

Assessment of Resources Available for Integrated Primary Eye Care in Obokun Local Government Area, Nigeria

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ABSTRACT

Background: The integration of eye care services into the primary health-care (PHC) system and the accessibility and quality of eye health in the community is hugely dependent on available resources.

Objective: The aim was to assess the resources available for eye care delivery in public PHC facilities in Obokun Local Government Area (LGA), Osun State, Nigeria.

Methodology: This was a descriptive cross-sectional study of public PHC facilities and workers in Obokun LGA, Nigeria. A PHC facility checklist was used to obtain data on available infrastructure, material resources, primary eye care (PEC) services, and human resources during a tour and inspection of each facility. Further data on human resources were obtained with a semi-structured questionnaire administered to PHC workers. Data included information on the age, sex, cadre, duration of service, PEC practices, and training of PHC workers.

Results: There were 4 (10.0%) primary health (PH) centres, 19 (47.5%) PH clinics and 17 (42.5%) health posts. The number and distribution of PHC facilities, material resources, and PEC services were below-recommended guidelines. There were 12 (11.2%) nurses, 4 (3.7%) community health officers, 19 (17.8%) community health extension workers (CHEWs), 7 (6.5%) health technicians, 8 (7.5%) junior CHEWs, and 57 (53.3%) health assistants. There was a sufficient number of PHC workers and community services to build capacity for PEC delivery.

Conclusions: Resources were available for PEC in Obokun LGA; however, some were insufficient or unevenly distributed. Further training of PHC workers in PEC and the provision of the minimum required infrastructure and material resources are recommended.

Key words: Health-care survey, integrated primary eye care, Nigeria, Obokun, Osun State, primary health care

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INTRODUCTION

The International Agency for the Prevention of Blindness and the World Health Organization launched the 'VISION 2020: Right to Sight' initiative in 1999 aimed at eliminating avoidable blindness by the year 2020.¹ Similarly, in 2013, the Sixty-sixth World Health Assembly adopted the global eye health action plan intending to reduce vision impairment by 25% by 2019.² Both initiatives identified that to achieve their objectives, the required human resources for eye health (HReH) needed to be available, appropriately skilled, supported, and productive.³ There are limited data to inform HReH target setting and policy in sub-Saharan Africa for the varied epidemiology of

eye conditions, the evolving visual needs of populations and differences in health systems among countries.⁴⁻⁷

One of the core objectives of the 'Global eye health action plan' was to improve access to comprehensive eye care services that are integrated into health-care systems at primary, secondary and tertiary levels.² In Africa, Cameroon achieved this using an existing onchocerciasis programme.⁸ Similarly, the Gambian Eye Care Program successfully delivered a reduction in the crude prevalence of blindness by focusing on community approaches and primary health care (PHC).⁹ However, there is still limited information and a lack of high-quality evidence of integration of eye health into PHC in Africa.^{7,10}

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Primary health care is the bedrock of a national health system and primary eye care (PEC) is an integral component of PHC.¹⁰ In Nigeria, there are challenges of inefficiency in the delivery of PHC at the local government area (LGA) level.¹¹ The challenges of the PHC system in Nigeria range from inadequacies of human resources, infrastructure, funding, and governance, to poor public perception and participation.⁷ These challenges have made implementing integrated PEC fail to achieve meaningful or sustainable success across the nation.⁷

In 2008, the Nigerian national blindness survey revealed that up to 84% of blindness in Nigerians aged 40 years and above, was due to either treatable or preventable causes such as cataract, glaucoma and trachoma.¹² Poor access to PEC services, coupled with a weak health system can lead to blindness from these conditions. This can then result in the loss of productivity of individuals and poor economic development. One-way to address this problem is to improve PEC at the LGA and community levels in Nigeria.⁹

In Nigeria, the political ward is the smallest political unit consisting of a defined geographical area with a population range of 10,000–30,000 people.¹³ It was adopted by the National Primary Health Care Development Agency in 2001 as the operational unit under the ‘ward health system’ for the implementation of the PHC programme in the country. The three recognised PHC facility types, managed by the local governments, are the ‘health post’ to cover a population of 500–2000, the ‘primary health clinic’ (PH clinic) to cover a population of 5000–10,000 and the ‘primary health centre’ (PH centre) to cover a population of 10,000–30,000.¹⁴

The identification of resources available for PEC at the LGA and political ward level will provide data to develop strategies to improve and integrate PEC into the existing PHC systems in Nigeria and sub-Saharan Africa. This data can also be used to plan prevention and treatment programmes to reduce avoidable blindness.

This study aims to assess the resources available for integrated PEC in Obokun LGA, Nigeria. This would add to the body of knowledge on the capacity of LGAs in Nigeria to deliver PEC services and help to bridge the data gap in sub-Saharan Africa.

METHODOLOGY

This was a descriptive cross-sectional study of PHC facilities in Obokun LGA, Osun State, in March 2013. All PHC facilities managed by the Obokun Local Government and the PHC workers (clinical staff) deployed to each facility were eligible to be included in the study. Permission was obtained from the local government authority to carry out the study. Written informed consent was obtained from all PHC workers that participated in the study. The study adhered strictly to the tenets of the Helsinki declaration.

Obokun LGA is one of the 30 LGAs in Osun State, Southwestern Nigeria. The headquarter town is Ibokun. The nearest tertiary health-care facilities were located in neighbouring towns of

Osogbo and Ilesa, both in Osun State. All functional PHC facilities managed by Obokun LGA were included in the study.

Preliminary data on the name and population of each political ward were obtained from the National Population Commission zonal office, Ibokun. Data on the number and location of the PHC facilities in each political ward and the names and contact information of the heads of each PHC facility were obtained from the Public Health Unit of Obokun LGA.

The heads of PHC facilities were contacted via a phone call to explain the purpose of the study. The itinerary and a convenient date to visit each facility were confirmed during the call. Data on the number, sex and cadre of PHC workers (clinical staff), hours of operation and community services of each PHC facility were obtained from the head of each facility. The purpose of the study was explained to the PHC workers at each facility visited and their written informed consent to participate in the study was obtained.

Data on infrastructure, material resources and care of patients with eye complaints were obtained during an inspection tour with the head of the facility and a review of facility record books. Data were recorded using a checklist derived from the minimum standards for PHC in Nigeria and the ‘VISION 2020’ requirements for district-level eye care.^{15–17}

The PHC facility infrastructure was inspected to determine the number of rooms (including an area or room for visual acuity measurement that was well-illuminated and 3–6 m in length), beds, tables and chairs. The names (old nomenclature) of the PHC facilities were used as a guide to categorise the PHC facilities into the three recognised types (new nomenclature).¹⁶ ‘Model health centres’ were categorised as ‘primary health centres’; ‘health centres’ and ‘maternity centres’ were categorised as ‘primary health clinics’; and ‘health posts’ and ‘dispensaries’ were categorised as ‘health posts’.

Material resources requested for inspection included referral forms, PEC education materials (posters), eye examination materials, dressing materials and drugs. The functionality of materials was confirmed and those still in storage were noted. Patient record books of each PHC facility for the preceding year (January–December 2012) were reviewed to determine the number of patients with eye complaints, nature of eye complaints and type of treatment given.

One hundred and four PHC workers (97.25%) participated in the study. Data on age, years of service, area of training, PEC practices and in-service training in PEC were obtained using an interviewer-administered semi-structured questionnaire. Data were analysed using IBM SPSS Statistics for Windows, version 25.0 (IBM Corp., Armonk, NY, USA), and data were summarised and presented using frequency tables.

Ethical Clearance

Ethical approval for this study (ERC/2013/02/18) was provided by the Ethics and Research Committee of Obafemi

Awolowo University Teaching Hospitals Complex, Ile-Ife, on 17 February 2013.

RESULTS

Obokun LGA was made up of ten political wards and there were 43 public healthcare facilities. These facilities consisted of 41 primary healthcare facilities managed by the Obokun LGA, one comprehensive health centre in Ibokun managed by the State Government, and one rural comprehensive health centre in Imesi-Ile (a unit under the Obafemi Awolowo University Teaching Hospitals' Complex) managed by the Federal Government. The local government authority provided drugs and services free of charge to patients seen at only the health posts and PH clinics. Patients paid out-of-pocket for drugs and services at the PH centres where medical supplies were maintained with a revolving fund system. There was one medical doctor who was the PHC coordinator and one pharmacist who was in charge of medical supplies to the PHC facilities. Both were stationed at the local government headquarters, while 107 PHC workers (clinical staff) were deployed to the PHC facilities.

There were 40 functional PHC facilities serving an estimated population of 140,204 people in Obokun LGA. They were composed of 4 (10.0%) PH centres ('Model health centres' which were 12-room buildings with 24-hour operations daily), 19 (47.5%) PH clinics ('health centres' and 'maternity centres' which were two to six-room buildings with 24-hour operations daily) and 17 (42.5%) health posts ('health posts' and 'dispensaries' which were two to three-room buildings with 8-hour operations daily from 8 a.m. to 4 p.m.).

Four (40%) political wards had a sufficient number ($<1:30,000$) of PH centres to population ratio namely, Esa-Oke (1:17,416), Otan-Ile (1:15,337), Ilase (1:13,729) and Ilare (1:9451) political wards. Seven (70%) political wards had a sufficient number ($<1:10,000$) of PH clinics to population ratio but no political ward had the minimum required health post to population ratio of $\leq 1:2000$. The number of PHC facilities was

insufficient and the distribution among the political wards was uneven. The distribution of PHC facilities by political ward and population is summarised in Table I.

All the PHC facilities had at least one table and chair, one consultation room and a room or area fit for visual acuity measurement. All the PHC facilities had health education posters, but none was specific for eye health or eye diseases. All the PHC facilities had the written records of the patients who visited the facilities but none had referral forms. The essential material resources for PEC and the number and type of PHC facilities in Obokun LGA, where they were available are summarized in Table II.

Fifty-two patients with eye complaints visited 22 (55%) PHC facilities from January to December 2012. There was no documentation of visual acuity measurement or ocular examination findings. Twenty-five (48.1%) patients had no record of a treatment plan, but one (1.9%) patient was referred to the rural comprehensive health centre at Imesi-Ile. The distribution and characteristics of eye patients seen in 22 PHC facilities in Obokun LGA from January to December 2012 are summarized in Table III.

There were 107 clinical PHC workers deployed to the PHC facilities in Obokun LGA. Sixteen (14.9%) were male and 91 (85.1%) were female, with a male-to-female ratio of 1:5.7. The PHC workers were made up of 12 (11.2%) nurses, 4 (3.7%) community health officers, 19 (17.8%) community health extension workers (CHEWs), 7 (6.5%) health technicians, 8 (7.5%) junior CHEWs (JCHEWs) and 57 (53.3%) health assistants. Although there was an uneven distribution of PHC workers among the political wards, 8 (80%) political wards had a sufficient number of PHC workers to population ratio of $\leq 1:3000$ for PEC. Table IV summarises the distribution of PHC workers by cadre, political ward and political ward population. There was an insufficient and uneven distribution of cadre of PHC workers for the different types of PHC facilities based on recommended guidelines. Table V summarises the distribution of PHC workers by cadre, type of PHC facility and population of Obokun LGA.

Table I: Distribution of 40 primary healthcare facilities in Obokun local government area by political ward and population

Wards	Type of PHC facility			All facilities, <i>n</i> (%)	Estimated population		
	Estimated population	PH clinic, <i>n</i> (%)	HP, <i>n</i> (%)		All population, <i>n</i> (%)	PH clinic/P	HP/P
Ibokun	-	1 (2.5)	1 (2.5)	2 (5.0)	29,506 (21.0)	1:29,506	1:29,506
Ido-Oko	-	3 (7.5)	3 (7.5)	6 (15.0)	19,737 (14.1)	1:6,579	1:6,579
Esa Oke	1 (2.5)	1 (2.5)	1 (2.5)	3 (7.5)	17,416 (12.4)	1:17,416	1:17,416
Otan-Ile	1 (2.5)	-	1 (2.5)	2 (5.0)	15,337 (10.9)	-	1:15,337
Ilase	1 (2.5)	7 (17.5)	3 (7.5)	11 (27.5)	13,729 (9.8)	1:1,961	1:4,576
Ipetu-Ile	-	2 (5.0)	4 (10.0)	6 (15.0)	11,196 (8.0)	1:5,598	1:2,799
Imesi-Ile	-	1 (2.5)	-	1 (2.5)	9,944 (7.1)	1:9,944	-
Ilare	1 (2.5)	1 (2.5)	1 (2.5)	3 (7.5)	9,451 (6.7)	1:9,451	1:9,451
Esa-Odo	-	1 (2.5)	2 (5.0)	3 (7.5)	8,063 (5.8)	1:8,063	1:4,032
Ilahun	-	2 (5.0)	1 (2.5)	3 (7.5)	5,825 (4.2)	1:2,913	1:5,825
Total	4 (10.0)	19 (47.5)	17 (42.5)	40 (100)	140,204 (100)	1:6,676	1:9,347

PHC: Primary healthcare; PH: Primary health; P: Population; HP: Health post

Table II: Essential material resources for primary eye care and the number and type of primary healthcare facilities in Obokun local government area where they were available

Item description	Type of PHC facility			Total, <i>n</i> (%)
	PH centre, <i>n</i> (%)	PH clinic, <i>n</i> (%)	Health post, <i>n</i> (%)	
Referral forms	-	-	-	-
PEC education materials	-	-	-	-
Eye examination materials				
Visual acuity chart*	1 (2.5)	-	-	1 (2.5)
Torch	-	-	-	-
Hand magnifying lens	-	-	-	-
Dressing materials				
Gauze/eye pad	4 (10.0)	7 (17.5)	5 (12.5)	16 (40.0)
Plaster	4 (10.0)	3 (7.5)	3 (7.5)	10 (25.0)
Eye shield	-	-	-	-
Drugs				
Chloramphenicol eye drop 0.5%	3 (7.5)	-	-	3 (7.5)
Chloramphenicol ointment 1.0%	1 (2.5)	-	-	1 (2.5)
Gentamicin eye drop 0.3%	-	-	-	-
Tetracycline ointment 1.0%	-	-	-	-
Vitamin A capsule	-	-	-	-
Ivermectin tablet	-	-	-	-

*Was in storage at the time of inspection. PEC: Primary eye care, PHC: Primary healthcare, LGA: Local government area, PH: Primary health

Table III: Distribution and characteristics of eye patients seen in 22 primary healthcare facilities in Obokun local government area from January to December 2012

Characteristic	Type of PHC Facility			Total patients, <i>n</i> (%)
	PH centre, <i>n</i> (%)	PH clinic, <i>n</i> (%)	HP, <i>n</i> (%)	
Patients with eye complaints	11 (21.2)	19 (36.5)	22 (42.3)	52 (100.0)
Type of eye complaint				
Eye problem	5 (9.6)	14 (26.9)	16 (30.8)	35 (67.3)
Eye pain	3 (5.8)	2 (3.8)	3 (5.8)	8 (15.4)
Eye redness	-	1 (1.9)	3 (5.8)	4 (7.7)
Eye discharge	2 (3.8)	1 (1.9)	-	3 (5.8)
Eye injury	1 (1.9)	1 (1.9)	-	2 (3.8)
Treatment action ^a				
No documentation	8 (15.4)	3 (5.8)	14 (26.9)	25 (48.1)
Yeast tablet	-	8 (15.4)	4 (7.7)	12 (23.1)
Chloramphenicol eye drop	2 (3.8)	3 (5.8)	3 (5.8)	8 (15.4)
Gentamicin eye drop	-	5 (9.6)	3 (5.8)	8 (15.4)
Ampicillin + cloxacillin capsules	1 (1.9)	2 (3.8)	1 (1.9)	4 (7.7)
Paracetamol tablet	1 (1.9)	1 (1.9)	1 (1.9)	3 (5.8)
Penicillin ointment	-	-	1 (1.9)	1 (1.9)
Referred	-	1 (1.9)	-	1 (1.9)

^aSome patients were given more than one drug prescription. PHC: primary health care, PH: Primary health, HP: Health post

Data from 104 PHC workers showed that all PHC workers provided health education to patients, but this did not include eye health education. Areas of training among 15 (14.4%) PHC workers included five (4.8%) in dentistry, three (2.9%) in midwifery, three (2.9%) in otorhinolaryngology, two (1.9%) in medical records, one (1%) in nephrology and one (1%) in laboratory science. There was no ophthalmic nurse and none of the PHC workers measured visual acuity for patients with eye complaints. All PHC workers conducted free immunizations,

including measles and vitamin A administration according to the national immunisation schedule.¹⁸ They all periodically visited schools to give health talks, but these did not include topics on eye health. All PHC workers had a yearly refresher course on how to vaccinate children; counsel on handwashing, family planning and exclusive breastfeeding, but none had received in-service training on eye health. Table VI summarizes the characteristics and PEC practices of PHC workers.

Table IV: Distribution of primary healthcare workers by cadre, political ward, and political ward population

Ward	Nurse, <i>n</i> (%)	CHO, <i>n</i> (%)	CHEW, <i>n</i> (%)	HT, <i>n</i> (%)	JCHEW, <i>n</i> (%)	HA, <i>n</i> (%)	Total, <i>n</i> (%)	PHC worker/P
Ibokun	5 (4.7)	-	3 (2.8)	2 (1.9)	1 (0.9)	10 (9.3)	21 (19.6)	1:1405
Ido-Oko	-	-	2 (1.9)	1 (0.9)	1 (0.9)	5 (4.7)	9 (8.4)	1:2193
Esa-Oke	-	1 (0.9)	3 (2.8)	1 (0.9)	1 (0.9)	4 (3.7)	10 (9.3)	1:1742
Otan-Ile	-	1 (0.9)	-	-	-	4 (3.7)	5 (4.7)	1:3067
Ilase	4 (3.7)	2 (1.9)	6 (5.6)	-	4 (3.7)	13 (12.1)	29 (27.1)	1:473
Ipetu-Ile	1 (0.9)	-	1 (0.9)	1 (0.9)	-	9 (8.4)	12 (11.2)	1:933
Imesi-Ile	-	-	-	1 (0.9)	-	2 (1.9)	3 (2.8)	1:3315
Ilare	1 (0.9)	-	2 (1.9)	-	-	3 (2.8)	6 (5.6)	1:1575
Esa-Odo	-	-	1 (0.9)	-	1 (0.9)	2 (1.9)	4 (3.7)	1:2015
Ilahun	1 (0.9)	-	1 (0.9)	1 (0.9)	-	5 (4.7)	8 (7.5)	1:728
Total	12 (11.2)	4 (3.7)	19 (17.8)	7 (6.5)	8 (7.5)	57 (53.3)	107 (100)	1:1,310

PHC: Primary healthcare, CHO: Community health officer, CHEW: Community health extension worker, HT: Health technician, JCHEW: Junior community health extension worker, HA: Health assistant, P: Population

Table V: Distribution of primary healthcare workers by cadre, primary healthcare facility, and population of Obokun local government area

Cadre	Type of PHC facility			Total, <i>n</i> (%)	PHC worker/LGA population
	PH centre, <i>n</i> (%)	PH clinic, <i>n</i> (%)	HP, <i>n</i> (%)		
Nurse	4 (3.7)	8 (7.5)	-	12 (11.2)	1:11,684
CHO	2 (1.9)	2 (3)	-	4 (3.7)	1:35,051
CHEW	2 (1.9)	14 (13.1)	3 (2.8)	19 (17.8)	1:7379
HT	-	5 (4.7)	2 (1.9)	7 (6.5)	1:20,029
JCHEW	1 (0.9)	2 (1.9)	5 (4.7)	8 (7.5)	1:17,526
HA	4 (3.7)	42 (39.3)	11 (10.3)	57 (53.3)	1:2460
Total	13 (12.2)	73 (68.2)	21 (19.6)	107 (100)	1:1310

PHC: Primary healthcare, LGA: Local government area, PH: Primary health, HP: Health post, CHO: Community health officer, CHEW: Community health extension worker, HT: Health technician, JCHEW: Junior community health extension worker, HA: Health assistant

DISCUSSION

This study assessed the resources available for integrated PEC in Obokun LGA, Osun State, Nigeria. This included data on the facility infrastructure, material resources, eye services and human resources. All the PHC facilities had rooms and furniture for patient consultation and visual acuity measurement. However, the number for each type of PHC facility was below the minimum required in Nigeria for the population of Obokun LGA.¹⁴ The minimum requirement of one PH centre to one political ward (10,000–30,000 population) was met in less than half of the political wards. Although it is worthy of note that more than half of the political wards had the required number of PH clinics (1:5000–10,000 population), none of them had the required number of health posts (1:500–2000 population). This could be a result of an increase in the population over time without a commensurate provision of new health facilities to meet the increasing demand. Consequently, more PHC facilities would need to be provided to meet the minimum requirements for universally accessible PEC in Obokun LGA.

This study also found an uneven distribution of PHC facilities in Obokun LGA, as the most populous political wards did not have the highest number of PHC facilities. This could be because of the presence of comprehensive health centres in

some of the political wards. A study by Onakpoya *et al.*¹⁹ in Atakunmosa West LGA of Osun State, Nigeria, also reported an uneven distribution of PHC facilities that was attributed to the presence of comprehensive health centres in the affected political wards.¹⁹ In addition to providing more PHC facilities, reopening closed facilities or upgrading existing facilities in underserved areas will help to rectify this uneven distribution.

None of the PHC facilities had all the essential materials and drugs for PEC. This was similar to findings in Atakunmosa West LGA, Osun State, Nigeria.¹⁹ Furthermore, this study showed that PH centres were better equipped than PH clinics or health posts. This may be because the PH centres operated a 'drug revolving fund' to maintain medical supplies while other facilities depended on free supplies from the local government authority. Consequently, patients paid for services and drugs at the PH centres while materials and drugs were sometimes out of stock at the other facilities. These factors could potentially affect the affordability and accessibility of PEC in these communities. The LGA could explore other methods such as a community health insurance scheme to overcome these barriers thereby ensuring the availability of essential materials and drugs for PEC.

The PHC facility records showed that majority of patients with eye complaints were seen at health posts. This may be

Table VI: Characteristics of 104 primary healthcare workers in Obokun local government area

Characteristic	n (%)
Age group (years)	
21-30	12 (11.5)
31-40	54 (51.9)
41-50	30 (28.9)
≥51	8 (7.7)
Duration of service (years)	
≤10	56 (53.8)
11-20	38 (36.5)
≥21	10 (9.6)
Area of training	
CH/basic nursing	89 (85.6)
Eye care	-
Others	15 (14.4)
PEC practices*	
Eye health education	-
Measurement of visual acuity	-
Patient drug prescription alone	7 (6.7)
Immediate referral of patients	94 (90.4)
Referral+prereferral drug prescription	3 (2.9)
Follow up of eye patients	2 (1.9)
Immunization	104 (100)
In-service training in eye health	-

*Referrals were done verbally. PHC: Primary healthcare, CH: Community health, PEC: Primary eye care

because this type of facility is usually the most accessible to the community. This emphasizes the importance of ensuring accessibility to PEC by providing the appropriate number of health posts required in each political ward. The records also showed incomplete documentation of patient details. For instance, most eye complaints were not specified, no visual acuity was documented, about half of the records did not have a treatment plan and only one upward referral was documented. Furthermore, some of the drugs prescribed such as 'yeast' and 'penicillin ointment' were not in line with the standing orders for PHC workers.^{20,21} This may partly be because none of the PHC workers had attended refresher courses in PEC as well as insufficient drugs and materials for eye examinations. Periodic refresher courses in PEC, provision of sufficient drugs and materials for PEC, and emphasis on proper documentation may help to improve the quality of written records.²²

'The VISION 2020: Right to sight' initiative recommended various minimum HReH to population ratio requirements as part of the road map to accomplishing its mission.¹⁵ Accordingly, the objectives of the 'Nigeria's VISION 2020 Strategic Plan (2007–2011)' for human resource development at the LGA level was to build the capacity of ophthalmic nurses to 1/100,000 population, PEC workers to 1/3000 population and to increase the proportion of women involved in the delivery of PEC.²³ This implies that there is a need for a minimum of one ophthalmic nurse and approximately 47 PEC workers in Obokun LGA. Although there was no ophthalmic

nurse in Obokun LGA, there was a sufficient number of nurses and other PHC workers as well as a higher proportion of female PHC workers available for training to build the minimum capacity required for PEC delivery. More than half of the PHC workers were aged 40 years or less and a few already had some speciality training in other areas of medicine. Thus, in addition to providing refresher courses or workshops in PEC for PHC workers, a few nurses could be sponsored for ophthalmic training to bridge the gap in eye care personnel.

There was an uneven distribution of PHC workers by cadre and political ward in Obokun LGA. This resulted in about half of the nurses working in Ibokun political ward, the headquarter town. This could be because of a general preference to reside in urban than in rural areas.⁵ This was similar to a study by Eze *et al.*²⁴ in Enugu urban, Southeastern Nigeria, that reported an uneven distribution of the eye care workers in three LGAs.²⁴ The provision of incentives such as better welfare packages for workers in rural areas could encourage PHC workers to reside in underserved and remote communities.

This study showed that PEC was included in services provided by PHC workers. However, some components of PEC delivery were suboptimal. These included eye health education, visual acuity measurement, follow-up of eye patients and use of written referrals in a two-way referral system. Furthermore, though PHC workers engaged in community services and in-service training, there was a suboptimal integration of PEC into these programmes. These programmes can serve as potential avenues to improve the quality and accessibility of PEC.⁸ The inclusion of rubella vaccinations during immunisation programmes, health talks on PEC during school visits and screening for eye conditions during community activities are some ways to integrate PEC into these existing programmes.⁹

A limitation of the study was that only the public sector component of the PHC system managed by the Local Government was assessed. Although the formal and informal private sectors are involved in the provision of PHC services, the public sector is arguably the single major provider in largely rural communities such as Obokun LGA.¹³ Private sector PHC providers such as local patent medicine vendors/shops, traditional health-care providers, maternity homes, non-governmental and faith-based charity organisations and other private providers often lack a sustainable framework that can help to deliver quality PEC services.^{7,25}

CONCLUSION

The integration of PEC into existing PHC systems by utilising pre-existing infrastructure, available human and material resources and community activities is the foundation to having a successful national programme for the elimination of avoidable blindness. In Obokun LGA, there were resources available for PEC service delivery. However, most of the resources were insufficient or unevenly distributed among

the political wards. The provision of adequate infrastructure, resources and services to meet the minimum requirements of PEC and further training of the existing PHC workers in PEC delivery are recommended.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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