OSU TRACE-COVID-19 results suggest 17% of Hermiston community infected with SARS-CoV-2

HERMISTON, Oregon — Preliminary results from random door-to-door TRACE-COVID-19 sampling by Oregon State University (OSU) late last month suggest 17% of the Hermiston community have had the novel coronavirus that causes COVID-19.

The study, known as Team-based Rapid Assessment of Community-Level Coronavirus Epidemics (TRACE-COVID-19), initially began in late April in Corvallis. The random sampling effort was also expanded in late May to include 30 neighborhoods in Bend, Oregon, as well as Newport, Oregon, in mid July.

"The results of this study are a significant warning," said Hermiston mayor David Drotzmann. "We now have a clearer picture of how many people are carrying this disease without knowing it, and how rapidly it is spreading family to family, household to household."

"Our results indicate the virus is extremely widespread in Hermiston and more prevalent than previous data had indicated," added Ben Dalziel, assistant professor in the College of Science at OSU and co-director of the project.

In Hermiston, 29 two-person field teams canvassed 30 neighborhoods, with 249 of the households visited, or 44%, agreeing to participate. In all, the field workers received samples from 471 people, and 41 tested positive for SARS-CoV-2, the virus that causes COVID-19.

TRACE modelling, which takes into account the sensitivity of the test and the locations of the positive individuals, estimates the prevalence of the virus was 169 out of every 1,000 people in Hermiston. That translates to nearly 3,000 infected people in the city overall.

"This study confirms what we have feared based on weeks of troubling data from the Oregon Health Authority: The coronavirus has spread throughout Hermiston and threatens the entire community," said Oregon governor Kate Brown. "Umatilla County is now in a 'baseline, stay home' status and we must do everything possible to contain these outbreaks. Wear your face coverings, watch your distance, and wash your hands. I'd like to thank the TRACE team at Oregon State for their hard work on this important research."

WIDESPREAD INFECTION. *Preliminary results from random door-to-door TRACE-COVID-19 sampling by Oregon State University last month suggest 17% of the Hermiston community have had the novel coronavirus that causes COVID-19. The study, known as Team-based Rapid Assessment of Community-Level Coronavirus Epidemics (TRACE-COVID-19), canvassed 30 neighborhoods. The field workers (pictured) received samples from 471 people, and 41 tested positive for SARS-CoV-2, the virus that causes COVID-19. (Photos courtesy of Oregon State University)*

In announcing prevalence results, the TRACE team follows reporting policies used by the Oregon Health Authority and local health departments.

"These data reaffirm what we learn from public health investigations, that in addition to outbreaks, there are many cases of COVID-19 which are sporadic," said Dean Sidelinger, health officer and state epidemiologist at the Oregon Health Authority. "This indicates wide community spread."

Oregon State University researchers also gathered multiple wastewater samples from Hermiston and neighboring Boardman in early July and again from July 21 to 24. Analysis of the wastewater samples "showed consistently strong viral signals in both cities that have remained very high and not decreased over time," said lead researcher Tyler Radniecki of the OSU College of Engineering.

"The levels recorded are significantly higher than any of TRACE's previous wastewater samples," he added.

Both the door-to-door and the wastewater results indicate the virus is widespread in Hermiston and the situation is serious and warrants immediate action, said TRACE leaders.

"Half of the 30 randomly selected neighborhoods we visited had at least one positive participant," said Dalziel. "This means that the virus is very widespread within the community, not clustered in only a few locations."

As well, 80% of those Hermiston community members who tested positive in the TRACE sampling did not report symptoms of the virus.

"This result is cause for concern because efforts to monitor and stop spread that are based on symptoms will miss many infected individuals," said Dalziel. "The large number of infected people without symptoms combined with the widespread distribution of the virus within Hermiston creates significant risks for the entire population."

"Residents should pay close attention to social distancing and follow the statewide face-covering mandate that began [in July]," added Javier Nieto, dean of OSU's College of Public Health and Human Services and another of TRACE's leaders. "Other measures, such as avoiding large gatherings, will also help slow the spread of the virus, in line with the state of Oregon's recent decision to move Umatilla and Morrow counties back to phase one COVID-19 status. It is particularly important that individuals who have symptoms or who have tested positive follow state and county health guidelines such as self-isolating and seeking medical care."

Hermiston is the largest city in northeastern Oregon at just over 18,000 people, and Umatilla County ranks first among the state's 36 counties in the number of COVID-19 cases per 10,000 people, with more than 222 cases per 10,000 as of July 30. This tally includes both current and past cases. Most of the businesses where cases have spiked are in the food processing industry, though the list also includes Hermiston's Walmart distribution center and Marlette Homes, a maker of manufactured houses.

The TRACE study is a collaboration of the OSU colleges of Science, Agricultural Sciences, Engineering, Public Health, and Human Sciences, and the Carlson College of Veterinary Medicine, in partnership with county health officials.

"We are grateful to the Hermiston residents who were willing to participate in TRACE," said Jeff Bethel, an associate professor in OSU's College of Public Health and Human Sciences and a member of the TRACE leadership team. "The results show that if individuals wish to avoid infection, they need to be extra vigilant and abide by health officials' guidance. And because the vast majority of people infected report no symptoms, extra care and additional testing is warranted beyond only those who report symptoms."

TRACE uses a statistical model to estimate the proportion of the community that is infected during the period when the samples were collected. The model uses information on the number of samples, the number of positive tests, the sensitivity of the tests, and the locations of the positive results within neighborhoods and households.

"TRACE does two things," Dalziel said. "First, we find and get help to participants who are infected but do not know they are, which reduces the chances of these folks unknowingly spreading the virus to other people. Second, we rapidly estimate how widespread the virus is in the general population, which informs public health strategies. Rapid, representative estimates of community prevalence provide a different type of information than case counts or hospitalizations, since those indicators tend to lag behind current conditions, and are biased toward individuals who show symptoms."

The study initially was funded by OSU and a grant from the David and Lucile Packard Foundation, and has been aided by work from the OSU Foundation and the OSU Alumni Association. Funding from PacificSource Health Plans allowed for expansion to Bend and Newport and additional sampling in Corvallis, and the Oregon Health Authority funded the Hermiston sampling.

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PCC's Contact Tracer Training opens August 3

Beginning this month, a new Portland Community College (PCC) training course will help supply local agencies with qualified contact tracers to help combat the spread of the coronavirus.

In April, Oregon governor Kate Brown and the Oregon Health Authority (OHA) announced that as part of the state's plan for re-opening, contact tracing would be critical in combatting the spread of the virus. OHA emphasized the need to create nimble, culturally specific monitoring and response teams, which includes contact tracers.

Through the Institute for Health Professional Program, PCC's Contact Tracer Training is a self-paced, non-credit course made up of six modules. Participants have up to two weeks to complete the training and earn a letter of completion once they've finished.

Students learn the basics of COVID-19 and contact tracing; why the Health Insurance Portability and Accountability Act (HIPAA) is important; understand and practice cultural awareness; learn the basics of motivational interviewing; and how to effectively deliver a phone script.

Training classes are open beginning August 3.

"Contact tracers are critical to ensure the safe, sustainable, and effective quarantine of those affected to prevent additional transmission by tracing and monitoring infected people and notifying them of their exposure," said Karen Sanders, division dean of Health Professions and interim dean for Continuing and Community Education. "The foundation for the curriculum of the course was provided by OHA and we supply the instructional expertise and an online delivery method. They were excited to partner with us."

Sanders said there is high demand for contact tracers and preliminary reports suggest that more than 100,000 contact tracers are needed nationwide in the near future to help prevent the further spread of COVID-19. In addition, PCC's curriculum is aligned to specific training guidelines per the Center for Disease Control (CDC) and the OHA, which is a benefit to students who complete the PCC training.

"Contact tracers are being hired by county and city health departments and a wide variety of private businesses who are employing contact tracing as part of their back-to-work strategy," Sanders explained. "Currently, there is no educational or training requirement for these positions. However, having training in the basics of COVID-19 and the skills for culturally sensitive interviewing should provide an advantage for students."

When governor Brown and the OHA set the re-opening guidelines, PCC president Mark Mitsui realized the need for training for local community members, who can provide contact tracing with a culturally appropriate lens. Mitsui has also emphasized that PCC has the ability and expertise to act as a talent pipeline of culturally diverse individuals into these jobs.

"The information and guidance provided by the governor and OHA have built the foundation for training and the deployment of the large numbers of contact tracers that will be needed to successfully re-open Oregon," said Mitsui. "However, in order for contact tracing to be the most effective at the local level, each region must have a unique outreach, recruitment, and training plan tailored to their culturally specific needs. Portland Community College is well positioned to contribute to this effort."

To learn more, e-mail <climbhealth@pcc.edu> or call (971) 722-6633, or visit <www.pcc.edu/climb/contact-tracer>.