

Cough and Cold Products Containing Opioids: Prescribing and Patient Utilization Patterns in the Pediatric Population

Summary

- A Health Canada signal assessment led to advisement that children should not use these products to avoid opioid-related risks
- Knowing prescription patterns of CCOMs and rate of utilization can support prescription decisions and validate current recommendations
- The CAMCCO platform has Canadian prospective, longitudinal cohorts linked to administrative data, employing a common data model
- We compared the prescribed and utilization patterns of CCOMs in pediatrics across 5 CAMCCO provinces
- Decrease in the use of CCOMs except in older pediatric population in QC and AB
- Mostly prescribed for respiratory illnesses
- Mostly prescribed by GPs
- Most prescribed codeine
- The study provided context on why CCOMs are prescribed

Authors: A. Berard, S. Bernatsky, C. Moura, M. Walker, S. Hawken, S. Eltonsy, D. Chateau, B. Windquist, P. Kaul, O. Sheehy

For more information, please contact :
anick.berard@umontreal.ca

What is the current situation?

High levels of prescription opioid use in Canada are cause for concern. Many cough and cold prescription products (CCOMs) contain codeine, hydrocodone or normethadone. Although these products, like opioids, may be misused and abused, no current data are available to quantify the prevalence and incidence of abuse, misuse, addiction, overdose, and dependence in children. Following a signal assessment (SA) regarding the risks in children using CCOMs, Health Canada advised that children and adolescents (under 18 years old) should not use CCOMs as a precautionary measure. Studies aiming to address the potential role of CCOMs in the opioid-related risks among the pediatric population can help to provide Canadian prescribers and patients with meaningful information for decision making. They can also validate the recommendation provided in the SA and help to understand the individual contribution of CCOMs to the National opioid crisis.

What was the aim of the study?

To compare the prescribed and utilization patterns of CCOMs among the pediatric population in 5 Canadian provinces

How was the study conducted?

We used prospective data collection of medical services, prescription drugs, and hospitalization archives data from the Canadian Mother-Child Cohort (CAMCCO) Active Surveillance Initiative (provinces Alberta (AB), Manitoba (MB), Ontario (ON), Quebec (QC), and Saskatchewan (SK)). The study period covered the following years: 2005-2018 for Alberta, 1995-2019 for Manitoba, 2012-2020 for Ontario, 1999-2015 for Quebec, and 1998-2020 for Saskatchewan. The CAMCCO platform employs a common data model to enable data linkages, construction of variables and patient follow-up in a similar way across provinces with standardized protocols. We included all liveborn children included within the province-specific calendar years. Each child was followed from the entry date (DOB) up to the date of death, or the child's 18th birthday, the end of the public prescription drug coverage, or the end of the study period (last province-specific calendar year), whichever came first.

What did the study find?

Medication prescription drug lists vary; for example, QC only included codeine and hydrocodone, partly explaining lower exposure rates

- A decrease in exposed subjects ≤ 12 years old was observed in all provinces
- An increase of exposed subjects > 12 years old was observed in QC and AB
- Commonly prescribed CCOMs include codeine (AB, MB, SK, QC), dextromethorphan (MB), and hydrocodone (ON, QC)
- The cumulative dosage of codeine and hydrocodone in morphine milligram equivalent (MME) was higher in MB vs AB, ON and QC in each age category.
- General practitioners were frequent prescribers in all provinces, followed by pediatricians (AB and MB) and surgeons (ON and SK)
- Notably, 40.4% of SK CCOM prescription fillings did not include the prescriber's specialty
- Respiratory illness was the most prevalent indication for CCOM prescriptions and injury and poisoning (SK, ON) diseases of the central nervous system and sense organs (AB, MB, QC)

Our findings suggest a decrease in the number of exposed subjects in the pediatric population. Identifying prescription patterns allows for targeted approaches to provide prescribers with meaningful evidence to support decision-making with CCOMs.

This research was funded by CIHR – Drug Safety and Effectiveness Network and conducted by investigators affiliated with the following institutions: