

Assessment of Respiratory Rate Counters

Health need

Pneumonia is the leading cause of death in children worldwide, accounting for more childhood deaths than AIDS, malaria, and measles combined. Each year, pneumonia kills an estimated 1.6 million children under the age of five and is responsible for 18 percent of all deaths of children under five years of age globally. The majority of these deaths are preventable if pneumonia is appropriately identified and treated. Recognizing difficult or fast breathing by counting the respiratory rate is integral to the World Health Organization Integrated Management of Childhood Illnesses and integrated community case management algorithms for diagnosing childhood pneumonia in resource-limited settings. Counting the respiratory rate is usually accomplished by visually counting the child's breaths during one minute. Typical challenges to achieving correct counts include a moving child, health care provider distractions, visually determining the child's breath, lack of light source, and difficulty counting.

Technology solution

Our goal is to identify and evaluate respiratory rate counters for the diagnosis of childhood pneumonia in low-resource settings. We aim to evaluate existing respiratory rate counters as well as innovative technologies in development to identify promising respiratory rate counters for further development or scale-up.

Reliable, easy-to-use respiratory rate counters would enable improved diagnosis of pneumonia, which is ultimately expected to lead to improved health outcomes from childhood pneumonia.

Current status and results

PATH is working to identify improved respiratory rate counters that have the ability to actively and reliably capture a child's respiratory rate, leading to a more accurate diagnosis of childhood pneumonia.

Through collaboration with partners, we plan to:

- Conduct a landscape analysis of respiratory rate counters designed for use in low-resource settings and identify up to three promising devices for further testing.
- Evaluate chosen devices through bench testing based on United Nations Children's Fund criteria and input from expert stakeholders.
- Conduct a preliminary market analysis to understand the overall market for respiratory rate counters, including supply channels, pricing, and potentially untapped markets.

This project was initiated in May 2013. We are currently engaging expert stakeholders, completing market research, and initiating relationships with current manufacturers of respiratory rate counters.



PATH/Gabe Blenczycki

Accurate diagnosis improves health outcomes.

Despite respiratory rate being the key measurement for the diagnosis of childhood pneumonia in resource-limited settings, many health care providers are not able to accurately assess respiratory rate.

Strengthening Pneumonia Diagnostic Tools for Low-Resource Settings web page. UNICEF Innovation website. Available at: <http://unicefinnovation.org/projects/strengthening-pneumonia-diagnostic-tools-low-resource-settings>

Availability

For more information regarding this project, contact Dr. Amy Ginsburg at aginsburg@path.org.

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