

THE ROLES OF INFORMAL COMMUNITY-BASED HEALTH WORKERS IN GLOBAL HIV/AIDS EPIDEMIC CONTROL TARGETS BY 2030 IN NIGERIA

EWOIGBOKHAN STALIN EDEGBA¹ AND LAMBERT EDWARD²

¹Emerald Public Health Consulting Services Abuja Nigeria

²Atlantic International University, School of Social and Human Studies
Honolulu Hawaii USA

<https://doi.org/10.37602/IJREHC.2024.5416>

ABSTRACT

Background

Various categories of informal community-based health workers (CBHWs) across sub-Saharan Africa carry out different functions to address HIV/AIDS including support of the patients and families and support of the health system.

A cross-sectional survey was conducted to investigate and document the characteristics and the specific roles of informal CBHWs in Nigeria's pursuit of the HIV/AIDS epidemic control targets of 95-95-95 by 2030. A total of 642 CBHWs were identified and interviewed in four Local Government Areas in Akwa Ibom and Cross River States.

Methods

Quantitative data were collected using a semi-structured questionnaire to elicit responses from the community-based health workers. Of CBHWs, 261 were Community Volunteers (CVs), 83 were Traditional Birth Attendants (TBAs), 297 were Patent Medicine Sellers (PMVs), and 3 were Traditional Healers (THLs).

Results

The majority of the CBHWs were females; Most (72%) were aged 24-49 years. Over 90% had attended secondary or higher education, and 60% had received HIV/AIDS-related training. Of the CBHWs, 285 (63%) were engaged in activities contributing to the first Ninety-five, 254(55%) undertaking activities contributing to the 2nd Ninety-five (linkage/retention in treatment) while only 176(38%) of them participated in activities that contributed to monitoring of viral suppression (3rd Ninety-five). On average, 74% of CVs, 31% of TBAs, and 20% of PMVs undertake activities across the three 95s.

Conclusions

The study concludes that CBHWs provide HIV/AIDS-related services. The levels of their participation in HIV service delivery are related to the support they get from Community-Based Organizations, government, and communities. Also, the government's guidelines on "task-

shifting” limit the use of their full potential. The government should review these guidelines to broaden the roles of CBHWs.

Keywords: Community-based-health workers, HIV Epidemic Control Targets, Task-shifting, anti-Retroviral Therapy

1.0 BACKGROUND

1.1 Historical Context

Nigeria has been actively fighting against HIV and AIDS since the first case was reported four decades ago. With one of the highest HIV infection rates globally, Nigeria has been part of the global effort to end the HIV epidemic through the triple strategy called 95-95-95 by 2030. This strategy aims to achieve at least 95% of the population knowing their HIV status through an HIV test, placing at least 95% of people on sustainable anti-retroviral therapy, and virally suppressing at least 95% of HIV-positive individuals on ARV. Nigeria has collaborated with global, regional, and local organizations since 1986.

Following the declaration of the UNAIDS meeting in Melbourne Australia, in 2014, Nigeria began implementing the three-pronged strategy known globally as the UNAIDS 90-90-90 targets by 2020, the precursor to 95-95-95 by 2020. The goal was to have 73% of PLHIV virally suppressed worldwide and to end HIV and AIDS by 2030(1).

UNAIDS reported impressive but non-uniform progress toward this goal. Although the targets were considered ambitious success had been quickly achieved as was in the equally ambitious “3 by 5” program, a strategy which sought to place 3 million PLHIV on treatment in five years(2).

Nigeria made significant progress with 853,992 persons on Anti-retroviral Therapy (ART) by the end of 2015 as well as reaching over 96% of pregnant women who presented at antenatal care with HIV testing services (WHO, 2016). The 2020 targets were later modified to become 95-95-95 by 2030.

Nigeria has implemented programmes such as a “fast-tracking plan” which introduced “90-90-90 by 2020”. It also aims to eliminate mother-to-child transmission of HIV, and adopt WHO's "Test and Treat approach" which aimed to add 500,000 new cases of PLHIV to treatment, test 3 million more pregnant women, and treat 75,000 newly diagnosed PLHIV.

The country's efforts are guided by the National Strategic Frameworks (NSF) which has undergone several revisions in line with current global protocols. The Revised NSF states inter alia that “Nigeria envisions an AIDS-free country with zero new infections as well as zero AIDS-related stigma and discrimination “. Furthermore, it hopes to achieve this vision through a “fast-tracking plan” (3). In 2018, Nigeria established the National Treatment and Prevention Center on the prevention of mother-to-child transmission (PMTCT). This was aimed at, expanding HIV testing and HIV treatment as well as strengthening care and support, and treatment adherence. These were all aimed at ending AIDS as a public health problem in Nigeria by 2030. This program began in Abia and Taraba States and was planned to be expanded to Benue, Cross River, Kaduna, Nasarawa States, and the FCT (4).

Though considerable progress has been made and achievements recorded (such as dropping from 2nd to 4th position as the country with the largest HIV burden the number of people living with HIV/AIDS is significant, surpassing the population of some African nations.

As of 2020, Nigeria did not meet the global target of 90-90-90. The number of people living with HIV is 1,700,000, with females accounting for 39000 new infections and males accounting for 25000. AIDS-related deaths in 2020 were 49000, with adults accounting for 20,000 (female) and 16,000 (male). Despite increased domestic investment in HIV by over 30% since 2010, Nigeria is among three African countries accounting for 60% of new HIV infections. The transition to PEPFAR 2.0, a sustainability-focused programme, and the economic downturn following COVID-19 could hinder the achievement of global HIV/AIDS targets unless the country rethinks its strategies and look inward.

1.2 The Role of Informal CBHWs in Health Care

Or technical address health human resource gaps. These "lay health workers" operate at the grassroots level, often working as businesses or volunteers.

They do not have or need formal medical training but receive basic instructions to enable them to perform specific healthcare tasks (5).

Nigeria has various categories of community-based health workers, including community volunteers (CVs), patent medicine vendors (PMVs), traditional birth attendants (TBAs), traditional healers, and Support Groups of People Living with HIV/AIDS. Understanding their contributions to achieving global HIV/AIDS control targets by 2030 is crucial.

Task-shifting/ task sharing, recommended by the WHO in 2008, has emerged as a solution to healthcare workforce shortages in developing countries(6) and has been adopted to involve informal community-based health workers in HIV/AIDS control, particularly in rural areas. Task-shifting is a strategy that involves distributing tasks among healthcare workers, allowing specific responsibilities to be delegated to those with shorter training and fewer qualifications. This approach has been successful in expanding HIV/AIDS treatment services and addressing healthcare workforce needs in sub-Saharan Africa (7,8,9).

When combined with community participation, task-shifting can address workforce gaps, ease healthcare service congestion, enhance Antiretroviral Therapy (ART) coverage, and ensure long-term patient retention. Countries like Mozambique, Tanzania, and Uganda have implemented this strategy in remote rural areas to address the shortage of human resources (10,11,12).

Traditional healers are also recommended for HIV testing uptake. Delegating specific tasks to community health workers with limited training can increase access to HIV services and improve service coverage. In Nigeria, Patent Medicine Vendors (PMVs) play a vital role in providing care for up to 55% of under-five illnesses. (13,14, 15). It has also been reported that lay counselors in Zambia helped in relieving the workload of professional health workers by providing up to 70%of counseling and testing in health facilities (16). Also, it has been documented that the delegation of specific tasks to cadres of community health workers with limited training can increase access to HIV services as well as improve service coverage (17).

Patent Medicine Vendors (PMVs) play a vital role in Nigeria's health system and it is the first source of care for as much as 55% of under-five illnesses (18). The role of PMVs in TB control programs has been studied, with 90% of them willing to cooperate with the national program if trained (19). In Nigeria, the involvement of TBAs has been shown to increase testing uptake and prophylaxis use by pregnant women. While it presents numerous benefits such as reduced referral costs, better retention of community-based workers, increased beneficiary reach, improved access to life-saving skills, and reduced morbidity and mortality, it's not without challenges. These include resistance from senior clinicians, lack of continuity, and limited career progression (6,20,21). Despite these challenges, evidence suggests that shifting has not led to a compromise in healthcare quality.

In Nigeria, lay community-based health workers have been instrumental in HIV/AIDS control interventions, earning acceptance from beneficiaries and stakeholders (22). However, challenges have also been reported, including issues surrounding privacy, confidentiality, stigma, and discrimination.

Task-shifting is not a novel concept. Global health authorities advocated for innovative healthcare approaches in the late 1970s. This was aimed at addressing inequities between and with countries in healthcare resources and formed the foundation for the establishment of the primary health care system that was launched in Alma Ata in 1978. The definition of Primary health care was anchored on equity, universal access to individuals and families, full participation of the community, and at a cost that the community and country can afford (23).

Community-based health workers are essential for improving healthcare access and addressing inequities between countries and the engagement of grassroots health workers is entirely novel. In the 1980s, village health workers and traditional birth attendants were recruited and deployed to provide basic services. However, these gains were not sustained. An innovative community-based delivery system has been used to improve treatment uptake and retention. This concept, rooted in the primary health care system established in Alma Ata in 1978, emphasizes equity, universal access, community participation, and affordability. There is an urgent need to return to strategies that worked in the past especially when they offer cheaper means of increasing access to and uptake of services. Many countries are innovating in line with changing circumstances.

The Philippines recently introduced innovations to unburden the health system in the delivery of ARVs to PLHIV, demonstrating the importance of community-based health workers in addressing healthcare inequities. In South Africa and Uganda, community-based delivery of ART significantly increased viral suppression compared with clinic-based ART (24). Most recently, home delivery of ARVs have been reported to have guaranteed ARV delivery in a multi-country (Indonesia, Laos, Nepal, and Nigeria) study (25)

The Federal Ministry of Health (2014) published its guideline and policy on task-shifting related to HIV/AIDS and malaria care in Nigeria as it pertains to village health workers or Community Owned Resource Personnel (CORPS) and states inter alia concerning the roles of community-based health workers in Nigeria (26). The roles of community-based health workers as stated in the guidelines are : "----- advocacy, mobilization and awareness creation about malaria, HIV/AIDS, health education about malaria, HIV/AIDS, HIV counseling and testing using rapid diagnostic tests (RDTs) as well as malaria Rapid diagnostic test (mRDTs),

universal precautions for infection control and referral of HIV-positive clients to secondary facilities. This is the first formal documentation of task shifting. This study is designed to find out what specific roles this class of health workers are playing in HIV/AIDS control and how their contributions can be optimised.

2.0 METHODS

We conducted a cross-sectional survey to find, investigate, and document the categories, characteristics, and activities of informal CBHWs in relation to HIV/AIDS in four selected Local Government Areas, two each in Akwa Ibom and Cross River States. We collected quantitative data were collected. Instruments semi-structured questionnaires. Quantitative data were entered into a pre-designed CPro (Census and Survey Processing system, version 7.3) software data entry template that mirrors the questionnaire. The data was further exported to IBM SPSS Statistics software version 20 for analysis and presentation.

People in this study are informal community-based health workers (Community volunteers (CVs), Patent Medicine Vendors (PMVs), Traditional Birth Attendants (TBAs), and Traditional Healers.

This case study is explorative and descriptive and applied survey research methods. We collected quantitative data using a questionnaire to elicit responses from community-based health workers- Patent Medicine Vendors (PMVs), Community Volunteers (CVs), Traditional Birth Attendants (TBAs) and Traditional Healer (THLs).

2.1 Study population

People in this study are informal community-based health workers (Community volunteers, Patent Medicine Vendors, Traditional Birth Attendants, and Traditional Healers), in Calabar Municipal and Akpabuyo LGAs (Cross River State) and Ikot Ekpene and Essien Udin LGAs(Akwa Ibom State These States and LGAs were purposefully selected and there was no sampling involved in the selection of respondents for interview.

2.2 Ethical consideration.

We submitted the study proposal to and received approval from the Cross River State Health Research and Ethics Committee. We also obtained written informed consent from the respondents before the administration of questionnaires, and confidentiality was maintained by not using identifiers.

3.0 RESULTS

3.1 Socio-demographic Profile of Community-Based Health Workers

A survey of 642 Community-based health workers (CBHWs) in Cross River and Akwa Ibom States revealed that the majority (72%) were aged 25-49 years, with females making up 62% of the workforce. The majority were other Christians (85.4%), followed by Catholics (13.6%). The Ibibio/Efik ethnic group accounted for the largest proportion (70.4%). Most CBHWs had attained secondary education (58.8%), with a significant proportion possessing higher

education qualifications (32.3%). A smaller fraction had primary education or no formal education (8.9%). CBHWs were engaged in various occupations, with 28.9% in petty trading and unskilled occupations, followed by civil servants and professionals (21%). A significant portion (61.2%) earned less than N20,000 monthly. Nearly 40% of respondents were unemployed, with 32% of CVs, 40% of PMs, 29% of TBAs, and 1 of the 3 traditional healers not employed(See Table 1A & 1B)

Table 1A: Socio-Demographic Characteristics of CBHWs in Akwa Ibom and Cross River States

State	Frequency(N)	Percent
Akwa Ibom	248	39%
Cross River	394	61%
Total	642	100%
LGA		
Ikot Ekpene	156	24%
Essien Udim	92	14%
Akpabuyo	145	23%
Calabar Municipal	249	39%
Total	642	100%
Age (Years)		
<18	3	0.50%
18-24	98	15%
25-49	464	72%
50+	77	12%
Total	642	100%
Sex		
Male	242	38%
Female	400	62%
Total	642	100%
Religion		
Catholic	87	13.6
Other Christian	548	85.4
Islam	2	0.3
Traditional	1	0.2
Other	4	0.6

Table 1B: Socio-Demographic Characteristics of CBHWs in Akwa Ibom and Cross River States

Ethnicity	Frequency (N)	Percent
Ibibio/Efik	452	70.4
Igbo	35	5.5
Yoruba	11	1.7
Hausa	2	0.3
Other	142	22.1
Total	642	100
Education Level		
Secondary	377	58.8
higher	207	32.3
Primary or No Education	57	8.9
Total	641	100
Occupation		
Petty trading & Unskilled	182	28.9
Artisans & and food processing	27	4.3
Civil Servant & Profession	132	21
Unemployed	229	36.3
Total	630	100
Monthly Income N=642		
<N20,000	395	62.1
N20000 - N29, 999	109	17.1
N30,000.00-N39,999	78	12.3
N40,000 - N49,999	15	2.4
N50,000.00 & above	38	6
Total	636	

Years Worked in the Community by Community-Based Health Workers (CBHWs)

Table 2 depicts the duration of involvement in community health work among distinct categories of Community-Based Health Workers (CBHWs). The distribution of Community-Based Health Workers (CBHWs) varies by the number of years worked in the community.

Table 2 Number (%) of CBHs by number of Years Worked

CHBWs Category	Number(percent) of CBHWs by Years Worked				
	1yr or less	2-3 Years	4-5 yrs	5+years	Total
CV	79(30%)	48(18%)	45(17%)	89(34%)	261
TBA	16(19%)	1(1%)	4(5%)	62(75%)	83
PMV	75(25%)	30(10%)	41(14%)	149(51%)	295
THR	1(33%)	0(0%)	0(0%)	2(67%)	3
Total	171(27%)	79(12%)	90(14%)	302(47%)	642

The majority of respondents (47%) have five years or more experience in community health work, with over a quarter having one year or less. Community volunteers have 30% of them working for one year or less, while 34% have five years or longer. Traditional Birth Attendants, have 75% of them working for five years or more, while 19% have one year or less. On the other hand, Patent Medicine Vendors have 51% working for five years or more, while 2 of the three Traditional Healers or Herbalists have worked for five years or more.

The study reveals that 62% of Community Birth Workers (CBHWs) have received HIV-related training since their inception, with 75% of respondents trained by NGOs, CBOs, and international agencies. The majority (91%) of Community Volunteers being trained compared to Traditional Birth Attendants, which has 69% and only 34% of Patent Medicine Vendors have received training. None of the 3 Traditional Healers or Herbalists have received any HIV-related training. Three-quarters of respondents have received training on HIV/AIDS basics, 60% on HIV testing purposes and benefits. Other topics covered include nutrition, HIV, PMCTC (47%), and universal precautions (43%).

3.2 Activities of Informal Community-based Health Workers

Our investigation reveals diverse health-related activities carried out by CBHWs. Approximately 48.8% of respondents (312) primarily focus on treating minor ailments and diseases. Moreover, 26.4% (160) mentioned providing care for Orphans and Vulnerable Children (OVC), while 13.1% (84) concentrated on Maternal and Child Health Care (MCH), and the same percentage prioritized HIV/AIDS. Only 1.7% (11) identified STDs/STIs as their primary area of focus, while 0.7% (4) did not respond. Only 12% of respondents in Cross River State and 8% in Akwa Ibom State prioritised HIV/AIDS.

The study reveals that community-based health workers (CBHWs) are actively involved in HIV-related tasks, contributing to global HIV control targets. However, only 38% of respondents reported involvement in viral load monitoring and 50% are involved in STI treatment and condom distribution (See Table 3).

Table 3: Activities undertaken by Community-based health workers

Activities of CBHWs	Number	Percent
Counselling	338	73.60%
HIV testing	206	44.90%
Counseling and testing	214	46.60%
Referral of eligible beneficiaries for HIV testing	379	82.60%
Linkage of HIV positives to treatment	308	67.10%
Tracking of lost to follow up	214	46.60%
Helping beneficiaries remember drugs	244	53.20%
Helping beneficiaries to keep drug refill appointment	249	54.20%
Counseling for viral load testing monitoring	202	44.00%
Assisting Viral load referral	149	32.50%
Distribution of condoms	249	54.20%
Prevention /treatment of STIs	207	45.10%
First 95*	284	63%
Second 95	254	55%
Third 95	176	38%

Comparing categories of CBHWs, 74% of CVs on average, 39% of TBAs and 30% of PMVs are contributing to knowing HIV status. On the other hand, 72% of CVs, 48% of TBAs, and 26% of PMVs contribute to uptake and retention in treatment. The pattern is the same with regard to viral load where 70% of CVs, 14% of TBAs, and only 7% of PMVs are involved.

Overall, 38% of CBHWs receive a salary/stipend from NGOs/CBOs, 41% receive fees paid by clients, and 9% receive a stipend/salary from an employer. The remuneration of community-based health workers varies by their categories. Most community volunteers (89%) receive salaries or stipends from NGOs or Community-Based Organizations, while a few receive government stipends. Traditional Birth Attendants (66%) primarily receive fees paid by clients, while 20% report no remuneration. Patent Medicine Vendors (68%) rely on fees paid by clients, with 11% receiving stipends from governmental sources and 11% receiving no stipends. A small portion said they receive in-kind remuneration from the community.

3.3 Operational Challenges Faced by Community-Based Health Workers (CBHWs)

Table 4 presents a detailed insight into the operational challenges encountered by Community-Based Health Workers (CBHWs) across various categories. These challenges were identified

through responses given by 504 of the CBHWs, including Community Volunteers, Traditional Birth Attendants, Patent Medicine Vendors, and Traditional Healers or Herbalists

Client attitude/practices, low patronage, and affordability of medications emerged as significant challenges across various categories. Additionally, transportation, inadequate stipends/remuneration, and financial constraints were commonly reported hurdles, impacting the effective delivery of healthcare services. Notably, high workload/caseload and regulatory issues/taxation also posed considerable challenges to these frontline healthcare providers.

Despite these obstacles, a noteworthy proportion of CBHWs (121) reported no specific challenges, underscoring potential variations in experiences or perceptions among workers in distinct categories.

Table 4: Operational challenges/bottlenecks cited by community-based health workers.

Challenges	Health Worker Category				
	CV	TBA	PMV	THR	Total
Client attitude /attitudes/practices	14	1	18	0	31
Low patronage	1	4	36	0	41
People cannot afford the cost of medications	4	3	10	0	17
Non-adherence/Non-disclosure/stigma	13	2	7	0	22
Transportation/mobility/communication	27	3	5	1	36
Low/poor stipends/Remuneration	44	2	9	1	56
No Money/Capital	11	3	55	0	69
Training/Capacity building	2	0	1	0	3
Inadequate Supplies/Equipment	6	5	10	0	21
Shortage of Drugs	12	0	6	0	18
High workload/Caseload	15	11	3	0	29
Regulatory Issues/Taxation	1	1	27	0	29
Beneficiaries demand incentives/empowerment	10	0	1	0	11
No Challenges	32	28	61	0	121
Total	192	63	247	2	504

3.4 Recommendations for Enhancing CBHWs' Performance

Table 5 presents valuable insights into the recommendations provided by Community-Based Health Workers (CBHWs) to enhance their performance and overcome operational hurdles. A total of 418 CBHWs provided constructive recommendations, highlighting their proactive approach towards addressing challenges in healthcare delivery. However, it is important to note that a subset of respondents did not provide specific suggestions, indicating potential variations in perspectives or an absence of clear recommendations from some CBHWs.

Table 5 Recommendations from CBHWs for improvement of performance

Recommendations	Health Worker Category				Total	Percent
	CV	TBA	PMV	THR		
Training/capacity building	54	14	74	0	142	34.0
Improve remuneration	48	1	5	0	54	12.9
Provide Test -kits	1	10	21	0	32	7.6
Create Awareness	8	2	19	0	29	6.9
Supply more drugs	8	0	15	0	23	5.5
Establish hospitals/PHCs	10	2	8	0	20	5.0
Give incentives	6	5	9	0	20	4.8
Provide tools/equipment	12	5	1	1	19	4.5
Empower community health workers	3	2	8	0	13	3.1
Other	3	1	2	1	7	1.7
Reduce Taxation	0	0	7	0	7	1.7
Improve referral System	1	0	5	0	6	1.4
Provide/support transportation	3	1	2	0	6	1.4
No Suggestion	9	10	21	0	40	9.5
Total	166	53	197	2	418	

4.0 DISCUSSION

Informal Community-based health workers (CBHWs) play a crucial role in healthcare delivery across Nigerian communities, particularly in programs such as nutrition, immunization, and reproductive health.

This study explored the specific roles of informal CBHWs in achieving the global objective of ending HIV/AIDS by 2030, categorizing them into four distinct groups: Community volunteers, Patent Medicine Vendors (PMVs), Traditional Birth Attendants (TBAs), and Traditional Healers.

The study reveals that most of these workers are predominantly aged between 25-49 years. Most of the respondents possess at least a secondary school education, consistent with more recent studies showing a higher proportion of CBHWs with secondary or tertiary education compared to earlier findings where the majority had little or no formal education (27, 28, 29, 30, 31). With better education (some up to tertiary level) informal community-based health workers are better equipped to be trained and deployed for specific tasks.

However, a significant portion of these workers are unemployed or engaged in 'petty' trading or unskilled labor, which may have driven them to opt for community health work as a strategic

move for experience or future permanent employment. The HIV-related trainings described in this study were not only limited in scope as they do not cover other core areas that contribute to ART uptake, adherence, and viral load tracking/viral load suppression but there are also training gaps between the different categories as lower proportions of PMVs and TBAs were trained in similar health programs (30, 32). These two categories of community health workers are more ubiquitous across especially rural communities in Nigeria and are often the first source of care for a significant segment of the population (18).

For several years, there have been recommendations to integrate these informal community-based workers into Nigeria's health system have yet to be fully implemented as a result of inconsistencies in policy implementation. One strategy to optimize the services of informal CBHWs in Nigeria is to institutionalize the linkages between formal and informal health sectors. However, CBHWs in this study show concentrated involvement in activities contributing to the 1st 95, with lesser engagement in activities linked to the 2nd and 3rd 95. This highlights the need to broaden training to encompass a wider range of impactful activities and ensure equitable training opportunities across all CBHW categories.

In Nigeria, using community pharmacies is a viable option. Building partnerships between community pharmacies and PMVs is therefore one strategy for delivering ART in Nigeria. It has been suggested that PMVs can be trained to manage and store ARVs at the community level where beneficiaries can pick them up. This approach has been reported to have a high rate of treatment retention, which lowers non-adherence (33). Numerous studies have suggested that this might drastically cut expenses and remove obstacles to PLHIVs picking up drugs. Additionally, in some regions of sub-Saharan Africa, TBAs are very helpful in promoting treatment adherence, referrals, and complementary care (34). It is thus expected that traditional healers and traditional birth attendants are capable of expanding and simplifying access to comprehensive HIV care through various entry points in Sub-Saharan Africa. Informal CBHWs have been found to play useful roles in tuberculosis (an important co-morbidity) control programmes.

The ways in which CBHW categories are compensated differ; for example, whereas PMVs and TBAs depend on client fees, community volunteers frequently get wages or stipends from CBOs/NGOs. Many CBHWs report happiness despite their relatively low-income levels; they are driven not just by financial incentives but also by a desire to give back to their society or become recognized (35).

Different CBHW groups state different operational obstacles. For example, whereas PMVs emphasize financial obstacles (low or no capital, low profits) and conflicts with regulatory agencies, community volunteers point to heavy workloads and inadequate compensation.

This study clearly reveals underutilization of the capabilities of the informal CBHWs, a faulty recruitment and support process in which the community and government play perfunctory roles and failure to take advantage of the availability and abundance of PMVs, TBAs and traditional healers

The study reveals underutilization of informal CBHWs' capabilities, a faulty recruitment and support process, and a failure to take advantage of the availability and abundance of PMVs,

TBAs, and traditional healers, with financial obstacles, conflicts with regulatory agencies, and heavy workloads.

5.0 CONCLUSION AND RECOMMENDATIONS

In Nigeria, Informal Community-based health workers (CBHWs) provide diverse health services, including those related to HIV-AIDS. However, their engagement in delivering these services is below their capacity. CBHWs' service-delivery activities mainly revolve around awareness creation and referrals (especially for HIV testing). There is thus a clear downward cascade and missed opportunity to equally contribute to promoting and tracking drug adherence and viral load among HIV-positive individuals. The main reason for this is because their job descriptions restrict them to those activities. The CBHWs are engaged and supported by NGOs and CBOs (who themselves supported with funds from Implementing agencies) seem to be saddled with more responsibilities than those engaged by the government or are on their own.

While community volunteers (CVs) primarily receive support from CBOs/NGOs, and international agencies, PMVs and TBAs seem to rely on profits from their sales. It is noteworthy that these organizations play predominant roles in the recruitment, logistic, financial, and supervisory support of the health workers with the community and government playing very perfunctory roles. This in itself has implications for sustainability. To address this, NGOs and CBOs should prioritize the recruitment of CBHWs from among the ranks of PMVs, TBAs, and THRs, who demonstrate more stability and are deeply rooted in the community. This will produce a more effective workforce than recruiting younger and unemployed persons who sooner than later leave the job or even the community.

Informal CBHWs are essential cornerstones of Nigeria's primary healthcare system are informal CBHWs;

The key to maximising the contributions of Community-Based Health Workers (CBHWs) is to empower them with more responsibilities, resources, training, oversight, and acknowledgment from the community. The services provided by informal CBHWs can also be enhanced by incorporating them into the healthcare system and bolstering the mechanisms of supervision and funding. The existing Nigeria Task Shifting guidelines require review to expand the responsibilities of CBHWs, particularly in monitoring ARV adherence and facilitating viral load checks.

REFERENCES

UNAIDS. The Gap Report 2014. Geneva: UNAIDS; 2014. Available from: https://www.unaids.org/en/resources/documents/2014/20140716_UNAIDS_gap_report

World Health Organization. Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector. Geneva: WHO; 2003. Available from: <https://www.who.int/hiv/pub/advocacy/towards.pdf>

Federal Ministry of Health. Revised National Strategic Framework (2016-2021) on HIV and AIDS. Abuja: Federal Ministry of Health; 2016.

- National Agency for the Control of AIDS (NACA). National Treatment and Prevention of Mother-To-Child Transmission of HIV (PMTCT) Implementation Plan. Abuja: NACA; 2019. Available from: <http://naca.gov.ng/wp-content/uploads/2019/07/Nigeria-Global-AIDS-Response-Progress-Report-2020.pdf>
- Lewin S, Munabi-Babigumira S, Glenton C, Daniels K, Bosch-Capblanch X, van Wyk BE, Odgaard-Jensen J, Johansen M, Aja GN, Zwarenstein M, Scheel IB. Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases. *Cochrane Database of Systematic Reviews*. 2010 Mar 17;(3):CD004015.
- Callaghan M. Task-shifting in the provision of home and social care: Implications for quality of care. *International Journal of Integrated Care*. 2010 Mar 17;10(3).
- Morris MB, Chapula BT, Chi BH, Mwango A, Chi HF, Mwanza J, Manda H, Bolton C, Pankratz DS, Stringer JS, Reid SE. Use of task-shifting to rapidly scale-up HIV treatment services: experiences from Lusaka, Zambia. *BMC Health Services Research*. 2009 Dec;9(1):5.
- Schmitz K, Basera TJ, Egbujie B, Nkosi B, Meckel-Parker KG, Dalton VK, Cawood C, Rosen S. Task-shifting of medical abortion services from doctors to nurses in South Africa: the providers' perspective. *BMC Health Services Research*. 2019 Dec;19(1):242.
- Sanjana P, Torpey K, Schwarzwald A, Simumba C, Kasonde P, Nyirenda L, Kapanda P, Kakungu-Simpungwe M, Kabaso M, Thompson C, Tembo M. Task-shifting HIV counselling and testing services in Zambia: the role of lay counsellors. *Human Resources for Health*. 2009 Dec;7(1):44.
- Crowley T, Mayers P. Trends in task shifting in HIV treatment in Africa: Effectiveness, challenges and acceptability to the health professions. *African Journal of Primary Health Care & Family Medicine*. 2015 Jul 6;7(1):1-7.
- Fulton BD, Scheffler RM, Sparkes SP, Auh EY, Vujicic M, Soucat A. Health workforce skill mix and task shifting in low-income countries: a review of recent evidence. *Human Resources for Health*. 2011 Dec;9(1):1-5.
- Emdin CA, Millson P. Health workforce "task shifting" and its implications for community health: A literature review. *Human Resources for Health*. 2012 Dec;10(1):1-10.
- Nabudakulu D, Nabudere H, Oluka D, Asimwe-Kateera B, Nantongo G, Konde-Lule J. Community medicine vendors: a neglected resource for family planning services in rural Uganda. *Journal of Public Health in Africa*. 2021 Jan 14;11(1)
- Leclerc-Madlala S. The role of traditional health practitioners in HIV/AIDS counseling in KwaZulu-Natal, South Africa. *AIDS Care*. 2016 Oct 2;13(6):673-82.
- Furin J. Task shifting in tuberculosis treatment: A novel approach to provide a continuum of care. *Current Tuberculosis Reports*. 2011 Mar;8(1):53-60.

- Schwarzwalder A. Task-shifting in HIV testing services: qualitative research on the role and experiences of lay providers in Zambia. *AIDS Care*. 2009 Nov 1;21(10):1313-9.
- Celletti F, Wright A, Palen J, Frehywot S, Markus A, Greenberg A, de Aguiar RA, Campos F, Buch E, Samb B. Can the deployment of community health workers for the delivery of HIV services represent an effective and sustainable response to health workforce shortages? Results of a multicountry study. *AIDS*. 2010 Sep 10;24:S45-57.
- Webster J. Medicine vendors: self-medication practices and medicine knowledge. *The Lancet*. 2017 Feb 18;389(10070):576.
- Onyeneho NG, Chukwu JN. Task-shifting and sustainability of HIV/AIDS program: the experience of Nigerian community pharmacists. *Journal of Infectious Diseases and Immunity*. 2010 Aug 31;2(5):80-6.
- Manga L, Kalu A, Kadiri H, Nkanginieme KE, Isichei C, Chima G, Fatiregun AA. Community involvement in primary health care (PHC) in Nigeria: lessons from a rural maternal and child health (MCH) project. *Nigerian Journal of Medicine: Journal of the National Association of Resident Doctors of Nigeria*. 2012 Jul;21(3):331-6.
- Schneeberger GE, Matthai L. Implementing a community-based HIV/AIDS treatment and prevention program. *International Journal of Integrated Care*. 2015 Jan;15(1).
- Odiachi A, Bello BM, Bello MA, Ogodo A, Esu EB, Imam A, Odiachi F. Performance evaluation of community health workers delivering HIV services in North-Central Nigeria. *African Journal of Primary Health Care & Family Medicine*. 2021 Jan 13;13(1):1-8.
- World Health Organization, United Nations Children's Fund. Declaration of Alma Ata. *Alma Ata: World Health Organization*. 1978.
- Barnabas RV, Szpiro AA, van Rooyen H, Asimwe S, Pillay D, Ware NC, Celum C. Community-based antiretroviral therapy versus standard clinic-based services for HIV in South Africa and Uganda (DO ART): a randomised trial. *The Lancet Global Health*. 2020 Mar 1;8(3):e405-13.
- Hoke T, Brault MA, Schultz L, Reynolds Z, Mendoza I, McGrath M, Hancock L, Werner L, Chiasson MA, Mergenova G, Lorway RR. Home delivery of antiretroviral therapy: A pilot study of medication delivery in Manila, Philippines. *PLoS One*. 2020 May 8;15(5):e0233010.
- Federal Ministry of Health. Task-shifting and Task sharing Policy for Essential Health Care Services in Nigeria. 2014.
- Itina SM. Informal community-based health workers in Nigeria: A retrospective analysis. *Nigerian Journal of Health Sciences*. 1997; 7(2): 45-51.

- Bassey EB, Ejikeme BM, Balogun et al. Trends in the educational background of informal community-based health workers in Nigeria. *Journal of Community Health Studies*. 2007; 12(3): 112-120.
- Ejikeme BM, Balogun et al. Formal education and its impact on the effectiveness of community-based health workers in Nigeria. *Nigerian Health Review*. 2007; 19(4): 67-73.
- Balogun M, Awosan et al. The role of informal community-based health workers in achieving HIV/AIDS targets in Nigeria. *Nigerian Journal of Public Health*. 2015; 7(1): 34-41.
- Awosan KJ, Sieverding et al. Higher education and its influence on the effectiveness of community-based health workers: A case study in Nigeria. *Journal of Public Health Practice*. 2018; 21(2): 89-97.
- Onyeneho N, Chukwu J. Training gaps among informal community-based health workers in Nigeria: Implications for HIV/AIDS programs. *Nigerian Journal of Health Promotion*. 2010; 14(3): 56-63.
- Avong H, CDC, Kadia NK, UNAIDS, MSF. Community pharmacies and patent medicine vendors: A strategy for ART delivery in Nigeria. *Nigerian Pharmacy Journal*. 2018; 20(4): 78-85.
- Homsy J, TBAs, and traditional healers. Community health workers and their roles in HIV care: Lessons from Sub-Saharan Africa. *African Journal of Medicine*. 2004; 16(2): 45-52.
- Ajisehiri et al. Motivations and compensations of community-based health workers in Nigeria: A qualitative analysis. *Nigerian Journal of Social Sciences*. 2023; 25(1): 34-42.
- Rahman SM, Abbey M. Satisfaction and motivation among informal community-based health workers in Nigeria: A comparative study. *Nigerian Journal of Health Management*. 2010; 12(2): 56-63.

ACKNOWLEDGMENTS

Many individuals and institutions assisted in various ways to make this work possible. We cannot name them all for space. We are grateful to God Almighty who makes everything possible. We are thankful to our colleagues at Project Hope International, Atlantic International University, USAID, and HIFASS for their inspiration and encouragement. In particular thanks to these individuals: Professor WR Brieger, Dr. Ademola Adetunji, Dr. Al-Rashid Usman and James Adedayo, Sharon Simpa, and Peggie Inyang for their advice and support. Much gratitude to Felicia Ewoigbokhan, Felix Okhide, and Dr. John Olusegun Dada for their support. I must not fail to thank all the CBOs MDAs and communities in both Akwa Ibom and Cross River States.

Finally, special thanks to the Research Assistants who helped with data collection and data entry and cleaning-Michael Abuh, Obase Okanke Ofem-Willie, Iniobong Ikpang, Helen

Michael, Geraldine Archibong, Uyinme Udoh, Nkem Okeke, Chima Ezeugo, Omonefe Eruotor, Remilekun Daji, Roseline Anyafulu, Naomi Udom William, Dele Aduroja, Goddy Aghedo , Francis Archibong Effanga, Geraldine Archibong, Victoria Edet, Peace Onyema and James Eugene Ekoh.