

American University
Step One Challenge

Have you (or someone you loved) ever been prescribed the wrong antibiotic for an infection or been subjected to multiple doctor's visits with no answers for identify your illness? Today, this diagnosis requires time spent accessing a doctor, time-consuming doctor's appointments, and additional time spent waiting for results. We propose solving this problem through a convenient, direct-to-consumer universal diagnostic station for detection of infectious agents and antibiotic resistance. Our automated, point-of-care technology relies on robotically integrated customized assay panels, providing rapid, accurate diagnostic information directly to the public. The panel will include viral-vs-bacterial discrimination and primers designed to amplify antibiotic resistance genes within bacterial species. By providing affordable and accurate diagnostics pre-point-of-care, we will substantially reduce misdiagnosis, overprescription of antibiotics, and antibiotic resistance.