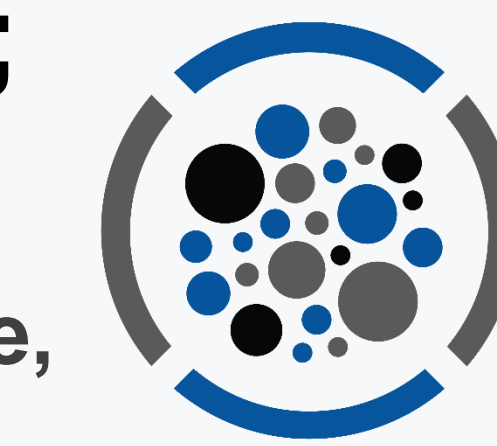


# SARS-CoV-2 Surveillance Testing Patterns among Hospitalized Pediatric Patients in a Single Academic Medical Center



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## Background

- In contrast to adults, children infected with SARS-CoV-2 often have mild or no symptoms, making symptom screening an ineffective tool for determining isolation precautions upon hospital admission.
- Limited data exist on the utility of universal admission screening programs for SARS-CoV-2 in the pediatric population.
- Universal pre-procedural and admission SARS-CoV-2 testing for pediatric patients at our institution was implemented in April 2020 and August 2020, respectively.
- This study aims to describe testing patterns among pediatric patients screened for SARS-CoV-2 on admission and during inpatient hospital stay.

## Methods

- Retrospective cohort study of pediatric patients (0 - 18 years) admitted to pediatric units in a tertiary care academic medical center from August 2020 to May 2021 with  $\geq 1$  SARS-CoV-2 test(s) performed.
- Institution used molecular tests: IDNow™ as point-of-care tests or lab-based polymerase chain reaction (PCR) tests.
- Tests that never resulted, were never collected, or had unknown or pending results at the time of data collection were excluded.
- Clinical and demographic data were extracted from electronic health record to Microsoft Excel to perform descriptive statistics.
- Fisher's exact test was used to compare demographic characteristics between patients testing positive or negative, using RStudio Version 4.0.2.

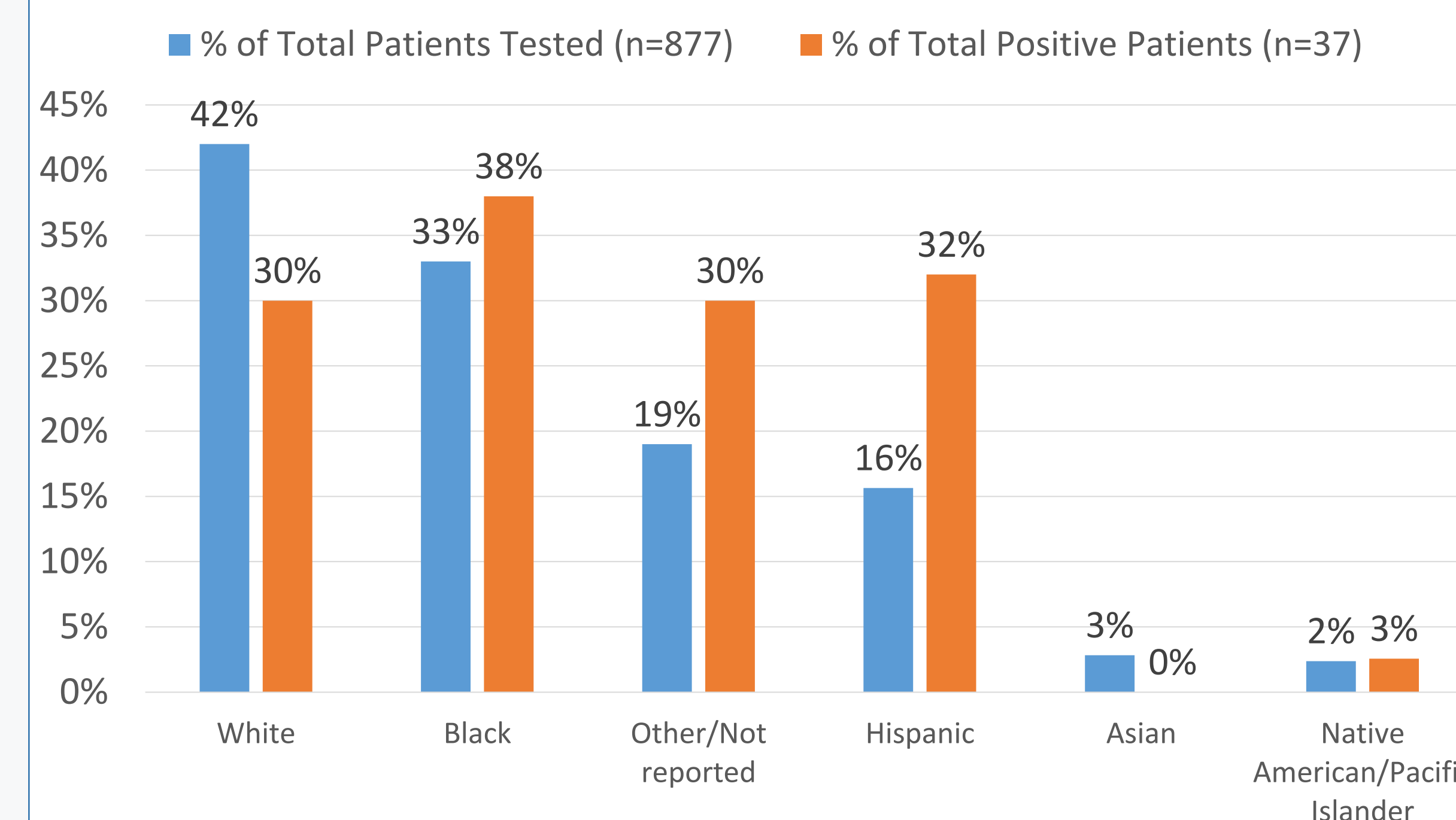
## Results

- A total of 1,961 SARS-CoV-2 tests were performed on 877 patients, of whom 37 (4.2%) tested positive.
- Adolescents and patients of Hispanic ethnicity were disproportionately over-represented among those who tested positive (Table 1, Figure 1).

Table 1: Patient Demographics and SARS-CoV-2 Test Results

Demographic Characteristic	Total Patients Tested (% of total) N=877	Patients with Positive Result (% of total) N=37	P-value
<b>Sex</b>			0.24
Male	443 (50.5%)	15 (40%)	
Female	434 (49.5%)	22 (60%)	
<b>Age</b>			<b>0.001</b>
0-5 years	493 (56%)	12 (32%)	
6-12 years	187 (21%)	7 (19%)	
13-18 years	205 (23%)	18 (49%)	

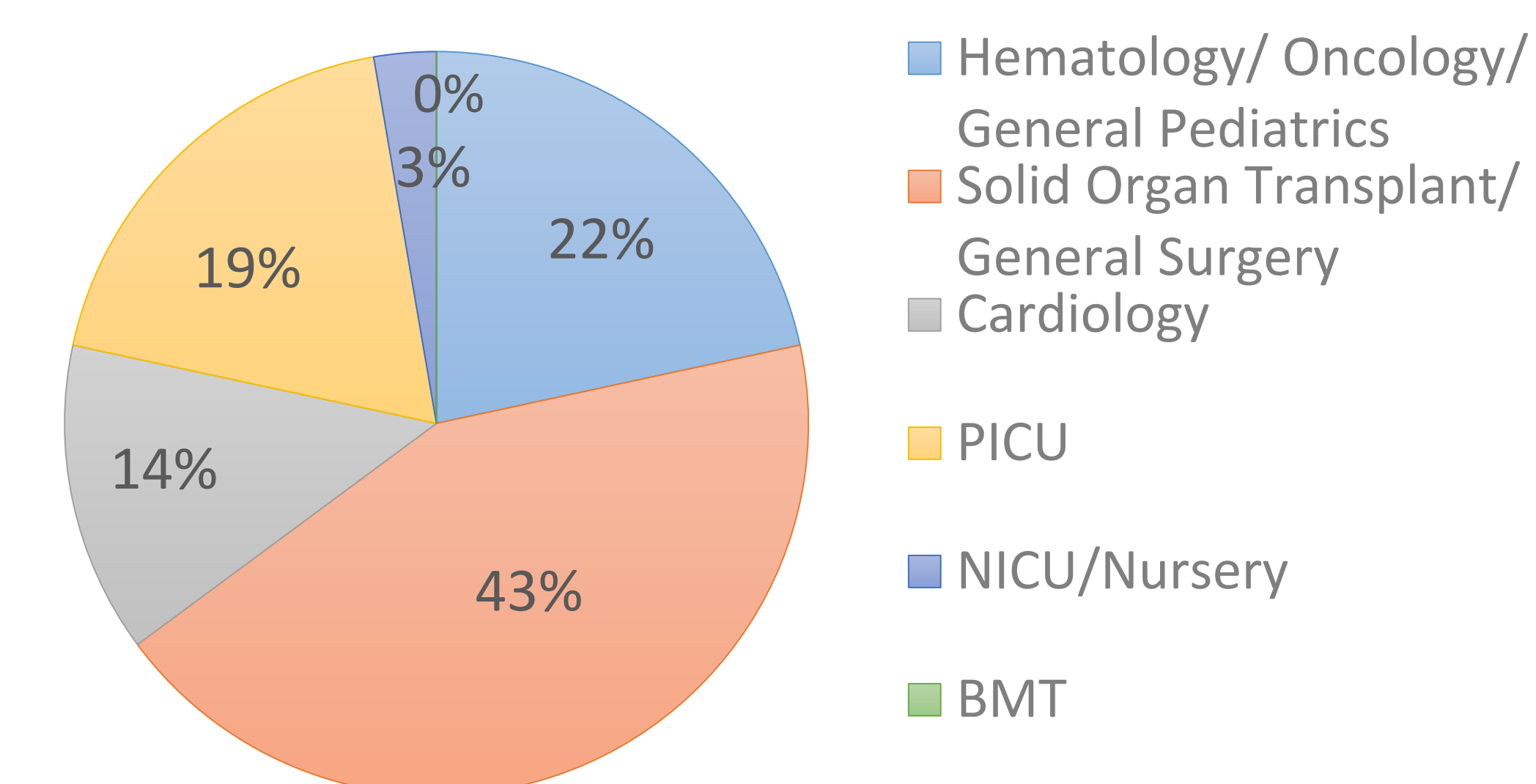
Figure 1. SARS-CoV-2 Surveillance Testing Distributed by Race or Ethnicity



## Results

- Community infection rates ranged from 5-100 cases/100,000 persons/day during the study period<sup>1</sup>.
- Highest proportion of patients with a positive test result occurred in patients admitted to the combined solid organ transplant/ general surgery ward (43%). No patients in the bone marrow transplant (BMT) unit tested positive (Figure 2).
- 1,203 repeat tests were performed among 653 patients during 1 or more hospital stays, with a median of 13 days between tests (IQR 5-39 days).

Figure 2. SARS-CoV-2 Positivity by Pediatric Unit



- Of the 653 children with repeat tests, 22 (3.4%) converted to positive, with a median of 41 days since prior negative test (IQR 9-101 days).
- 140 tests were repeated <3 days from a prior test, of which 5 (3.5%) converted from negative to positive. 3 of these 5 patients had a history of recent SARS-CoV-2 positivity at an outside facility prior to admission to our institution.
- 417 (35%) of repeat tests were done for pre-procedural screening, of which only 4 were positive (0.9%).

## Conclusions

- The rate of positive results from universal admission and pre-procedural screening for SARS-CoV-2 among pediatric patients was low in our hospitalized cohort (<5%).
- Adolescents were more likely to test positive compared to children 12 years or younger.
- Patients identifying as Hispanic ethnicity were disproportionately over-represented among those who tested positive.
- Repeat SARS-CoV-2 tests had a low positive conversion rate (<5%), and tests repeated <3 days from a negative result were especially low yield, suggesting limited utility of this practice.
- Diagnostic testing stewardship for SARS-CoV-2 in certain populations may be useful, especially as community infection rates decline.

