Information-seeking and Use by Human and Veterinary Medical Scientists (HVMS) in Africa: Case Study from Borno State, Nigeria

by

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DEDICATION

To Amy, Ify, Ogy and Kenson with all my heart

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FOREWORD

The second monograph in the Monographs on Africana Librarianship Series, **Information-seeking and Use by Human and Veterinary Medical Scientists (HVMS) in Africa: Case-Study from Borno State, Nigeria,** by Dr. Ken M. C. Nweke, is not only a study of the use of libraries, but also reflects the impact of the challenges of collection development discussed by Sam E. Ifidon in the first monograph in the series. The lack of current resources in African libraries, especially in medical libraries, is not a matter of mere academic interest--it can be a matter of life or death.

Dr. Nweke's attempt to find other studies of the use of medical and veterinary science libraries in Africa showed a scarcity of studies. This should present a challenge to other library researchers to conduct user studies which can be compared to the one published in this monograph. Dr. Nweke was fortunate that so many medical professionals were willing to take the time to respond to his detailed questionnaire. The library needs of these medical and veterinary scientists in Borno State, and no doubt of other medical and veterinary scientists elsewhere in Nigeria and Africa, are clearly stated in Chapter 6. One can only hope that economic conditions in Nigeria will be ameliorated so that there is a smaller gap between the needs of library users and the available resources and services.

The publication of this monograph, like the that of the first in the series, would not have been possible without the assistance of Donna Mortensen, who designed the format for the tables and created computer copy for the entire work.

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CHAPTER ONE

INTRODUCTION AND RESEARCH METHODOLOGY

1.1 INTRODUCTION

Ochai[1] has noted that library development in colonial tropical Africa was closely tied with the economic potentiality of a country. In Ghana, Nigeria, Tanzania, Uganda and Kenya, numerous special libraries were established to support agricultural and mineral exploitation. The earliest known research library in West Africa according to Akinyotu[2] was a medical research library which was established in the then Gold Coast (now Ghana) in 1908. By the end of the Second World War, medical librarianship had taken root in Africa. Cannon[3] and Harris[4] reported some of the developments of medical library facilities in Nigeria in the 1950s. But they also emphasized the need to recognize the central role of medical library facilities in the overall development of medical programmes in Nigeria. Thus, although there were medical libraries early in Africa, they did not develop progressively from the beginning because they were beset with a host of problems.

The problems of medical library and information services in Nigeria according to Obaka[5] arose from the low status of medical librarians. Okwuowulu[6] attributed lack of adequate library and information facilities in the hospitals in Nigeria to the ignorance of the hospitals' boards of management whose members are usually unaware of information needs of the health professionals. Obaka[7] noted that medical library and information facilities in Africa have not developed at the same pace as medical education, which has received a boost in recent times. According to him, the present poor situation of available library and information facilities in Africa is due to lack of understanding of their place in the process of medical education, research and services in the continent.

Akhigbe[8] has noted that a large number of hospitals in developing nations generally, and particularly in Nigeria, are not equipped with libraries, and where these exist, they are not staffed by people with adequate qualifications to manage or act as intermediaries between the hospital staff and available information sources. This point of view, was partly supported by a study by Belleh,[9] which showed that 70 per cent of the Nigerian hospitals he investigated had no more than small, inadequate and neglected collections of books (mostly outdated), and perhaps a few journals housed in corridors, doctors' offices, individual rooms, or in some multipurpose room such as a dining or conference room. In some cases, what was claimed to be a library turned out to be just a collection of newspapers and magazines. The situation has not since improved.

In order to shed light on the present practice of medical library and information professions in Africa, this researcher carried out an investigation of the pre-clinical faculty members of the University of Maiduguri College of Medicine, human and veterinary medical scientists (HVMS) in Borno State, Nigeria as a case study. It is hoped that the result of the study presented in this report will be of value in decision-making to improve available medical library and information facilities in Africa.

1.2 PREVIOUS STUDIES OF USE OF INFORMATION BY HVMS IN AFRICA

A literature search for documented studies of use of information by veterinary medical scientists (VMS) in Africa conducted at the request of this researcher by Mrs. T. Mosuro, the Librarian of Nigeria's premier Faculty of Veterinary Medicine at the University

of Ibadan, during the first week of September 1991, using the computer facilities available in the University main library - the Kenneth Dike Library, showed that there was none.

There is a veterinary research institute at Vom, Nigeria, Faculties of Veterinary Medicine in five of the 30 Nigerian universities at the University of Ibadan, University of Nigeria, Nsukka, Ahmadu Bello University, Zaria, University of Maiduguri, and the Usman Danfodio University, Sokoto. This researcher personally searched available information resources at the faculties of Veterinary Medicine of the University of Ibadan where he completed his degree studies, University of Maiduguri where he was working when he conducted the investigation presented in this report, and the University of Nigeria, Nsukka, where he is presently working, without finding a single paper reporting the result of a study of use of information by VMS in Africa.

None of the more than ten papers presented at the Second Congress and General Assembly of the African Medical Library Association (AMLA), Brazzaville, 12-16 June 1989, made available to this researcher by Mrs. Funmi Akhigbe, a Librarian at the E. Latunde Odeku Medical Library, College of Medicine, University of Ibadan, who participated in the Congress, discussed the result of investigation of use of information by human medical scientists (HMS) anywhere in Africa. The papers reported information primarily on the state-of-the-art of medical library facilities in the African countries represented at the Congress and discussed proposals for the future of such medical libraries.

The only published studies on the use of information by HMS in Africa found were the doctoral dissertations of Ojo[10] and Osiobe[11] and publications based on the latter. In his doctoral study conducted in 1980, Ojo attempted to determine the types of information needed by medical doctors in four Nigerian hospitals. The results showed that they most frequently used formal information sources and document channels, particularly if the doctors had years of experience, high levels of participation in professional activities, advanced degrees, or worked in health institutions with liberal fringe benefits and frequent in-service education programmes. Similarly, in 1984, Osiobe carried out an investigation into the use of information sources by the faculty and students of six medical schools in Nigeria for his doctoral degree. The findings of the study indicated that journals were the most important source of information for faculty, while monographs and textbooks were the most important source of information for medical students. Private information files and personal contacts with colleagues were shown to be important sources for both the faculty and the medical students.

Osiobe[12] highlighted the significance of scientific/technical journals in different information demanding tasks performed by health professionals. He found that health professionals show distinct preference for specific sources of information according to the operational task at hand. For the purpose of research, there is a distinct preference for scientific/technical journals over other sources of information. These are followed by abstracts and indexes, and private information files which also are used frequently for research purposes.

For teaching purposes, monographs/textbooks take precedence over all other sources. These are followed by private information files, scientific/technical journals, which are also used frequently in teaching. For patient care management, scientific/technical journals are preferred to other sources of information and information from these sources is frequently applied by clinicians to patient care management.

1.3   BORNO STATE

By physical size, Borno State is the largest of the 21 constituent states of the Federal Republic of Nigeria. Located in the northeastern corner of the country, the State covers an area of 166,589 square kilometres and shares international boundaries with the Cameroun, Chad and Niger Republics. It is multiethnic and multicultural. The Kanuri constitute the single major ethnic group. The two major local languages are Kanuri and Hausa, but English is the official language for government business.

Animal husbandry is a very important occupation of the 6,894,319 estimated 1988 human population of the State.[13] The estimated animal population in the State in 1988 was 7,660,164 consisting of 3,745,316 cattle, 2,085,667 sheep, and 1,929,181 goats.[14]

Islamic scholarship and Koranic education are deeply rooted in Borno State with centuries of commitment to the Islamic faith. Western traditions and Western education are, however, increasingly being embraced in the State. This can be seen from the fact that in 1976, 193,120 pupils were enrolled in primary schools, but in 1980, there were 693,294 pupils.[15] There were 6,577 students in 17 secondary schools in 1976, but 32,242 students in 49 secondary schools in 1980. Institutions of higher learning in the State are the College of Agriculture, several Colleges of Education, the Ramat Polytechnic, the School of Health Technology, and the School of Nursing and Midwifery. The University of Maiduguri, the highest institution of learning in the State, was established in 1975. It has faculties of Agriculture, Arts, Education, Law, Science, Social and Management Sciences, and Veterinary Medicine, as well as the College of Medical Sciences with a School of Nursing.

1.4   LIBRARY FACILITIES IN BORNO STATE

As in the other states of Nigeria, government supported educational and research institutions in Borno State have libraries at various stages of development. Public library facilities in the State originated from the regional public library facilities of the colonial region of Northern Nigeria, started in 1952 at Kaduna, the regional capital. There were in 1991, 13 public library facilities in the State. One was located in Maiduguri, the State capital, and the others in the 12 local government headquarters.

Over 20 federal universities are supported by the Federal Government of Nigeria. Each of the universities has a main and branch library system providing information to support the Nigerian universities' basic roles of teaching, research and public service. Ifidon[16] has noted that the main source of funds to all English-speaking African universities except one, Cuttington University College, Suacoco, Liberia is government grants which account for about 95 per cent of the total revenue of each university. The university libraries of English-speaking African universities derive funds through the universities. The average rate of funding in English-speaking African university libraries is about five per cent of the total recurrent grants of the parent universities. Consequently, government grants to the university libraries fluctuate with the allocations made to the whole university.

Nigerian university libraries, including the University of Maiduguri libraries, have not been receiving five per cent of the total recurrent grant since the mid 1980s. The university funding was adversely affected by a policy of steadily dwindling budgets in all spheres of governmental activity, including university education. Whenever there is a reduction of institutional budgets in Nigeria, library subventions are either slashed to the barest minimum or frozen entirely by the institutional management, since libraries are understood to be institutional appendages whose services can wait. Oil constitutes Nigeria's main foreign exchange earner and its glut during the early 1980s further aggravated the already depressed

national economy from the alleged misuse by politicians. The national economic situation was responsible for the steadily dwindling budgets of government supported institutions mentioned above. The University of Maiduguri budget was further affected by the fact that the number of federal universities competing for funds increased from 13 to 20 during the early 1980s.

Nigerian university librarians have become reticent in discussing their library finances because of the inconsistent university library funding since the mid 1980s. Moreover, actual expenditures often differ markedly from the published budgets.

The basic professional qualification for library work in northern Nigeria, including Maiduguri, is a Bachelor's degree in Library Science (BLS). This follows acceptance in 1963 of the Sharr[17] report on the library needs of northern Nigeria which recommended undergraduate programmes for that part of the country because, "there was no graduate then of Northern Nigerian origin to study librarianship at the postgraduate level." There was a need to produce more librarians than is possible with the traditional method of basic professional preparation based upon a first degree in another discipline adopted in southern Nigeria on the recommendation of Dr. Harold Lancour[18] in the report of this survey of library conditions in West Africa conducted in 1957. Lancour's survey, supported by the Carnegie Corporation of New York, was to determine the extent of need for scholarships for library assistants from the Gold Coast (now Ghana) and Nigeria requested from the Corporation by the West African Library Association during the mid 1950s.

Many librarians at the Maiduguri libraries now possess the additional higher degree of Master of Library Science (MLS) and an effort is being made to recruit interested candidates with first degrees in other disciplines, including human and veterinary medical sciences, as trainee librarians.

The University of Maiduguri Library system is made up of the University main library, otherwise known as the Ramat Library and three branch libraries, namely, the Scarborough Medical Library, the Agro-Vet Library and the Aminu Kano Law Library. In 1991 the Ramat Library had 32 librarians and many other less qualified staff members. It had about 120,000 volumes of books in the general collection, about 7,500 volumes in the reference collection and accession of 2,600 periodicals. The Scarborough Medical Library had two librarians among several other less qualified staff members. It had about 10,000 volumes of books in Human Medicine, about 400 volumes in the reference collection and received about 200 periodical titles from the subscriptions of the Ramat Library.

The Agro-Vet Library had two librarians in 1991 and several other less qualified staff members. It had about 5,000 volumes of books in Agriculture and Veterinary medicine, about 550 volumes in the reference collection and received about 100 periodical titles from the subscriptions of the Ramat Library. Similarly, in 1991 the Aminu Kano Law Library had one librarian plus several other less qualified staff members. It had about 10,000 volumes of books in Law and received about 20 periodical titles from the subscriptions of the Ramat Library.

1.5   HVMS IN BORNO STATE

HVMS in Borno State include all human and animal health professionals registered with the Nigerian Medical and Dental Council and Nigerian Veterinary Council respectively, resident and working within the system of human and animal healthcare delivery in the State. There were 202 human and 72 veterinary medical scientists in 1988. There were

ratios of one human medical scientist (HMS) to 34,130 human beings (1:34,130), and one veterinary medical scientist (VMS) to 107,780 animals (1:107,780).

1.6   UNIVERSITY OF MAIDUGURI COLLEGE OF MEDICINE

The main function of the Maiduguri College of Medical Sciences as stated in the University Prospectus[19] is to produce doctors who:

i.   are soundly trained in the scientific basis of medicine;
ii.   are of international standard and at the same time well-versed in the medical and health problems of Nigeria;
iii. are oriented toward preventive medicine and the health problems of the community.

The medical curriculum in Maiduguri is traditional with two years of pre-clinical studies followed by three years of clinical work. According to Scarborough,[20] a former Provost of the College, the objectives of pre-clinical studies of the Maiduguri Medical College are to introduce students to the study of the structure and functioning of the human body, encourage students to make observations for themselves, perform simple experiments, and record carefully the results. On the other hand, the purpose of clinical training is to enable students to apply their knowledge of the subjects of the pre-clinical period, viz: Anatomy, Biochemistry and Physiology, to the understanding of clinical problems.

1.7   RESEARCH METHODOLOGY

Lists of HVMS were obtained from the State Ministry of Health and Ministry of Animal and Forestry Resources. The lists contained HVMS working in Borno State government-sponsored institutions or in private practice in the State.

Other lists of HVMS were obtained from the Secretariats of the State Chapters of the Nigerian Medical and Dental Association and Nigerian Veterinary Association. The lists from the professional associations contained HVMS from the State ministries mentioned above and others working in the Federal Government-sponsored institutions located in the State. Integration of the two sets of lists produced a final list of 202 human and 72 veterinary medical scientists working in the State during the latter part of 1988 and early 1989. These and 30 pre-clinical faculty members of the University of Maiduguri Medical College complete the subjects of the study. The pre-clinical faculty members were not qualified HVMS as discussed above. They were qualified in and lecturing in Human Anatomy, Biochemistry and Physiology.

Chapters two, three and four are reports of the investigation of all HVMS in the State i.e. 202 human and 72 veterinary medical scientists. There were 123 (60.9 per cent) responses by medical scientists and 65 (90.3 per cent) responses by veterinary medical scientists who took part in the statewide investigation.

A sample of 30 pre-clinical and 40 clinical faculty members of Maiduguri Medical College from the 202 HMS in the State were selected for the investigation reported in chapter five. The sample was selected from the academic staff list obtained from the office of the Provost of the College of Medicine using a table of random numbers. 24 (80.0 per cent) and 29 (72.5 per cent) of the selected pre-clinical and clinical faculty members respectively, took part in the investigation.

A combination of questionnaire and interview methods was used to obtain information from all HVMS in the State and the 30 pre-clinical faculty members of the Maiduguri Medical College. The questionnaires (combined and included in the Appendix)

and the interview schedule were designed to obtain the information upon which this report is based.

The questionnaire was divided into five sections numbered A-E. Section A was designed to elicit data for personal identification of the subjects. Section B contained questions to provide information about the use of libraries by HVMS, while section C was about information services available in the libraries the HVMS use.

In addition to other questions, section D contained a list of 17 well-known ways of getting information reported in the literature on users. HVMS were asked to check off ways they use to get information. An open-ended question in which HVMS were asked to indicate other ways they use to get information not listed in the questionnaire, elicited from them three additional ways they use to get information, making a total of 20 ways they use to get information.

Similarly, section E contained a list of 20 well-known information sources, among other questions. Pre-clinical and clinical faculty members were asked to check off all information sources they use to obtain information. An open-ended question in which the faculty members were asked to indicate other information sources they use elicited two additional information sources, making a total of 22 indicated as used by respondents.

Responses were extracted from the completed and returned questionnaires. Descriptive statistics were used to organise and summarize the data collected. Numerical data were tabulated and discussed. Non-numerical data also were discussed. Additions, percentages, and frequencies, were calculated as well as the Spearman's rank order correlation coefficient (r) with a manual calculator. The Spearman rank order correlation is used for testing agreement between ranks of ordinal data. The Spearman coefficient (r) ranges from $+1$ for perfect positive correlation to -1 for perfect negative correlation. It is commonly used to test agreement between judgments by a group of judges of two objects or the scores of a group of subjects on two measures. In the present case of multiple subjects, the Spearman rank order correlation was used to answer the question, Do the measures tend to agree? - that is:

(i)   Is there any agreement between the ways HMS and VMS use to get information?

(ii) Is there any agreement between the information resources pre-clinical and clinical faculty members use?

CHAPTER TWO

USE OF LIBRARIES

2.1 LIBRARIES HVMS USE

Libraries HVMS in Borno State use include the University of Maiduguri Library system, other libraries in Borno State, and libraries outside the State.

Table 1: Use of the University of Maiduguri Library System

	HMS	VMS
NAME OF LIBRARIES	%	%
Ramat Library	29.27	46.15
Scarborough Medical Library	95.93	26.15
Agro-Vet Library	7.32	100.00
Aminu Kano Law Library	0.00	0.00
N	123	65

Table 1 shows percentages of HVMS who use each of the four University of Maiduguri branch libraries. Some HVMS use more than one of the branch libraries. 29.27 per cent of the HMS use Ramat Library, while 46.15 per cent of VMS use it. The higher percentage of VMS than HMS who use Ramat Library suggests that either VMS are more regular users of libraries or that the Ramat Library stocks resources more relevant to VMS than HMS.

95.93 per cent of HMS use Scarborough Medical Library, while only 26.15 per cent of VMS use it. On the other hand, 7.32 per cent of HMS use Agro-Vet Library, while 100.00 per cent of VMS use it. Thus, although the majority of HMS and VMS use Scarborough Medical Library and Agro-Vet Library respectively, the fact that some members of each type of the sister health professions use both types of libraries shows that there is overlap in the information resources/services provided in them. Further investigation of the background and area of specialization of HVMS who use both branch libraries may reveal their areas of common interest in information use.

Table 2: Use of Other Libraries in Borno State

	HMS	VMS
LIBRARIES	%	%
Public libraries	10.57	15.38
Personal libraries	6.50	3.08
Ramat Polytechnic Library	1.63	0.00
College of Education Library	0.81	0.00
High Court Library	0.81	0.00
Lake Chad Research Institute Library	0.00	1.54
N	123	65

Table 2 shows percentages of HVMS who use other libraries in Borno State in addition to the University of Maiduguri Library system. Public libraries are the ones most HVMS use. 10.57 per cent of HMS and 15.38 per cent of VMS use public libraries. With 13 public library facilities in the State, located in Maiduguri and in the 12 local government headquarters, public library facilities are more available and more widely spread throughout the State than any other type of library. Furthermore, during the interview to cross-check the information supplied by HVMS in the completed questionnaires, the researcher sought the interest of HVMS in public libraries in the State, since public libraries are known to contain materials of general interest. It was then learnt that HVMS use them in connection with their children. They drop their children at the public libraries and pick them up later, especially on Saturdays. It is during such times that they browse available reading materials to assist their children in selecting suitable ones.

6.50 per cent of HMS and 3.08 per cent of VMS use personal libraries. Personal libraries used by HVMS include collections of the individual HVMS, as well as those of their colleagues. Other libraries in the State which 1.63, 0.81, 0.81 per cent of HMS use are Ramat Polytechnic Library, College of Education Library, High Court Library, respectively, and 1.54 per cent of VMS use the Lake Chad Research Institute Library.

Table 3: Use of Libraries Outside Borno State

LIBRARIES	HMS	VMS
	%	%
Teaching hospital libraries	98.37	9.23
Nigerian Institute for Medical Research Library, Yaba	39.02	0.00
Central Medical Library, Yaba	26.83	0.00
Personal libraries	22.76	0.00
Public libraries	16.26	16.92
OAU Scientific Research Library, Lagos	4.38	0.00
University libraries	0.00	87.69
Faculties of Veterinary Medicine libraries	0.00	73.85
National Veterinary Research Institute Library, Vom	0.00	50.77
National Animal Production Research Institute Library, Shika	0.00	32.31
N	123	65

Table 3 shows libraries outside Borno State which HVMS use. Some HVMS use more than one library outside Borno State when the needed information cannot be obtained locally. For example, some HVMS use libraries outside the State when conducting literature surveys for on-going research projects. They also visit libraries when they travel for other purposes to where the libraries are located to consult reference materials, journals and other professional publications.

98.37 per cent of HMS use teaching hospital libraries, while 9.23 per cent of VMS use them. There are eleven other teaching hospital libraries in Nigeria besides the Scarborough Medical Library of the University of Maiduguri Teaching Hospital. Other medical libraries which HMS use are the Nigerian Institute for Medical Research Library, Yaba, and the Central Medical Library, Yaba, which 39.02 and 26.83 per cent of HMS use, respectively. No VMS use the human medical libraries. Non-medical libraries which 22.76, 16.26 and 4.38 per cent of HMS use are personal libraries, public libraries and the Organisation of African Unity (OAU) Scientific Research Library, Lagos, respectively. Among these only public libraries are used by 16.92 per cent of VMS.

87.69 per cent of VMS use university libraries and no HMS use them. Other libraries outside the State which VMS use and HMS do not use are veterinary medical libraries, including faculties of veterinary medicine libraries, the National Veterinary Research

Institute Library, Vom, and National Animal Production Research Institute Library, Shika, which 73.85, 50.77 and 32.31 per cent of VMS use.

2.2 FREQUENCY OF USE OF LIBRARIES

Further investigation of the use of the University of Maiduguri Library system by HVMS was conducted to obtain insight into the frequency of their use of these libraries. The result is presented below.

Table 4: Frequency of Use of Ramat Library

	Very Often	Frequently	Occasionally	Rarely	Never	N
	%	%	%	%	%	
HMS	3.25	4.07	13.01	8.94	70.73	123
VMS	3.08	16.92	20.00	6.15	53.85	65

Table 4 shows the frequency of use of Ramat Library by HVMS. Of the total of 29.27 per cent of HMS who use Ramat Library, 13.01 per cent use it occasionally, 8.94 per cent use it rarely, while the remainder 7.32 per cent use it very often or frequently. Similarly, of the total of 46.15 per cent of VMS who use it, 20.00 per cent use it occasionally, 16.92 per cent use it frequently, while 3.08 and 6.15 per cent use it very often and rarely, respectively. The frequency of use of the Ramat Library by HVMS shows that VMS use it more regularly than HMS.

Table 5: Frequency of Use of Scarborough Medical Library

	Very Often	Frequently	Occasionally	Rarely	Never	N
	%	%	%	%	%	
HMS	13.01	32.52	47.97	2.44	4.07	123
VMS	3.08	6.15	9.23	7.69	73.85	65

Table 5 shows the frequency of use of Scarborough Medical Library by HVMS. Of the total of 95.93 per cent of HMS who use the medical library, 47.97 per cent use it occasionally, 32.52 per cent use it frequently, while 13.01 and 2.44 per cent use it very often and rarely, respectively. On the other hand, of the total of 26.15 per cent of VMS who use the medical library, 9.23 per cent use it occasionally, 7.69 per cent use it rarely, while 6.15 and 3.08 per cent use it frequently and very often, respectively. Thus, the frequency of use of Scarborough Medical Library by HVMS shows that HMS use it much more frequently than VMS.

Table 6: Frequency of Use of Agro-Vet Library

	Very Often	Frequently	Occasionally	Rarely	Never	N
	%	%	%	%	%	
HMS	0.00	0.00	5.69	1.63	92.68	123
VMS	60.00	18.46	18.46	3.08	0.00	65

Table 6 shows the frequency of use of the Agro-Vet Library by HVMS. 100.00 per cent of VMS use Agro-Vet Library. Of the total percentage, 60.00 per cent of VMS use it very often, 18.46 per cent use it frequently and occasionally, while only 3.08 per cent use it rarely. Of the only 7.32 per cent of HMS who use the Agro-Vet Library, 5.69 per cent use it occasionally, while the remaining 1.63 per cent use it rarely. Thus, all VMS are users of the Agro-Vet Library and the majority use it regularly, whereas HMS rarely use it. This finding is to expected in terms of the information needs of VMS and HMS and the holdings of the Agro-Vet Library.

2.3 REASONS FOR VISITING LIBRARIES

Table 7: Reasons Why HVMS Visit Libraries

	HMS	VMS
REASONS	%	%
Read newspapers	95.12	75.38
Use journals	86.18	96.92
Use reference books	79.67	86.15
Browse	74.80	92.31
Copy documents	70.73	83.08
Borrow books	67.48	72.31
Find specific information	67.48	87.69
Make literature searches	64.23	86.15
Make reference inquiries	54.47	75.38
Write papers	34.96	87.69
Read own books	5.69	16.92
N	123	65

Table 7 shows the reasons why HVMS visit libraries and the percentages of those who visit libraries for each purpose. Some HVMS visit libraries for more than one reason. There is disparity between percentages of HMS and VMS who visit libraries for particular reasons. For example, whereas over 90 per cent of HMS visit libraries to read newspapers, over 90 percent of VMS visit libraries to use journals and browse library materials, respectively. 86.18, 79.67 and 74.80 per cent of HMS visit libraries to use journals, use reference books and browse library materials, respectively. 86.15 and 75.38 per cent of VMS visit libraries to use reference books and read newspapers, respectively.

Also, whereas 70.73, 67.48, 64.23 per cent of HMS visit libraries to copy documents, borrow books, find specific information and make literature searches, respectively, 87.69, 86.15, 83.08 and 72.31 per cent of VMS visit libraries to find specific information, make literature searches, copy documents and borrow books, respectively. Other uses are 54.47, 34.96, 5.69 per cent of HMS who visit libraries to make reference inquiries, write papers, read their own books, respectively, and 87.69, 75.38, 16.92 per cent of VMS who visit libraries to write papers, make reference inquiries, read their own books, respectively.

2.4 INSTRUCTION IN LIBRARY USE

Table 8: Instruction in the Use of Libraries Received

	HMS	VMS
INSTRUCTION RECEIVED	%	%
Informal instruction from library staff	30.89	18.46
Informal instruction from colleagues	18.70	20.00
Formally organised detailed instruction	9.76	4.62
No instruction at all	40.65	56.92
N	123	65

Table 8 shows instruction in the use of libraries received by HVMS, and the percentages of HMS and VMS who received each kind of instruction. A total of 59.35 per cent of HMS and 43.08 per cent of VMS received instruction in the use of libraries, while 40.65 per cent of HMS and 56.92 per cent of VMS received no instruction of any kind.

Informal instruction from library staff was received by the largest number of HMS (30.89 per cent), while informal instruction from colleagues was received by the largest number of VMS (20.00 per cent). Informal instruction from colleagues and informal instruction from library staff were received by 18.70 per cent of HMS and 18.46 of VMS, respectively. Formally organized detailed instruction provided by the reference librarians with assistance from other library staff was received by only 9.76 per cent of HMS and 4.62 per cent of VMS.

2.5   IMPORTANCE OF LIBRARY FACILITIES

Table 9: Importance of Library Facilities to HVMS

	HMS	VMS
DEGREES OF IMPORTANCE	%	%
Extremely important	17.89	32.31
Very important	38.21	26.15
Moderately important	28.46	30.77
Somewhat important	13.01	10.77
Of no importance at all	2.44	0.00
N	123	65

Table 9 shows the degrees of importance of library facilities to HVMS, and the percentages of HMS and VMS who indicated the importance of library facilities to them. 17.89 per cent of HMS and 32.31 per cent of VMS regard library facilities as extremely important. 38.21 per cent of HMS and 26.15 per cent of VMS regard library facilities as very important. Thus, slightly over half of both HMS and VMS find library facilities quite important. On the other hand, 28.46 per cent of HMS and 30.77 per cent of VMS regard library facilities as moderately important. 13.01 per cent of HMS and 10.77 per cent of VMS regard library facilities somewhat important. It is notable that 2.44 per cent of HMS regard library facilities as of no importance at all.

CHAPTER THREE

MEDICAL INFORMATION ENVIRONMENTS

3.1 EXISTING MEDICAL INFORMATION ENVIRONMENTS

Respondents revealed that many information systems are available to HVMS in the State. For the purpose of this report, these are grouped into formal or printed information systems and informal or non-printed information systems.

3.2 FORMAL OR PRINTED INFORMATION SYSTEMS

The University of Maiduguri Library system comprising the Ramat Library, the Scarborough Medical Library, the Agro-Vet Library and the Aminu Kano Law Library mainly serve HVMS in the State with printed information and other types of recorded knowledge. The library system also provides opportunities for conversation with library staff on perceived information needs obtainable from library resources. There is an interlibrary lending arrangement between the University of Maiduguri Library system and the neighbouring library systems of Ahmadu Bello University, Zaria, and Bayero University, Kano, in all subjects including human and veterinary medical sciences, through which HVMS in Borno State have access to the holdings of the other libraries. The interlibrary lending service among the libraries is conducted through courier service by road, with delivery and pick-up vans. If the delivery and pick-up vans are in good working condition, it is possible to obtain information needed in the University of Maiduguri libraries from the cooperating libraries in a few days.

Most of the respondents said they have personal collections of printed information resources such as books, journals, reprints, and photocopies of documents which they exchange among themselves to a large extent. They also receive printed information resources, especially books, as gifts and prizes from individuals and organisations within and outside the State.

3.3 INFORMAL OR NON-PRINTED INFORMATION SYSTEMS

Respondents noted the existence of informal networks of personal contacts among themselves in the State - something akin to membership in "invisible colleges" postulated by De Solla Price.[21] Among HVMS in Borno State these networks involve informal talks with colleagues and students which take place during ward rounds in the human and veterinary teaching hospitals and the State specialist hospital, in offices and homes of HVMS, as well as at other convenient meeting places such as clubs and parks, and by telephone conversations. Informal discussions also occur during public lectures, departmental seminars, national and international conferences, seminars and workshops held in the State. Thus casual conversation with professional colleagues constitutes a major information system in the State from which respondents obtain needed information.

Personal contacts and discussions with pharmacists and pharmaceutical representatives are also sources of human and veterinary medical information in the State. Medical presentations in the electronic media, especially state, national and international radio broadcasts, as well as those aired on state and national television programmes, are other useful sources of medical information in the State. The media presentations include advertisements of new products, discussions of new techniques in the professions, and discussions of government plans for improved human and animal healthcare. Electronic

media as sources of information are very highly appreciated by the respondents because of their ease of access. They bring information from within and outside the country instantaneously into the living rooms of the respondents.

Other non-print information sources in the State from which respondents obtain information are live interviews of senior colleagues living in retirement in the State and visiting medical experts. Recordings of such interviews on cassettes, cartridges, and videos by radio and television stations in the State are obtained by libraries and preserved for future use. Exhibitions of medical products in the State by pharmaceutical manufacturers also afford respondents the opportunity to obtain information. Formal postgraduate courses at the human and veterinary medical colleges of the University of Maiduguri and at the State Specialist Hospital, Maiduguri, public lectures, postal correspondence, and long distance telephone conversations with medical experts are additional sources of medical information in the State. Others include observation of the performance of senior colleagues in daily professional practice, results of laboratory experiments, and case files of human and animal patients.

3.4   ESTIMATION OF REPROGRAPHIC SERVICES

The University of Maiduguri Library system is the formal system that provides information (more precisely information resources) for HVMS in Borno State. The University Library and its branch libraries either hold a copy of the required document in their stock, borrow the document for the user from the neighbouring cooperating University Library systems, obtain a photocopy of the document or its microform from another library in the country, or a library outside the country.

Although both standard print copy and microforms of documents are provided in the Maiduguri libraries, respondents prefer standard print copy because it does not require mechanical equipment and technical assistance for its use. It is legible to the naked eye and, therefore, convenient for use in the natural environment. It is easy to obtain, simple to use and handy. Furthermore, print documents are those with which respondents are most familiar. The only disadvantage pointed out by respondents is bulkiness.

On the other hand, respondents do not like microforms because they require readers, technical assistance and electricity for their use. Microforms cannot be taken to and used in places where readers and electricity are not available. Their major attribute is compactness which saves space.

Apart from provision for in-house use of information resources and for consultation with the library staff members, the libraries provide facilities for photocopying original documents and reproducing microform copies. All respondents think that reprographic services are very essential in the libraries they use in the State because the libraries are few and located only in Maiduguri, the State capital, which places them out of the reach of many HVMS resident and working outside the capital. Moreover, the number of copies of each of the available titles are limited and the two neighbouring cooperating libraries are far away. Photocopying/xeroxing of documents, microfilm/fiche reproduction, map reproductions/reductions, and photography are reprographic services available in the libraries used by HVMS in the State. The reprographic services provided do not violate the copyright law because copies of documents produced are used for educational and research purposes.

Table 10: Frequency of Use of Reprographic Services

	Always	Often	Occasionally	Rarely	N
	%	%	%	%	
HMS	13.0	34.1	35.8	17.0	123
VMS	23.1	24.6	26.2	26.2	65

Table 10 shows that slightly more than one third of responding HMS use reprographic services often and occasionally, respectively, while one sixth use the services always and rarely, respectively. About one quarter of responding VMS use reprographic services always, often, occasionally and rarely respectively.

Table 11: Satisfaction of Reprographic Requests

	75-100%	50-75%	25-50%	Less than 25%	N
HMS	4.1	39.8	30.9	25.2	123
VMS	4.6	16.9	15.4	63.1	65

Table 11 shows that only about four per cent of responding HMS and VMS have their reprographic requests 75-100 per cent satisfied. HMS who have their reprographic requests 50-75 per cent and 25-50 per cent satisfied are about double the per cent of corresponding responding VMS. About 25 per cent, one quarter, of responding HMS, but 63 per cent, nearly two thirds, of responding VMS have their reprographic requests less than 25 per cent satisfied. Further investigation revealed that reprographic services are provided more consistently at the Ramat Library and the Scarborough Medical Library used by most HMS, than at the Agro-Vet Library which all VMS use.

CHAPTER FOUR

INFORMATION-SEEKING HABITS

4.1   WAYS HMS AND VMS USE TO GET INFORMATION

Table 12: Percentages and Ranks for Responding HMS and VMS

	HMS	RANK	VMS	RANK
Ways HMS and VMS use to get information	%		%	
1. Use personal record of data	98.8	1.0	94.9	2.5
2. Discussion with colleagues	97.6	2.0	94.9	2.5
3. Browsing through publications	96.3	3.0	97.4	1.0
4. Accidental discovery of information	95.1	5.5	89.7	6.0
5. Follow up references and footnotes	95.1	5.5	92.3	4.5
6. Use books and monographs	95.1	5.5	92.3	4.5
7. Use journals	95.1	5.5	84.6	7.0
8. Correspondence with experts	87.8	8.0	76.0	8.5
9. Use conference proceedings	81.7	9.0	76.9	8.5
10. Use research reports	76.8	10.0	69.2	10.0
11. Attendance at conferences, seminars	73.2	11.0	64.1	11.0
12. Use preprints or publishers' advance notices	63.4	12.0	59.0	12.0
13. Use in-house memoranda	62.2	13.0	53.9	13.0
14. Use government documents	56.1	14.0	41.0	14.0
15. Use current awareness newsletters, bulletins	47.6	15.0	33.3	16.5
16. Use bibliographies, abstracts, indexes	41.5	16.0	38.5	15.0
17. Consult librarians for information	15.9	17.0	33.3	16.5
18. Use newspapers and magazines	7.3	18.0	25.6	18.0
19. Use radio and television	3.7	19.0	15.4	19.0
20. Conduct computer-based information searches	0.0	20.0	2.6	20.0

The percentages of responding HMS and VMS who use each of the 20 well-known ways to get information were calculated and ranked. Table 12 gives the percentages and ranks of the percentages of ways respondents use to get information. The ranks for responding HMS were presented numerically i.e. from the highest (1) to the lowest (20) and corresponding ranks for responding VMS matched with the former for enhanced comprehension.

The ranks were then used to calculate the Spearman rank order correlation coefficient (r).[22] The value, r = 1.00 was obtained. It shows that there is perfect positive correlation between the ways HMS and VMS use to get information. Ordering the ranks for responding HMS automatically orders the ranks for responding VMS. This implies that both groups have similar preferences for the ways they use to get information.

4.2   REASONS FOR THE WAYS HVMS USE TO GET INFORMATION

Respondents prefer using personal records because such records are always handy, reliable, and organized in the most convenient way for easy retrieval. Informality is the major attribute of discussion with colleagues noted by some respondents. It takes place during break-time as recreation in the office, at home or as colleagues run into each other at other times.

Browsing is preferred because it is light reading during which a wide range of materials are perused including sources of "soft" information such as announcements and other interesting news items. Accidental discovery of information, on the other hand, is preferred by some respondents because of the satisfaction or relief associated with the unexpected location of information to solve long-standing problems. The main attribute of following footnotes and references lies in the fact that it leads not only to information to solve immediate information needs, but also to solutions of other related information needs. Using books, monographs and journals are preferred because of their detailed information content. Also they are readily available for reuse, and can be used anywhere in the library or outside of it.

Correspondence with experts is reliable, authoritative, current and of high quality. Using conference proceedings, research reports, attendance at conferences and seminars, and using preprints or publishers' advance notices leads to current and high quality information. They are above all, ways to get reliable, authoritative, and comprehensive information. Using in-house memoranda leads to appropriate information with respect to institutional aims and objectives. Likewise, using government documents informs and directs an individual's effort towards national goals and aspirations. Futhermore, using in-house memoranda and government documents are preferred because of their easy accessibility, authoritativeness and currency.

Using current newsletters and bulletins are preferred because they provide information on library acquisitions. Knowledge of library acquisitions enables respondents to know topics about which to consult with librarians for further information. Using newspapers, magazines, radio and television are preferred because they are used during leisure time. Some respondents said they would prefer using computer-based information searches when facilities are available because of their precision, saving in time and less intellectual effort involved.

4.3   PROBLEMS OF THE WAYS HVMS USE TO GET INFORMATION

Respondents said that they use foreign magazines such as Time and Newsweek published in the U.S.A. to get bits of relevant information. These foreign magazines have stopped arriving at the libraries since the early 1980s due to lack of finance to subscribe to

them. Individual respondents no longer subscribe for the same financial reason. Some HVMS complained that copies of these magazines occasionally sent to them by friends and families are stolen from them as soon as they are received.

On the other hand, using local newspapers and magazines to get medical information by the health professionals is not helpful because of the low quality of information content. Local periodicals, respondents noted, discuss primarily public health programmes such as primary healthcare, integrating traditional medicine into the national healthcare delivery system, and improving the efficacy of local medicinal herbs and plants, rather than new developments in orthodox human and veterinary medicine. It is for the same reason that using radio and television do not feature prominently as ways respondents use to get information. Programmes on recent developments in the health professions are rarely broadcast.

Following footnotes and references, and using bibliographies, abstracts, indexes and other locating tools seriously frustrate respondents as ways to get information because full-length texts of papers listed are scarcely ever available locally. Failure of librarians to provide required information to meet the needs of the respondents is the reason why respondents do not always consult them. Librarians fail to provide needed information because in most cases, there are insufficient financial resources to acquire the material.

Respondents noted that they are hindered from participation in international conferences and seminars by drastic cuts in the number of sponsorships available from government-funded institutions. Sponsorship for international conferences is occasionally available from private organizations and foreign sources, but self-sponsorship is rare because of the high cost.

Using books, monographs, journals, conference proceedings, and other publications to get information has become problematic because of their present scarcity locally. The worldwide economic recession and consequent depreciation of the local currency in foreign exchange has resulted in the high cost of printed information resources. It has led to drastic cuts in library acquisitions and subscriptions in the State. Personal acquisitions and subscriptions by HVMS were stopped earlier than those of libraries.

USE OF INFORMATION SOURCES

5.1   PATTERNS OF INFORMATION SOURCES USED

Table 13: Percentages and Ranks of Percentages of the Pre-clinical and Clinical Faculty Members Who Use Each of the 22 Information Sources

	Pre-clinical		Clinical	
Information Sources	%	Rank	%	Rank
1. Personal record of data	95.8	2.5	100.0	1.0
2. Contact with colleagues	95.8	2.5	98.3	2.0
3. Monographs, textbooks	95.8	2.5	94.8	3.5
4. Learned journals	95.8	2.5	94.8	3.5
5. Conference proceedings	83.3	5.0	81.0	5.0
6. Conferences, seminars, workshops	79.2	6.0	70.7	6.0
7. Preprints/Publishers' advance notices	70.8	7.0	60.3	7.0
8. In-house memoranda	62.5	8.5	62.1	8.0
9. Current awareness newsletters, bulletins	62.5	8.5	41.4	9.5
10. Bibliographies, indexes	50.0	10.0	38.0	11.0
11. Abstracts, summaries	41.7	11.0	41.4	9.5
12. Reference librarian	25.0	12.0	12.1	13.0
13. Magazines and newspapers	16.7	13.0	15.5	12.0
14. Library catalogues	12.5	14.0	5.2	16.0
15. Pharmacy reference tools	8.3	15.5	5.2	16.0
16. Manufacturers' catalogues	8.3	15.5	5.2	16.0
17. Microfilm, video, slides, tapes	4.2	18.5	5.2	16.0
18. Directories	4.2	18.5	3.4	20.5
19. Pharmaceutical representatives	4.2	18.5	3.4	20.5
20. Radio and television	4.2	18.5	3.4	20.5
21. Exhibitions	0.0	21.5	5.2	16.0
22. Correspondence courses	0.0	21.5	3.4	20.5

Table 13 gives percentages and ranks of percentages of the pre-clinical and clinical faculty members who use each of the 22 information sources. The ranks of percentages of the pre-clinical faculty members are presented numerically i.e. from the highest (1) to the lowest (22) and corresponding ranks of percentages of the clinical faculty members matched with the former for enhanced comprehension.

The ranks were then used to calculate the Spearman rank-order correlation coefficient (r) discussed in Simpson.[23] The value r = 1.00 was obtained. It shows that there is perfect positive correlation between the information sources pre-clinical and clinical faculty members use. Ordering the ranks for pre-clinical faculty members automatically orders the ranks for clinical faculty members. This implies that both pre-clinical and clinical faculty members have similar preferences for information sources they use.

Table 13 shows that clinical faculty members prefer shortened and condensed information packages, such as summaries or abstracts of original documents, to full texts usually located through bibliographies. The reverse is the case for pre-clinical faculty members. Pre-clinical faculty members devote most of their time to research and thus can afford the time to read full texts of documents. Clinical faculty members on the other hand, divide their time between academic pursuits i.e. research and professional medical practice. As a result, they appear not to have enough time to read full texts of documents.

Foreign magazines especially Newsweek and Time were specifically mentioned by the clinical faculty members as valuable sources of medical information. Examination of reference services provided in the Scarborough Medical Library shows that lists of current accessions and sometimes lists of contents of newly accessioned journal titles are provided. Summaries or abstracts of such documents or journal articles are not provided locally. Thus, there is provision of documents and guides to them, but not abstracting services. Clinical faculty members who have less time to read full texts of documents thus use reference librarians less than newspapers and magazines. The opposite is the case with pre-clinical faculty members who have more time to read full texts of documents.

5.2 USE OF INFORMATION SOURCES

Table 13 shows that personal records of data, contact with colleagues, monographs, textbooks, and learned journals were the most commonly used sources of information by pre-clinical faculty members. Personal records of data were the most commonly used source of information by clinical faculty members. This was followed by contact with colleagues and monographs, textbooks and learned journals.

The reasons given by HVMS for this use were that personal records are always handy, reliable and organized in the most convenient manner for easy retrieval. Discussion with colleagues is informal and takes place anytime and anywhere colleagues meet one another. Printed information sources, on the other hand, contain established knowledge, are permanent records, available for reuse and can be used anywhere.

Personal records of data that pre-clinical and clinical faculty members of the Medical College use as sources of information include: photocopies of relevant sections of printed information sources, computer printouts, correspondence with experts in Nigeria and abroad, personal notes from discussions with colleagues, and records of experience from professional practice. They use a mixture of handwritten and printed information sources. Therefore, there is no contradiction between the findings of this study and that reported by Stinson and Muller,[24] who found from a study of information use by 258 American physicians of various specialities that the medical literature was the most commonly used source of information, and that contact with professional colleagues was the second.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

The result of this analysis of the use of the University of Maiduguri Library system by HVMS in Borno State shows that VMS are more regular users of the library system. That more VMS use Ramat Library more regularly than HMS could be due to the fact that Agro-Vet or faculties of veterinary medicine libraries are generally less developed and therefore less independent of university main libraries than teaching hospital libraries.

Although more HMS use Scarborough Medical Library regularly, there were VMS who use it very often. All VMS investigated use Agro-Vet Library and the majority use it regularly. Few HMS use the Agro-Vet Library regularly. Generally, HMS in Borno State restrict their library use primarily to human medical libraries, while VMS use both veterinary medical libraries and general purpose libraries.

HVMS visit libraries for a variety of reasons. Some visit libraries for more than one reason. There is a disparity between percentages of HMS and VMS who visit libraries for a particular reason. Informal instruction from library staff and colleagues were the ones most commonly received by HMS and VMS, respectively. All VMS regard library facilities as important, while 2.44 per cent of HMS regard library facilities as of no importance at all.

HVMS were unanimous in their request for improved information environments. Library opening hours should be changed from the present 8.00 a.m.-10.00 p.m. to 7.00 a.m.-12 midnight and libraries should be open daily from Sunday through Saturday including public holidays to enable HVMS who are busy the greater part of the day to have opportunity to make more use of the libraries. Respondents noted that human and veterinary medicine are rapidly growing fields and deplored the present lack of recent publications of all types in the libraries they use. While there are out-of-date publications in some fields, there are none at all in others. Respondents expressed the need for the provision of a wide variety of up-to-date information resources, both print and nonprint, to meet the information needs of rapid changes in human and veterinary medicine.

In particular, there is the need for recent issues of a wide variety of both local and foreign human and veterinary medical journal titles to enable HVMS to keep abreast with developments in their fields. More of "Recent Advances" series and "Epidemiological Reviews" in all subjects, especially community medicine and cancer, are needed. Some HVMS requested that journals and books devoted to patient care dealing with approaches to clinical problems, such as hospital updates, be available. They noted that the libraries they use provide only publications devoted to scientific findings, forgetting that factual knowledge does not necessarily improve clinical acumen. Journals and books devoted to patient care teach clinical judgement and problem solving. Other information resources needed urgently according to HVMS are up-to-date reference materials, as well as regular provision of newsletters and bulletins.

There is the need for information resources provided in the libraries to be processed and placed for easy retrieval. Library services should include selective dissemination of information e.g. provision of lists of off-line computer generated references, abstracts, specialised bibliographies, current awareness services such as the provision of regularly updated lists of journal holdings, lists of recent accessions and their contents, organized and detailed instruction in library use, translation services, and literature search surveys in support of specific projects. Stand-by electric generators should be provided to support the National Electric Power Authority to ensure uninterrupted reprographic services. In addition, bindery service for the repair of torn pages and binding of photocopied documents

should be provided. Broken down airconditioners should be repaired and mosquito proofs installed at the appropriate places in the libraries to make them more conducive places for HVMS and other users.

HVMS complained of the low level of assistance from the library staff members. They expressed the need for more cordial and efficient staff members who are not only conversant with the information retrieval systems of the libraries, but also familiar with medical science literature.

HVMS also expressed the need for individuals and organisations to sponsor more relevant radio and television programmes. Improved telephone service in the State would facilitate personal contacts among HVMS, between HVMS and library staff members, and between HVMS and other relevant professionals such as pharmacists and pharmaceutical representatives. More professional activities such as meetings, public lectures, conferences, seminars, and exhibitions and recreational facilities in the State would bring HVMS into more contact with each other, thereby enhancing casual conversation. Furthermore, library staff members should intensify the collection of recordings of live discussions among and interviews with experts both within and outside the State and improve access to such resources.

The informal ways HVMS use to get information could be improved by organizing training sessions to expose them to various filing systems already in existence for organizing personal files. In addition to user training, there is the need to improve and popularize library and information services. More opportunities should be created for colleagues to interact with one another by providing more venues for recreation such as common rooms and canteens with subsidized entertainment in workplaces, and parks, social centres, and clubs with necessary facilities for relaxation at convenient locations outside office hours. This would be in addition to more frequent meetings of local, state, national and specialized associations of the professionals where they could share their experiences.

Apart from improving the present situation as indicated above, there is the need for action that would enable HVMS to use more ways to get information by squeezing out more funds to purchase printed information resources, increase sponsorship to learned conferences and seminars, purchase nonprint information resources and equipment to exploit them, as well as sponsor radio and television programmes that would enable respondents to get relevant information. Furthermore, there is the need to develop local medical information systems and services that would incorporate comprehensive information on indigenous human and veterinary medicine to increase the number of ways respondents could acquire information.

The use of personal records of data and other information sources enable pre-clinical and clinical faculty members of the Maiduguri Medical College to meet their information needs for keeping up-to-date in their respective fields, teaching, research and public service. They are also suitable for meeting the additional information needs of clinical faculty members of the College for medical practice, patient education and specialized patient care.

There is the need for the provision of both graphic and nongraphic information sources for the faculty members. In particular, cassettes, cartridges and their players/recorders should be provided to facilitate recording of interviews and discussions, and conducive environments should be created for their effective use. There is the need also to further enhance the use of personal records of data by HVMS by providing training for them to improve the organization and retrieval of personal records of data. Profiles of the faculty members with their information needs should be prepared. This would enable the library staff to solicit relevant reprints of articles, photocopies and computer printouts from authors, libraries and publishers locally and abroad.

Reprinting within Nigeria of printed sources that are relevant, but cannot be purchased, should be considered within the provisions of the Universal Copyright Convention for developing countries. Reference service should include local abstracting of printed information sources received in the medical library. Photocopying service should be made more available by installing more photocopying machines in the medical library and reducing the cost by bulk purchase of paper and other supplies. Resource sharing should be encouraged and promoted both among faculty members of their personal collections, and among medical libraries throughout the country. Health professionals known to have private collections of relevant information sources should be approached for arranging to make them more accessible to faculty members or to donate such information sources to the medical library where it is convenient.

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SAMPLE OF THE QUESTIONNAIRE

A. IDENTIFICATION DATA
1. i.   Name
    ii.   Official address
    iii.   Designation
    iv.   Rank
    v.   For how long have you done your present work in Borno State?

B. USE OF LIBRARIES
2. Which of the following libraries do you use?
    i.   Ramat Library, University of Maiduguri
    ii.   Scarborough Medical Library, University of Maiduguri Teaching Hospital
    iii.   Agro-Vet Library, University of Maiduguri
    iv.   Aminu Kano Law Library, University of Maiduguri
3. How often do you use the above libraries numbered 2 (i-iv)?
            Very often
            Frequently
            Occasionally
            Rarely
            Never
4. Which other libraries in Borno State do you use?
    i.   Lake Chad Research Institute Library
    ii.   Public libraries
    iii.   College of Education Library
    iv.   Ramat Polytechnic Library
    v.   High Court Library
    vi.   Any other (please, specify)
5. Please, list in the decreasing frequency of use other libraries outside Borno State you use since your residence in Borno State.
6. Please, state your reasons for travelling out of Borno State to use libraries if you do so.
7. There are many reasons for visiting libraries.
    Please, check off as appropriate the reasons why you visit libraries.
    i.   Find specific information
    ii.   Make reference inquiry
    iii.   Browse through journals and monographs
    iv.   Make use of journal literature
    v.   Use reference books
    vi.   Borrow books
    vii.   Write a paper, prepare lecture or correct students' scripts
    viii.   Read newspapers, magazines, novels, etc.
    ix.   Make literature searches using indexing and abstracting services
    x.   Any other (please, specify)

8.   What kind of instruction did you receive in the use of library since your arrival in the Borno State?
       i.   Regular seminars on how to use the library
      ii.   Organized and detail instruction by the library staff
     iii.   Informal instruction by colleagues
     iv.   Informal instruction by the library staff
      v.   No instruction at all

9.   What kind of instruction did you receive in the use of the human medical and/or veterinary medical sciences literature? Please, check off as appropriate in the question above and in the list of options below.
       i.   Regular seminars on how to use different types of medical sciences literature
      ii.   Organized and detail instruction by the library staff
     iii.   Informal instruction by colleagues
     iv.   Informal instruction by the library staff
      v.   No instruction at all

10.   Of what importance to you and your work is the library facility?
       i.   Extremely important
      ii.   Very important
     iii.   Moderately important
     iv.   Somewhat important
      v.   Of no importance at all

C.   INFORMATION SERVICES

11.   Which of the following reprographic services are available in the libraries you use in the State?
       i.   Photocopying/xeroxing of documents
      ii.   Microfilm/fiche reproduction
     iii.   Maps reproduction/reductions
     iv.   Photography
      v.   Tabulations
     vi.   Any other (please, specify)

12.   Do you think that reprographic services are essential part of the library facility?
    i. Yes   ii. No

13.   When you are faced with a choice between using a standard print copy and a microform, which one do you prefer and why?

14.   How often do you make use of photostat/xerox services available in the libraries you use?
    i. Always   ii. Often   iii. Occasionally
    iv. Rarely   v. Never

15.   About how much of your reprographic needs have been satisfied by the available reprographic services in the libraries you use?
    i. 75-100 per cent   ii. 50-75 per cent
    iii. 25-50 per cent   iv. Less than 25 per cent
    v. None

16.   Would you say that the libraries you use provide adequate services to meet your information needs.
    i. Yes   ii. No

17. If your answer to question <u>16</u> above was <u>No</u> could you please state what services you would like to have provided and give your reasons.

D. <u>INFORMATION-SEEKING</u>

18. There are a lot of possible ways of getting information from the literature. Please, check off as appropriate the ways listed below you use to get information.
    i.   Accidental discovery of information
    ii.   Attendance at conferences, seminars, etc.
    iii.   Browsing through publications
    iv.   Conduct computer-based information searches
    v.   Consult librarians for information
    vi.   Correspondence with experts
    vii.   Discussion with colleagues
    viii. Follow up references and footnotes
    ix.   Use bibliographies, abstracts, indexes
    x.   Use books and monographs
    xi.   Use conference proceedings
    xii.   Use current awareness newsletters, bulletins
    xiii. Use journals
    xiv. Use newspapers and magazines
    xv.   Use personal record of data
    xvi. Use preprints of publishers' advance notices
    xvii. Use research reports
    xviii. Any other (please, specify)

19. Briefly, describe why you use each of the ways you indicated in question <u>18</u> above to get information.

20. What problems do you encounter with the ways you indicated in question <u>18</u> above to get information?

E. <u>USE OF INFORMATION SOURCES</u>

21. There are many sources from which needed information could be obtained. Please, check off as appropriate information sources listed below from which you obtain information.
    i.   Abstracts, summaries
    ii.   Bibliographies, indexes
    iii.   Conference proceedings
    iv.   Conferences, seminars, workshops
    v.   Contact with colleagues
    vi.   Current awareness newsletters, bulletins
    vii.   Directories
    viii. Exhibitions
    ix.   Learned journals
    x.   Library catalogues
    xi.   Magazines and newspapers
    xii.   Manufacturers' catalogues
    xiii. Microfilm, video, slides, tapes
    xiv. Monographs, textbooks

xv.   Personal record of data
xvi.   Pharmaceutical representatives
xvii.   Pharmacy reference tools
xviii.   Preprints/publishers' advance notices
xix.   Reference librarian
xx.   Any other (please, specify)

22.   Briefly, state why you use each of the information sources you indicated in question 21 above to obtain information.

23.   Which of the following information packages would you prefer irrespective of the type of information you need?
     i.   Full-length, original document
     ii.   Summary of original document (abstract)
     iii.   Descriptive review of original document
     iv.   Critical review of original document
     v.   Any other (please, specify)

24.   When you attend a conference which part do you find most useful as a source of information?
     i.   Actual papers or lecture presentations
     ii.   Discussion of papers or lectures
     iii.   Informal discussion with other attendees
     iv.   Any other (please, specify)

25.   Do you feel able to keep as much abreast with new developments and research in your field as you would like?
     i. Yes   ii. No

26.   If your answer to question 25 above is No could you please check off as appropriate reasons listed below.
     i.   Lack of time
     ii.   Not sure where to look
     iii.   Information not readily available
     iv.   Too much is published
     v.   Any other reasons (please, specify)

Monographs on African Librarianship

No. 1 Sam E. Ifidon. **Collection Development in African University Libraries - Challenges and Frustrations.** 1990. $4

No. 2 Ken M. C. Nweke. **Information-seeking and Use by Human and Veterinary Medical Scientists (HVMS) in Africa: Case Study from Borno State, Nigeria.** 1992. $5

In preparation

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