CONCURRENT SESSION 2 – COVID-19 RESEARCH EFFORTS

Environmental Surface Sampling for SARS-CoV-2

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In the beginning of the COVID-19 pandemic, transmission and infection characteristics of SARS-COV2 was not fully understood. In the spring of 2020, EPA's Office of Emergency Management (OEM), set-up Inter Agency Agreements with the Department of Defense (DoD) and Department of Energy (DoE) to establish the ability to perform environmental surface sample analysis for SARS-COV2. These partnerships advance OEMs capability and capacity to have the relevant reagents, base-line assays and funding in place, in order to support the response to SARS-COV2 and future biological threats. This effort required evaluation of the RT-PCR assays developed for clinical samples to be adapted for analysis of environmental surface samples. Optimizing how specific sample types are processed and what possible inhibitors may need to be neutralized in order to determine viability is an underpinning to meet federal mandates for EPA. OEM, working with the U.S. Army Combat Capabilities Development Command Chemical Biological Center (CBC) and the DoE's Lawrence Livermore National Lab (LLNL), successfully set up the capability to analyze the genetic material of SARS-COV2 from surface samples using Real-Time RT-PCR. LLNL also established the capability to analyze surface samples for infectious virus. Additionally, through our membership with the Integrated Consortium of Laboratory Networks (ICLN), both labs participated in The Inter-laboratory Comparison Exercise: Round-2 for COVID (ICE2) study organized by the FDA's Veterinary Laboratory Investigation and Response Network (Vet-LIRN). Approximately sixty laboratories were asked to analyze prevalent and emerging SARS-COV-2 variants, and animal non-SARS-CoV-2 coronaviruses. The results of this study are expected to provide information to each laboratory regarding the performance of their method and to help identify opportunities to improve method performance.