

Precision oncology in Europe: real progress, uneven access, and a roadmap to equity

New review in *The Lancet Regional Health – Europe* maps molecular diagnostics and targeted cancer treatment across more than 20 European countries, published alongside *The Lancet Oncology Commission Report* launching at the UICC World Cancer Congress in Hong Kong.

A major review in *The Lancet Regional Health – Europe* shows that precision oncology — treating cancer according to the molecular profile of each patient’s tumour — is steadily becoming clinical reality across Europe, but that access to treatment remains a critical bottleneck. The review is published in parallel with *The Lancet Oncology Commission on Cancer Genomics and Precision Oncology*, a landmark global initiative launched at the UICC World Cancer Congress in Hong Kong on 25 September 2026.

Supported by regulatory developments, national infrastructure investments, and EU-level programmes under flagship initiatives such as Europe’s Beating Cancer Plan and the EU Cancer Mission, precision oncology is now an established part of Europe’s cancer response. However, the new review finds that the benefits are still not reaching patients evenly, and the decisive frontier has shifted: from diagnostics to access to treatment.

This review, “*Landscape of cancer genomics and precision oncology in Europe*” was developed in conjunction with *The Lancet Oncology Commission Report on Cancer Genomics and Precision Oncology* and maps precision oncology implementation across more than 20 European countries. It brings together insights from more than 150 leading experts, scientific evidence, policy analyses, and country-level implementation snapshots to describe how precision oncology is evolving across diverse European health systems.

The backdrop: universal care shapes how precision oncology can be delivered

Most European countries run universal healthcare systems built on equity and cost-effectiveness. Precision oncology in Europe is therefore delivered differently than in many other regions: its use is tied to clinical indication and to availability of treatment options. In practice, standard-of-care molecular diagnostics, using single-gene PCR assays or small, targeted gene panels, is now broadly available across the continent. However, access to comprehensive genomic profiling, and access to therapies matched to a patient’s tumour profile, remain unevenly distributed.

What the review found

The authors map precision oncology implementation across more than 20 European countries, drawing on expert input, peer-reviewed literature, policy documents and national implementation snapshots. Three findings stand out:

- **Pathways are more alike than assumed.** Despite real differences in infrastructure and reimbursement, most countries have converged on a similar model: molecular tumour boards are established, core molecular diagnostics are reimbursed, and at least some targeted therapies are accessible.
- **Public investment is doing the heavy lifting.** A number of European countries and the EU has mobilised considerable funding across three fronts as shown in detail in the review:

infrastructure and harmonisation programmes (such as, at the EU level, 1+MG, GDI and EUnetCCC), capacity building (CCI4EU), and evidence generation (PRIME-ROSE).

- **Europe has structural advantages.** Universal public healthcare, common regulatory frameworks (EMA and the emerging European Health Data Space), as well as cross-border research infrastructure give the region an unusual foundation for equitable access.

The critical barrier now is not testing but treatment: access to matched therapeutic alternatives, especially for patients with rare cancers, is what most limits further progress.

“What stood out to us is how similarly precision oncology is now organised across much of Europe. Molecular tumour boards, reimbursed diagnostics, and pathways to targeted therapies are in place in many countries. The unfinished business is making sure patients receive the right matched treatment at the right time, and this gap is most acute for people with rare cancers,” said first author Dr Gro Live Fagereng, Oslo University Hospital, project manager of PRIME-ROSE and Lead of Network Activities in EUnetCCC.

What needs to happen next

The authors set out three implications for policy and health systems:

- **Build a learning healthcare system for precision oncology.** Implementation should be coupled to prospective evidence generation, monitoring of real-world outcomes, and value-based decision making, so that implementation strategy can be linked directly to outcomes that matter to patients, such as treatment response.
- **Align trials, reimbursement and implementation.** Clinical trial design, reimbursement and implementation frameworks need to pull in the same direction, and investigator-initiated trials should be recognised as a core function of the health system, not optional research extra.
- **Match priorities to the maturity of the evidence.** For well-established biomarker-drug pairs in common cancers, the goal should be broad, quality-controlled access. For rare cancers, sustainable pathways such as pan-European adaptive basket trials, with corresponding reimbursement mechanisms, are needed. For exploratory applications, structured evidence-generation frameworks should govern adoption.

These recommendations echo, at regional scale, the global roadmap set out in *The Lancet Oncology Commission on Cancer Genomics and Precision Oncology*, published in parallel, which calls for value-based, resource-stratified implementation frameworks, a system-readiness assessment tool, and monitoring and evaluation frameworks to guide precision oncology worldwide. Together, the two publications show that even in a region with universal healthcare, common regulatory structures, and substantial public investment, closing the gap between diagnosis and access to matched treatment requires deliberate policy choices – a challenge that is markedly greater in lower-resourced health systems globally.

“Europe’s universal health systems, common regulatory frameworks, and strong cross-border research networks give us a real strategic advantage,” said corresponding author Professor Kjetil Taskén, Head of Institute for Cancer Research, Oslo University Hospital and Coordinator of the EU Cancer Mission project PRIME-ROSE. *“If we build precision oncology as a true learning health system, grounding in real-world data and adaptive decision-making, equitable access stops being a slogan and becomes part of how we run cancer care every day.”*

“This European review shows, in granular detail, what our Commission set out to capture at a global level: that in some of the world’s most sophisticated health systems, testing patients is no longer the hardest part – getting them the right matched treatment is. This kind of regional evidence is exactly what is needed to inform the resource-stratified, value-based frameworks our Commission is proposing, and to hold health systems accountable for closing the gap between diagnosis and access, in Europe and everywhere else,” said Dr Raffaella Casolino, co-chair of The Lancet Oncology Commission on Cancer Genomics and Precision Oncology, honorary senior lecturer, University of Glasgow, and former WHO cancer team technical officer.

Scientific article:

[Landscape of cancer genomics and precision oncology in Europe. The Lancet Regional Health – Europe.](#)

[Accelerating equitable cancer genomics and precision oncology in health care and research: A Lancet Oncology Commission. The Lancet Oncology.](#)

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