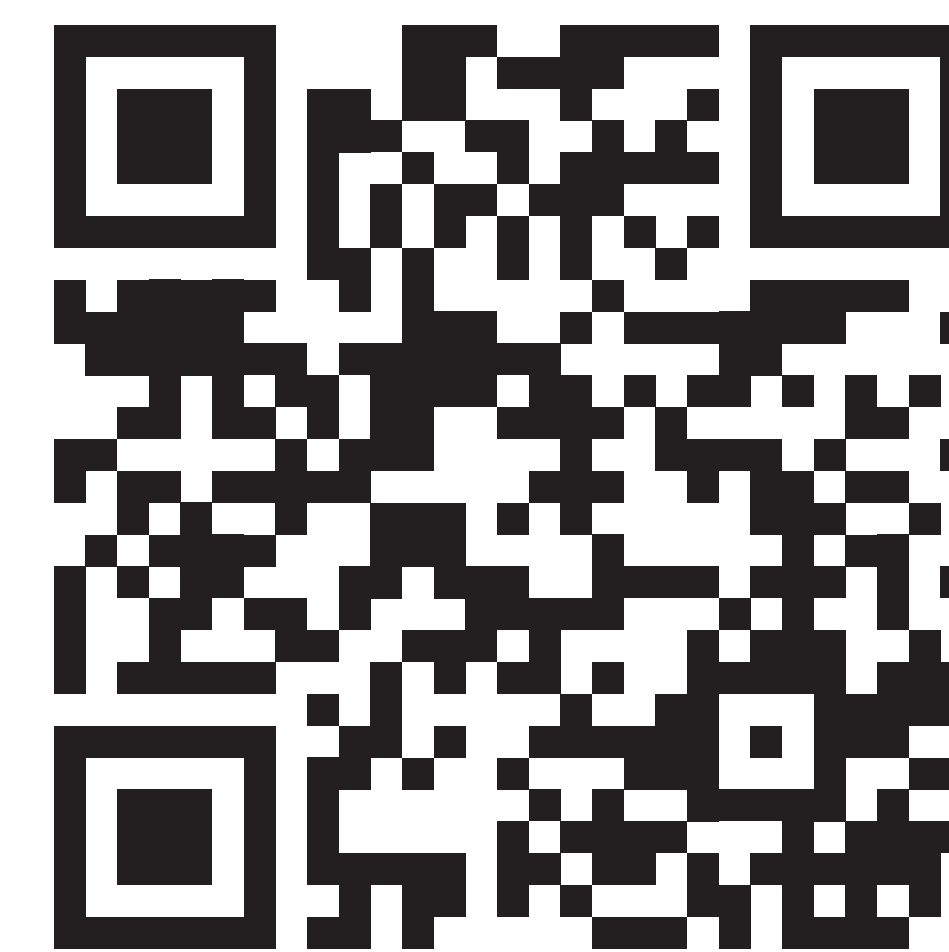


# Repurposing the Ordering of Routine Laboratory Tests in Hospitalised Medical Patients (RePORT): Results of a Randomised Stepped-Wedge Quality Improvement Study



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**Themes:** Individual and team improvement, Partnered system improvement activities, Audit and feedback, Quality improvement

## What you need to know

Lab test ordering is the most common medical activity performed in the Canadian healthcare system.<sup>1</sup> Canadians receive over 1 million unnecessary lab tests each year,<sup>2</sup> with 15-56% of lab testing considered wasteful.<sup>1</sup>

## What is this project about?

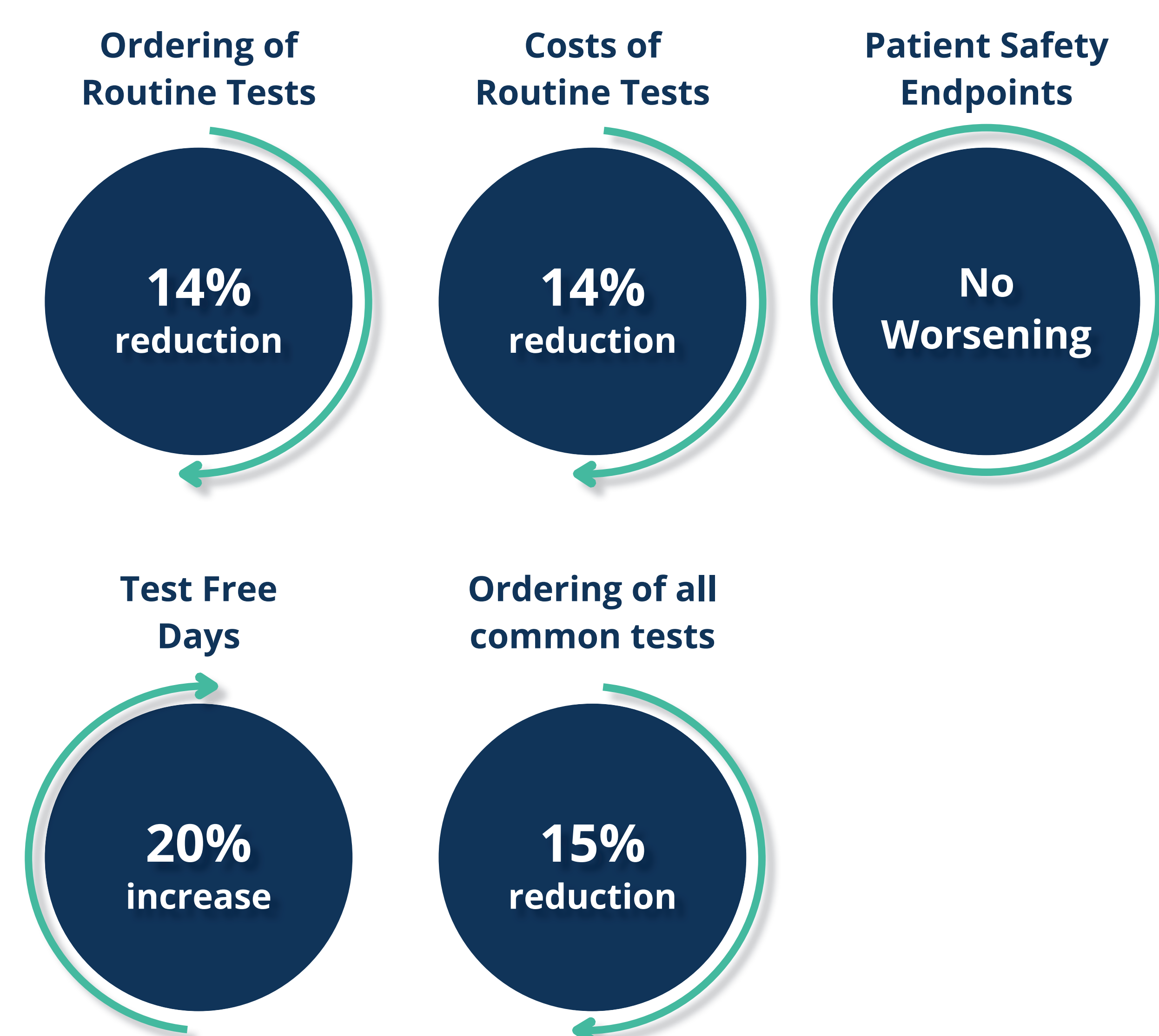
**Choosing Wisely Canada (CWC) recommends against ordering repeated complete blood count and chemistry testing in the face of clinical and lab stability in the inpatient setting.**

The objective of this project was to evaluate an intervention bundle aimed at reducing routine lab testing in hospitalised patients. In 2015, the annual cost of lab testing alone on the Medical Teaching Unit (MTU) at Peter Lougheed Centre (PLC) was over \$1.04 million. Our pilot QI initiative, funded through Alberta Health Services in 2017 at the PLC MTU, has demonstrated **sustained cost savings of \$2.8 per patient per day.**

## What did the team do?

- Used a stepped-wedge design to implement an intervention bundle across eight medical units; this bundle included educational tools and social comparison reports followed by peer-facilitated discussion sessions
- Primary outcomes were the number and cost of routine lab tests ordered per patient per day
- Patient groups were similar in age, sex, Charlson Comorbidity Index and length of stay through the duration of the study, which included 125,854 patient days

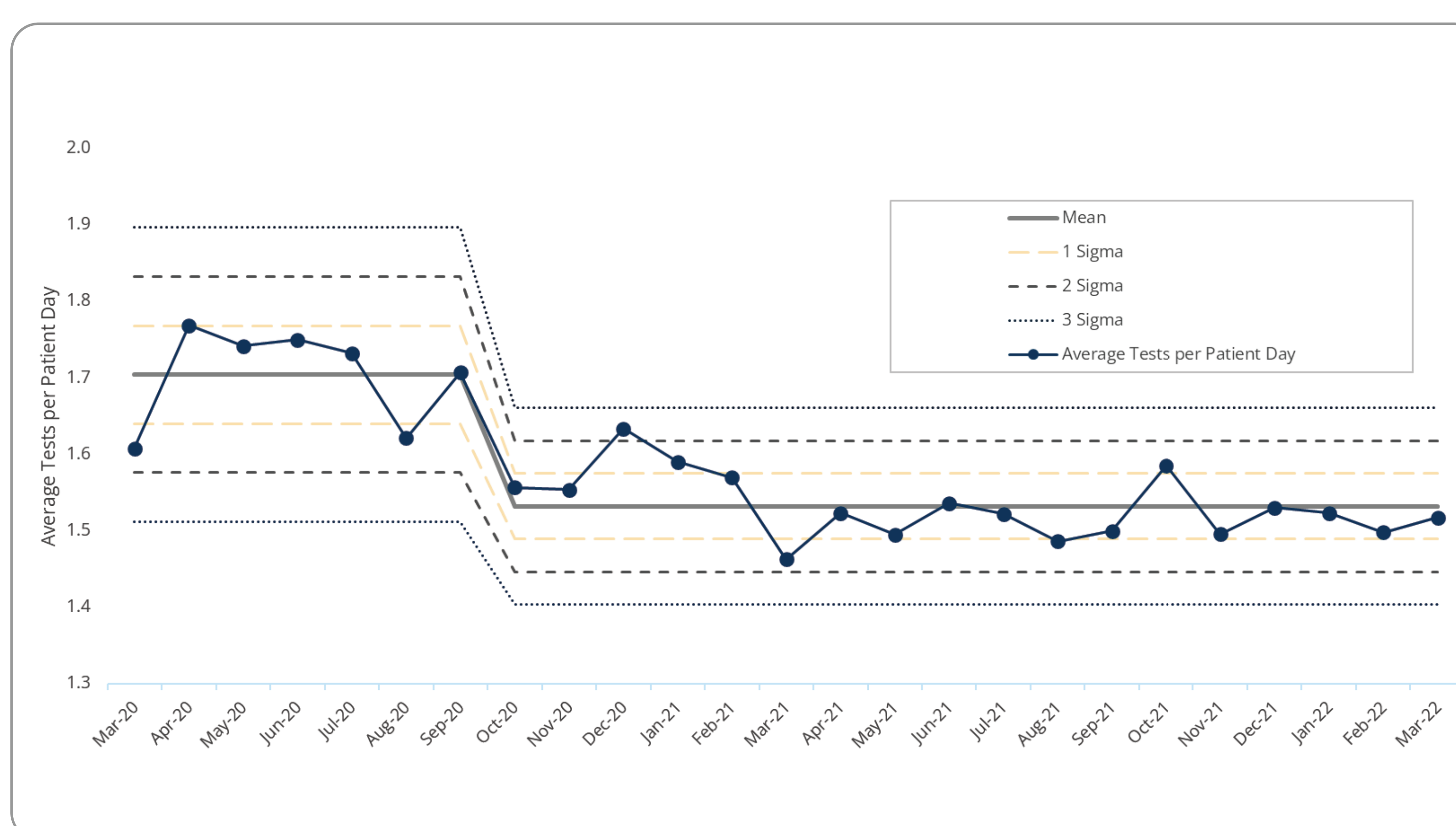
## Results



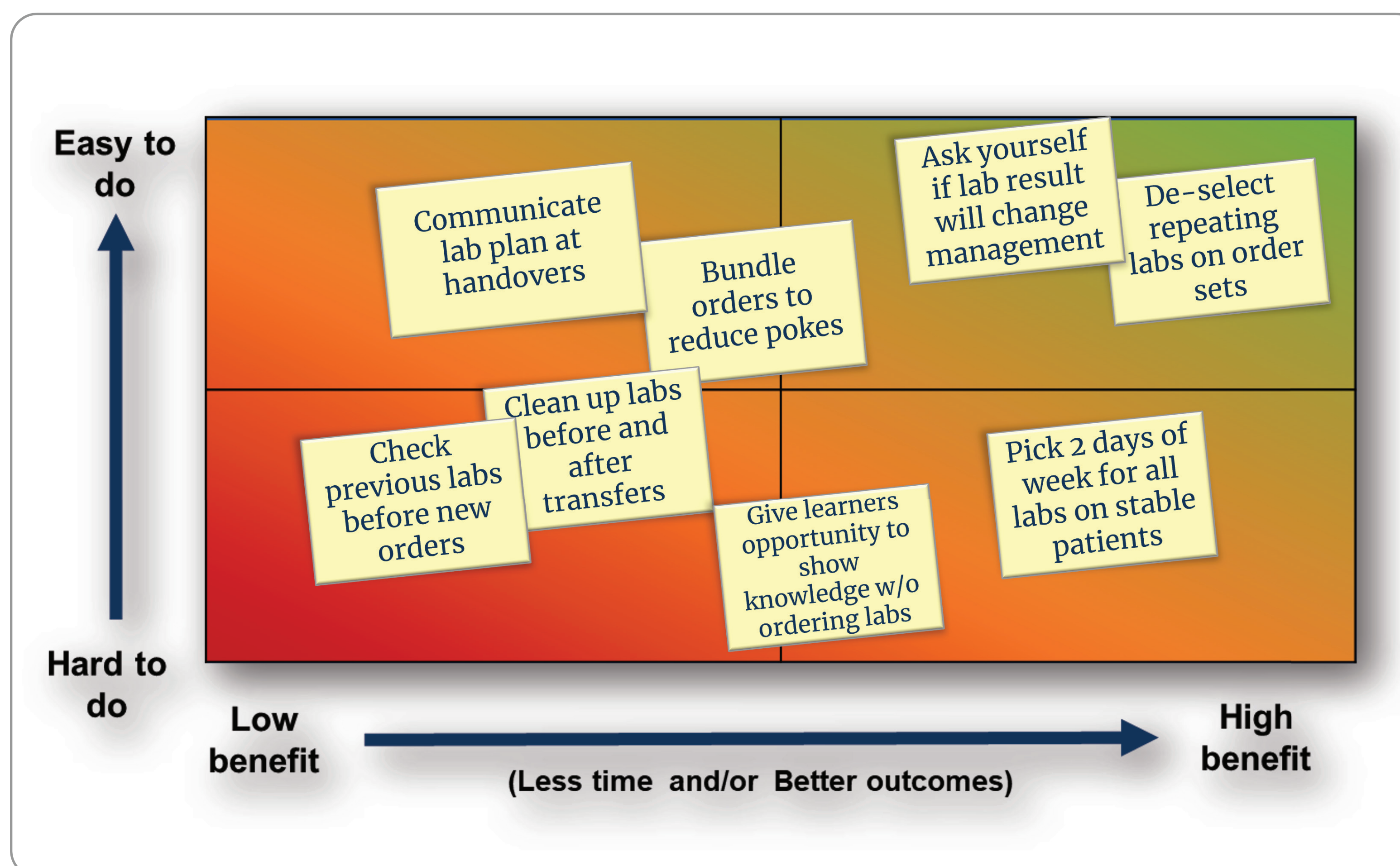
“ So, when we have those poor, longer-term patients who have anemia from our repeated bleeding . . . they're a tough poke, it's painful to do this, does this really need to happen today?

I think it's a number on a screen and we forget the person getting the actual needle in their arm each day.

- Calgary Physician



**Figure 1** Results - All units control chart for routine lab tests\* per day  
 \*CBC, Electrolytes, Cr, PTT, PT/INR, Urea  
 BMJ Qual Saf. 2023 May 10;bmjqs-2022-015611. doi: 10.1136/bmjqs-2022-015611



**Figure 2** Change ideas generated and placed on a prioritization matrix during a peer-facilitated discussion session

## Conclusion

This multifaceted intervention bundle, using both education and facilitated multilevel social comparison, was associated with a **safe and effective reduction in routine daily lab testing in hospitals.**

## Acknowledgments

The Physician Learning Program is supported by a financial contribution from the Government of Alberta.

<sup>1</sup> Naugler, C., Wyonch, R. (2019, February 14). *What the Doctor Ordered: Improving the Use and Value of Laboratory Testing*. Available from: <https://www.cdhowe.org/public-policy-research/what-doctor-ordered-improving-use-and-value-laboratory-testing>.

<sup>2</sup> Canadian Institute for Health Information. (2017, April). *Unnecessary Health Care in Canada*. Available from: [https://secure.cihi.ca/free\\_products/choosing-wisely-baseline-report-en-web.pdf](https://secure.cihi.ca/free_products/choosing-wisely-baseline-report-en-web.pdf).