There has been a major focus on vaccination as a primary means to curb COVID-19 infection rates since their rollout. However, prevention strategies should not only rely on vaccination efforts, but also include COVID-19 screening to track and prevent the spread of the disease, monitor the efficacy of vaccines, and identify infections for better clinical outcomes.¹

The Centers for Disease Control and Prevention (CDC) has projected that approximately 50% of COVID-19 infections are contracted from someone that is asymptomatic or pre-symptomatic.² Therefore, a routine screening testing program that regularly tests people who are asymptomatic is paramount to the reduction of “silent” viral spreading. COVID-19 screening is delivering additional public health benefits such as in-person learning, managing community transmission, and supporting underserved populations.

In-Person Learning
The COVID-19 pandemic led to an unprecedented shutdown of schools and the hinderance to class schedules has resulted in significant losses in learning opportunities, disproportionally impacting disadvantaged families.³⁴ PCR testing has helped mitigate school closures by screening classroom quickly and preventing contact with infected individuals. This decrease in school closures provides additional downstream benefits to parents who can return to the workforce amongst one of the United States most severe labor shortages.⁵⁶

Managing Community Transmission
Routine screening testing for COVID-19, that focuses on testing people without symptoms, is a critical tool to reduce “silent” spread of the virus and can optimize the protection of an entire community. Therefore, it is important to utilize PCR testing to screen early and manage community transmission rates.

Supporting Underserved Populations
A lack of access to testing, which disproportionally effects low-income groups, is an issue that needs to be immediately addressed. Offering testing options that are the most economical and efficient are paramount to serving these populations. PCR Testing can fill the gap and give access to COVID-19 screening so that all populations are protected.⁷
**Operation ET**

In an effort to support routine screening for COVID-19, the U.S. Department of Health and Human Services (HHS) and the Department of Defense selected PerkinElmer to manage Operation Expanded Testing (Operation ET) in the Western United States.

Operation ET was designed to bring in-person learning safely back to the school environment through routine COVID-19 testing, as well as delivering zero cost testing for underserved communities and at-risk congregate settings. The COVID-19 screening strategy is supporting nearly 66 million people in underserved populations and congregate settings across eight states and several pacific islands.

In addition to supporting schools, this project also offers testing in youth summer programs, early childhood centers, homeless shelters, women's shelters, and correctional facilities. This testing is being funded through the federal government and is offered at no cost to participating schools and organizations.

Samples were delivered, and the results were received under 48 hours certifying that the camping weekend would indeed take place. This was a breakthrough for the program and the school to show that normal activities can still be done during the midst of a global pandemic. Covid-19 has taken away a lot of fun, traditional opportunities from our students but with the help and guidance of Principal Keoki Fraser and PerkinElmer, students were able to enjoy a sense of “normalcy” in ways that were not possible just a year ago.

*Chasen Fukuda, Project Manager for Reopening Schools & ELC for Hawai’i Department of Health*

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**Protecting Your Community Against COVID-19**

RT-PCR screening is a valuable tool in curbing COVID-19 infection rates, both now and in the future. Laboratories who need an RT-PCR assay to allow them to support their communities screening needs should consider several factors before deciding on a workflow.

- Choose from assays approved by the FDA for asymptomatic screening. A list of these assays can be found on the FDA Vitro Diagnostics EUAs - Molecular Diagnostic Tests for SARS-CoV-2 webpage.

- Examine the assay’s robustness in detecting the currently identified variants and those that will arise in the future. To date, most mutations in variants of concern have occurred in the spike protein. Avoiding assays with primers that bind to the spike protein, will reduce the chance that new spike protein mutations will interfere with an assay’s ability to diagnosis COVID-19.

- The sensitivity of the assay should also be considered. The FDA developed a way to precisely compare the analytical performance of the nucleic acid-based SARS-CoV-2 assays with EUAs and published a comparative performance analysis. This assessment used the FDA SARS-CoV-2 Reference Panel which allowed a consistent determination of the relative sensitivity of these tests and their cross-reactivity with the MERS-CoV virus.

- Ease of obtaining all components needed to process tests. Single source workflows simplify the ordering processes and ensure you have visibility to availability of all the workflow components.
Conclusion

Early and accurate COVID-19 programs based on RT-PCR workflows optimized and authorized for screening of asymptomatic individuals, such as Operation ET, are integral to the reduction of silent viral spreading. They deliver a variety of public health benefits including the mitigation of school closures, management of community transmission, and protection of underserved populations by opening access to testing. RT-PCR screening has proven its utility to curb COVID-19 infection rates and will no doubt be an important tool for screening future pandemics.

PerkinElmer would like to highlight the great work accomplished by @ChasenFukuda, Claudine Ah Yat, and the @HawaiiStateDepartmentofHealth. They leveraged Operation Expanded Testing (ET) to assure the safety of students, staff, and families that participated at Camp Erdman.

References


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