Gastric Acid-Related Diseases and PPIs

Insight and Outlook from IMS Health

Gastric acid-related diseases include gastroesophageal reflux disease (GERD), dyspepsia, peptic ulcer disease and Zollinger-Ellison syndrome. GERD, defined by at least weekly heartburn with or without acid regurgitation, is among the most prevalent acid-related disorder in the Western world; approximately 10% to 20% of the population are affected.[1]

PPIs are gastric acid-reducing agents. The five PPIs currently available in Canada are omeprazole (Losec®), lansoprazole (Prevacid®), pantoprazole (Pantoloc®), esomeprazole (Nexium®) and rabeprazole (Pariet®). While no new PPIs have been introduced to the market since 2002, nine new formulations of some agents have emerged. Lansoprazole has become available as an orally disintegrating tablet (Prevacid FasTab®) and esomeprazole is available in a powder form to dissolve in liquids (Nexium® sachet). Pantoprazole magnesium, previously available as Pantoloc M®, has been launched recently under the brand name Tecta. Omeprazole, pantoprazole, rabeprazole and lansoprazole are available in generic form.

The evolution of the PPI market over the last five years is shown in Figure 1. Prescriptions for PPIs have steadily increased for all PPIs except omeprazole, which have slightly but consistently dropped since 2005.

The PPIs with generic formulations have the following prescription market share: pantoprazole—(31%), rabeprazole—(21%), omeprazole—(16%), lansoprazole—(15%). The only non-generic, Nexium®, holds 17% of the market share (Figure 2). The balance of the prescription market for gastric acid-reducing agents is held by histamine H2 inhibitors (11.5%), including cimetidine, famotidine, nizatidine and ranitidine hydrochloride and

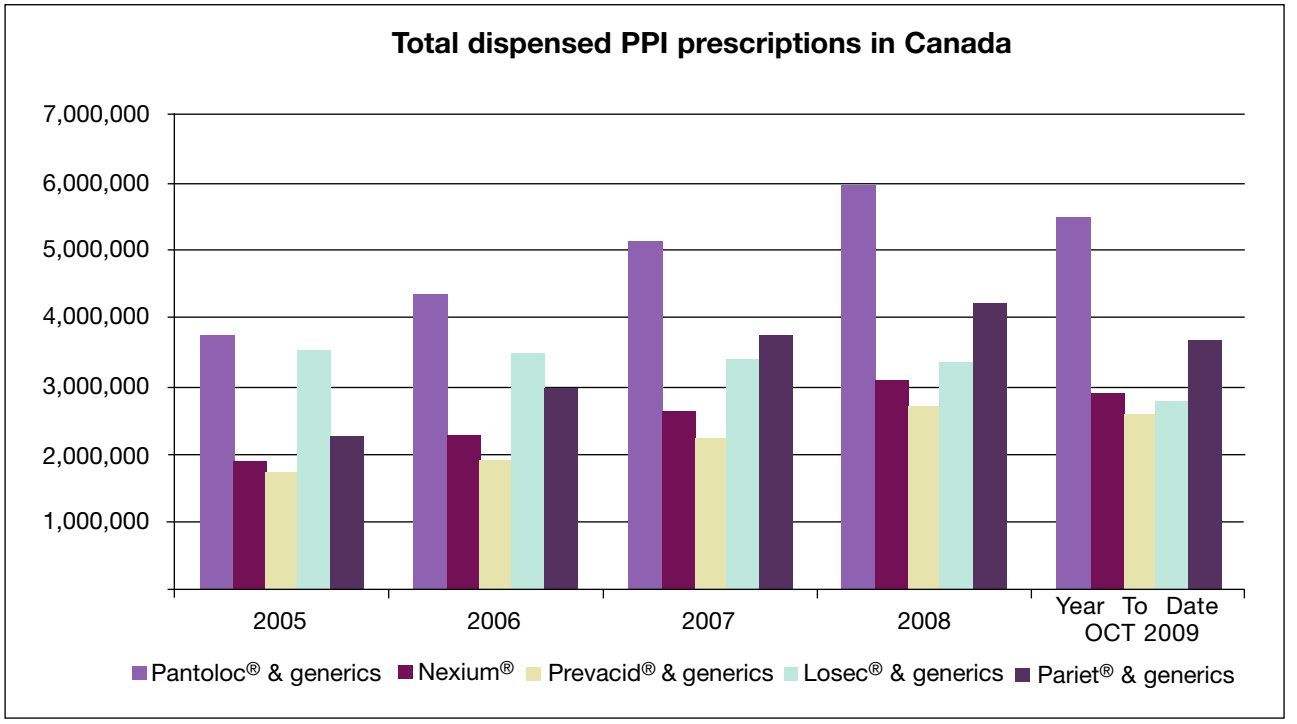

Figure 1. Total dispensed PPI prescriptions in Canada. Source: IMS Health, Canadian CompuScript, 2009.

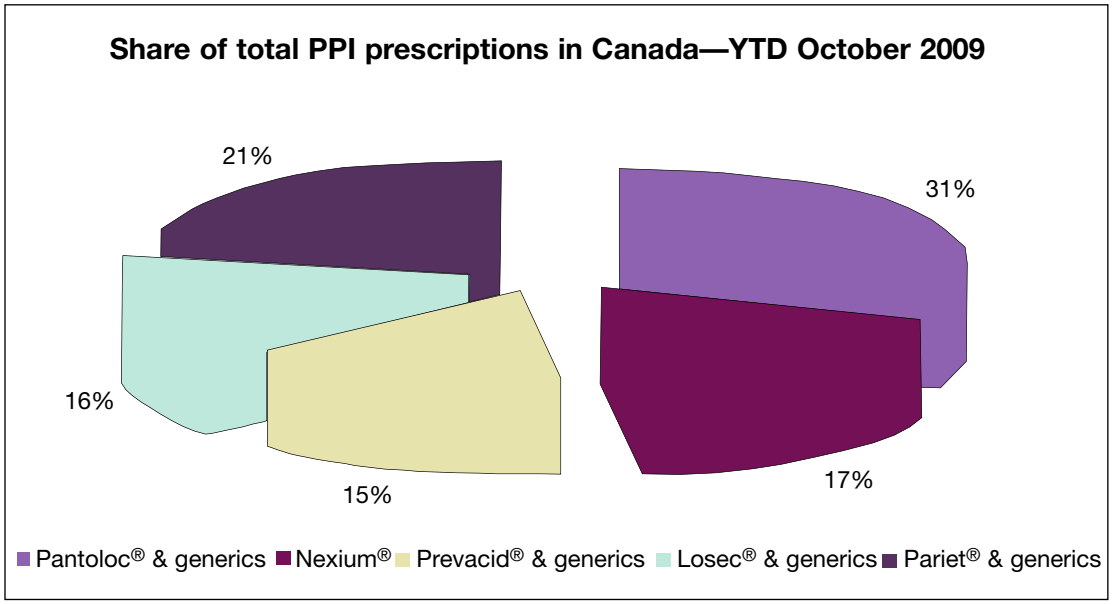

Figure 2. Share of total PPI prescriptions in Canada—YTD October 2009. Source: IMS Health, Canadian CompuScript, 2009.

cytoprotective agents and mucosal protective agents (5.6%), including sucralfate and misoprostol.

Pantoloc®, the most frequently prescribed PPI, peaked at > 5 million Rxs in 2007, before going generic. In 2008, 40% of all pantoprazole prescriptions were for generic versions of the product. At its peak, Pantoloc® represented 30% of the market for both prescriptions and prescription dollars, indicating that it was priced at market value. Looking at the 10-month time period ending October 2009, Nexium®, the only non-generic PPI available, represents 17% of the market in dispensed prescriptions while accounting for 24% of the market dollars.

LEADING PRESCRIBED CLASSES

The number of PPI prescriptions by province for the years 2005 through to the 10 months ending October 2009 is shown in Figure 3.

Of the five PPIs available, pantoprazole is the most prescribed nationally (31.4%). However, prescriptions for PPIs vary widely by province. Of the five PPIs prescribed in each province, rabeprazole is the preferred agent in British Columbia (50.6%), Saskatchewan (46.0%), Newfoundland & Labrador (41.6%), Ontario (33.1%) and Nova Scotia (33.1%). In Quebec and Alberta, pantoprazole is the most prescribed, at 47.3% and 31.1%, respectively. Omeprazole is the most prescribed in Manitoba (41.0%), New Brunswick (36.6%) and PEI (33.0%). Among the individual PPIs, rabeprazole prescriptions are highest in British Columbia (50.6%), pantoprazole in Quebec (47.3%), omeprazole in Manitoba (41.0%), lansoprazole in Alberta (26.5%) and esomeprazole in Quebec (24.2%). While listing status may account for some of this variation (*e.g.*, esomeprazole use in Quebec), because the therapeutic efficacy of PPIs is largely equivalent, physician and patient preference likely play a greater role in the choice of a PPI.

PER CAPITA USAGE OF PPIs

The province with the highest defined daily doses (DDD) per capita is consistently Nova Scotia, averaging 24.9 DDDs per capita across all five years (2005 to 2008 and year to date [YTD] October 2009). British Columbia has the lowest DDDs per capita for the last three years, averaging 14.3 DDDs per capita across all five years (2005 to 2008 and YTD October 2009). The national DDD per capita fluctuates between 16.5 and 22.4 over the same five years, averaging 19.5. The Maritime Provinces have consistently higher DDDs per capita than the western provinces. Perhaps this can be attributed to lifestyle differences.

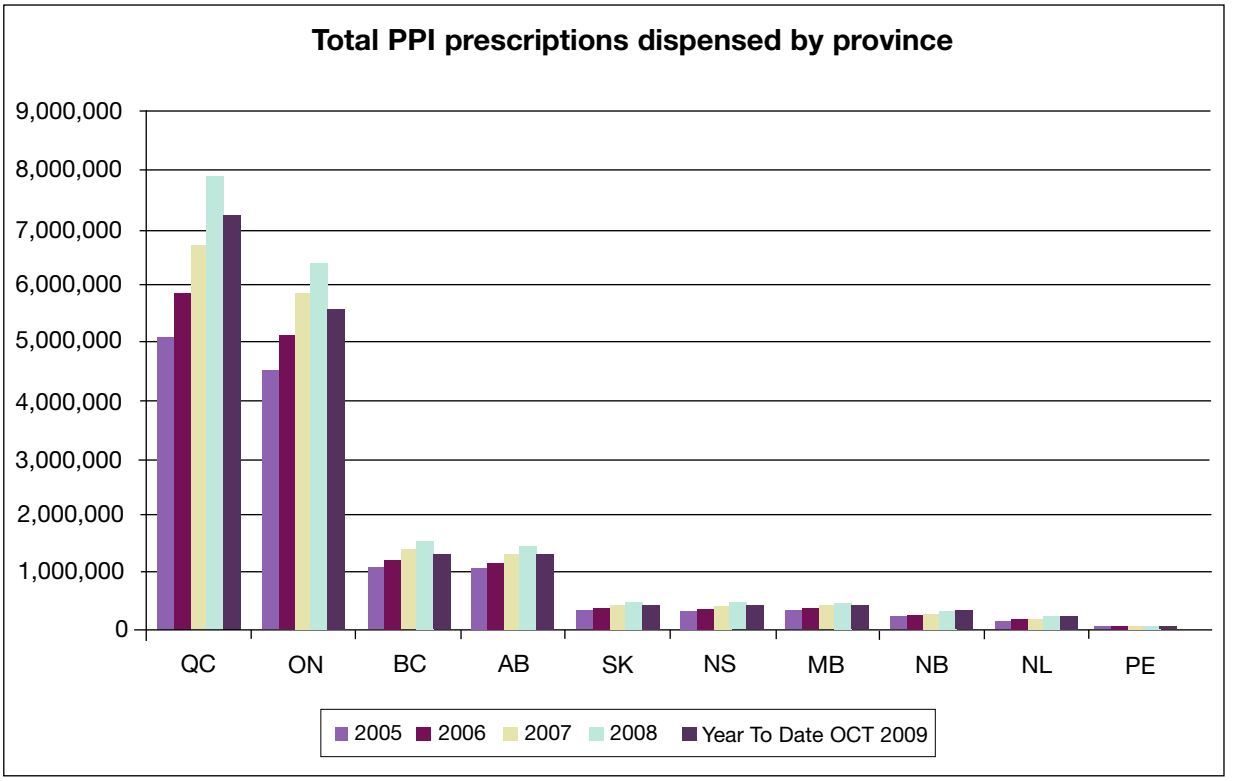

Figure 3. Total PPI prescriptions dispensed by province. Source: IMS Health, Canadian CompuScript, 2009.

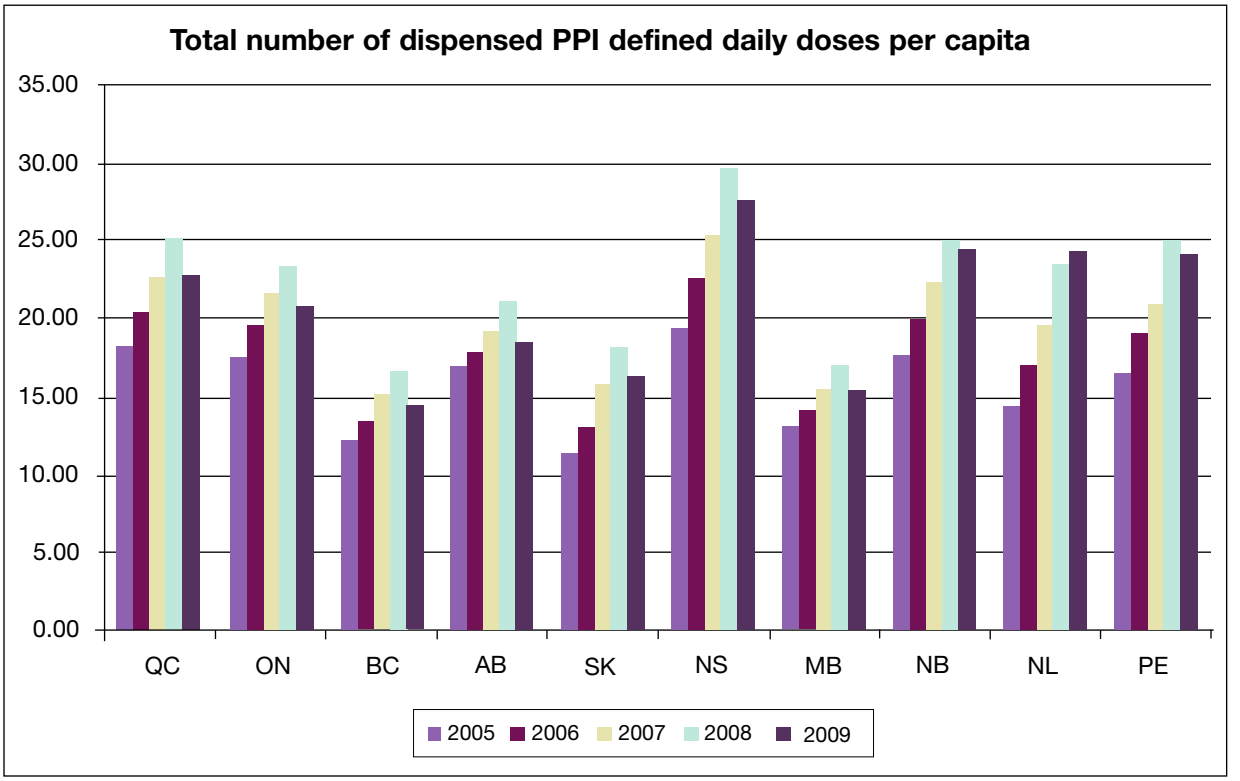

Figure 4. Total number of dispensed PPI defined daily doses per capita. Source: IMS Health, Canadian CompuScript, 2009. Statistics Canada.

FUTURE DEVELOPMENTS

Despite the efficacy of PPIs for healing and symptom relief in gastric acid-related diseases, some patients continue to experience breakthrough symptoms and nocturnal acid reflux. Areas that are being investigated include the development of agents that have a faster onset of action, improved control of acid secretion and superior healing ability.[2]

- Zegerid® (Santarus) is an immediate-release formulation of omeprazole; it does not have an enteric coating to protect it from degradation, but instead is combined with sodium bicarbonate to provide protection against stomach acid
- Tenatoprazole (Mitsubishi Pharma), an imidazopyridine-based PPI with a prolonged plasma half life (9.3 hours), is being investigated as a more stable inhibitor of gastric acid[3]
- Dexlansoprazole (Takeda) is an oral dual delayed-release PPI (60 mg) recently approved by the FDA for the treatment of heartburn associated with symptomatic non-erosive GERD for four weeks and for up to eight weeks in the healing of erosive esophagitis[4,5]

A potential future therapy for gastric acid-related diseases is AGN 201904-Z (Allergan), an acid-stable prodrug of omeprazole, available as capsules (600 mg) with enteric coating to prolong absorption. CPM

Refernces

1. Dent J, El-Serag HB, Wallander MA, et al: Epidemiology Of Gastro-Oesophageal Reflux Disease: A Systematic Review. Gut 2005; 54(5):710-7.
2. Vakil N: New Pharmacological Agents For The Treatment Of Gastroesophageal Reflux Disease. Rev Gastroenterol Disord 2008; 8(2):117-22.
3. Wang C, Hunt RH: Medical Management Of Gastroesophageal Reflux Disease. Gastroenterol Clin North Am. 2008; 37(4):879-99, ix.
4. Cash BD: Update on the Clinical Applications of Proton-Pump Inhibitor Therapy; Medscape 2008: http://cme.medscape.com/ viewarticle/576586_print. Accessed June 23, 2009.
5. Takeda Pharmaceuticals North America, FDA Approves KAPIDEX (dexlansoprazole) Delayed Release Capsules for the Treatment of GERD 2009: www.takeda.com/press/article_32521.html. Accessed June 23, 2009.

THERAPEUTIC TRENDS is made available by IMS Health Canada. IMS Health Canada is a subsidiary of IMS Health Inc., the world's leading provider of market intelligence to the pharmaceutical and healthcare industries in over 100 countries. IMS offers leading-edge business intelligence products and services that are integral to clients' day-to-day operations, including portfolio optimization capabilities; launch and brand management solutions; sales force effectiveness innovations; and consulting and services solutions that improve the delivery of quality healthcare worldwide. For more information, please contact an IMS representative.

Montreal, QC **(514) 428-6000**
Mississauga, ON **(905) 816-5000**