

# Overuse of Tests and Treatments: Has Canada Made Progress?

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## Abstract

**Overuse of healthcare services is a complex issue. Also known as low-value care, these are tests, treatments and procedures that are commonly ordered despite clear evidence that they do not help with patient care and may even cause harm. National clinician societies have developed over 450 Choosing Wisely Canada (CWC) recommendations to spur conversation about what is appropriate and necessary treatment. The latest report from the Canadian Institute for Health Information and CWC measured the trends and variation in the use over time of tests and treatments related to 12 CWC recommendations (CIHI 2022). Reductions in overuse were observed in eight of the 12 tests and treatments examined; findings for two of these measures – chronic benzodiazepine use and red blood cell transfusions – are highlighted. Despite some progress on reducing overuse, there remains considerable room for improvement in the appropriate and judicious use of tests and treatments in Canada.**

## Introduction

To support the sustainability and quality of Canada’s healthcare systems, a renewed focus on preventing overuse and reducing low-value medical interventions is essential. This second joint report from the Canadian Institute for Health Information (CIHI) and Choosing Wisely Canada (CWC) examined Canada’s progress in reducing the rates of 12 commonly overused tests and treatments across the country. *Overuse of Tests and Treatments in Canada – Progress Report* (CIHI 2022) was released in November 2022, and is a follow-up to the baseline report from 2017, *Unnecessary Care in Canada* (CIHI 2017). The key finding of the 2022 release was that between 2014–2015 and 2019–2020, significant progress was made in eight of the 12 measures, with a reduction of 10% or more in low-value care.

The report highlighted areas for improvement in community care, emergency care and hospital settings, and compared rates across provinces and territories. Socio-demographic and clinical stratifiers were also explored. The two measures featured here include:

- *Chronic use of benzodiazepines and other sedative–hypnotics in older adults*, measured using CIHI’s National Prescription Drug Utilization Information System, and
- *Red blood cell transfusion in hospitalized patients*, measured using CIHI’s Hospital Morbidity Database.

## Spotlights

### Chronic use of benzodiazepines and other sedative–hypnotics in older adults

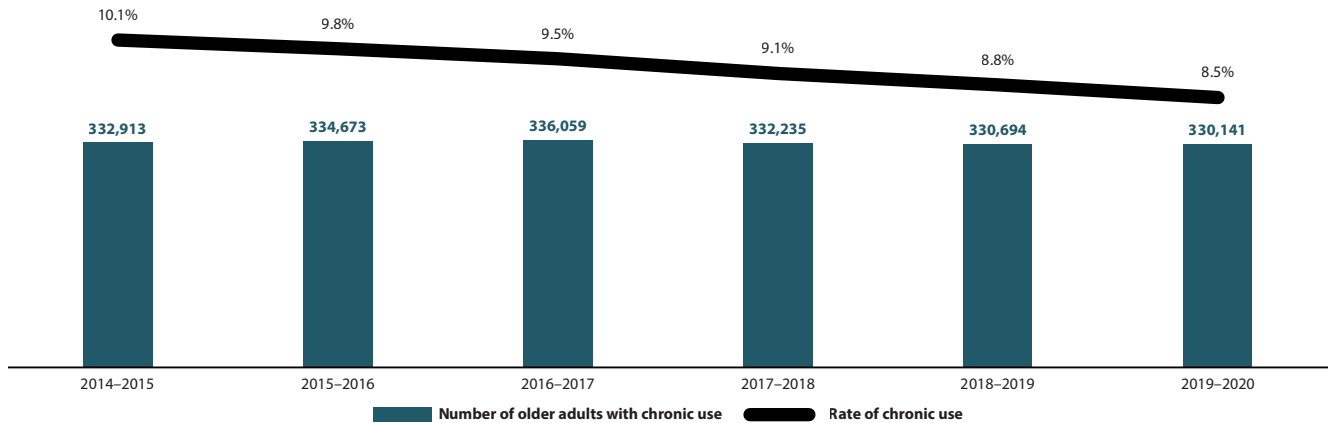
#### Background

Multiple clinical societies developed the CWC recommendation “Don’t use benzodiazepines or other sedative–hypnotics in older adults as the first choice for insomnia, agitation or delirium” (CWC 2022a: Geriatrics – Five Things Clinicians and Patients Should Question). In older adults (those 65+), these medications have a higher risk of negative effects, such as confusion and dizziness, which can lead to falls and hip fractures (American Geriatrics Society 2015 Beers Criteria Update Expert Panel 2015).

#### Results

CIHI’s report found that one in 12 older adults (8.5%) used benzodiazepines or other sedative–hypnotics chronically in 2019–2020. This is based on pharmaceutical data across all provinces except for Quebec. Figure 1 shows a 16% decline in chronic use since 2014–2015, with about 2,800 fewer older adults chronically using these medications in 2019–2020 compared with 2014–2015. Although the number of older adults with chronic use remained relatively stable over time, population increases resulted in declining rates across most provinces. Notable provincial variation was identified, with a fourfold difference between the lowest and highest rates in 2019–2020.

**FIGURE 1.**  
**Volume and rate of chronic use of benzodiazepines or other sedative-hypnotics in older adults by fiscal year 2014–2015 to 2019–2020**



Source: National Prescription Drug Utilization Information System, 2013–2014 to 2019–2020, CIHI.

Rates of chronic use of benzodiazepines and other sedative-hypnotics increased with age and were higher among women and among those residing in lower income neighbourhoods.

#### Initiatives

The decline over time suggests that current strategies to curb the overuse may be having a positive impact. Multi-faceted efforts have contributed to clinician education and public awareness. Initiatives such as audit and feedback for physicians, deprescribing tools and promoting alternatives to sedatives are key strategies to help with the judicious and appropriate prescribing of these medications (CWC 2022b).

### Red blood cell transfusion in hospitalized patients

#### Background

The CWC recommendation from the Canadian Society of Internal Medicine is “Don’t transfuse red blood cells for arbitrary hemoglobin or hematocrit thresholds in the absence of symptoms, active coronary disease, heart failure or stroke” (CWC 2022a: Internal Medicine – Eleven Things Physicians and Patients Should Question). Blood products are a limited and costly resource for our healthcare systems. Red blood cell transfusions are an essential treatment under certain circumstances, but they are often overused and can lead to patient harm when they are not warranted (Mehta et al. 2021).

#### Results

Mandatory reporting of red blood cell transfusion data was available for five provinces, including New Brunswick, Quebec, Ontario, Manitoba and Saskatchewan. The overall rate of red blood cell transfusions was 6.3% in 2019–2020, representing an

11% decline from the rate of 7.1% in 2014–2015. This equated to approximately 9,800 fewer transfusions in 2019–2020 compared with 2014–2015. There was some provincial variation in the transfusion rates. The rate was the highest in New Brunswick (7.0%) and the lowest in Saskatchewan (5.9%) in 2019–2020.

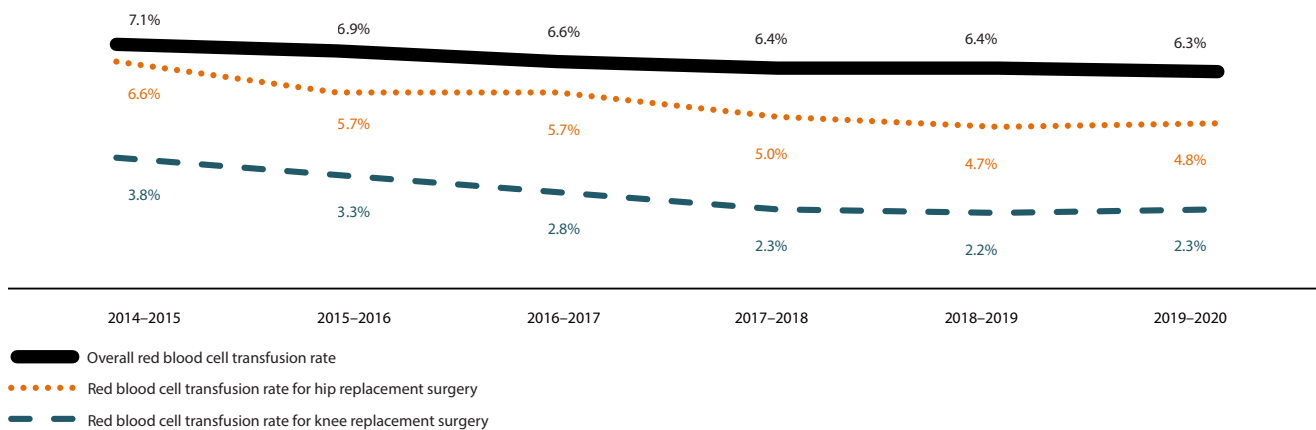
Certain types of hospitalizations were more likely to require red blood cell transfusions. Surgical patients had the highest rate of red blood cell transfusions (9.6%), compared with medical patients (5.9%) and obstetrical patients (1.0%). Substantial reductions were reported for hip and knee replacement surgery hospitalizations – two areas that CIHI previously measured in the *Unnecessary Care in Canada* report (CIHI 2017), as shown in Figure 2.

Older patients were more likely to receive a red blood cell transfusion, as well as those from lower income neighbourhoods and urban areas. Transfusions were also more common in teaching hospitals and larger community hospitals, potentially due to sicker, more complex patients than those treated in smaller community hospitals.

#### Initiatives

Implementing guidelines, tools to support clinical decision making and clinical benchmarks for red blood cell transfusions are key strategies to help hospitals reduce inappropriate transfusions. CWC’s Using Blood Wisely program supports these efforts and offers a designation for high-performing hospitals (CWC 2022b). The combination of local and widespread efforts is critical for the scale and spread of appropriate red blood cell transfusion stewardship.

**FIGURE 2.**  
Rate of red blood cell transfusion by patient group and fiscal year 2014–2015 to 2019–2020



Source: Hospital Morbidity Database, 2014–2015 to 2019–2020, CIHI.

### Conclusion

Addressing the overuse of tests and treatments is a key component of improving patient care, reducing harm and increasing the sustainability of Canada’s healthcare systems. The latest report from CIHI and CWC will help inform future improvement efforts. Multi-faceted initiatives such as patient education and tools targeting clinicians, as well as system-level changes to policies and funding, are needed to continue driving progress in reducing overuse. **HQ**

### Additional Findings

These findings and more – including information on other measures, data tables and methods – are described in detail in the release *Overuse of Tests and Treatments in Canada* (available free of charge) at: <<https://www.cihi.ca/en/overuse-of-tests-and-treatments-in-canada>>.

### References

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