

Philips North America

Minicare HNL: Point-of-care Detection of Bacterial Infections to Curb Unnecessary Use of Antibiotics

Philips and the University of Pennsylvania (Penn) jointly propose development of a rapid, point-of-care system to reliably rule out bacterial infection at primary care within minutes to avoid the unnecessary use of antibiotics. Between 80-90% of all antibiotics are prescribed in a primary care¹ setting. Given the current misuse of antibiotics and related antimicrobial resistance, primary care settings can play an important role in reducing unnecessary antibiotic prescriptions². Despite the benefits of using a point-of-care test to detect infectious disease biomarkers, adoption in primary care remains modest³. The reason for low adoption is that currently available biomarkers have low levels of clinical performance (i.e., sensitivity and specificity) and available tools require advanced skills to operate.

Philips is developing a unique approach to reliably detect bacterial infection at the point of care using a fast and easy-to-use test. The solution is designed to detect the biomarker Human Neutrophil Lipocalin (HNL) on a diagnostic platform from a single drop of human blood. In 2015 the concept was successfully demonstrated with blood samples from patients with acute fever where in only minutes patients with a bacterial infection could clearly be distinguished from those without. To make this marker available in the primary care setting, Philips is working to realize the whole blood based assay onto its Minicare system. The CE-marked Minicare system is a platform for rapid blood testing, consisting of a point-of-care analyser and cartridges supporting different types of tests. Finalization of product development is estimated at 2.5 - 3 years. Penn will confirm performance of the biomarker using U.S. clinical samples in a separate study. Once test development is complete, Penn will serve as the clinical study site to validate and register the test and to perform a health technology assessment measuring its impact in reducing unnecessary prescription of antibiotics.