Global Child Health and the Sustainable Development Goals research group

Research group meeting 5th March 2025

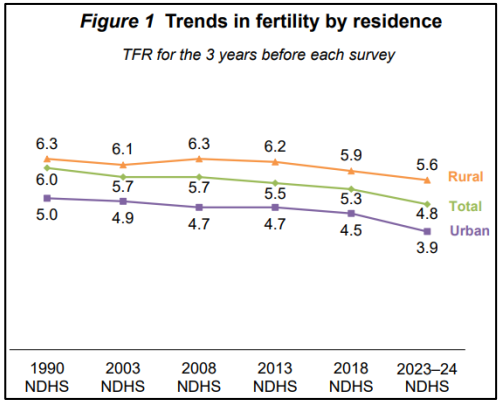
Nigeria – SDGs

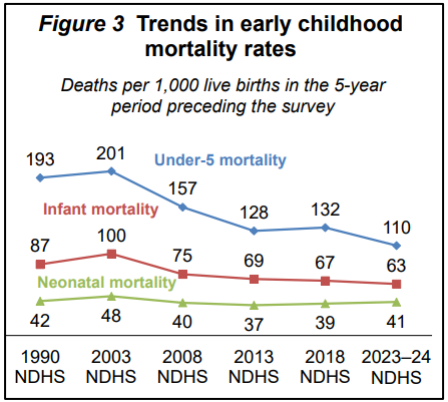
- Population 240 million
- Lower-middle income
- Largest population and economic hub in Africa
- Life expectancy 54 years
- Large sub-national differences in wealth, culture and health

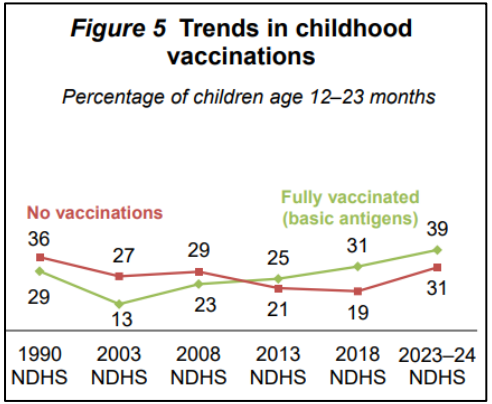
Nigeria – health

SDG 3: Good health and well-being

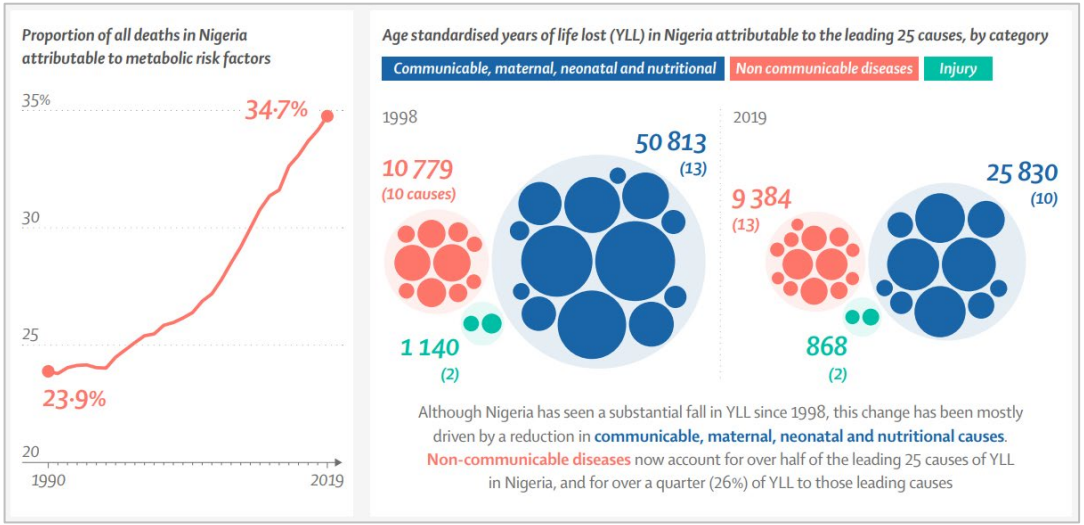
- Maternal mortality ratio
- Neonatal mortality rate
- Mortality rate, under-5
- Incidence of tuberculosis
- New HIV infections
- Age-standardized death rate due to cardiovascular disease, cancer, diabetes, or chronic respiratory disease in adults aged 30 to 70 years
- Age-standardized death rate attributable to household air pollution and ambient air pollution
- Traffic deaths
- Life expectancy at birth
- Adolescent fertility rate
- Births attended by skilled health personnel
- Surviving infants who received 2 WHO-recommended vaccines
- Universal health coverage (UHC) index of service coverage
- Subjective well-being







Nigeria – health



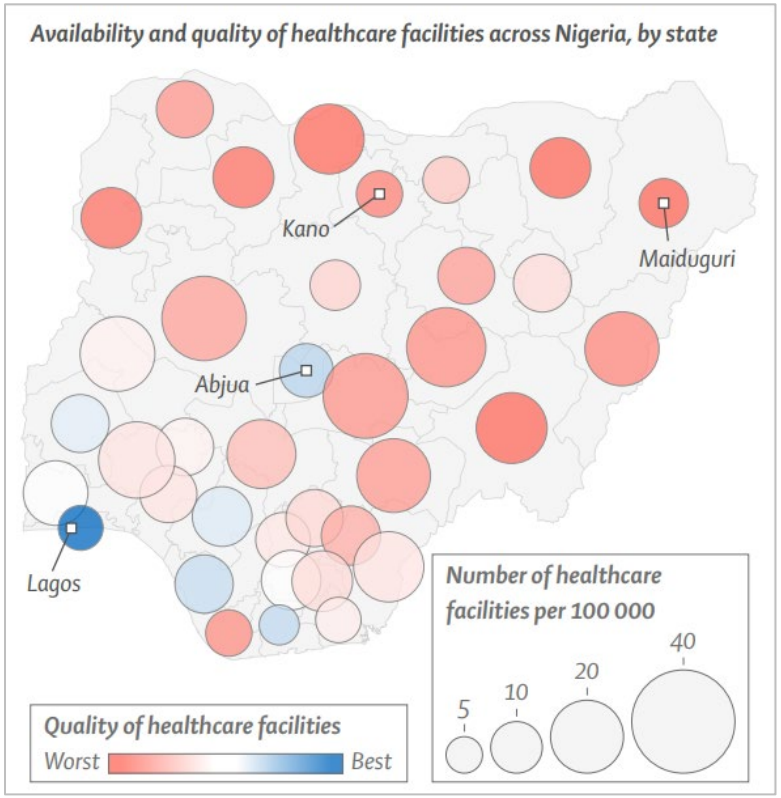
The *Lancet* Nigeria Commission: investing in health and the future of the nation

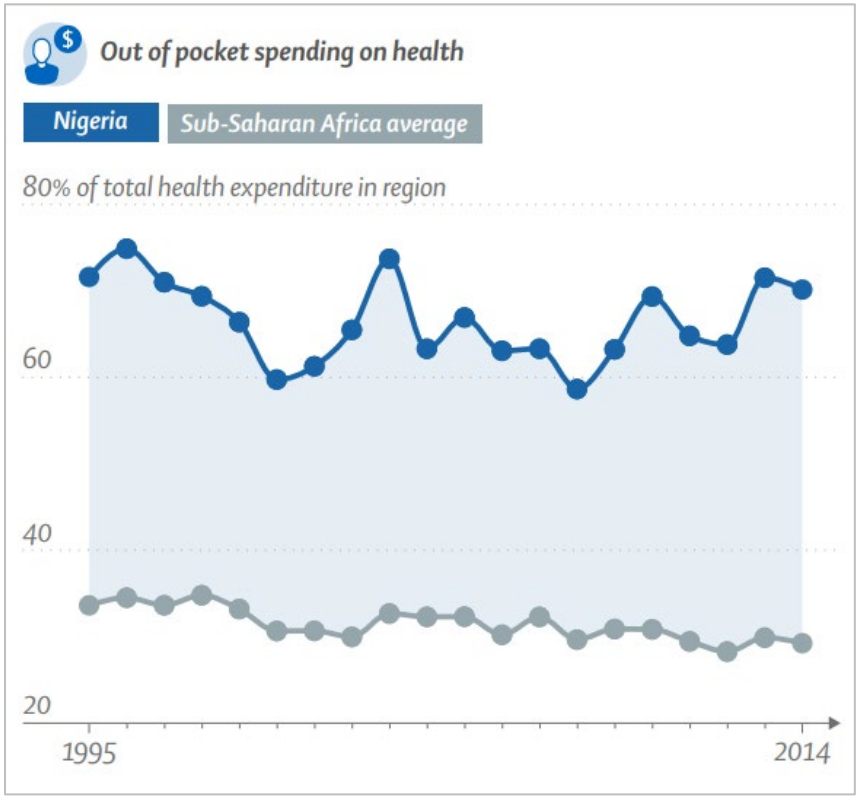
Ibrahim Abubakar, Sarah L Dalglish, Blake Angell, Olutobi Sanuade, Seye Abimbola, Aishatu Lawal Adamu, Ifedayo M O Adetifa, Tim Colbourn, Afolabi Olaniyi Ogunlesi, Obinna Onwujekwe, Eme T Owoaje, Iruka N Okeke, Adebowale Adeyemo, Gambo Aliyu, Muktar H Aliyu, Sani Hussaini Aliyu, Emmanuel A Ameh, Belinda Archibong, Alex Ezeh, Muktar A Gadanya, Chikwe Ihekweazu, Vivianne Ihekweazu, Zubairu Iliyasu, Aminatu Kwaku Chiroma, Diana A Mabayoje, Mohammed Nasir Sambo, Stephen Obaro, Adesola Yinka-Ogunleye, Friday Okonofua, Tolu Oni, Olu Onyimadu, Muhammad Ali Pate, Babatunde L Salako, Faisal Shuaib, Fatimah Tsiga-Ahmed, Fatima H Zanna

> "The giant of Africa—Africa's largest country in terms of population and economy—enjoys considerable unrealised potential. The time to achieve greatness is now, with health at the heart of the development agenda. The health system can become a positive reflection of Nigeria—with successful health reform the catalyst to show why Nigeria matters to Nigerians, giving good reason for patriotism, and serving as a model for wider societal change."

SDG Dashboard: https://dashboards.sdgindex.org/static/profiles/pdfs/SDR-2024-nigeria.pdf
2024 Nigeria DHS: https://dhsprogram.com/pubs/pdf/PR157/PR157.pdf
Lancet Commission on Nigeria: https://www.thelancet.com/commissions/health-in-nigeria

Nigeria – the health system





THE LANCET

CORRESPONDENCE · Online first, February 26, 2025

USAID programme suspension in Nigeria: a looming health crisis

Mubarak Jolayemi Mustapha [a] · Victor Ayooluwa Adeloye [a] · Fatihi Bamigbola Mustapha [b] · Kehinde Alare [c]

Affiliations & Notes Article Info

Show Outline

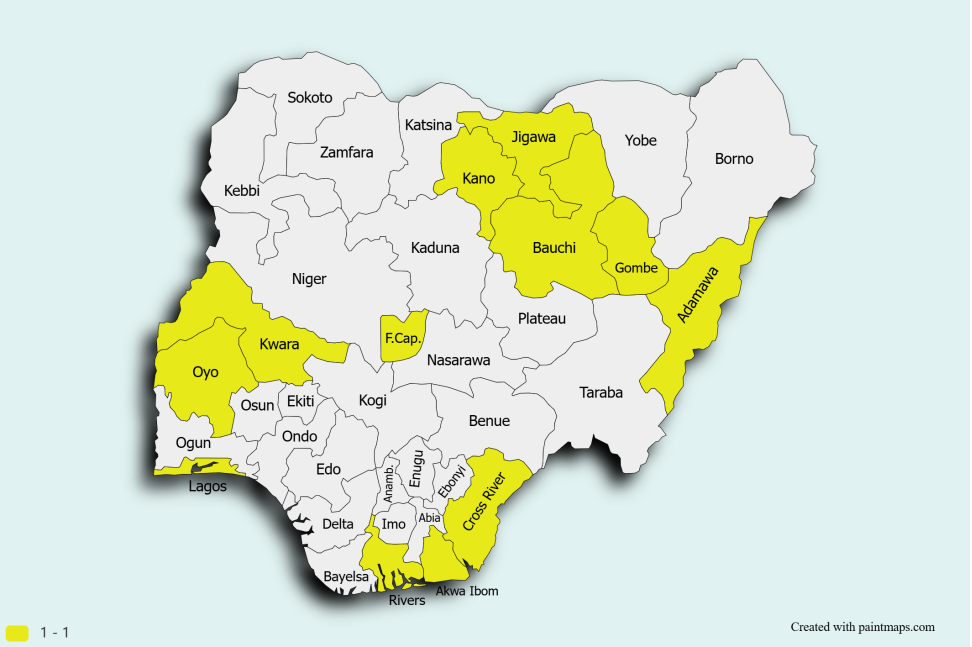
On Jan 24, 2025, the United States Agency for International Development (USAID), an agency responsible for distributing civilian foreign aid on behalf of the US Government, halted aid to Nigeria and other members of the international community.[1] This decision threatens Nigeria's fragile health-care system, which depends largely on financial aid to execute its health-care programmes. The USA, through USAID, contributed approximately US$2·8 billion to the health care of Nigerians between 2022 and 2024.[2] This funding has been integral to the fight against HIV/AIDS, malaria, tuberculosis, and polio. The suspension of the USAID funding threatens to disrupt decades of progress in combating infectious diseases, improving maternal and child health, and strengthening Nigeria's response to public health emergencies.

Nigeria's health system is severely underfunded and depends on foreign aid to meet its health-care needs. The low physician-to-population ratio further exacerbates the issue, with approximately four physicians per 10 000 people,[3] well below the WHO recommendation of ten physicians per 10 000 people.[4] USAID, through several other agencies, has been important in filling this funding gap. For example, USAID provides antiretroviral therapy (ART) funds for the Nigerian population, where 3·3 million people live with HIV/AIDS.[5] USAID-funded ART is important in achieving the 95-95-95 target for all—ie, 95% of people living with HIV should know their status, 95% of those diagnosed should be on ART, and 95% of those on ART should reach viral load suppression. The suspension of these funds would reverse the gains in preventing the spread of HIV and other infectious diseases, leading to a resurgence of the diseases and preventable deaths, especially in the most vulnerable members of society, including women and children in remote areas.

Our group

- University of Ibadan – Oxygen for Life Initiative
- Clinton Health Access Initiative
- Save the Children
- Enhanced Data for Cholera Case Management

Partnerships

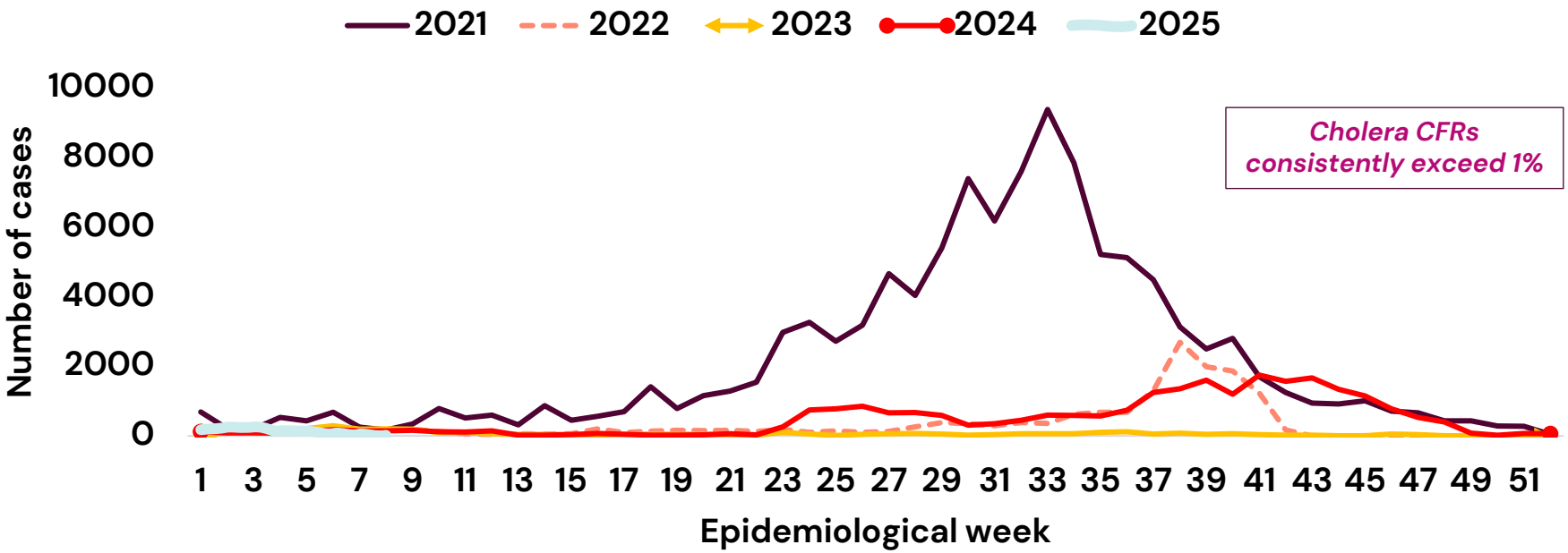


Locations of work

Cholera Research in Nigeria: Enhanced Data for Cholera Case Management

Kelly Elimian, PhD

Trends of cholera in Nigeria across 5 years



Enhanced Data for Cholera Case Management

- Paucity of clinical data on and capacity for cholera case management
- KI, GTFCC CSP, WHO Cholera Team and the Nigeria CDC
- The objectives are to:
  - → Improve the clinical characterisation of cholera, including its natural history and severity.
  - → Identify potentially important determinants of outcomes in cholera.
  - → Enable an understanding of the clinical resource-use when providing high-quality supportive care.

This CRF has three modules:

Module 1:	To be completed on the first day of presentation or admission to the CTC, CTU or ward.
Module 2:	Daily form: to be completed daily on inpatient days.
Module 3:	To be completed at either hospital discharge, transfer or death.

INSPIRING Project
(2018 – 2024)

Exclusive breastfeeding and power

Consequences of child deaths

Adherence to care-seeking for pneumonia

AIM: Impact of primary care stabilisation rooms (with oxygen) on the quality of care for children with pneumonia in Lagos State

METHOD: Pre-post implementation study in 14 facilities

PROTOCOL:
https://pubmed.ncbi.nlm.nih.gov/35501079/

IMPACT EVALAUTION:
https://bmjpublichealth.bmj.com/content/2/2/e001210

PROCESS EVALUATION:
https://bmjpublichealth.bmj.com/content/2/2/e001211

Lagos

AIM: Impact of participatory whole-systems strengthening approach on mortality in children younger than 5 years in Jigawa state

METHOD: Pragmatic cluster RCT – 32 clusters, population of 240,000 people

PROTOCOL:
https://trialsjournal.biomedcentral.com/articles/10.1186/s13063-021-058x§59-5

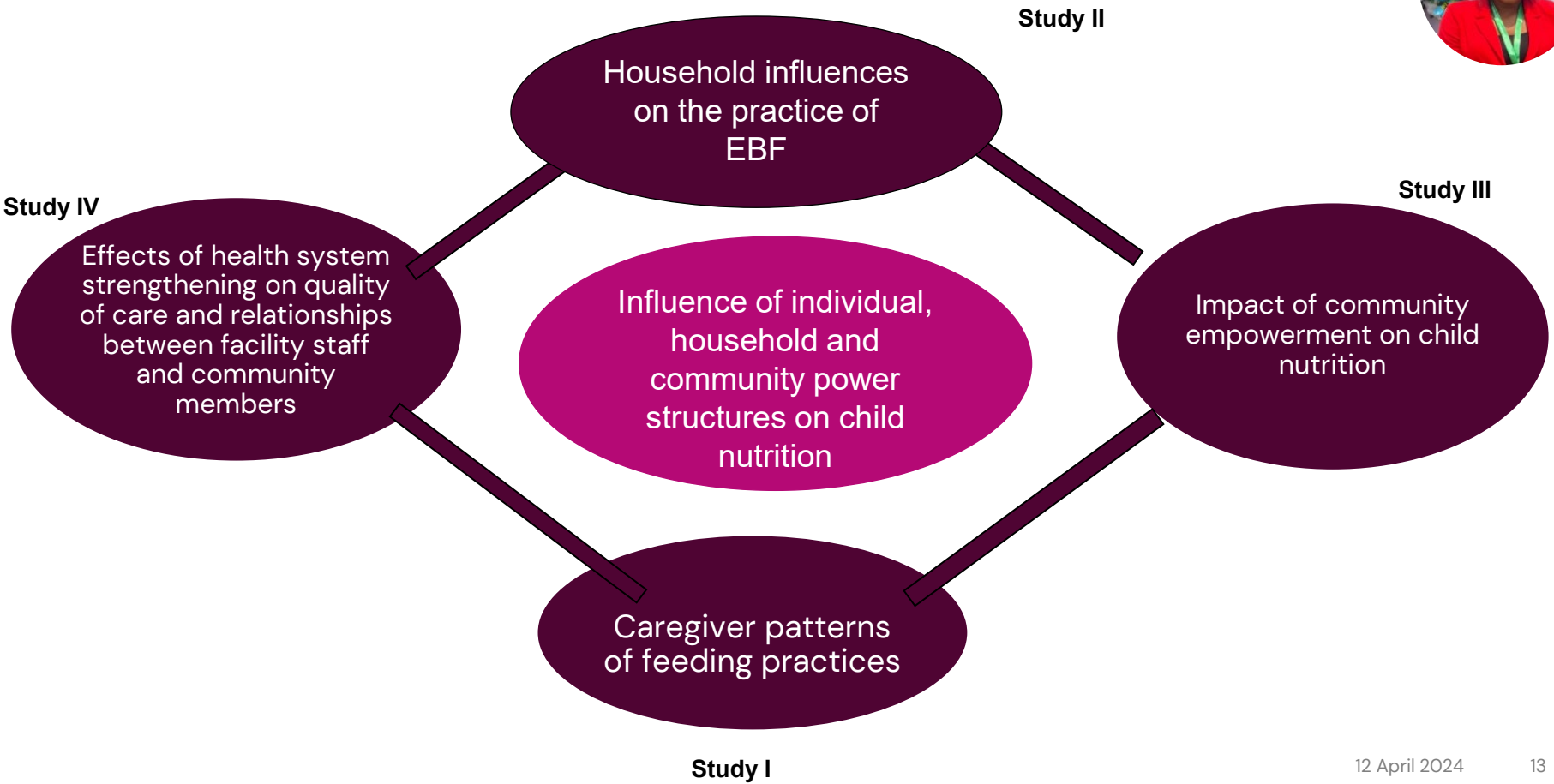
IMPACT EVALAUTION:
https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(24)00369-3/fulltext

Jigawa

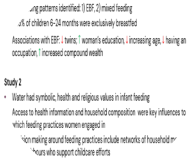
Influence of individual, household and community power structures on child nutrition

- Globally 149m children under-5 are stunted, 45m are wasted, 37m are underweight
- High prevalence of malnutrition is linked to poor feeding practices with low adoption of EBF and introduction of complementary feeding
- In Nigeria, EBF prevalence has remained stable at 29% since 2018 and malnutrition has gotten worse
- WHO recommends all infants:
    - ✓ ***Be exclusively breastfed for the first six months***
    - ✓ ***Receive nutritionally adequate and safe complementary foods while continuing to breastfeed up to two years of age***

PhD studies


Study II
Household influences on the practice of EBF
Study IV
Effects of health system strengthening on quality of care and relationships between facility staff and community members
Influence of individual, household and community power structures on child nutrition
Study III
Impact of community empowerment on child nutrition
Caregiver patterns of feeding practices
Study I

Results



Study 1

- Two feeding patterns identified: 1) EBF, 2) mixed feeding
- 74.6% of children 6–24 months were exclusively breastfed
- Associations with EBF: ↓ twins; ↑ woman's education, ↓ increasing age, ↓ having an occupation, ↑ increased compound wealth

Study 2

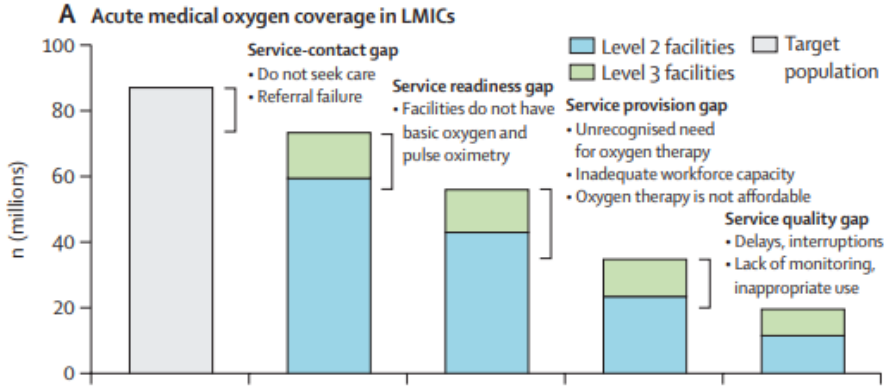
- Water had symbolic, health and religious values in infant feeding
- Access to health information and household composition were key influences to which feeding practices women engaged in
- Decision making around feeding practices include networks of household members and neighbours who support childcare efforts

MOXY Project
(2022-2026)

Patient, provider and political perspectives of oxygen scale up

- AIM: provide evidence on how medical oxygen services can effectively be delivered and maintained at scale in Nigeria and Uganda

- Determine the impact of oxygen system strengthening interventions on clinical practice and mortality (Study 1)
- Understand bottlenecks, challenges, and opportunities of improved medical oxygen services from a range of stakeholder perspectives (Study 2.1)
- Explore how, why, and for whom oxygen systems strengthening efforts work, and whether there are unintended effects (Study 2.2)



Understanding Medical Oxygen Service Delivery in Nigeria – perspectives from Policy to Patients

- Global access to medical oxygen remains inequitable
- Only 30% of the 299 million people who need oxygen for acute conditions receive adequate oxygen therapy.
- In many Nigerian contexts, <20% of children admitted with hypoxaemia receive the needed oxygen.
- The WHO highlighted medical oxygen to be significant in achieving SDGs at all ages

Aims and objectives

Aim: To improve policy and practice in medical oxygen services through exploration of the challenges and opportunities inherent in medical oxygen service delivery.

Objectives

1. To understand how Oxygen Desks have been operationalised across Nigerian states and identify factors that have influenced their success or lack thereof.
2. To examine how facilities are set up to provide oxygen services for emergency care.
3. To understand how children receive oxygen services within the context of acute care.
4. To understand the roles parents and non-clinical caregivers play in hospital care of severely ill children.

Study outlines

Study	Focus	Entry point	Data sources	Progress
Study 1	Policy level	Oxygen Desk (policy evaluation)	• Interviews	Stakeholder mapping done. Qualitative data collection yet to start
Study 2	Health facility level	Health facility oxygen services	• Facility process maps • Patient journeys • Interviews	Data collection completed Ongoing data analysis
Study 3	Healthcare workers level	Oxygen practices (Pulse oximetry and O_2 therapy	• Clinical care form • Patient journeys • Facility process maps	Data collection completed
Study 4	Patient level	Perception and role of caregivers Role of non-clinical staff	• Patient journeys and caregiver interviews • Facility process maps	Data collection ongoing

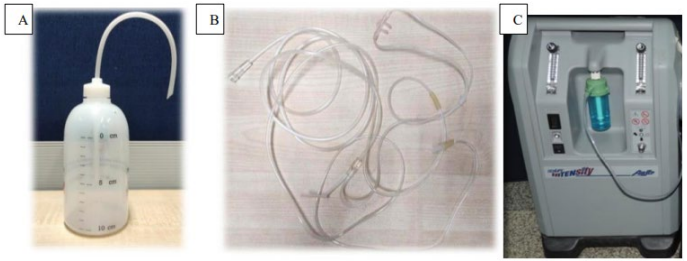
OPT-bCPAP Project
(2024 – 2029)

Adherence to treatment guidelines for severe pneumonia

Implementation and impact of bCPAP scale-up

Aim: Improve the inpatient case management of severe pneumonia in Nigeria, Ethiopia and Malawi

- Context-appropriate scale-up of bubble CPAP
  - *Impact, implementation, cost*
- Adherence to antibiotic treatment
- Appropriateness of antibiotics
  - *RSV burden*
  - *PK studies for key selected antibiotics*
- Care-seeking and socio-demographic risks



Implementation of bCPAP for paediatric severe pneumonia treatment in Nigeria

Background

- Nigeria has the highest national burden of under-five pneumonia deaths
  → *Estimated 100,330 deaths in 2021*
- Severe pneumonia management is limited by resource scarcity and poor quality of care
- 42-51% of Nigerian children under-5 with pneumonia have hypoxemia at admission
- CPAP shows potential in reducing mortality by up to 50%, compared to standard low-flow oxygen.
  → *But not all trials have been positive! RCT from Malawi found 50% increase in mortality*

Objectives

Aim: Evaluate the implementation of bCPAP oxygen therapy in Nigeria through a mixed-methods approach, thereby uncovering context-specific challenges and opportunities for a successful scale-up, with a focus on overall healthcare system strengthening.

Study Objectives:

1. Assess the readiness of the Nigerian healthcare system for the implementation of bCPAP, evaluating infrastructure, equipment, personnel, policies, and guidelines.

2. Determine how baseline healthcare worker knowledge and use of medical oxygen and bCPAP influences the adoption, fidelity, and sustainability of bCPAP implementation in Nigerian healthcare settings.

Objectives

3. Explore the contextual factors that act as barriers and facilitators to the adoption and implementation of bCPAP within Nigerian secondary healthcare facilities.
4. Assess the direct and indirect costs associated with bCPAP therapy in Nigeria, and to determine how these costs are borne by parents/caregivers.

Currently working on:

1. Ethical approvals from proposed States Ministries of Health.
2. Finalizing SOPs and interview guides.
3. Planning meetings with State stakeholders to select feasible General Hospitals for implementation.

Research in other groups

Implementation of IV iron

Effectiveness and safety of IV iron

Co-designing vaccine confidence interventions

Engage health workers to develop and evaluate tools and innovations to help build vaccine confidence among Nigerian health workers

Co-design an intervention and evaluate the feasibility and acceptability of conducting a cluster RCT to improve vaccine confidence among Nigerian health workers.

https://doi.org/10.1080/21645515.2024.2322796
https://doi.org/10.1080/21645515.2024.2402122
https://doi.org/10.1186/ISRCTN37847119

HCW-Trust

(PI: Sibylle HvW)

Effectiveness and safety of IV ferric carboxymaltose versus oral ferrous sulphate on anaemia and iron deficiency among pregnant women in Nigeria

Understanding the implementation factors that influence the use of IV iron for treating iron deficiency anaemia in pregnancy in Nigeria

https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(24)00239-0/fulltext

IVON-Trial

(PI: Prof Bosede Afolabi)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