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Adolescent health brief

## Young Adult Perspectives on COVID-19 Vaccinations

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### A B S T R A C T

**Purpose:** Young adults have the highest cumulative incidence of COVID-19 infection in the country. Using March 2021 Household Pulse Survey data, an ongoing, cross-sectional nationally representative survey, we examined U.S. young adult intention to accept COVID-19 vaccines.

**Methods:** Young adult (ages 18–25 years) Household Pulse Survey participants were queried on intention to receive a COVID-19 vaccine and related perspectives (N = 5,082).

**Results:** Most unvaccinated respondents (76%) indicated an intention to become vaccinated. The most frequently cited reasons for potentially rejecting vaccination included desire to wait and see if the vaccine is safe (56%); concerns over side effects (53%); and believing others are in greater need of the vaccine (44%).

**Conclusions:** With 24% of young adults hesitant to accept a COVID-19 vaccine, public health interventions should target reasons for hesitancy, address concerns about safety and side effects, and underscore the importance of vaccinations for this population.

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### IMPLICATIONS AND CONTRIBUTION

In this nationally representative sample of U.S. young adults, one quarter indicated hesitancy to accept a COVID-19 vaccine. In an effort to achieve population-level immunity across the United States, targeted public health interventions addressing young adult hesitations to become vaccinated represent an important public health priority.

As of June 30, 2021, U.S. young adults aged 18–29 years had the highest cumulative COVID-19 infection incidence nationally [1]. Previous research indicates that a third of young adults are vulnerable to severe COVID-19 illness [2]. However, March 2021 data from the Kaiser Family Foundation indicates that young adults ranked highest in intention to “wait and see” before accepting COVID-19 vaccination (25% vs. 17% for U.S. adults) [3]. An October 2020 study mirrored this; 76% of youth (ages 14–22 years) indicated vaccination acceptance and 81% of the

uncommitted indicated they would accept vaccination if it were proven safe by reliable scientists [4]. Currently, there is a gap in understanding underlying reasons for young adult vaccine hesitancy.

The first vaccine achieved Food and Drug Administration Emergency Use Authorization in December 2020 [5]. However, COVID-19 vaccine acceptability concerns by the general population were noted at the pandemic's inception [6,7]. Numerous terms have been used to describe this phenomenon, such as “vaccine acceptance” or “vaccine hesitancy,” presently defined inclusively as *COVID-19 vaccination intention*. Given the importance of achieving population-level immunity, increasing intention to get vaccinated within all populations remains a public health priority.

To increase understanding of young adults' vaccine perspectives, we used the Household Pulse Survey (HPS) data to examine

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COVID-19 vaccination rate, intentions, and reasons for not definitely planning to get vaccinated.

## Methods

### Sample

We analyzed HPS data from March 3–29, 2021, for young adults of ages 18–25 years ( $N = 5,082$ ). The HPS is an online, ongoing, cross-sectional, nationally representative survey conducted by the U.S. Census Bureau in collaboration with the National Center for Health Statistics and other agencies [8]. It aims to understand the effects of the COVID-19 pandemic on the U.S. population. Questions about COVID-19 vaccination, intentions, and a checklist of reasons for not getting vaccinated were recently added to the HPS. Data are released in 2-week batches for public use. The study was approved by the Internal Review Board of the University of California, San Francisco, with exempt status.

### Study objectives and outcomes

Among 18- to 25-year-old adults, establish rates of (1) COVID-19 vaccination (yes/no); (2) intentions among the unvaccinated (definitely will, probably will, probably will not, and definitely will not get vaccine); (3) reasons for not definitely planning to get vaccinated among intention subgroups (recoded as “probably will” vs. “probably or definitely will not”); and (4) among those endorsing that they do not believe they need the COVID-19 vaccine, reasons for not believing they need the vaccine. An exploratory objective was to determine subgroup differences in reasons for intentions between the “probably will” and the “probably or definitely will not” get vaccine.

### Analyses

We developed nationally representative estimates for aforementioned outcomes 1–4, using weighting variables in the HPS data set that adjust for nonresponse bias (person weight) and complex survey design (80 replicate weights). We examined differences in reasons for not getting vaccinated (outcomes 3 and 4) between “probably will” versus “probably or definitely will not get” subgroups by conducting chi square analyses. Analyses were conducted using SAS 9.4.

## Results

Table 1 presents young adult sample demographic characteristics. Seventeen percent of young adults had received a COVID-19 vaccination, 83% had not and among the unvaccinated, 76% stated they would “probably” or “definitely” get a vaccine once available (Table 2).

Among the unvaccinated who did not “definitely” plan to get vaccinated, the most frequently cited reasons were “I plan to wait and see if it is safe and may get it later” (56%), “I am concerned about possible side effects of a COVID-19 vaccine” (53%), and “I think other people need it more than I do right now” (44%). Subgroup comparison between “probably will” versus “probably/definitely will not” get vaccinated differed significantly in one reason: “I do not trust COVID-19 vaccines (8% vs. 37%,  $p < .05$ .) In follow-up query of reasons for endorsing they did not believe they needed the vaccine (23%), the two most frequently endorsed

**Table 1**

Demographic descriptors of young adults (ages 18–25): Household Pulse Survey (March, 2021)

Young adult analytic sample (unweighted N = 5,082)	Weighted %
Sex	
Male	53.3%
Female	46.7%
Race/ethnicity	
Non-Hispanic white	56.7%
Non-Hispanic black	7.8%
Hispanic	22.8%
Non-Hispanic – Asian	7.6%
Non-Hispanic – Other, more than 1 race	5.0%
Insurance status	
Private	70.4%
Public	8.6%
Both private and public	6.2%
Other (not described enough to be categories into private/ public categories)	1.6%
Uninsured	13.2%

reasons were “I am not a member of a high-risk group” (75%) and “I do not believe COVID-19 is a serious illness” (50%).

## Discussion

Understanding COVID-19 vaccination intention is necessary to achieve population-level immunity and to end the pandemic. In this nationally representative young adult sample, 76% were “definitely” or “probably” planning on becoming vaccinated; however, 24% were unlikely to do so.

This analysis confirms and extends the Kaiser Family Foundation results by identifying young adults’ reasons for not definitely planning to become vaccinated [3]. Among those not “definitely” planning to get vaccinated, the two top reasons indicated caution and safety concerns (1) wait and see if the vaccine is safe and (2) concern about side effects. Public education regarding vaccine testing, Food and Drug Administration Authorization and Approval processes, and research on side effects can address these concerns. Believing others were in greater need of the vaccine was frequently cited. This altruistic position may resolve as increasing numbers of higher-risk populations become fully vaccinated and vaccine availability expands. Further research exploring the higher levels of vaccine distrust among the “probably or definitely not” get vaccinated (37%) versus the “probably yes” (8%) can inform initiatives to increase vaccine uptake. Education and public health messaging encouraging young adult vaccination is needed, ideally harnessing social media and key influencers, including clinicians, who have a role in reducing COVID-19 vaccine hesitancy in youth and adult patients [4,9].

This analysis was limited to the data provided in the HPS, which did not query vaccine motivation, barriers to vaccine access, or factors that might mitigate hesitancy, such as recommendations from trusted sources to get vaccinated. Given demographic disparities in COVID-19 rates, further fine-grained examination of these motivation issues by demographic subgroups is needed.

Addressing vaccine motivation and access is warranted, as it is unclear whether young adults intending to get vaccinated are

**Table 2**  
 COVID-19 vaccination status, intention and perspectives among young adults (ages 18–25): Household Pulse Survey (March, 2021)

Have received a COVID-19 vaccine? (Full sample, n = 5,082) Young adults (18–25 years) Weighted %			
Yes ("vaccinated")	17.0%		
No ("unvaccinated")	83.0%		
If YES/vaccinated: Did you receive or plan to receive all needed doses?			
Yes (got or plan to get both)	96.6%		
No	3.4%		
If NO/unvaccinated: Once vaccine is available, would you get a vaccine?			
Definitely will	50.8%		
Probably will	25.5%		
Probably will not	14.2%		
Definitely will not	9.6%		
If not Definitely Will: What are reasons for not definitely planning to get vaccine? Checklist (check all that apply)	All non "definitely will get" (49.2% of unvaccinated)	Probably will get vaccine (25.5% of unvaccinated)	Probably or definitely will not get vaccine (23.7% of unvaccinated)
I plan to wait and see if it is safe and may get it later	56.2%	62.1%	49.8%
I am concerned about possible side effects of a COVID-19 vaccine	53.4%	52.8%	54.0%
I think other people need it more than I do right now	44.0%	57.0%	30.1%
I do not believe I need a COVID-19 vaccine	22.8%	9.8%	36.7%
Follow up for those who endorse "I do not believe I need a COVID-19 vaccine": Why do you believe you do not need a COVID-19 vaccine? Check all that apply	Among 22.8% of all non "definitely will"	Among 9.8% of the "probably will get vaccine"	Among the 36.7% of the "probably or definitely not get vaccine"
I am not a member of a high-risk group	74.6%	83.0%	72.2%
I do not believe COVID-19 is a serious illness	49.5%	39.0%	52.5%
I already had COVID-19	30.9%	34.0%	30.0%
I plan to use masks or other precautions instead	25.4%	19.7%	27.0%
I do not think vaccines are beneficial	11.1%	1.8%	13.7%
Other (unspecified)	7.6%	6.4%	7.9%
I do not trust the government	22.3%	11.5%	33.9%
I do not trust COVID-19 vaccines	21.9%	8.1%	36.8%*
I do not know if a COVID-19 vaccine will work	21.4%	17.6%	25.5%
I am concerned about the cost of a COVID-19 vaccine	12.4%	18.0%	6.3%
I do not like vaccines	10.1%	7.8%	12.6%
My doctor has not recommended it	6.6%	6.7%	6.5%
Other (unspecified)	9.0%	7.9%	10.2%

\*  $p < .05$ .

motivated to take action. Initial efforts to encourage vaccination deemphasized young adults and reports in the general population highlighted barriers to getting vaccinated, including difficulty in understanding eligibility and accessing vaccine appointments [3,10]. These are relevant for young adults, who have experienced barriers in navigating health care systems when obtaining health insurance [11]. Public health initiatives should provide guidance to reduce system barriers and barriers to COVID-19 vaccines, in recognition of young adults' low rates of health care utilization and lower uptake of annual influenza vaccine, compared with older adults [12,13].

Public health initiatives need to adapt rapidly as vaccine intentions and availability change, and research needs to close the knowledge gap regarding young adult vaccination motivation, barriers to vaccine access, and factors that might mitigate hesitancy, including vaccination recommendations by a clinician or other trusted source [9]. Continued monitoring of vaccine intention, motivations, and barriers to access, with updated

surveys reflecting real-time changes, can contribute to improved messaging and targeted outreach to increase young adult COVID-19 vaccination.

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