

A close-up photograph of a woman with dark skin and braided hair, wearing a vibrant red wrap with yellow and black patterns. She is gently holding a newborn baby against her chest, with her eyes closed in a moment of affection. The baby is wearing a pink identification band on its wrist. The background is a simple, light-colored wall.

NEST360
HIGHLIGHTS 2021

INNOVATION, DELIVERED

EVERY NEWBORN, EVERYWHERE



EVERY NEWBORN, EVERYWHERE

Every newborn everywhere deserves the same chance at survival. The Newborn Essential Solutions and Technologies (NEST360) program aims to ensure every hospital in Africa can deliver life-saving care for small and sick newborns.

In Africa, many babies are born in hospitals, and yet over 1 million babies die every year—75% of these deaths are preventable. As part of the [WHO Sustainable Development Goals \(SDGs\)](#), countries across the world are working to end preventable deaths of newborns and children. This effort includes a call for 80% of districts to have at least one hospital that provides Level 2 in-patient newborn care, including respiratory support with CPAP. Level 2 neonatal care combines the skills of clinicians and nurses with the life-saving technologies needed to prevent and treat conditions such as respiratory distress, jaundice, hypothermia, and infection in small and sick newborns.

COUNTRY-LED CHANGE



The NEST360 team partners with governments and facilities to strengthen national policy for SSNC across all four Phase 1 countries.

MALAWI

In 2021, the Malawi Ministry of Health supported integration of the NEST360 Quality Improvement methods into every district in Malawi. This work is led by government teams of clinicians, biomedical engineers, and information systems experts.

NIGERIA

In 2020, the Nigeria Ministry of Health completed development of their first National Guidelines for Comprehensive Newborn Care in coordination with the NEST360 Nigeria team. In 2021, this guideline became the national standard of care. It includes improved referral guidelines and specifications for NEST-qualified equipment in the national equipment and commodity list.

TANZANIA

In November 2021, the Tanzania Ministry of Health publicly launched the NEST360 program, transformed the neonatal unit at Temeke, and catalyzed development of national standards for neonatal unit floorplans.

KENYA

In February 2021, Kenya newborn care experts and stakeholders came together in coordination with NEST360 and validated the Kenya comprehensive newborn protocols. The protocols have been submitted to the Kenya Ministry of Health - Division of Neonatal & Child Health and await final approval by the Director General of Health. They are expected to launch officially in July 2022 as part of Kenya's updated care guidelines.

INCREDIBLE OPPORTUNITIES

In 2021, NEST360 extended our understanding of newborn care with regard to the impact of the COVID pandemic and in the area of infection prevention and control (IPC).

IMPACT AND OPPORTUNITIES OF THE COVID-19 PANDEMIC

Our work during the pandemic included a [multi-country survey with WHO](#) and partners on how the COVID-19 pandemic impacted small and sick newborn care. Based on a unique platform of newborn data from 64 hospitals in four sub-Saharan countries, the NEST360 alliance has examined qualitative and quantitative data to inform how to better protect newborns during the pandemic.

INFECTIONS FOR NEWBORNS IN HOSPITALS

Hospital acquired infections are major threat to survival of SSN. Our [NEST360 data show a major gap between antibiotic use and culture tests for clinically diagnosed neonatal infections](#), despite most facilities having adequate laboratory capacity. Quality Improvement teams have prioritized implementing change to close this gap. Work continues in this area to examine the success of higher-performing facilities and determine where changes can produce overall improvements.



DELIVERING & SUSTAINING INNOVATION

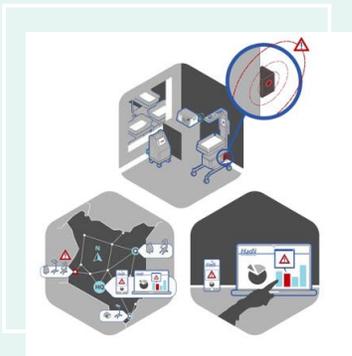
We deliver a package of technologies and services that enable local governments to improve outcomes, save lives, and empower the medical workforce of the future.



NEW TECHNOLOGIES

NEST360 partners completed development, clinical evaluation, and regulatory approval of [BiliDx Bilirubinometer](#), a point-of-care bilirubinometer measurement device.

The [Continuous Temperature Monitor](#) for newborns completed development, underwent clinical evaluations, and is in the process of regulatory approval. These new devices fill a critical gaps for Level 2 newborn care in low-resource settings.



MONITOR USE

Hatch Technologies developed a novel smart equipment monitor to ensure that medical devices are always functional and being used well. With monitoring, the need for repairs and training can be identified and addressed promptly.



GROWING AN EDUCATION ECOSYSTEM



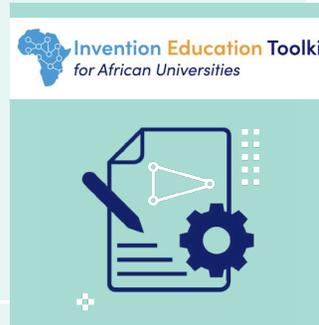
CLINICAL & BIOMEDICAL TECHNICAL TRAINING

NEST360 conducted a total of 14,990 trainings at the pre-service and in-service levels, (exceeding training targets in 2021 by 34%).



GLOBAL PUBLIC GOODS

The [Generic Instructor Course \(GIC\) materials](#) were added to the Global Public Goods. These materials are designed to train potential instructors on how to effectively teach adults, including teaching life support courses.



INVENTION EDUCATION

The [Invention Education Toolkit](#) was developed by a team of collaborators from 16 institutions across 10 countries in Africa, Europe, and North America. Educators and inventors united in a vision to leverage invention education to transform engineering education in African universities.



DESIGN STUDIOS INNOVATION

Student ingenuity at the [University of Ibadan Design Competition 2021](#) resulted in an award-winning incubator designed to withstand power fluctuations.

ENABLE IMPLEMENTERS TO



IMPLEMENTING EVIDENCE-BASED CARE

IMPLEMENTATION TOOLKIT

The [Implementation Toolkit for Small and Sick Newborn Care](#), co-designed by UNICEF and NEST360 with inputs from over 300 implementers around the world, is an open-access, online resource hub. It brings together tools, reading and implementation experiences, organized systematically to enable implementers to reach every newborn.

NEONATAL INPATIENT DATASET (NID)

The Neonatal Inpatient Dataset is co-created with African governments and key experts to enable implementers and clinicians to measure impact, quality of care and facility course correction. It is comprised of 63 core variables collected from each newborn admitted to the newborn unit.

HEALTH FACILITY ASSESSMENT (HFA)

The [Health Facility Assessment \(HFA\) tools](#) were developed to assess a facility's service readiness specifically for small and sick newborn care. Co-design of the HFA was facilitated by NEST360, working with African governments and in partnership with UNICEF and other key experts.

QUALITY IMPROVEMENT (QI) DASHBOARD

The QI dashboard is a central part of the regular, structured quality improvement visits that occur routinely across all 64 NEST facilities in partnership with the Ministries of Health. Recently available online to country teams, the dashboards show important opportunities to improve the quality of care. Multi-disciplinary teams are empowered to use this data to guide actions to improve the quality of care for newborns at their hospitals.

REACH EVERY NEWBORN

2021 IMPLEMENTATION



**IMPLEMENTED NEST
BEYOND PHASE 1 SCALE
IN ALL FOUR COUNTRIES**



**QI DASHBOARD NOW
RUNNING FOR 64
HEALTH FACILITIES**



**OPEN-ACCESS
INVENTION-EDUCATION
TOOLKIT LAUNCHED**

“

SUPPORTING THE INNOVATION,
DEVELOPMENT AND SCALE-UP OF
AFFORDABLE TECHNOLOGIES ENSURES
THAT NEWBORNS NOT ONLY **SURVIVE**
BUT CAN THRIVE NO MATTER WHERE
IN THE WORLD THEY ARE BORN.

PROFESSOR CHINYERE EZEAKA
COLLEGE OF MEDICINE,
UNIVERSITY OF LAGOS