ISSUE BRIEF
COVID-19 RAPID RESPONSE SURVEY FINDINGS

COVID-19 VACCINE UPTAKE OVER TIME AMONG DMACS PANEL RESPONDENTS

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DETROIT METRO AREA COMMUNITIES STUDY

OVERVIEW

In Spring 2020, the Detroit Metro Area Communities Study (DMACS) invited a representative sample of Detroit households to participate in surveys about the impact of COVID-19 on Detroiters. Since then, eight surveys have been fielded to better understand how the pandemic has shaped Detroit residents' health, behaviors, employment, and financial conditions.

In June and December 2021, DMACS surveys included questions on whether residents had been vaccinated against COVID-19. At that point, COVID-19 vaccines had been made widely available to all adults. This report examines the uptake of COVID-19 vaccines over time among DMACS respondents, including who has changed their mind about vaccination over time and who remains unvaccinated. It also examines vaccine uptake in relation to direct and indirect pressure to vaccinate, as well as respondents' reasons for avoiding vaccination. June 2021 data were collected between June 2 and July 9, 2021, from 1,898 residents and December data were collected between Nov. 3 and Dec. 15, 2021, from 1,900 residents. This report reflects responses from a panel of 1,630 Detroit residents who shared their vaccination status in both the June and December 2021 surveys[1] and has not been weighted to match the city's population.[2]

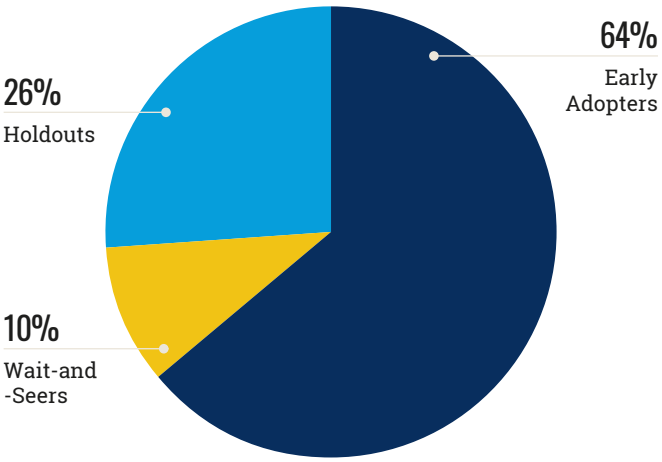
See full results from DMACS surveys here.

DETROIT RESIDENTS' VACCINE UPTAKE HAS SHIFTED OVER TIME[3]

- Examining DMACS respondents' history of COVID-19 vaccine acceptance, 64% of panel respondents were "early adopters" of the COVID-19 vaccine, receiving at least one dose as of June 2021. Fully 86% of respondents who have ever been vaccinated against COVID-19 were already vaccinated as of June 2021.
- Ten percent of panel respondents took a delayed approach to vaccination—or were "wait-and-seers"—and reported receiving their first dose of a COVID-19 vaccine between June and December 2021. While this gives the appearance that delayed uptake was low, in fact nearly one-third (29%) of respondents who had not been vaccinated in June 2021 were vaccinated by December 2021, suggesting that persuasion, outreach efforts, and increased access swayed some Detroiters.
- One-quarter (26%) of panel respondents were vaccine holdouts, declining to receive a dose of the COVID-19 vaccine as of December 2021.

FIGURE 1

DMACS RESPONDENTS' VACCINE ACCEPTANCE OVER TIME

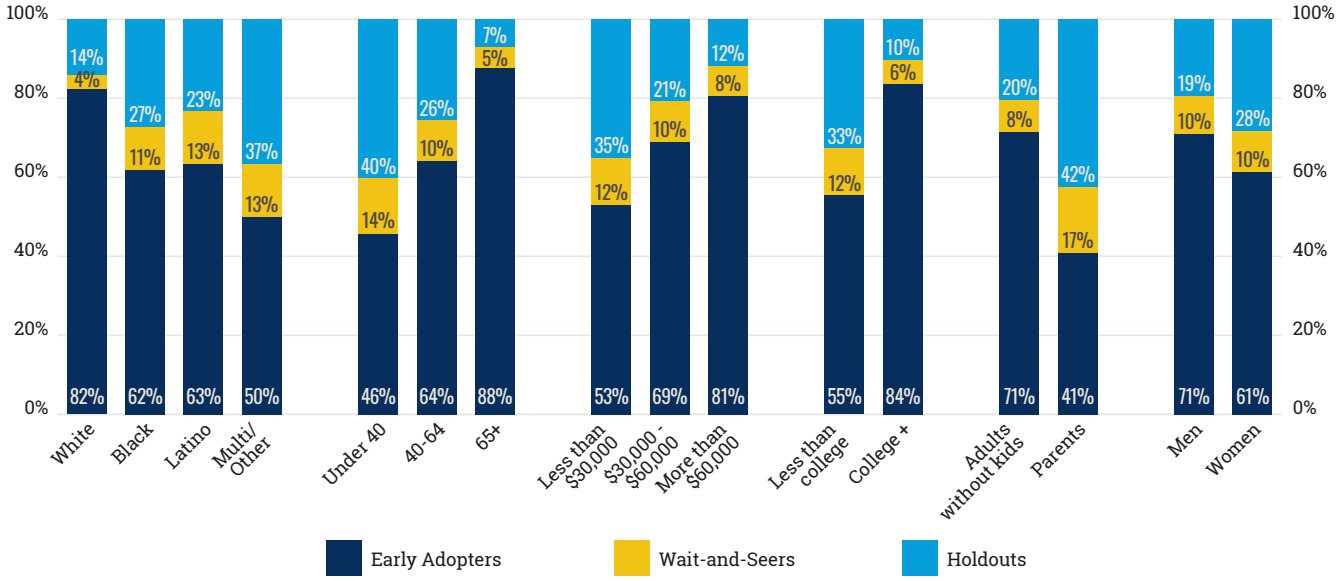


WHITE, OLDER, AND HIGHER SOCIOECONOMIC STATUS RESPONDENTS WERE MORE LIKELY TO BE EARLY VACCINE ADOPTERS

- Compared to other Detroiters, White respondents were significantly more likely to be early adopters of COVID-19 vaccines. Eighty-two percent of White panel respondents reported they had received a vaccine by June 2021, compared to 62% of Black respondents, 63% of Latino respondents, and 50% of respondents who identified with other ethnoracial identity groups.[4]
- Older adults were significantly more likely to be early adopters than younger respondents. Those over the age of 65 were roughly twice as likely (88%) as respondents under age 40 (46%) to get vaccinated by June 2021.
- Respondents of higher socioeconomic status—those with higher incomes or respondents with at least a bachelor's degree—were significantly more likely than more socioeconomically constrained respondents to vaccinate early.
- Eight-in-10 respondents in households earning $60,000 or more were vaccinated as of June 2021, compared to 69% of respondents in households earning $30,000-$60,0000 and 53% of those in households earning less than $30,000.
- Similarly, 84% of college degree holders were early adopters compared to 55% of those with lower levels of education.

FIGURE 2

DMACS RESPONDENTS' VACCINE ACCEPTANCE OVER TIME BY DEMOGRAPHIC GROUPS



RESPONDENTS OF COLOR AND PARENTS WERE MORE LIKELY TO DELAY THE TIMING OF THEIR VACCINATIONS

- Respondents of color were three times as likely as White respondents to delay the timing of their vaccination. As shown in Figure 2, 11% of Black respondents and 13% of Latino or other-raced respondents received their first dose of a COVID-19 vaccine between June and December 2021, compared to 4% of White respondents. This suggests that vaccination efforts have overcome some early wariness among communities of color, narrowing the vaccination race gap.

- Parents were twice as likely as other respondents to get vaccinated between June and December 2021. Seventeen percent of all parents—nearly one-third of parents who received a COVID-19 vaccine—report that they were vaccinated in the last half of 2021, compared to 8% of adults without children.
- Respondents without a college degree were twice as likely (12%) to wait to get vaccinated than those with higher levels of education (6%).

RESPONDENTS OF COLOR, WOMEN, YOUNGER ADULTS, LOWER-INCOME EARNERS, AND PARENTS ARE MORE LIKELY TO BE VACCINE HOLDOUTS

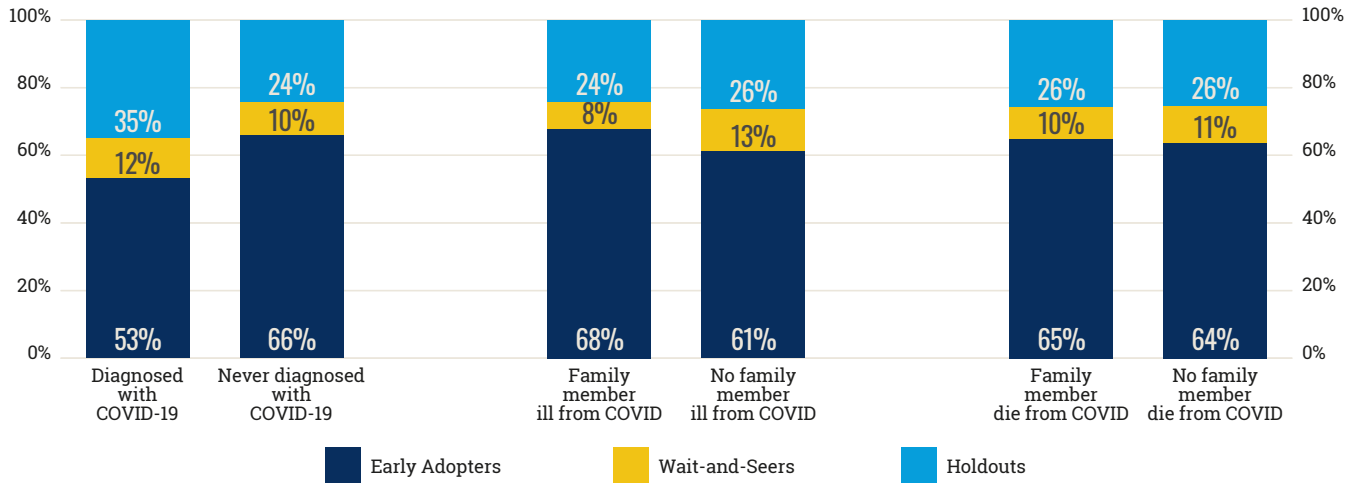
- Despite gains in vaccination rates in the last half of 2021, racial disparities in COVID-19 vaccination remain. As shown in Figure 2, as of December 2021, respondents of color were roughly twice as likely as White respondents to remain unvaccinated; approximately one-quarter of Black (27%) and Latino (23%) respondents declined to be vaccinated compared to 14% of White respondents.
- Significantly more women (28%) have avoided vaccination than men (19%).
- Forty percent of younger respondents—those under the age of 40—have declined to get vaccinated, compared to 26% of middle-aged respondents (aged 40-64) and just 7% of seniors (65+).
- Parents were twice as likely to remain unvaccinated compared to adults without kids. Forty-two percent of parents declined to get vaccinated as of December 2021 compared to 20% of other adults.
- One-third of lower-income respondents (35%) or those without a college degree (33%) are vaccine holdouts, making them three times as likely to remain unvaccinated as respondents in households earning more than $60,000 (12%) or those with a college degree (10%).

PERSONAL EXPERIENCE WITH COVID-19 MAY HAVE INFLUENCED VACCINE ACCEPTANCE

- Respondents who have ever tested positive for COVID-19 since the pandemic began were significantly more likely to be unvaccinated than those who have never had COVID-19. One-third (35%) of respondents who report having COVID-19 had not received any dose of the vaccine as of December 2021, compared to 24% of respondents never diagnosed with COVID-19. This disparity suggests that beliefs about natural immunity may be a prevalent barrier to ongoing vaccination efforts.[5]
- Respondents who report that a close friend or family member got ill from COVID-19 as of June 2021 were significantly more likely to get vaccinated early than those who weren't closely tied to someone who got sick from the virus. Sixty-eight percent of respondents with kin who were ill from COVID-19 got vaccinated by June 2021, compared to 61% of other respondents. This suggests that seeing the impact of the virus might have spurred some Detroiters to seek vaccines to protect themselves and get vaccinated quickly.
- However, knowing someone who died from COVID-19 before June 2021 does not appear linked to when or if a respondent got vaccinated.

FIGURE 3

DMACS RESPONDENTS' VACCINE ACCEPTANCE BY PERSONAL COVID-19 EXPERIENCE

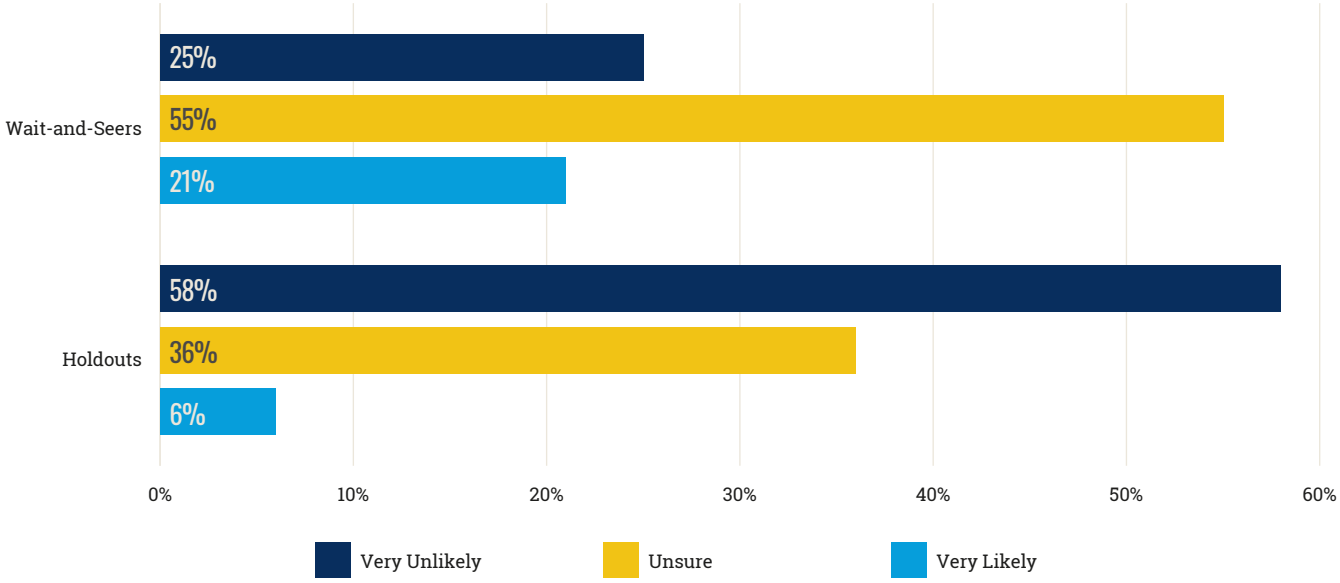


IN JUNE 2021, WAIT-AND-SEERS WERE MORE LIKELY TO INTEND TO VACCINATE IN THE FUTURE THAN VACCINE HOLDOUTS

- In each wave, respondents who had not been vaccinated were asked their likelihood of getting vaccinated against COVID-19 in the future.[6] Among respondents who were unvaccinated in June 2021, wait-and-seers who eventually got vaccinated were less opposed to vaccinating in the future than vaccine holdouts.

FIGURE 4

DMACS RESPONDENTS' LIKELIHOOD OF FUTURE VACCINATION AS OF JUNE 2021



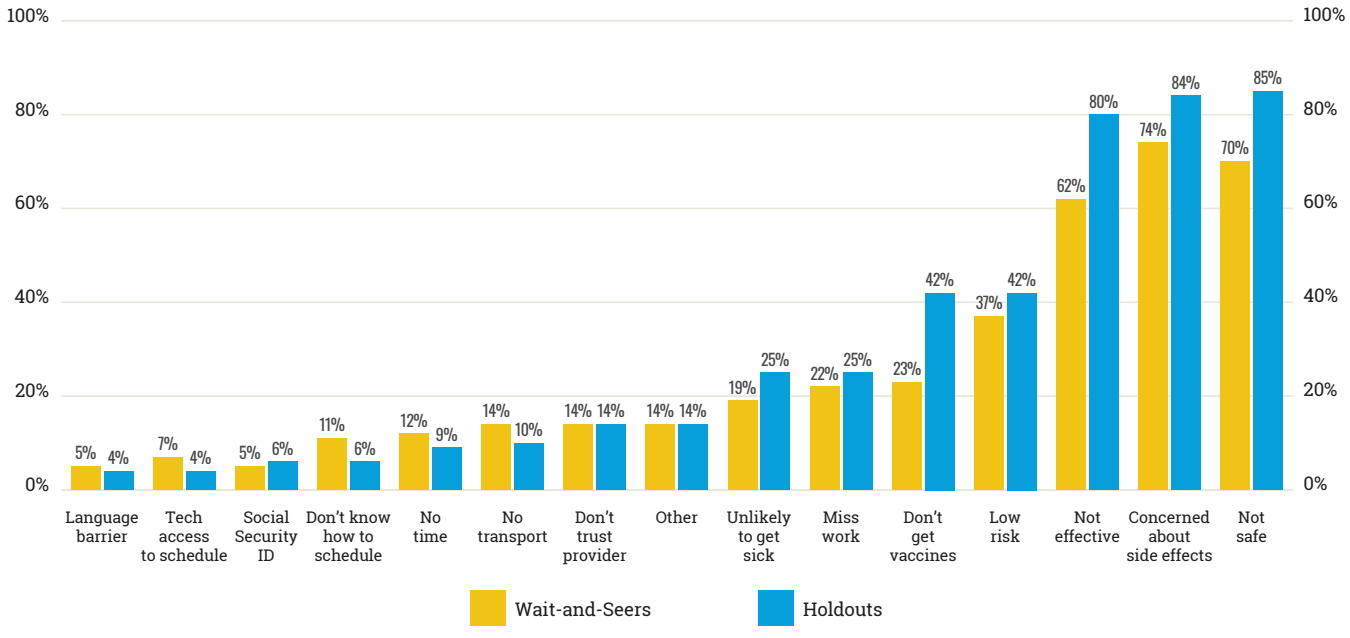
- Comparing respondents' intention to vaccinate in June 2021 and later vaccine receipt, we find that intent is a strong but imperfect predictor of whether someone eventually is vaccinated.
  - In June 2021, 21% of respondents who got vaccinated in the following six months said they were very likely to vaccinate, compared to 6% of holdouts who remained unvaccinated in December 2021.
  - More than one-half (55%) of wait-and-seers were unsure if they would vaccinate as of June 2021, compared to one-third (36%) of vaccine holdouts.
  - Interestingly, one-quarter (25%) of wait-and-seers reported in June 2021 that they were very unlikely to vaccinate.
  - Fifty-eight percent of holdouts similarly said in June 2021 that they were very unlikely to vaccinate in the future.
  - It appears vaccine intention has changed little between June and December 2021 among vaccine holdouts. In December 2021, 57% of vaccine holdouts reported they were very unlikely to vaccinate in the future, 37% reported they were unsure if they would get vaccinated in the future, and just 6% reported they were very likely to get vaccinated in the future.
- Collectively, these findings suggest that some of the more persuadable respondents may have already been vaccinated and that remaining vaccine holdouts tend to have the staunchest positions against vaccination. However, we also observed many respondents who initially indicated that they were very unlikely to vaccinate but later received a vaccine, suggesting that there is room for persuasion even among those with little intention to vaccinate.

VACCINE HOLDOUTS EXPRESSED GREATER CONCERN ABOUT VACCINE SAFETY AND SIDE EFFECTS

- Compared to wait-and-seers who got vaccinated between June and December 2021, vaccine holdouts were significantly more likely to be concerned about the safety and effectiveness of the vaccine. They were also significantly more likely to say they always avoid vaccination.

FIGURE 5

DMACS RESPONDENTS' REASONS FOR NOT VACCINATING AS OF JUNE 2021



- Sixty-two percent of wait-and-seers said in June 2021 that they thought the vaccines were ineffective, compared to 80% of holdouts who remain unvaccinated.
- Similarly, 70% of wait-and-seers said in June 2021 they thought the vaccines were unsafe and 74% said they were concerned about side effects, compared to 85% (safety) and 84% (side effects) of vaccine holdouts.
- Respondents who remain unvaccinated were nearly twice as likely (42%) to identify as anti-vaccinators compared to respondents who delayed the timing of their vaccine (23%).
- There is some evidence that those who delayed vaccination but ultimately got vaccinated were more likely to report access issues in June 2021. Marginally more wait-and-seers reported that lack of time, transportation, or ability to schedule an appointment contributed to their delayed receipt of the vaccine.

RESPONDENTS WHO DELAYED OR AVOIDED VACCINATION FELT MORE PRESSURE TO VACCINATE AND VOICED GREATER OPPOSITION TO VACCINE MANDATES

- Compared to early adopters, respondents who had not been vaccinated by June 2021 reported feeling significantly more pressure about getting vaccinated. Fifty-six percent of respondents who went on to get vaccinated in the following six months—wait-and-seers—reported feeling some pressure to get vaccinated. Sixty percent of holdouts—those who declined to vaccinate by the end of 2021—similarly reported feeling pressure to vaccinate.
- Among unvaccinated respondents who reported in June 2021 that they felt pressure to vaccinate, 27% were vaccinated in the following six months. However, a near equal proportion of respondents who reported feeling no pressure around vaccination (30%) similarly vaccinated in that period, suggesting pressure alone was insufficient to encourage vaccination.

FIGURE 6

DMACS RESPONDENTS' EXPERIENCES OF VACCINE PRESSURE BY VACCINE ACCEPTANCE

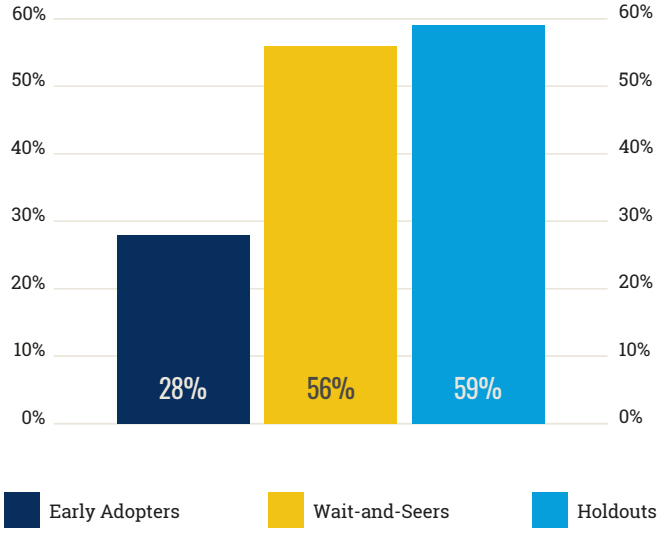
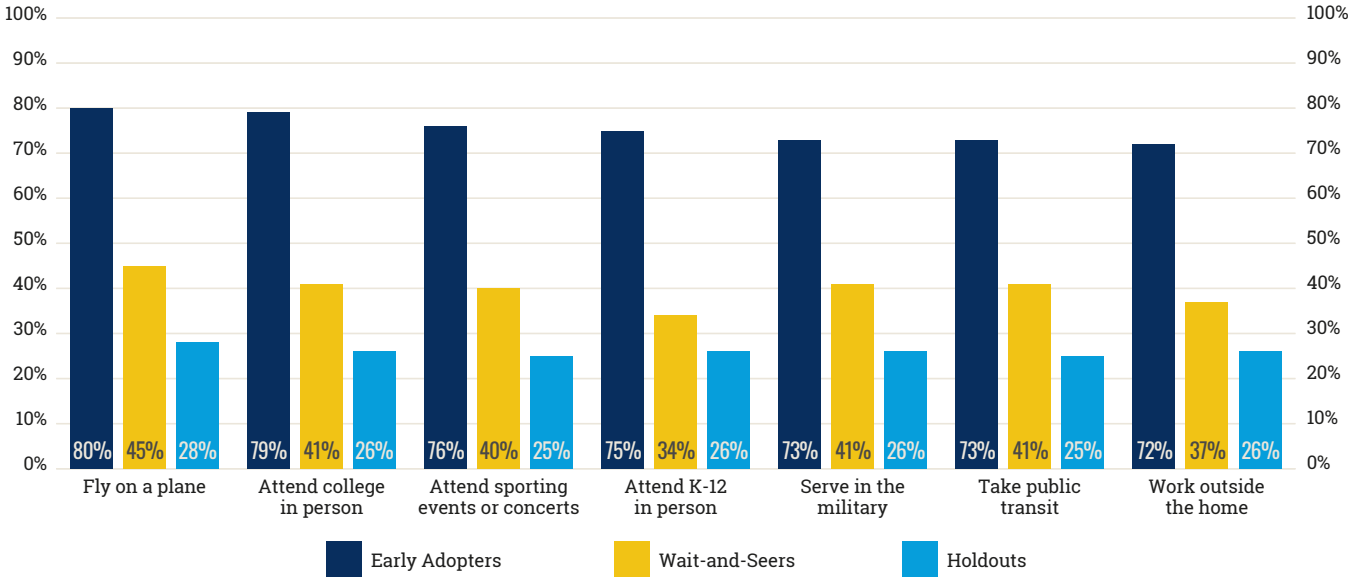


FIGURE 7

DMACS RESPONDENTS' SUPPORT FOR VACCINE REQUIREMENTS BY VACCINE ACCEPTANCE



- Though roughly three-quarters (74%) of all panel respondents reported in June 2021 that they support instituting vaccine requirements in at least one public setting, respondents who delayed or avoided vaccination were significantly less supportive of vaccine mandates than those who were vaccinated early.
  - Early adopters were generally twice as likely as wait-and-seers and three times as likely as holdouts to be in favor of vaccine mandates for public spaces.
  - For example, while 76% of those who vaccinated early supported requiring proof of vaccination to attend sporting events or concerts, just 40% of those who delayed their vaccination and 25% of those who remain unvaccinated similarly supported such a requirement.
- However, respondents who delayed vaccination or declined to be vaccinated were not totally opposed to requiring vaccines to participate in some parts of public life: more than one-half (57%) of those who were vaccinated between June and December 2021 and 41% of vaccine holdouts were in favor of some type of vaccine requirement.

METHODOLOGICAL NOTE

DMACS' estimates of COVID-19 vaccine coverage rates for adults in Detroit are higher than those published on the Michigan COVID-19 Vaccine Dashboard, which draws data from the Michigan Care Improvement Registry (MCIR). For Detroit adults ages 20 and over, DMACS estimated that the vaccine initiation rate (the percentage of adults receiving at least one dose of any vaccine) was 67% compared to 53% in the MCIR dashboard data (as of Dec 15, 2021). DMACS estimated the completion rate (the percentage of adults who received the full vaccine course—two doses of a Moderna or Pfizer vaccine or one dose of a J&J vaccine)—was 52% compared to 35% in the MCIR dashboard data. Prior DMACS reports on vaccination offer a full discussion of potential reasons for these discrepancies, including the possibility that unvaccinated residents may be less likely to respond to surveys. Although we cannot rule this out, supplemental analyses of June 2021 survey data examined if respondents who reported greater levels of vaccine hesitancy on a previous DMACS survey (Wave 12 – Spring 2021) were less likely to respond to the current survey and found no significant relationship between vaccine hesitancy and survey response. Analysis examining December 2021 survey response rates among DMACS respondents who reported their vaccination status in our June-July 2021 survey shows that unvaccinated respondents were slightly less likely (87%) than vaccinated respondents (91%) to respond to this November-December 2021 survey.

ACKNOWLEDGMENTS

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ENDNOTES

1 1,668 respondents completed both the June and December 2021 surveys. However, 38 of those respondents skipped reporting their vaccination status in one or both survey waves. As a result, we limit our analysis to the 1,630 Detroit residents who provided complete vaccination information at both timepoints.

2 DMACS survey data is collected from a stratified random sample of respondents and weighted, based on the demographic composition of respondents in each wave, to approximate the demographic composition of the adult population (those 18 and older) of the city of Detroit. However, because weights are created for each wave of the data and not for cross-wave analysis, the data presented here reflects unweighted estimates of DMACS respondents' vaccination status and logic. The unweighted data should not be interpreted as representing the views of all Detroit residents and instead should be understood as reflecting the views and experiences of the 1,630 respondents. For that reason, survey participants are referred to throughout the report as respondents to avoid drawing broader conclusions about Detroit residents overall.

3 To examine DMACS respondents' shifting behaviors and attitudes towards COVID-19 vaccines, we defined a three-category typology. The typology is based on responses to the question, "Have you received a COVID-19 vaccine?" in both the June and December 2021 surveys. Respondents could select "Yes (I have received at least one dose/injection of a vaccine)" or "No." Based on these responses, we identified "early adopters" as respondents who report that they had received a COVID-19 vaccine as of the June 2021 survey. "Wait-and-seers" are defined as respondents who reported they had not received a vaccine dose as of June 2021 but had received at least one dose of the vaccine by December 2021. "Holdouts" are respondents who reported they are unvaccinated as of December 2021. While vaccination status can be thought of as an irreversible trait, where one cannot become unvaccinated after receiving a vaccine dose, there were 17 cases where respondents reversed themselves in reporting their vaccination status – reporting in June 2021 that they had received at least one dose and reporting in December 2021 that they had never received a vaccine dose. Careful inspection of these cases, including their stated reasons for not vaccinating, suggests that four of these respondents selected in error that they had not been vaccinated in the December 2021 survey, including one who wrote "I have been vaccinated" in their open response. In these four cases, their December 2021 vaccination status was corrected to reflect that they had been vaccinated, and they were classified as early adopters. In the remaining 13 cases of respondents who reversed their vaccination status, examination of their open responses detailing why they had not been vaccinated suggested they held health or ideological opposition to the vaccine (e.g. "Genetic predisposition to adverse reactions from immunizations"; "It's killing people and making them sick"). Based on these responses, it seems their June 2021 report that they had been vaccinated may have been a product of response bias and that the respondents remain unvaccinated. For these cases, we corrected their June 2021 vaccination status to unvaccinated and classified these respondents at vaccine holdouts. Analysis with and without these 17 respondents produces substantively consistent results.

4 This report uses the following ethnoracial categories: "Latino" refers to any respondent who identifies as being of "Hispanic, Latino, or Spanish origin." "White" and "Black" refer to respondents who selected only those respective categories (and no other ethnoracial categories) and who do not identify as Latino. "Other" refers to respondents who do not identify as Latino and identify as "Asian or Asian-American," "American Indian or Alaska Native," "Native Hawaiian or Other Pacific Islander" as well as people who did not identify with any of the ethnoracial categories provided on the questionnaire. "Multi" refers to people who do not identify as Latino but who selected more than one ethnoracial category on the questionnaire. In this report, respondents who identify as "Multi" or "Other" raced are analyzed as a combined category.

5 Because we lack data that clearly identifies if a respondent had tested positive for COVID-19 prior to when vaccines became available, caution is urged in interpreting this finding as reflecting causality. It is possible that respondents who had COVID-19 prior to vaccines becoming available or prior to deciding whether or not to vaccinate were less likely to vaccinate because of assumed immunity or conflicting information about if people who contracted COVID-19 should receive a vaccine. It is also possible that respondents who did not vaccinate were more likely to contract COVID-19 due to a lack of vaccine protection. Here, we intentionally highlight the relationship between COVID-19 diagnosis and vaccine holdouts, as guidance from the CDC recommends that people who have already had COVID-19 get a COVID-19 vaccine to avoid reinfection and severe medical complications.

6 The original survey item that forms the basis of this data asked respondents who indicated in the June or December 2021 survey that they had not been vaccinated "How likely are you to get a COVID-19 vaccine in the next several months?" Responses were captured on a seven-point scale that ranged from 1 (not at all likely) to 7 (very likely). For ease of interpretation, this scale was collapsed into categories capturing who is very likely, uncertain, or very unlikely to be vaccinated in the future, using the following definitions:

- "Very Likely" refers to respondents who reported their likelihood of getting the vaccine as a 7.
- "Uncertain" refers to respondents who rated their likelihood of getting the vaccine within the range of 2-6.
- "Very Unlikely" refers to respondents who rated their likelihood of getting the vaccine as a 1.

FOR MORE INFORMATION

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Learn more at www.detroitsurvey.umich.edu

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