

NOT THROWING AWAY MY SHOT: SHIFTS IN WHERE PEOPLE GET FLU VACCINES IN MASSACHUSETTS

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INTRODUCTION

Flu (influenza) vaccines have been found to reduce severity of illness and the risk of flu-associated hospitalization and are widely considered to be an important preventive care service. The Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) recommends that individuals aged 6 months and older should receive a flu vaccine every season.¹

Flu vaccines may be administered in a variety of settings, including doctors' offices, hospital outpatient departments (HOPDs), pharmacies and retail clinics, and mass immunization centers. Mass immunization centers include pop-up vaccination sites (e.g., stadiums, convention centers, parking lots, etc.), and may also include existing community-based sites. Different settings of vaccine administration may have different spending and access implications. Notably, beginning in 2017, the Massachusetts Department of Public Health has periodically promulgated regulations that allow pharmacies to administer vaccines to children, in addition to adults.

OBJECTIVES

This study examines use and spending for flu vaccines by vaccination setting for commercially-insured Massachusetts residents who received a flu vaccine between 2017 and 2021.

STUDY DESIGN

Using medical and pharmacy claims data from the Center for Health Information and Analysis' Massachusetts All-Payer Claims Database (APCD), the Massachusetts Health Policy Commission (HPC) examined the setting of administration and vaccine price for commercially-insured Massachusetts residents who received a flu vaccine between 2017 and 2021. Individuals included were 3 to 64 years of age with 12 months of medical and pharmacy coverage in that year.

Vaccines and vaccine administrations were identified using Current Procedural Terminology (CPT) and National Drug Classification (NDC) codes. "Pharmacy" includes walk-in retail clinics. "Other" includes sites such as federal qualified health centers, urgent care facilities, and rural health clinics, among others. The HPC's APCD analytic files include data from six commercial payers in the state: Blue Cross Blue Shield of Massachusetts, Tufts Health Plan, Harvard Pilgrim Health Care, Mass General Brigham Health Plan (formerly AllWays) and Neighborhood Health Plan, Health New England, and Anthem (including Unicare).

An important limitation of this analysis is that it only captures vaccines that were billed to insurance. The analysis excludes instances where individuals with commercial insurance may have received flu vaccines covered by other sources, such as work, school, or the state's vaccine program for children.

RESULTS

EXHIBIT 1. Percent of flu vaccines among commercially-insured Massachusetts residents by setting of administration, 2017 to 2021

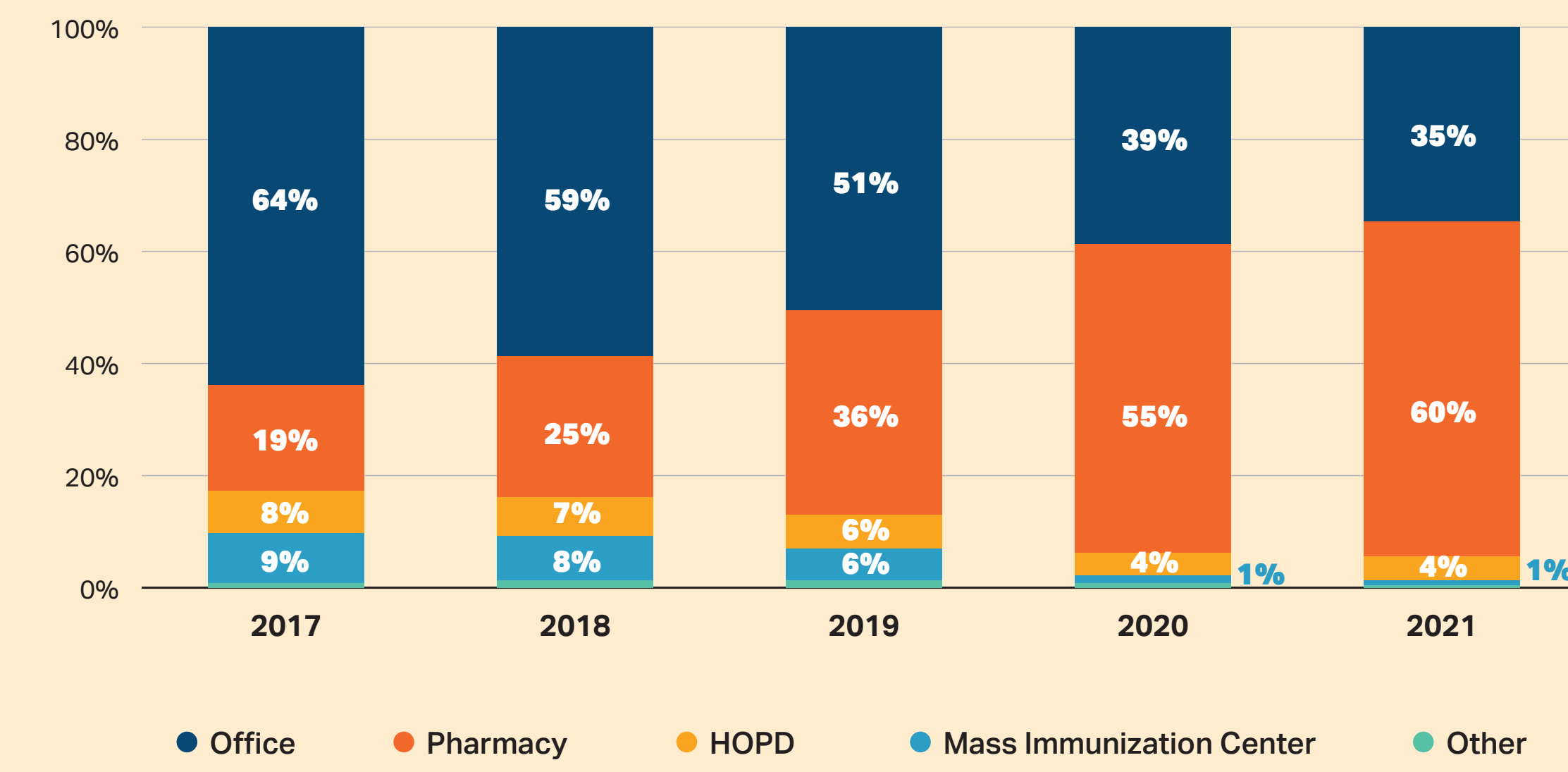


EXHIBIT 2. Percent of flu vaccines among commercially-insured Massachusetts residents provided in pharmacies by age group, 2017 to 2021

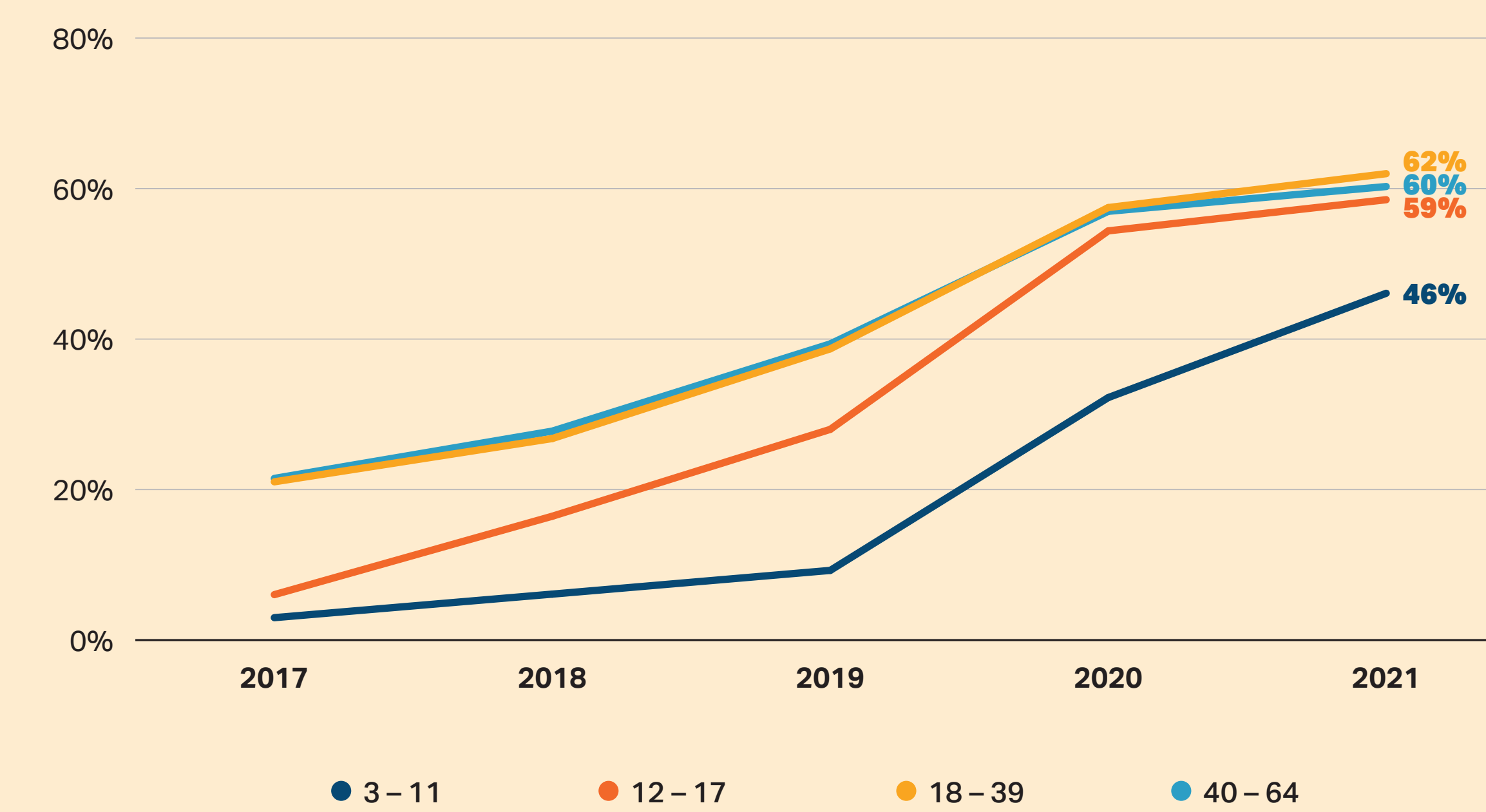
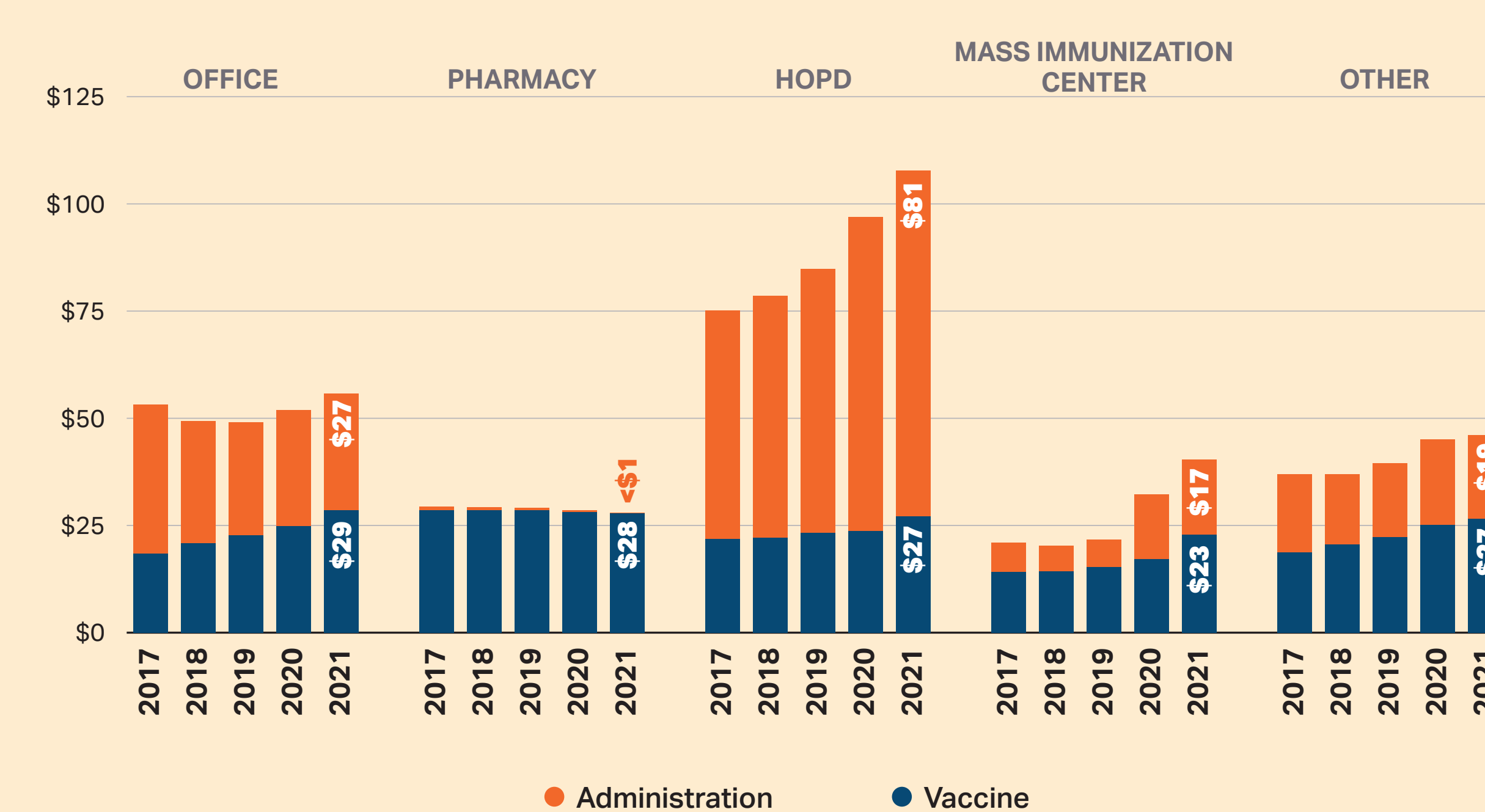


EXHIBIT 3. Average price of flu vaccines among commercially-insured Massachusetts residents by component of price and setting of administration, 2017 to 2021



In 2017, of the flu vaccines analyzed in this study, 64% were administered in doctor's offices ("office"), 19% were administered in pharmacies, and 17% in other settings of care (e.g., HOPDs, mass immunization centers) (Exhibit 1). By 2021, flu vaccines had shifted significantly from offices to pharmacies, with 35% administered in offices, 60% administered in pharmacies, and 6% in other settings of care.

The shift was largest among children and adolescents. Between 2017 and 2021, the share of children aged 12 to 17 who received their flu vaccine in a pharmacy increased 52 percentage points, from 6% to 59% (Exhibit 2). For children ages 3 to 11, the share who received their flu vaccine in a pharmacy increased 43 percentage points, from 3% to 46%, with most of the increase occurring between 2019 and 2021. Some of this shift coincided with regulatory changes allowing pharmacists to administer vaccines to children.¹

In medical settings (i.e., HOPD, office), flu vaccines are often billed with two components: a payment for the vaccine itself and a payment to administer the vaccine. While the average price for the vaccine itself is generally similar across settings and has remained relatively stable over time, administration costs differ widely across settings and result in substantial differences in the total price of a flu shot (Exhibit 3). In 2021, the price for a flu vaccine in a HOPD averaged \$108, compared to \$56 at an office and \$28 at a pharmacy. Most patients pay no cost-sharing regardless of site.

¹ In 2017, the Massachusetts Department of Public Health (DPH) authorized pharmacists and pharmacy interns in Massachusetts to administer flu (and other) vaccines to individuals 9 years of age and older², lowering the eligible age from 18³. Beginning in 2020 during the COVID-19 public health emergency, and in accordance with the Public Readiness and Emergency Preparedness (PREP) Act, qualified pharmacy personnel were authorized to administer flu vaccines (and others, including COVID-19) to individuals 3 years of age or older⁴. As of spring 2023, DPH authorizes qualified pharmacy personnel to administer flu vaccines (and others, including COVID-19) to individuals 5 years of age or older⁵.

CONCLUSIONS

Between 2017 and 2021, the setting of administration for flu vaccines among commercially-insured residents shifted dramatically from doctors' offices to pharmacies, with the largest shifts among children and adolescents. In addition to disruptions in office-based care due to COVID-19, state regulatory changes in pharmacists' authorization to administer vaccines to children likely played a major role. In terms of spending, in 2021, the total price for a flu vaccine in a HOPD was double the price of a flu vaccine in other settings.

Additional study into trends among residents covered by other payers (i.e., MassHealth, Medicare) is warranted to develop a greater understanding of potential disparities in access between different populations to flu shots and other vaccines, such as COVID-19.

POLICY IMPLICATIONS

Flu vaccination is an important prevention measure for ensuring the health of Massachusetts residents. State-level regulation of pharmacist authority to administer vaccines can impact where patients go for care, with implications for access to care, health care spending, and vaccination rates. Improving equitable access to pharmacies could help increase vaccination rates.

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1 Centers for Disease Control and Prevention. Seasonal Flu Vaccines. Available at: <https://www.cdc.gov/flu/prevent/flushot.htm>.

2 See 105 CMR 700.004(B)(6) as it appeared in the Massachusetts Register (2017-05-05; no. 1338). Available at: <https://archives.lib.state.ma.us/handle/2452/684702>.

3 See 105 CMR 700.004(B)(6) as it appeared in the Massachusetts Register (2011-09-02; no. 1190). Available at: <https://archives.lib.state.ma.us/handle/2452/112593>.

4 Massachusetts Department of Public Health Board of Registration in Pharmacy, Drug Control Program, Immunization Program. Policy 2020-11: Vaccine Administration (adopted 9/4/20; revised 10/11/21, 10/29/21). Available at: <https://www.mass.gov/doc/2020-11-vaccine-administration-0/download>. "Qualified pharmacy personnel" are defined as phar-

macists, pharmacy interns, and qualified pharmacy technicians. See also <https://www.federalregister.gov/documents/2020/08/24/2020-18542/third-amendment-to-declaration-under-the-public-readiness-and-emergency-preparedness-act-for-medical>.

5 See 105 CMR 700.004(B)(6) (effective 2/3/23, corrected 3/3/23). <https://www.mass.gov/doc/105-cmr-700-implementation-of-mgl-c94c/download>; Massachusetts Department of Public Health, Board of Registration in Pharmacy, Drug Control Program, Immunization Program. Policy 2023-02: Vaccine Administration (adopted 5/4/23; revised 9/7/23). Available at: <https://www.mass.gov/doc/2023-02-vaccine-administration-pdf/download>.

