Healthcare Miniaturization: Real-world Examples of Cost and Time Savings Through Lab-on-a-Card Devices

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This presentation will detail Micronics' state-of-the-art lab-on-a-card miniaturization platform, custom design services, and products for use in performing real time analyses—at the bench, in the clinic or home, or in the field.

The presentation will detail examples from drug discovery to diagnostics, where custom-designed lab-on-a-card devices and integrated systems substantially reduce time, labor, and overall cost to achieve desired results.

We will demonstrate designs and experimental results for a number of lab cards developed for life science applications, including assay-based lab cards that allow direct injection of "dirty" samples (e.g., water, soil, blood, urine, saliva) onto the card—eliminating the need for sample preparation. These lab cards are manufactured using Micronics' unique rapid prototyping process, yielding low-cost, disposable plastic devices. Cards may be used in stand-alone applications or be mated to other instruments or processes such as mass spectrometry, high performance liquid chromatography (HPLC), and microscopy.

We will also demonstrate applications in which proprietary technologies from others—filters, membranes, chemistries, electrodes, etc.—may be embedded on the card for target applications ranging from nucleic acid analysis to pathogen detection.