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Student Insights from the Field

Managing a Volunteer Contact Tracing Program in
Summer 2020

Anna Kamen and Stephen Henriques

February 2021





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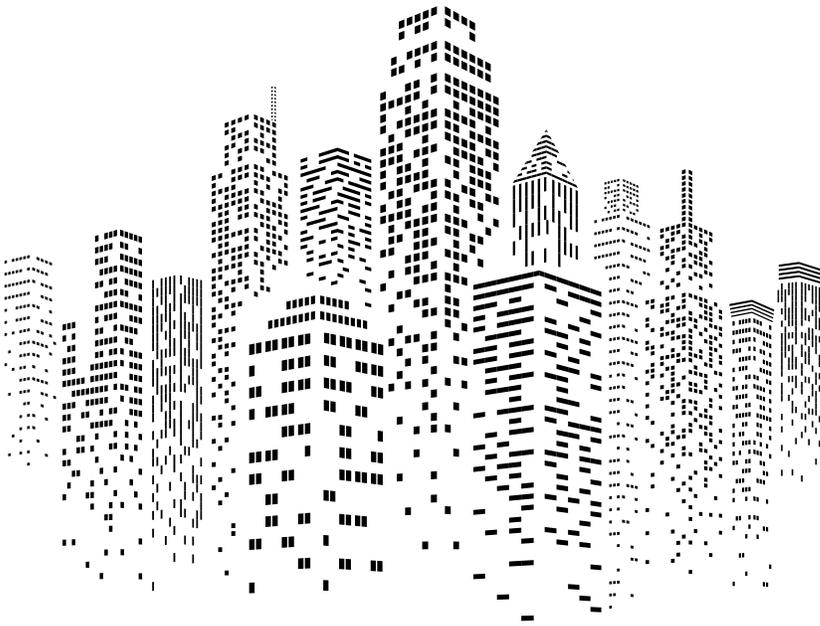
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ABOUT THE AUTHORS

Anna Kamen is a second-year dual-degree MBA/ MPP student at MIT Sloan and Harvard Kennedy School (HKS). During her MPP summer, Anna worked as a Policy Fellow in the Connecticut Governor’s Office helping with their COVID-19 response efforts. She worked on developing the state’s testing prioritization strategy and helped stand up the statewide contact tracing program. At Sloan, she is on the leadership team of the healthcare club and holds a TA position to integrate more robust discussions of diversity, equity and inclusion into the MBA curriculum. At HKS, Anna serves as a research assistant to Tara Westover, author of *Educated*. Prior to graduate school, Anna worked for four years at Acumen LLC, a health policy consulting firm based in the Bay Area. Her projects focused on assisting Medicare clients with designing, implementing, and evaluating a variety of value-based payment programs. Anna earned her BA from Princeton University, where she graduated with high honors from the School of Public and International Affairs.

Stephen Henriques is a second-year MBA student at Yale’s School of Management. For his summer internship, Stephen worked as a Policy Fellow in the Connecticut Governor’s Office, primarily assisting with their COVID-19 response efforts. He helped stand up the statewide contact tracing program and develop the Everybody Learns initiative, which supplied 40,000 primary and secondary students with laptops and at-home-internet connection. At Yale, he is on the leadership team of the Internship Fund and Welcome Weekend Committee and serves as a Teaching and Research Assistant with Professor Jeffery Sonnenfeld. Prior to business school, Stephen spent three years at MCC Real Estate Group, a real estate private equity group in New Orleans. He began his career as a financial analyst with ExxonMobil. Stephen earned his BS in Finance from Louisiana State University, where he graduated with honors and played football for the nationally acclaimed team.

ABOUT THE TAUBMAN CENTER FOR STATE AND LOCAL GOVERNMENT

The mission of the Harvard Kennedy School's **Taubman Center for State and Local Government** is to support current and future public sector leaders in improving the governance of states, counties, metropolitan regions, and cities through research, teaching, programs, and convenings.

The Taubman Center works to:

- Develop the next generation of state and local government leaders
- Generate big ideas and solutions to state and local government challenges
- Help state and local government implement and scale solutions

The Taubman Center focuses on urban policy issues, including economic development, transportation, education, public infrastructure, land use, social services, public sector technology and data utilization, procurement, and performance management.

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INTRODUCTION

In Summer 2020, when state and local governments were assessing the risk of reopening businesses and schools after the first wave of COVID-19, one of the most important considerations they weighed was contact tracing capacity. As we enter the second year of this global pandemic, the ability to identify and engage contacts of each positive COVID-19 test case continues to be a critical measure required to contain the virus in order to avoid lockdowns and fatalities.

To effectively contain outbreaks, **more than 90% of cases should be traced within 48 hours**. Achieving this capacity requires significant investment in technology and personnel. Although contact tracing has been fundamental to infectious disease control since the 1920s, no public health department had ever implemented a program at the scale necessary to combat COVID-19. States, municipalities, and even schools have had to rapidly invest in resources to build and maintain expensive contact tracing programs during a period of massive budget and capacity shortfalls.

One way to significantly reduce the monetary cost of these programs is to implement a volunteer contact tracing workforce. Connecticut's leadership recognized that thousands of people across the state were reaching out in search of opportunities to assist during this once-in-a-generation crisis. With resources that are free and widely available, community members could be trained and deployed as contact tracers in a matter of two weeks, granting a tangible way for residents to fulfill their desire to serve their community and, consequentially, fight the pandemic.

As Summer Policy Fellows for the Office of the Governor of Connecticut, we worked with the State Department of Public Health (DPH) to build a virtual, state-wide contact tracing program of 125 volunteers in less than three weeks. Building an entirely volunteer program in such a short timeframe and with so much at stake posed significant challenges. However, by developing a well-thought-out strategy for recruiting, training, and managing volunteers, we were able to create a program that attempted to reach 98% of positive cases with a 60% success rate, helping Connecticut become a state with one of the lowest positivity rates in the country since the time of implementation.

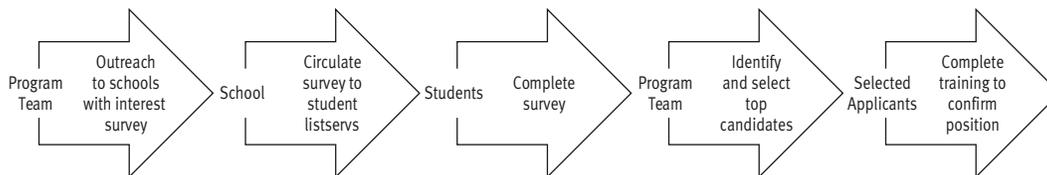
Our goal is to contribute to the rapidly-evolving body of knowledge regarding the development and implementation of a COVID-19 contact tracing program. This report shares the challenges we faced, our respective responses, and best practices learned from recruiting, training, and managing a volunteer contact tracing workforce for the state of Connecticut.

RECRUITMENT

We streamlined contact tracer recruitment for Connecticut’s volunteer pool through direct outreach to academic institutions of higher education across the state. Focusing on public health, medical, nursing, and social work programs, we asked school faculty and administrators to circulate an online survey, which collected information from students to gauge their interest and qualifications. The data from this survey were analyzed to identify the top candidates for the program.

From a single round of recruitment, we received responses from 325 student applicants representing 21 Connecticut institutions. We prioritized volunteers based on their academic credentials, availability to contact trace for 10+ hours per week, and secondary-language abilities. Selected volunteers were required to complete roughly 10 hours of training. Our criteria ensured that selected volunteers would be competent and committed to the program. Importantly, we also observed that non-English speaking residents were sometimes reluctant to speak to contact tracers through interpretation services. In response, we recruited a cohort of tracers with Spanish fluency to meet the needs of Connecticut’s substantial Spanish-speaking population.

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Contact Tracer Recruitment Process



One challenge we anticipated with onboarding volunteers was a high attrition rate. We suspected attrition would be particularly high among student volunteers, who were likely to have competing priorities, especially once the school year reconvened. Our concern proved accurate, as roughly 18% of students left within the first six weeks of the program and many more resigned once the school year started. Fortunately, we had accounted for this through an intentional strategy to recruit approximately 25% more volunteers than required. The recruiting contingency also ensured that we would have sufficient capacity if COVID cases were to surge.

Key Insights:

- Health-related programs at academic institutions can be used to streamline recruitment for volunteer contact tracers.
- Non-English speakers were reluctant to provide information to contact tracers through interpretation services. Intentional recruitment of volunteers with secondary-language abilities and cultural competency common to the locality will better serve these populations.
- Volunteers who can dedicate more time to contact tracing should be prioritized, given the investment it takes to train, onboard, and license a contact tracer.
- While student volunteers are easy to identify and onboard quickly, they may have high attrition rates. Program teams should onboard more volunteers than they need, while ensuring sufficient capacity to train and manage them. Other volunteer pools with more work experience may also be strong candidates, such as retiree groups or civic organizations.

TRAINING

Volunteers may be less likely to have professional public health experience relative to traditional contact tracers; effective training is therefore crucial to program success. In Connecticut, we required that all contact tracers complete the free [Johns Hopkins COVID-19 Contact Tracing](#) Coursera course as an introduction to contact tracing. In addition to this course, the Connecticut DPH conducted virtual trainings to cover the following topics:

- Expectations for volunteers
- HIPAA and confidentiality
- Program structure and escalation process
- Contact tracing scripts and situations that deviate from scripts
- “Soft skills,” including cultural awareness, how to work with persons with disabilities, and engaging in difficult conversations
- Contact tracing technology and application training

We also learned that incorporating an experiential component into the training is highly beneficial. Contact tracing calls rarely adhere precisely to script, requiring a high degree of soft skills. During the onboarding process, new volunteers were paired with “buddies” or mentors who were available to answer questions, conduct mock calls, or review case records to provide constructive feedback.

To supplement scheduled training sessions, the Connecticut DPH also created a SharePoint drive to host a wide array of resources to aid volunteers. These resources were consistently updated based on feedback and public health guidelines. They included:

- A step-by-step guide to the first day of contact tracing
- English and Spanish contact tracing scripts for initial case interviews, contact interviews, and patient monitoring
- Volunteer testimonials
- COVID-19 fact sheets
- Frequently asked questions
- Video recordings of training sessions
- Application system user guides
- Guidance for common situations, e.g., the case has not yet received their positive test results

Volunteers were instructed to reference these resources before contacting their supervisors with questions. Through a survey, we learned that 95% of the volunteer pool used these resources, and 97% of volunteers felt that they had adequate supports to do their job effectively.

Key Insights:

- There are several free resources to introduce volunteers to COVID-19 contact tracing, including the Johns Hopkins Coursera course (linked above) and a variety of **CDC sponsored options**. These courses should be supplemented by training specific to the local context and technology.
- Because student volunteers often lack transferrable experience, incorporating elements of experiential learning, e.g., practicing mock calls, into the training curriculum is highly beneficial.
- Volunteers should have access to a robust and well-organized body of resources to reference before escalating questions to thinly stretched public health officials.

VOLUNTEER MANAGEMENT

The management structure of the 125+ volunteer contact tracers has been a key element of the program's success. Our greatest concern with a volunteer workforce was the challenge of maintaining engagement without any real "carrots or sticks" to incentivize behavior. To overcome this challenge, we set up a staffing model grounded in four core pillars: flexibility, support, oversight, and ongoing communication.

Flexibility

To promote flexibility, volunteers were provided with a weekly sign-up sheet to self-select their hours of service. Volunteers signed up for four or more two-hour shifts that ran from 8am to 8pm seven days a week. This convenience allowed volunteers to sign up to contact trace during times that best suited their schedules week to week, but also allowed program managers to monitor for sufficient coverage at any given time.

Support

Volunteers were primarily supported through volunteer supervisors called Team Leads. Team Leads were identified through a separate application process and selected based upon their management and leadership experience, professional and/or educational background, and adept soft skills.

Each two-hour shift was staffed with a Team Lead who was on call to answer any questions from the volunteers. The Team Lead was also responsible for ensuring that their shifts had sufficient coverage (at least 3 tracers) and recruiting more sign-ups if they were understaffed. In addition to staffing shifts, each Team Lead was given oversight responsibilities for a cohort of ~25 volunteers, who shared a similar work schedule. Team Leads were responsible for managing the engagement of volunteers in their cohort and serving as their main point of contact for questions that arose outside of their shift.

Other layers of support included the DPH full-time staff and a cohort of support nurses. Non-urgent questions that the Team Leads could not answer were escalated to the DPH staff through an email helpdesk. Urgent inquiries, especially those pertaining to patients who were upset or experiencing significant health concerns, were triaged to a team of contracted support nurses who could be dialed in to assist with challenging calls. The escalation path illustrated in Addendum A directed volunteers and Team Leads to the appropriate resource and provided clarity on how various inquiries should be triaged.

Communication

The dual-role of the Team Leads (on-shift supervisor and cohort lead) was the foundation of the staffing model and, therefore, of the communication channels between the state of Connecticut and the volunteers. It was through the Team Leads that we learned of process improvements, volunteer satisfaction, communication gaps, and ancillary resident needs. Team Leads also served as a supportive ally in distributing and confirming adherence to contact tracing system updates. Additionally, we hosted weekly meetings with Team Leads and DPH full-time staff to debrief and strategize on responses to the various challenges presented throughout the week.

A volunteer-wide satisfaction survey and a subsequent series of focus groups were two additional communication channels. Both provided volunteers the opportunity to share direct feedback about their experience. Importantly, in a completely virtual program, the focus groups granted overdue face-to-face engagement – a critical component that we had underestimated. Moving forward, we would advise hosting volunteer-wide, virtual events to offer to those interested in the opportunity to engage with their peers. The importance of creating a deeper sense of community should not be ignored, especially with an all-volunteer workforce.

Oversight

One challenge of managing volunteers virtually was ensuring they fulfilled the hours of work they had committed to each week. If there was a large discrepancy between the hours volunteers committed to and what they completed, health departments could not maintain an accurate estimate of contact tracing capacity. Team Leads played a crucial role in monitoring volunteer engagement through system audits. The telephony application volunteers used tracked how many calls each volunteer made per day and the length of each call. Although it was difficult for Team Leads to enforce compliance in a volunteer program, we found that the best practice was to motivate volunteers through sharing weekly metrics and emphasizing the stakes of the program and the importance of contact tracing for keeping people safe. Volunteers who consistently failed to fulfill their commitment were asked to leave the program.

Key Insights:

- Four principles are crucial to maintaining engagement, the key challenge in a volunteer program: flexibility, support, communication, and oversight.
- Flexibility can be achieved by allowing volunteers to sign up for two-hour shifts that best suit their schedules.
- Selecting quality supervisors who can oversee shifts and manage volunteer engagement is critical to program success. Supervisors serve several important functions, including answering volunteer questions, communicating system updates, ensuring adherence to business processes, and conducting quality assurance.
- In a volunteer program, it is important to maintain a robust mechanism to audit the amount of work contact tracers are completing. This allows program staff to maintain accurate estimates of contact tracing capacity.
- Programs should provide channels for volunteers to give their feedback, including surveys, focus groups, and other virtual events.

KEY OPERATIONAL PERSPECTIVES

While our role in the Governor’s Office focused specifically on staffing the contact tracing program, there are other operational components that should also be considered, regardless of having a paid or volunteer workforce. Without addressing these components at length, we want to highlight those that are most important.

Overlapping Jurisdictions

Because contact tracing programs were administered locally and across different regions, they needed clear processes for dealing with cases that overlap jurisdictions. For instance, if a college student lived off campus and tested positive for COVID-19, did their school own their case or did the local health department? In Connecticut, the statewide contact tracing pool operated in conjunction with local health departments. While the local health department was the first line of defense, if a case was unaddressed after 24 hours, the case would transfer to a communal pool for a prompter response by the state volunteers or local health department staff, whoever came first. While state engagement was meant to support local health departments with limited resources, confusion could occur without a thorough and well-communicated business process. We advised establishing a comprehensive, mutually-agreed-upon strategy for all overlapping jurisdictions and a centralized communication platform for sharing information.

Technology

A robust contact tracing program requires at least two types of information technology to function efficiently and enable collaboration across the workforce. First, contact tracing programs can use a customer relationship management (CRM) platform to manage the daily influx of cases and contacts, ensuring each individual is appropriately addressed. Connecticut used a custom Microsoft application called ContaCT, but a variety of similar solutions were also available. Additionally, Connecticut used a service called RingCentral, a telephony program. The program allowed each volunteer’s call to appear with the caller ID *CT COVID Trace* to prevent residents from confusing the call with spam and thereby increased the call success rate. It also produced individualized volunteer user data and metadata to conduct quality assurance checks and track trends over time.

Case Management

Contact tracing provides a useful touchpoint to assess the needs of a community. In the process of contacting COVID-19 cases and their contacts, contact tracers will inevitably encounter people with a variety of food security, employment, health insurance, and healthcare access concerns. While we could not expect contact tracers to double as social workers, adequate resources should be supplied to contact tracers for connecting community members to those who are equipped to resolve these matters.

Key Insights:

- Because contact tracing programs are operated locally and at varying levels of geography, it is important to establish clear protocols with overlapping jurisdictions as it relates to how cases will be assigned and addressed.
- CRM platforms are effective tools for managing the caseload and enabling collaboration across the workforce. Telephony applications enable oversight of the workforce and professionalizes the program.
- Contact tracing can be used to assess the additional needs of a community and connect people to resources.

CONCLUSION

Our analysis provides an introduction to best practices for establishing a successful volunteer contact tracing program. Recruiting efforts will require creativity in sourcing proficient volunteer talent. Contact tracing program managers should take advantage of the numerous free resources published by respected organizations, such as Johns Hopkins and the CDC. A robust support structure should be implemented to embolden volunteers as they encounter challenges. In a virtual world, it is vitally important to establish and maintain a sense of community not only within the volunteer pool but also with supervisors and Program Managers. Most importantly, each program will be unique, and the ability to learn and adapt will be critical.

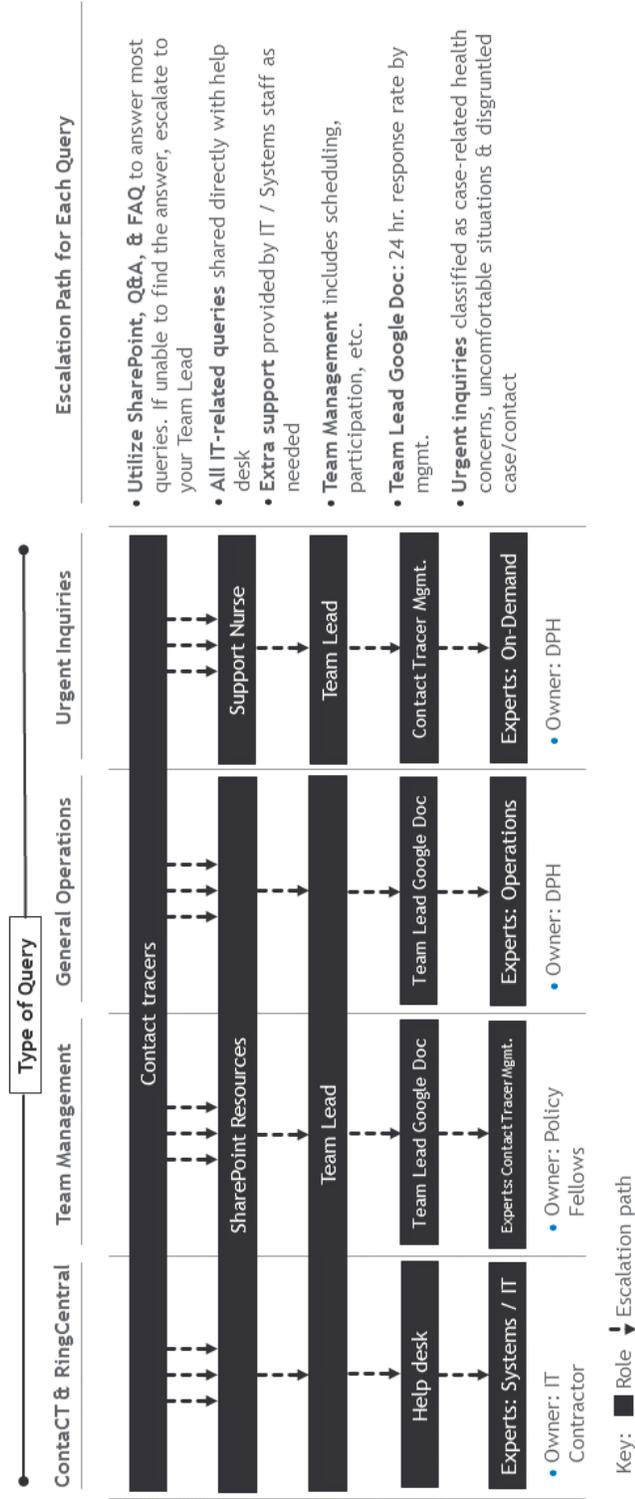
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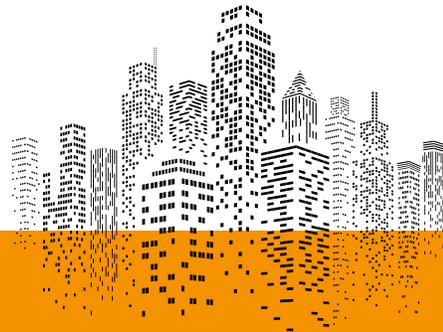
Given the rapid onboarding process, the challenges presented through contact tracing, and the flexibility required to adapt to our continuously improving tracing systems, we want to recognize and commend our volunteers for providing this vital service to the community during this unprecedented moment in history. We are extremely grateful for their hard work and commitment. We would also like to extend our gratitude to their school representatives for their willingness to engage in this partnership. Finally, we will be forever grateful for the opportunity to serve alongside the wonderful staff within the Connecticut Department of Public Health, including Commissioner Deirdre Gifford, Laurie Ann Wagner, Jaime Krasnitski, Kristen Soto, Kristin Gerard, and many others. Our summer would never have been so productive without their confidence in and support for us.

ADDENDUM A

Contract Tracing: Escalation Path by Query Type

Contact Tracing: Escalation Path by Query Type





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