

Case-Study: Kaya17 paves the way for on-site testing with its point-of-care testing (“POCT”) for COVID19

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The recent COVID pandemic has created the need for on-site testing to clear event participants, company employees, and school students to continue doing their normal activities without the fear or threat of infection.

While “at-home” and laboratory testing have been talked about at length, it is the “on-site” POCT that makes safety possible. This is because POCT allows one to separate the infected from uninfected at the site of congregation. Conducting testing remotely or prior to an event always leaves room for people to contract the infection in the intervening time frame. Picking up an infection is as simple as breathing the same air as an infected person while being more than several feet away. This is especially true when it comes to respiratory diseases like COVID.

“On-site” testing requires a rapid test where everything from registration, sample collection to test administration can be done in minutes rather than hours or days. Testing should be simple enough that a person with no formal clinical experience can be readily trained to provide such services. This is extremely critical during an epidemic when finding personnel to perform testing can be challenging. Equally important is the sensitivity and accuracy of the results. As we have seen with the COVID outbreak, rapid lateral flow tests while being fast and simple were grossly inadequate as to both accuracy and sensitivity. Hence, many asymptomatic people with mild viral levels go undetected and they tend to spread the disease thus defeating the point of testing.

Kaya17 has a rapid test that is easy to use and one that is as accurate and sensitive as a PCR test. Moreover, it is a POCT format making it ideal for “on-site” testing. In addition, Kaya17 has made the test saliva based. Compared to nasal swabs, saliva tests are much preferable and puts children, adults, and older people at ease. Finally, the Kaya17 test is highly scalable, which means it can function as a one reader system running 30 tests/hr. or can be quickly scaled up to a 10-reader system whereby 300 tests/hr. can be run.

In March of 2021, Kaya17 was invited to organize and run an “on-site” test for the attendees of the annual NFL Alumni of Northern California Golf Tournament. It was anticipated that about 200 alumni would be in attendance. This event posed various challenges namely conducting the test administration outdoors and addressing heat, sun, and glare concerns; uneven surfaces; attendees largely arriving at or around the same time; maintaining decorum and keeping attendees confined to their automobiles; administering retests and communicating results.

Prior to the day of testing, Kaya17 had evaluated the site and organized the necessary gear (including 300 tests, 3 readers, 1 patient ID (“PID”) registration system, 2 bio-hazard waste receptacles & PPE) and personnel to run the test. Kaya17 identified a suitable location for its

“testing tent” approximately 50 yards from the main entrance to the golf course clubhouse. The golf club provided a canopy, 4 tables and power sources.

The testing workflow included 2 individuals to meet attendees in their cars upon arrival and collect registration information and saliva sample; 1 individual to register attendees into the PID system generating 2 printed PID QR codes - one pasted on the sample syringe and another on the cartridge; 3 technicians to operate readers and evaluate and transmit results through Kaya17’s proprietary Wi-Fi network back to PID system, and 1 individual to communicate results to attendees waiting in their cars. Overall, the sample processing and assay took about 13 minutes. Reading the cartridge in the instrument took 1 minute. Every 15-20 minutes all completed results were listed and used to clear waiting attendees.

While such workflow achieved the necessary results, a few of the key takeaways include that registration could have been much faster and seamless had the attendees preregistered using the Kaya17 app or web portal. In addition, communications of the results should have been made via mobile devices rather than by an individual resource tracking down attendees in their automobiles.

Nonetheless, despite the many challenges, Kaya17 conducted a 180-person screening test to qualify or disqualify all event attendees and completed the screening in under 2 hours so that everyone testing negative could participate without any concerns of infection and without wearing a mask. This was an amazing accomplishment thanks to Kaya17’s POCT capabilities and all the team members who worked so diligently and professionally to make this event a tremendous success!!