MATERIAL RESOURCES FOR EYE CARE DELIVERY IN URBAN SOUTH-EASTERN NIGERIA

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SUMMARY

Objectives: To determine the availability and distribution of material resources for primary and secondary level eye care delivery in Enugu-North Local Government Area (LGA) of Enugu State.

Methods: A survey of Public (State and Local Government administered) health care facilities in Enugu North LGA was done. The health map of Enugu North Local Government Area was read to identify available health care facilities. Each facility was visited. A pre-tested, observer–administered questionnaire was used to interview the administrative heads of all the health care facilities in the LGA. The population of the Local Government Area was obtained from the Enugu office of the National Population Commission (NPC).

Results: The population of the area is 522,926. These persons are distributed in the three health districts as follows: Coal Camp – 157,179, Asata/Ogui – 157,577 and New Haven – 208,170.
There are fourteen public primary and secondary level health care facilities in the Enugu North LGA. These are unevenly distributed in the three health districts of Coal Camp (64.29%), Asata/Ogui (28.59%) and New Haven (7.14%). Altogether primary level health care facilities made-up 13 (92.9%) of the facilities while there is only one (7.1%) secondary level health care facility in the LGA.
Materials for eye care are available in only the secondary level health care facility. The materials for basic eye care in the primary level health care facilities were limited and were only found in 61.54% of such centres. Basic drugs for eye care delivery were always available in 4 (28.97%) centres; occasionally available in 4 (28.97) centres; and unavailable in 6 (42.86%) centres.

Conclusion:
The materials available for eye care delivery in Enugu North LGA are inadequate. The available materials are unevenly distributed. The possible reasons for the uneven distribution are, historical, political and geographic. These findings constitute barriers to uptake of eye care services

***Keywords:** Eye care, material resources, availability and distribution of material resource.*

INTRODUCTION AND BACKGROUND INFORMATION

Enugu North Local Government Area is one of the three constituent Local Government Areas that make up Enugu, the capital territory of Enugu State. It has an estimated population of 522,926 based on the 1991 National Census figures[1], made up of mostly Civil Servants and traders with few artisan workers. There is an appreciable student population because of the existence of many secondary and tertiary educational institutions in the area. It is located in the tropical rainforest climatic belt with two seasons in the year and average annual rainfall of 152 – 203cm.

Primary eye care (PEC) is described as the application of the primary health care (PHC) approach to delivery of eye-care services utilizing the horizontal integration matrix model proposed by World Health Organization (WHO) [2,3,4]. Eye care delivery could be institution based, community based, or both. The preferred route of delivery depends on the prevailing public health need, resource availability and the

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prevailing economic situation [5,6]. Ozemela emphasized the five main requirements for effective eye care delivery as money, material, manpower, management, and mobility[7].

Material resources for eye care delivery are broadly grouped into fixed resources – buildings and mobile resources – drugs and equipment. The ideal materials for effective/qualitative eye care delivery should be affordable, evenly distributed, have cost and technical advantage over other alternatives, produce the desired health impact, be sustainable by provider and acceptable to the consumer[6].

The availability and distribution of resources (human and material) for eye care have a direct bearing on the quality of eye care and uptake. There is therefore a need to evaluate the availability and distribution of resources for eye care delivery against the background of set standards by World Health Organization. Findings from such studies and recommendations derived from them would be of immense assistance to eye care planners.

METHODS

This is a descriptive study of all the State and Local Government administered primary and secondary level health care centres in Enugu North Local Government Area of Enugu State.

Data on the number cadre, location and distribution of the health care facilities amongst the three health districts was extracted from the health map obtained from the Local Government's health department.

The population figures of the Local Government Area and the health districts were obtained from the zonal office of the National Population Commission (NPC) in Enugu.

Data on the available materials for eye care in each centre was obtained by visiting each of the health facilities and directly administering a pre-tested questionnaire to the administrative heads.

The data generated was analyzed using the Microsoft Excel 2000 version computer software programme.

RESULTS

The total population of the Local Government Area is 522,926. Of this, 157159 (%) are found in the Coal Camp health district, 157577 (%) in the Asata/Ogui district while the remaining 208170(%) live in the New Haven District. Figure 1 is a health map of the Local government area showing the health districts and the physical health facilities.

Out of a total of fourteen eye care centres in the Enugu North Local Government Area, 13 (92.86%) are primary level eye care centres while 1 (7.14%) is a secondary level eye care centre. The secondary level centre has a functioning eye clinic. The number, cadre, and distribution of the centres amongst the three health districts are shown in table 1.

The distribution of the districts' population per unit of health facility show that New Haven, with the largest population is the most underserved while Coal camp district with the least population has most of the available health facilities. It is also informative that the Federal Government administered tertiary health facility in Enugu capital territory is also in the Coal Camp district of this Local Government Area.

Ophthalmic medical preparations are available in some of the centres. Table 2 shows the type of ophthalmic medical preparations and their distribution in the centres.

Some basic eye care equipment was found in some of the 13 primary level health care centres. These include Torchlight, Hand Magnifying lens, Visual Acuity chart, epilation forceps and eye shield found at one primary center each. Eye pad was available in a primary centre (7.69%); dressing bandage in 8 centres (61.54%) while adhesive tape was found in 9 centres (69.23%). These centres are therefore not equipped to deliver any significant basic eye care.

At General Hospital Parklane, Enugu. material resources available for eye care are as shown in table 3.

Ophthalmic Medical preparations and other consumables available at this hospital

include topical antibiotics such as sulphacetamide, and Gentamicin eye drops, astringents such as Tetrahydrozoline HCL eye drop, steroid anti-inflammatory preparations such as Betamethazone and Neomycin combination drops, short acting mydriatics/ cycloplegics such as Tropicamide, and anti-glaucoma preparations such as Pilocarpine (2% and 4%) and Timolol maleate. Acetazolamide tablets for the systemic management of glaucoma, local anaesthetic injection (Xylocaine 2%), and 2% fluorescene sodium are also available.

Table 1: Cadre And Distribution Of Eye Care Centres

Cadre of centre	*Coal camp*	*Asata/Ogui*	*New Haven*	*Total*
Health Post	4 (66.66%)	1 (16.67%)	1 (16.67%)	6 (100%)
Health Clinic	2 (100%)	-	-	2 (100%)
Material And Child Health Centres	2 (66.67%)	1 (33.33%	-	3 (100%)
Primary Health Centre	-	2 (100%)	-	2 (100%)
General Hospital	1 (100%)	-	-	1 (100%)
Total	9 (64.24%)	4 (28.59%)	1 (7.14%)	14 (100%)
District's Population/ Health Facility ratio	17464: 1	39394:1	208170:1	

Table 2: Types Of Drugs Available At The Centres

Type of Preparation	*Drug*	*No of Centres available in*	*Percentage*
Topical Antibiotics	Chloramphenicol Eye Drops	7	53.85%
	Chloramphenicol Eye Ointment	6	46.15%
	Tetracycline eye Ointment	3	28.08%
	Others*	6	46.15%
Vitamin	Vitamin A capsules	6	46.15%
Mydriatic/ Cycloplegic	Atropine Eye Drop and ointment	1	7.69%
Anti-Glaucoma	Pilocarpine Eye Drop (2% or 4%)	1	7.69%
Topical Anti-Inflammatory	Steroid eye drops and ointments	1	7.69%

*Gentamicin, Sulphacetamide eye drops and penicillin eye ointment.

Table 3: Material Resources For Eye Care Delivery At General Hospital Parklane Enugu

Material	*No*
Beds for patients admission	16
Theatre*	1
Direct ophthalmoscope	1
Indirect ophthalmoscope	1
Streak retinoscope	1
Slit lamp biomicroscope	1
Trial lens case/frame	2

* Theatre is shared with other surgical departments.

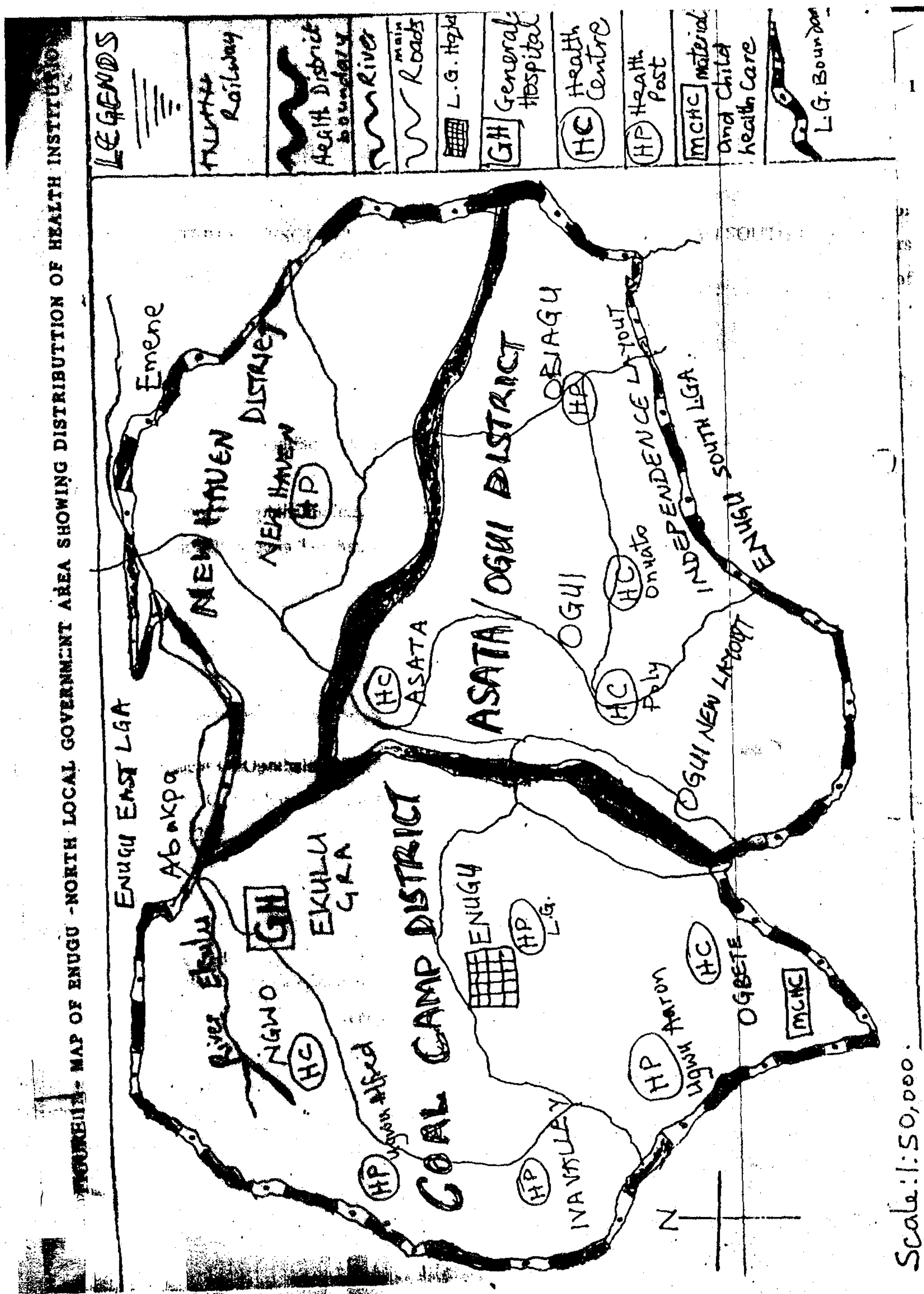

FIGURE 1 - MAP OF ENUGU -NORTH LOCAL GOVERNMENT AREA SHOWING DISTRIBUTION OF HEALTH INSTITUTIONS

DISCUSSION

The finding of this study are in keeping with the recommendation of the World Health Organization (WHO) primary health care pyramid model [2] in which primary cadre centres are more numerous and occupy the base of the health pyramid model. Emphasis on maternal and child health by the government could also explain the relative large number of this cadre of health facility[7]. Katung[8] reported similar cadre distribution pattern in his study in Plateau State.

There is striking imbalance in distribution of health facilities amongst the three component health districts. Katung[8], Vaughan and Co-workers, [9] Evans and colleagues[10] made similar observations and attributed this to geopolitical factors which could also be responsible in the present study. However, in Enugu, the historical development of the town is more relevant to the location of the health and other social amenities. Enugu started in the Coal Camp District as a coal-miners city with the miners and other workers living in the coal camp district. The senior government officials lived in the Government Reserved Area (GRA) in which the General Hospital, Parklane, and other government facilities are located. The other districts are very recent areas that were developed as the city expanded in size and population. Location of health facilities has not kept pace with the expansion of Enugu hence the lopsided distribution observed in this study.

Evaluation of the availability of mobile resources for eye care delivery revealed a striking deficiency with drugs for basic eye care delivery being always available in four (28.97%) centres, occasionally available in 4 (28.97%) centres and lacking in 6 (42.84%) centres. A similar spectrum of deficiency was noted when the availability of basic equipment and consumables for basic eye care delivery were assessed.

The facilities available at the only secondary level centre were grossly inadequate. The limited availability of funds at the disposal of eye care planners, coupled with the fact that eye care delivery is not a priority area for the government during situations of economic distress, which requires financial resources rationalization, could explain this state of affairs. Ozemela[7] and Qaurcoopome[11] made similar independent observations and arrived at same conclusion. We recommend that more health care facilities be sited at the New Haven and Asata/Ogui districts in order to correct the imbalance. Furthermore, in future as new layouts are being developed in pace with the increasing population of Enugu, health care facilities should be provided for the new layouts. These health care centres should be made capable of rendering primary and secondary level eye care services.

CONCLUSION

There is inadequacy of material resources and mal-distribution of available health facilities for delivery of eye care in the area studied. Similar observations have been reported elsewhere[12, 13]. The mal-distribution of eye care facilities constitutes barrier to uptake of eye care services and runs against the principle of primary eye care (PEC) [14]. There is need for more work in the area of ophthalmic services research to spotlight such anomalies in our health planning and assist in redressing them[15].

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