Home Health Care News

TECHNOLOGY

VNSNY Launches Open-Source COVID-19 Contact-Tracing Tool for Home-Based Care Providers

By **Robert Holly** | July 23, 2020

The Visiting Nurse Service of New York (VNSNY) is flexing its data science muscles.

Over the past few months, VNSNY and its data science team have been building a contact-tracing tool to help home- and community-based care providers limit the spread of the coronavirus. Mapping the spread of COVID-19 remains critical to all health care stakeholders, as the number of people known to have been infected by the virus in the U.S. passed 4 million on Thursday.

Broadly, contact tracing is the practice of identifying individuals who may have been exposed to an infectious disease and the other people they came into contact with.

While home- and community-based care providers have long been held to high infection-control standards, actually mapping out the potential spread of disease within an organization's network is a somewhat novel concept, according to Carlin Brickner, who heads VNSNY's data science team as director of analytics.

"I think clinicians have always been worried about infectious diseases or just infections, but we've never really had a pandemic to worry about," Brickner told Home Health Care News. "There have been other outbreaks, but this is more of a monumental shift."

On any given day, VNSNY and its roughly 13,000 employees help provide care for about 44,300 patients and health plan members. Those statistics make VNSNY the largest nonprofit home- and community-based services provider in the country.

VNSNY's contact-tracing tool — VisitContactTrace — works by analyzing the regular health care data home-based care organizations already keep track of and report. In doing so, the goal is to give providers a better picture of which clinicians are interacting with which patients, Brickner said.

"It's a common data structure that an electronic medical record for a community-based health care provider will see," he said. "We're just basically applying a contact-tracing idea to what a health care provider already collects in their regular day-to-day operations."

But VNSNY isn't just using VisitContactTrace internally. It's also offering the tool up to its home-based care colleagues as well — for free.

Currently, any provider can install the VisitContactTrace tool and run their own contact-tracing models for no cost by visiting GitHub, an online platform that allows users to share open-source code. VisitContactTrace was specifically designed to work with the statistical software program R.

"It's a program that my team uses on a daily basis for pretty much all of our work," Brickner said.

As with any data tool, there are limitations to what VisitContactTrace can do, however.

Generally, VisitContactTrace only helps providers better understand direct interactions between their clinicians and patients — not any outside interactions those parties may have on an individual basis.

“It’s only the data that we collect — the encounters between the clinician and patient,” Brickner said. “We don’t take into account other things that are outside the perspective of the home care agency or other community-based health care provider. It’s just what they’re able to observe and what the home care agency should be looking out for from the data that they naturally collect.”

Developing VisitContactTrace is on-brand for an innovation powerhouse like VNSNY.

Since its founding 127 years ago, VNSNY has launched dozens of groundbreaking research projects, even forming an infrastructure within the overall business dedicated to such efforts.

VisitContactTrace was developed in response to the COVID-19 virus, but VNSNY and Brickner hope it will be used to mitigate the spread of future outbreaks, too.

“I think COVID-19 was the motivation to develop this [tool], but I don’t think that will be the end of it,” Brickner said.

Since the coronavirus surfaced, many countries have adopted aggressive contact-tracing efforts, including South Korea, Iceland and others.

Nationally, the cost of an effective contact-tracing program can be substantial.

For the United States, for example, a recent cost estimate for one proposal was $3.6 billion, McKinsey & Company noted in a May report. Still, robust contact-tracing programs can reduce the likelihood of full-scale lockdowns, which come with an even greater price tag.

While the public sector has played a leading part in contact-tracing efforts thus far, private-sector organizations are positioning themselves for bigger roles moving forward, the McKinsey & Company report also highlighted.