



Impact of COVID-19 Pandemic on the Fruit and Vegetable Prescription Program in a Pediatric Clinic

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Introduction

- In February 2016, Hurley Children's Clinic implemented a novel fruit and vegetable prescription program.
 - The primary prevention-focused program has expanded to several pediatrics clinics in Flint and has successfully established a robust evidence base for its efficacy to improve nutrition intake, household food security, and nutrition access.
- Utilizing the electronic medical record, all children receive \$15 prescriptions for fruits and vegetables.
 - The prescriptions are redeemable at either the Flint Farmers' Market or through the mobile market, Flint Fresh, for a home delivered produce box.
 - Turning practice into policy, the Flint-based program inspired a national nutrition prescription program supported by the United States Department of Agriculture (USDA).
- In March 2020, the COVID-19 pandemic spread throughout the globe, resulting in a national decrease in pediatric clinic visits. Children missed routine well-child care and health maintenance visits, including necessary vaccinations and screenings.
- The aim of this evaluation is to better understand how the COVID-19 pandemic impacted the distribution and redemption of fruit and vegetable prescriptions.*

Methods

- Using descriptive statistics and chi-square analysis, rates of prescription and redemption from before the pandemic and during the waves of pandemic will be examined at participating Hurley pediatric clinics.
- Prescription rates reflect provider-driven EMR orders, and redemption rates reflect patient-driven prescriptions submitted in that month to vendors in exchange for produce. Additionally, change in clinic visit volume will be analyzed.
- Surge one of the pandemic will be defined as March 2020-June 2020; surge two will be defined as November 2020-February 2021.

Results – Figures

% Distribution and Redemption

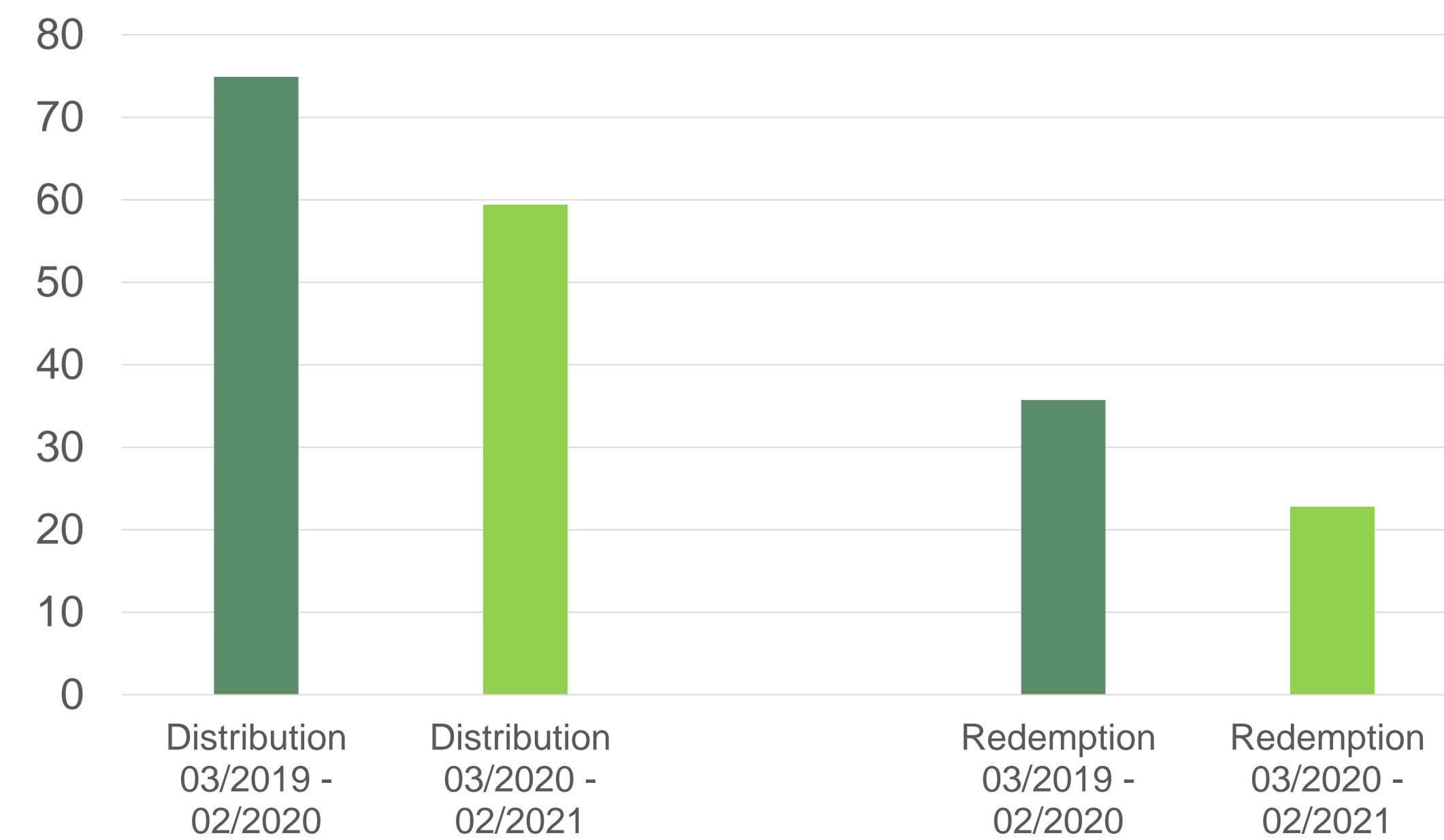


Figure 1. Comparing distribution and redemption rates of fruit and vegetable prescriptions before the COVID-19 pandemic and during the pandemic, we observe a statistically significant decrease.

% Redemption at Flint Farmer's Market vs Flint Fresh Mobile

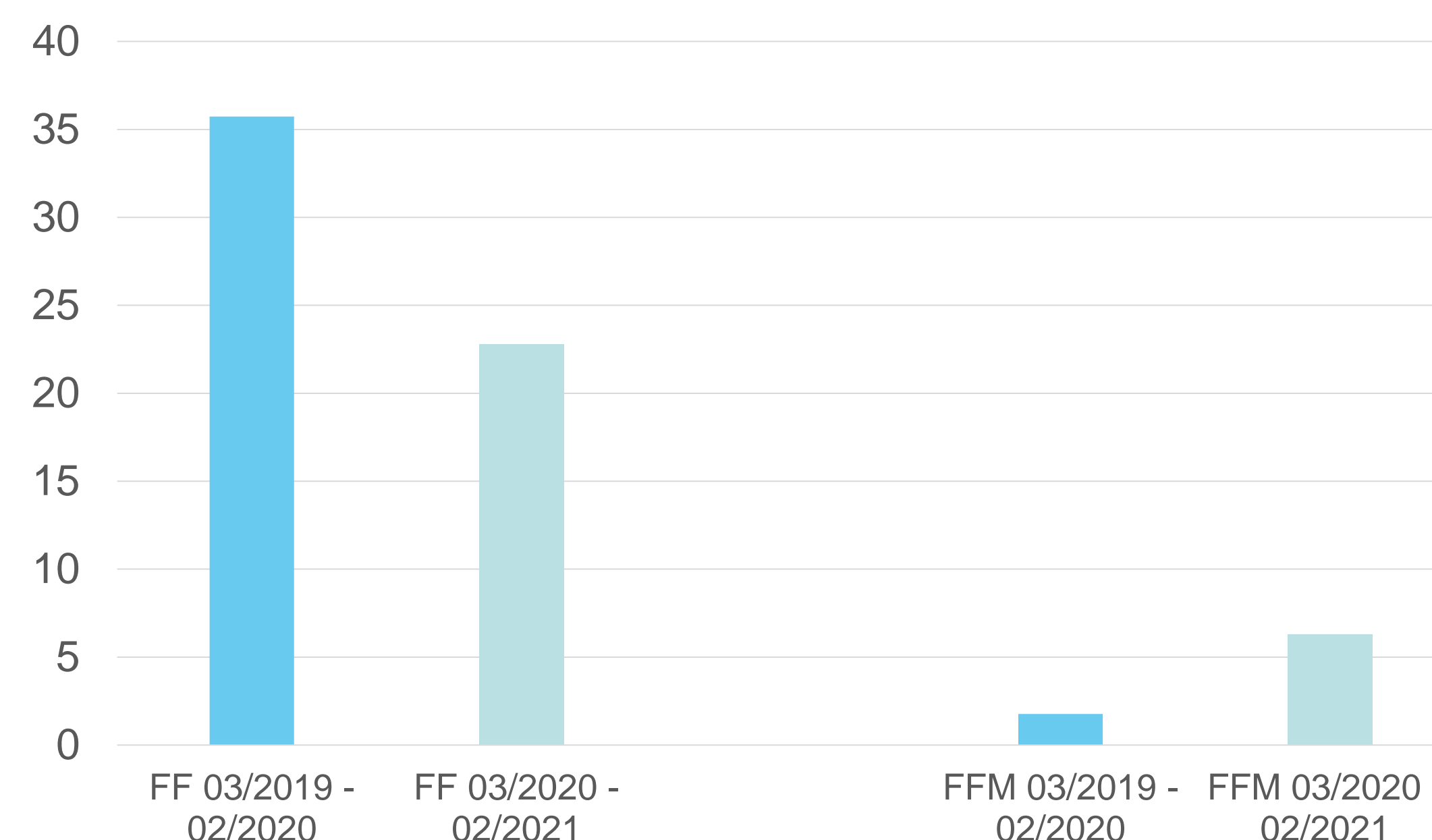


Figure 2. While redemption of fruit and vegetable prescriptions in-person at Flint Farmer's Market have decreased, there has been a statistically significant increase in redemptions through Flint Fresh Mobile

Distribution and Redemption Rates through Pandemic Surges

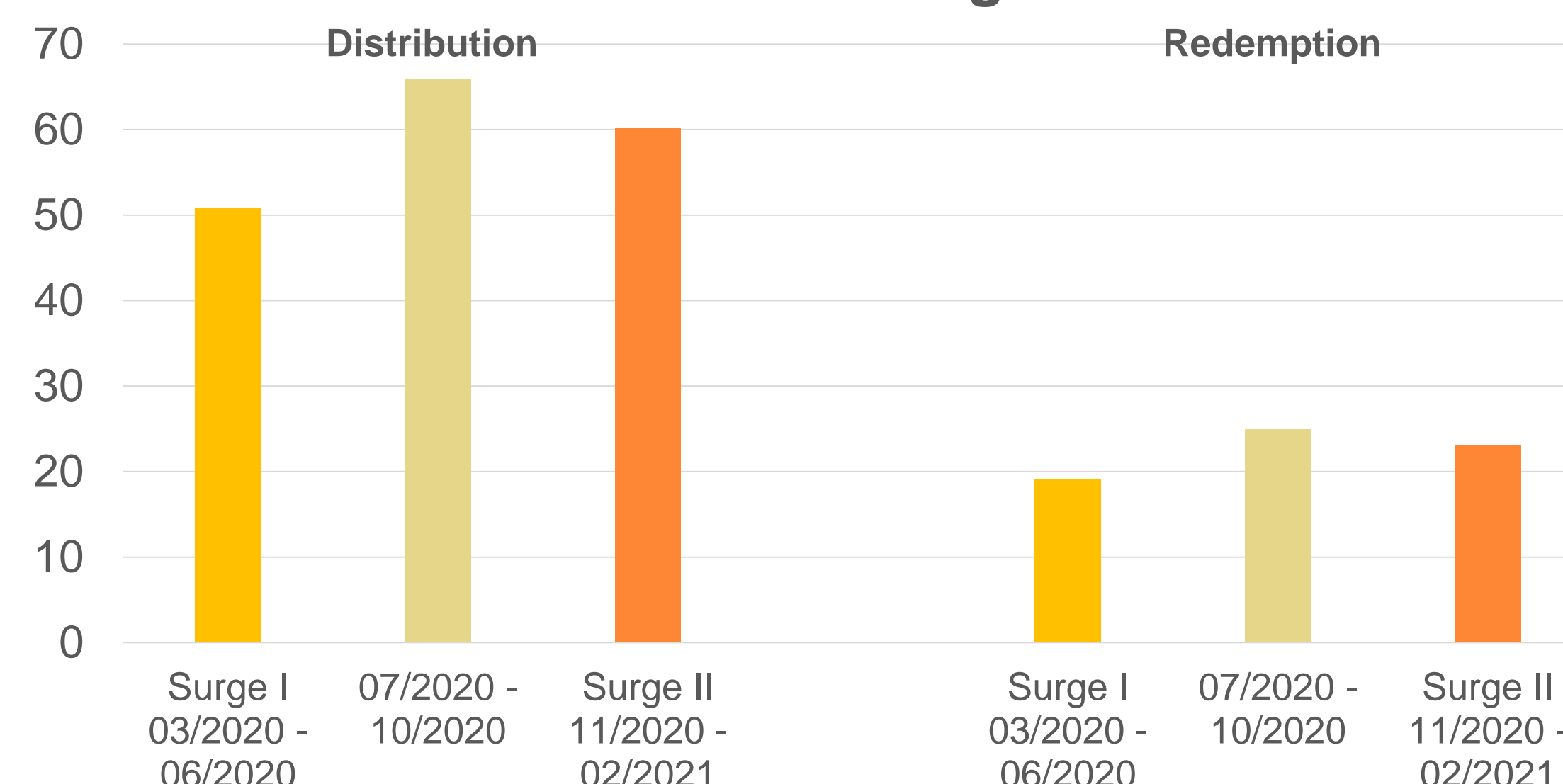


Figure 3. Fruit and vegetable distribution and redemption rates were lowest during the first surge of the pandemic. These rates were similarly affected by the second surge, but not to the same low point.

Results

- There was a 21% reduction in outpatient pediatric visits during the pandemic period.
- Comparing the year before the pandemic (March 2019-February 2020) to year following the start of the pandemic (March 2020-February 2021)
 - Pre Covid-19: Distribution rate was 74.9%.
 - During COVID-19: Distribution rate was 59.4%
 - Statistically significant difference ($p < 0.001$). (Figure 1)
- Similar trend with redemption rates
 - Pre Covid-19: Redemption rate was 35.7%.
 - During COVID-19: Redemption rate was 22.8%.
 - Statistically significant difference ($p < 0.001$). (Figure 1)
- Redemption through the Flint Fresh home delivered produce boxes increased by 64.7% from 1.55% to 6.31% ($p < 0.001$). (Figure 2)
- Surge-specific time period analysis of distribution and redemption rates showed lowest rates during surge one. In between the two surges, the rates increased. During surge two, rates decreased to a lesser extreme than they did in surge one. (Figure 3)

Conclusion

- Rates of fruit and vegetable prescriptions significantly decreased during the pandemic
 - Likely associated decrease in redemption rates.
 - Concerning because Flint had pre-existing nutrition insecurity and the pandemic exacerbated it due to the concomitant economic crisis resulting from a rise in unemployment and poverty.
- Efforts to improve rates should be considered including **targeted outreach** to patients who missed visits, **enhanced telehealth prescribing**, **provider education**, and promotion of COVID-safe **home delivered produce boxes**. Further analysis will examine the impact of case surges, as well as the efficacy of quality improvement strategies.