

Contact tracing investigations for public health

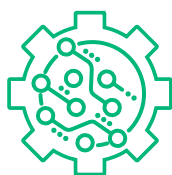
Using analytics and data visualization to identify at-risk populations to reduce disease spread



Send intelligent alerts



Uncover public health insights



Automate tracing efforts

The Issue

Contact tracing is a crucial tactic in reducing the spread of communicable diseases such as COVID-19. It's used to break the chain of transmission by identifying people who have been exposed to an infected person so that they can take necessary steps to isolate themselves, or if they are already showing symptoms, begin treatment.

Used for decades as an attempt to stave off a variety of communicable diseases, it is a manual, resource-intensive and effort to identify the points of transmission and slow community spread. Fortunately, data visualization and analytics can be used to assist public health officials in uncovering insights from contact tracing and publicly available health data to understand:

- Missing or unexpected linkages.
- Who should be tested.
- Where the virus is spreading.
- Which communities are at greatest risk.

The current pandemic has exposed weaknesses in the traditional approach to contact tracing. The swiftness of the COVID-19 outbreak around the globe has overstressed the public health infrastructure and has underlined the need for innovative solutions to modernize contact tracing capabilities.

Challenges



Slowing the speed of transmission. Coronavirus is spreading faster than public health officials can interview patients and track down contacts. SAS® has proven link and network analytics that can be used for epidemic investigation.



Mobilizing sufficient public health resources. The number of confirmed cases has far exceeded the typical caseloads for public health agencies in many countries. Analytics can help case investigators more quickly identify sources of infection and high risk areas - saving thousands of hours of manual reviews.



Improving coordination among diverse agencies. Without a common standard for collecting and storing contact tracing data, it's challenging to share data across borders. SAS data management capabilities can help you make better use of large volumes of (and share) contact data from a variety of sources.

Our Approach

SAS technologies create links among patients, contacts, and places - providing link diagrams that make contact tracing easier and faster. We do this by providing software and services to help you:

Establish a contact tracing database. You can gather contact tracing data in a system that is optimized for analysis, then use identification methods to consolidate multiple records of the same individual. The database enables you to establish and visualize links among patients, contacts and locations. SAS allows you to see how linkages form over time.

Enrich contact-tracing data with external sources. The faster you can establish better, more comprehensive links, the quicker you can identify contact. SAS can help by allowing you to include data from passenger manifests, employee rosters, phone location data and many other sources.

Generate intelligent alerts. Generating alerts is how public health officials communicate with the contacts for a given patient. SAS can help you dispatch alerts that convey health risk warnings and can be customized for each contact, such as directing them to awaiting testing facilities at a specified date and time or ordering them to self-quarantine until a specific date. Alerts can be communicated directly by a public health official or sent through automated channels, such as text/SMS messages and emails.

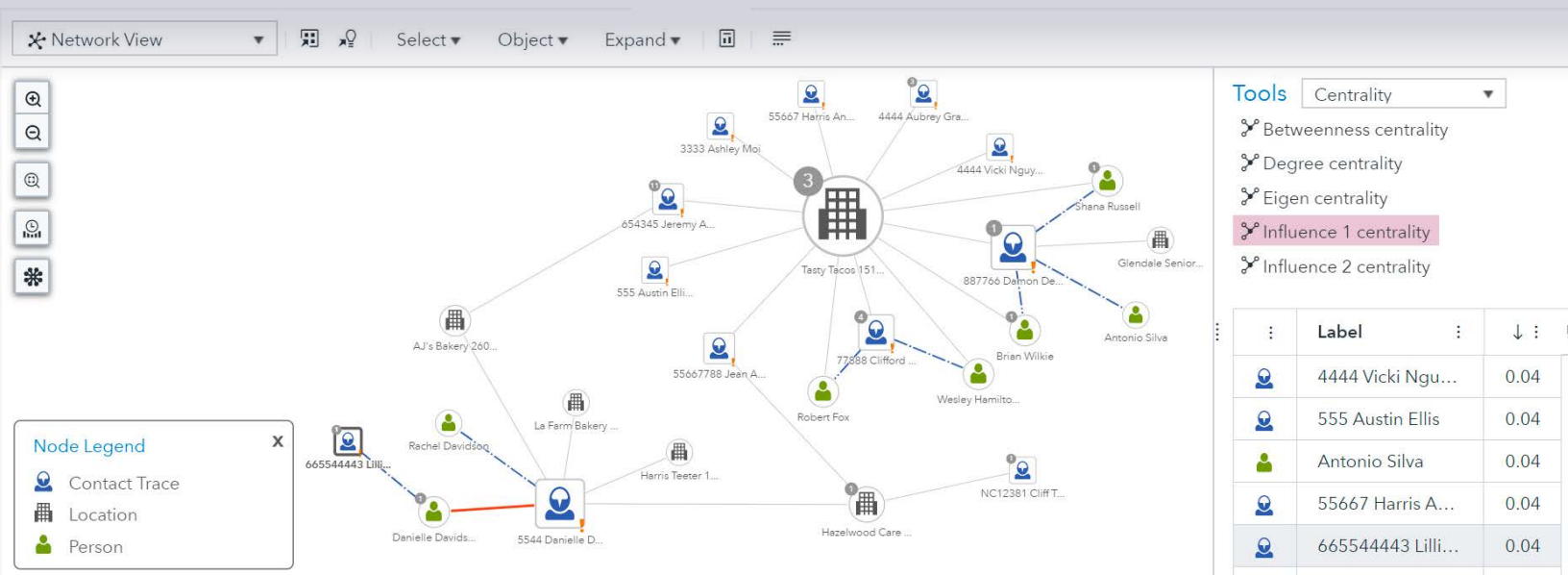
The SAS® Difference

Link analysis is the foundation of modernized contact tracing. SAS provides a comprehensive solution that combines robust link analysis and visualization with text and geospatial search and analysis, interactive network building, entity generation and contact analysis. These capabilities enable you to proactively identify risk contacts and superspreaders.

Our data management tools can integrate data from many external sources to deploy the right data quickly to our cloud-ready investigation and incident management solution, where you can easily create, triage and manage your efforts to make contact tracing more complete. Our advanced analytical modeling tools help you to answer the critical questions needed to implement smart public health policies. With SAS visualization abilities, you can perform deeper investigations of contacts and data to uncover hidden patterns and share them across various health agencies.

SAS helps public health officials and investigators make sense of overwhelmingly complex disease events, manage the velocity of alerts and understand disease spread.

Contact Tracing: Supporting Infectious Disease Investigation



Learn more at the [SAS COVID-19 Resource Hub](#)

