

Background

Why is this important?

- Over 7 million Canadians suffer daily with chronic pain.
- Pain blocks (PBs) are increasingly used to manage chronic pain by injecting a local anesthetic and/or steroid onto or near a nerve, thus disrupting pain transmission and providing short-term and sometimes long-term pain relief.
- Due to a lack of evidence of their efficacy, clinical practice guidelines do not generally include recommendations on PB administration, preventing practice standardization. This is concerning given that blocks can cause complications like infection, nerve or tissue injury, and should only be used when benefits outweigh risks.
- Despite this, there has been 3-fold increase in the use of PBs in Ontario since 2010.

What did we investigate?

- The distribution and clustering of PBs administered by physicians in Ontario and the differences in the patient and physician characteristics by volume of PBs administered.

Key Points

- Administration of PBs was highly clustered among a small number of physicians, with the top 1% of physicians providing 39% of blocks.
- These high-volume block providers, who are primarily general practitioners (88.4%) had high annual OHIP billings (median \$1.7M) with PBs making up the vast majority of their billings (median 87%).
- Patients who received a PB from a high-volume provider had more annual visits (median 10) and number of PBs administered per visit (median 5).

How was the study conducted?

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- *Design:* Population-based, cross-sectional study.
- *Population:* Ontario residents enrolled in the Universal Health Insurance Program (OHIP).
- *Study period:* Between January 1 and December 31, 2019.
- *Outcome:* Total number of PBs administered in an outpatient setting for chronic pain by eligible physicians.
- *Analysis:* Lorenz curves, overall and stratified by PB type and physician specialty, to examine clustering of PBs among physicians, and standardized differences to compare patient and physician characteristics.



What did we find?

- In 2019, 3.2M eligible PBs were administered by 8.4K physicians to 312.8K Ontarians at a total cost of \$156.8M CAD.
- Administration of PBs was highly clustered among a small number of physicians in Ontario in 2019.
 - Top 90-99% of physicians administered 55.4% of all PBs.
 - Top 1% of physicians administered 39.3% of all PBs.
 - General practitioners (GPs) administered 73.9% of all PBs.
- Physician characteristics:
 - Physicians administering the highest volume of PBs were more likely to be male (83.7% high-volume vs. 57.2% low-volume), practice in urban regions (100% vs. 89.7%), and be GPs (88.4% vs. 82.1%).
 - Among physicians administering a high volume of PBs, the median total annual OHIP billings was \$1.7M CAD, compared to \$36.2K CAD among physicians in the low volume category.
- Patient characteristics:
 - Patients receiving PBs from high-volume providers were significantly younger (mean age 57 ± 15 vs. 63 ± 17), more likely to also be prescribed opioids (61.6% vs. 32.6%) and were slightly less likely to be eligible for public drug benefits (52.6% vs. 57.8%) than those treated by providers in the lowest volume group.
 - Patients with PBs administered by high volume providers had more annual visits for PBs (median 10 visits vs. 1 visit annually in all other groups) and a higher number of PBs administered per visit (median 5 PBs per visit vs. 1 PB per visit in all other

Recommendations

Policymakers

- Interventions that address chronic pain care should consider PBs as only one component of multidisciplinary chronic pain care for Canadians suffering with chronic pain. Such interventions should consider financial support for other types of chronic pain treatment (i.e., physiotherapy, mental health care) that are currently inaccessible to the majority of chronic pain patients.

For more information

Clarke H., Miles S., Ladha K., Kitchen S., & Gomes T. (2023). Escalating Pain Blocks in Ontario: Insights into Physician Practices and Billings in 2019. [Canadian Journal of Anesthesia](#).