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Linking informal providers to the formal urban health system for improved access to quality and equitable health services in urban slums in Nigeria

Submission date 27/01/2026	**Recruitment status** No longer recruiting	[_] Prospectively registered [_] Protocol
Registration date 27/01/2026	**Overall study status** Completed	[_] Statistical analysis plan [_] Results
Last Edited 27/01/2026	**Condition category** Other	[_] Individual participant data [X] Record updated in last year

Plain English summary of protocol
Not provided at time of registration

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Study information

Scientific Title
Developing and institutionalising health system linkages between the formal and informal sectors for improving the equitable provision and use of appropriate essential health services in urban slums in Nigeria

Acronym
CHORUS - Nigeria

Study objectives
1. To examine intervention effectiveness across three critical domains of service delivery in urban slum contexts, i) appropriate management of common illnesses and health conditions by IHPs, ii) referral practices and feedback mechanisms between IHPs and formal providers, and iii) patterns of utilisation of IHP services among community members
2. To evaluate the implementation fidelity and processes of the multicomponent intervention
3. To evaluate the cost and cost-effectiveness of the multicomponent intervention

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 19/01/2024, Health Research Ethics Committee, University of Nigeria Teaching Hospital (Ituku-Ozalla, Enugu, 400001, Nigeria; +234 (0)42-252022, 252573, 252172, 252134; info@unth.edu.ng), ref: NHREC/05/01/2008B-FWA00002458-1RB00002323

Primary study design
Interventional

Allocation
Non-randomized controlled trial

Masking
Open (masking not used)

Control
Historical

Assignment
Parallel

Purpose
Health services research

Study type(s)

Health condition(s) or problem(s) studied
Access to health services

Interventions
The intervention was implemented from July 2024 to May 2025, targeting four key areas, essential to the successful integration of informal providers: 1) improving governance, oversight & management; 2) improving human resource for health capacity; 3) improving service delivery quality and appropriate referrals; 4) improving the quantity and quality of health data reporting from informal providers (health information system); and 5) strengthening community governance and accountability mechanism.

The governance intervention involved the creation of a new urban health unit and strengthening the capacity of desk officers of the unit (through training, equipping with necessary tools and monthly supportive supervision visits/technical guidance) to provide oversight and management of informal providers. The human resource for health intervention involved training PHC workers, patent medicine vendors (PMV), traditional birth attendants (TBA) and bonesetters on the recognition and appropriate management of common communicable and non-communicable diseases. The service delivery intervention involved the provision of job aides and six cycles of supportive supervision of the trained providers, introduction of a referral system with referral slips for informal providers. The HMIS intervention involved introducing a daily health record-keeping system for informal providers as part of service delivery and introducing monthly collation of health data of informal providers by PHCs using the monthly summary form. The community participation component involved training and equipping community leaders to provide oversight and support to trained formal and informal providers in the linkage intervention.

Process and impact evaluation of the intervention was guided by the RE-AIM framework, which offers a comprehensive structure for assessing public health interventions beyond efficacy alone. RE-AIM was particularly suited to evaluating the extent to which the intervention achieved broad reach among informal providers (Reach), improved service quality and data reporting (Effectiveness), was adopted and implemented as intended (Adoption & Implementation), and showed potential for sustainability (Maintenance).

Intervention Type
Mixed

Primary outcome(s)
1. Appropriate management/care for tracer essential health conditions measured using provider survey questionnaire with vignettes, and in-depth interviews of formal providers and focus group discussions with informal providers, at baseline and endline

Key secondary outcome(s)
1. Utilisation of services of trained informal and formal providers measured using household survey at baseline and endline

2. Fidelity/adherence to service quality, referrals and data reporting measured using supervision checklists, in-depth interviews of formal providers and community leaders, and focus group discussions with informal providers and community members at monthly during supportive supervision visits and at endline

3. Cost-effectiveness of the multicomponent intervention measured using desk review of financial reports using costing template to extract cost data at during implementation

4. Provider acceptability of the multicomponent intervention measured using provider survey questionnaire at endline

5. Sustainability and institutionalisation of multicomponent intervention measured using key informant interviews of policy and decision makers, in-depth interviews of formal providers and community leaders, and focus group discussions with informal providers and community members at endline

Completion date
30/06/2025

Eligibility

Key inclusion criteria
1. Informal health providers (IHPs) in urban slums - traditional birth attendants, bonesetters and patent medicine vendors
2. Formal providers in public primary healthcare centers in urban slums
3. Household heads and primary caregivers in the household who are aged 18 years and above

Healthy volunteers allowed
Yes

Age group
Mixed

Lower age limit
18 Years

Upper age limit
80 Years

Sex
All

Total final enrolment
1375

Key exclusion criteria
1. Minors
2. Adult visitors to households
3. Households or individuals who did not provide consent

Date of first enrolment
07/08/2024

Date of final enrolment
17/09/2024

Locations

Countries of recruitment
Nigeria

Sponsor information

Organisation
Foreign, Commonwealth & Development Office

ROR
https://ror.org/037wke960

Funder(s)

Funder type

Funder Name
Foreign, Commonwealth and Development Office

Alternative Name(s)

Foreign, Commonwealth & Development Office, Foreign, Commonwealth & Development Office, UK Government, FCDO

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available