

Data Note

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Nearly Half of Community Health Center Patients—an Estimated 14.1 Million of 29.8 Million People Served—Qualify for Phase One COVID-19 Vaccinations Because They Fall within the CDC’s Highest Risk Categories

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Background

Community health centers are the nation’s single largest group of primary health care providers serving medically underserved rural and urban communities. In 2019, nearly 1,400 [community health centers](#) operating in just under 13 thousand locations cared for nearly 30 million patients.

Health center services are geared to deeply impoverished, disproportionately minority populations and [communities that face elevated health risks](#) and a shortage of primary health care. Community health centers thus play an essential role in reaching low-income and minority populations and in reducing socioeconomic and racial inequality in health care.

Over more than five decades, community health centers have been a key part of efforts to immunize the U.S. population against preventable diseases. [During the COVID-19 pandemic](#), whether through testing and direct, onsite care, or by helping staff regional immunization centers and ensuring that their highest-risk patients are able to reach regional immunization services, community health centers will again play a key role in the national immunization effort.

In this Data Note, we estimate the percentage of community health center patients who face such elevated health risks that they appear to qualify for Phase One COVID-19 vaccination priority under Centers for Disease Control and Prevention (CDC) criteria. Targeting the highest-risk people and ensuring that they are effectively reached is now a national priority. This is especially true in the case of minority populations, [who report elevated levels of vaccine hesitancy](#) and who may be best reached through known and trusted health care providers.

In preparing these estimates, we also held discussions with 16 Primary Care Association (PCA) leaders representing 19 states and one U.S. territory in order to gain a greater understanding of health centers’ role in immunization. Together these PCAs represent 54 percent of all federally-funded health centers and 63 percent of patients served by federal health center grantees in 2019.

Phasing in the Nationwide COVID-19 Vaccination Effort: CDC Criteria for Prioritizing Certain Populations

The CDC and the Advisory Committee on Immunization Practices (ACIP), which by law advises the CDC on immunization policy, have released guidelines on phasing in COVID-19 vaccine distribution. The CDC and ACIP standards differ in certain ways from [recent guidelines issued by the National Academy of Sciences \(NAS\)](#) and are expected to act as the principal guidance on how to prioritize the enormous effort to reach the entire population. In addition to a somewhat different approach to grouping essential workers and identifying disease-based health risks, the NAS placed significant emphasis on health risks tied to elevated social risks of poverty, isolation, and crowding among other factors. The ACIP, by contrast, uses a disease-based health risk approach.

The CDC’s interim [guidelines from October 29th](#) set forth three phases for the dissemination of vaccines, while more recent ACIP [guidance from November 23rd](#) includes a **three-part Phase 1**, all with a limited network of

vaccination sites. **Phase 1A** targets healthcare providers and long-term care facility residents. **ACIP Phase 1B** includes other non-healthcare essential workers such as those in the education, food and agriculture, utilities, police, corrections, firefighter and transportation sectors. **Phase 1C** consists of all adults age 65 and older, as well as adults of any age with certain high-risk medical conditions: obesity, diabetes, COPD, heart conditions, chronic kidney disease, cancer, smoking, immune-compromised state from solid organ transplant, and sickle cell disease.

In Phase 2 of the [CDC guidelines](#), as the supply of vaccines increases, vaccination will focus on additional critical populations not targeted in Phase 1, along with the general population. At this point, additional health care providers such as community health centers, doctors' offices, and pharmacies will be involved in the immunization effort. During Phase 3, vaccines will be generally available to the entire population in all clinical locations.

Methodology

In order to assess the proportion of health center patients falling into an especially high-need category targeted for Phase 1 outreach, we rely on the ACIP methodology. We also use federally reported data available through the [2019 Uniform Data System \(UDS\) data](#) and the [2014 Health Center Patient Survey \(HCPS\)](#) in order to ascertain health center patient characteristics.

Many health center patients can be expected to qualify as [“critical populations” prioritized for Phase 1 vaccination under the CDC guidelines](#) because of the [prevalence of underlying medical conditions](#) such as asthma, diabetes, pregnancy, smoking, COPD, heart conditions, immunocompromised state including HIV, cancer, liver disease, and hypertension that increase their risk of severe COVID-19 illness. However, as noted above, [ACIP focuses on a narrower group of medical conditions or health risks](#): cancer, chronic kidney disease, chronic obstructive pulmonary disease (COPD), immunocompromised state from solid organ transplant, obesity or severe obesity, serious heart conditions, sickle cell disease, diabetes, and smoking.

The federal Uniform Data System (UDS) to which all health centers report on an annual basis provides information on some, but not all, of the diagnoses and patient types identified by CDC and ACIP as being associated with high risk for severe COVID-19 illness. However, UDS data may result in an inaccurate count since the system does not adjust for patients who meet two or more of the Phase 1C criteria (e.g., a person who is both over 65 and diagnosed with diabetes) and each medical condition is counted separately, such that patients with comorbid conditions cannot be clearly identified. In order to adjust for these data limitations, we calculated Phase 1 high-risk health center patient populations as including 1) the total number of elderly health center patients reported in the 2019 UDS, and 2) an estimated number of non-elderly adult health center patients with ACIP-designated high-risk health conditions. The latter group was estimated by deriving a percentage of non-elderly adult health center patients (ages 18-64) with one or more ACIP-designated high-risk health conditions from the 2014 HCPS (see Appendix) and applying that percentage to the total number of non-elderly adult health center patients reported in the 2019 UDS. The ACIP's Phase 1 groups include only adults; for this reason our estimates exclude children cared for at community health centers.

Our estimates focus on community health center patients only. We do not estimate the number of health center staff prioritized for Phase 1A vaccination and we are lacking data to estimate Phase 1A and Phase 1B priority patients (patients in long-term care facilities and essential workers) because the UDS does not provide a count of patients who are essential workers¹ or who were served in nursing homes (there were [38 nursing home-based community health center sites reported in the 2019 UDS](#)). Thus, our Phase 1 estimates are focused only on the populations designated in Phase 1C. Our estimates assume two vaccine doses per individual, since the most likely COVID-19 vaccine candidates to first receive FDA approval ([Pfizer](#) and [Moderna](#)) both require two doses for each individual who is vaccinated.

¹ Although the UDS does report the number of agricultural workers served by health centers, the counts include the workers' family members so it is not possible to derive an accurate count of essential workers from this group.

Findings

An estimated 47 percent of all community health center patients meet criteria for Phase 1 vaccination.

Table 1 presents the aggregate number of community health center patients who can be expected to meet the criteria for Phase 1 vaccination. Based on percentages derived from the 2014 HCPS, we found that 63.1 percent of non-elderly adult health center patients had one or more high-risk health conditions or health risks designated by ACIP as increasing the risk of severe COVID-19 illness (**Figure 1**). We applied that percentage to the **17.8 million non-elderly adult (ages 18-64) health center patients reported in the 2019 UDS** (see Appendix Table A1).

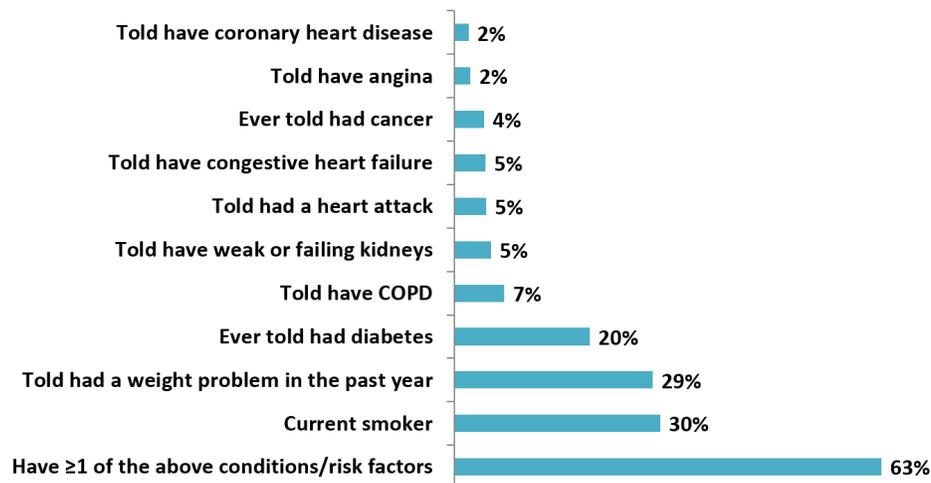
Among **29.8 million patients served by community health centers in 2019**, we estimate that 14.1 million qualify for Phase 1 vaccination because of age (9.6 percent, or 2.9 million, of all health center patients are 65 or older) or serious underlying health conditions (non-elderly adult patients with high-risk conditions are estimated to total 11.2 million and to account for 37.6 percent of all patients). The estimated 14.1 million health center patients who would be prioritized for Phase 1C vaccination would require 28.2 million COVID-19 vaccine doses, and account for 47 percent of all health center patients (**Figure 2**).

Table 1: Community health center patients at high priority for Phase 1 COVID-19 vaccination

Number of health center patients prioritized for COVID-19 vaccination	Community health center patients (29.8 million total patients in 2019)	Share of total patients	Total vaccine doses needed
Elderly patients age 65 and older	2,864,501	9.6%	5,729,002
Estimated number of non-elderly adult health center patients at high risk of COVID-19 severe illness (see Appendix)	11,211,084	37.6%	22,422,169
Total elderly and high-risk non-elderly adult health center patients	14,075,585	47%	28,151,171

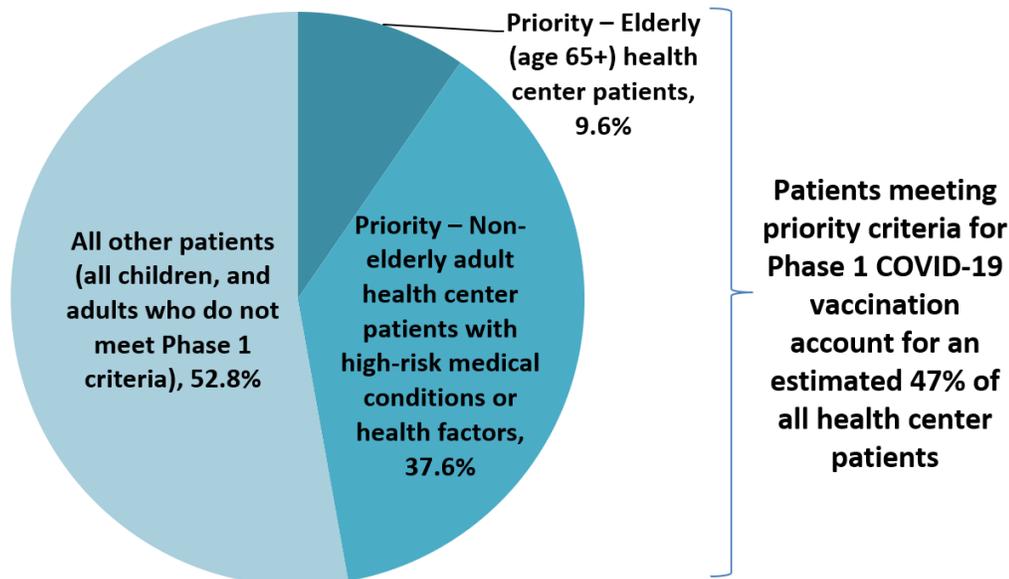
Source: HRSA, [2019 UDS](#); HRSA, [2014 Health Center Patient Survey](#); [ACIP COVID-19 Vaccines Work Group](#), CDC

Figure 1. Share of non-elderly adult community health center patients with ACIP-designated health conditions or risk factors



Note: Two ACIP-designated high-risk medical conditions (immunocompromised state from solid organ transplant and sickle cell disease) did not have comparable measures in the HCPS and were not included in this estimation. "Told" refers to told to health center patient by doctor or other health professional. Sources: Dooling, K. (November 23, 2020). COVID Phased Allocation of COVID-19 Vaccines. <https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2020-11/COVID-04-Dooling.pdf>; HRSA. (2019). Health Center Patient Survey. <https://bphc.hrsa.gov/datareporting/research/hcpsurvey/index.html>

Figure 2. Estimated share of community health center patients prioritized for Phase 1 COVID-19 vaccination



Sources: Dooling, K. (November 23, 2020). COVID Phased Allocation of COVID-19 Vaccines. <https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2020-11/COVID-04-Dooling.pdf>; HRSA. (2019). Health Center Patient Survey. <https://bphc.hrsa.gov/datareporting/research/hcpsurvey/index.html>; HRSA. (2020). 2019 Uniform Data System data.

Nearly 60 million vaccine doses needed for health center patients for all three vaccination phases

As the COVID-19 vaccine becomes more widely available, all patients served by health centers would be vaccinated; we estimate that the nation’s 29.8 million health center patients would need 59.7 million vaccine doses. **Table 2** reports national and state or territory/COFA estimates for the total number of vaccine doses needed for health center patients for all three phases. Eighteen states would require at least one million doses; California health center patients alone will need more than 10 million doses. While there are limitations to the estimation methodology (see Appendix), these estimates provide community health centers and the communities that they serve a starting point for assessing the potential need for vaccines to assist in their COVID-19 vaccine planning activities and determining the associated funding, equipment, staff, and other resources needed to support these efforts.

Findings from the PCA discussion on community health centers’ role in COVID-19 vaccine distribution

Our discussions with Primary Care Association (PCA) directors and other leadership provide important insight into how community health centers are preparing for an unprecedented nationwide population immunization effort, as well as the challenges health centers expect to face. These discussions yield several important findings.

Extensive planning involvement. Community health centers, both directly and through their PCAs, have been extensively involved in their states’ planning efforts. States understand the high-risk nature of the populations and communities served by health centers and clearly view community health centers as essential to the overall vaccination effort. Regardless of whether health centers will serve as vaccine distribution sites during Phase 1, or instead will help staff larger sites and ensure that their patients have access to these sites, community health centers can expect to play a central role in the vaccination effort.

In some cases, such as in remote rural areas, community health center locations may actually be the only viable points for vaccine distribution. In others, health center personnel may be deployed to larger regional locations as part of the frontline immunization workforce. Where patients must travel to larger vaccination sites, health centers, as a result of the health care access and enabling services they provide, may be involved in ensuring that these patients get to care points, as well as in post-immunization monitoring for signs of patient reaction and tracking data to ensure that patients have received both doses of a two-dose vaccine.

Table 2: Estimated COVID-19 vaccine doses needed for community health center patients for all three phases of COVID-19 vaccine distribution, nationally and by state

State	Total patients	Total vaccine doses needed for health center patients	State	Total patients	Total vaccine doses needed for health center patients
AK	115,116	230,232	MS	317,170	634,340
AL	353,441	706,882	MT	116,298	232,596
AR	239,099	478,198	NC	610,469	1,220,938
AS	20,517	41,034	ND	40,460	80,920
AZ	743,108	1,486,216	NE	115,473	230,946
CA	5,337,143	10,674,286	NH	94,776	189,552
CO	661,000	1,322,000	NJ	584,536	1,169,072
CT	397,111	794,222	NM	336,909	673,818
DC	199,921	399,842	NV	107,480	214,960
DE	48,398	96,796	NY	2,255,154	4,510,308
FL	1,599,898	3,199,796	OH	830,911	1,661,822
FM	25,479	50,958	OK	263,400	526,800
GA	589,262	1,178,524	OR	405,968	811,936
GU	11,592	23,184	PA	837,950	1,675,900
HI	159,118	318,236	PR	425,830	851,660
IA	226,041	452,082	PW	14,383	28,766
ID	204,221	408,442	RI	191,472	382,944
IL	1,386,780	2,773,560	SC	437,977	875,954
IN	560,103	1,120,206	SD	79,460	158,920
KS	261,959	523,918	TN	434,271	868,542
KY	533,787	1,067,574	TX	1,603,867	3,207,734
LA	461,397	922,794	UT	167,173	334,346
MA	811,517	1,623,034	VA	360,303	720,606
MD	342,565	685,130	VI	19,214	38,428
ME	197,525	395,050	VT	187,339	374,678
MH	7,854	15,708	WA	1,203,101	2,406,202
MI	705,873	1,411,746	WI	298,471	596,942
MN	182,494	364,988	WV	472,023	944,046
MO	606,090	1,212,180	WY	34,511	69,022
MP	1,855	3,710	Total U.S.	29,836,613	59,673,226

Source: GW analysis of 2019 UDS data, HRSA.

Estimating vaccine supply needs at health centers. Discussants also noted the difficulty of estimating the need for vaccine supplies at health centers themselves, since there remains much uncertainty regarding whether patients (and frontline health center staff who qualify as essential workers for Phase 1 prioritization) will be immunized at the health center or in larger regional locations. At least initially, most respondents assumed that it is these larger hospital or regional repurposed sites that can meet [requirements for ultracold storage and that will have the ability to accept and store minimum orders of 1,000 vaccine doses in the initial round of immunization efforts](#). How community health centers will relate to these regional sites, and how their care points will complement those made available at [retail pharmacies under federal contracts](#) once the two later vaccination phases begin, remains unclear. For example, in urban areas, patients may have access to retail pharmacies, but in many rural communities, health centers may be the only available health care outlet where immunization services make sense.

Overcoming vaccine hesitancy. Discussants focused on the problem of vaccine hesitancy. This is an especially acute challenge for health centers because of the patients and communities they serve, which experience not only the normal factors that feed into hesitancy (e.g., skepticism of efficacy and fear of health effects), but also the special considerations that arise for historically underserved, [minority populations](#) whose trust in the health care system is fragile to begin with. For this reason, they noted, community health centers may emerge as one of the most important locations for high involvement, if not as actual immunization sites then as trusted health care providers who can engage in intensive patient and community outreach, to help get patients to broader regional sites as needed, and to provide education to help patients and their families understand the enormous value of COVID-19 immunization. In this regard, discussants also identified the need for health center staff themselves to overcome their own hesitancy concerns. In order to overcome hesitancy, discussants mentioned using multilingual, culturally specific social media as well as more general strategies such as Facebook to reach their community members and to introduce them to the idea of getting the COVID-19 vaccine. Discussants also identified the critical role that vaccine manufacturers themselves may play in being closely involved in the effort to support outreach to the highest-need communities.

Shortage of supplies and lack of prioritization as immunization providers. Consistent with the uncertainty over how the initial vaccine effort would unfold, several discussants expressed concern that hospitals would be prioritized over health centers for vaccine distribution and administration, even when it made more sense, for high-need populations, to utilize health centers as immunization sites. Discussants noted that this concern is related to earlier experiences in the pandemic related to COVID-19 testing in which health center workers experienced significant problems in attempting to secure enough testing supplies and personal protective equipment (PPE) for their staff. In the discussants' view, it made more sense to involve community health centers early because of the need to embed immunization into primary care and because of health centers' location and their extensive experience immunizing the patient population. ([In 2019, community health centers provided](#) more than 3.99 million patients with routine immunizations including DTap, MMR, and Hepatitis A and B vaccines, and provided over 4.79 patients with seasonal flu vaccines.)

Strained health center workforce. Discussants also indicated that the health center workforce was already strained as a result of the pandemic, which would complicate their ability to devote the necessary staff time to vaccine activities. Multiple PCA directors noted the downstream effects of school closures on health center staff members' ability to work. Others also identified challenges such as staff infection, staff having to resign because lingering health effects from COVID-19 meant they could no longer work, staff burnout, and ensuring access to systems needed for patient-level dosage tracking.

The importance of cooperation. Discussants universally recognized the problem of coordination with state and local officials. Some noted problems with getting necessary information and hiccups in their involvement in state planning efforts. Overall, however, discussants underscored the degree to which health centers have been closely involved in state planning and the strong working relationships that have been forged as a result of the public health emergency.

Discussion

Community health centers focus on communities that are medically underserved as a result of poverty, elevated health risks, and a shortage of primary health care. It is logical therefore that the communities and populations served by health centers would disproportionately meet Phase 1 criteria. Furthermore, research has documented that [health center patients are in worse health than low-income people generally](#); this makes sense since within the overall low-income, at-risk population, health center patients represent those whose overall health status has caused them to actually seek health care.

Accordingly, high health center involvement in the immunization effort will be important. In some cases, health centers may prove to be the logical Phase 1 delivery site because they are the only source of care, especially in very rural, medically underserved communities or because of their unique connection to certain high-priority populations such as people involved in farm work or food processing. In all cases, because health centers are trusted providers in their communities, they will play a vital role in helping communities overcome the unique vaccine hesitancy problems that confront historically disadvantaged populations long excluded from health care and in fear of exposure to unproven, untested health care interventions. As vaccine distribution moves into Phases 2 and 3, health centers will emerge as vital delivery sites because of their proven track record in immunizing patients and offering a trusted point of care in underserved communities.

For these reasons, maintaining adequate funding levels for health center operations emerges as critical to success in achieving population-wide immunization levels. Beyond an adequate supply of vaccine, the costs that health centers will incur will reflect those connected to adding large-scale immunization efforts to the roster of services health centers already provide.

Appendix

Methodology and assumptions for estimating vaccine doses needed for health center patients

[Variables from the 2014 HCPS dataset](#) were used to calculate the share of non-elderly adult health center patients with high-risk health conditions. Not all conditions designated by ACIP as high risk for severe COVID-19 illness had comparable variables in the HCPS dataset, and some proxy variables, such as using a variable that indicated if a doctor or health professional told the patient they had a weight problem in the past year, might be overly broad (although the prevalence rate found in the HCPS was similar to the [31 percent adult obesity rate reported nationally](#)). However, the share of high-risk non-elderly adult health center patients can roughly be determined using the following HCPS variables.

Table A1. Non-elderly adult health center patients with ACIP-designated high-risk health conditions

ACIP-designated high-risk health condition	2014 Health Center Patient Survey variables
cancer	Have you ever been told by a doctor or other health professional that you have cancer or a malignancy of any kind?
chronic kidney disease	Has a doctor or other health professional told you that you have weak or failing kidneys?
chronic obstructive pulmonary disease (COPD)	Has a doctor or other health professional told you that you have chronic obstructive pulmonary disorder (also known as COPD, emphysema or chronic bronchitis)?
immunocompromised state from solid organ transplant	No comparable variable in dataset
obesity or severe obesity	During the past 12 months, has a doctor or other health professional told you that you had a weight problem?
heart conditions	Has a doctor or other health professional told you that you have congestive heart failure? Has a doctor or other health professional told you that you have coronary heart disease? Has a doctor or other health professional told you that you have angina (also called angina pectoris)? Has a doctor or other health professional told you that you have a heart attack (also called myocardial infarction)?
sickle cell disease	No comparable variable in dataset
diabetes	Have you ever been told by a doctor or health professional that you had diabetes or sugar diabetes?
smoking	Considered a current smoker if answered yes to "Have you smoked at least 100 cigarettes in your entire life?" and answered every day or some days to "Do you now smoke cigarettes every day, some days or not at all?"
Total percentage of non-elderly adult health center patients with one or more ACIP-designated medical conditions or health risks	63.1%
Total non-elderly adult (age 18-64) health center patients reported in the 2019 UDS	17,767,170
Estimated number of non-elderly adult health center patients with one or more ACIP-designated medical conditions or health risks	11,211,084

Sources: HRSA, [2019 Uniform Data System](#) data; HRSA, [2014 Health Center Patient Survey](#); [ACIP COVID-19 Vaccines Work Group](#), CDC

Assumptions for Phase 2 and 3 vaccination distribution

Based on CDC guidance on “critical populations,” we expect that the vast majority of or all health center patients will be considered critical populations. Besides critical infrastructure workers and adults at increased risk of severe COVID-19 illness, [CDC-defined critical populations](#) also include “people at increased risk of acquiring or transmitting COVID-19” and “people with limited access to routine vaccination services,” which include the following groups that are heavily represented in the [health center patient population](#).

- Racial/ethnic minority groups: in 2019, 63 percent of health center patients were racial/ethnic minorities
- Under- or uninsured people: 23 percent of health center patients in 2019 were uninsured
- Homeless populations and/or people living in congregate settings: five percent of health center patients were homeless and 17 percent were public housing patients in 2019
- People living in rural locations: 30 percent of health center patients were served by community health centers categorized as rural in the UDS² and community health centers served [one in five rural residents in the U.S. in 2019](#)

The limited number of health center patients who do not qualify as members of critical populations, as defined by the CDC, will be part of the general population that is also targeted in Phase 2 and 3 vaccination distribution.

Limitations of the estimates

The Phase 1 patient estimates are limited because we cannot provide state estimates because the HCPS does not provide state-level data and there is too much state variation in prevalence rates of certain high-risk conditions (e.g., [obesity](#), [diabetes](#), and [smoking](#)) to apply the national percentage of non-elderly adults with high-risk conditions uniformly to all states. Also, we caution that these estimates are based on the need for vaccine doses rather than the expected doses that will be taken and do not take into account vaccine hesitancy. In the U.S., surveys have found acceptance rates for getting a COVID-19 vaccine that have ranged from [42 percent](#) to [75 percent](#), although the recent indications that the [Pfizer](#) and [Moderna](#) vaccines are about 95 percent effective should [increase rates of vaccine acceptance](#). State estimates also do not take into account state variation in the ability and capacity to carry out administering the vaccines. Also, given uncertainty about which other community providers will or can administer the vaccine, we cannot provide estimates of the number of doses that will be provided separately by community health centers or by other types of providers. Finally, our estimates are conservative and do not account for family members or other community residents who are not health center patients but may seek vaccination from health centers. (Based on [2014 Health Center Patient Survey](#) data on household size, 22 percent of health center patients reported a household size of one, 23 percent reported a household size of two, 47 percent reported three to five people in their household, and eight percent reported six or more household members).

² GW analysis of 2019 UDS data