Pew Research Center

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How Americans View the Coronavirus, COVID-19 Vaccines Amid Declining Levels of Concern

Continued decline in share of U.S. adults with up-to-date vaccination

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How we did this

Pew Research Center conducted this study to understand Americans' views of the coronavirus and COVID-19 vaccines. For this analysis, we surveyed 10,133 U.S. adults from Feb. 7 to 11, 2024.

Everyone who took part in the survey is a member of the Center's American Trends Panel (ATP), an online survey panel that is recruited through national, random sampling of residential addresses. This way, nearly all U.S. adults have a chance of selection. The survey is weighted to be representative of the U.S. adult population by gender, race, ethnicity, partisan affiliation, education and other categories. Read more about the ATP's methodology.

Here are the questions used for this report, along with responses, and its methodology.

How Americans View the Coronavirus, COVID-19 Vaccines Amid Declining Levels of Concern

Continued decline in share of U.S. adults with up-to-date vaccination

A new Pew Research Center survey finds that just 20% of Americans view the coronavirus as a major threat to the health of the U.S. population today and only 10% are very concerned they will get it and require hospitalization. This data represents a low ebb of public concern about the virus that reached its height in the summer and fall of 2020, when as many as two-thirds of Americans viewed COVID-19 as a major threat to public health.

Just 28% of U.S. adults say they have received the updated COVID-19 vaccine, which the Centers for Disease Control and Prevention (CDC) recommended last fall to protect against serious illness. This stands in stark contrast to the spring and summer of 2021, when long lines and limited availability characterized the initial rollout of the first COVID-19 vaccines. A majority of U.S. adults (69%) had been fully vaccinated by August 2021.

Underscoring the limited demand for the updated COVID-19 vaccines, a larger share of U.S. adults say they've gotten a flu shot in the last six months than the updated coronavirus vaccine (44% vs. 28%). And despite a public health push encouraging adults to get both vaccines at the same time, almost half of those who received a flu shot from a health care provider chose *not* to get the updated COVID-19 vaccine.

The vast majority of Americans have some level of protection from the coronavirus because of vaccination, prior infection or a combination of the two. This has led to a decline in severe illness from the disease.

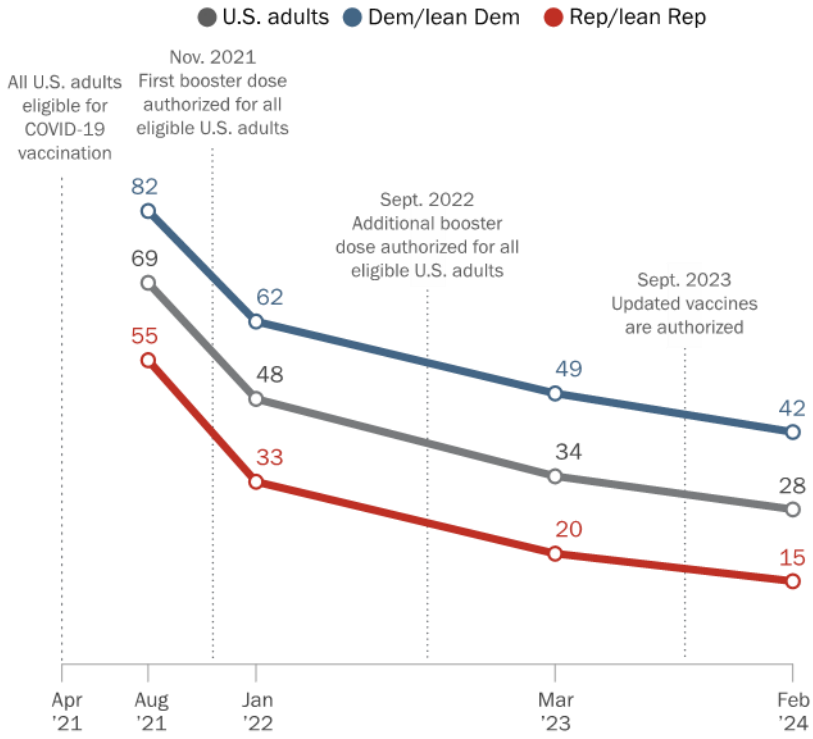
Still, the virus continues to circulate widely in the United States, with wastewater data suggesting that cases in the early part of 2024 were among the highest they have been since the first omicron wave in 2022.

Long COVID ranks among the concerns of public health experts. Long COVID refers to a variety of symptoms such as fatigue and brain fog that last longer than a month after a COVID-19 infection.

The survey – conducted among 10,133 U.S. adults from Feb. 7 to 11, 2024 – finds that 50% of Americans say it is extremely or very important for medical researchers and health care providers to understand and treat long COVID; 27% see this as a less important issue and 22% of Americans say they haven't heard of long COVID.

Declining share of Americans have the most up-to-date level of protection against the coronavirus

% of U.S. adults who report that they are up to date with COVID-19 vaccines



Note: August 2021 data shows the share of U.S. adults who said they were fully vaccinated. January 2022 and March 2023 data shows the share who said they were fully vaccinated and had received a booster shot within the last six months. February 2024 data shows the share who say they have received the updated COVID-19 vaccine. Respondents who gave other responses or did not give an answer are not shown.
Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
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Continuity and change: Partisan views of COVID-19

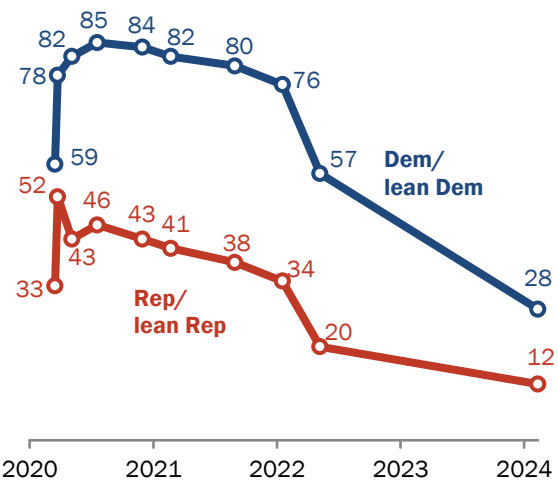
Partisanship remains one of the most powerful factors shaping views about COVID-19 vaccines and the virus. But the size and nature of differences between Republicans and Democrats have evolved since earlier stages of the outbreak.

For instance, the gap between the shares of Democrats and Republicans who view the coronavirus as a major threat to public health has fallen from 37 percentage points in May 2022 to 16 points today. In the pandemic's first year, Democrats were routinely about 40 points more likely than Republicans to view the coronavirus as a major threat to the health of the U.S. population. This gap has waned as overall levels of concern have fallen.

When it comes to vaccination, Democrats and Democratic-leaning independents remain more likely than Republicans and GOP leaners to say they've received an updated COVID-19 vaccine (42% vs. 15%). This 27-point gap in recent vaccination is about the same as in January 2022 when 62% of Democrats and 33% of Republicans said they were up to date (i.e., fully vaccinated and recently boosted).

Amid waning public concern, smaller partisan gap in views of the public health threat posed by the coronavirus

% of U.S. adults who say the coronavirus today is a ***major threat*** *to the health of the U.S. population*



Note: Respondents who gave other responses or did not give an answer are not shown.
Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
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In addition to partisanship, age continues to matter a great deal in attitudes and behaviors tied to the coronavirus. And the intersection of partisanship and age reveals one of the biggest recent changes in the public's response to the outbreak: a growing divergence between the oldest Republicans and oldest Democrats in vaccine uptake, which is explored below.

COVID-19 vaccination among adults ages 65 and older, by party

Older adults continue to be one of the most at-risk groups for severe illness and death from COVID-19.

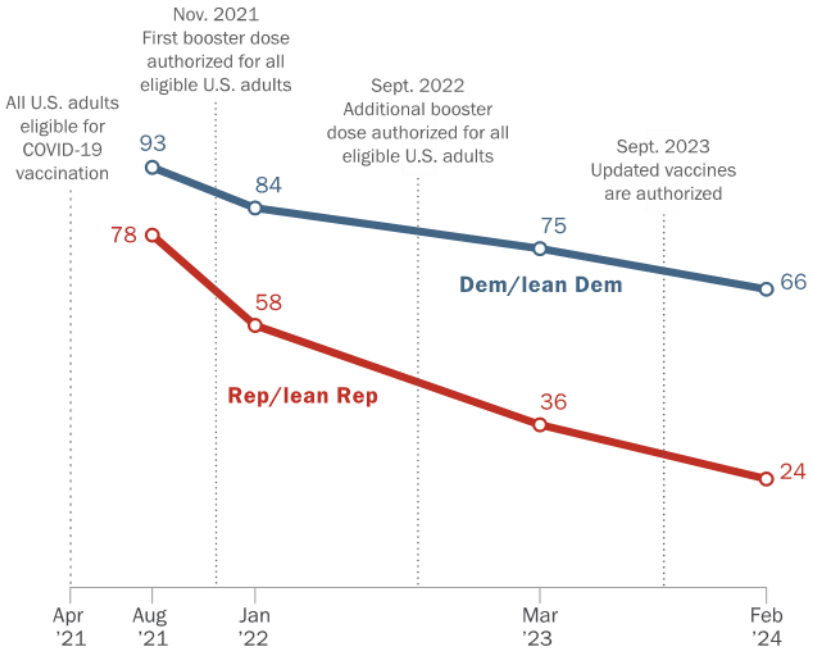
When vaccines first became available in 2021, large majorities of *both* Republicans and Democrats ages 65 and older said they had received the vaccine. But as additional doses have become available, uptake among older Republicans has declined at a faster rate than among older Democrats.

In the current survey, 66% of Democrats ages 65 and older say they have received the updated COVID-19 vaccine, compared with 24% of Republicans ages 65 and older.

This 42-point partisan gap is much wider now than at other points since the start of the outbreak. For instance, in August 2021, 93% of older Democrats and 78% of older Republicans said they had received all the shots needed to be fully vaccinated (a 15-point gap). Go to the Appendix for more details.

Sharp decline in share of older Republicans who are up to date on COVID-19 vaccinations

*Among **U.S. adults ages 65 and older**, % who report that they are up to date with COVID-19 vaccines*



Note: August 2021 data shows the share of U.S. adults who said they were fully vaccinated. January 2022 and March 2023 data shows the share who said they were fully vaccinated and had received a booster shot within the last six months. February 2024 data shows the share who say they have received the updated COVID-19 vaccine. Respondents who gave other responses or did not give an answer are not shown.
Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
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How COVID-19 vaccination varies by age within parties

The impact of age is also striking when looking *within* political parties.

Among Democrats, about three-in-ten adults under 50 have received an updated COVID-19 vaccine, compared with 48% of those ages 50 to 64 and 66% of Democrats ages 65 and older.

Age differences within the GOP run in the same direction, but are much more modest, reflecting, in part, low overall levels of vaccine uptake.

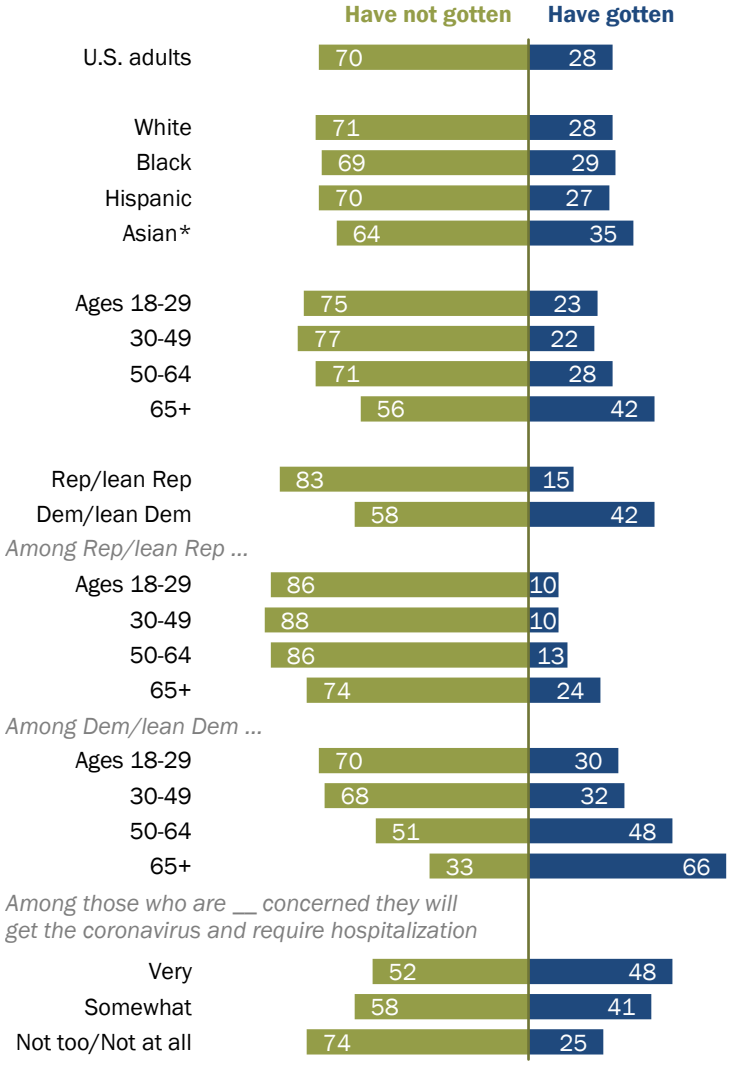
How COVID-19 vaccination varies by race and ethnicity

Similar shares of White (28%), Black (29%) and Hispanic (27%) adults say they have gotten the updated vaccine. English-speaking Asian adults (35%) are slightly more likely to report receiving the updated vaccine.

As in past Center surveys, there are racial and ethnic differences in vaccine uptake *among* Democrats.

Younger Democrats much less likely than older Democrats to have received new COVID-19 vaccine

% of U.S. adults who say they ___ the updated vaccine for COVID-19 that became available last September



* Estimates for Asian adults are representative of English speakers only.
Note: Respondents who did not give an answer are not shown. White, Black and Asian adults include those who report being only one race and are not Hispanic. Hispanic adults are of any race.
Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
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For instance, 50% of White Democrats and 42% of English-speaking Asian Democrats report having received the updated vaccine, compared with somewhat smaller shares of Black and Hispanic Democrats (32% each).

Views of long COVID

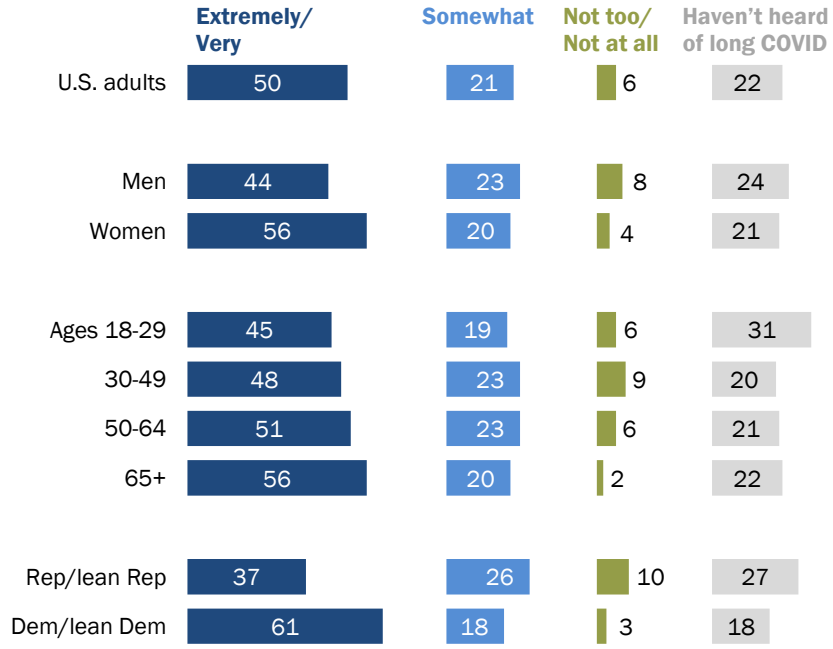
Half of Americans say it is extremely or very important for medical researchers and health care providers to understand and treat long COVID, considering all the different priorities they face.

About two-in-ten (21%) say it's somewhat important for those in medicine to address long COVID, while 6% say it is not too or not at all important. Another 22% say they haven't heard of long COVID.

More Democrats (61%) than Republicans (37%) say it is extremely or very important for medical researchers and health care providers to understand and treat long COVID.

Half of Americans say it is extremely or very important for medical professionals to address long COVID

% of U.S. adults who say it is ___ important for medical researchers and health care providers to understand and treat long COVID



Note: Respondents who did not give an answer are not shown.
Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
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A majority of women (56%) consider this extremely or very important; a smaller share of men (44%) say the same. The CDC has reported that women are more likely than men to develop long COVID symptoms.

Awareness of long COVID also shapes views on its importance: Those who have heard a lot about long COVID are more likely than those who have heard a little about it to say it's extremely or very important for medical professional to address it (76% vs. 60%).

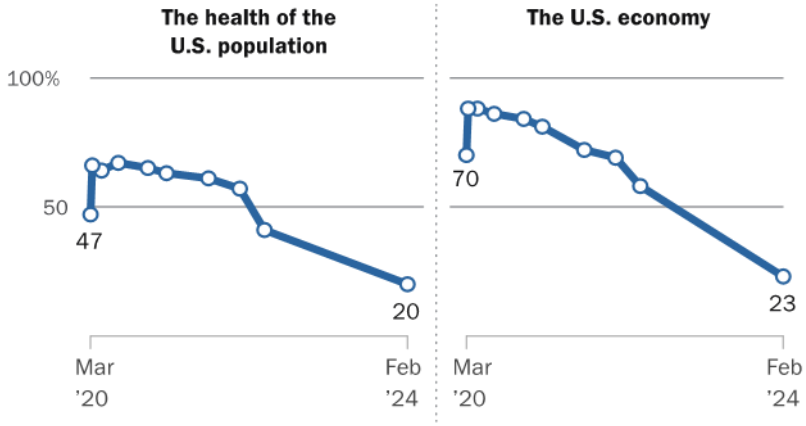
Views of the threat posed by the coronavirus

One-in-five Americans now say the coronavirus is a major threat to the health of the U.S. population, down from a high of 67% in July 2020.

Concern about the coronavirus as a major threat to the U.S. economy has also declined dramatically. Today, 23% of Americans say it's a major threat to the economy, compared with 88% in May 2020. The pandemic spurred an economic recession in 2020 and a spike in unemployment that reached the highest levels since the Great Recession.

1 in 5 Americans now say the coronavirus is a major threat to public health

*% of U.S. adults who say the coronavirus today is a **major threat** to ...*



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Federal policy on the coronavirus has changed as public concern – and the incidence of severe illness – has fallen. The Biden administration ended the public health emergency for the coronavirus pandemic in May 2023. And the CDC recently released updated guidelines with shorter isolation periods for adults testing positive for the disease.

While large partisan gaps characterized views of the coronavirus as a major threat to public health for much of the pandemic, those gaps were far smaller on views of the virus as a major threat to the economy. In the current survey, just a 6-point gap separates Republicans and Democrats with this view (20% vs. 26%, respectively) – similar to the 9-point party gap seen in May 2022.

Personal concern about getting or spreading COVID-19

About a quarter of Americans (27%) are very or somewhat concerned about getting a serious case of COVID-19 that would require hospitalization. A somewhat higher share (40%) say they are very or somewhat concerned they might spread the coronavirus to other people without knowing it.

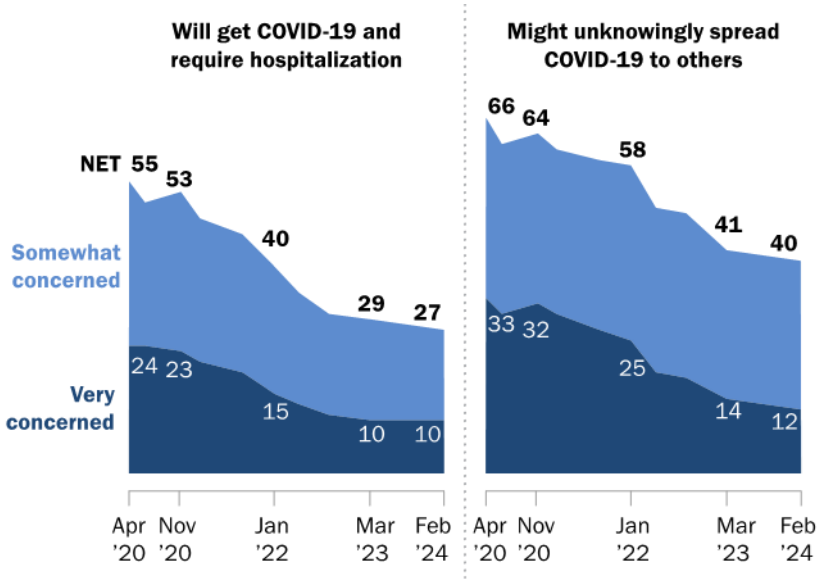
Levels of concern for getting or spreading the coronavirus are about the same as they were in March 2023 and remain down dramatically from early in the pandemic.

The share of Americans who are very or somewhat concerned about getting a serious case is 26 points lower than in November 2020, before a COVID-19 vaccine was available to the public. And the share of Americans who are at least somewhat concerned about spreading COVID-19 without knowing it is down 24 points since November 2020.

Still, the current data shows how the virus remains a concern in daily life for many Americans, more than four years after the first confirmed coronavirus cases appeared in the U.S.

Long-term decline in concern about getting a serious case of COVID-19 or unknowingly spreading it

*% of U.S. adults who say they are **very/somewhat concerned** that they ...*



Note: Respondents who gave other responses or did not give an answer are not shown.
Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
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Consistent with past Center surveys, there are demographic and political differences in personal concern about getting a serious case of COVID-19 and unknowingly spreading the virus:

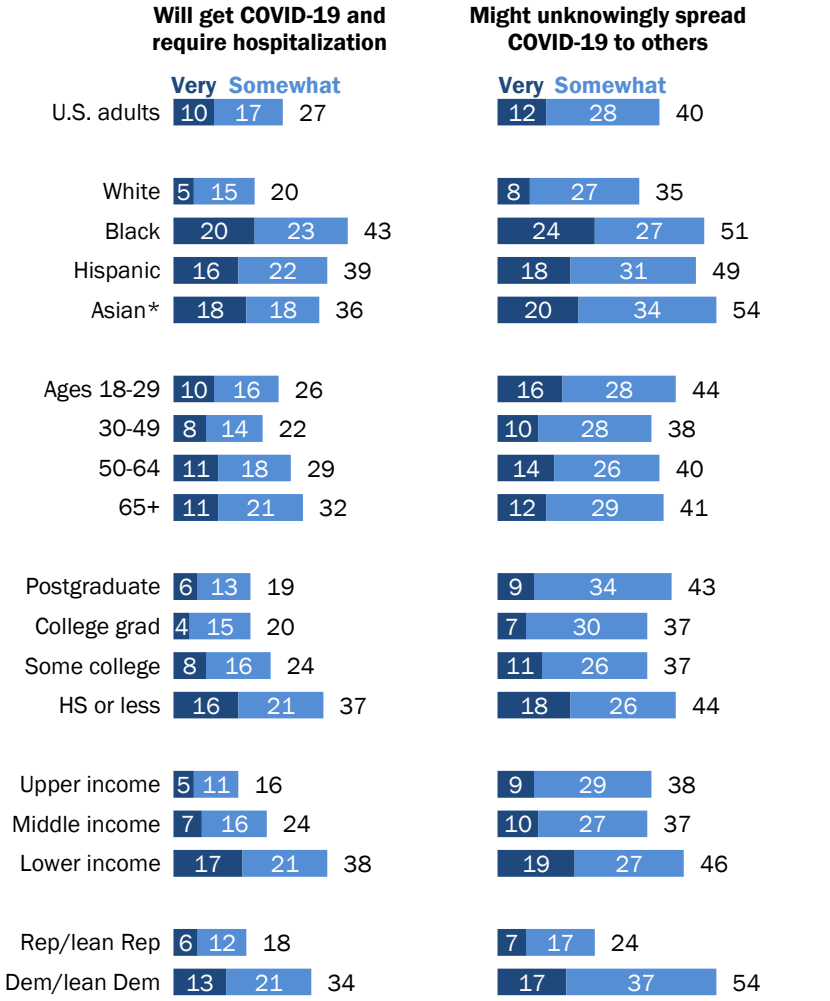
- **Income:** Lower-income Americans continue to be particularly concerned (38%) about getting a serious case of COVID-19. They're also more likely than middle- and upper-income Americans to worry about unknowingly spreading COVID-19, but the differences are more modest.

- **Party:** Democrats (54%) are more than twice as likely as Republicans (24%) to be very or somewhat concerned about unknowingly spreading COVID-19. And they're 16 points more likely to express concern about getting a serious case of the disease.

- **Race and ethnicity:** White Americans (20%) are less likely to be concerned about getting a serious case of COVID-19 than Black (43%), Hispanic (39%) and English-speaking Asian Americans (36%).

Democrats much more concerned than Republicans about risk of unknowingly spreading COVID-19

*% of U.S. adults who say they are **very/somewhat concerned** that they ...*



* Estimates for Asian adults are representative of English speakers only.
Note: Respondents who gave other responses or did not give an answer are not shown. White, Black and Asian adults include those who report being only one race and are not Hispanic. Hispanic adults are of any race. Family income tiers are based on adjusted 2022 earnings.
Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
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Some of the groups most personally concerned about getting a severe case of COVID-19 are also among the groups most concerned about the public health threat from the coronavirus. For example, Black adults and adults with lower incomes express more concern about the personal health and public health impact of the coronavirus than White adults and those with upper incomes.

Uptake of the flu shot

The survey finds 44% of U.S. adults say they have gotten a flu shot since August. This share is down slightly from last March, when 49% of Americans said they had recently gotten a flu shot.

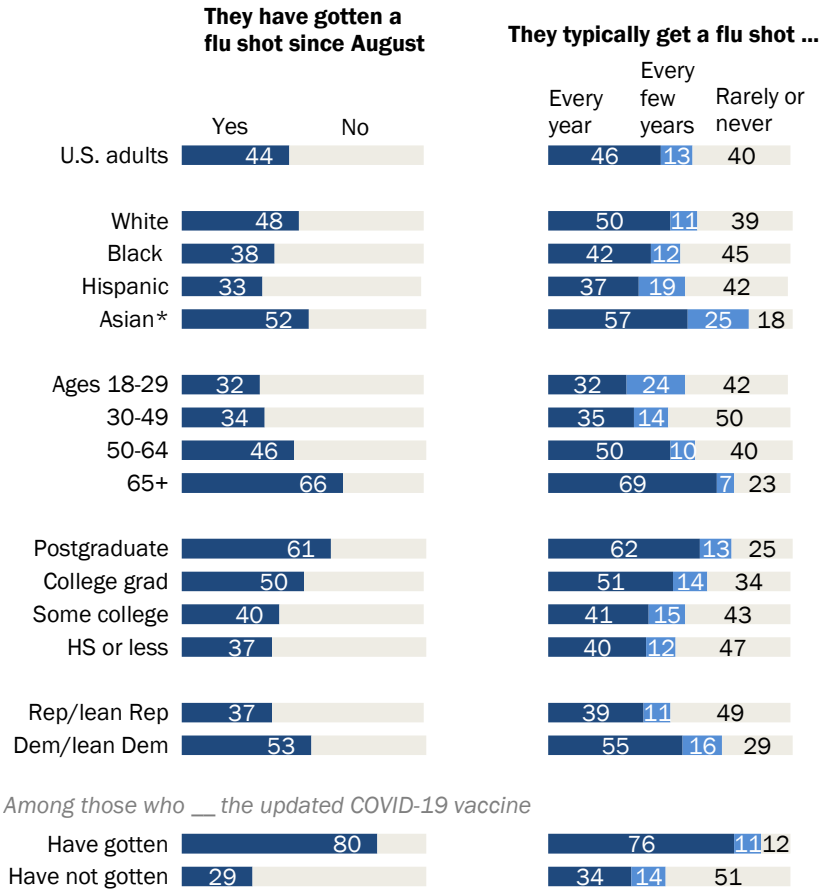
Uptake varies by the following factors:

- **Age:** Older Americans continue to be more likely to report getting the flu shot. Two-thirds of Americans ages 65 and older say they have gotten the flu shot since August. By comparison, only about a third of those under age 50 say the same. These large age differences are seen among both Democrats and Republicans.

- **Race and ethnicity:** English-speaking Asian Americans (52%) and White Americans (48%) are more likely than Black Americans (38%) and Hispanic Americans (33%) to say they have gotten a flu shot since August. These racial and ethnic differences are consistent with past Center surveys.

Majorities of the oldest U.S. adults got a flu shot this year and say they typically get one annually

% of U.S. adults who say each of the following



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Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
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- **Partisan affiliation:** Democrats are more likely than Republicans to say they got a flu shot this year (53% vs. 37%). This 16-point gap is twice as big now as it was in November 2020, during the pandemic's first year. The current partisan difference in flu shot uptake is similar to the one recorded in March 2023.

The flu shot and updated COVID-19 vaccines are both recommended to protect against severe illness, but Americans approach these vaccines differently.

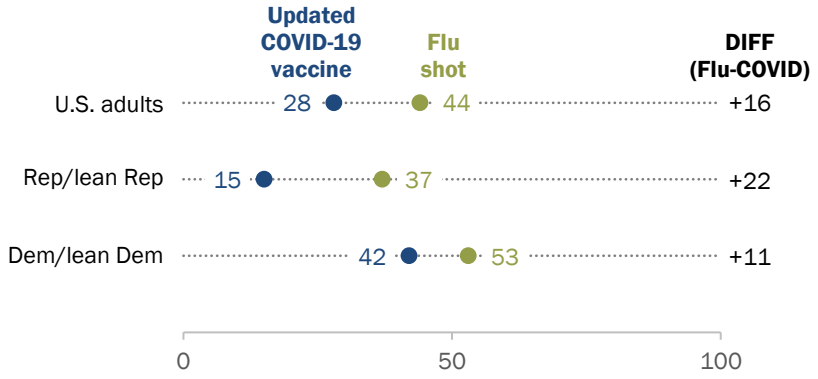
Americans are more likely to report that they received a flu shot than the updated COVID-19 vaccine this year (44% vs. 28%).

This gap in uptake between the flu shot and updated COVID-19 vaccine is more pronounced among Republicans than Democrats.

Republicans are more than twice as likely to say they've gotten a flu shot since August as to say they've received an updated COVID-19 vaccine (37% vs. 15%). Among Democrats, this difference is more modest (53% vs. 42%).

Republicans are much more likely to get the flu shot than the updated COVID-19 vaccine

*% of U.S. adults who say they **have gotten** each of the following since they became available last year*



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Methodology

The American Trends Panel survey methodology

Overview

The American Trends Panel (ATP), created by Pew Research Center, is a nationally representative panel of randomly selected U.S. adults. Panelists participate via self-administered web surveys. Panelists who do not have internet access at home are provided with a tablet and wireless internet connection. Interviews are conducted in both English and Spanish. The panel is being managed by Ipsos.

Data in this report is drawn from ATP Wave 142, conducted from Feb. 7 to 11, 2024, and includes an oversample of non-Hispanic Asian adults, non-Hispanic Black men, and Hispanic men in order to provide more precise estimates of the opinions and experiences of these smaller demographic subgroups. These oversampled groups are weighted back to reflect their correct proportions in the population. A total of 10,133 panelists responded out of 11,117 who were sampled, for a response rate of 91%. The cumulative response rate accounting for nonresponse to the recruitment surveys and attrition is 3%. The break-off rate among panelists who logged on to the survey and completed at least one item is less than 1%. The margin of sampling error for the full sample of 10,133 respondents is plus or minus 1.5 percentage points.

Panel recruitment

The ATP was created in 2014, with the first cohort of panelists invited to join the panel at the end of a large, national, landline and cellphone random-digit-dial survey that was conducted in both English and Spanish. Two additional recruitments were conducted using the same method in 2015 and 2017, respectively. Across these three surveys, a total of 19,718 adults were invited to join the ATP, of whom 9,942 (50%) agreed to participate.

American Trends Panel recruitment surveys

Recruitment dates	Mode	Invited	Joined	Active panelists remaining
Jan. 23 to March 16, 2014	Landline/ cell RDD	9,809	5,338	1,391
Aug. 27 to Oct. 4, 2015	Landline/ cell RDD	6,004	2,976	831
April 25 to June 4, 2017	Landline/ cell RDD	3,905	1,628	404
Aug. 8 to Oct. 31, 2018	ABS	9,396	8,778	3,848
Aug. 19 to Nov. 30, 2019	ABS	5,900	4,720	1,387
June 1 to July 19, 2020; Feb. 10 to March 31, 2021	ABS	3,197	2,812	1,440
May 29 to July 7, 2021; Sept. 16 to Nov. 1, 2021	ABS	1,329	1,162	731
May 24 to Sept. 29, 2022	ABS	3,354	2,869	1,454
April 17 to May 30, 2023	ABS	686	576	434
	Total	**43,580**	**30,859**	**11,920**

Note: RDD is random-digit dial; ABS is address-based sampling. Approximately once per year, panelists who have not participated in multiple consecutive waves or who did not complete an annual profiling survey are removed from the panel. Panelists also become inactive if they ask to be removed from the panel.

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In August 2018, the ATP switched from telephone to address-based sampling (ABS) recruitment. A study cover letter and a pre-incentive are mailed to a stratified, random sample of households selected from the U.S. Postal Service's Delivery Sequence File. This Postal Service file has been estimated to cover as much as 98% of the population, although some studies suggest that the coverage could be in the low 90% range.[1] Within each sampled household, the adult with the next birthday is asked to participate. Other details of the ABS recruitment protocol have changed over time but are available upon request.[2]

We have recruited a national sample of U.S. adults to the ATP approximately once per year since 2014. In some years, the recruitment has included additional efforts (known as an "oversample") to boost sample size with underrepresented groups. For example, Hispanic adults, Black adults and Asian adults were oversampled in 2019, 2022 and 2023, respectively.

Across the six address-based recruitments, a total of 23,862 adults were invited to join the ATP, of whom 20,917 agreed to join the panel and completed an initial profile survey. Of the 30,859

[1] AAPOR Task Force on Address-based Sampling. 2016. "AAPOR Report: Address-based Sampling."
[2] Email pewsurveys@pewresearch.org.

individuals who have ever joined the ATP, 11,920 remained active panelists and continued to receive survey invitations at the time this survey was conducted.

The American Trends Panel never uses breakout routers or chains that direct respondents to additional surveys.

Sample design

The overall target population for this survey was noninstitutionalized persons ages 18 and older living in the United States, including Alaska and Hawaii. It featured a stratified random sample from the ATP in which Hispanic men, non-Hispanic Black men, and non-Hispanic Asian adults were selected with certainty. The remaining panelists were sampled at rates designed to ensure that the share of respondents in each stratum is proportional to its share of the U.S. adult population to the greatest extent possible. Respondent weights are adjusted to account for differential probabilities of selection as described in the Weighting section below.

Questionnaire development and testing

The questionnaire was developed by Pew Research Center in consultation with Ipsos. The web program was rigorously tested on both PC and mobile devices by the Ipsos project management team and Pew Research Center researchers. The Ipsos project management team also populated test data that was analyzed in SPSS to ensure the logic and randomizations were working as intended before launching the survey.

Incentives

All respondents were offered a post-paid incentive for their participation. Respondents could choose to receive the post-paid incentive in the form of a check or a gift code to Amazon.com or could choose to decline the incentive. Incentive amounts ranged from $5 to $15 depending on whether the respondent belongs to a part of the population that is harder or easier to reach. Differential incentive amounts were designed to increase panel survey participation among groups that traditionally have low survey response propensities.

Data collection protocol

The data collection field period for this survey was Feb. 7 to 11, 2024. Postcard notifications were mailed to a subset of ATP panelists with a known residential address on Feb. 7.[3]

[3] Postcard notifications are sent to 1) panelists who have been provided with a tablet to take ATP surveys, 2) panelists who were recruited within the last two years, and 3) panelists recruited prior to the last two years who opt to continue receiving postcard notifications.

Invitations were sent out in two separate launches: soft launch and full launch. Sixty panelists were included in the soft launch, which began with an initial invitation sent on the morning of Feb. 7. The ATP panelists chosen for the initial soft launch were known responders who had completed previous ATP surveys within one day of receiving their invitation. All remaining English- and Spanish-speaking sampled panelists were included in the full launch and were sent an invitation on the afternoon of Feb. 7.

Invitation and reminder dates, ATP Wave 142

	Soft launch	Full launch
Initial invitation	Feb. 7, 2024	Feb. 7, 2024
First reminder	Feb. 9, 2024	Feb. 9, 2024
Final reminder	Feb. 11, 2024	Feb. 11, 2024

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All panelists with an email address received an email invitation and up to two email reminders if they did not respond to the survey. All ATP panelists who consented to SMS messages received an SMS invitation and up to two SMS reminders.

Data quality checks

To ensure high-quality data, the Center's researchers performed data quality checks to identify any respondents showing clear patterns of satisficing. This includes checking for whether respondents left questions blank at very high rates or always selected the first or last answer presented. As a result of this checking, two ATP respondents were removed from the survey dataset prior to weighting and analysis.

Weighting

The ATP data is weighted in a multistep process that accounts for multiple stages of sampling and nonresponse that occur at different points in the survey process. First, each panelist begins with a base weight that reflects their probability of selection for their initial recruitment survey. These weights are then rescaled and adjusted to account for changes in the design of ATP recruitment surveys from year to year. Finally, the weights are calibrated to align with the population benchmarks in the accompanying table to correct for nonresponse to recruitment surveys and panel attrition. If only a subsample of panelists was invited to participate in the wave, this weight is adjusted to account for any differential probabilities of selection.

American Trends Panel weighting dimensions

Variable	Benchmark source
Age (detailed) Age x Gender Education x Gender Education x Age Race/Ethnicity x Education Black (alone or in combination) x Hispanic Born inside vs. outside the U.S. among Hispanics and Asian Americans Years lived in the U.S. Census region x Metropolitan status	2022 American Community Survey (ACS)
Volunteerism	2021 CPS Volunteering & Civic Life Supplement
Voter registration	2022 CPS Voting and Registration Supplement
Party affiliation x Race/Ethnicity Frequency of internet use Religious affiliation	2023 National Public Opinion Reference Survey (NPORS)

Note: Estimates from the ACS are based on noninstitutionalized adults. Voter registration is calculated using procedures from Hur, Achen (2013) and rescaled to include the total U.S. adult population.

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Among the panelists who completed the survey, this weight is then calibrated again to align with the population benchmarks identified in the accompanying table and trimmed at the 2nd and 98th percentiles to reduce the loss in precision stemming from variance in the weights. This trimming is performed separately among non-Hispanic Black, non-Hispanic Asian, Hispanic and all other respondents. Sampling errors and tests of statistical significance take into account the effect of weighting.

The following table shows the unweighted sample sizes and the error attributable to sampling that would be expected at the 95% level of confidence for different groups in the survey.

Sample sizes and margins of error, ATP Wave 142

Group	Unweighted sample size	Plus or minus ...
Total sample	10,133	1.5 percentage points
Form 1	5,050	2.1 percentage points
Form 2	5,083	2.1 percentage points
Men	4,557	2.3 percentage points
Women	5,485	1.9 percentage points
White	6,505	1.7 percentage points
Black	1,258	4.2 percentage points
Hispanic	1,252	4.9 percentage points
Asian*	651	6.0 percentage points
Ages 18-29	747	4.7 percentage points
30-49	3,239	2.6 percentage points
50-64	2,935	2.6 percentage points
65+	3,189	2.4 percentage points
Rep/lean Rep	4,594	2.1 percentage points
Dem/lean Dem	5,227	2.1 percentage points

* Estimates for Asian adults are representative of English speakers only.
Note: This survey includes oversamples of non-Hispanic Asian adults, non-Hispanic Black men, and Hispanic men. Unweighted sample sizes do not account for the sample design or weighting and do not describe a group's contribution to weighted estimates. Refer to the Sample design and Weighting sections for details.

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Sample sizes and sampling errors for other subgroups are available upon request. In addition to sampling error, one should bear in mind that question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of opinion polls.

Dispositions and response rates

Final dispositions, ATP Wave 142

	AAPOR code	Total
Completed interview	1.1	10,133
Logged on to survey; broke off	2.12	27
Logged on to survey; did not complete any items	2.1121	81
Never logged on (implicit refusal)	2.11	873
Survey completed after close of the field period	2.27	1
Completed interview but was removed for data quality		2
Screened out		0
Total panelists sampled for the survey		**11,117**
Completed interviews	I	10,133
Partial interviews	P	0
Refusals	R	981
Non-contact	NC	1
Other	O	2
Unknown household	UH	0
Unknown other	UO	0
Not eligible	NE	0
Total		**11,117**
AAPOR RR1 = I / (I+P+R+NC+O+UH+UO)		91%

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Cumulative response rate as of ATP Wave 142

	Total
Weighted response rate to recruitment surveys	11%
% of recruitment survey respondents who agreed to join the panel, among those invited	71%
% of those agreeing to join who were active panelists at start of Wave 142	45%
Response rate to Wave 142 survey	91%
Cumulative response rate	**3%**

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How family income tiers are calculated

Family income data reported in this study is adjusted for household size and cost-of-living differences by geography. Panelists then are assigned to income tiers that are based on the median adjusted family income of all American Trends Panel members. The process uses the following steps:

1. First, panelists are assigned to the midpoint of the income range they selected in a family income question that was measured on either the most recent annual profile survey or, for newly recruited panelists, their recruitment survey. This provides an approximate income value that can be used in calculations for the adjustment.

2. Next, these income values are adjusted for the cost of living in the geographic area where the panelist lives. This is calculated using price indexes published by the U.S. Bureau of Economic Analysis. These indexes, known as Regional Price Parities (RPP), compare the prices of goods and services across all U.S. metropolitan statistical areas as well as non-metro areas with the national average prices for the same goods and services. The most recent available data at the time of the annual profile survey is from 2021. Those who fall outside of metropolitan statistical areas are assigned the overall RPP for their state's non-metropolitan area.

3. Family incomes are further adjusted for the number of people in a household using the methodology from Pew Research Center's previous work on the American middle class. This is done because a four-person household with an income of, say, $50,000 faces a tighter budget constraint than a two-person household with the same income.

4. Panelists are then assigned an income tier. "Middle-income" adults are in families with adjusted family incomes that are between two-thirds and double the median adjusted family income for the full ATP at the time of the most recent annual profile survey. The median adjusted family income for the panel is roughly $71,800. Using this median income, the middle-income range is about $47,900 to $143,600. Lower-income families have adjusted incomes less than $47,900, and upper-income families have adjusted incomes greater than $143,600 (all figures expressed in 2022 dollars and scaled to a household size of three). If a panelist did not provide their income and/or their household size, they are assigned "no answer" in the income tier variable.

Two examples of how a given area's cost-of-living adjustment was calculated are as follows: The Anniston-Oxford metropolitan area in Alabama is a relatively inexpensive area, with a price level that is 16.2% less than the national average. The San Francisco-Oakland-Berkeley metropolitan

area in California is one of the most expensive areas, with a price level that is 19.8% higher than the national average. Income in the sample is adjusted to make up for this difference. As a result, a family with an income of $41,900 in the Anniston-Oxford area is as well-off financially as a family of the same size with an income of $59,900 in San Francisco.

A note about the Asian adult sample

This survey includes a total sample size of 651 Asian adults. The sample primarily includes English-speaking Asian adults and, therefore, may not be representative of the overall Asian adult population. Despite this limitation, it is important to report the views of Asian adults on the topics in this study. As always, Asian adults' responses are incorporated into the general population figures throughout this report.

Appendix: Detailed chart and tables

COVID-19 vaccination by age group and political party

% of U.S. adults who report that they are up to date with COVID-19 vaccines

	August 2021	January 2022	March 2023	February 2024
Ages 18-29	59	35	23	23
30-49	63	39	27	22
50-64	69	50	36	28
65+	85	71	53	42
Among adults ages 18-29 ...				
Rep/lean Rep	37	14	10	10
Dem/lean Dem	74	47	30	30
Among adults ages 30-49 ...				
Rep/lean Rep	47	22	13	10
Dem/lean Dem	77	54	42	32
Among adults ages 50-64 ...				
Rep/lean Rep	53	31	20	13
Dem/lean Dem	87	71	59	48
Among adults ages 65+ ...				
Rep/lean Rep	78	58	36	24
Dem/lean Dem	93	84	75	66

Note: August 2021 data shows the share of U.S. adults who said they were fully vaccinated. January 2022 and March 2023 data shows the share who said they were fully vaccinated and had received a booster shot within the last six months. February 2024 data shows the share who say they have received the updated COVID-19 vaccine. Respondents who gave other responses or did not give an answer are not shown.
Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
"How Americans View the Coronavirus, COVID-19 Vaccines Amid Declining Levels of Concern"

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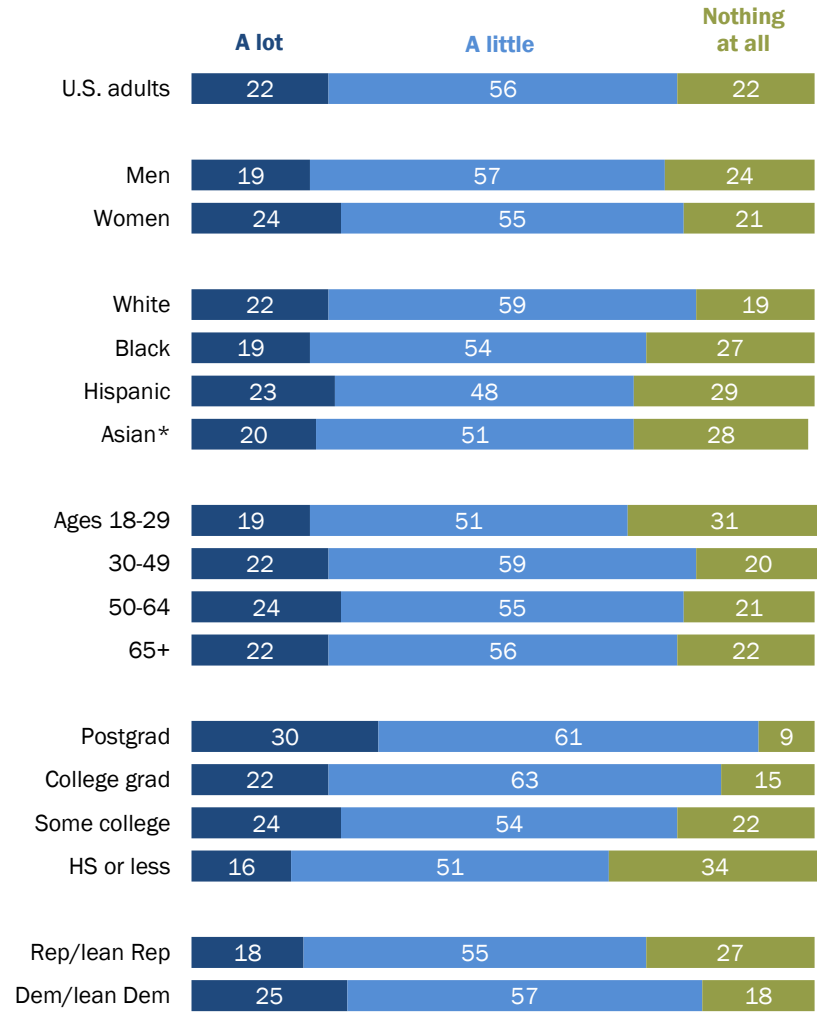
Most Americans have heard at least a little about long COVID; 22% have heard nothing at all

% of U.S. adults who say they have heard or read ___ about long COVID, which is defined as having symptoms lasting longer than a month



* Estimates for Asian adults are representative of English speakers only.
Note: Respondents who did not give an answer are not shown. White, Black and Asian adults include those who report being only one race and are not Hispanic. Hispanic adults are of any race.
Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
"How Americans View the Coronavirus, COVID-19 Vaccines Amid Declining Levels of Concern"

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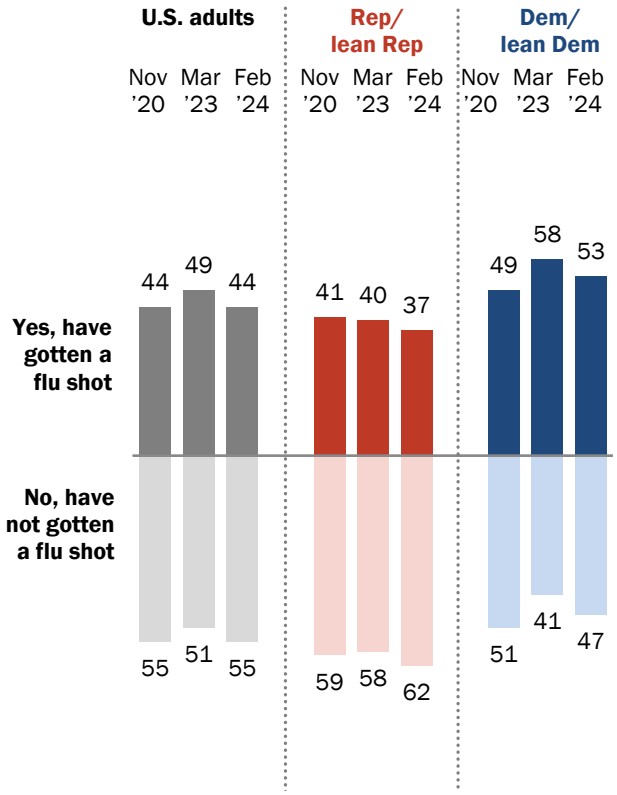
Democrats more likely than Republicans to say they have gotten a flu shot this year

% of U.S. adults who say they have done the following since August



Note: Respondents who did not give an answer are not shown.
Source: Survey of U.S. adults conducted Feb. 7-11, 2024.
"How Americans View the Coronavirus, COVID-19 Vaccines Amid Declining Levels of Concern"

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Survey question wording and topline

2024 PEW RESEARCH CENTER'S AMERICAN TRENDS PANEL
WAVE 142 – SCIENCE TOPLINE
February 7-11, 2024
N=10,133

OTHER QUESTIONS PREVIOUSLY RELEASED OR HELD FOR FUTURE RELEASE

DISPLAY TO FORM 1: On a different topic…

ASK FORM 1 [N=5,050]:
COVIDTHREAT How much of a threat, if any, is the coronavirus today for…[4] **[RANDOMIZE ITEMS]**

	A major threat	A minor threat	Not a threat	No answer
a. The health of the U.S. population as a whole				
Feb 7-11, 2024	20	55	24	<1
May 2-8, 2022	41	45	13	1
Jan 10-17, 2022	57	35	8	<1
Aug 23-29, 2021	61	33	6	<1
Feb 16-21, 2021	63	31	5	<1
Nov 18-29, 2020	65	29	5	<1
Jul 13-19, 2020	67	28	5	<1
Apr 29-May 5, 2020	64	31	4	<1
Mar 19-24, 2020	66	31	2	<1
Mar 10-16, 2020	47	45	8	<1
b. Your personal health				
Feb 7-11, 2024	16	48	36	<1
May 2-8, 2022	23	50	26	<1
Jan 10-17, 2022	30	50	20	<1
Aug 23-29, 2021	31	50	19	<1
Feb 16-21, 2021	31	52	17	<1
Nov 18-29, 2020	39	46	14	<1
Jul 13-19, 2020	40	46	13	<1
Apr 29-May 5, 2020	38	47	14	<1
Mar 19-24, 2020	36	52	11	<1
Mar 10-16, 2020	27	51	22	<1

[4] In all surveys prior to February 2024, the phrase "coronavirus outbreak" was used instead of "coronavirus today."

COVIDTHREAT CONTINUED…

	A major threat	A minor threat	Not a threat	No answer
c. The U.S. economy				
Feb 7-11, 2024	23	48	28	1
May 2-8, 2022	58	34	8	1
Jan 10-17, 2022	69	25	5	1
Aug 23-29, 2021	72	24	3	1
Feb 16-21, 2021	81	16	3	<1
Nov 18-29, 2020	84	13	3	<1
Jul 13-19, 2020	86	12	2	<1
Apr 29-May 5, 2020	88	10	2	<1
Mar 19-24, 2020	88	10	1	<1
Mar 10-16, 2020	70	25	4	1
d. Your personal financial situation				
Feb 7-11, 2024	14	36	49	1
May 2-8, 2022	25	44	30	1
Jan 10-17, 2022	32	44	23	<1
Aug 23-29, 2021	29	46	25	<1
Feb 16-21, 2021	30	46	24	<1
Nov 18-29, 2020	38	42	20	<1
Jul 13-19, 2020	38	43	19	<1
Apr 29-May 5, 2020	41	42	17	<1
Mar 19-24, 2020	49	40	11	<1
Mar 10-16, 2020	34	43	23	<1

DISPLAY TO FORM 2: On a different topic…

ASK FORM 2 [N=5,083]:
COVID_INFECT How concerned, if at all, are you that… **[RANDOMIZE ITEMS]**

	Very concerned	Somewhat concerned	Not too concerned	Not at all concerned	No answer
a. You might spread the coronavirus to other people without knowing that you have it					
Feb 7-11, 2024	12	28	33	26	<1
Mar 13-19, 2023	14	28	30	28	<1
Sep 13-18, 2022	18	31	28	23	<1
May 2-8, 2022	19	31	29	20	<1
Jan 10-17, 2022	25	33	26	16	<1
Aug 23-29, 2021	27	32	26	15	<1
Feb 16-21, 2021	30	31	25	14	<1
Nov 18-29, 2020	32	32	23	13	<1
Jun 16-22, 2020	30	32	23	14	<1
Apr 7-12, 2020	33	34	22	11	1
b. You will get the coronavirus and require hospitalization					
Feb 7-11, 2024	10	17	39	33	<1
Mar 13-19, 2023	10	19	34	36	<1
Sep 13-18, 2022	11	19	36	33	<1
May 2-8, 2022	13	21	37	29	<1

COVID_INFECT
CONTINUED…

	Very concerned	Somewhat concerned	Not too concerned	Not at all concerned	No answer
Jan 10-17, 2022	15	24	37	24	<1
Aug 23-29, 2021	19	26	36	19	<1
Feb 16-21, 2021	21	27	31	20	<1
Nov 18-29, 2020	23	30	30	17	<1
Jun 16-22, 2020	24	27	32	17	<1
Apr 7-12, 2020	24	31	32	13	<1

ASK FORM 1 [N=5,050]:

HRDLONGCOV How much have you heard or read about Long COVID, which is defined as having COVID-19 symptoms lasting longer than a month?

Feb 7-11, 2024	
22	A lot
56	A little
22	Nothing at all
<1	No answer

ASK FORM 1 AND IF HEARD A LOT OR A LITTLE [HRDLONGCOV=1,2] [N=4,187]:

LONGCOVID Thinking about all the priorities for medical researchers and health care providers, how important is it for them to understand and treat Long COVID? **[RANDOMIZE RESPONSE OPTIONS 1-5 OR 5-1 IN SAME ORDER AS FACTWELL]**

Feb 7-11, 2024	
25	Extremely important
39	Very important
28	Somewhat important
5	Not too important
2	Not at all important
<1	No answer

ASK ALL:

NEWCOVVAX Have you gotten the updated vaccine for COVID-19 that became available last September?

Feb 7-11, 2024	
28	Yes, have gotten the updated COVID-19 vaccine
70	No, have not gotten the updated COVID-19 vaccine
1	No answer

TREND FOR COMPARISON
ASK ALL:
COVID_VAXDMOD Have you received a vaccine to prevent COVID-19?

	NET Have received at least one dose of a vaccine	*Yes, have had all the shots needed to be fully vaccinated*	*Yes, have had one shot but still need one more*	*No, have not received a vaccine*	*No answer*
Mar 13-19, 2023	*77*	*70*	*7*	*21*	*2*
Sep 13-18, 2022	*77*	*71*	*6*	*21*	*2*
May 2-8, 2022	*78*	*73*	*5*	*21*	*2*
Jan 24-30, 2022	*78*	*73*	*5*	*20*	*2*
Aug 23-29, 2021	*73*	*69*	*4*	*26*	*1*
Jun 14-27, 2021	*67*	*63*	*4*	*31*	*2*
Feb 16-21, 2021	*19*	*--*	*--*	*80*	*<1*

TREND FOR COMPARISON
ASK ALL:
COVID_BOOST[5] *Have you received a COVID-19 booster shot within the last six months?*

	Yes, have received a booster shot	*No, have not received a booster shot*	*Does not apply to me*	*Invalid response*	*No answer*
Mar 13-19, 2023	*34*	*44*	*19*	*1*	*2*
Sep 13-18, 2022	*38*	*41*	*18*	*1*	*2*
May 2-8, 2022	*49*	*31*	*17*	*1*	*2*
Jan 24-30, 2022	*48*	*34*	*15*	*1*	*2*

[5] COVID_VAXDMOD and COVID_BOOST were asked of all respondents to get measurements on vaccination and booster shot status. Respondents who said "Yes, have had one shot but still need one more" or "No, have not received a vaccine" to COVID_VAXDMOD and said "Yes, have received a booster shot" to COVID_BOOST were coded as "invalid response" to COVID_BOOST. These respondents are ineligible for a COVID-19 booster shot based on their stated vaccination status.

TREND FOR COMPARISON
COVID_VAXDMOD AND COVID_BOOST COMBO TABLE

	Yes, have had all the shots needed to be fully vaccinated			*Yes, have had one shot but still need one more*	*No, have not received a vaccine*	*No answer to COVID_ VAXDmod*
	Yes, have received a booster shot within last six months	*No, have not received a booster shot within last six months/ Does not apply*	*No answer to COVID_ BOOST*			
Mar 13-19, 2023	*34*	*35*	*<1*	*7*	*21*	*2*
Sep 13-18, 2022	*38*	*33*	*<1*	*6*	*21*	*2*
May 2-8, 2022	*49*	*23*	*<1*	*5*	*21*	*2*
Jan 24-30, 2022	*48*	*25*	*<1*	*5*	*20*	*2*

OTHER QUESTIONS HELD FOR FUTURE RELEASE

ASK FORM 2 [N=5,083]:
SCI_FLU1 Since last August, have you gotten a flu shot?

	Yes, have gotten a flu shot since August	No, have not gotten a flu shot since August	No answer
Feb 7-11, 2024	44	55	1
Mar 13-19, 2023	49	51	1
Nov 18-29, 2020[6]	44	55	<1

ASK FORM 2 [N=5,083]:
SCI_FLU2 How often do you typically get a flu shot?

	Every year	Every few years	Rarely or never	No answer
Feb 7-11, 2024	46	13	40	1
Mar 13-19, 2023	48	13	38	1
Nov 18-29, 2020	47	12	41	1

OTHER QUESTION PREVIOUSLY RELEASED

[6] In the November 2020 survey, the question wording was, "Since August of this year, have you gotten a flu shot?"