

Optimal use of laboratory tests

Serum folate

TARGET USERS

Health professionals involved in ordering laboratory tests.

OBJECTIVE OF THE TOOL

To support health professionals in the judicious use of clinical laboratory testing.

This clinical tool is provided for informational purposes only and does not replace the clinician's judgment in the exercise of activities reserved to them by law and regulation.

✗ SERUM FOLATE TESTING IS NOT INDICATED FOR:

- routine screening for folate deficiency in asymptomatic individuals;
- individuals receiving folic acid supplementation;
- individuals with a normal complete blood count (CBC).

INDICATIONS FOR SERUM FOLATE TESTING

Serum folate testing **may be indicated** in individuals with signs or symptoms of folate deficiency, in cases of macrocytic anemia that cannot be explained by vitamin B12 deficiency.

OTHER CONSIDERATIONS

ⓘ This guidance sheet does not provide recommendations on folic acid supplementation. Any consideration of supplementation should follow recommended clinical practices and be guided by the healthcare professional's judgment.

Serum folate testing **is not necessary** to start supplementation in the rare cases of suspected folate deficiency or in individuals at risk of deficiency, such as those:

- who are pregnant or breastfeeding;
- who follow a restrictive diet without supplementation;
- from a country where foods are not routinely fortified with folic acid;
- affected by alcohol use disorder;
- experiencing malabsorption syndromes, if clinical presentation does not suggest folate deficiency (e.g., celiac disease, Crohn's disease, or after gastric or small intestine surgery);
- on long-term metformin therapy (more than 4 years).

RELEVANCE ISSUES

- The clinical usefulness of testing serum folate in individuals at risk of deficiency has not been demonstrated, especially in countries with folic acid fortification programs, such as Canada.
- Serum folate testing provides limited additional value due to biological variability, the lack of consensus on deficiency thresholds, and the low prevalence of folate deficiency in the post-fortification era.
- In most cases, serum folate testing is not necessary prior to initiating supplementation, including in pregnant women, as the results generally do not affect clinical management.

INFORMATION ON THE TEST

- Serum folate is the preferred first-line test for assessing folate deficiency when testing is indicated.
- Red blood cell folate, which reflects folate stores, offers no added advantage for diagnosing deficiency or guiding treatment decisions.

EPIDEMIOLOGICAL DATA

- Since 1998, when Canada mandated folic acid fortification of enriched cereal products, the prevalence of folate deficiency has dropped markedly.
- In Canada, folate deficiency is rare among people with a varied diet.

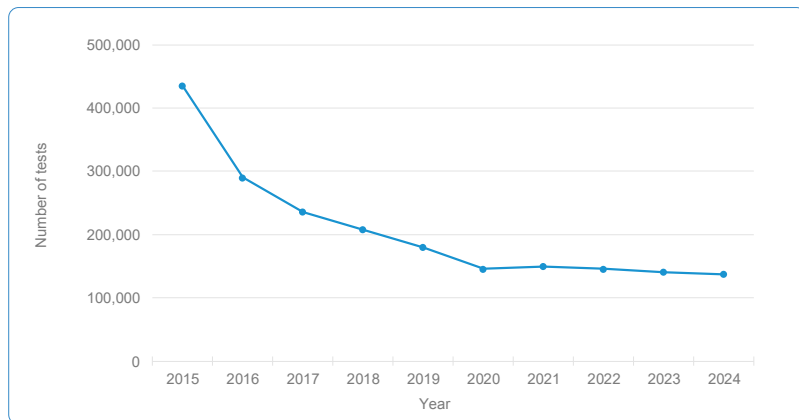
Prevalence of folate deficiency in the Canadian population



General population
< 1%

ADDITIONAL CONSIDERATIONS

Evolution of the number of tests performed in Quebec between 2015 and 2024



↓ **68.5%**

Decrease in the number of tests performed between 2015 and 2024



\$3.70 / test (2024)*

In 2024, **137,195** serum folate tests were performed in Quebec. These tests represent an estimated cost of **\$508,000** for the same period.

* The cost reflects a weighted value that accounts for the human and material resources required to perform the test. It excludes costs related to infrastructure and clinical and medical staff salaries. For more details, see the [methodology](#).



Avoiding ordering low-value laboratory tests helps **optimize** the use of **human resources within the healthcare system**, while also **reducing the carbon footprint** by:

- Reducing the use of medical supplies
- Reducing energy consumption
- Limiting patient travel

The recommendations were developed using a systematic approach and are supported by the scientific literature as well as the knowledge and experience of Quebec clinicians from diverse specialties and areas of expertise. For more details, see insss.qc.ca.

For more details, including references, refer to the [associated report](#).

For any questions relating to clinical tools, write to info-outils.cliniques@insss.qc.ca.

