Formulary Edits and Consistent Messaging for Unproven COVID-19 Therapeutics

Tyler Stephen, MD, Alyssa Tutino, PharmD, BCGP, Justin Bender, BS, Michele Sageer, PharmD, BCACP, Mona Chitre, PharmD, Ted Louie, MD

University of Rochester Medical Center and Excellus BlueCross BlueShield

Tyler Stephen
Tyler_stephen@URMC.Rochester.edu

Background

A challenge the healthcare system faced during the COVID-19 pandemic was ensuring appropriate use of therapeutics. In the setting of a novel infectious disease with limited treatment options many therapies were, with or without clear evidence of their effect, trialed for treatment. Hydroxychloroquine, azithromycin, and ivermectin are FDA-approved for rheumatic, antibacterial, and antiparasitic conditions, respectively. During the pandemic, these drugs were used for COVID-19 treatment, despite unproven benefit, lack of high-quality clinical trial data or clinical guideline support. Due to the potential harms of using medications without known benefit, stewardship of these agents was a concern during the pandemic. One strategy was through payor-based formulary edits including placing quantity limits and prior authorization to support appropriate use. We looked at whether this influenced the use of these agents during the COVID-19 pandemic in Upstate New York.

Methods

After local discovery of COVID-19 in Rochester, NY the University of Rochester Medical Center and Excellus BlueCross BlueShield, a local payor in the upstate New York area, along with other local heath associated agencies disseminated education about the unproven role of these agents in treatment or prevention of COVID-19. Following this in March 2020, Excellus BlueCross BlueShield placed a quantity limit on prescriptions for hydroxychloroquine. Then, a quantity limit was placed on azithromycin and ivermectin in May 2020 and February 2021, respectively. These were followed by a prior authorization for ivermectin in October of 2021. These edits applied to all formularies under Excellus BlueCross BlueShield except for Medicare. The quantity limit for hydroxychloroquine and azithromycin was in effect until December 2020. An exception process was available for individuals who required a higher quantity above the quantity limits. Data was gathered retrospectively for claims and total drug utilization amongst Excellus BCBS members through February 2022.

Results

Use of hydroxychloroquine increased by 56.5% prior to quantity limit implementation compared to the pre-pandemic baseline. After the quantity limit for hydroxychloroquine was implemented, use returned to near the pre-pandemic baseline. Under the quantity limit for hydroxychloroquine, 88% of claims were processed. After the quantity limit for azithromycin was implemented, while overall usage dropped 77% of the claims were processed. Prior to implementation of formulary edits, ivermectin usage quadrupled compared to pre-pandemic levels. Following implementation of the ivermectin quantity limit, usage was stabilized and only 41%of ivermectin claims were processed. The month that prior authorization was implemented, usage dropped by 81%, and only 9% of claims were processed.

Figure 1. Number of Members Impacted by Formulary Edit

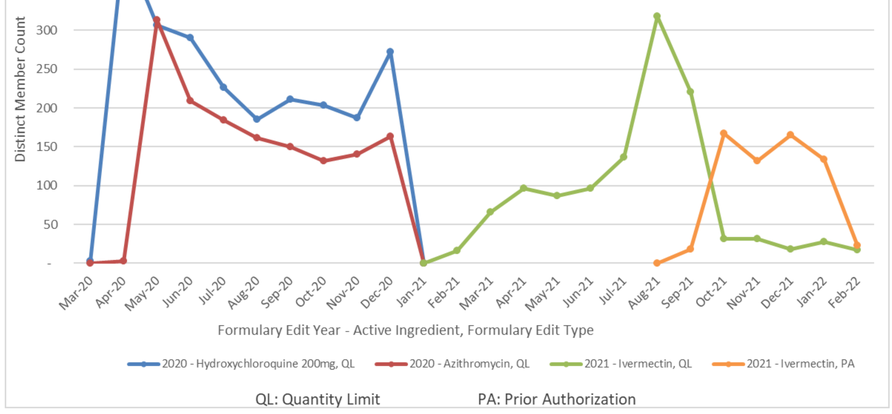


Figure 2. Claims Experience by Active Ingredient & Formulary Edit Type

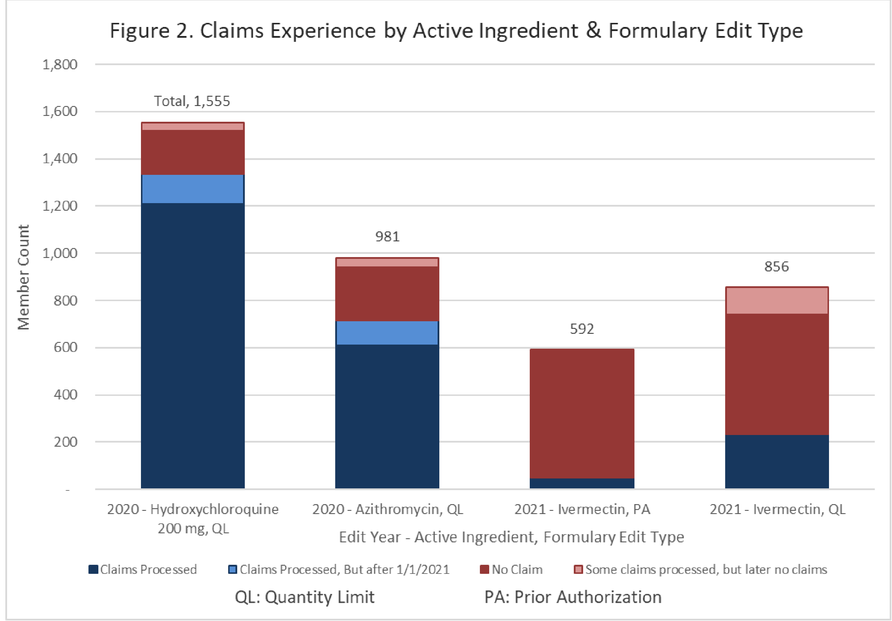
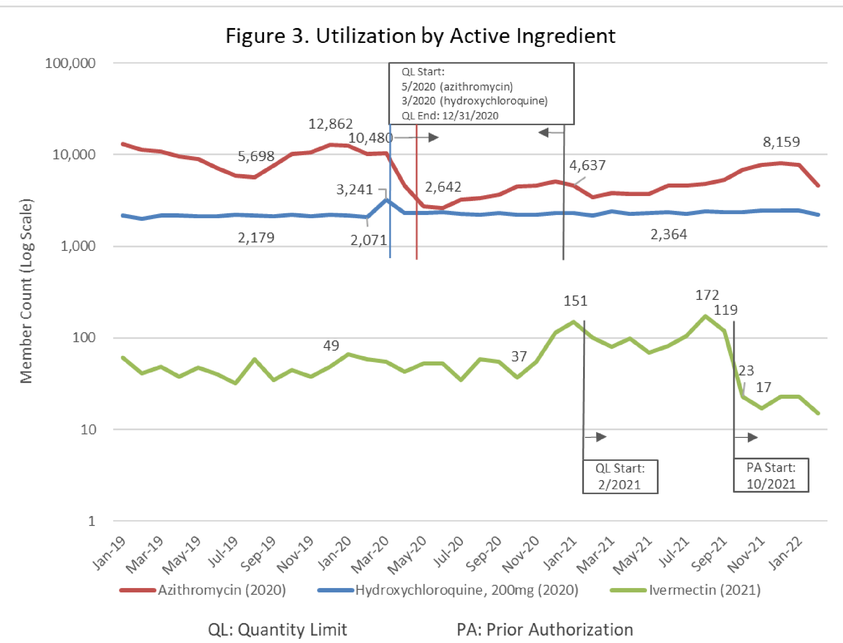


Figure 3. Utilization by Active Ingredient



Conclusion

Quantity limits were associated with returning use of hydroxychloroquine to pre-pandemic levels despite an initial rise in use early in the pandemic. A quantity limit may have also curtailed azithromycin use,-though, some of the change in usage may have been due to seasonal variation in the use of azithromycin. Both of these quantity limits still allowed for a majority of claims to be filled supporting ongoing typical use of these agents in other evidenced based conditions. A quantity limit was temporarily associated with stabilization in ivermectin use after rapid and significant rise in use. Under a quantity limit, more claims were not processed for this far less common drug in Upstate New York. Ultimately, however, usage did not actually decrease until prior authorization was implemented at which point use dropped to near pre-pandemic levels. Overall, this data suggests that formulary edits consistent with local messaging appeared to help control use of unproven therapeutics for COVID-19. In the future, formulary edits may remain an important tool for stewardship in settings where clinical data is rapidly evolving.

References

Echeverría-Esnal D, Martin-Ontiyuelo C, Navarrete-Rouco ME, et al. Azithromycin in the treatment of COVID-19: a review. *Expert Rev Anti Infect Ther*. 2021;19(2):147-163.

Fiolet T, Guihur A, Rebeaud ME, Mulot M, Peiffer-Smadja N, Mahamat-Saleh Y. Effect of hydroxychloroquine with or without azithromycin on the mortality of coronavirus disease 2019 (COVID-19) patients: a systematic review and meta-analysis. Clin Microbiol Infect. 2021;27(1):19-27.

Reis G, Silva EASM, Silva DCM, et al. Effect of Early Treatment with Ivermectin among Patients with Covid-19. *N Engl J Med*. 2022;386(18):1721-1731.