ROUND 'EM UP

TRUMP'S BORDER WAR IS ABOUT TO GET UGLY
KILLER COUGH: Pneumonia can be deadly, especially for young children, but the disease is often mistaken for malaria as they share common symptoms.
GOOD SCIENCE

YOUNG LUNG SPRUNG
A biomedical jacket can save lives with a speedy diagnosis of pneumonia

“ACROSS THE GLOBE, pneumonia is the largest killer of children who are more than 1 month old. A major reason: The disease is often difficult to diagnose especially in less-developed countries where X-ray equipment isn’t widely available. In many cases, pneumonia is often mistaken for malaria—the two share common symptoms like fever and cough—but people are quick to assume malaria because the disease has gotten greater publicity in recent years.

To combat this forgotten killer, three engineers—Olivia Koburongo, Brian Turyabagye and Besufekad Shifferaw—from Uganda’s Makerere University in Kampala have come up with a new tool to improve diagnoses in young children. The prototype Mama-Ope is a biomedical jacket that measures vital signs that can indicate the presence of pneumonia. Once the jacket is fitted snugly over a child’s chest, it syncs with an app over Bluetooth, and in under two minutes readings flash up indicating the child’s temperature, breathing rate and an assessment of whether the lungs sound normal or not.”

“When you’ve got pneumonia, your lungs—because of the inflammation—get filled with fluid, so you struggle to oxygenate your blood and the body’s natural response is to breathe faster,” says Keith Klugman, the director for pneumonia at the Bill & Melinda Gates Foundation. “In a community setting, fast breathing is not something that’s recognized easily by mothers as a danger sign for a child, and that is something the jacket picks up on.”

Mama-Ope, which means “mother’s hope,” has been short-listed for this year’s Royal Academy of Engineering’s Africa Prize, which is worth about $30,000. The jacket is being tested with volunteer families in Kampala, Uganda’s capital, before larger clinical trials are rolled out in hospitals across the country, most likely by spring. “Eventually, we hope it will be used in the community—something that parents can buy and use to know who is facing the disease so they can be taken for treatment,” Turyabagye notes. “We want to make a difference and to save lives.”

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