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Implementation of close contact elicitation at the time of COVID-19 testing—Atlanta, GA, October–November 2020

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ABSTRACT

Background Contact tracing during the Coronavirus Disease 2019 (COVID-19) pandemic in the USA has been met with various challenges. In an attempt to improve the yield of close contact collection, the Fulton County Board of Health implemented a pilot approach to contact elicitation at the time of testing.

Methods Between October and November 2020, close contacts were elicited from persons under investigation (PUIs) at one COVID-19 testing site in Fulton County, GA. Secure online data collection forms were used to record PUI demographic data, close contact information and reasons for not providing contacts.

Results Of 1238 PUIs, 48% reported at least one contact. Among the 66 people who tested positive, 16 (24%) reported contacts compared to 578/1165 (50%) who tested negative. PUIs of increasing age were less likely to provide contacts; Black and Hispanic PUIs were also less likely to report any contacts compared to White and Asian PUIs.

Conclusions Our study revealed that PUIs testing positive were less likely to provide contacts compared to PUIs testing negative. Age and racial differences were also noted in the provision of contacts. Further investigation is needed to understand these discrepancies in order to devise more effective strategies for contact elicitation.

Keywords infectious disease, population-based and preventative services, public health

Introduction

Contact tracing is an important tool utilized in public health practice to prevent onward transmission of communicable diseases. The Coronavirus Disease 2019 (COVID-19) pandemic has highlighted challenges to contact tracing in the USA. Health departments have been strained due to high volumes of COVID-19 cases with limited contact tracing personnel, people have refused to provide close contact information due to distrust and technical difficulties related to nonfunctional phone numbers have prevented necessary contact with persons.^{1,2} In Fulton County, the largest county in the state of GA which includes the city of Atlanta, 45% (12 068/26 817) of people who tested positive for COVID-19 between May and September 2020 were reached for interview and just 14% (1690/12 068) of those interviewed provided close contact information.

Given the low yield of contact collection via traditional methods, the Fulton County Board of Health (FCBOH) implemented and evaluated a new approach to contact elicitation at one COVID-19 testing site in Fulton County. By collecting close contact information from a person under investigation (PUI) on-site at the time of testing, we hypothesized that: (1) an in-person encounter would enable rapport-building, encouraging PUIs to share contacts, and (2) this method would result in more effective contact collection than attempts after diagnosis.

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Table 1 Close contacts provided by PUIs at a Fulton County COVID-19 testing site in Atlanta, GA, 11 October–14 November 2020

	Total n (%)	Positive n (%)	Negative n (%)	Other ^a n (%)
	n = 1238	n = 66	n = 1165	n = 7
Provided contacts	597 (48)	16 (24)	578 (50)	3 (43)
Did not provide contacts	641 (52)	50 (76)	587 (50)	4 (57)
Reason for not providing contacts	n = 641	n = 50	n = 587	n = 4
PUI has no close contacts	337 (53)	23 (46)	313 (53)	1 (25)
PUI's close contacts have all tested positive	40 (6)	6 (12)	34 (6)	0 (0)
PUI refuses to provide close contacts	215 (34)	16 (32)	197 (34)	2 (50)
PUI unable to provide close contact information	45 (7)	5 (10)	39 (7)	1 (25)
Other ^b	4 (1)	0 (0)	4 (1)	0 (0)

^aIncludes inconclusive and indeterminate test results.

^bA reason other than those listed above, not further classified.

Methods

This pilot program was implemented between 11 October 2020 and 14 November 2020 at one COVID-19 testing site in Fulton County, Atlanta, GA. All clients at this site received COVID-19 testing free of charge. FCBOH created a secure online data collection form within the existing State Electronic Notifiable Disease Surveillance System (SENDSS) to collect close contact names, phone numbers and type of contact (e.g. familial, coworker or other). If PUIs did not provide contacts, the form prompted selection of a reason, including: (1) PUI has no close contacts, (2) PUI's close contacts have all tested positive, (3) PUI refuses to provide close contacts, (4) PUI has had close contacts but is unable to provide their information, or (5) other (with reason manually entered). Staff at the designated testing site were trained to interview PUIs and encouraged to elicit two to three primary close contacts (using the United States Centers for Disease Control and Prevention definition) from each PUI in the preceding 2 days.³ This information was collected by electronic tablets and stored in SENDSS along with PUI demographic data, including age, gender, race and ethnicity.

We initially planned to collect close contacts from every PUI who came to the site for testing; these PUIs were representative of a diverse inner-city Atlanta population. However, due to staffing shortages and high numbers of clients, only a fraction of PUIs were interviewed during non-peak hours, which varied depending on the day.

Results

After 5 weeks of implementation, data showed that ~5% (66/1238) of PUIs interviewed tested positive for

COVID-19, which is consistent with the 5% community prevalence of COVID-19 in Fulton County at the time. Of the total 1238 PUIs included in this pilot, 597 (48%) reported at least one contact (Table 1). Among those who tested positive, only 24% (16/66) reported contacts compared to 50% (578/1165) reporting contacts among those who tested negative.

Of the 641 PUIs who did not provide contacts, 337 (53%) stated they had no close contacts and 215 (34%) refused to provide any contacts; 40 (6%) reported that all close contacts had already tested positive, and 45 (7%) were unable to provide close contact information due to unknown names or phone numbers. The primary reasons for not giving contacts in both subgroups, positive and negative, were similar to those noted by all PUIs above.

On evaluating the demographic characteristics of PUIs, provision of contacts decreased as age increased (Table 2). Only 36% of PUIs in the 50–69 age group and 29% in the 70+ age group provided contacts, compared to 49–60% of PUIs in younger age groups. Males and females were equally likely to provide contacts at ~50%. More than 50% of Whites and Asians provided contacts, whereas only 38% of Blacks, 37% of Hispanics and 30% of PUIs in the other race category (including American Indian, Alaskan Native and multiracial) provided contacts.

Discussion

While we did not find evidence of improved contact yield using this method, the data showed an interesting discrepancy between the provision of contacts from the PUIs testing positive and negative; those who tested positive were less likely to

Table 2 Demographics of PUIs who provided close contacts at a Fulton County COVID-19 testing site in Atlanta, GA, 11 October–14 November 2020

	Total n	Provided contacts n (%)	Did not provide contacts n (%)
	n = 1238	n = 597	n = 641
Age			
0–16	15	9 (60)	6 (40)
17–29	443	235 (53)	208 (47)
30–49	568	277 (49)	291 (51)
50–69	195	71 (36)	124 (64)
70+	17	5 (29)	12 (71)
Gender			
Male	560	277 (49)	283 (51)
Female	657	311 (47)	346 (53)
Other	4	1 (25)	3 (75)
Prefer not to answer	17	8 (47)	9 (53)
Race/ethnicity			
White, non-hispanic (NH)	663	366 (55)	297 (45)
Black, NH	270	102 (38)	168 (62)
Asian, NH	69	36 (52)	33 (48)
Hispanic	94	35 (37)	59 (63)
Other, NH ^a	56	17 (30)	39 (70)
Prefer not to answer	86	41 (48)	45 (52)

^aOther, NH = American Indian, Alaskan Native and multiracial.

provide any contacts. This difference may be related to a sense of stigma among people testing positive for having engaged in activities known to foster transmission, thus leading to a reluctance to provide contacts.⁴

Additionally, demographic data revealed that PUIs of older age, especially 50+ years, were less likely to provide contacts. Older PUIs may have been more adherent to social distancing due to increased risk of severe COVID-19, accounting for less contacts compared to the younger population.^{5,6} PUIs of certain minority populations, including Blacks and Hispanics, were less likely to provide contacts as well. This finding may reflect distrust of government and public health institutions in these minority groups, which has been well documented in existing literature and pronounced in the COVID-19 pandemic.^{7,8} Racial disparities may also be playing a role; Blacks and Hispanics in the USA are at an increased risk for exposure to SARS-CoV-2, leading to higher positivity rates than the general population.⁹ As mentioned above, PUIs testing positive were less likely to provide contacts in our study. Race and test positivity may be independent factors contributing to decreased provision of close contacts by Black and Hispanic PUIs. Further investigation examining the significance behind these findings is needed.

Because the success of traditional contact tracing is dependent on resources, staffing and cooperation from the

public, new innovative ideas must be explored to support contact tracing, a method that is highly effective in the appropriate contexts. This study illustrates ongoing complex challenges of contact elicitation in the USA, with particular attention to people testing positive for COVID-19 and certain racial and ethnic minorities. Understanding why these groups may be less likely to provide contacts may inform more effective approaches to contact elicitation and tracing.

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