Janssen, Cardiac Dimensions, Sanofi-Pasteur, Tenaya, Dinaqor, Tremeau, CellProThera, and Moderna outside the submitted work. No other disclosures were reported.

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Editor's Note

Regardless of Age, Obesity and Hypertension Increase Risks With COVID-19

Older age has consistently been associated with higher mortality in patients with coronavirus disease 2019 (COVID-19).[1,2] Unfortunately, as shown by Cunningham et al[3] in this issue of *JAMA Internal Medicine*, COVID-19 does not spare young people. Using a national all-payer hospital database, the investigators identified 3222 nonpregnant adults aged 18 to 34 years who were admitted to US hospitals for COVID-19. Morbidity was substantial: 21% required intensive care, and 2.7% died. Mortality was higher among those who had obesity, hypertension, and male sex, as has been noted in general adult populations.

Combined with what we know about the greater risk of older persons, what does this study tell us about COVID-19 and young adults? First, while young adults are much less likely than older persons to become seriously ill, if they reach the point of hospitalization, their risks are substantial. Second, obesity, hypertension, and male sex put patients of all ages at greater risk. As obesity and hypertension are preventable and treatable conditions, reducing the risk of serious COVID 19 illness should be added to the already long list of reasons to increase medical and public health efforts in young adults to promote healthful diets and increased exercise. Finally, the article by Cunningham et al[3] establishes that COVID-19 is a life-threatening disease in people of all ages and that social distancing, facial coverings, and other approaches to prevent transmission are as important in young adults as in older persons.

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Outcomes of Contact Tracing in San Francisco, California—Test and Trace During Shelter-in-Place

Given the pressing need to reopen economic activity prior to the availability of a vaccine, the US and other nations are investing in contact tracing as a core component of the coronavirus disease 2019 (COVID-19) response.[1] An estimated 75% of infected contacts need to be quarantined to contain COVID-19.[2,3] We evaluated case investigation and contact tracing outcomes in San Francisco, California, during shelter-in-place restrictions.

Methods | San Francisco residents diagnosed with COVID-19 were routinely reported to the health department and assigned for case investigation and contact tracing.[4] On May 5, 2020, universal testing for COVID-19 contacts was recommended, regardless of symptoms. This study included cases diagnosed during shelter-in-place from April 13 to June 8, 2020. Cases identified through outbreak investigations in long-term care facilities were excluded (10% of cases).[5]

To evaluate the outcomes of contact tracing, we calculated the proportion of people who were interviewed, identified close contacts, and had at least 1 contact notified, tested, and newly diagnosed with COVID-19. A deterministic match based on personal identifiers was performed between contact and testing databases to (1) exclude contacts who were known to have COVID-19, (2) deduplicate previously named household contacts, and (3) ascertain testing results. We report the median number of days (with interquartile range [IQR]) taken to process each step. Analyses were conducted in SAS, version 9.4 (SAS Institute). Bivariate tests including χ^2 tests to compare categorical variables and t-tests for continuous variables were conducted, as appropriate, and a $P < .05$ identified statistical significance. This work was conducted as part of San Francisco Department of Public Health COVID-19 surveillance; institutional review board approval and informed consent were not required.

Results | Among 1633 cases reported, 1394 (85.4%) people were interviewed. Median (IQR) age was 37 (26-49) years; 972 (69.7%) were Latino (85% primarily Spanish-speaking), and 842 (60.3%) were male. Of the 603 (43.2%) interviewed people residing in a household with at least 5 persons, 510 (84.6%) were Latino. Half of interviewed people reported contact with someone diagnosed with COVID-19 (**Table**).

Among 791 people interviewed after recommending universal testing for close contacts, 404 (51.1%) identified a contact not previously diagnosed with COVID-19, 356 (45.0%) had at least 1 contact notified, 206 (26.0%) had at least 1

Table. Demographic, Clinical, and Exposure Characteristics of People With COVID-19, Stratified by Race, April 13 to June 8, 2020, San Francisco, California

Characteristic	No. (%)					P value[b]
	All	Asian	Black or African American	Hispanic or Latino/all races[a]	White	
Study population, assigned	1633	151 (9.3)	65 (4.0)	1044 (64.0)	168 (10.3)	
Interviewed	1394 (85.4)	137 (90.7)	47 (72.3)	972 (93.1)	148 (88.1)	<.001
Not interviewed	239 (14.6)	14 (9.3)	18 (27.7)	72 (6.9)	20 (11.9)	
Of those interviewed						
Cases interviewed[c]	1394 (100.0)	137 (9.8)	47 (3.4)	972 (69.7)	148 (10.6)	NA
Age, median (IQR), y	37 (26-49)	48 (30-65)	52 (35-65)	35 (24-45)	43 (34-57)	NA
Gender						
Female	550 (39.6)	59 (43.1)	9 (19.1)	399 (41.0)	47 (31.8)	.003
Male	842 (60.3)	78 (56.9)	38 (80.9)	571 (58.7)	101 (68.2)	
Transmission category						
Contact with known case	704 (50.5)	60 (43.8)	18 (38.3)	540 (55.6)	46 (31.1)	<.001
Community transmission	690 (49.5)	77 (56.2)	29 (61.7)	432 (44.4)	102 (68.9)	
Clinical status						
Ever hospitalized	118 (8.5)	28 (20.4)	6 (12.8)	62 (6.4)	13 (8.8)	
Not hospitalized	1256 (90.1)	107 (78.1)	40 (85.1)	901 (92.7)	135 (91.2)	<.001
Unknown	20 (1.4)	2 (1.5)	1 (2.1)	9 (0.9)	0 (0.0)	
Living situation						
Homeless or shelter	51 (3.7)	2 (1.5)	11 (23.4)	20 (2.1)	12 (8.1)	
SRO	137 (9.8)	10 (7.3)	9 (19.1)	96 (9.9)	8 (5.4)	<.001
Other housing situation	1206 (86.5)	125 (91.2)	27 (57.4)	856 (88.1)	128 (86.5)	
Worked during infectious period						
Went to work	330 (23.7)	35 (25.5)	9 (19.1)	234 (24.1)	33 (22.3)	
Did not work	1035 (74.3)	98 (71.5)	37 (78.7)	725 (74.6)	113 (76.4)	.68
Unknown	29 (2.1)	4 (2.9)	1 (2.1)	13 (1.3)	2 (1.4)	
Symptoms						
Asymptomatic	256 (18.4)	25 (18.2)	12 (25.5)	176 (18.1)	25 (16.9)	
Any symptoms	1123 (80.9)	109 (79.6)	35 (74.5)	791 (81.4)	122 (82.4)	.33
Unknown	9 (0.6)	3 (2.2)	0	5 (0.5)	1 (0.7)	
Preexisting medical conditions						
Any preexisting condition	520 (37.3)	62 (45.3)	23 (48.9)	330 (34.0)	67 (45.3)	.004
No known medical conditions	834 (59.8)	69 (50.0)	23 (48.9)	621 (63.9)	76 (51.4)	
Immune suppression	83 (6.0)	9 (6.6)	4 (8.5)	32 (3.3)	30 (20.3)	<.001
Household size						
1	138 (9.9)	16 (11.7)	16 (34.0)	64 (6.6)	29 (19.6)	
2-4	610 (43.8)	88 (64.2)	17 (36.2)	383 (39.4)	87 (58.8)	<.001
≥5	603 (43.2)	32 (23.4)	7 (14.9)	510 (52.5)	22 (14.9)	
Unknown	43 (3.1)	1 (0.7)	7 (14.9)	15 (1.5)	10 (6.8)	

Abbreviations: COVID-19, coronavirus disease 2019; IQR, interquartile range; NA, not applicable; SRO, single room occupancy building.

[a] Demographic data not reliably available prior to interview.

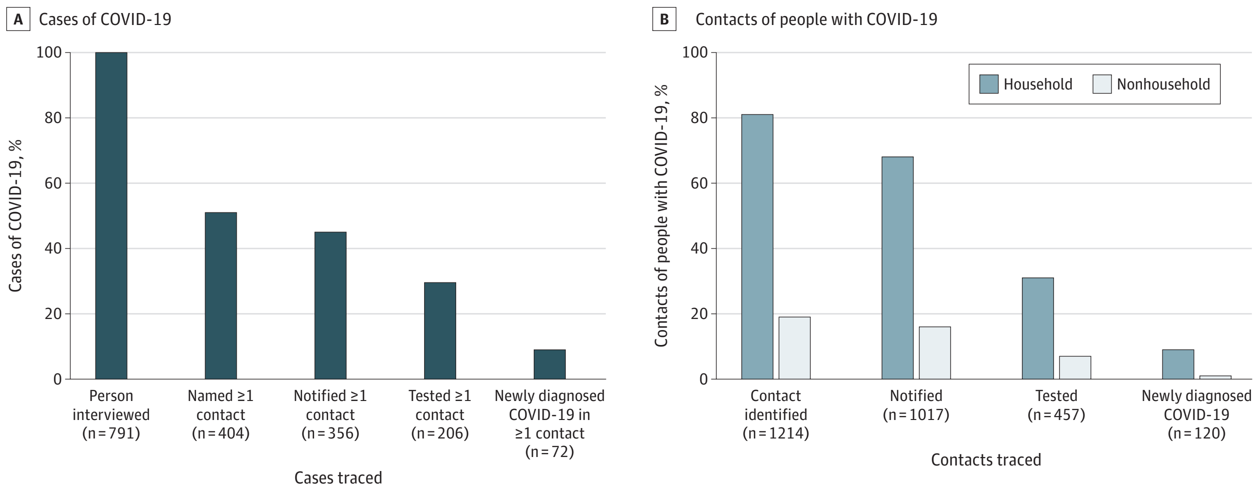
[b] Categorical variables compared with χ^2 or Fisher exact test.

[c] Not all races displayed as columns. Multiethnic, Native American, and Native Hawaiian or Other Pacific Islander people collectively account for 3% of cases and are not included in statistical comparisons.

contact tested, and 72 (9.1%) had at least 1 contact test positive for COVID-19. Of people residing in a household with at least 5 persons, 10.7% named a contact who was newly diagnosed with COVID-19. Among 1214 contacts traced, 1017 (83.8%) were successfully notified, 457 (37.6%) were tested, and 120 (9.9%) were newly diagnosed with COVID-19 (**Figure**). The secondary attack rate (calculated as the percentage of contacts who tested newly positive for COVID-19) was higher among household compared with nonhousehold contacts (111 of 983 [11.3%] and 9 of 231 [3.9%], respectively; $P < .001$), despite similar testing rates.

The median (IQR) number of days was 3 (1-6) from symptom onset (or specimen collection date in asymptomatic cases) to testing, 2 (1-2) from testing to test result, 1 (0-1) from test result to case interview, and 1 (0-1) from case interview to notification of the first contact. Overall, median (IQR) time from the case's symptoms to contact notification and testing was 6 (4-9) days and 6 (4-10) days, respectively.

Figure. Contact Tracing Outcomes of 791 People With COVID-19 and Their 1214 Contacts, San Francisco, California, May 5 to June 8, 2020



Percentages are shown for people with coronavirus disease 2019 (COVID-19) (A) and their contacts (B) at selected stages of contact tracing implementation.

Discussion | San Francisco's COVID-19 contact tracing program reached more than 80% of cases and contacts and identified secondary cases within a median time frame of 6 days from the case's symptom onset. While Latinos comprise 15% of San Francisco residents, they represented 70% of interviewed cases. Ten percent of contacts were newly diagnosed with COVID-19 compared with citywide testing positivity of 2.2% during this period. Although the majority of people with COVID-19 were interviewed within 1 day of test result, the 5-day delay between case symptom onset and positive test result raises concern regarding the timeliness of tracing in preventing onward transmission. Because 90% of secondary cases were household contacts, presymptomatic transmission could have occurred such that infected contacts may have already transmitted the virus by the time they were notified.[6] Limitations include underreporting of close contacts during shelter-in-place and inability to ascertain adherence to quarantine. Addressing testing delays and improving contact identification will be necessary to optimize COVID-19 contact tracing efforts.

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Trends in Hearing Aid Ownership Among Older Adults in the United States From 2011 to 2018

Hearing loss is common among older adults, and those with hearing loss have greater levels of health care use and are more likely to have dementia.[1,2] However, cross-sectional, nationally representative data from the 1999 through 2006 cycles of the National Health Examination and Nutrition Study sug-