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Contact Tracing for COVID-19: Domestic Policy Issues

Contact tracing is a classic tool of public health investigation used to identify the close contacts of persons infected with a communicable disease, notify them of potential exposure, and enable control measures such as quarantining exposed persons. Contact tracing programs are generally subject to state, territorial, tribal, and local laws and policies. The U.S. Centers for Disease Control and Prevention (CDC) assists jurisdictions' programs by providing guidance, technical assistance, and funding.

Several public health experts affiliated with universities (e.g., Johns Hopkins University), policy research organizations (e.g., American Enterprise Institute), and state associations (e.g., National Governors Association) have posited that contact tracing (combined with adequate diagnostic testing) could help prevent surges in infections, particularly when case counts are low. Contact tracing to control Coronavirus Disease 2019 (COVID-19) has been used with arguable success in countries such as South Korea, Taiwan, Iceland, and New Zealand—many attribute their relatively low reported case counts, in part, to successful contact tracing. However, several experts assert that a successful contact tracing effort in the United States would require additional workforce and possibly the use of new technologies by jurisdictions. Federalism has led to heterogeneous contact tracing efforts across states. As the pandemic progresses, Congress may consider whether and how to guide U.S. contact tracing efforts.

What is Contact Tracing?

Contact tracing, a component of *public health investigation*, is a core tool of communicable disease control. U.S. jurisdictions' public health departments have used contact tracing to help control the spread of diseases like HIV and tuberculosis. Typically, when a confirmed case of a disease is identified and determined to require a case investigation, public health departments contact the patient and conduct extensive interviews to acquire information about persons with whom the patient may have been in contact and therefore possibly exposed to the disease. Those individuals are then notified by either the patient or the health department and then referred for testing, prophylaxis, and/or treatment (if available) or asked/required to self-quarantine (depending on the applicable jurisdiction's laws and policies). Contacts are usually informed by health departments of a potential disease exposure, but are not given the identity of the individual who exposed them.

COVID-19 Specific Considerations

Given that COVID-19 spreads easily from person to person and can be transmitted by asymptomatic individuals, controlling COVID-19 may require more robust contact tracing capacity than existed in many jurisdictions prior to the pandemic. In addition, given the lack of available vaccines or prophylaxis for COVID-19, health departments

usually request that exposed individuals voluntarily self-quarantine and may conduct regular follow-up and/or facilitate housing and other support programs for quarantine. Experts generally advocate two approaches to expanding U.S. contact tracing—expanding the contact tracing workforce and the use of new technologies to help identify and notify potential contacts. Some domestic COVID-19 contact tracing efforts have faced initial challenges with individuals refusing to share information with health departments, indicating potential individual liberty and privacy considerations.

Workforce Considerations

Depending on the design of its contact tracing program, jurisdictions may require an expanded workforce to conduct interviews and manage contact tracing efforts. Johns Hopkins University and the Association of State and Territorial Health Officials have recommended between 4 and 81 tracers per 100,000 population, based on level of illness in a given region.

Recruitment. Given the need to augment existing capacity, several states have recruited paid and volunteer contact tracing staff from state employees, public health and medical schools, AmeriCorps volunteers, and other institutions. Some states have also worked with private entities to manage contact tracing efforts. For example, Indiana contracted with a private company, Maximus, to manage a call center for contact tracing efforts.

Training. Contact tracers need specialized education and skills, including an understanding of medical terms, knowledge of patient confidentiality requirements, and an ability to effectively interview and counsel patients. CDC has published online training for contact tracing programs. Several states have also implemented training programs in partnership with non-profit organizations and universities.

Contact tracing programs need individuals with varying skill levels, including established public health experts to help manage programs as well as skilled tracers to contact and interview individuals. Jurisdictions may also consider the need for cultural competence and ability to engage with diverse communities affected by COVID-19, such as skills in non-English language proficiencies.

Technology Considerations

A challenge in traditional contact tracing is the difficulty patients have comprehensively recalling close contacts, even with the assistance of trained public health workers. COVID-19 patients may be infectious long before receiving a positive test result, and thus may need to recall weeks of close contacts. Tools that use digital technologies to automate this aspect of contact tracing have been developed, though their adoption in the United States has

been uneven. CDC has issued guidance to aid jurisdictions in choosing and implementing these tools.

Location and proximity-tracking. Technologists have been working to create smartphone-based applications (apps) to augment conventional contact tracing and notification. These use location or proximity tracking to identify who has had close contact with infected individuals during a specific window of time. Location tracking apps collect time and physical location data using Global Positioning System (GPS), cell tower, or Wi-Fi signals, while proximity tracking apps use the exchange of Bluetooth signals between devices to establish contact. Apple and Google have developed a protocol to allow apps developed by public health departments to work across both Android and Apple operating systems. They have chosen not to support location data collection to address privacy and security concerns. Contact tracing and notification apps have been adopted in several nations and some U.S. states, with mixed results. For more information, see CRS In Focus IF11559, *Digital Contact Tracing Technology: Overview and Considerations for Implementation*.

Adoption. Contact-tracing apps require broad adoption and self-reporting by infected individuals to be effective. Researchers estimate that 80% of U.S. smartphone users (56% of the population) need to use an app to effectively control COVID-19. Various polls estimate a range of 50%-60% of the U.S. population are willing to use a contact tracing app. One poll estimated that 29% of the U.S. population would be willing to share location data. Existing state app programs face adoption challenges. For example, as of June 24, 2020, 4% of North Dakota's population was using its tracking app.

Effectiveness. Some experts have argued that technologies relying on only “exposure notification” would not be adequate for slowing COVID-19 spread, as they may not allow for epidemiological analyses of cases necessary for public health interventions. Rather, they argue that location data is needed, along with building or improving states’ data management systems. Some argue that public health programs should consider other measures if digital technology solutions are not widely accepted.

Other technologies. Several states currently use SaraAlert, an open-source automated tracking and reminder system. It allows public health departments to manage symptom and contact data provided by patients and provide automatic notification, follow-up, and symptom reporting.

Individual Liberty and Privacy Considerations

U.S. public health has long faced a tension between individual liberty considerations and measures required for population-level communicable disease control. Civil liberty and other groups have raised concerns that apps tying location data to health data could be obtained by malicious actors or used for broader government monitoring. A mistrust of government may also affect traditional contact tracing efforts to collect information.

Contact tracing data security and privacy (collected by both traditional means and by digital tools) is mostly governed

by state rather than federal law. State law related to the privacy and security of data collected in the course of contact tracing efforts varies. An overview of federal privacy law as it applies to digital contact tracing data is covered in CRS Legal Sidebar LSB10511, *COVID-19: Digital Contact Tracing and Privacy Law*.

Funding

Congress has appropriated funding in several supplemental measures that can support contact tracing efforts by jurisdictions and the CDC. Funding available for grants/cooperative agreements with jurisdictions for public health programs (that can involve contact tracing as one component) include not less than \$950 million P.L. 116-123, not less than \$1.5 billion in P.L. 116-136, and not less than \$11 billion in P.L. 116-139. Additional CDC funding in the supplemental measures could also be used. For an overview of CDC supplemental funding see CRS Report R46353, *COVID-19: Overview of FY2020 LHHHS Supplemental Appropriations*.

Issues for Congress

If Congress considers contact tracing an important component of the federal response to COVID-19, it may consider the following:

Leadership and coordination. Currently, most contact tracing efforts—including workforce and technology components—are led by jurisdictions with guidance, assistance, and funding from CDC. Congress may consider whether the federal government should play a bigger role in coordinating contact tracing efforts across jurisdictions and helping standardize tools and practices.

Trust. Reports from existing efforts indicate difficulty obtaining needed information from individuals or encouraging technology adoption. Congress may consider how to facilitate public trust in contact tracing, such as by nationwide education and awareness efforts.

Privacy and security. Congress may consider whether new federal authorities related to the privacy and security of data collected in the course of contact tracing are needed. Several introduced measures address data privacy, as discussed in CRS Legal Sidebar LSB10501, *“Tracing Papers”: A Comparison of COVID-19 Data Privacy Bills*. Constitutional issues related to federal regulation of state-collected data are discussed in CRS Legal Sidebar LSB10502, *Constitutional Authority to Regulate the Privacy of State-Collected Contact-Tracing Data*.

Evaluation. States are employing many different contact tracing strategies, some of which may be more effective in controlling disease spread than others. CDC has developed a *COVIDTracer* tool to aid in evaluating approaches. Congress may consider how to ensure strategies are adequately evaluated to help identify what works in the United States and disseminate findings.

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