

Improving Adult Vaccination Rates in Long-stay Hospitalized Adults at a Complex Continuing Care Hospital

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Background

In Canada, the National Advisory Committee on Immunizations (NACI) recommends routine adult vaccinations, particularly in older adults and those with comorbidities, including:

- ✓ **Pevnar 20** to high-risk groups and all 65+ years,
- ✓ **Shingrix** to all adults 50+ years, and
- ✓ **Tetanus** to all adults every 10 years.

In 2023, Pevnar 20 was not publicly funded and Shingrix was only funded for adults 65-70 years.

Ontario lacks centralized vaccine administration records (VARs), relying on outdated "yellow cards" or MD records.

At Hennick Bridgepoint Hospital (HBH), a complex continuing care (CCC) hospital where patients may reside indefinitely, no framework existed to assess or provide these vaccinations. 0%, 0%, and 1.4% of patients were vaccinated with Pevnar 20, Shingrix, and Tetanus, respectively. 100% of patients eligible for Pevnar 20 and 89.7% for Shingrix lacked public coverage.

Aim Statement

Increase vaccination rates for Pevnar 20, Shingrix, and Tetanus from 0%, 0%, and 1.4% respectively to 80% of eligible patients admitted to CCC by December 31, 2025.

Family of Measures

Outcome measures Proportions of eligible CCC patients who received Pevnar 20, Shingrix, and Tetanus vaccines, measured separately.

Process measures Proportions with completed vaccine records based on EMR and patient forms, and the proportion who need not self-pay for their vaccines.

Balancing measure Rate of vaccine administration errors.

Problem Characterization

Central VAR, vaccine affordability, and completed vaccine assessments were primary drivers to increase vaccination rates.

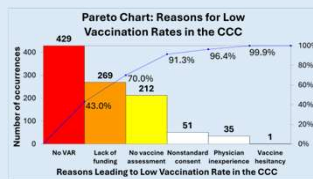


Figure 1. Pareto chart characterizing the reasons for low vaccination rates within eligible patients admitted to the CCC unit. VAR: vaccine administration record.

Intervention

THEORY FOR CHANGE

Completed VARs
enable MDs to prescribe missing vaccines

Removing financial barriers
increase MD prescribing and patient acceptance of vaccines.

INTERVENTION

- EMR chart review
- Patients and families engaged to share personal records

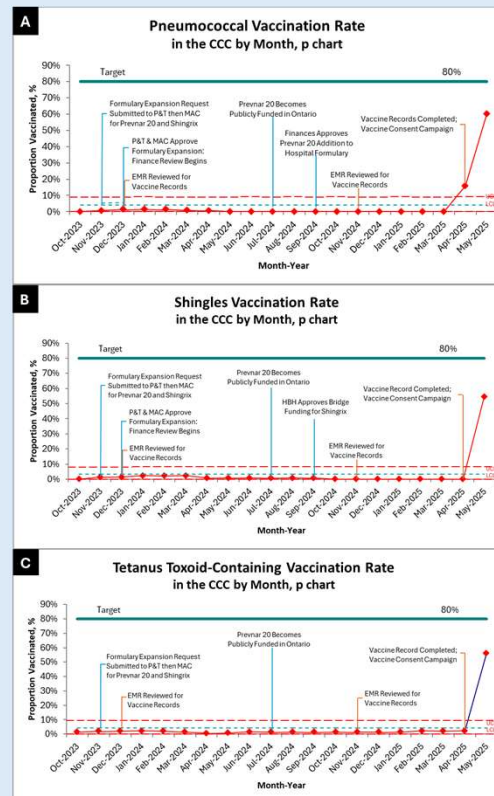
- Add Pevnar 20 and Shingrix to the hospital formulary

Results

Evaluation Implementation was assessed using an interrupted time series design with SPC charts (QI Macros).

Results To date, vaccination rates have increased from 0% to 60% for Pevnar 20, 0% to 55% for Shingrix, and 0.7% to 56% for Tetanus. Further increases are expected as vaccine assessments are completed.

Figure 2. SPC charts displaying data for each of the three outcome measures of vaccination rates for (A) pneumococcal, (B) shingles, and (C) tetanus vaccines. In November 2023, a request was submitted to the Pharmacy and Therapeutics Committee (P&T) to add Pevnar 20 and Shingrix to the hospital formulary. In December 2023, it was approved by P&T and the Medical Advisory Committee (MAC), and the Finance department began to review the request. During this time, Pevnar 20 was added to Ontario's publicly funded immunization program. In September 2024, Finance approval was received for bridge funding for Shingrix. In November 2024, a second electronic medical record (EMR) review was done to capture new patients and vaccinations since the initial review in December 2023. In April 2025, patients and families were invited to share vaccine documents from personal records or previous physicians, which was used to complete their vaccine records. Using these completed vaccine records, a vaccine campaign to consent and vaccinate all eligible patients is in progress.



Discussion

The absence of a national or provincial VAR posed challenges in tracking vaccination histories, highlighting the need for a comprehensive VAR for CCC patients.

Adding Shingrix and Pevnar 20 to the formulary ensured all consenting patients had access to recommended vaccines, regardless of public funding.

A structured vaccination framework, with standardized VARs and formulary access, addressed barriers like incomplete records and economic inequities.

This initiative shows that systematic assessment, removal of barriers to access, and patient engagement can improve vaccination rates in CCC populations.

Sustained efforts are expected to further increase uptake and provide a scalable model for other vaccines in the future.

Future steps include embedding VAR completion in routine reviews, supporting with EMR prompts, tackling vaccine hesitancy, and conducting regular audits for continuous improvement. Continued formulary access is essential for sustaining gains.

References

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