

Annual Surveillance Report of Health Care-associated Infections (HAIs) and Hand Cleaning Compliance (HCC) in British Columbia: A Six-Year Overview

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Background

- ❑ Collaborative provincial HAIs & HCC surveillance system (HAs + PICNet)
- ❑ HAs collect and submit quarterly data (CDI, MRSA, CPO, C. auris, HCC)
- ❑ PICNet consolidates, analyzes, and reports provincial insights
- ❑ Reports support improvement, protocol refinement, and prevention strategies
- ❑ Annual reporting paused during COVID-19 (2018/19–2023/24)

HAs- Health authorities, CDI-*Clostridioides difficile* infection, MRSA-Methicillin-resistant *Staphylococcus aureus*, CPO- Carbapenemase-producing organisms, C.auris- *Candida auris*

Objectives

- ❑ Design a new reproducible interactive **annual report**
- ❑ Describe provincial trends of HAIs and HCC over a six-year period across pre-pandemic, pandemic, and post-pandemic intervals

Data Quality Assurance

- Conduct quarterly data quality audits

Outcome: Reliable, high-quality data for downstream processing

Data Processing

Automated R scripts to transform raw HA data into master datasets

Outcome: Clean, comprehensive master datasets ready for advanced analytics and reporting

Analytics & Reporting

- R Markdown workflows
- Generate interactive HTML report with interpretation
- Approval process and publish

Outcome: Timely, accurate, quarterly and annual reporting that supports provincial surveillance, and informs strategic decision-making



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Report Link:

<https://picnet.ca/surveillance/surveillance-reports/annual-reports/>

Acknowledgements

First Nations Land Acknowledgement

Abbreviations

Executive Summary

Introduction

Overview of Surveillance Indicators

Figure User Guide

Clostridioides difficile Infection (CDI)

Methicillin-Resistant *Staphylococcus aureus* (MRSA)

Carbapenemase-Producing Organisms (CPO)

Candida auris (*C. auris*)

Hand Cleaning Compliance (HCC)

Discussion

Conclusion

Technical Notes

Appendices

References

Annual Report Template

PICNet
PROVINCIAL INFECTION CONTROL
NETWORK OF BRITISH COLUMBIA
A program of the Provincial Health Services Authority

Annual surveillance report: Trends of health care-associated infections and hand cleaning compliance in British Columbia

Surveillance dates: 2018-04-01 to 2024-03-31

The Provincial Infection Control Network (PICNet) of British Columbia (BC) is a provincial health improvement network within the Provincial Health Services Authority (PHSA). PICNet works to reduce health care-associated infections (HAIs) across BC health-care facilities through a focus on:

- Surveillance

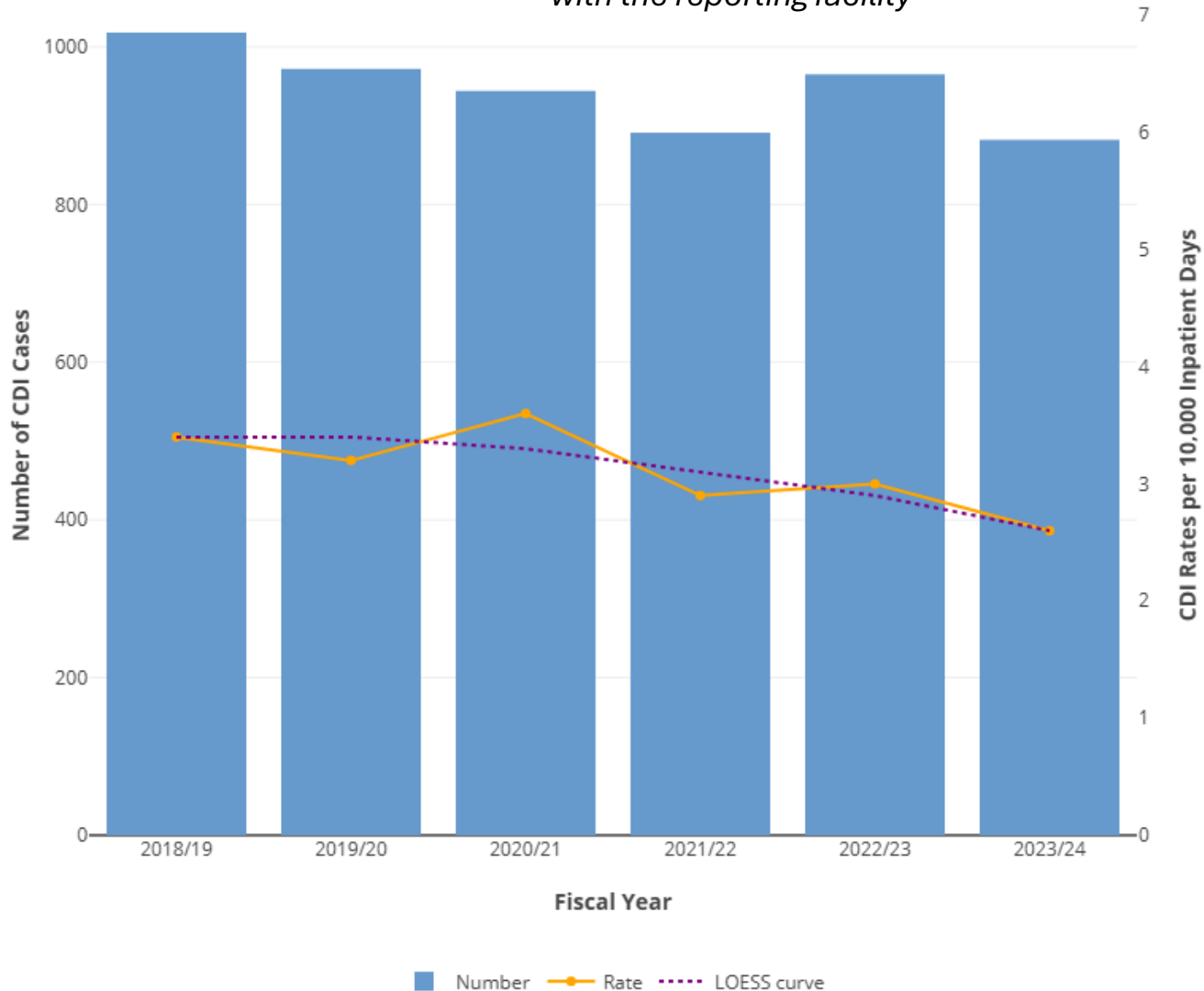
What's new in this Report?



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- ❑ More automated, reproducible, interactive reporting at the provincial, HA and facility-level
- ❑ Accessible, interactive visuals showing key HAls and HCC trends
- ❑ Expanded CPO reporting; non-linear trend lines; enhanced, structured data notes
- ❑ COVID-19 contextualized interpretations

Fig 1. Count and rate of new HCA CDI cases associated with the reporting facility



Key Findings: CDI 2018/19 to 2023/24

- ❑ BC provincial **CDI** rates declined over the six-year period (**Fig 1**)
- ❑ Regional hospitals showed a greater overall decline
- ❑ CDI rates declined across all hospital sizes
- ❑ Large hospitals, most of which are tertiary/referral centres, consistently had the highest rates

Source:

<https://picnet.ca/surveillance/surveillance-reports/annual-reports/>

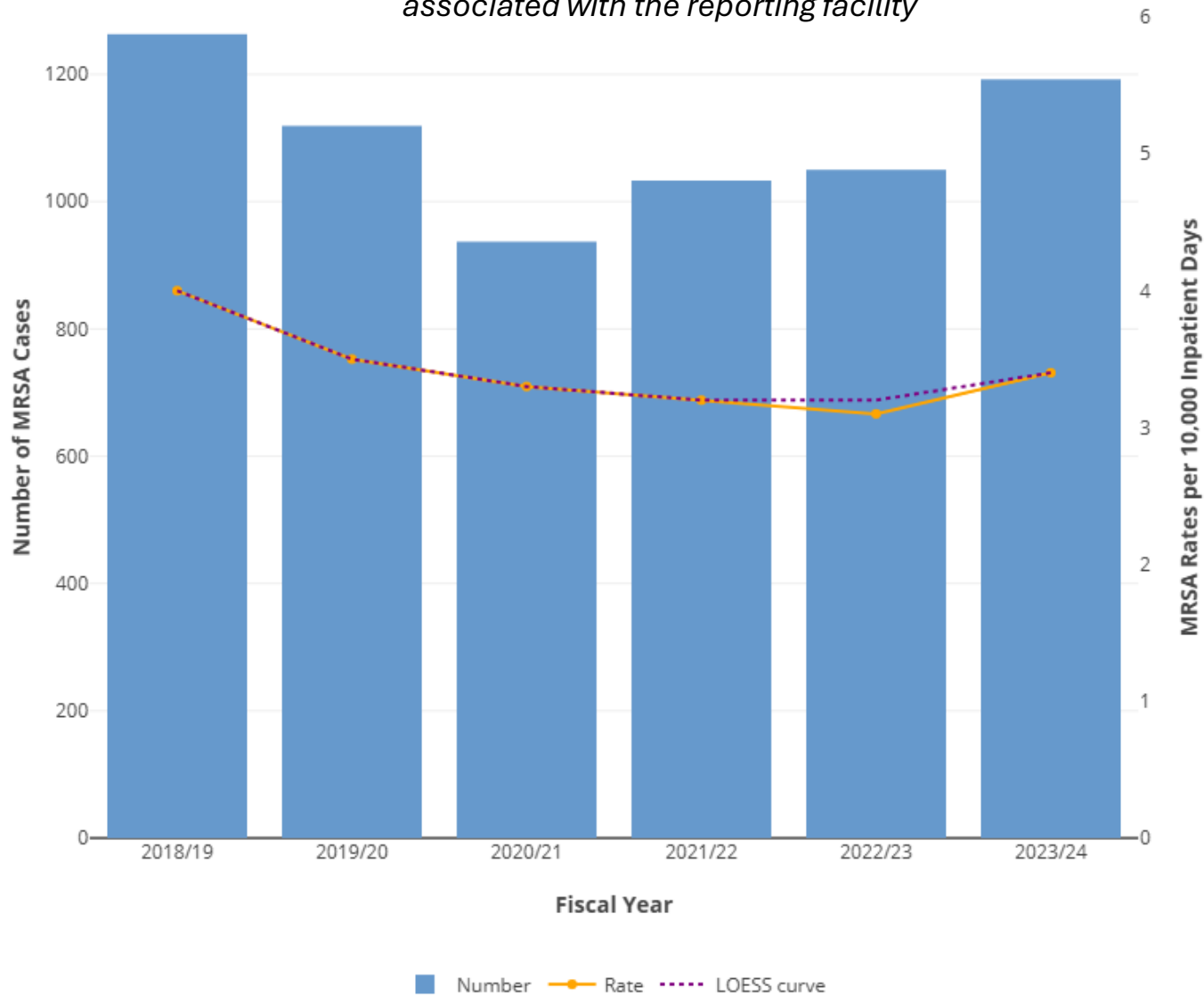
Key Findings: MRSA

- ☐ BC provincial **MRSA** rates declined with a slight increase in 2023/24 (**Fig 2**)
- ☐ Community and regional hospitals show modest declines in MRSA rates
- ☐ Tertiary/referral hospitals and medium sized hospitals (bed size 151-250) indicate a slight increase in 2023/24 rates

Source:

<https://picnet.ca/surveillance/surveillance-reports/annual-reports/>

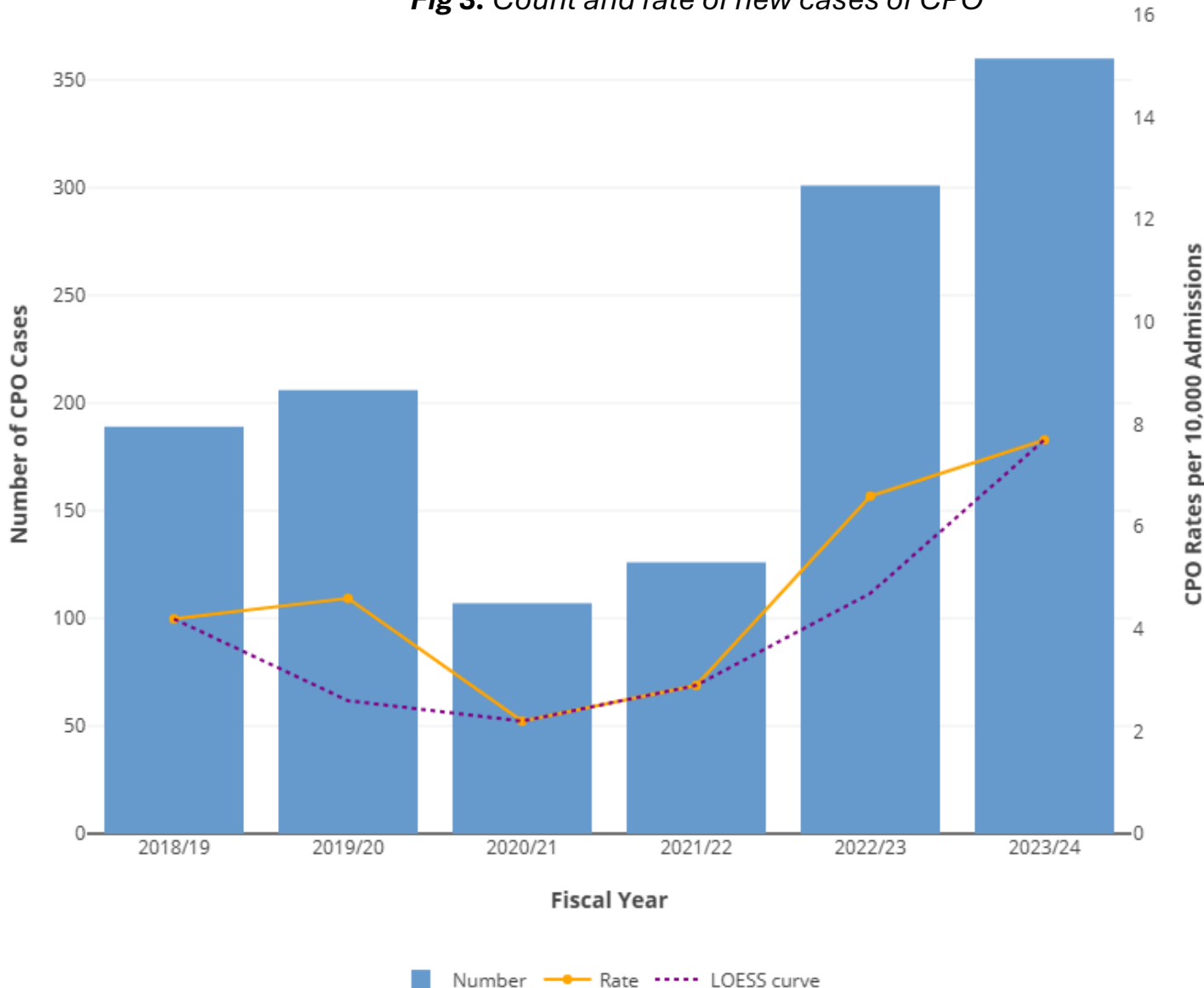
Fig 2. Count and rate of new HCA MRSA cases associated with the reporting facility



Key Findings: CPO

- ❑ CPO rates in BC declined during the COVID-19 pandemic
 - ❑ Reduced admissions, delayed non-urgent care, travel restrictions
 - ❑ COVID-19 impact on CPO screening and surveillance
- ❑ Rates increased sharply following the pandemic, surpassing pre-pandemic levels

Fig 3. Count and rate of new cases of CPO



Source:

<https://picnet.ca/surveillance/surveillance-reports/annual-reports/>

Key Findings: CPO (cont.)

Fig 4. Count and percentage of new CPO cases in BC with a health-care encounter **outside Canada** in last 12 months

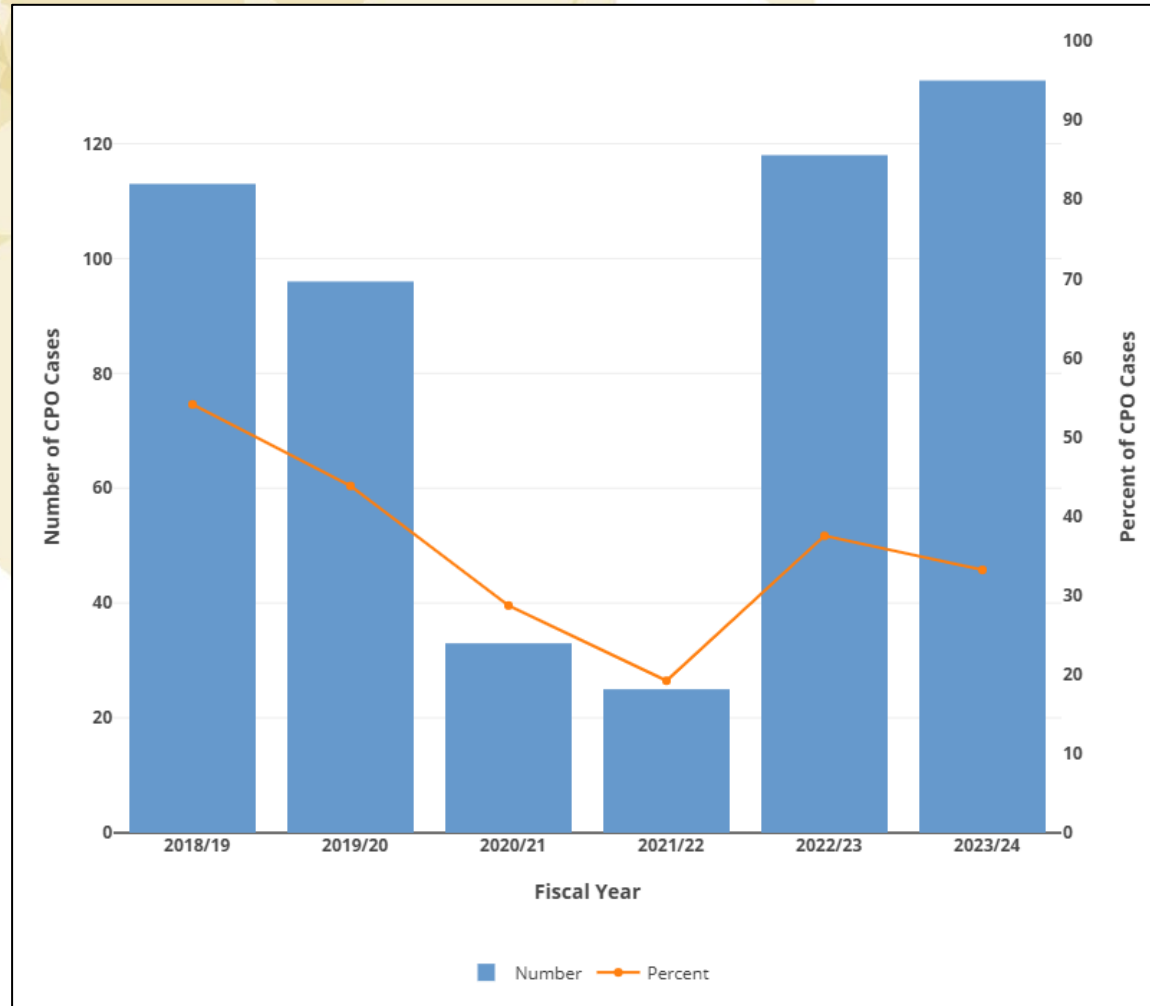
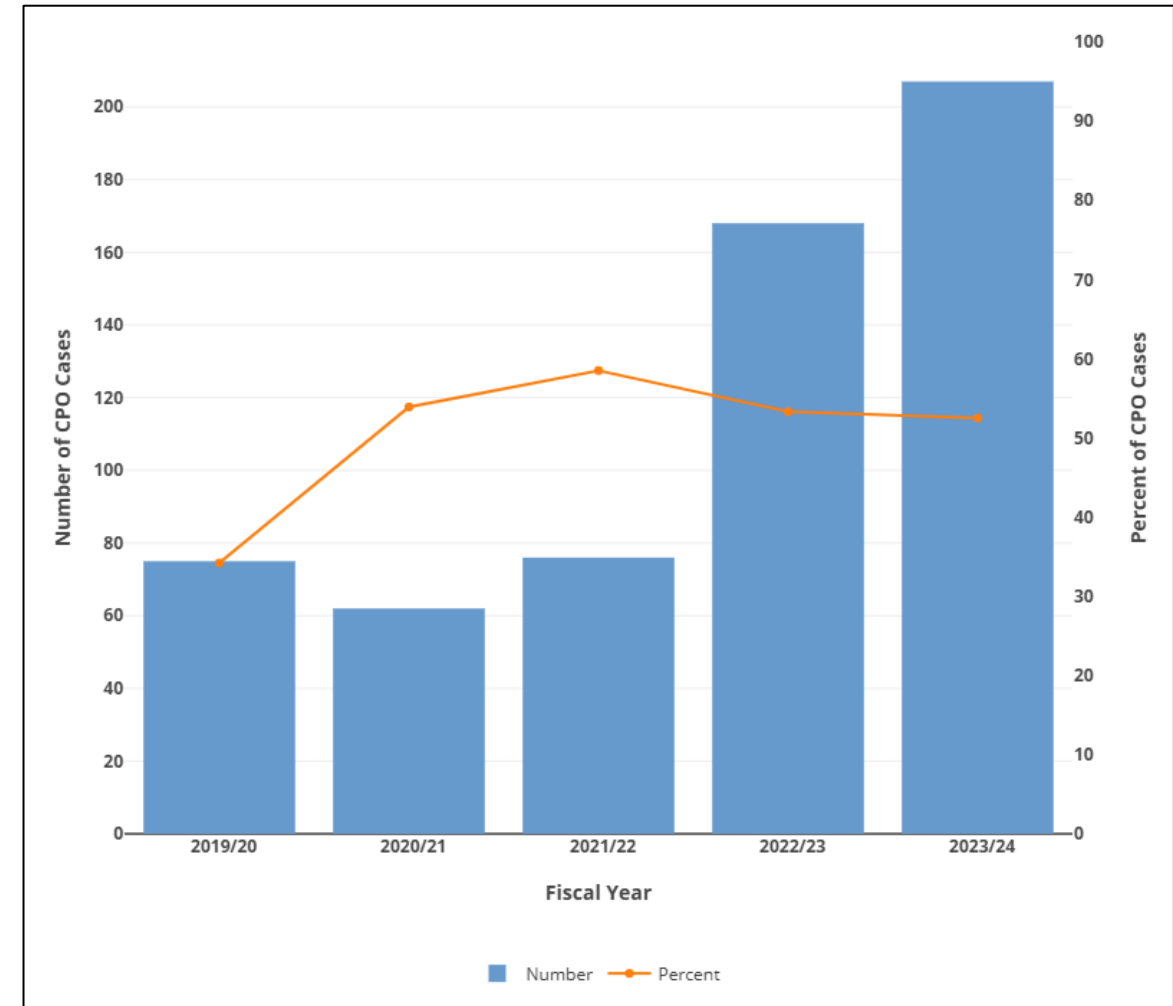


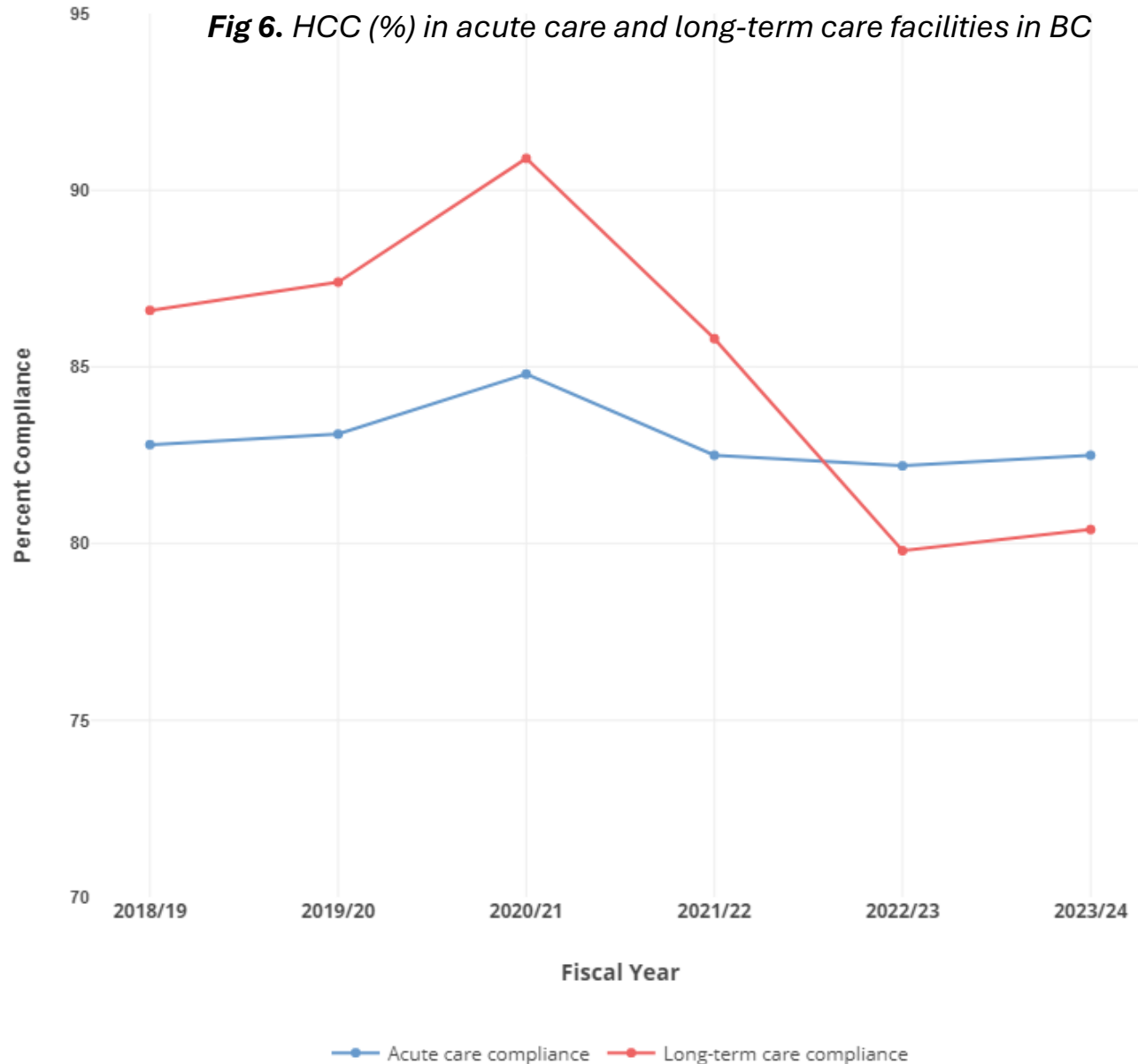
Fig 5. Count and percentage of new CPO cases in BC with a health-care encounter **in BC** in last 12 months



Source:

<https://picnet.ca/surveillance/surveillance-reports/annual-reports/>

Fig 6. HCC (%) in acute care and long-term care facilities in BC



Key Findings: HCC

- ❑ Acute care **HCC** has consistently met the 80% provincial target (**Fig 6**)
- ❑ **Long-term** care HCC peaked at 91% in 2020/21 and declined thereafter (**Fig 6**)
- ❑ Acute care Compliance before patient contact and among physicians remained below target

Source:

<https://picnet.ca/surveillance/surveillance-reports/annual-reports/>

Summary



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- ❑ Interactive reporting platform allows partners to review region-specific findings, supporting local discussion and engagement
- ❑ Outcomes both highlight IPC progress and emerging or persistent challenges:
 - CDI and MRSA trends declined overall in the last six years in BC
 - Large, post-pandemic increases in CPO rates
 - Stable acute care HCC performance overall - at or above target
 - Room for improvement in before contact and physicians HCC

Acknowledgements



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Thank You

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Surveillance Reports: <https://picnet.ca/surveillance/surveillance-reports/>

Protocols and Forms: <https://picnet.ca/surveillance/surveillance-protocols/>

CPO Action Plan: https://picnet.ca/wp-content/uploads/Provincial-CPO-Action-Plan_Final_Condensed-Overview.pdf