risks. Demographic and social characteristics were collected at enrollment. Individuals were considered vaccinated if they had received at least one dose of a SARS-CoV-2 vaccine under FDA emergency use authorization. Vaccine perceptions were compared by SARS-CoV-2-infection and vaccination status using Pearson's chi-squared, alpha=5%.

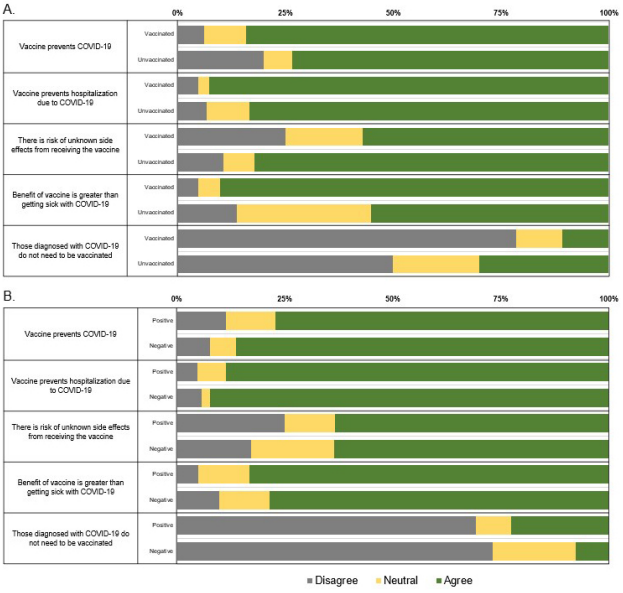
Results. Between April-May 2021, 115 individuals completed the one-year follow-up. Table 1 includes sociodemographic characteristics of adults, of which the majority were vaccinated and were unemployed or in non-essential occupations. Most individuals agreed the SARS-CoV-2 vaccine can prevent infection and hospitalization (Figure 1A & B). Unvaccinated participants more often agreed that those who contracted SARS-CoV-2 should not receive the vaccine (30%), whereas vaccinated persons less often agreed (11%, p< 0.001) (Figure 1A). Additionally, 44% of unvaccinated individuals were neutral or disagreed that benefits of SARS-CoV-2 vaccination outweighed the illness risk, compared to 10% in the vaccinated group, p=0.001 (Figure 1A). Minimal differences of vaccine perceptions were observed between SARS-CoV-2 positive and negative adults (Figure 1B).

Table 1. Sociodemographic Characteristics of Adults

Characteristics	Total Population N=115
Age—median (IQR)	42 (37-48)
Sex, female—n (%)	61 (53)
Race—n (%)	
White	107 (93)
Black	2 (2)
Other	6 (5)
Ethnicity—n (%)	
Hispanic/Latino	9 (8)
Occupation—n (%)	
Essential[a]	20 (17)
Non-essential/unemployed[b]	95 (83)
Underlying medical condition—n (%)	33 (29)
SARS-CoV-2-positive—n (%)	63 (55)
≥ 1 SARS-CoV-2 vaccine dose—n (%)	85 (74)

[a]Frontline, healthcare, grocery, etc.
[b]Unemployed/work from home

Figure 1. Vaccine perceptions of vaccinated and unvaccinated (A) SARS-CoV-2 positive and SARS-CoV-2 negative (B) adults in greater Nashville, TN. Vaccine perceptions were collected through a standardized survey at the one-year visit.



Conclusion. Although some unvaccinated individuals seemingly perceived the SARS-CoV-2 vaccine offered some protection, research should continue to evaluate the implications of vaccine hesitancy on the COVID-19 pandemic response as we prepare for the upcoming respiratory season.

Disclosures. **Natasha B. Halasa, MD, MPH**, **Genentech** (Other Financial or Material Support, I receive an honorarium for lectures - it's a education grant, supported by genetech)**Quidel** (Grant/Research Support, Other Financial or Material Support, Donation of supplies/kits)**Sanofi** (Grant/Research Support, Other Financial or Material Support, HAI/NAI testing) **Natasha B. Halasa, MD, MPH**, Genentech (Individual(s) Involved: Self): I receive an honorarium for lectures - it's a education grant, supported by genetech, Other Financial or Material Support, Other Financial or Material Support; Sanofi (Individual(s) Involved: Self): Grant/Research Support, Research Grant or Support

582. Risk Factors for Progression to Hospitalization in Adolescents Presenting with Mild or Moderate COVID-19

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Session: P-25. COVID-19 Vaccines

Background. Most adolescents (age 12-17 years) with COVID-19 have mild disease. However, certain comorbidities may be risk factors for disease progression, and hospitalization rates for this age group have increased. Adolescents and adults with mild to moderate COVID-19 are eligible for monoclonal antibody therapy. To identify subgroups likely to benefit from this intervention, we evaluated the relationship between comorbidities and need for hospitalization in US adolescents presenting with mild to moderate COVID-19.

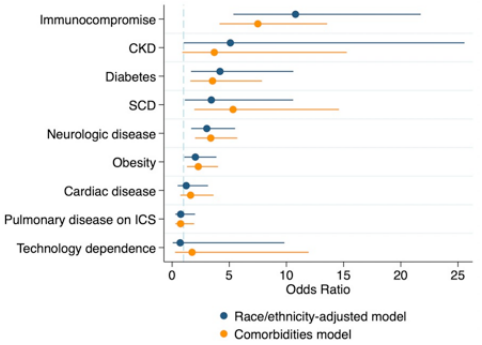
Methods. We analyzed presence of comorbidities and need for hospitalization within 28 days of diagnosis for adolescents in the PIDTRAN registry, a multicenter retrospective cohort of US pediatric patients with COVID-19. Comorbidities assessed included obesity, chronic kidney disease (CKD), diabetes (DM), immunosuppressive disease or treatment (IS), sickle cell disease (SCD), congenital/acquired heart disease (CHD), neurologic disease/neurodevelopmental disorders (ND), medical-related technology dependence (MTD), and pulmonary disease requiring daily inhaled corticosteroids (PD). We used multivariable logistic regression to determine race/ethnicity-adjusted associations between comorbidities and hospitalization.

Results. 1574 patients met inclusion criteria, of whom 180 (11.4%) were hospitalized within 28 days of COVID-19 diagnosis. In a race/ethnicity-adjusted model, the following comorbidities were independently associated with increased odds of hospitalization: IS (OR 10.8 [95%CI 5.4 – 21.7]); CKD (OR 5.1 [95%CI 1.0 – 25.6]); DM (OR 4.2 [95%CI 1.7 – 10.6]); SCD (OR 3.4 [95%CI 1.1 – 10.6]). ND (OR 3.0 [95%CI 1.7 – 5.4]); and obesity (OR 2.0 [95%CI 1.1 – 3.9]). Notably, CHD, MTD, and PD were not independently associated with hospitalization. There was no effect modification of race/ethnicity on the association between obesity or DM and hospitalization.

Table 1: Characteristics of adolescents in our cohort

Variable	N=1574
Age, mean years (SD)	15.3 (1.4)
Sex (missing = 2)	
Male	739
Female	833
Other	1
Race	
Asian	37 (2.4%)
American Indian/Alaskan Native	11 (0.7%)
Black	388 (24.7%)
Native Hawaiian/ Other Pacific Islander	4 (0.3%)
White	721 (45.8%)
Unknown	302 (19.2%)
Other	121 (7.7%)
Multiple	9 (0.6%)
Ethnicity	
Not Hispanic/Latino	983 (62.5%)
Hispanic/Latino	333 (21.2%)
Not specified	258 (16.4%)
Baseline comorbidities	
Obesity	88 (5.6%)
CKD	11 (0.7%)
Diabetes	34 (2.2%)
Sickle Cell Disease	18 (1.1%)
Pre-existing heart disease (excluding hypertension)	42 (2.7%)
Neurologic/neurodevelopmental disorders	94 (6.0%)
Technology dependence	5 (0.3%)
Any inhaled corticosteroids	57 (3.6%)
Immunosuppressive disease/medication	58 (3.7%)

Figure 1. Association between comorbidities and hospitalization. Model 1: comorbidities only. Model 2: comorbidities, adjusted for race/ethnicity. Abbreviations: CKD – chronic kidney disease; SCD – sickle cell disease; ICS – inhaled corticosteroids.



Conclusion. IS, CKD, DM, SCD, ND, and obesity were associated with increased odds of hospitalization in adolescents presenting with mild to moderate COVID-19. Adolescents with these comorbidities should be prioritized for consideration of treatment with monoclonal antibodies.

Disclosures. **Gabriella S. Lamb, MD, MPH**, Nothing to disclose

583. *SARS-CoV-2* Spike Protein S1/S2 Antibodies after Vaccination with Sinopharm in Peruvian Physicians

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Session: P-25. COVID-19 Vaccines

Background. Peru started its national vaccination campaign in February 2021 using Sinopharm vaccine, targeting healthcare personnel on its initial phase. Although the immunogenicity of this vaccine was tested in clinical trials, there are no studies that evaluated the humoral response post vaccination in Peru.

Methods. We conducted a cross sectional study, which objective was to evaluate the humoral immunogenicity triggered by the Sinopharm vaccine in Peruvian physicians. We collected demographic and epidemiologic data via an electronic. The SARS-CoV-2 spike protein S1/S2 antibodies were measured by chemiluminescense (Liaison®). A positive test was defined as >15 U/ml, which has correlation of 95% with neutralizing antibodies measured by plaque reduction neutralizing test.

Results. 92 participants were enrolled in the study. The epidemiologic characteristics are described in table 1. The mean level of antibodies measured at least 2 weeks from the second vaccine dose was 67.5 ± 70.5 U/ml. 85.7% of the study cohort had positive S1/S2 antibodies. In the univariate analysis, an imperfect negative correlation was found between the level of antibodies and participants' age (r= -0.24; regression F test 5.25; p = 0.0242). A weak negative correlation was observed between the antibody titer and the time elapsed from the second vaccine dose and the day of antibody measurement (r= -0.17). A higher antibody level post vaccine was found in individuals who worked in COVID units (105.5 U / mL vs 58.2 U / mL; p = 0.0125), and in participants with history of COVID (216.5 U / mL vs 81.2 U / mL; p = < 0.0000). Hypertension was associated with lower antibody titers (36.9 U / mL vs. 74.6; p = 0.0464). In the multivariate analysis, working in COVID units, having previous COVID infection and shorter time from second vaccine dose and day of antibody measurement were associated with higher antibody levels post vaccine (table 2).

Table 1. Epidemiological Characteristics

Age (yr; mean DS)	51,95 ± 14,35
Male gender (n [%])	46 (50%)
No comorbidity (n [%]) With comorbidity (n[%]) • One comorbidity (n[%]) • Two comorbidities (n[%]) • Three comorbidities (n[%])	47 (51,09%) 45(48,91%) 36 (39,13%) 7 (7,61%) 2 (2,17%)
Diabetes (n [%])	9 (9,8%)
Hypertension (n [%])	17 (18,48%)
Immunosuppressive treatment (n [%])	3 (3,3%)
Autoimmune disease without immunosuppression (n [%])	2 (2,17%)
Body Mass Index (Kg/m2)	26,28 ± 3,56
Work with COVID-19 (n [%])	20(22.2%)
Previous COVID-19 (n [%])	5 (5.43%)

Table 2. Multivariable linear analysis of antibody titers

	Coeficient (CI 95%)	St Error	*t*	p
Independent variables				
Age	-0.3 (-1.3 0.72)	0.52	-0.60	0.553
Diabetes	14.6 (-28.5 57.8)	21.7	0.67	0.502
Hypertension	-19.0 (-53.4 15.3)	17.2	-1.1	0.273
Time from 2th dose to Ab test	-1.2 (-2.3 -0.10)	0.55	-2.18	**0.032**
Working in COVID-19 units	44.2 (11.8 76.6)	16.3	2.72	**0.008**
Previous COVID-19 infection	85.4 (4.3 166.5)	32.3	2.1	**0.039**

Conclusion. Our study showed that the time elapsed from the second vaccine dose and the day of antibody measurement, having previous COVID-19 infection and working in COVID -19 units may help to predict higher antibody titers post vaccine. Larger studies to evaluate the humoral response post Sinopharm vaccine and its clinical implications are still needed in Peru.

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

584. Phase 1 Placebo-Controlled Trial of COVI-VAC™, an Intranasal, Live Attenuated COVID-19 Vaccine

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Session: P-25. COVID-19 Vaccines

Background. COVI-VAC™ is an intra-nasal live-attenuated SARS-COV-2 synthetic viral vaccine being developed for the prevention of COVID-19. COVI-VAC is attenuated through deletion of the furin cleavage site and introduction of 283 silent deoptimizing mutations that maintain viral amino acid sequence but result in significant attenuation due to slow translation in the human host cell. Notably, COVI-VAC includes all viral antigens and is not limited to spike. COVI-VAC has demonstrated attenuation, immunogenicity and single dose protection in both Syrian golden hamster and non-human primate models.

Methods. 48 healthy young adults were enrolled in an inpatient quarantine setting to one of 3 dose escalating cohorts and randomized to COVI-VAC or saline placebo given as nose drops, as a single 0.5mL dose or 2 doses 28 days apart. Endpoints included solicited and unsolicited adverse events, serum cytokines, viral shedding and sequence stability, mucosal and serum antibody responses and IFN ELISpot. Subjects will be followed for 1 year for late safety events and durability of immune response.

Results. Dosing is complete. There has been no trend in solicited reactogenicity events, and all unsolicited adverse events reported to date have been mild. There have been no SAEs or Grade 3 or 4 events. Vaccine virus from anonymized subjects was shed at levels lower than that likely to result in onward transmission, and the deoptimized sequence of the shed virus remained unchanged compared to the original vaccine sequence. Unblinded data including immunogenicity will be available prior to the IDWeek meeting.

Conclusion. COVI-VAC appears safe and well tolerated in healthy young adults. Vaccination resulted in minimal viral shedding without sequence instability. Safety and shedding data supports continued development in a wider Phase 2/3 population.

Disclosures. **Sybil Tasker, MD, MPH, FIDSA**, **Codagenix Inc** (Employee, Shareholder) **Daryl Bendel, MD**, **Codagenix Inc** (Scientific Research Study Investigator) **Melissa Bevan, MD**, **Codagenix Inc** (Scientific Research Study Investigator) **Steffen Mueller, PhD**, **Codagenix Inc** (Board Member, Employee, Shareholder) **Anna Kushnir, PHD**, **Codagenix Inc** (Employee) **Brandon Londt, PhD**, **Codagenix Inc** (Other Financial or Material Support, contracted lab services) **J. Robert Coleman, PhD**, **Codagenix Inc.** (Board Member, Employee, Shareholder)

585. Safety of Pfizer-BioNtech COVID-19 Vaccine in Healthcare Workers, Singapore

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Session: P-25. COVID-19 Vaccines

Background. On 14 December 2020, the Pfizer-BioNTech coronavirus disease 2019 (COVID-19) vaccine was granted emergency use authorization in Singapore. Healthcare workers (HCW) were prioritized to receive the vaccine. We aim to investigate the side effects and risk factors for allergic reactions in our institution.

Methods. All HCW vaccinations were recorded in an electronic centralized database. All reactions occurring within a 30-minute observation period post vaccination were recorded. Staff were required to report any vaccine-related medical consult including hospitalization occurring within 14 days after vaccination. Moderate/severe reactions were assessed by a medical team and determined if the reactions were probable allergic reactions with consultation with an Allergist. We extracted data from 8 Jan 2021 to 30 April 2021.

Results. 5030 and 159 HCW completed 2 doses and 1 dose of the vaccine respectively. There were 1056 HCWs (20.3%) with self-reported pre-existing allergy. There were 114 (1.1%) reactions occurring without the 30-minute observation period, and 64 (56.1%) were related to first dose of vaccine. The most common side effect experienced was aches or pain on any part of the body (n=46, 40.4%) followed by fatigue and/or giddiness (n=45, 39.5%), palpitations and/or shortness of breath (n=22, 19.3%), systemic rash and/or angioedema (n=12, 10.5%) and nausea and/or vomiting (n=12,