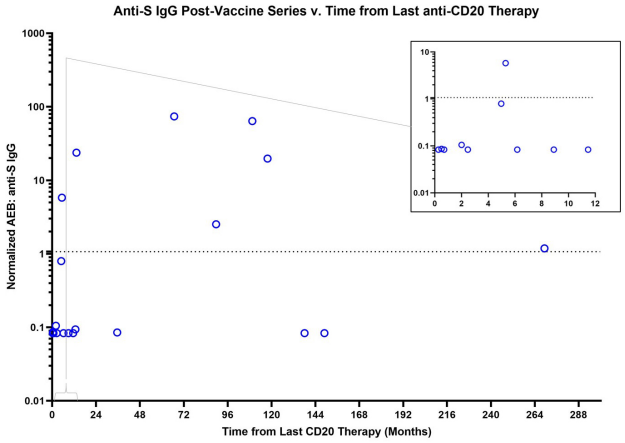
Figure 3. Months from CD20 therapy v. anti-S IgG titers



The dotted line at 1.07 marks in an internally validated threshold to mark antibody response.

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587. An Intervention to Improve COVID-19 Vaccination Rates Among Inpatients at a Veterans Affairs Hospital

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Session: P-25. COVID-19 Vaccines

Background. Hospitalizations are an opportunity to increase vaccine uptake and hospital-based strategies have been effective at increasing influenza and pneumococcal vaccination. Offering COVID-19 vaccination at discharge can reduce barriers to vaccination and target patients at high risk for severe illness and death. We evaluated a COVID-19 vaccine intervention implemented as part of routine discharge planning.

Methods. We trained healthcare personnel during April 2021 to review and document vaccine eligibility and interest for adult inpatients on medical, surgical, or psychiatric wards at the Atlanta VA Medical Center during discharge planning using a templated note in the electronic medical record (EMR). Outpatient vaccination center personnel were deployed to the participating wards daily (except Sundays) to facilitate vaccine administration at discharge. We measured the percentage of discharged patients with vaccine eligibility documented using the template and compared the number of patients vaccinated at discharge in the 4 weeks pre- and post-training. All Georgia adults became eligible for COVID-19 vaccines on March 25, 2021, prior to our intervention.

Results. Of the 769 patients discharged from one of the participating wards during the 4-week post-training, 474 (62%) had vaccine eligibility documented (Table 1). Of the 474 patients with documentation, 88 (19%) were eligible. Reasons for ineligibility included prior vaccination (n=266, 69%), patient refusal (n=103, 27%), and acute COVID infection (n=12, 3%). Of the 88 eligible patients, 61 (69%) received vaccination before discharge. In total, 16 of 793 inpatients in the pre-training period and 61 of 769 in the post-training period (2% vs 8%; p< 0.05) were vaccinated prior to discharge.

Table 1. COVID-19 vaccine eligibility and vaccination before discharge during the post-training period, reported by week

Post-training period (dates)	Total discharges	Total screened for vaccine eligibility (n, % of discharges)	Total eligible for vaccine (n, % of screened)	Total vaccinated before discharge (n, % of eligible)	% vaccinated before discharge of all discharges
1 (5/3-5/9)	214	134, 63%	24, 18%	18, 75%	8%
2 (5/10-16)	198	120, 61%	29, 24%	19, 66%	10%
3 (5/17-23)	194	118, 61%	18, 15%	13, 72%	7%
4 (5/23-5/28)	163	102, 63%	17, 17%	11, 65%	7%
Total	769	474, 62%	88, 19%	61, 69%	8%

Conclusion. We found relatively high and sustained uptake of an intervention to screen hospitalized patients for COVID-19 vaccination eligibility. Creating a templated note in the EMR resulted in vaccination of nearly 70% of eligible patients prior to hospital discharge.

Disclosures. **All Authors**: No reported disclosures

588. Seroconversion Among Adults After Receiving At Least One Dose of a COVID-19 Vaccine: COVID-19 Community Research Partnership, Mid-Atlantic, Southeast and Southern United States, December 2020-May 2021

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Session: P-25. COVID-19 Vaccines

Background. Well-regulated clinical trials have shown authorized COVID-19 vaccines to be immunogenic and highly efficacious. Information about antibody responses after vaccination in real-world settings is needed.

Methods. We evaluated seroconversion rates in adults reporting ≥ 1 dose of an authorized COVID-19 vaccine in a U.S. multistate longitudinal cohort study, the COVID-19 Community Research Partnership. Participants were recruited through 12 participating healthcare systems and community outreach. Participants had periodic home-based serologic testing using either a SARS-CoV-2 nucleocapsid and spike IgM/IgG lateral flow assay (63% of participants) or a SARS-CoV-2 spike IgG enzyme-linked immunosorbent assay (37% of participants). The timing and number of tests before and after vaccination varied based on participant time in study. Participants were included if they were seronegative on the last test before and had >1 test result after vaccination (some had previously been seropositive, but seroreverted). A weighted Cox regression model with right censoring was used to obtain adjusted hazard ratios for sex, age, race/ethnicity, and prior seropositivity. Time-to-event (seroconversion) was defined as time to first positive test > 4 days after vaccination; participants were censored at the date of their last available test result.

Results. 13,459 participants were included and 11,722 seroconverted (Table). Median time in study was 272 days (range 31–395). Median follow-up time from vaccine to last available test was 56 days (range 1–147). Participants had a median of 3 tests (range 1–12) before and 2 tests (range 1–8) after vaccination. Based on the Kaplan-Meier method, median time to seroconversion after first COVID-19 vaccination was 35 days (interquartile range: 25–45). Likelihood of seroconversion decreased with older age (Table). Female participants, non-Hispanic Black participants, and participants who were previously seropositive were more likely to seroconvert (Table).

Table: Seroconversion after ≥1 dose of COVID-19 vaccine. — COVID-19 Community Research Partnership, Mid-Atlantic, Southeast and Southern United States, December 2020-May 2021[1]

Characteristic	All participants, N (%)	Seroconverted,N (%)	Median time to seroconversion*, days	Adjusted Hazard ratio **
Total	13,459	11,722 (87.1%)	35	N/A
Sex				
Female	8,880 (66.0%)	7,757 (87.4%)	34	Ref.
Male	4,579 (34.0%)	3,965 (86.6%)	36	0.94 (0.90, 0.98)
Age, years[2]				
18–39	3,308 (24.6%)	2,875 (86.9%)	31	Ref.
40–64	7,110 (52.8%)	6,050 (85.1%)	35	0.76 (0.72, 0.80)
65–94	3,027 (22.5%)	2,785 (92.0%)	38	0.63 (0.60, 0.67)
Race/ethnicity				
White, Non-Hispanic	12,083 (89.8%)	10,529 (87.1%)	35	Ref.
Black, Non-Hispanic	551 (4.1%)	488 (88.6%)	33	1.13 (1.01, 1.26)
Hispanic	289 (2.1%)	244 (84.4%)	34	1.00 (0.87, 1.16)
Other race/ethnicity[3]	536 (4.0%)	461 (86.0%)	34	0.99 (0.89, 1.10)
History of seropositivity				
Seronegative	13,315 (98.9%)	11,590 (87.0%)	35	Ref.
Previously seropositive[4]	144 (1.1%)	132 (91.7%)	30	1.33 (1.07, 1.64)

[1]Based on results received as of May 18, 2021. 28,571 participants in the serology study reported being vaccinated, 14,220 were excluded because they did not have serology tests both before and after vaccination, and 892 were excluded because their last serology test prior to vaccination was positive, resulting in a total of 13,459 participants included the analysis.

[2]Age data missing for 14 participants (0.1%).

[3]Other race/ethnicity included Asian, American Indian or Alaska Native, Native Hawaiian/Other Pacific Islander, those who identified as Other, and those who did not or did not wish to specify their race.

[4]History of previous positive serologic assay. The last serologic assay prior to vaccination was required to be negative for inclusion in this study.

*Median time to seroconversion (first positive antibody test >4 days after vaccination) was based on Kaplan-Meier curves for each subgroup.

**Hazard ratios were based on a weighted Cox regression model, adjusted for all variables in the model (sex, age, race/ethnicity, prior seropositivity, and healthcare worker status), shown with 95% confidence intervals.

Conclusion. All subgroups had high rates of seroconversion, with some small differences in likelihood of seroconversion between subgroups. These data demonstrate the excellent immunogenicity of COVID-19 vaccines in real-world settings in the US.

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589. Oral Tablet Vaccination Induces Heightened Cross-Reactive CD8 T Cell Responses to SARS-COV-2 in Humans

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Session: P-25. COVID-19 Vaccines

Background. Covid-19 has accelerated global demand for easily distributed vaccines. Furthermore, as variant SARS-CoV-2 strains that circumvent antibody responses emerge, cross-protective vaccines provide substantial public health benefits. Vaxart is developing a shelf stable oral tablet vaccine that incorporates both the spike (S) and the more conserved nucleocapsid (N) proteins. Vaxart's vaccine platform uses a non-replicating adenovirus and a TLR3 agonist as an adjuvant.

Methods. In an open-label phase 1 clinical study, 35 healthy subjects received either a single low ($1x10^{10}$ IU; n=15) or high ($5x10^{10}$ IU; n=15) dose of the vaccine candidate VXA-CoV2-1 with a small cohort receiving 2 low doses. PBMCs were taken at pre- and 7 days post-vaccination and restimulated with S and N peptides from SARS-CoV-2 or the 4 human endemic coronaviruses (HCoV). Cells were stained for CD4/CD8/CD107a (surface) and IFNγ/TNFα (intracellular). Subjects that received an intramuscular (i.m.) mRNA vaccine had PBMCs taken at the same timepoints and were compared in the same assay.

Results. The study's results indicate that the VXA-CoV2-1 tablet was well tolerated. The majority of subjects had an increase in S-specific anti-viral $CD8^+$ T cell responses. 19/26 (73%) subjects had a measurable $CD8^+$ T cell response on day 8 above baseline, on average 1.5-4.6%. In a comparator experiment with the 2 SARS-CoV-2 i.m. mRNA vaccines, VXA-CoV2-1 outperformed other vaccine candidates with a >3.5-fold increase in S specific antiviral CD8 T cell responses. T cell responses specific to the 4 endemic HCoV were increased by 0.6% in subjects given VXA-CoV2-1.

Conclusion. Here we describe a room temperature stable tablet that induces SARS-CoV-2 S specific CD8 T cells of high magnitude after one dose in humans. Overall, the level of antiviral SARS-CoV-2 specific T cells, particularly IFNg-producing CD8s, induced following oral immunization with VXA-CoV2-1 are of higher magnitude than the mRNA vaccines currently in use against COVID-19. T cell responses against 4 endemic HCoV were also induced. Because T cells may be important in protecting against death and severe infection, these results suggest that VXA-CoV2-1 could be cross-protective against a wide array of emerging pandemic coronaviruses.

Disclosures. **Susan Johnson, PhD**, **Vaxart** (Employee) **Clarissa Martinez, MPH**, **Vaxart** (Employee) **Mario Cortese, PhD**, **Vaxart** (Employee) **Josefina Martinez, n/a**, **Vaxart** (Employee) **Shaily Garg, BS**, **Vaxart** (Employee) **Nadine Peinovich, MPH**, **Vaxart** (Employee) **Emery Dora, n/a**, **Vaxart** (Employee) **Sean Tucker, PhD**, **Vaxart** (Employee)

590. Persisting COVID-19 vaccination hesitancy in the South Bronx

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Session: P-25. COVID-19 Vaccines

Background. Minority groups have the lowest vaccination rates when compared to the overall population. We aim to study the attitudes and perceptions of COVID-19 vaccination, about six months after vaccine rollout in the South Bronx.

Methods. Cross-sectional anonymized online survey evaluating knowledge, attitude and perception about COVID-19 vaccination using SurveyMonkey™ was conducted in South Bronx community from April - June 2021.

Results. Of the 281 participants, 67% were Latinx and 16% were African American (AA); 69% (195) were fully vaccinated (FV) and 31% (86) with vaccine hesitancy (VH). The common reasons for hesitancy were "concerns about side effects" (38%), "vaccine is not safe" (27%) and "vaccine was approved too fast" (26%) (p< .001). VH were more likely to rely online/mobile apps (30%) and friends and family (23%) as compared to FV. VH were more likely to be AA, younger age (< 35 yrs), high school or lower education, single, unemployed, without comorbidities, not current on other eligible vaccines, and did not believe "vaccine is necessary to end the pandemic." Majority of participants from both cohorts trusted their primary care providers. Mistrust with healthcare and pharmaceutical companies was higher in VH (p=0.009). Both groups preferred to continue wearing mask and practice social distancing despite vaccination status.

Table 1a: COVID-19 Vaccine survey results

Did you get the COVID-19 Vaccine?	
Yes	195 (69.4%)
No	86 (30.6%)
If Yes, which COVID-19 Vaccine did you get:	
Pfizer Vaccine (BioNTech)	110 (56.4%)
Moderna Vaccine (NIAID)	61 (31.3%)
Johnson & Johnson Vaccine	12 (6.2%)
If Yes, Why did you want to get the vaccine?	
To protect myself and my family	112 (57.4%)
I want to help control the spread of COVID-19	78 (40.0%)
I don't want to become sick with COVID-19	68 (34.9%)
Get back to a normal life	62 (31.8%)
Would like to travel safely without fear	54 (27.7%)
I am an essential worker	51 (26.2%)
I will be safer at work	48 (24.6%)
I am at risk for getting COVID-19 because of my age and/or other medical issues	42 (21.5%)
I heard on the news or social media that it is recommended	25 (12.8%)
I live with or take care of someone who is at risk (a person who is 65 years or older and/or who has medical issues that make them more likely to become sick)	24 (12.3%)
My doctor (or person who provides medical care) suggested getting the vaccine	18 (9.2%)
My employer recommended getting the vaccine	17 (8.7%)
None of the above	12 (6.2%)
If No, Here are some things people worry about when deciding not to take the vaccine. Which did you think about?	
I am concerned about side effects	33 (38.4%)
I do not believe the vaccine is safe	23 (26.7%)
I am concerned that the vaccine was approved too fast and that it may not be safe	22 (25.6%)
I do not have enough information to make an informed decision	18 (20.9%)
I don't qualify right now	15 (17.4%)
I am worried I will get COVID from the vaccine	15 (17.4%)
I do not believe the vaccine is effective	13 (15.1%)
I am not sure how long the vaccine will remain effective and I may have to take yearly shots	11 (12.8%)
I do not trust the source that encouraged me to get the vaccine	9 (10.5%)
I am concerned that vaccines cause autism	9 (10.5%)
I already had COVID infection	8 (9.3%)
I would rather get COVID-19 and build my natural protection against the infection than get a vaccine.	8 (9.3%)
Vaccine was manufactured outside the United States	6 (7.0%)
I do not want to/able to take 2 shots to complete the vaccination	6 (7.0%)
I do not believe in any vaccines, and my reason is not any different for a new COVID-19 vaccine	6 (7.0%)
A source that I trust encouraged me to NOT get the vaccine	4 (4.7%)
I am indifferent to receiving the vaccine, but will probably end up not receiving it	4 (4.7%)
I will not be able to afford the vaccination	1 (1.2%)
None of the above	17 (19.8%)

Categorical data presented as n frequencies, n(%).

Table 1b: COVID-19 Vaccine Survey Summary