

Using Labs Wisely:
*Opportunities for Appropriate Care
and Clinical Sustainability*



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Foundation



This resource was developed as part of the [Decarbonization in Action](#) project, supporting Canadian hospitals to reduce greenhouse gas emissions across building systems, clinical activities, and organizational processes.

This project is a partnership of the Canadian Coalition for Green Health Care and MaRS Discovery District, and made possible by the Peter Gilgan Foundation.

THE PURPOSE OF THIS DOCUMENT



This is a standalone document that provides background information about the Using Labs Wisely program. The aims of this resource are to:

- Summarize the challenge of low-value testing and the value of adopting Using Labs Wisely recommendations;
- Share resources about the costs and benefits to inform decision-making; and
- Present best practices and lessons learned from hospitals that have achieved Using Labs Wisely designations.

Intended Audience:

- **Frontline staff** involved along the workflow of lab tests/studies
- **Sustainability champions** across the organization such as green teams, clinician champions, and executive sponsors
- **Environmental KPI owners** responsible for the organization's emissions- and waste-related performance and targets.

Disclaimer: This resource was developed as part of the *Decarbonization in Action* project as a high-level reference drawing on existing literature, resources, standards, and methodology guidance available at the time of publication (2026). It is intended to support hospitals with general information and guidance, but its applicability will depend on each organization's specific context, priorities, data, and operational circumstances. Users should consider local factors when interpreting or applying this resource, and note that relevant external standards and guidance may change over time.

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About Choosing Wisely Canada



Choosing Wisely Canada (CWC)

- The national voice for **reducing unnecessary tests and treatments** in Canada.
- The goal is to reduce patients exposure to potential harm, consumption of precious health care resources, and contribution to the climate crisis.
- Works with national clinician societies to identify and develop recommendations.
- The Canadian Society for Medical Laboratory Science (CSMLS) is a campaign partner of CWC. The CSMLS and the University of Alberta Medical Laboratory Science Division created [CWC recommendations for Medical Laboratory Science](#).

About Using Labs Wisely



Using Labs Wisely

- A national consortium of hospitals committed to making a measurable impact on reducing low-value lab testing in Canada.
- There are currently 155 participating hospitals in the Using Labs Wisely consortium, with 63 in Ontario.
- Hospitals of various sizes and levels of experience can join and participate

By participating in Using Labs Wisely, hospitals will:

1. Implement Change

- Identify local improvement priorities and develop annual quality improvement plans.
- Implement interventions to reduce lab utilization and measure the change.

2. Share Data

- Submit aggregated utilization data on a defined set of tests.
- Receive comparative reports on your hospital's performance compared to peers in the program.
- Contribute to the creation of a national reporting system for appropriate lab utilization in Canada.

3. Learn With Others

- Participate in interactive learning sessions with hospitals from across Canada.
- Gain access to tools, coaching, and mentoring opportunities.
- Network with like-minded clinicians, lab experts, researchers, and administrators

The scale of the challenge with low-value testing



The Challenge:

- The clinical laboratory plays a crucial role in health care. Lab testing is the **single highest volume** of medical activity.
- However, not all tests are needed. Low-value lab tests could cause:
 - **Potential patient harm** due to unwarranted stress, unnecessary follow-up testing, and misleading results.
 - **Potential system harm** due to waste resources, misdirect clinical effort, and increase workload burden
- There are **many drivers** of low-value testing. Tackling this issue involve:
 - Understanding the extent of inappropriate testing.
 - Uncovering and modifying habits and processes over time.
 - Taking a collaborative approach with multiple stakeholders and adopt a continuous quality improvement mindset.

Key Facts & Figures

- An estimated **20–50%** of all testing is inappropriately ordered, meaning that it is either an **incorrect** test, a **redundant** test or a correct test ordered at **the wrong time**.
- Almost **\$6 billion is spent annually on lab testing** by provincial and territorial governments, and about **10% of that is unnecessary**.
- **Large differences between individual practitioners in laboratory utilization** have been reported in several countries. Canada is no exception.

Common factors behind low-value tests (see [Lab Wisely communication primer](#) for details)

Factors	Considerations
The laboratory	• Practice habits are traditionally difficult to change, even in the face of new evidence (e.g. ordering test panels, repetitive orders)
The requestor	• Defensive medicine and fear of malpractice lawsuits drive over-investigations • Lack of time for shared decision-making between clinicians and patients
The patient	• Patients might request tests and treatments without having all the information about risks and benefits
The system	• Outdated decision-support systems encourage over-ordering • Perverse financial incentives (payment systems that reward doing more)

The Case for Action and the Value of Using Labs Wisely Program



Key drivers for action:

- **Values:** Reducing potential harm on patients and the environment aligns with the hospitals' and health care workers' core values
- **Standards & Regulations:** Environmental stewardship will be embedded in **Accreditation Canada** Leadership Standards. Other regulatory requirements include annual GHG emissions reporting, annual waste audits and reduction plans, and Energy Conservation and Demand Management Plans.
- **Strategy Alignment:** Many hospitals have highlighted the strategic importance of sustainability, including through the lens of **promoting fiscal stewardship through environmentally sustainable practices.**
- **Quality Improvement:** **Appropriate Care** is a key component of the TAHSN Sustainability Balanced Scorecard for peer benchmarking.

Key (Co-)Benefits for Hospitals to Take Action



Save costs and resources



Reduce unnecessary workload



Reduce waste and carbon emissions



Improve quality of care

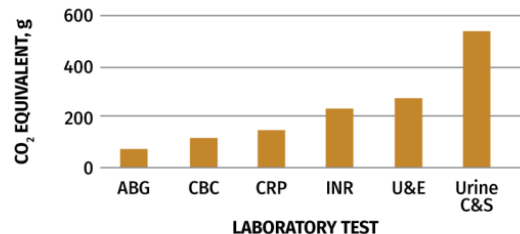


Avoid potential patient harm



Receive recognition for improvements

Climate change impact of laboratory tests



ABG—arterial blood gas, C&S—culture and sensitivity, CBC—complete blood count, CRP—C-reactive protein, INR—international normalized ratio, U&E—urea and electrolytes.

Data from McAlister et al.¹⁸

Overview of Using Labs Wisely Recommendations



Fourteen Tests and Treatments to Question

Developed by the Canadian Society for Medical Laboratory Science (October 2025)

Recommendation

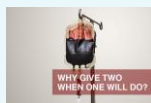
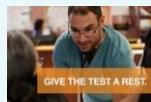
- 1 Don't collect more blood than what is needed. Use short draw tubes, consider add-on testing, and reduce or combine duplicate orders.
- 2 Don't proceed with testing or reporting when sample quality or identification is suspect.
- 3 Don't collect extra blood tubes in anticipation of test orders.
- 4 Don't support repeat test ordering (re-testing) at a frequency that is not backed by evidence.
- 5 Don't routinely repeat critical results for most common analytes before reporting.
- 6 Don't support ordering system mechanisms that contribute to over-testing. Encourage the development of an evidence-based utilization management program that may include interventions such as unbundling order sets, reflex testing algorithms, and decision-support technology.
- 7 Don't allow standing orders for repeat testing without a stop or review date.
- 8 Don't recommend tests that are not in response to a specific clinical question.
- 9 Don't collect specimens from patients approaching end-of-life if the results do not serve the patient's indicated therapy goals.
- 10 Don't perform a manual differential on a complete blood count (CBC) if a recent valid automated differential result remains unchanged.
- 11 Don't process transfusion orders that do not adhere to best practices without discussing with the ordering clinician.
- 12 Don't report results on tests with low specificity without alerting clinicians to the possibility of false positives.
- 13 Don't process urine culture orders for asymptomatic patients that lack appropriate indications from the ordering clinician.
- 14 Don't wake patients at night for phlebotomy for testing deemed safe by clinical teams to proceed in the morning.

Overview of Using Labs Wisely Resources



Lab Utilization Project Toolkits

- [Give the Test a Rest:](#) Reducing unnecessary ED lab testing
- [Understand the Gland:](#) Appropriate ordering practices of free thyroid hormone testing.
- [Pause the Draws:](#) Reducing repetitive, “routine” blood tests in hospitals.
- [Why Give Two When One Will Do:](#) Reducing unnecessary red blood cell transfusions in hospitals



Communication assets

- [Infographics and posters](#)



Savings Calculator

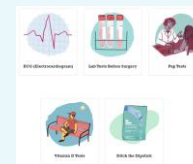
- The [calculator](#) helps quantify cost, blood volume, and time saved.

Comparison Made Summary

Test	Test Numbers	Current Test	Reference Test	Testing Costs				Patient Blood Loss Prevention		Waste Reduction	
				Current Test	Reference Test	Current Test	Reference Test	Current Test	Reference Test	Current Test	Reference Test
Custom Test 1	1	1.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0.00	0.00	0.00	0.00
Custom Test 2	1	1.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0.00	0.00	0.00	0.00
Difference			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0.00	0.00	0.00	0.00

Additional Resources

- [Webinars](#)
- [Project resources](#)
- [Relevant literature](#)



Approaches to Increase Appropriate Lab Test Ordering



1. Review current practices and identify improvement priorities

Review test catalogue

Explore updating ordering forms and changing order sets

Review clinical guidelines and protocols

Review training needs

2. Educate & Engage Stakeholders

Share new evidence and best practices for reducing lab utilization

Engage with stakeholders involved in or affected by low-value testing (labs, patients, clinicians)

Secure senior leadership support and buy-in from stakeholders

Build consensus and cultivate a culture for appropriate care

3. Implement change and measure performance

Identify top low-value tests of concern, take a phased approach and start small

Map processes and seek inputs to understand potential causes

Gather evidence to validate/disprove the identified issues

Explore solutions with coworkers and consortiums such as Using Labs Wisely

4. Track performance and share learnings

Select indicators with support from other functions such as sustainability, research, and quality.

Track indicators by selected test type, and gather stakeholder feedback

If joining Using Labs Wisely, develop work plan for data collection and aggregation for benchmarking

Track performance over time to ensure sustained change of habits and practices; and share success stories

Suggested Questions for Stakeholder Discussion



- What is our organization's current level of awareness/knowledge of low-value tests and their negative impacts?
- What types of low-value or inappropriate tests have you observed?
- Which CWC recommendations stood out to you as relevant and feasible?
- How may participation in, and recognition by, Using Labs Wisely support/affect your work?
- What are your biggest concerns about implementing changes to reduce low-value tests?

