

Prescribing patterns among in-person vs virtual primary care visits pre- and post-COVID-19 in Ontario, Canada



Muratov S¹, Neish D¹, Ellis K¹, Wang I¹, Yang H¹, Bhattacharjee P¹, Barot P¹, Kukaswadia A¹

¹ IQVIA Solutions Canada Inc, 6700 Century Ave #300, Mississauga, ON, Canada

BACKGROUND

The coronavirus disease 2019 (COVID-19) pandemic has challenged healthcare system at many levels, including routine medical care delivery to patients with chronic diseases¹. In response to the pandemic, the healthcare system quickly transitioned to providing telehealth services² allowing patients to receive primary medical care services during the pandemic. However, the impact that virtual care may have on various populations, including vulnerable subgroups such as elderly patients, is poorly understood³.

OBJECTIVE

This study aimed to 1) understand the impact of COVID-19 on prescription patterns for in-person vs virtual visits in a primary care setting in Ontario, Canada and 2) measure the impact within the elderly patient population.

DATA SOURCE

IQVIA Electronic Medical Records (EMR) database includes de-identified data from a network of primary care clinics in Ontario. It contains clinical data for >1.5 million patients, 13.1 million unique visits, and ~1,100 physicians, including general practitioners and specialists.

STUDY DESIGN

Patient outcomes pre- and post-COVID-19 were stratified using an index date of March 15, 2020 (Figure 1).

Patients were included if they had ≥1 medical visit in the 5 years prior to March 15, 2019, were ≥18 years old at index, ≥1 diagnosis of ambulatory care sensitive conditions (ACSC) or mental illness within 5 years prior to index date, and ≥1 medical visit 12 months pre- or post- index. The list and definitions of ACSCs were adopted from CIHI and included: angina, asthma, chronic obstructive pulmonary disease (COPD), diabetes, epilepsy, hypertension and heart failure⁴.

Abbreviations: ACSC – Ambulatory Care Sensitive Conditions; ATC4: Anatomical Therapeutic Chemical Classification; CIHI - Canadian Institute for Health Information; COPD – Chronic Obstructive Pulmonary Disease; EMR - Electronic Medical Records.

STUDY OUTCOMES

In-person and virtual visits were compared by the number of patients with a least one prescription, the mean number of prescriptions per person, and the type of drug class by ATC (level 4). The outcomes were stratified by age (<65 or ≥65) and sex assigned at birth. Appropriate descriptive statistics was employed to compare between groups.

FIGURE 1



RESULTS

The total number of visits (virtual or in-person) was less post index (48,633 vs 15,608). Pre- vs post-index, the total number of in-person visits decreased (31,441 vs 17,192) (Figure 2), while the number of virtual visits increased (5,200 vs 10,408) (Figure 3). The increase was most prominent among those ≥65 (+204%).

The proportion of patients with ≥1 prescription decreased for both in-person (81% vs 71%, p<0.0001) and virtual visits (62% vs 52%, p<0.0001) (Figure 4).

The mean number of prescriptions for in-person visits dropped by 24.1% pre- vs post-index (10.4 vs 7.9, p<0.0001), while it increased by 12% among patients with virtual visits (3.0 vs 3.3, p<0.0001) (Figure 5).

The prescription patterns were consistent across the age subgroups. A greater prevalence of anti-depressants post-index was observed for virtual visits among those <65.

CONCLUSIONS

Our study found a high degree of uptake for virtual visits during the pandemic across the assessed population groups, including the elderly. However, fewer patients received prescriptions in both visit types, although the mean number of prescriptions increased slightly among the virtual care cohort post-index. Future research should examine the impact of virtual vs in-person visits on patient outcomes.

FIGURE 2

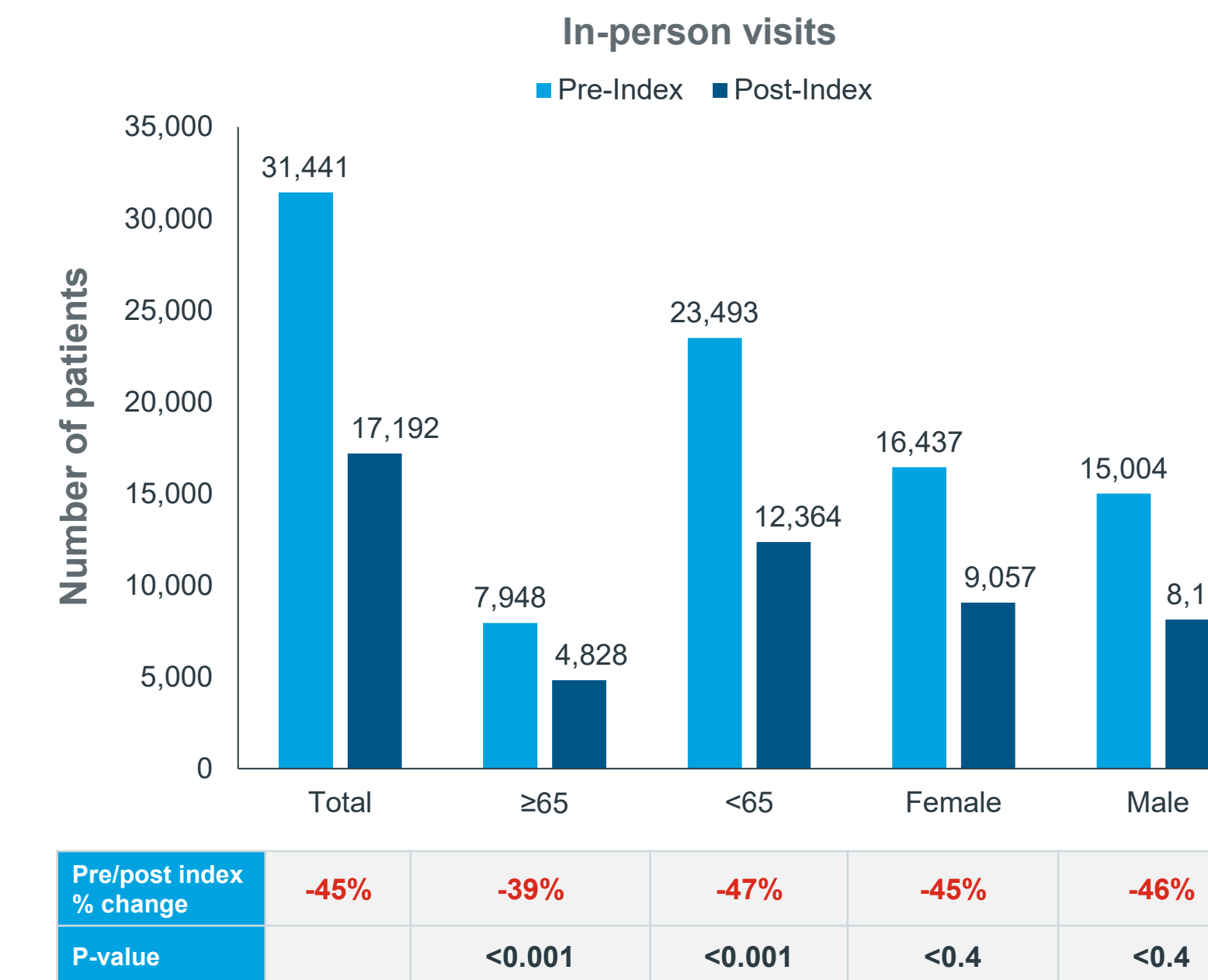


FIGURE 3

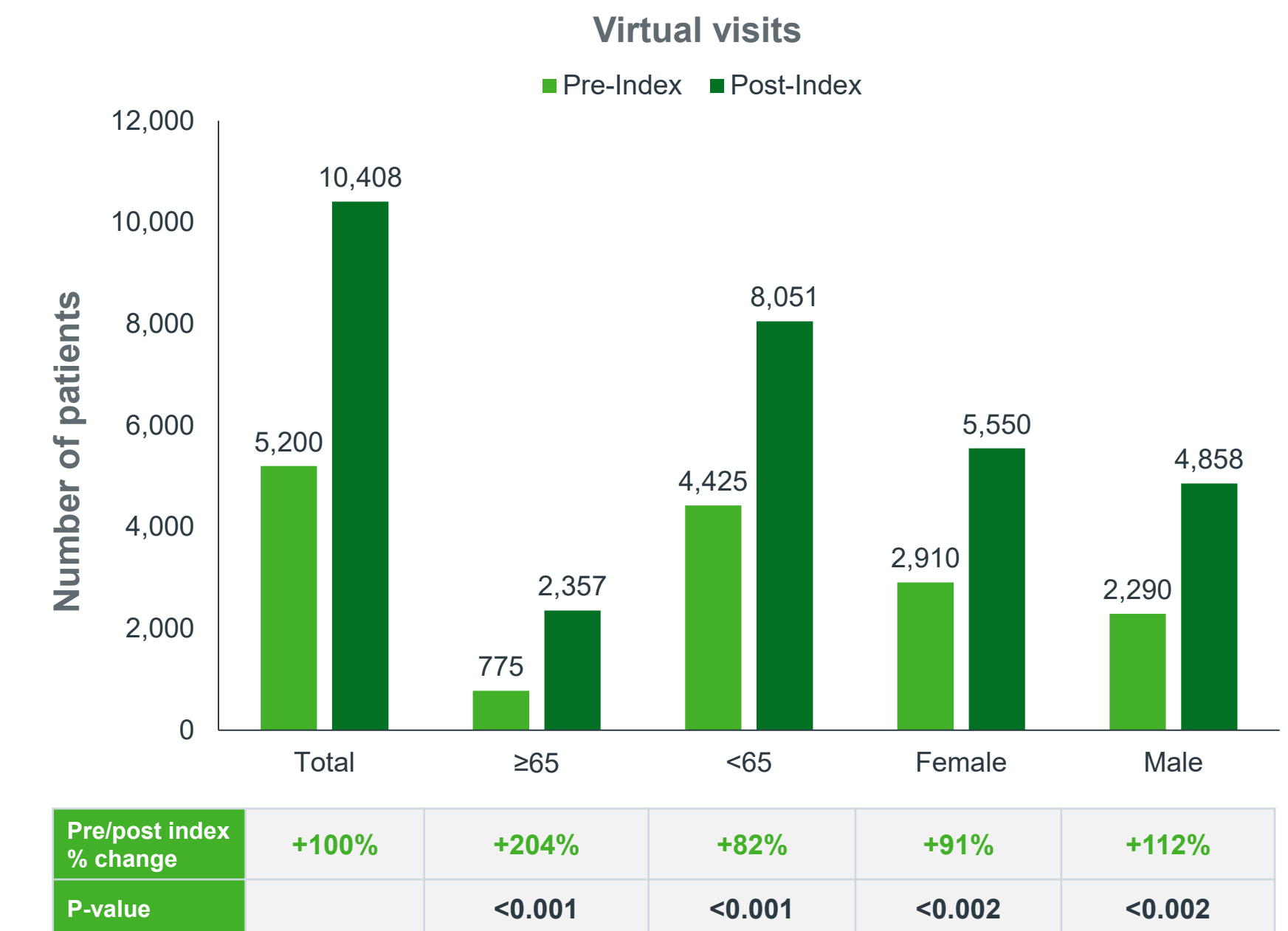


FIGURE 4

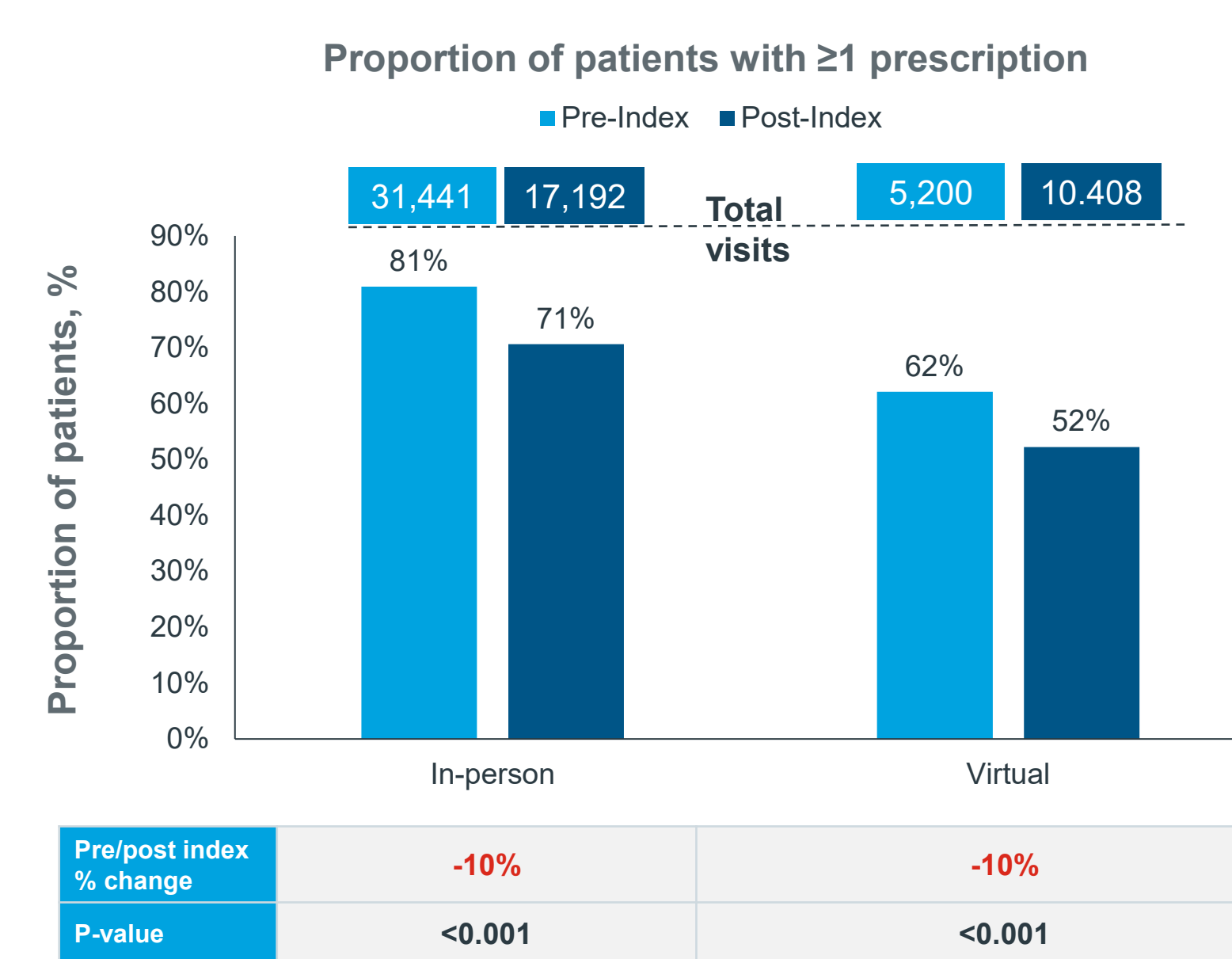
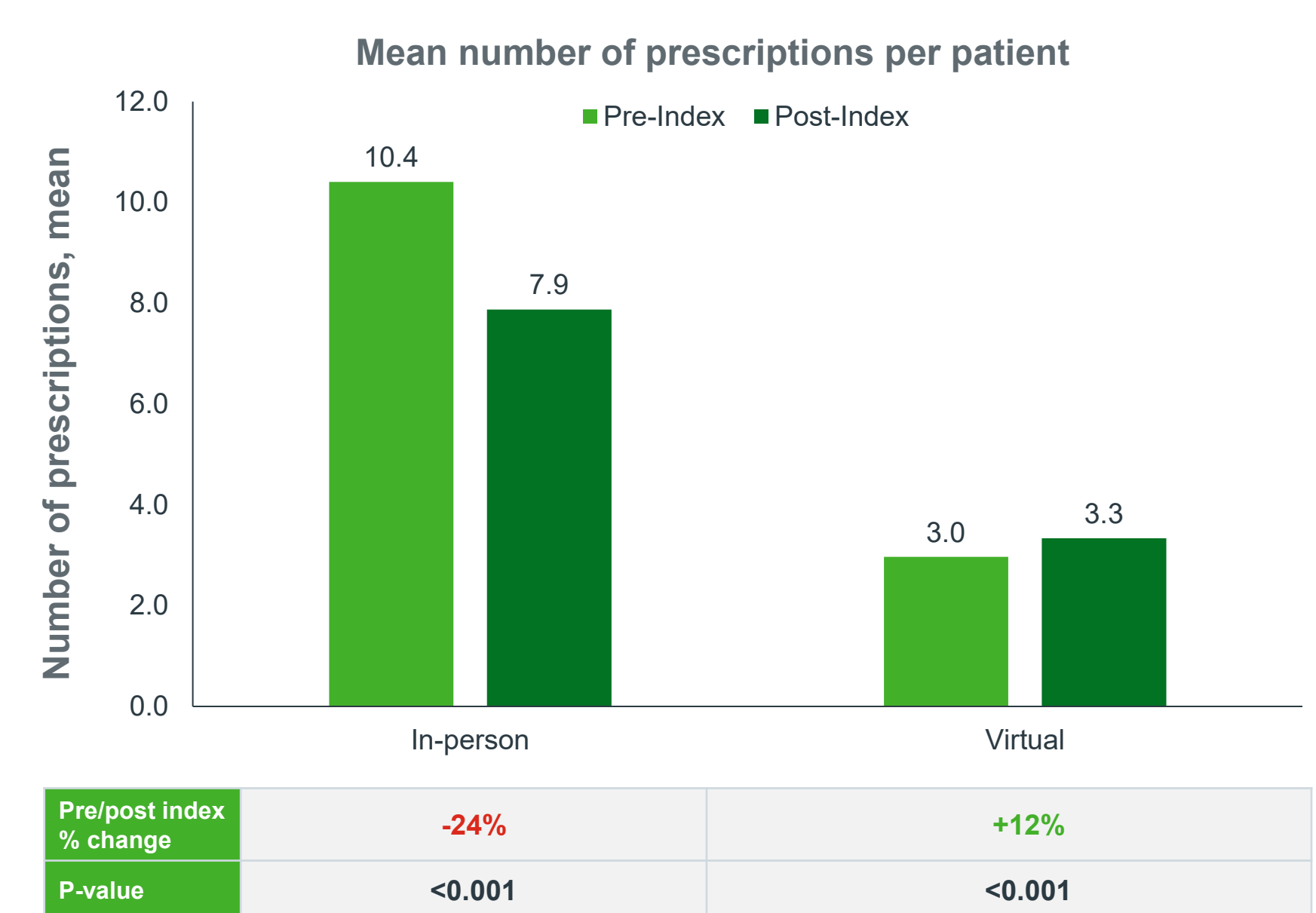


FIGURE 5



REFERENCES

- Chudasama, Yogini V et al. "Impact of COVID-19 on routine care for chronic diseases: A global survey of views from healthcare professionals." *Diabetes & metabolic syndrome* vol. 14,5 (2020): 965-967. doi:10.1016/j.dsx.2020.06.042
- Ateev Mehrotra et al. "The Impact of the COVID-19 Pandemic on Outpatient Visits: A Rebound Emerges", *The Commonwealth Fund*. Accessed 22 Sep. 2021
- Bhatia, R Sacha et al. "Virtual care use before and during the COVID-19 pandemic: a repeated cross-sectional study." *CMAJ open* vol. 9,1 E107-E114. 17 Feb. 2021, doi:10.9778/cmajo.20200311
- Canadian Institute for Health Information. Ambulatory care sensitive conditions. <https://indicatorlibrary.cihi.ca/display/HSPIL/Ambulatory+Care+Sensitive+Conditions>