

Pneumonia Etiology Child Health Research Methods and Preparatory Results Published

Largest Pneumonia Study Conducted in 30 Years

The foundational basis for the pneumonia etiology results from the Pneumonia Etiology Research for Child Health (PERCH) project were published in a 23-paper [supplement](#) in *Clinical Infectious Diseases*. The publication details the context, methods, and preparatory results that will inform the final pneumonia etiology estimates, expected to be available in late 2017. The University of Maryland School of Medicine's Center for Vaccine Development (CVD) field site in Bamako, Mali (CVD-Mali) was one of the collaborating institutions in the project, under the direction of [Karen L. Kotloff, MD](#), Head of the Division of Infectious Disease and Tropical Pediatrics and Associate Director of Clinical Studies at the CVD, [Samba Sow, MD, MS](#), Adjunct Professor of Medicine and Director General of CVD-Mali, and [Milagritos Tapia MD](#), Associate Professor in the Division of Infectious Disease and Tropical Pediatrics, University of Maryland School of Medicine.

PERCH, which was launched in 2012, is the largest pneumonia etiology study conducted since the 1980s. The study involves nine sites in seven low-middle income countries in Asia and Africa that were selected because they represented areas where most of the severe pneumonia cases in children were likely to occur in 2015. More than 4,000 cases of severe and very severe pneumonia in hospitalized children under five years of age and 5,000 controls were enrolled.

The current supplement describes important technical lessons pertaining to respiratory pathogen detection. The results provide insights into the relative value of different samples for predicting the pathogen in the lung that is causing the pneumonia. Another article in the supplement describes an integrated analysis that will be used to determine the most important causes of pneumonia, performed using an analytic method developed by the PERCH investigators (Bayesian Analysis Kit for Etiology Research, or BAKER). It is the first to enable the integration of results from multiple diagnostic methods and specimens to reliably estimate etiology, accounting for imperfect sensitivity and specificity of laboratory testing methods.

In addition to the forthcoming final etiology results, the study produced a dataset and specimen bank, and other resources including study procedures and protocols, clinical standardization training materials and data collection forms. These materials are "open source" and available via [the PERCH website](#) for use by investigators who might benefit from these for other research projects.

The Principal Investigator for the PERCH Project is **Katherine O'Brien, MD**, of the Johns Hopkins Bloomberg School of Public Health. In addition to CVD and CVD-Mali, other collaborating institutions include the University of Witwatersrand in Johannesburg, South Africa, KEMRI Wellcome Trust Research Programme in Kilifi, Kenya, the Thailand Ministry of Public Health – United States Centers for Disease Control and Prevention Collaboration's in rural Thailand, Boston University at the University Teaching Hospital of Lusaka, Zambia, the Medical Research Council Unit in Basse, The Gambia and the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) in Bangladesh. Laboratory methods design and standardization as well as testing oversight was led by the University of Otago and Canterbury Health Laboratories in Christchurch, New Zealand with clinical field sites conducting the majority of lab testing on site.

About the Center for Vaccine Development

Since its inception in 1974, the CVD has worked to eliminate vaccine-preventable diseases. The CVD has created and/or tested vaccines against infectious diseases such as cholera, typhoid fever, paratyphoid fever, *Shigella* dysentery, non-typhoidal *Salmonella*, *Escherichia coli* diarrhea, nosocomial pathogens, tularemia, and influenza. The faculty and global staff includes molecular biologists, microbiologists, immunologists, internists, pediatricians, epidemiologists, malariologists, and biostatisticians.

[Click Here](#) to learn more about CVD.

