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IMPORTANCE OF INFORMATION IN THE DELIVERY OF QUALITY HEALTHCARE AT UNIVERSITY OF CAPE COAST HOSPITAL

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Abstract

This study is to explore and evaluate the essence of information health in superior healthcare provision. The researcher employed questionnaires and online materials to collect data. To achieve this, the research examines the University of Cape Coast hospital modern facilities like computers, telephones, scanners, X - ray equipment to mention but a few through its health workers and patients alike. Sample size is made up of that proportion of the population selected for investigation. It involves careful examination of a selected proportion in order to extend knowledge gained from the study of the part to whole. With regards to the study the researcher selected thirty (30) respondents out of the fifty (50) for the actual investigation.

A critical analysis of the data gathered shows that out of the 100%respondents, thus the patients in the hospital 96% of them were given bed in2019 and 97% in 2020. This indicates that at least there has been some improvement in the current year. The remaining percentages that were not given bed were due to insufficient beds available to the hospital. The data also showed that 99% of the patients in 2019 were attended to examine their admission whereas in 2020 the percentage was 96. This shows that with the introduction of digital technology devices, doctors were connected and early attention is given to patients. This shows that with advent of devices like telephone in the health sector it is indeed improve on the quality health delivery In the case of drugs delivery and its indications or its effectiveness in 2019, 94% of the patients who were admitted were given good drugs as compared to 88% in 2020.

From the research Work carried out, analysis of findings revealed that performance of doctors and the workers has improved over the past years with the introduction of digital technology.

Keywords: importance, digital, technology, delivery, quality, healthcare, university, hospital

Chapter one

1.0 Background of the study

The achievement and success of any institution or organization depend on information technology. Quality information does not only help workers to be abreast with time but also helps customers to know the activities and operations of a particular institution. As a result, every organization strives to get the right data and information for its employees and customers. In the past, hospitals in Ghana lacked modern facilities like computers, telephones, scanners, X - ray equipment to mention but a few. Lack of these facilities served was a hindrance to the effective running of the institutions. It is in line with this that the Daily Graphic (January 9, 2020, page 24) informed readers of the expansion project of the 37 Military Hospital in Accra which has been equipped with the most modern and sophisticated equipment, most of which are computerized. For instance, at the Biochemistry Department, a kidney test can be done within 10 minutes whiles at the Physiotherapy Department, there are well equipped gymnasium and two (2) swimming pools for therapy.

The then Minister of Defense, Dr. Kwame Addo Kuffour, inspecting the facility, said the move was aimed at preventing Ghanaians from seeking specialıst medical attention abroad. He announced that plans were advanced for the recruitment of highly experienced Ghanaian specialist and consultants to augment the man power requirement of the hospital. He also said as a first step a well renowned Ghanaian medical specialist based in the U.K. Professor Jamoa Aidoo, had been invited into the country to ascertain at first hand the level of development and probably comeback. He said the government intended to make the hospital the stagıng post for returning Ghanaian specialist and consultants to offer their services through clinical practices as well as lectures at the post graduate medical college and the conduct of research. From the above report, it is clear that one of the major reasons for the exodus of our health practitioners to other nations is the lack of modem digital technology equipment in our hospitals. It is also undisputed fact that without modern and sophisticated digital technology

devices in the hospitals, the government’s plan for implementing the National Health Insurance Scheme (NHIS) will be a myth.

This topic was chosen in order to find out how the modern facilities have improved upon the services of the hospitals especially the University of Cape Coast Hospital.

1.1 Statement of the problem

Many years ago, hospitals in Ghana could not perform creditably because they were faced with problems of logistics. This is to say that they lack digital technology devices that could help save lives especially in times of emergencies. A case for example is where a patient is rushed to the hospital in a critical condition and has to be attended to immediately by a specialıst doctor who is not available. If there were to.be telephones this doctor could be reached in no time and hence save the life of this person. Again, huge sums of money are spent flying patients to Europe and other countries for treatment due to lack of such devices and specialists to treat people. Example, some few years ago, people suffering from hole in heart were sent to America and Britain for treatment. Families who could not afford the cost of transportation and the cost of such treatment have no choice than to wait for the death of their people. This does not have effect on the families alone but untold economic crisis on the country at large. It is relive however, to note that, with the advent and availability of such technology today, these facilities such as cardiothoracic equipment, computers, telephones, scanners are all available in some of the country's big hospitals. This study therefore seeks to find out how these facilities are helping to deliver quality health services in the country.

1.2 Aims and objectives of the study

The general purpose of this project is to:

1. Provide Information on the role of hospitals

2. Provide vital information on the use of digital technology in the University of Cape Coast Hospital

3. Find out how digital technology has improved upon the quality of the health services

1.3 Limitations of the study

The study, will be carried out in detail under the expectation that respondent may not be willing to give information. As usual, some information may be deemed to be purely internal and confidential by some firms and therefore will not be disclosed. This study is limited to the University of Cape Coast Hospital in Cape Coast due to time and financial constraints that will be suffered by the researcher.

1.4 Significance of study

It is not possible for a small work like this to represent adequately the whole mass of information on the importance of digital technology and its roles in the health sector. Nevertheless, it is hoped that this work will serve as a source document on information as a whole and also broaden reader's horizon on the activities of Cape Coast Hospital.

1.6 Organization of study

The study is made up of five (5) chapters. Chapter one (1) which is the introduction contains the background of the study, significance of study, limitation and methodology. Chapter two (2) focuses on the literature review. It deals with what other authors have literature on digital technology and its importance in the qualıty delivery of the health services. Chapter three (3) explores the research methodology, the population and sampling data collection and handling of the data.

Chapter four (4) analyses the digital technology devices being used at the University of Cape Coast Hospital. Chapter five (5) consists of findings, suggestion and recommendations of the topic.

Chapter two

2.0 Literature review

For the achievement of quality health for all based on primary health care, it has been recognized that a reorientation of health systems was a prerequisite Further evolution of thinking on the subject of health infrastructure then lead to the formulation of the concept of "manageable unit' for the healthcare delivery, that for the ease of speech, then were called "district health systems" a district health system based on primary health care comprises first and foremost of a well-defined population, leaving within a clearly delineated administrative and geographical area, whether governmental or independent, professional or traditional, which Cooperate to create a district system and work together within it. A district health system therefore consists of a large variety of interrelated elements that contributes to the health, homes, schools, workplaces and communities and is multi - sectorial orientation. It includes self-care and all health care workers and facilities, whether governmental of non - governmental, up to and including the hospital at the first referral level and the appropriate support services, such as laboratory, diagnostic and logistic support. It needs to be managed as a single entity, normally under a single full time manager who has public health as well as a curative responsibilities in other to draw together all these elements and institutions into a fully comprehensive range of preventive, curative and rehabilitative health activities and to monitor progress.

2.1 A CONCEPT OF TECHNOLOGIES IN QUALITY HEALTH DELIVERY IN THE CONTEST OF DISTRICT HEALTH SERVICE (DHS)

Technology as defined by Anthony Agyemang in his book Management information systems "is the gathering or assembling of computers, microelectronics and telecommunications to produce, store, obtain and disperse information worldwide or globally". A major characteristic of a human development has been its penchant for and indeed its success in developing tools and activities for better achieving its goals in life. Especially where such endeavor has resulted in tools, equipment, techniques and methods, people have come to refer to such

achievement as technologies. In the domain of health and health care, interventions, procedures and their supporting services can therefore be identified as health techniques.

Quality delivery can be perceived as the rate of achievement over agreed standard within a given situation. Some of the main issues in quality assurance for technology include delineation of areas for consideration, standard setting, choice of indicators and criteria, methods of assessment and the attribution of waited values, adjustment of ongoing managerial procedures to include a concern with quality assurance. It should therefore be recognized that for technology transfer to be successful, adaptation of quality assurance approach already during pattern of expectations and altering demography. Changes in priorities within the medical environment may develop at variance with priorities in the public health community, with the capacities of the society at large and its existing moral and legal codes. For instance to care for a diarrheal conditions, a natural tendency for the management and personnel in hospitals may be to concentrate on other conditions that now assume higher Visibility, such as low birth weight. However, very soon thus shift in concern will generate a demand for equıpping the hospital with new and more complex and probably more costly equipment. The outcome of the new endeavor will be in the area of a reduction in mortality of infant with a high risk at birth at a considerable immediate cost and a long - term cost for that percentage of children that will survive with varyıng degrees of handicaps to be supported by society in future. Especially in a society with a high birth rate and a low per capital income, such a choice may be difficult but imperatıve to make.

2.2 Conditions and characteristics in the application of technologies

For a Sustainable implantation of technologies to succeed, a number of characteristics and conditions of the target community or country must be taken into account. Frequent failure to do so result in unnecessary short time of survival of the implanted or transferred technology or at best the development of a "white elephant phenomenon characterized by high resource demand and low yield. Therefore it would seem essential that when technology transfers 1S contemplated, especially of the type that is not occurring in a "natural way, special attention should be paid characteristics and conditions for their adoption, such as the following.

(1) The existing technical culture in terms of level and functioning within the target community.

(11) Maintenance and renewal of hard and software involved including reinvestment and periodic refresher training of human resources involve provision of supplies and utilities necessary for operations envisaged foreseeing the consequences of the output of technologies in terms of health hut also in terms of impact on social expectation and related political imperatives.

2.3 The importance of digital technology equipment used in the delivery of quality health service

The advent of IT equipment in the health sector has flooded the sector with equipment such as computers, telephones, scanners, X - ray equipment Stethoscopes, Microscopes, Telemedicine to mention but a few. For this write up, the researcher would like to discuss the importance of telemedicine in the delivery quality health Telemedicine can serve patience in many ways from interacting with Dermatologists or Psychiatrists over a video conference call to monitoring chronic diseases in a patient's home, such as diabetes or congestive heart failure. Many hospitals offer public health awareness information through hospital based medical websites. Many health providers have partnered with cable television to offer extensive public service programming on health care issues Hospitals and outreach clinics routinely use their in - house telecommunication networks to provide routine consultation services and continuing education training on new medical procedures for their staff and to improve administrative processes. In some hospitals, patients' medical information is now instantly available through laptop computers and other electronic devices that have a wireless connection to hospital networks and the internet.

Emergency vehicles are often enhanced by onboard computer systems that use geographic information services technologies to direct ambulances to the patient by using satellite coordination software programme and wireless and technologies. These state of the art ambulances can instantly access patients' information and allow emergency personnel to talk directly with physicians while the patient is enrooted to the hospital. Delivery health care services through telecommunications technology 1s far from routine in everyday medical practice. However, hospital administrators are embracing telemedicine services as a way to improve healthcare services within their service area and to expand devices beyond their traditional service area. Using telecommunication services to

provide healthcare to geographically hard to a time of Serve areas, can improve hospital's financial stability, especially budget cuts and constraints. Telemedicine challenges the traditional practice of face to - face patient care. Because the service provider can be located anywhere, the issue of public licensed to practice directly affects the delivery of healthcare services. This is a doctor licensed to practice in one state cannot participate in a telemedicine consultation with a patient located in another state. Many large medical practices that operate across state boundaries or across the nation, such as the Mayo Clinic, require that certain members of their clinical staff have licenses in all states in which they provide service. Hospitals wanting to offer telemedicine services need to establish clear internal guidelines for medical procedures to ensure patients confidentiality. Important security and privacy issues to consider for a telemedicine consultation include who presents the patients' medical information, how and if the consultation is recorded and how is it stored, and who can see and use recorded information. To country, many increases the adaptation of telemedicine services throughout hospitals are sharing internal procedures with one another. Physicians can often use their patients visit chart to indicate to certain service providers or reimbursement companies for example blue cross, Kaiser Permanents, Medicaid, Medicare etc. That the patients visit was conducted through telecommunication services. However, telemedicine equipment can be costly to purchase and maintain in the monthly cost to operate a system can be expensive. In many instances, a hospital budget simply cannot accommodate a programme where reimbursement for services may not be possible.

2.4 Some criteria for the successful transfer of digital technology

For technologies to be transferred with any, degree of success, they should be considered in the light of some or all of the following conditions or criteria:

(I) They should be effective in relation to the intended objectives

(11) Be scientifically sound for regular application in the light of current knowledge economic (i11) Be applicable within the prevailing physical, cultural and socio- economic conditions provide acceptable quality at, an affordable cost for the population it intends to serve

(1V) Be commensurate with existing or growing capacities of the community.

Thus, technology assessment would be a major condition for proper transfer of technologies. Conditions and criteria must be adopted and expanded in accordance with country and be reviewed on a regular basıs say every five (5) years. In conclusion, technology can be considered from the view of what it may promote or aim to achieve. lf technology 1s understood as both and aspiration and an enabling capacity, then a third angel of approach would be to consider technology as a totality of activities, methods, techniques and equipment that aim at achieving a given goal for the successful implementation of quality health service.

Chapter three

3.0 Research methodology

This chapter involves the methods used in the carrying out of this research. It dealt with description of the area covered, population of the study, sample size and sample techniques, data collection methods and data analysis procedures.

3.1 Area of study

The Ghana health service has regional hospitals in all the ten (10) regions. For the purpose of this study, the University of Cape Coast Hospital was chosen out of the ten (10) Regional Hospitals. Regional Hospitals play a vital role in the economy by using digital technology devices to improve upon delivery of quality health service.

3.2. Population of study

Population is the total number of persons or unit that exists in a study area. The researcher considered doctors, nurses, workers and patients as the population with a population size of fifty (50) from the University of Cape Coast Hospital

3.3. Sample size

Sample size is made up of that proportion of the population selected for investigation. It involves careful examination of a selected proportion in order to extend knowledge gained from the study of the part to whole.

With regards to the study the researcher selected thirty (30) respondents out of the fifty (50) for the actual investigation

3.4. Sampling technique

Sampling technique is the method used in the selecting of the proportion of the total population for the actual study. The researcher used simple random sampling techniques in selecting the sample. Simple random sampling is a case where every individual unit in the universe stands an equal chance or probability of being included and excluded in the final of the universe.

The selection is done based on the last number of the universe. The researcher used simple random sampling to avoid being bias in data collection.

3.5. Data collection

Data was guided for this study through the use of both primary and secondary sources of data.

Research instruments

Primary source: information was elicited through personal interviews and administration of questionnaires. Personal interview was conducted with personnel, doctors, nurses and patients in the University of Cape Coast Hospital. Questionnaires were also distrıbuted to thirty (30) respondents and the questions made up of both open and close - ended, designed concerning the objectives of the study. Secondary sources secondary data were gathered through reading of various research papers. All these sources were

Secondary sources secondary data were gathered through reading of various health and medical textbooks, journals and research papers. All these sources were elicited at University of Cape Library.

Chapter four

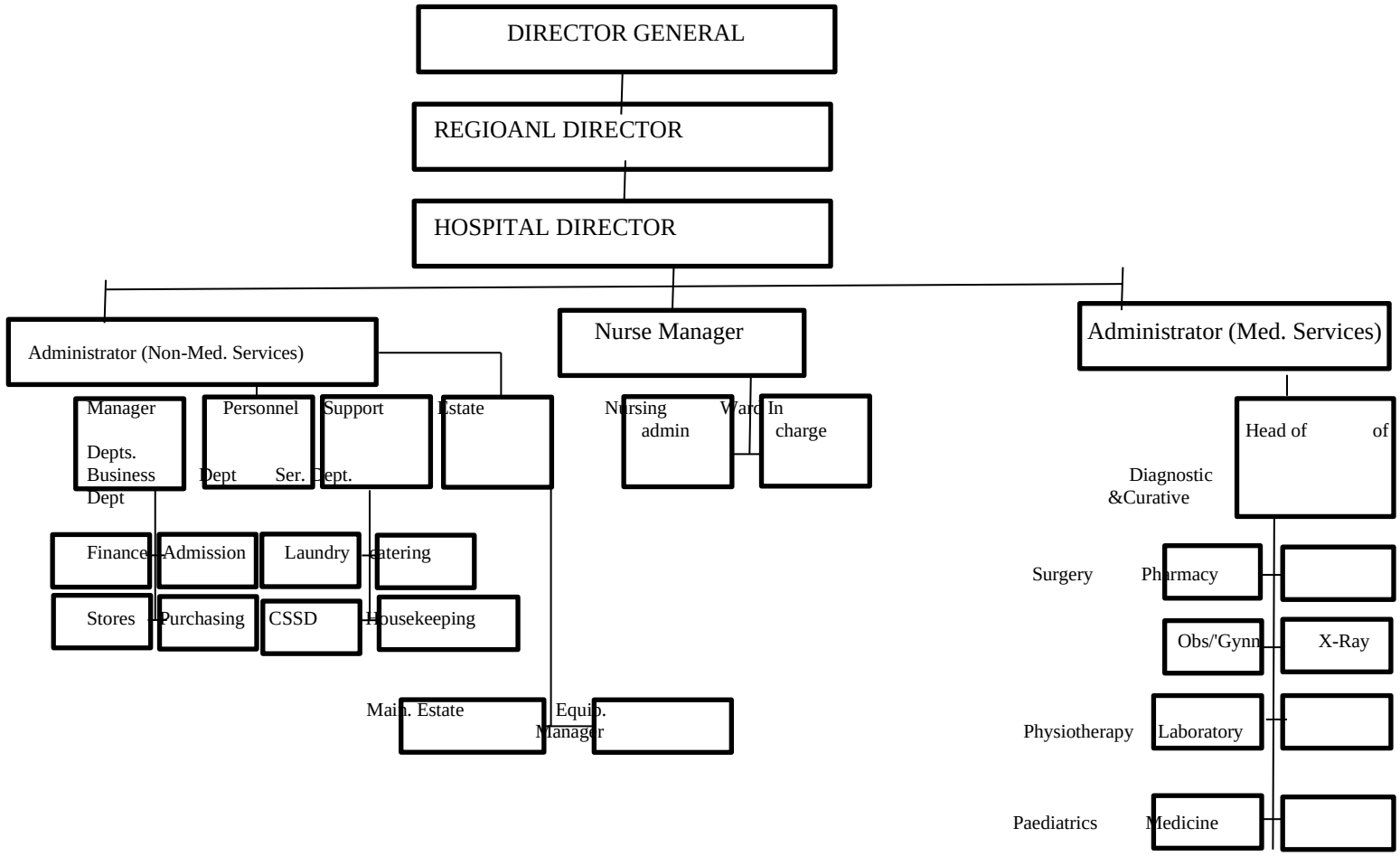
Data presentation, analysis and interpretation

4.0 Introduction

This chapter deals with presentation and analysis of data gathered from the field using charts, graphs and percentages.

Below is the Organizational Structure of University of Cape Coast Hospital.

University of cape coast hospital chart of organization



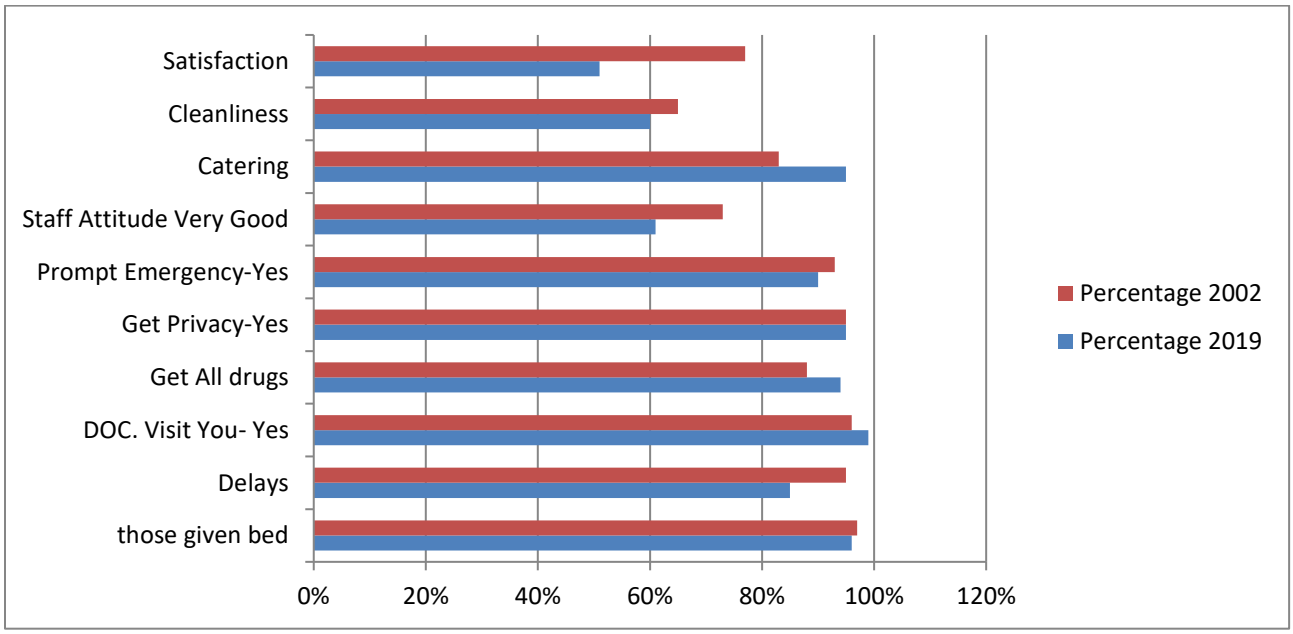
An organizational structure is the pictorial or graphical framework, which spells out how authority flows in the organization. That is who has authority over whom and who reports to whom. At the University of Cape Coast Hospital, the director general is at the top who instructs the hospital director to supervise the activities of the hospital director in charge of all the sectors of the Hospital. Below the hospital director, are the administrator in charge of non – medical services, the nurse manager supervising al the nurses and the administrator in charge of medical service who are in the same line of authority. There are four (4) managers namely are the business department, support service department, personnel department and estate manager maintenance and engineering who has equal power irrespectively who are under the Also there are two (2) equal nurses who are in charge of the ward and administration that are under the nurse manager. Under the administrator (medical services is the

head of department of diagnostic and curative, survey pharmacy, obstetrics and gym, X -ray, physiotherapy, laboratory and pediatrics and medicine.

The business manager is also having two (2) managers beneath him. This includes the finance, admission, stores and purchasing. There are also the laundry, catering, CSSD and housekeeping managers who are also in the same line of authority with the Finance section. This shows how authority flows in the University of Cape Coast Hospital and each one is accountable to the one above him so as to meet the target of the hospital. From the interviews gathered from some patients in the Hospital shows that they are all aware of the existence of digital technology. lo prove this, questionnaires for the study was distributed and this was confirmed as below:

INPATIENT ASSESSMENT INDICATORS (2019-2020)

TABLE. 1

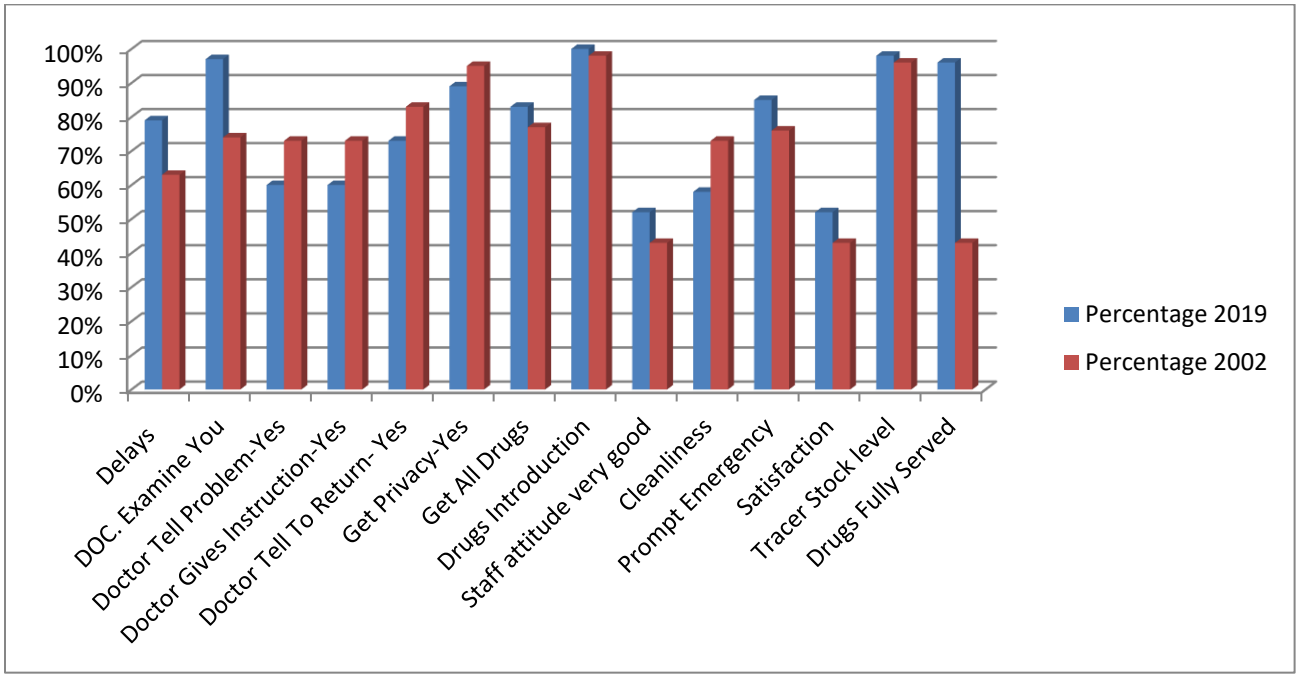


A critical analysis of the data gathered shows that out of the 100%respondents, thus the patients in the hospital 96% of them were given bed in2019 and 97% in 2020. This indicates that at least there has been some improvement in the current year. The remaining percentages that were not given bed were due to insufficient beds available to the hospital. The data also showed that 99% of the patients in 2019 were attended to examine their admission whereas in 2020 the percentage was 96. This shows that with the introduction of digital technology

devices, doctors were connected and early attention is given to patients. This shows that with advent of devices like telephone in the health sector it is indeed improve on the quality health delivery In the case of drugs delivery and its indications or its effectiveness in 2019, 94% of the patients who were admitted were given good drugs as compared to 88% in 2020. In this area we can all see that new ways of manufacturing and quality drugs to treat certain unique diseases are available. This also shows that certain diseases, which had no drugs in the previous years, can now be cured easily with the advent of digital technology. Staff attitudes and catering for patients on their admission has truly improved analyzing from the data collected. Thus in 2019, 61% of the patients were attended to with the needed relationship whereas in 2020, it was 73%.The actual catering and handling of patients in the hospital also improved in the year 2019 and 2020.

Finally, general satisfaction received from patients indicated that they are actually satisfied with attention and other needed care given them.

OPD CLIENTS ASSESSMENT INDICATORS FROM 2019-2020



The chart above represents the number of OPD clients' assessments indicators at the University of Cape Coast Hospital from 2019 to 2020. In this area digital technology has really had impact on them. From the chart, one can analyze that 79% of the people were delayed in 2019 and 63% in 2020 but 97%and 74% were duly examined by doctors in 2019 and 2020 respectively. This shows that there has been some improvement in this sector. In terms of proper instructions and examinations on bodies it has also shown that in 2019, 60% were satisfied while 73% were also satisfied in 2020. This even shows that it has improved. The chart or data collected also showed that in both 2019 and 2020 more than 50% of the people in the OPD section were given proper privacy. On the side of quality and prompt drug delivery, it showed that 85% of the people in 2019 were actually satisfied with drugs. 76% of the people in 2020were also satisfied with drug issued. These people were also given proper drug instruction and fully served. Stock level on drugs taken also indicated that52% was the level in 2020 as compared to 43% 1n 2019.

General satisfaction by the clients in the OPD departments in terms of cleanliness, staff attitudes etc. it was indicated that about 52% are very satisfied with the services given to them in 2020.

Devices and their contribution to digital technology in the quality delivery of the health service

1. **Computer**

The computer has come to lessened load of work in the hospital. These days there are unnecessary delays with regards to manual work in the hospital creating unnecessary delays especially where there are a lot of patients and emergency situations occur. In this era the computer is only commanded and it does all manner of work. In the hospital it keeps all information and also allows for patients data. It also allows for fees collected on daily basis to be accounted for thereby improving on their daily collections.

2. The telephone

The telephone is also another means of digital technology, which 1shelping to deliver quality health especially in the hospital where all the sections are networked. It is used in giving out messages and information to the doctors and other workers effectively and also less time consuming.

2. The scanning machine

This device is also another form of digital technology, which is also having positive effect into health sector. It gives information on the child in the womb such as its age, size etc.

3. The stethoscope

This device also helps to enhance quality delivery of health services. It is used to detect the functioning of internal organs. Other devices like the x-ray machine have also played their roles to help in the quality delivery of the health services.

Chapter five

This chapter seeks to summarize, conclude and make the necessary recommendation pertaining to the findings.

5.1. Summary

The research based on the data analysed revealed the following findings:

The research revealed that the University of Cape Coast Hospital plays a vital role in quality health delivery in the Region since they have modern facilities. The hospital has improved its performance over the years with the involvement of all the staff in the decision making process. Also drugs were served to the patients fully and promptly. General satisfaction by clients in the out patients Departments in terms cleanliness and staff attitude was very satisfactory.

5.2 Conclusion

From the research Work carried out, analysis of findings revealed that performance of doctors and the workers has improved over the past years with the introduction of digital technology.

Also there is now effective storage and fast retrieval of patients' data. Again there is also proper involvement of all staff in the decision making process and effective way of given out messages. Fees collected on daily basis have also improved. Moreover, it was found out that the University of Cape Coast Hospital lacked some inputs, which were drawing some of their activities back. In conclusion however, one can say that University of Cape Coast Hospital is likely to achieve its objectives if all the inputs needed are given to them.

5.3 Recommendations

It is the suggestion of the researcher that:

(I)The government should come to the aid of the Hospital to provide them with such inputs as beds, drugs, generator and plants etc.

(11)Since most of the doctors and nurses leave the country to search for greener pastures elsewhere due to improper condition of service and level of salary, the research is entreating the government to provide better condition of service and make their salaries more attractive for them to stay and work here. Also proper structures should be in place to reemploy those who have already gone and are deciding to come back.

(111)The management of the University of Cape Coast Hospital should update the process of acquiring a new card on your admission to the hospital

(iv)The system of nurses taken care of patients rather than relatives should be maintained and improved to the highest level since it provide a conducive atmosphere for the patients

(v) The funds provided by the government is not enough, so therefore, it is suggested that other sources of funds should be searched to enhance the operation of the hospital.

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