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Proton Pump Inhibitor Project Overview:
Summaries



Supporting Informed Decisions

À l'appui des décisions éclairées

This Executive Summary is based on a comprehensive Scientific Report (Optimal Therapy Report – COMPUS: Evidence for PPI use in gastroesophageal reflux disease, dyspepsia and peptic ulcer disease: scientific report) and economic report on the topic, prepared by the Canadian Optimal Medication Prescribing and Utilization Service (COMPUS), a service of the Canadian Agency for Drugs and Technologies in Health (CADTH).

This report is a comprehensive review of the existing public literature available to CADTH at the time it was prepared and it was guided by expert input and advice throughout its preparation. The conclusions [statements] were provided by experts. The authors have also considered input from other stakeholders.

The information in this report is intended to help health care decision-makers, patients, health care professionals, health systems leaders and policymakers make well-informed decisions and thereby improve the quality of health care services. The information in this report should not be used as a substitute for the application of clinical judgement in respect of the care of a particular patient or other professional judgement in any decision making process nor is it intended to replace professional medical advice. While CADTH has taken care in the preparation of the report to ensure that its contents are accurate, complete and up-to-date, CADTH does not make any guarantee to that effect. CADTH is not responsible for any errors or omissions or injury, loss or damage arising from or as a result of the use (or misuse) of any information contained in or implied by the information in this Report.

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Canadian Optimal Medication Prescribing and Utilization Service: Proton Pump Inhibitor Project

From Evidence to Interventions to Improved Health Outcomes

1 Executive Summary

The goal of the Canadian Agency for Drugs and Technologies in Health (CADTH), through its COMPUS program, is to identify and promote optimal drug prescribing and use. Strategies, tools, and services are provided to encourage the use of evidence-based clinical and cost-effectiveness information in decision making among health care providers, consumers and policy makers.

Proton pump inhibitors (PPIs) are a class of medications commonly prescribed and widely used in Canada. Between 2003 and 2004, PPI prescriptions dispensed increased by 15%, from 10.8 million to 12.4 million.¹ However, questions exist about whether PPIs are being prescribed and used appropriately. Both over- and under-usage of PPIs have been reported, and costs associated with inappropriate prescribing and use may be considerable. As a result, COMPUS was directed by federal, provincial and territorial governments to focus on the optimal use of PPIs in Canada.

To achieve this goal, a multi-step process was undertaken. It began with the identification and examination of the evidence, and culminated in the development of intervention tools to be implemented with the intent of optimizing PPI prescribing and use behaviour and ultimately improving health outcomes. This process was guided by the COMPUS Advisory Committee (CAC) with representatives from the federal, provincial and territorial Health Ministries and related health organizations, and by the Expert Review Panel (ERP) – a panel of clinical and research experts (gastroenterologists, family physicians, pharmacists and researchers).

The PPI Project process consisted of the following steps:

- identify, summarize and evaluate the clinical evidence in the form of **evidence-based statements**
- produce reliable **economic evidence**
- understand the **current practice** in Canada related to PPI prescribing and use
- identify **gaps in practice**, highlighting areas where current practice differs from the evidence
- develop **key messages** based on gaps in practice and the evidence-based statements
- **select interventions** to support the key messages and effect change in the prescribing and use of PPIs
- develop **intervention tools** for implementation
- develop an evaluation framework.

2 Research Focus

The use of PPIs was specifically addressed for the management of:

- gastroesophageal reflux disease (GERD)
- dyspepsia
- peptic ulcer disease (PUD)
- helicobacter pylori (H. pylori) infection
- non-steroidal anti-inflammatory drug-associated ulcer.

The CAC requested a number of areas of focus for research, including:

- double-dose therapy
- intermittent versus chronic use
- step-up versus step-down therapy
- clinical equivalence of PPIs
- evidence in dyspepsia
- requirement for objective confirmation of GERD
- gastro-protection for non-steroidal anti-inflammatory drug (NSAID) users.

3 PPI Clinical Analysis

The primary objective of the clinical component of this project was to develop evidence-based statements that addressed the use of PPIs for specific clinical conditions. In addition, related research gaps where evidence was lacking or insufficient were also identified. The clinical analysis resulted in 56 evidence-based statements: 28 relating to GERD, six for dyspepsia, and 18 for PUD.¹

4 PPI Economic Analysis

The objective of the economic component of this project was to compare expected costs and outcomes of various primary care strategies for the management of patients with:

- moderate-to-severe heartburn predominant GERD Symptoms²
- uninvestigated non-heartburn predominant dyspepsia (UD)³
- prevention of GI complications in patients with musculoskeletal conditions (primarily rheumatoid arthritis (RA) and osteoarthritis (OA) who require NSAID therapy for more than three weeks.⁴

Stakeholder feedback on these three economic studies is currently under review. The results of the economic analysis will be available at a later date.

5 Current Practice and Gap Analysis

Three key gaps in the use of PPIs were determined by a review of current practice in the prescribing and use of PPIs in Canada⁵ compared to the Evidence-based Statements:¹

- Although there is no clinically important difference in efficacy amongst the PPIs for the initial management of various gastrointestinal conditions, physicians are preferentially prescribing different PPIs based on indication.

- Physicians are prescribing double-dose PPIs as initial therapy for the management of GERD in up to 31 per cent of patients. The evidence demonstrates that double-dose PPIs are no more efficacious than standard dose PPIs as initial therapy for the management of esophagitis.
- Physicians consider prescribing acid suppressive therapy [i.e., PPIs or histamine-2 receptor antagonists (H₂RAs)] for treating asthma, cough and laryngeal symptoms associated with GERD. Evidence is lacking to support this practice.

6 Key Messages

The identification of the gaps in practice allowed for the development of key messages to address the gaps and ultimately optimize the prescribing and use of PPIs in Canada. The most relevant key messages, together with their associated evidence-based statements, were revealed through a process that considered:

- the strength of the evidence as assessed by the ERP
- associated gaps in practice where the current practice differs from the evidence
- relevancy to the priorities of the CAC.

The three key messages identified are:

1. All PPIs are equally efficacious in the initial treatment of GERD, dyspepsia and other common gastrointestinal (GI) conditions.
2. Doubling the standard daily doses of PPIs, as initial therapy, is no better than standard daily dose therapy.
3. PPIs are not efficacious in treating cough, asthma or laryngeal symptoms associated with GERD.

Other key messages were developed based on the selection process already described and may be of interest to jurisdictions.⁶

7 Evidence-based Interventions

The selection of interventions process involved CAC members, ERP members and experts in the field of behavioural change. The process included the study and understanding of the evidence-based PPI key messages, barriers to implementing changes in behaviour related to PPI prescribing and use, and the target audiences. The capacity of the various jurisdictions to use, deliver and support the interventions was also considered.

A number of potential barriers toward implementing messages and interventions specific to the PPI project were identified.⁶ Understanding potential barriers allows interventions to be specifically designed and targeted to overcome these barriers.

Identified target audiences for COMPUS intervention tools may include:

- prescribers (General/Family Practitioners, Nurse Practitioners)
- patients
- policy decision makers
- pharmacists
- GI specialists.

The following interventions were selected:

Intervention	Target	Tools
Educational materials	Family doctors (and other prescribers), patients, pharmacists and specialists	<ul style="list-style-type: none"> • Card containing relevant PPI information • Alternative prescription pad • Newsletter
Educational meetings	Family doctors (and other prescribers), pharmacists	<ul style="list-style-type: none"> • Both didactic and interactive presentations
Educational Outreach (Academic Detailing)	Family doctors (and other prescribers)	Academic Detailing (AD) toolkit: <ul style="list-style-type: none"> • Newsletter • Alternative Prescription/tear-off pad • Laminated information card
Audit and Feedback	Family doctors (and other prescribers)	<ul style="list-style-type: none"> • A self-audit tool
Multifaceted Interventions		<ul style="list-style-type: none"> • Combining two or more of the recommended interventions

8 Next Steps

With the support of the members of the COMPUS Advisory Committee, the CADTH Liaison Team, and COMPUS staff, relationships with interventionists in Canada will be developed both for the implementation of interventions relating to the optimal prescribing and use of PPIs, and for future projects.

CADTH will work with those interested in using COMPUS materials to facilitate their uptake and implementation. Support for implementation and evaluation will be available through COMPUS.

An evaluation framework will be available with both qualitative and quantitative components, and COMPUS will assist in bringing groups together within the jurisdictions to aid in the evaluation of the interventions. This will help to inform stakeholders of the impact and effectiveness of the interventions.

Through the uptake and adoption of COMPUS key messages, health outcomes can be improved, and limited health care resources can be targeted more effectively. CADTH's pan-Canadian approach to identifying and promoting optimal drug prescribing and use, as well as building upon existing optimal use initiatives, reduces duplication of effort, and contributes to the quality and effectiveness of the Canadian health care system.

9 References

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