MOLECULAR RISK TESTING: A SMARTER SYSTEM FOR THYROID CANCER CARE

Oliver Bathe, Professor of Surgery and Oncology and CEO of Qualisure Diagnostics, calls for policymakers to support molecular risk testing to improve patient care and reduce healthcare costs associated with thyroid cancer treatment

Papillary thyroid cancer (PTC) is one of the most commonly diagnosed endocrine cancers worldwide. Though survival rates are high, many patients undergo more treatment than necessary. The current system often relies on imprecise tools to assess risk, leading to aggressive care even when the cancer poses minimal threat. This mismatch creates unnecessary complications, higher costs, and avoidable burdens for patients and healthcare systems alike.

At the core of this challenge is the inability to accurately assess recurrence risk before treatment. Without reliable prognostic tools, doctors default to total thyroidectomy, radioactive iodine, and intensive surveillance. These interventions are valuable in high-risk cases but are often used when not needed.

Thyroid GuidePx® offers a way forward. This molecular test analyzes gene expression in thyroid tumors to classify them into low-, intermediate-, or high-risk groups before surgery. It brings biology to the forefront of decision-making, replacing broad clinical estimates with precise, individualized risk assessment.

Aligning with value-based care

Modern healthcare systems are shifting from volume to value. Thyroid GuidePx® supports this shift by ensuring that the intensity of treatment matches the true risk of recurrence. For patients with biologically low-risk tumors, it helps clinicians confidently recommend less invasive options like lobectomy or active surveillance. For patients with high-risk tumors, the test supports timely, appropriate escalation of care.

This reduces both under- and overtreatment. Patients receive the care they need – no more, no less. For policymakers and payers, this means fewer unnecessary surgeries, less radioactive iodine use, and lower follow-up intensity for those who don't need it. It also reduces the rate of repeat surgeries, such as completion thyroidectomy, which are often required when high-risk features are discovered only after an initial, limited surgery.

Reducing financial and systemic waste

Thyroid cancer carries a disproportionate financial burden. Many patients are diagnosed in their 30s or 40s, years when they are raising families, working full-time, and are least able to absorb the economic disruption

of long treatment timelines. While survival is high, the cumulative costs of surgery, imaging, medications, and follow-up care are substantial.

These costs are often amplified by overtreatment. Total thyroidectomy leads to lifelong hormone replacement therapy. Radioactive iodine carries risks to fertility, salivary gland function, and long-term health. Repeat imaging and blood tests strain both patient finances and clinical resources.

Thyroid GuidePx® mitigates these costs by informing treatment plans that avoid unnecessary interventions. When the right decision is made upfront, downstream savings follow – fewer procedures, shorter recovery, and reduced need for long-term follow-up.

Supporting equitable access to precision medicine

Precision medicine promises to improve outcomes and reduce harm by personalizing treatment. But for this promise to be fulfilled, access must be widespread and not limited to large academic centers.

Thyroid GuidePx® is designed for broad clinical use. It works on standard biopsy or surgical tissue and integrates into existing diagnostic workflows. No special infrastructure is needed. That makes it well-suited for community clinics, rural hospitals, and regional cancer centers.

However, equitable access depends on coverage. Without payer support, patients in less-resourced settings may be excluded from the benefits of precision oncology. Policymakers can help close this gap by recognizing Thyroid GuidePx® as a medically necessary tool and ensuring that reimbursement policies reflect its clinical utility.

Backed by rigorous evidence

Thyroid GuidePx® was developed using machine learning applied to large datasets of patients with known outcomes. It was validated in three independent cohorts from North America and Asia. In all settings, the test outperformed traditional risk models based on tumor size, histology, and staging.

In addition to improving general prognostication, the test has proven especially valuable in more difficult-to-interpret cases – such as tumors with tall cell or follicular features. These subtypes have historically led to uncertainty and variable management. Thyroid GuidePx® helps resolve these ambiguities with objective molecular data. This level of evidence supports its clinical integration. It is not an experimental tool, but a validated technology ready for use in routine practice.

A practical policy opportunity

Supporting access to Thyroid GuidePx® offers immediate benefits. It empowers physicians to deliver more efficient care and helps patients avoid unnecessary interventions. It also lowers total system costs by reducing avoidable surgeries, inappropriate RAI use, and excessive surveillance.

Health technology assessments, clinical guidelines, and payer policies should reflect the availability of modern prognostic tools. Making Thyroid GuidePx® part of the standard of care for PTC will not only improve patient experience – it will help modernize thyroid cancer management to reflect what is now scientifically and clinically possible.

This is a low-barrier, high-impact intervention. It doesn't require expensive infrastructure or an overhaul of existing care pathways. It simply adds a layer of information that dramatically improves the quality of clinical decision-making.

The management of papillary thyroid cancer is overdue for an upgrade. For too long, treatment intensity has been determined by incomplete information, leading to overtreatment for many and uncertainty for all. Thyroid GuidePx® brings precision to this process by providing a preoperative, biologically informed risk assessment that guides care from the outset.

For policymakers, payers, and health leaders, this is an opportunity to support smarter, more sustainable care. Investing in diagnostic tools like Thyroid GuidePx® isn't just a matter of science – it's a commitment to better outcomes, better use of resources, and a more equitable future for cancer care.

Oliver Bathe
Professor of Surgery and Oncology
(University of Calgary)
CEO, Qualisure Diagnostics
Tel: +1 403 614 7124
WEBSITE EMAIL

Qualisure Diagnostics

Oliver Bathe