

Monitoring the Street Price of Diverted Opioids in Canada with StreetRx.com

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Background

- Prescription drug misuse and abuse in Canada can be monitored by examining prices paid for prescription opioid analgesics on the street.
- StreetRx.com is a website that enables users to anonymously report street prices paid for diverted prescription drugs.

Objectives

- To determine street prices of prescription opioid analgesics in Canada.

Methods

- Data gathered from StreetRx.com are summarized as median price per milligram by pharmaceutical ingredient for the period 2nd quarter 2011 through 2nd quarter 2015.
- Poisson regression was used to calculate number of visits and site submissions (Figure 1).

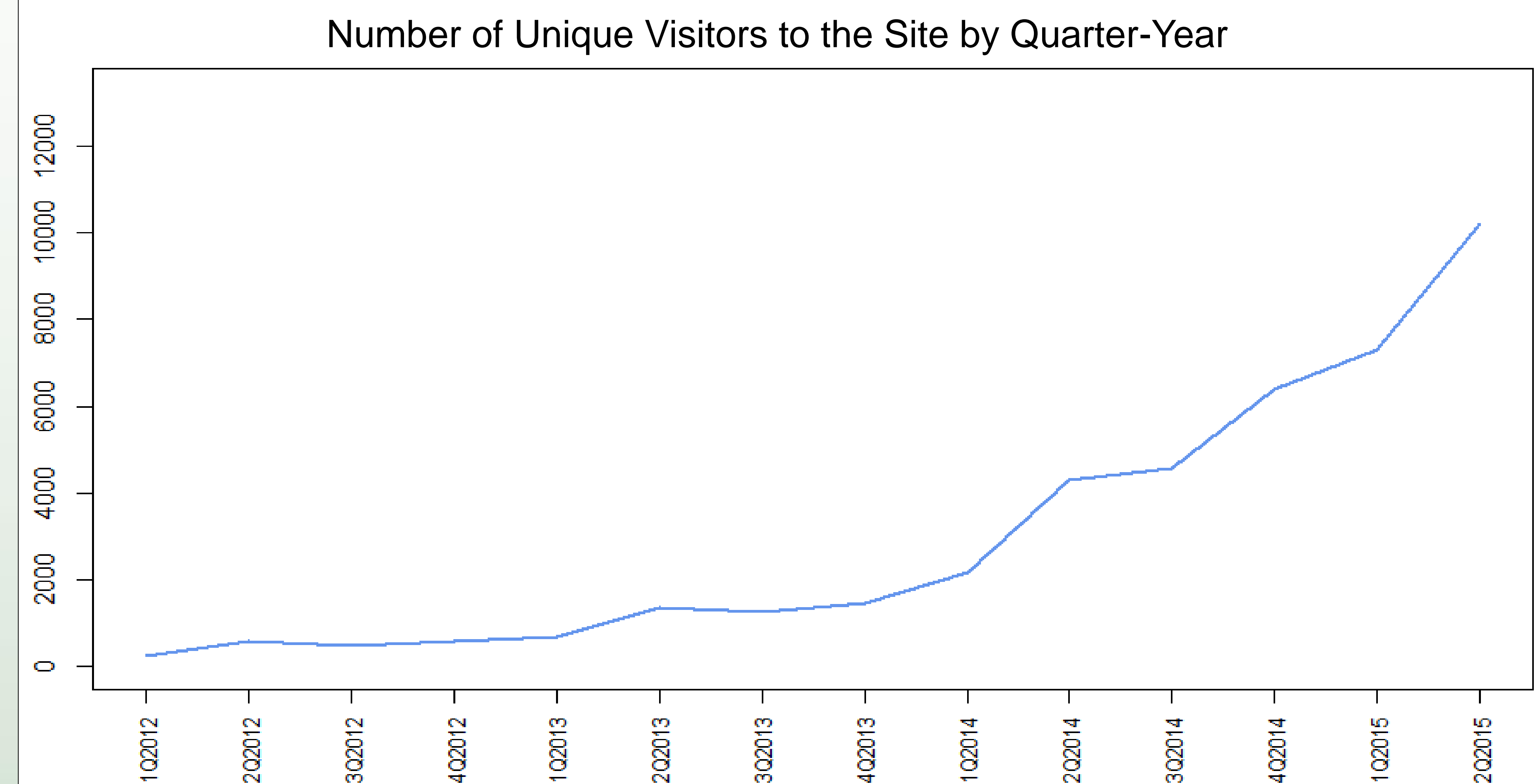
Results

- Rank orders of prescription opioid tablets/capsules pricing are similar in Canada and the United States (US), and provided using each country's currency (Table 1).
- In Canada, the highest median price per milligram is \$2.50 CAD for hydromorphone, and the lowest is \$0.11 CAD for tapentadol.
- Hydromorphone is also \$2.50 USD on the street in the US.
- In Canada, crushable forms of oxycodone (generic immediate release or extended release) cost \$1.00 CAD/mg compared to \$0.63 CAD/mg for crush-resistant formulations.
- Similarly, in the US, crushable oxycodone costs \$1.00 USD/mg while the crush-resistant formulation costs \$0.63 USD/mg.
- The highest number of submissions in Canada involved oxycodone and hydromorphone compared to hydrocodone and oxycodone in the US.
- Tablet forms of hydrocodone are not approved in Canada.
- For every month increase in time, number of visits to StreetRx.com/Canada increased by 32% ($p < 0.0001$) and number of submissions increased by 31% ($p < 0.0001$) (Figure 1).

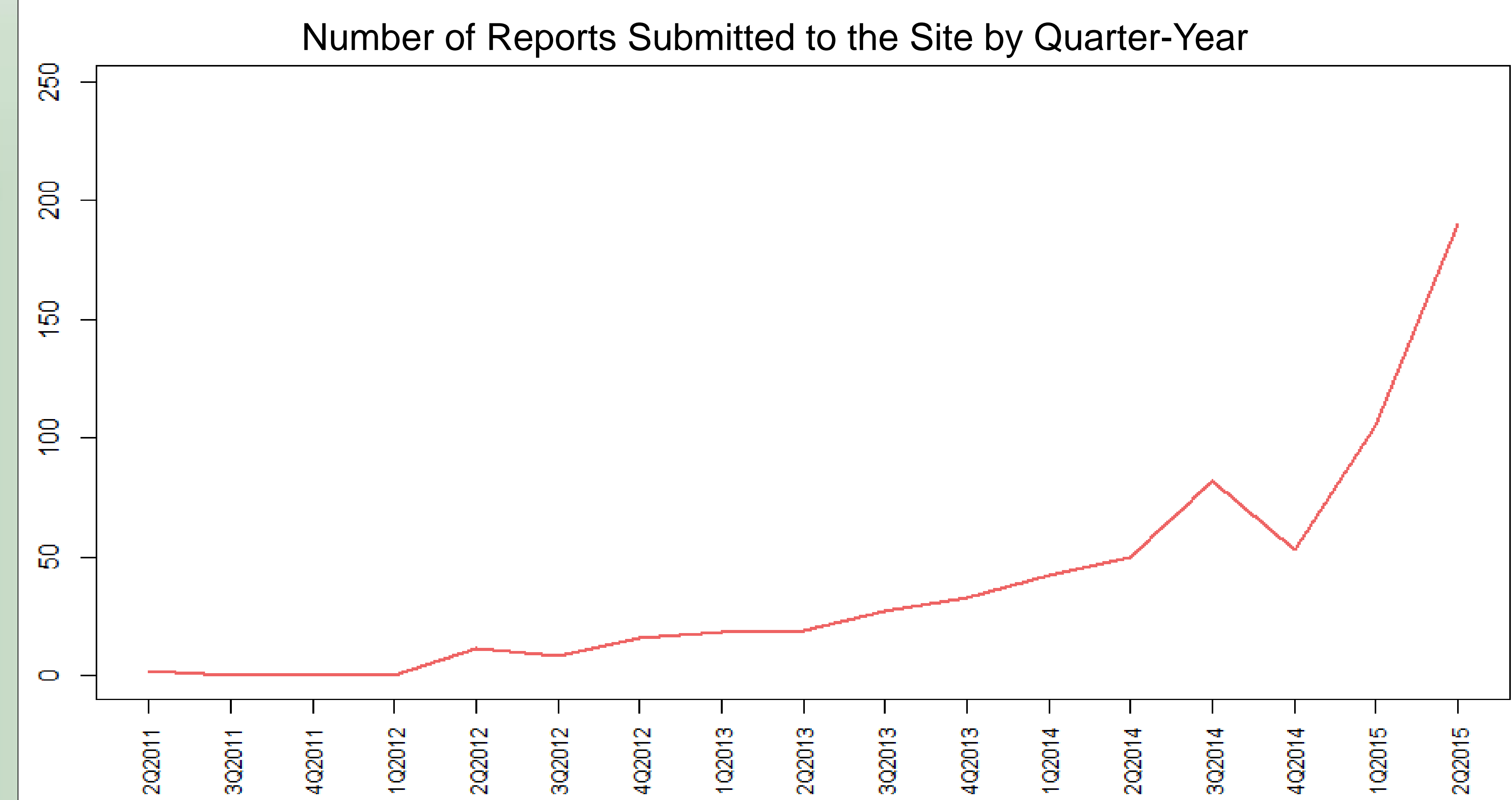
Conclusions

- Numbers of visits and submissions to StreetRx.com/Canada are steadily increasing (for reports by province, see Figure 2).
- Our results suggest oxycodone and hydromorphone are the pharmaceutical ingredients most commonly trafficked in the Canadian black market.

Figure 1. Visits and Reports by Quarter-Year



*Number of visits to site were tracked starting with launch of the Canada StreetRx.com website in January 2012



*StreetRx.com allows for submissions of price reports that occurred prior to site launch

streetrx.com/canada

Figure 2. Number of Reports by Province

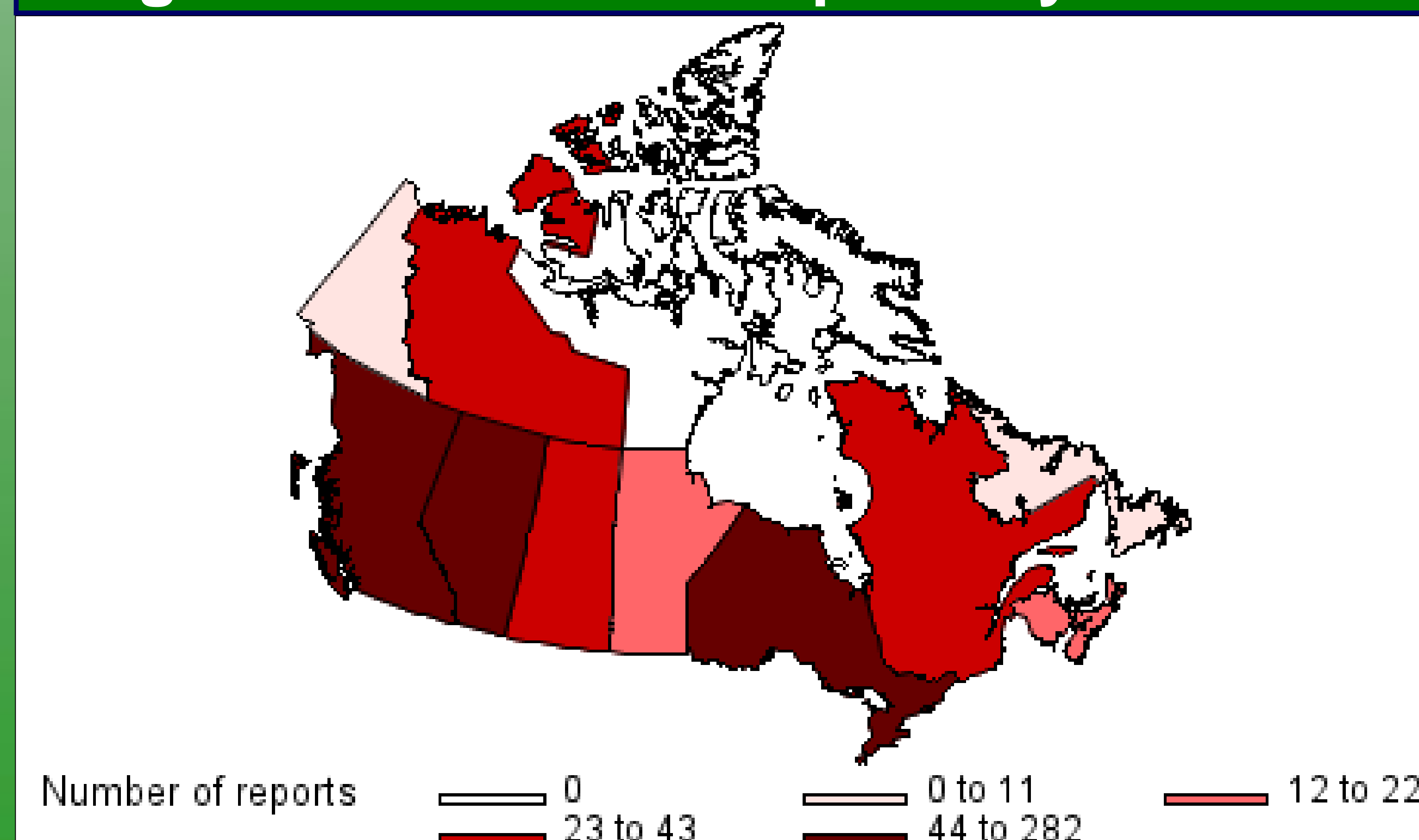


Table 1. Canada Drug Rankings by Price per Milligram Compared with US

| Drug | Canada | | United States | | |
|--------------------|--------|-------------------------|--------------------|--------|-------------------------|
| | N | Median (IQR) CAD | Drug | N | Median (IQR) USD |
| Hydromorphone | 305 | \$2.50 (\$1.25, \$3.75) | Hydromorphone | 2,061 | \$2.50 (\$1.50, \$5.00) |
| Hydrocodone | 2 | \$2.20 (\$0.40, \$4.00) | Hydrocodone | 12,980 | \$0.80 (\$0.50, \$1.00) |
| Buprenorphine | 2 | \$1.88 (\$1.25, \$2.50) | Buprenorphine | 325 | \$2.50 (\$1.25, \$3.75) |
| Oxycodone | 275 | \$1.00 (\$0.67, \$2.00) | Oxycodone* | 18,171 | \$1.00 (\$0.50, \$1.25) |
| Crushable | 161 | \$1.00 (\$1.00, \$2.00) | Crushable | 10,095 | \$1.00 (\$0.60, \$1.60) |
| Form not indicated | 99 | \$1.00 (\$0.54, \$1.25) | Form not indicated | 5,391 | \$1.00 (\$0.60, \$1.00) |
| Non-crushable | 15 | \$0.63 (\$0.38, \$1.00) | Non-crushable | 2,589 | \$0.63 (\$0.38, \$1.00) |
| Methadone | 2 | \$0.75 (\$0.50, \$1.00) | Methadone | 970 | \$1.00 (\$0.50, \$1.00) |
| Morphine | 51 | \$0.50 (\$0.30, \$1.00) | Morphine | 2,044 | \$0.33 (\$0.20, \$0.67) |
| Tramadol | 11 | \$0.27 (\$0.13, \$0.88) | Tramadol | 1,537 | \$0.06 (\$0.02, \$0.10) |
| Oxymorphone | 1 | \$0.25 (\$0.25, \$0.25) | Oxymorphone | 608 | \$1.38 (\$0.88, \$2.50) |
| Tapentadol | 2 | \$0.11 (\$0.02, \$0.20) | Tapentadol | 94 | \$0.13 (\$0.09, \$0.24) |

*For the U.S., price per milligram could not be calculated for 96 reports of oxycodone as price or dosage was not provided.

