

## Analysis of Pediatric Mail Order Pharmacy Usage Throughout the COVID-19 Pandemic

Kyle Hsiao<sup>1</sup>, Alexandra Brown, Ph.D.<sup>2</sup>, Naima Alam, MStat<sup>2</sup>, Timothy Ryan Smith, M.D.<sup>3</sup>

<sup>1</sup>University of Kansas Medical Center, Kansas City, KS, School of Medicine

<sup>2</sup>University of Kansas Medical Center, Kansas City, KS, Department of Biostatistics and Data Science

<sup>3</sup>University of Kansas Medical Center, Kansas City, KS, Department of Pediatrics

*Received Aug. 21, 2024; Accepted for publication Aug. 26, 2024; Published online Aug. 27, 2024*

*<https://doi.org/10.17161/kjmvoll7.22735>*

**Introduction.** Mail order pharmacies offer increased convenience, higher rates of patient compliance, and lower costs to both patients and the health care system. This study attempts to review the relationship between demographics and social needs of pediatric families and use of mail order at a single institution.

**Methods.** This cross-sectional, retrospective study reviewed mail order prescription completion at an a midwestern academic medical center for children less than 18 years old from June 2020 to December 2022. Demographic features that were significant at  $p < 0.1$  from the univariate analysis were subjected to multivariate logistic regression analysis to obtain the adjusted odds ratio (OR) and 95% confidence interval (CI).

**Results.** In 2020, mail order pharmacy prescription completion occurred more frequently by families who identified as English speaking (OR: 3.61, 95% CI: 1.22-10.70, p-value: 0.02) and religious (OR: 2.38, 95% CI: 1.68-3.40, p-value:  $< 0.001$ ). Less frequent use of this service is seen among patients who identified as non-white (OR: 0.31, 95% CI: 0.17-0.59, p-value: 0.002). Percentage of mail order pharmacy use increased from 2020 to 2022.

**Conclusions.** This study reiterated disparities in mail order pharmacy utilization for recognized vulnerable populations such as families with limited English proficiency and identifying as non-white. Mail order was utilized less often at the height of the COVID-19 pandemic when health disparities were most evident. Finding means to engage vulnerable families in alternative care delivery methods remains a challenge and an important priority for the health care system.