

# Contact Tracing Technologies That Can Help Counties Slow the Spread of Covid-19

Webinar - July 14

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## Mark LaVigne, PhD Deputy Director NYSAC



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# IBM Watson Health

Supporting Counties in the Fight against and Recovery from COVID-19

New York State Association of Counties July 14, 2020





Monitoring to Get Open and Stay Open.

Address cases before they become outbreaks Watson Analytics provides insights into data and communities to assist managers in effectively responding to the crisis and minimizing risk of spread in communities

Population Analytics And AI

Make informed decisions about where to deploy limited resources in order to have the most impact at managing population health and safety.

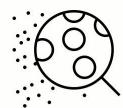


### Monitoring Testing & Tracing

Organize and manage referrals and test results, facilitate contact tracing, people safety, and adherence to new protocols and processes.

Integration with mobile solutions to support tracing, quarantine and isolation Digital Governments focused on Human-Centered Design

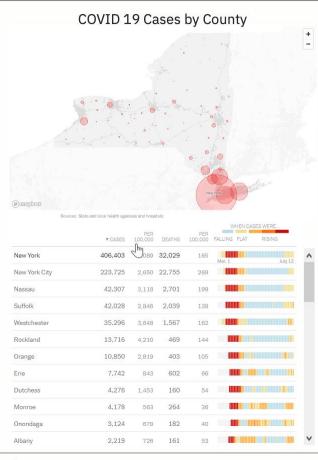
Responsive County Websites with Chatbots that answer frequently asked questions, providing the community with access to information to stay safe and minimize risk.

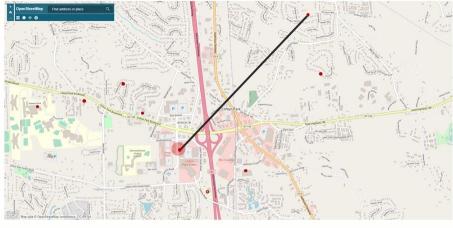


### New York State Contact Tracing Tracker July 12, 2020



Bringing disparate data sources together into actionable information

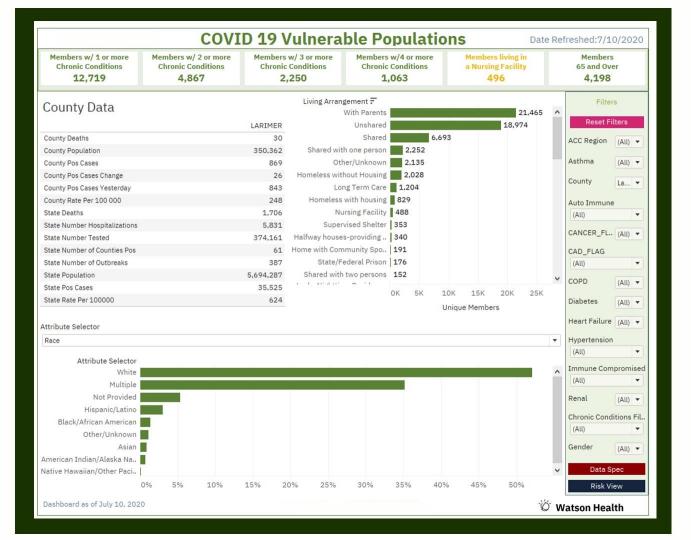




Name	Home Address	Work Address
Jane Doe	12345 Sandy Spring, Clifton Park NY 12065	543 Chipotle Rd, Clifton Park NY 12065
John	123 Pillow Top	456 Apple
Jack	234 Cane	23234 Sycamore
Jill	12313 Apex	334 Red bull ring
Janet	8992 Cherry Creek	996 Black Heath
Jerry	555 Pheasant Run	19234 Bethpage, Clifton Park NY 12065



Identifying atrisk populations for special monitoring and risk mitigating actions





Identify Early and limit exposures.

Manage risk and return with confidence. Watson Works provide rapid access to the right software, data, IoT, AI, services and industry expertise to address today's crisis and support ongoing planning

Work and School Re-entry

Make informed decisions about when to have workers, businesses, schools, students, faculty and staff return to and remain at school or work, with a focus on health Facilities and People Management, Safety & Wellness

Organize and manage facilities and space, aid tracking to support contact tracing, people safety, and adherence to new protocols and processes

Technologies to check temperature, provide access to buildings based on health status. Contact Tracing & Care Management

Trace exposures of COVID-19, manage care for impacted cases and contacts, and connect them to necessary resources to support successful quarantine and isolation.

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### **Community / School Mobile App:** IBM Return-to-Workplace Advisor



**Case Management System:** IBM Watson Care Manager



Support county residents, businesses, schools and staff and protect their health and safety as school and work re-opens

- → Communicate self-reported symptoms and test results to staff to initiate contact tracing and case management process
- → **Co-ordinate status and next steps** for accessing testing and medical care resources
- → Manage and trace COVID-19 positive community members, students and staff and document all case information
- → Report on contact tracing efforts to slow the spread of infection
- → Support the health and social needs of quarantined and isolated individuals through community programs and services

### Example journey for a family affected by COVID-19

Each day, Jack (or Susan) logs into the community app to review local conditions and document his health condition. He receives a green pass to attend classes at his school.

Jack Susan Jack's Parent

Local Student

Jack and Susan go to

the local testing site

for COVID-19. Their

apps and the

87

Center.

where they test positive

results are sent to their

**Community Command** 



Jill County manager

At the end of the day, Jill reviews her **Command Center** dashboard to monitor trends across the community and within school students and staff.

Each night during the semester, Susan logs into the community app to check the status of her son's school and receive notifications of any community issues for the coming day.

Jill receives a notification of a student with potential symptom or exposure. She works with the school to evaluate response, using her dashboard to monitor the community for new information.

One morning, Jack

feels ill and he uses

the app to report his

receives a red card

from school and is

advised where to go

symptoms. He

for testing.

\*Scenario is representative only.

Jill is notified of the results and logs into Watson Care Manager to open a case, reaches out to Susan and Jack. and coordinates supports. She begins tracing and notifying the school and exposed individuals and arranges isolation supports for Jack and Susan.

# Assess individual needs and capture critical information to determine next steps

Pre-loaded assessments allow you to capture critical information about the individual's symptoms and needs.

These assessments help inform the care plan and recommend appropriate actions and interventions that are needed for each individual student.

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	574-631-5001			No			
	Next of Kin			Do you need care for another family member?			
	Tina Brown 617-328-8934			No 🗸			
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	COVID Student Support			Need football playbook updates and fitness equipment delivered to dorm room			
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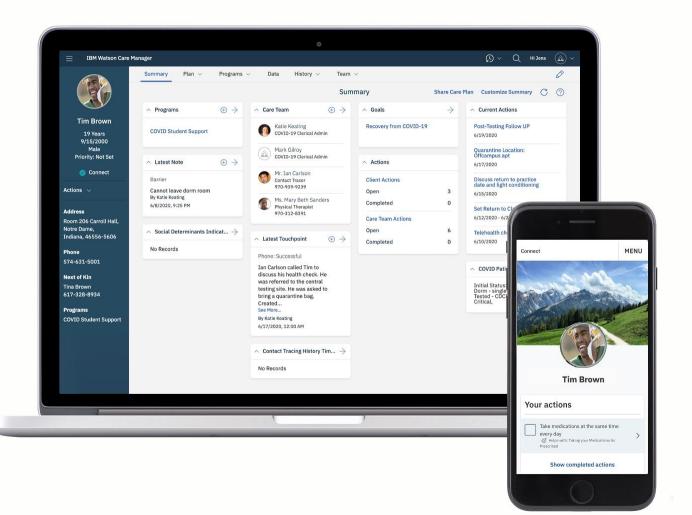
# Connect impacted contacts and cases to resources to support daily needs during quarantine and isolation:

- $\rightarrow$  Food and grocery services
- → Medication delivery
- → Health programs
- → Laundry services
- → Mental health providers
- → Academic and personal supports

### Watson Care Manager

High-touch contact tracing and care management to ultimately slow the transmission of COVID-19

- Easily configurable cloudbased SaaS solution
- Rapidly deployed in as little as a week
- **HIPAA enabled** to protect personal health data
- Mobile responsive and accessible
- Reporting support for employer requirements
- Monthly licenses based on individuals under care



# Thank you. Questions?



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# Reopening will be a journey. Here's your guide.

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### Who is Salesforce?



# But There Are Many Considerations Before Reopening

Returning to the workplace will look different than before



How do you assess readiness to return to the workplace?



How do you **reimagine your County** for the new normal?



Where do you go for guidance to **reopen safely**?





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**Reimagine** contact tracing to be more efficient, scalable, reliable

Reopen businesses across the state

Reinforce the importance of community well-being

We are partnering with Salesforce to make our contact tracing process more efficient, more scalable, more reliable... it should give the public great confidence that our systems are getting so much better and we're that much closer to getting back to work. Efficient, reliable contact tracing is essential for getting everybody back to work.

Governor Gina M. Raimondo | State of Rhode Island



# Contact Tracing for Employees Track Employee Health Relationships Safely and Securely



### **Capture the Right Information**

Use guided assessments to collect data consistently and comply with workplace guidelines

#### **Evaluate Potential Risk**

Manually trace interactions across employees, meetings, and offices to identify possible points of transmission

### Take Immediate Action to Stop the Spread

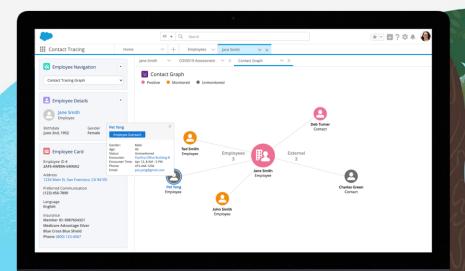
Trigger actions to accelerate intake, follow up, and daily monitoring

### **Protect Employees & Maintain Business Continuity**

Track possible barriers to employee wellbeing and productivity over time

#### **Connect to Workplace Command Center**

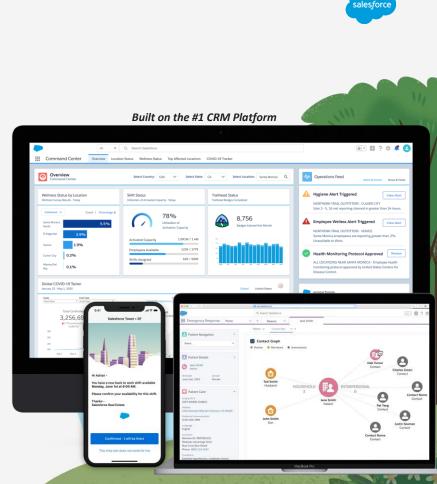
Use a single hub to assess return-to-work readiness across multiple dimensions



### Work.com

Reopening will be a journey. Here's your guide.

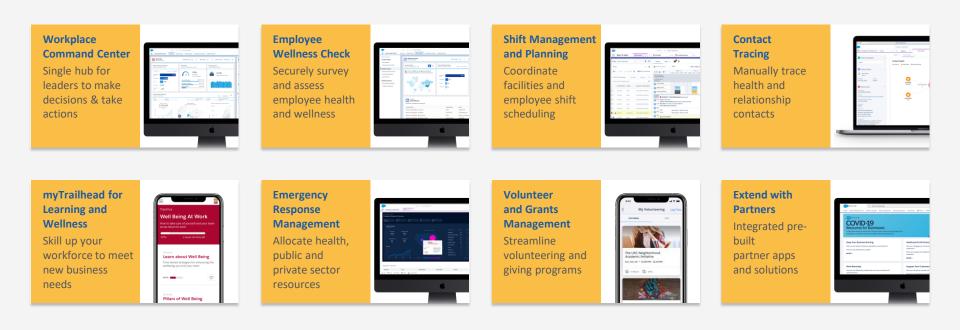
- Reopen Your Communities & Businesses Safely
- Return to Your Workplace
- Reimagine Your Organization
- Reskill Your Employees
- Respond to Any Future Crisis



# **Work.com Products**



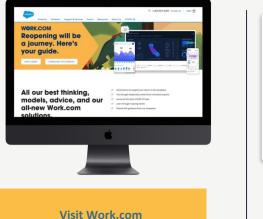
### Helping Your County & Businesses Reopen Safely, Built on the World's #1 CRM Platform

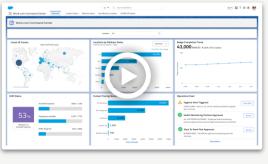




## Learn More About Work.com









Watch the Demo

**Download the Playbook** 

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### Contact: michael.barry@salesforce.com

# Thank You

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# Modernized Approach to Contact Tracing Speed saves lives Speed protects the economy

Steve Bennett, Ph.D., Director, Global Government Practice at SAS; Former Director of the National Biosurveillance Integration Center, U.S. Department of Homeland Security

Sarah Newton, MPH, Manager, U.S. Health Policy Team for Government & Education

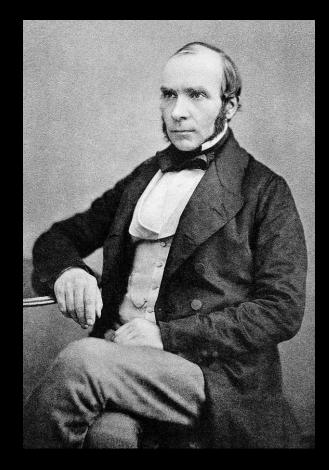
Andrew Ball, Director, Public Affairs & Policy, US Public Sector



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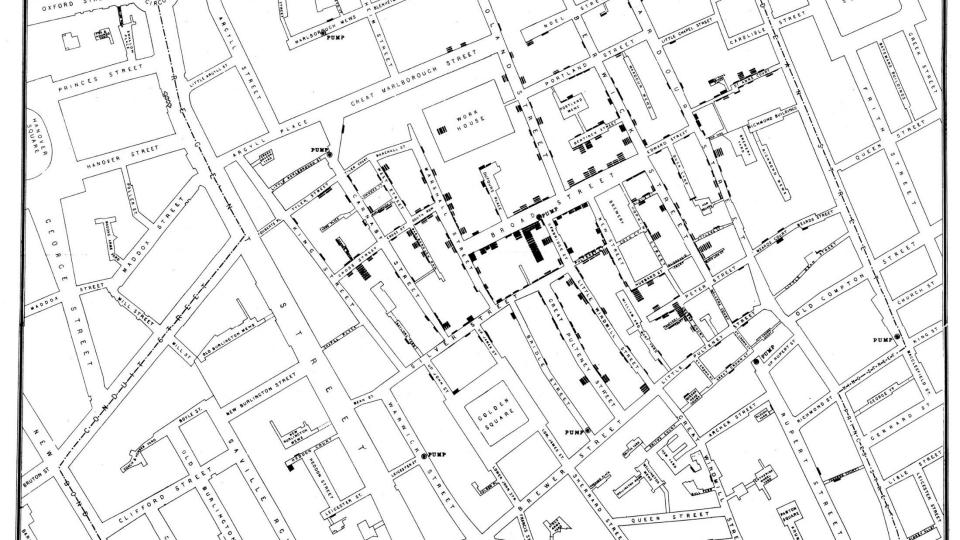




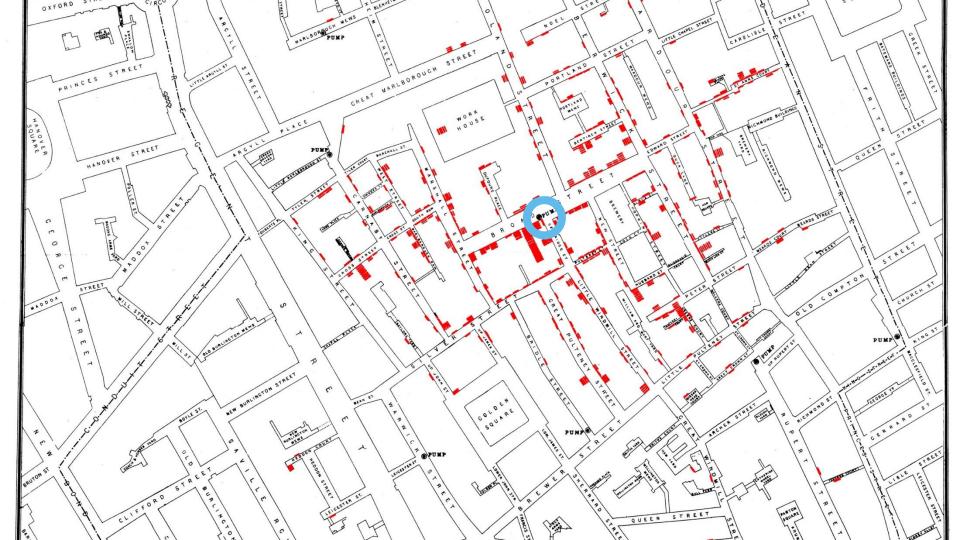














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SAS supports 700+ Government Departments, Ministries, Offices, and Agencies in 134 countries around the world

100% of U.S. Government Cabinet Departments and Agencies, as well as all 50 states are SAS customers



### SAS in New York State

- 20 NYS Agencies and Authorities are currently leveraging SAS software including:
  - Supporting New York State Dept. Of Health Epidemiologists with COVID-19 Response;
  - Advanced budget and revenue forecasts at New York State Division of the Budget
  - Audit prioritization at New York State Department of Tax and Finance;
  - Leveraging predictive analytics to improve mental health outcomes at Office of Mental Health



# SAS Global Support for COVID-19



### Epidemiological Modeling Cleveland Clinic Numerous U.S. States



### Situational Awareness 7 U.S. States 17 Countries



Medical Resource Optimization Cleveland Clinic German Ministry of Health Spanish Ministry of Health



**Benefits Delivery** 

**Brazilian Dataprev** 



**Contact Tracing** 

Hong Kong German Ministry of Health



#### The SAS Approach

SAS offers a modernized approach to Contact Tracing, enabled by analytics



### SAS Supports Modernized Contact Tracing in Four Ways





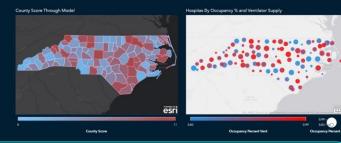
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# The SAS Platform – Tackling COVID-19 issues with analytics

#### **Public Health Insights**

#### **Identify Susceptible Populations**

Leverage analytic models to monitor community risk by monitoring supply (e.g. hospital occupancy data), against potential demand (e.g. susceptible population, demographic factors).



# Epidemiological Modeling for Decision Making

Model different $R_0$ sc	enarios to understand impact future reso	of social distancing polices o ource needs	n virus transmission and
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R0 Intervention 0.5 0.6 0.7 0.8 0.1	9 1 1.1 1.2 1.3 1.4	1.5 1.6 1.7 1.8	1.9 2 2.1 2.2 2.3 2.4
Peak State Infections	Peak State Hospitalizations	Peak State ICU Beds	Peak State Vent Beds
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Peak Infection Date	Peak Hospitalization Date	Peak ICU Beds Date	Peak Vent Beds Date
07/10/2020	07/10/2020	07/10/2020	07/10/2020

#### Risk Modeling to Identify Vulnerable Populations



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# How Analytics Can Help

#### **Timely Public Health Insights**

Leveraging **contact tracing data** to infer case demographics and the associated known exposures with other **public health surveillance data** (e.g. clinical), SAS provides analytical models and visualizations to help:



- Pinpoint "super spreaders" and at-risk individuals and geographies
- Analyze data across county/community boundaries
- Find hidden patterns of risk
- Prioritize deployment of testing and PPE

#### **Case Investigator/Epidemiologist**

Hotspot emerging clusters



- Create microsegments across NY jurisdictions to identity both "at-risk" and "safe" communities
- ✤ Add social determinants to protect historically underserved communities
- Enable Medical Resource optimization

NY Health Policy Analyst/Lead Epidemiologist



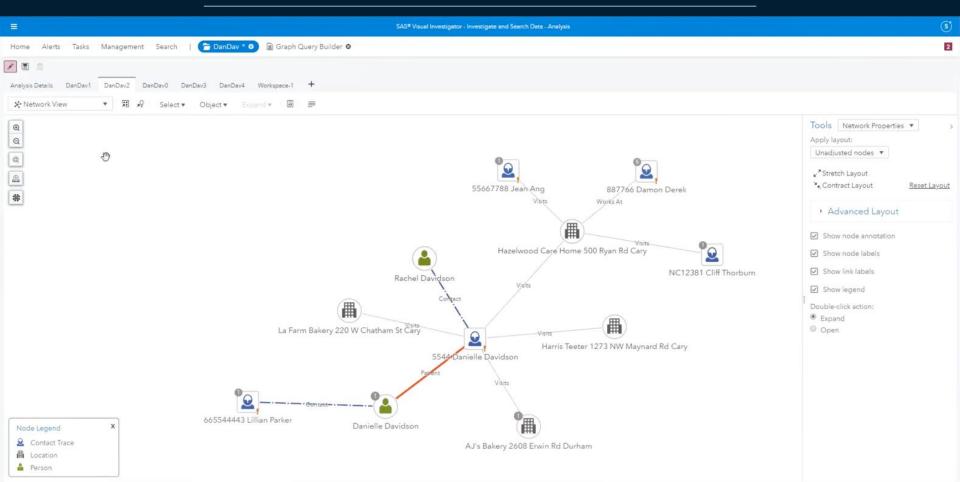
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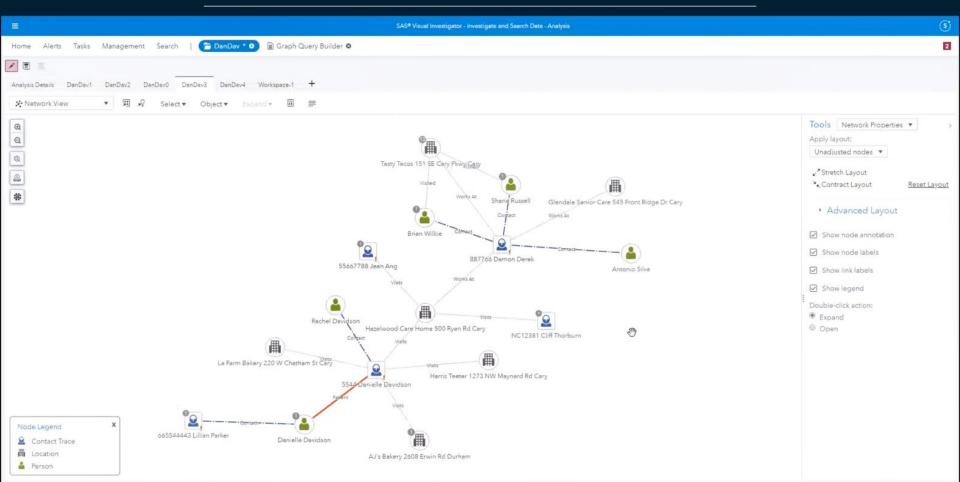
#### CASE INVESTIGATOR – Examine risk alert

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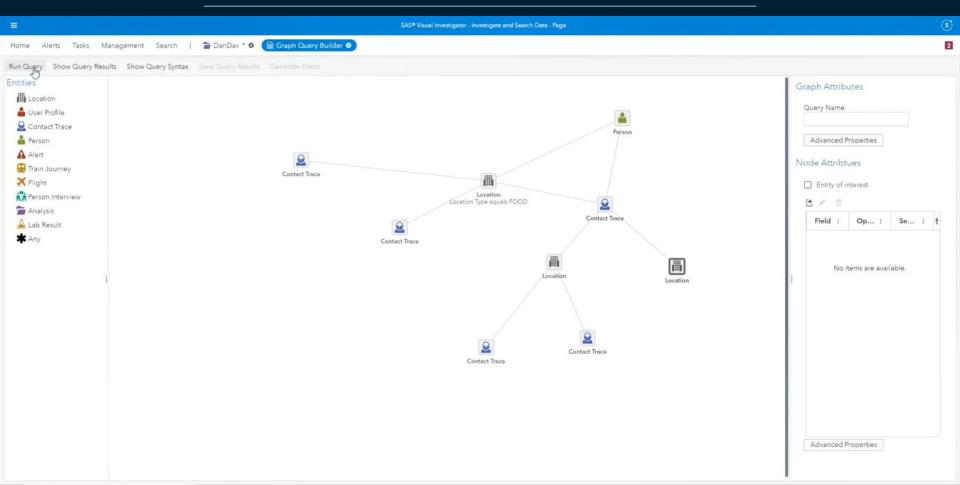
### CASE INVESTIGATOR – Drill deeper on key risks



### CASE INVESTIGATOR – Find hidden pattern of risk



### CASE INVESTIGATOR – Find hidden pattern of risk



### CASE INVESTIGATOR – Find hidden pattern of risk

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### HEALTH POLICY ANALYST – Hotspot emerging clusters

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1	Covid-19 Locat	ion Priority Scoring	Dashboard			K <sup>2</sup>		2 E 🚺
Location Scorecard : KPI Change %								
Covid-19 Location Priority Scor	ecard		Highest Prioritization 96	Score			ation Score Chan 0%	ge
Understand the spread of Covid-19 cases and the top 15 locations with highest priority scores.	• 5 =	Location	Address	City	Score Change Percent	Prioritization Score	Covid-19 Patients	Num. Individ Expose
		Saturn Nursing and Rehabilitation Center	8156 South Tryon Street	Charlotte	20%	96	8	
		Signature Care Facility	214 W Franklin Street	Chapel Hill	17%	87	2	
		AJ's Bakery	2608 Erwin Road	Durham	<u>50%</u>	78	3	
	Pointies Sound	Litchfield Nursing & Rehabilitation Center	3030 Evans St	Greenville	-6%	75	1	
		Individuals Exposed	İ					
STEREN.	esri	v	Vake County	Med	klenburg Co	Durtham County	Iredell County Onslow County Pitt County	Guilford County Atumoo Bueeo
0 500 1,000 1,500 2,000 2,500 40 Confirmed Covid-19 Cases	60 80 Prioritization Score		Num. Individuals E	xposed	Prioritizati	on Score		

# HEALTH POLICY ANALYST – Perform microsegmentation

#### Sample Data

ovid-19 Patient	Gender	Location	• Date •	Travelled To	<ul> <li>Mass Gathering</li> </ul>	
Efan Middleton	F	36 Nicolls Street East Elmhurst, NY 11370	4/11/2020	American Baptist Churches of New York State	Y	
Kester Walls	M	22 Columbia Rd. Jamaica, NY 11434	4/10/2020	Presbytery of Long Island	Y	
lacob Puckett	M	147 Goldfield Drive Brooklyn, NY 11203	4/9/2020	Batchellerville Presbyterian Church	Y	
Mylie Chavez	F	9 Fulton Street Bronx, NY 10452	4/7/2020	Letchworth State Park	Y	
Fynn Finch	M	383 Old York Drive Rochester, NY 14609	4/6/2020	Townsend Harris High School	Y	
Fatema Taylor	F	7526 Edgefield St.Poughkeepsie, NY 12603	4/3/2020	Oakwood Avenue Presbyterian Church	Y	
Carrie-Ann Herring	F	9062 S. Bayport Rd. Bronx, NY 10451	3/31/2020	Chapel Hill Bible Church	Y	
annis Miller	F	41 Schoolhouse Ave. Hempstead, NY 11550	3/29/2020	Redden's Funeral Home	Y	
Arwen Hicks	M	85 Wayne St. Woodside, NY 11377	3/27/2020	Lowville Presbyterian Church	Y	
laire Knights	F	8920 North Silver Spear Ave. New York, NY 1	00 3/26/2020	Daniel J. Schaefer Funeral Home	Y	
Rahima Waller	F	100 Washington Lane Bronx, NY 10453	3/25/2020	Chapel Hill Bible Church	Y	
Susanna Macfarlane	F	809 Kingston Ave. Astoria, NY 11103	3/24/2020	Guenther Funeral Home	Y	
Dana Swan	F	9208 Brook Court Staten Island, NY 10306	3/21/2020	Light's Funeral Home	Y	

Status by Zip Code

#### High-risk segments mapped



#### **Location Priority Scored**

Location	Contact Status	<ul> <li>Mass Gathering</li> </ul>	Contact Risk Score	
Batchellerville Presbyterian Church	Not-Contacted	Y		65
American Baptist Churches of New York State	Positive	Y		62
Chapel Hill Bible Church	Positive	Y		96
Oakwood Avenue Presbyterian Church	Positive	Y		100
Redden's Funeral Home	Positive	Y		80
ownsend Harris High School	Positive	N		79
hapel Hill Bible Church	Quarantined	Y		83
owville Presbyterian Church	Quarantined	Y		84
ight's Funeral Home	Quarantined			92
etchworth State Park	Quarantined	Y		80
iuenther Funeral Home	Quarantined	Y		80
aniel J. Schaefer Funeral Home	Quarantined	Y		90
resbytery of Long Island	Recovered	Y		64



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# **Moving Forward**

Engage on both a business and technology track

### **BUSINESS TRACK**

#### Discuss scope and model building with SAS team that supports CDPH

- SAS Data Scientists
- > SAS Epidemiologists

Eid

SAS Health Policy Experts

### **TECHNOLOGY TRACK**

Discuss IT Environment, security requirements, and data sources

- SAS IT Architects
- SAS Data Modelers
- SAS Security Experts



Andrew Ball



Sherrine Theresa

Do



Sarah Newton



Dr. Josh Morgan



Angela Cheung

David

Connors



Bennet





Dr. Steve Kearney

Cathy Smith





# Let's Work Together!

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