomes meaningful only when it reaches patients. Empowering University Hospitals is essential to accelerating the journey from breakthrough ideas to better lives.

[13]European Commission (2022) A New European Innovation Agenda, Communication to the European Parliament and Council, 5 July.
[14]European Commission (2025) Competitiveness Compass: A strategic framework to boost EU competitiveness (2024–2029), Communication to the European Parliament and Council, 29 January.

Facts & Figures: The Collective Impact of EUHA Hospitals

The European University Hospital Alliance (EUHA) integrated by top University Hospitals from 11 countries, represents some of Europe's largest and most advanced and pioneering University Hospitals. Together, these institutions illustrate the scale, expertise, and real-world impact that University Hospitals can deliver when positioned as true innovation Hubs.

Collective Reach and Research Capacity

Each year, EUHA hospitals provide specialised care to **13,544,000 patients**, while training thousands of future health professionals and conducting world-leading research and innovation activities. EUHA members collectively produce tens of thousands of peer-reviewed publications annually, contributing significantly to Europe's standing in global medical research.

Innovation Pipeline and Technology Transfer

EUHA hospitals, together with the biomedical faculties of their respective universities, **generate hundreds of patent applications and actively manage portfolios that lead to dozens of licenses being transferred to industry each year.** This flow of licensing agreements and other go-to-market strategies contributes to new diagnostics, therapies and technologies reaching patients faster. In addition, EUHA members are increasingly creating spin-off companies and fostering local start-up ecosystems to scale innovative solutions. Yet, the scale of this potential is far from being fully realized.

Clinical Trials Leadership and Public-Private Collaboration

EUHA hospitals are recognised as preferred partners for industry-sponsored and investigator-initiated clinical trials. On average, EUHA members run **13145 active clinical studies annually**, covering a wide range of medical specialities. These trials serve as a platform for extensive public-private collaborations, co-developing and validating innovations with pharmaceutical, biotech and medtech companies.

Regional and Economic Impact

EUHA hospitals act as powerful regional anchors for biotech, medtech, and health innovation clusters. Their activities attract investments, generate high-value jobs, and boost regional competitiveness. For example, studies[15,16], show that every euro invested in university hospital research and innovation generates a multiple return through local economic activity, knowledge exchanges, and improved patient outcomes.

[15] NHS Confederation (2022). Health investing and economic growth: analysis of the impact of NHS spending.

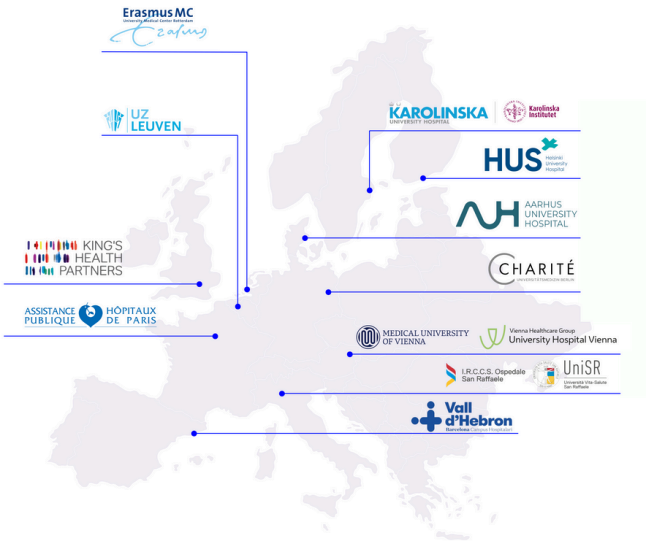
[16] European Commission (2015). The Value of Research: Policy Paper on the economic and societal returns of public investment in R&I.

As an example we include some reference Indicators:

13,5M+ Patients Treated
Cutting-Edge Medical Care

38K+ Trained Professionals
Next Generation of Healthcare Experts

10K+ Scientific Publications
Peer-Reviewed Research Every year



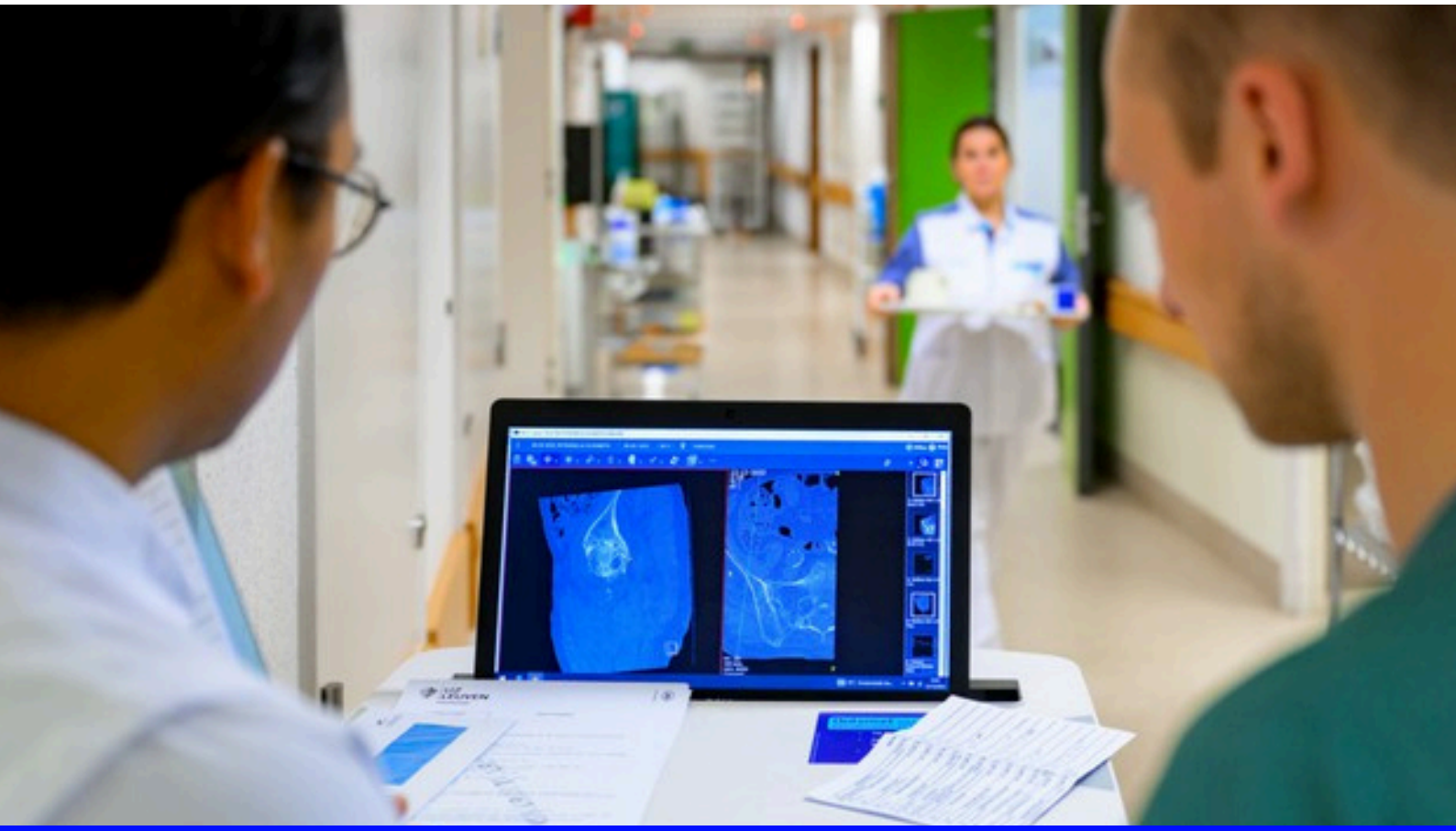
Technology Transfer

1889+ Patents
623+ Licenses
3116+ Public-Private Collaborations
131+ Spin-off Created

13K+ Active Clinical Assays

Pharmaceutical and Biotechnology Industry as Trusted Partners

These figures highlight the unique scale and reach of EUHA hospitals — and the untapped opportunity to amplify this impact through stronger frameworks, incentives, and harmonised measurement.



Proposed Solutions: Essential Conditions and Policy Measures

Building on the evidence and challenges outlined above, EUHA proposes a clear and actionable roadmap to strengthen the role of University Hospitals as true Hubs for innovation ecosystems. This approach combines capacity-building, policy alignment, and measurable impact — all essential to ensure that Europe's investment in research translates into real, implementable solutions that reach patients and generate economic and societal value. To enable University Hospitals in the EU to fully assume this role — on a scale comparable to internationally recognised models (i.e. Boston Innovation Ecosystem) — dedicated support in the form of funding, regulatory alignment, and strong incentives will be required. This includes the intentional concentration of infrastructure, capital, talent, and aligned policy frameworks around top University Hospitals with strong translational capacity. EUHA recognises that such a transformation must be sensitive to Europe's institutional and regional diversity, and calls for tailored, yet coordinated actions that support this evolution at both national and EU levels.

First, to empower EUHA's University Hospitals to become fully functional Innovation Hubs, talent and capital should be concentrated, strategic support provided, and a strong translational culture cultivated – one with a proven capacity to drive innovation. These institutions already bring together clinical excellence, research depth and access to real-world data, but to activate their full potential, they require dedicated structures such as solid innovation offices, co-creation units, start-up incubators and clinical data platforms, supported by sustained and targeted resources. These elements are essential to effectively manage innovation processes, foster collaboration across sectors, and deliver evidence-based solutions to patients and society. These Innovation HUBS should benefit from priority access to EU funding instruments, fast-track regulatory pathways, and dedicated industry matchmaking platforms, ensuring that they are fully equipped to deliver health innovation that is not only excellent, but also actionable, adoptable and impactful. To support this ambition, EUHA also recommends the creation of fast-track funding instruments, specifically designed for early-stage, hospital-linked innovations. Furthermore, EU-backed health-tech public-private venture funds, led by investors with strong domain expertise, should be established to accelerate the development and scaling of hospital spin-offs.

Second, EUHA University Hospitals must be empowered to scale up their role in public-private collaboration and clinical trials, which are essential levers for accelerating the translation of research into impactful health solutions. This requires not only fostering co-development models and strengthening connections with regional innovation clusters — particularly in biotech, medtech, and digital health — but also removing regulatory and administrative barriers that continue to hinder progress. Despite the goals of the Clinical Trials Regulation (CTR), approval timelines remain lengthy and inconsistent across Member States. EUHA proposes the introduction of a fast-track procedure for academic institutions and hospital-led multicentre trials. Additionally, the administrative burden associated with early-stage and multi-country trials discourages academic leadership and innovation. To address this, we recommend simplifying documentation requirements for early-phase, low-risk trials and introducing a "single dossier" format accepted EU-wide.

Additionally, to improve cross-border collaboration, EUHA has been actively working on harmonised templates for academic multicentre trials, and we call on the EU to adopt mandated templates for ethics approvals and contracting, with binding commitments from Member States on response timelines and coordination via the Clinical Trials Information System (CTIS). Third, incentivize innovation-driven careers: Academic clinical and research careers do not sufficiently reward entrepreneurship, start-up creation, and industry partnerships. EUHA proposes to rethink promotion criteria to include innovation outcomes. Introduce tax incentives and sabbatical allowances for hospital-based innovators. Encourage member states to embed innovation metrics in public hospital evaluations. While EUHA actively participates in the COARA initiative to reform research assessment, this alone is not sufficient to foster an innovation-driven culture in university hospitals; additional tailored measures are needed to fully recognise and reward innovation activities.

Fourth, to maximise the impact of these efforts, a shared understanding of success must be acquired, supported by harmonised metrics and EU-wide policy alignment. EUHA proposes, under EU funding mechanisms, to lead a joint initiative across Europe to develop common, comparable innovation impact indicator and output parameters through a robust methodology to be adopted by University Hospitals, research centres, and policymakers alike. Aligning public funding instruments with these indicators will help ensure that resources flow to institutions that deliver real-world outcomes. Close collaboration with EU institutions and national governments will be key to shaping policies that formally recognise and sustain University Hospitals as Innovation Hubs, supported by modern frameworks, streamlined processes, and stable long-term investment.

In summary, this roadmap sets out a range of actions for Europe to unlock the full innovation potential of its University Hospitals. With clear incentives, supportive policy frameworks, and robust collaboration, EUHA members can help close the gap between research excellence and real-world impact, secure Europe's position as a global leader in health innovation, and deliver measurable value to patients, communities, and the wider economy. Moreover, EUHA organisations have the unique opportunity to serve as test beds for promising new innovations, providing the scale and environment needed to facilitate their adoption into healthcare systems and through this model inspire other University Hospitals across Europe.

Conclusion and Next Steps

Europe's University Hospitals stand ready to play a transformational role in bridging the gap between research excellence and real-world impact. The evidence is clear: these institutions have the scale, expertise and patient reach to act as powerful innovation hubs ecosystems, translating scientific discoveries into solutions that improve lives, strengthen regional economies, and maintain Europe's global leadership in health and biomedical research.

However, this potential will remain underutilised unless we act collectively to address the structural, cultural, regulatory and policy barriers that limit innovation capacity today. The European University Hospital Alliance (EUHA) firmly believes that this transformation requires not just local initiatives, but a coordinated, evidence-based overarching approach that aligns incentives, modernises processes, and rewards impact.

With this whitepaper, EUHA calls on policymakers, funders, regional and national authorities, industry partners, and the broader research community to recognise top University Hospitals as integral Innovation Hubs and to work together to unlock their full potential to act as test beds for new sources of ideas, innovative solutions to healthcare challenges, accelerate the translation of research into practice, and strengthen Europe's innovation capacity.

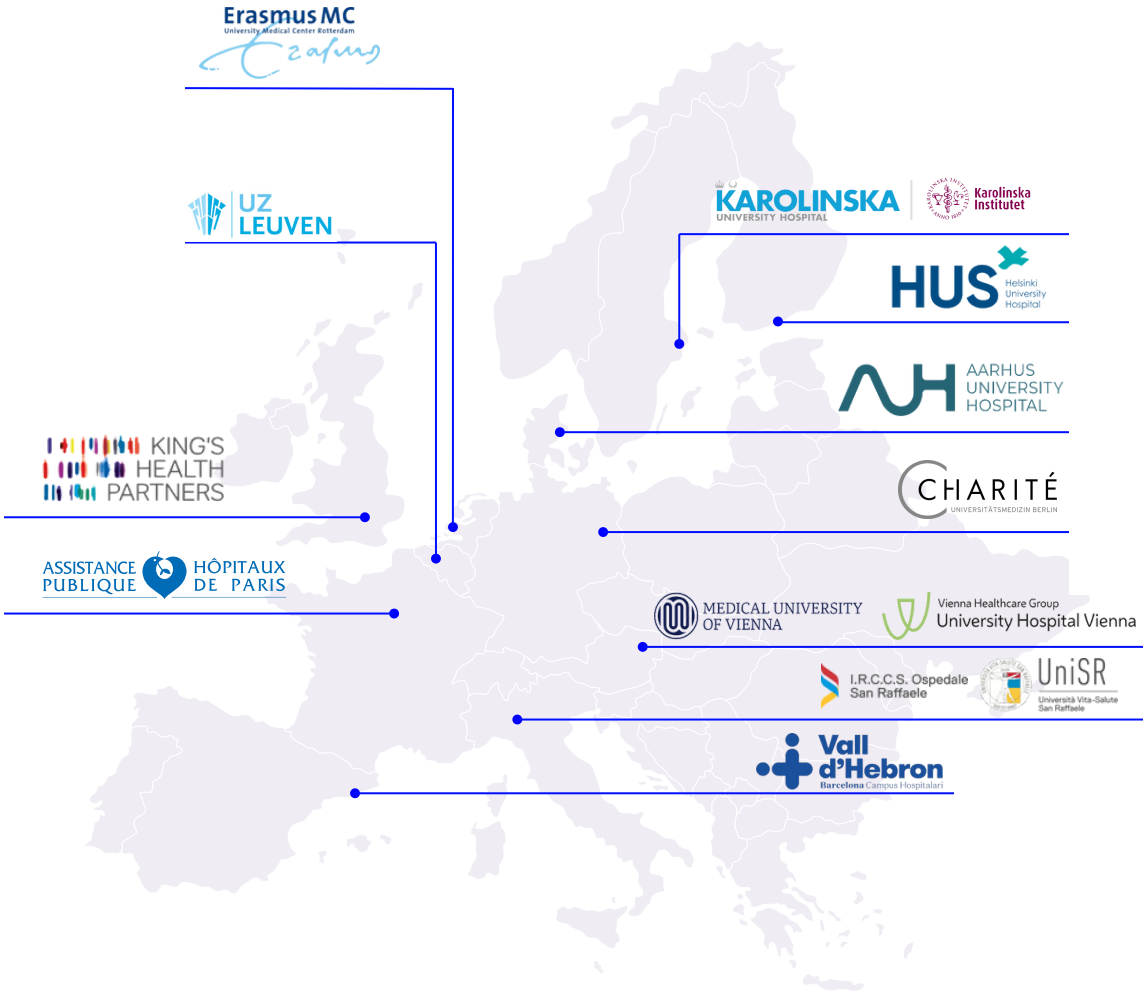
The proposed roadmap offers concrete steps to strengthen internal capacities through dedicated innovation offices, training, and data infrastructure; scale up public-private collaboration and clinical trials by fostering joint investment, innovation-friendly procurement, and hospital test beds; and develop shared, comparable indicators with common EUHA metrics, and EU-aligned methodologies to measure and compare innovation impact across Europe.

As a next step, EUHA commits to leading a joint action across Europe to define and pilot a common framework for evaluating innovation performance and impact in University Hospitals, working closely with national governments and EU institutions. Delivering this framework will require dedicated funding and resources, as it cannot be achieved sustainably without adequate investment. This is an open invitation to stakeholders across the ecosystem to engage, share best practices, and co-create solutions that ensure Europe's investments in research deliver maximum value for patients, society and the economy.

Together, we can ensure that Europe's University Hospitals evolve from technology transfer channels into fully recognised, resilient hubs for thriving innovation ecosystems, delivering impact that matters — now and for future generations.

About EUHA

The European University Hospital Alliance, founded in 2017, is formed of 11 leading European university hospitals. University hospitals play an essential role in healthcare systems and society, taking care of the most complex patients, performing research, pioneering healthcare and innovation, and training the next generation of healthcare professionals.



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