

Utilization of hydroxychloroquine and azithromycin in Canada during the COVID-19 pandemic: experience from a large Canadian private payer



Nianda Penner*, Arthur Lu*, Aneeta Lal*, Julie Blouin*



Background

- The World Health Organization formally announced a pandemic due to COVID-19 on March 11, 2020.
- Study results¹ suggesting that hydroxychloroquine alone or in combination with azithromycin was associated with viral load reduction in COVID-19 patients received important media attention.
- Canadian pharmacists reported significant growth in the number of prescriptions issued for one or a combination of these two products.
- Professional associations² released statements to warn their members on the potential safety risks of these medications, and the drug shortages that may impact patients taking these drugs for chronic diseases such as rheumatoid arthritis.



Objective

- Determine if there was an increase in the volume of claims for hydroxychloroquine with or without azithromycin following media attention in March 2020.



Method

- Data source
- Sun Life claims data

Extracted number of claimants for

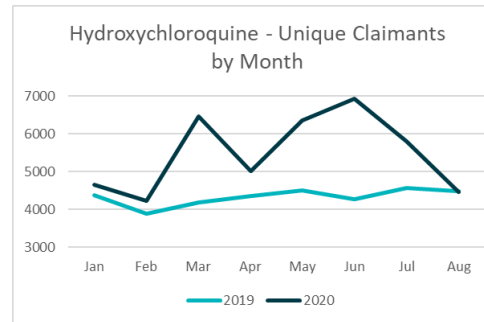
- Hydroxychloroquine
- Hydroxychloroquine plus Azithromycin
- Monthly: January 1, 2020 to August 31, 2020 and January 1, 2019 to August 31, 2019, for historical baseline



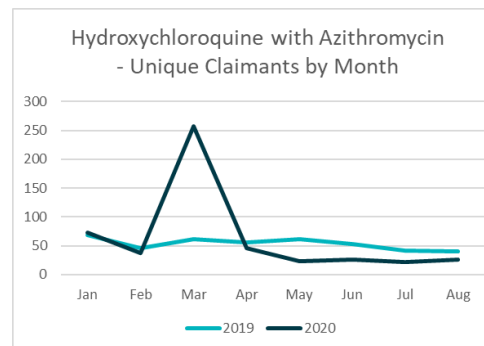
Results

- There were a total of 14,765 claimants for hydroxychloroquine in January to August 2020 compared to 12,889 in the same period in 2019, representing a 14.55% increase.
- The average monthly number of claimants in 2020 was 5,492 compared to an average of 4,333 in the same period in 2019.
- In March 2020, there was a total of 6,473 claimants for hydroxychloroquine, an increase of 2,241 (52.95%) claimants compared to February 2020.

- Compared to March 2019, there was an increase of 1,964 (54.49%) in the number of claimants in March 2020.
- After a drop in April 2020, the number of claimants continued to rise in May and June before returning to historical levels in August.



- Of the 6,473 claimants for hydroxychloroquine, 257 (3.97%) also claimed azithromycin in March 2020.
- 4 times the number of claimants claimed for both hydroxychloroquine and azithromycin in March 2020 compared to March 2019.



Discussion

Hydroxychloroquine is approved for use in the treatment of rheumatoid arthritis, lupus and malaria. Claims have been stable over the years.

Sun Life Canada experienced a spike in claims for hydroxychloroquine during March 2020. The increase in claims, compared to historical levels, was observed until August 2020, when the claims returned to historical levels. The assumption is that the population of claimants remained the same in 2019 and 2020.

The exact indication for which hydroxychloroquine is used is unknown. However, the increase in claims in March to June 2020 may be correlated to

- the declaration of COVID-19 pandemic
- the surge of COVID-19 cases in Canada
- the timing of media attention on hydroxychloroquine
- publication of an open-label non-randomized trial¹

The claims decreased in July, with a return to historical levels in August. The exact reason for the decrease is unknown, however, it may be associated with

- the decline in reported COVID-19 cases in Canada
- the safety warnings issued by Health Canada³, the U.S. Food and Drugs Administration, and World Health Organization
- publications of trial results⁴ showing lack of effectiveness

References

1. Gautret P, Lagier JC, Parola P, et al. Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial. *Int J Antimicrob Agents.* 2020;56(1):105949.
2. A JOINT MESSAGE TO ONTARIO'S DOCTORS, NURSE PRACTITIONERS AND PHARMACISTS Statement on the Use of Hydroxychloroquine and Azithromycin for COVID-19 Prophylaxis. March 23, 2020
3. Health Canada recall and safety alert: Chloroquine and hydroxychloroquine can have serious side effects. These drugs should be used only under the supervision of a physician. April 25, 2020.
4. CBC News. Hydroxychloroquine fails to prevent COVID-19 in those at high risk, trial shows. Jun 03, 2020.

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