

A UNIQUE OPPORTUNITY TO JOIN AND LEAD THE FIGHT AGAINST PNEUMONIA WITH UNICEF INNOVATION

United in innovation to fight the biggest killer of children under five, pneumonia.

PNEUMONIA IN THE WORLD



Pneumonia kills more children than any other infectious disease.



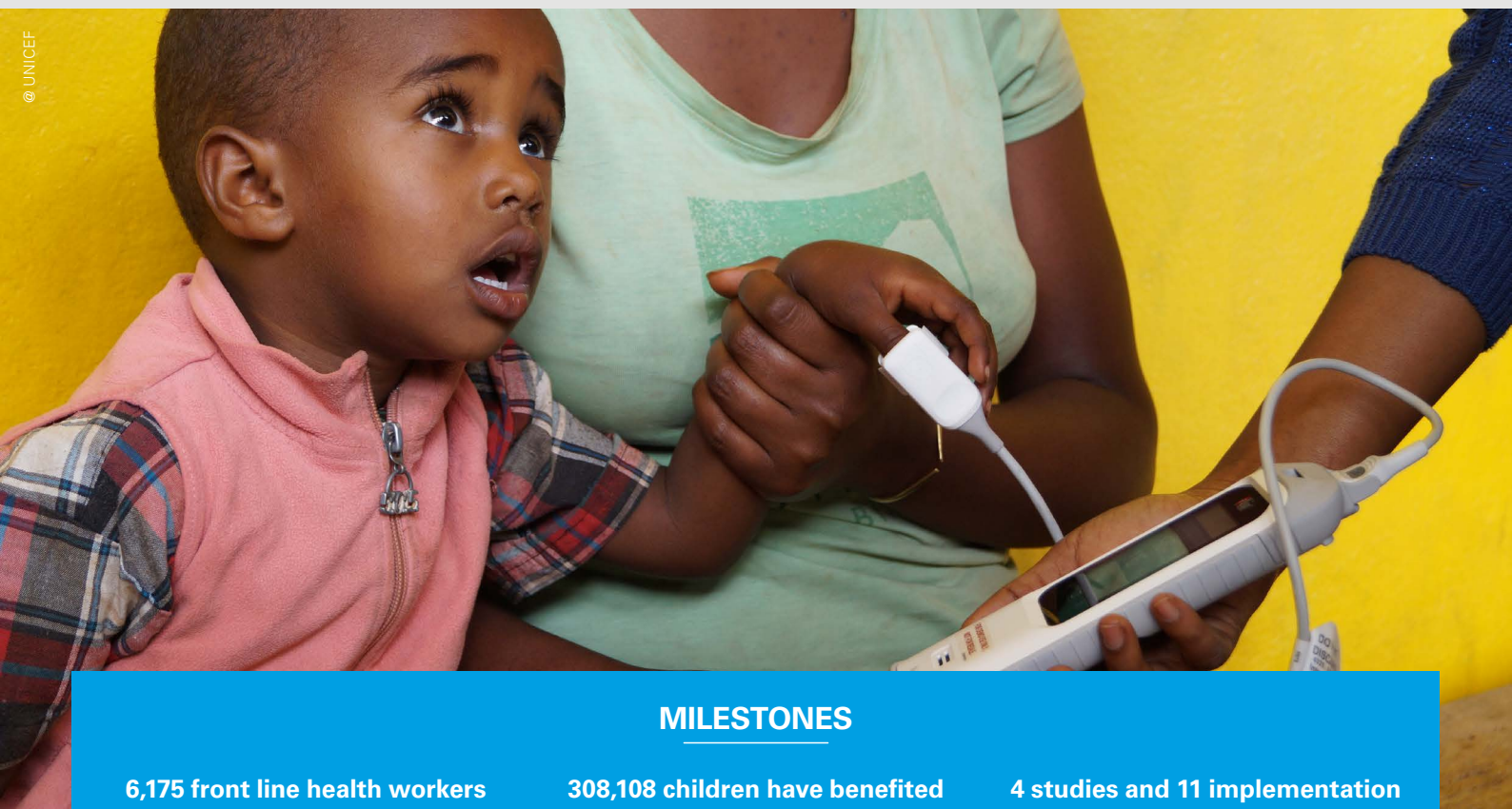
A child dies of pneumonia every 39 seconds.



Pneumonia is under-diagnosed and inappropriately or under-treated in low context settings.



In too many countries with a high burden of child pneumonia deaths, like Ethiopia, Nepal or Bolivia, the rate of decline is too slow.



MILESTONES

6,175 front line health workers trained on pneumonia diagnosis and equipped with innovative automatic devices in Bolivia, Ethiopia and Nepal.

308,108 children have benefited from improved care in low context setting in Bolivia, Nepal and Ethiopia.

4 studies and 11 implementation evaluations were carried out in Ethiopia, Nepal and Bolivia to field test the use of the devices in remote areas.

PROJECT ACHIEVEMENTS

- ✓ This partnership has helped to develop **two new technologies** to diagnose children pneumonia; one that measures the respiratory rate (RR) and the first multimodal device that also measures oxygen saturation (pulse oximetry).
- ✓ Health workers in remote areas of **Ethiopia, Bolivia and Nepal** have used this new technology in the form of new devices to help them assessing and interpreting signs and symptoms of pneumonia.
- ✓ **The new devices have therefore helped these health workers to make decisions on pneumonia diagnosis and treatment**, meaning appropriate administration of antibiotic and oxygen therapy if needed.
- ✓ **Three new innovative devices** were field tested and are now commercially available. Ready to be included in UNICEF catalogue. (Rad G from Masimo and two models of ChARM from Philips).
- ✓ Studies in the field (Ethiopia, Nepal and Bolivia) also helped the manufactures to improve their new products. Moreover, these studies aided UNICEF Country Offices, Ministries of Health and other actors and **opened up for new capabilities to better detect and fight pneumonia**.
- ✓ UNICEF has provided **AMOX treatment** to children in Mozambique, Ethiopia, Nepal Sierra Leone and Zimbabwe it is cheaper than its amoxicillin OS equivalent; offers cost-effective logistical and supply chain advantages in term of volume and weight.



ADVANCING CHILDREN'S RIGHT TO SURVIVE AND THRIVE



Project research dissemination in major events, among others: 2018 ASTMH (The American Society of Tropical Medicine and Hygiene) Conference in New Orleans; 2018 Rad-G Dissemination meeting in Ethiopia; 2017 & 2018 World Pneumonia Days or the 2019 ARIDA Technical Consultation in New York.



A world's first conference on childhood pneumonia will be taking place in Barcelona, January 2020. This Global Forum is a major opportunity to ensure that pneumonia is at the forefront of national and global health agendas.



Five manuscripts are in process for peer-reviewed scientific journal publications. One of them was published in the journal Acta Paediatrica under the title "Usability and acceptability of an automated respiratory rate counter to assess children for symptoms of pneumonia: a cross-sectional study in Ethiopia".

HOW WE HAVE ACHIEVED THAT:

- ☑ **We have used innovation to aid assessment and classification of pneumonia** in resource poor context settings.
- ☑ We developed two **new models of devices** that automatically measure respiratory rate (Charm) and one (Rad-G) that measures respiratory rate and oxygen saturation, helping front line health workers to better assess and classify patients with symptoms of pneumonia in the low resource-setting.
 - » **The Charm device help the health worker to count the respiratory rate**, one of the key symptoms of pneumonia. Charm converts chest movements into a measurement of respiratory rate and provides information to the user on if the child is breathing too fast for its age group (according to WHO established cut-offs). It has two versions that respond to two different settings, one of them to use in very remote areas where electricity is a challenge.
 - » **The first automated multimodal respiratory rate-pulse oximetry device, Rad-G, is now available through the ARIDA project.** It will help health workers to assess key pneumonia symptoms of respiratory rate and detect hypoxemia, low levels of oxygen in the blood, which is a danger sign of respiratory distress that significantly increases the child's risk of death.

Philips ChARM
respiratory rate
device.



Masimo Rad G
respiratory rate-pulse
oximetry device.

WHY IS ARIDA AN INNOVATIVE PROJECT?

- Because **our aim is to reduce preventable child deaths** through timely pneumonia detection and increase access to adequate treatment.
- Because **we have contributed to develop new products** to help in pneumonia diagnosis.
- Because **this project is the result of a joint effort of UNICEF, "la Caixa" Foundation, industry, academia and research partners.**
- Because **we have empowered the health workers,** with new tools and knowledge.
- Because **ARIDA has been a precursor,** courageously leading the way in product innovation and contribute to improving community based health care.



ARIDA project has been a precursor, courageously leading the way and reaching beyond the partnership own specific outcomes to influence the broader network of partners. This will have significant, long-term implications for the collective work in product innovation and contribute to improving community based health care.