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# Impact of Information Computer Technology on Primary Health Care Services to Rural Communities in Niger Delta Region of Nigeria

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## Introduction

Health is the state of physical, mental and social well-being of an individual and not merely the absence of disease or infirmity. Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.

Primary health care service became a dream come true for the first time in Nigeria in 1975, when Yakubu Gowon, the former Military Head of State announced the Basic Health Service Scheme (BHSS) as part of the Third National Development Plan (1975-80). The objectives of the scheme were to increase the proportion of the population receiving health care from 25 to 66 percent, establish a health care system best adapted to the local conditions and to the level of health technology in this information age (Sorungbe, 1989).

Most of the rural dwellers are not highly educated and most of them understand and speak their dialects only. Experience shows that the ability to acquire and use information is fundamental to the successful implementation of primary health care service scheme especially with the adoption of new technologies. Poor access to information is a major constraint to the primary health care service scheme in rural communities in Niger Delta Region of Nigeria, and the situation is aggravated by the high level of illiteracy among the rural dwellers. It's clear evidence that the ability to acquire and use information is a sine qua non for the application of ICT and improvement of primary health care services scheme in all the rural communities in Niger Delta.

Benson (2001) opined that computer literacy by both educated and uneducated have become the most important factor for improved standard of living. There is no effective health education anywhere in the world without the application of

Information and Computer Technology (ICT). Health education is the passing of health information to people on matters affecting their health for the purpose of change in behaviour. Humphrey (2000) perceived ICT as an unavoidable technology for the improvement of organisation, team and people in the information age. Computer compliance by people according to Humphrey (2000) has become the accelerator for productivity and prosperity. ICTs include electronic networks with complex hardware and software linked by a vast array of technological protocols. According to the United Nations Economic Commission for Africa (1999), ICTs cover internet service provision, information technology equipment, library and documentation centres, network based information services and other related communication activities, (Anie and Achugbue, 2009).

Rural dwellers need a wide range of health information access, especially in all areas of primary health care services which include the services of special centres. These special centres are designed to handle special health problems such as tuberculosis, leprosy, disabled, mental illness, mobile clinic, diagnostic services and referral services. The information received helps to enlighten the rural dwellers on the activities of the above mentioned health services centres. In Nigeria, rather than accelerating single steps in the production process, new whole process chains are being targeted for elimination or speeding up. The use of database in processing information enhances effective management of information in manufacturing, agricultural, educational and health sector (Oyebanjo, 1995).

The significance of this study lies in the fact that the findings will enable the rural dwellers in Niger Delta to be acquainted with new ideas and the activities of the Primary Health Care Services Scheme through the application of Information and Computer Technology (ICT).

## Literature Review

Metiboba (2009) revealed that the objectives of the primary health care services scheme in Nigeria were to increase the proportion of the population receiving health care services from 25 to 60 percent; correct the imbalances in the location and distribution of health institutions and provide counsel on health matters to all and sundry. This idea was corroborated by Sorungbe (1989) that the objectives include the provision of infrastructures for all perceptive health programmes such as control of communicable diseases, family health, environmental health, nutrition and establishes a health care system best adapted to the local conditions and to the level of health technology.

Oyegbite (1989) postulated a decision was taken by the Federal Government to build a basic health centre in every local government headquarter so as to enhance a model health service to the rural dwellers with community involvement and participation. It was also observed by Metiboba (2005) that the scheme still suffers from inadequate awareness for mass mobilization for increased involvement of the citizenry in primary health care services. A greater proportion of rural population in many communities do not seem to know what PHC is all about, nor are they aware of the various services under PHC scheme. Rural dwellers are isolated from the local government headquarters where the services and activities of PHC are well felt and enjoyed. The rural dwellers therefore need a wide range of information to access the services of PHC in order to improve in their health education. Information from the context of this study is defined as a processed data that is logically arranged and recorded in various forms, and is retrieved, stored and disseminated in the right format and at the right time with the application of Information and Computer Technology (Ojedokun, 2000). Ben (2006) acknowledged that while information in itself is not knowledge, it provides essential raw materials, which in due course can lead to new knowledge. Besides, information is an important tool used in the realization of any objectives or goals set by individuals or organisations. Rural people's need for information has been widely acknowledged. According to Broadbent (1987), lack of successful transfer of

science and technology to the majority of rural population of developing countries and the failure to provide the right information impeded Primary Health Care Services Scheme.

The impact of Information and Communication Technology (ICT) in Primary Health Care (PHC) services in rural communities in Niger Delta Region of Nigeria may not be felt as expected if the information needed by rural dwellers on health matters is not well communicated. The most vital information needed by rural dwellers in Niger Delta are information on health education, maternal and child health including family planning, prevention and control of local endemic diseases, provision of essential drugs, appropriate treatment of common disease and injuries, immunization against major infectious diseases, and adequate supply of safe water and basic sanitation (Okercke, 2002). Park (1997) and finally, in order to ascertain the validity of the questionnaire, extensive review of literature on information resources relevant to the study was consulted.

## Findings and Discussion

This section presents the analysis of the collected and discussion of the findings of the study. There were 190 respondents from the four communities under survey and their distribution is as follows; Ewhu 52, Oginibo 49, Gbaregolor 42 and Okwagbe 47.

Table 1: Educational Qualification of the Respondents

Educational Qualification	No. of Respondents	%
First School Leaving Certificate	73	38.42
SSCE/GCE	92	48.42
NCE	3	1.58
BA/B.Sc./B.Ed	2	1.05
No Certificate	20	10.53
Total	190	100.00

Table 1 reveals that 3 of the respondents had formal education up to National Certificate in Education (NCE), while 2 out of the respondents made it to the degree certificate level. When they were interviewed, it was discovered that they had spent years in the city searching for job appointment but could find none, so they decided to settle down for farming.

Table 2: Gender Factor on how Library Materials are located

Information Needs	Ewhu No. of Res.	Oginibo No. of Res.	Gbaregolor No. of Res.	Okwagbe No. of Res.	Total	%
PHC services	52 27.36%	49 25.78%	42 22.10%	47 24.73%	190	100.00

Health Education	52 27.36%	49 25.78%	42 22.10%	47 24.73%	190	100.00
Promotion of food supply and nutrition	13 6.84%	46 24.21%	19	28 14.73%	103	54.21
Supply of safe water and basic sanitation	23 12.10%	36 18.94%	28 14.73%	31 16.31%	118	62.11
Maternal and child health and family planning	52 27.36%	49 25.78%	42 22.10%	47 24.73%	190	100.00
Immunization against major infectious diseases	27 14.12%	32 16.84%	29 15.26%	38 20.00%	126	66.32
Prevention and control of locally endemic diseases	52 27.36%	49 25.78%	42 22.10%	47 24.73%	190	100.00

Table 2 reveals the information needs of the rural dwellers on health education in Niger Delta. Most of the rural dwellers are not well educated and are ignorant of the activities of the PHC services. All the respondents (100%) indicated that they need information on health education; PHC services; prevention and control of locally endemic diseases. All the respondents also opined that they need information on family planning, maternal and child health care. 103 (54.21%) of the respondents opined that they need information on promotion of food supply and nutrition. 118 (62.11%) of the respondents declared that information need is on the supply of safe water and basic sanitation. While 126 (66.32%) revealed the area of their information need to be prevention and control of locally endemic diseases.

Table 3: Rural Dwellers contact with PHC agents

Rural Dwellers Contact	No. of Respondents	%
Yes	93	48.95
No	97	51.05
Total	190	100.00

The result from the above table shows that rural dwellers have contact with the PHC agents. From the 190 that filled their questionnaire, 93 (48.95%) of the respondents agreed that they have come in contact with PHC agents while the remaining 97 (51.05%) declared that they have not come in contact with the PHC agents.

Table 4: Frequency distribution of respondents in relation to the Source of acquiring information on Primary Health Care Services

Sources of Information	No. of Respondents	%

Primary Health Care Agents	50	26.31
Through Media	16	8.42
Through Town Crier	67	35.26
Through ICT materials e.g. CD-ROM, Diskettes, Films.	57	30.00

From the analysis in table 4 above, 67 (35.26%) of the respondents declared that Town Criers were their major source of information on the primary health care services especially in times of immunization against polio and other endemic sicknesses and diseases. 50 (26.31%) of the respondents opined that Primary Health Care Agents were their major sources of information through consultation. 57 (30.00%) of the respondents declared that they receive information on Primary Health Care activities through ICT materials such as films, radio, television, VCD; and CD-Rom.

Table 5: The effect of communication on rural dwellers in Niger Delta

The Effect of communication on rural dwellers	No. of Respondents	%
Positive	118	62.11
No effect	72	37.89

Table 5 reveals 118 (62.11%) of the respondents admitted that the information they receive have positive effects on their health education, while 72 (37.89%) of the respondents are of the view that the information they receive has no effect on their health education. The researcher was rightly informed that a good number of the rural dwellers have no confidence in medical care and drugs but solely depend on herbs and leaves which are actually working for them.

Table 6: Rural dwellers constraints in information access

Constraints	No. of Respondents	%
Lack of awareness of sources of information	149	78.42
Lack of adequate information system	160	84.21
Lack of contact with Primary Health Care Agents	110	57.89
Illiteracy	185	97.37
Poverty	190	100.00
Superstitious belief	72	37.89

Table 7 reveals poverty as the major constraints facing rural dwellers in information access with 190 (100%) of the respondents. This review is in agreement with the findings of Metiboba (2009), Sorungbe (1989), and Federal Ministry of Health (FMH, 1988). Other factors that made the constraints include lack of awareness of source of information with 149 (78.42%) of the respondents,

lack of adequate information system with 160 (84.21%) of the respondents, while illiteracy with 185 (97.37%) of the respondents was also declared as one of the major constraints.

Table 7: Assessment of the Primary Health Care Workers' Performance in the Field

Assessment of the Primary Health Care Workers' Performance	No. of Respondents	%
Very good	20	10.53
Good	156	82.11
Fair	10	5.26
Very good	4	2.11

Table 7 above indicates that 156 (8211%) of the respondents scored the Primary Health Care workers' performance in the field "good" especially in this present political reign. This reveals that the impact of information and communication in Primary Health Care Services is positive. These services couldn't have been recognized at the grassroots without adequate information, and information couldn't have been well disseminated without Information and Communication Technology (ICT).

## Summary and Conclusion

An attempt has been made in this study through a case study research to investigate the impact of Information and Communication Technology (ICT) in Primary Health Care Services in Niger Delta. Four rural communities were selected from Delta State, Bayelsa State, Rivers State and Akwa Ibom State. The main purpose of this research work is to find out if there is any remarkable changes in the PHC workers' model of operation since the advent and application of ICT to Primary Health Care Services; and to identify the sources of information and how efficiency are the sources. The result of the findings shows that ICT has a positive impact on rural dwellers in respect of Primary Health Care Services. More so, information and communication technology should be seen as an indispensable tool for effective PHC services in Niger Delta. ICT would be encouraged to serve as a major weapon to breaking the yoke of superstitious belief among the rural dwellers which is discovered to be a barrier that inhibits the progress of Primary Health Care Services to rural communities. To this end, ICT is seen as a bridge to help the rural dwellers to cross from the dark ages to an era of enlightenment in order to enhance their awareness on prevention and control of endemic diseases, maternal and child health including family planning, the importance of safe water and basic sanitation; provision of essential drugs, appropriate treatment of common diseases, injuries and immunization against major infectious diseases.

## Recommendations

The research was carried out to ascertain the impact of information and communication technology on primary Health Care Services to rural dwellers in Niger Delta. And it was discovered that the Primary Health Care workers have positively touched the lives of rural dwellers through the distribution of ICT materials to rural communities and these materials include VCD, diskettes, films, film projectors, CD-ROM, e.t.c. yet urgent attention of the government is therefore needed to improve the social life and the health education of the rural dwellers.

1. Adult education and computer literacy should be emphasized among the rural farmers.
2. Establishment of cyber café or browsing centres at rural areas should be the priority of the State and Federal Government.
3. The PHC workers should be motivated and well-equipped by the governments to enhance regular visit to the rural dwellers.
4. Drugs should be made available and easy for rural dwellers to obtain.

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