THE SCHOOL OF PUBLIC HEALTH,

COLLEGE OF HEALTH SCIENCES,
UNIVERSITY OF GHANA

ASSESSMENT OF QUALITY OF CARE AT THE ACCIDENT CENTRE, KORLE BU TEACHING HOSPITAL

BY

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DECLARATION

I do hereby declare that except for references to other people's work which have been duly acknowledged, this is entirely my own.

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DEDICATION

I dedicate this work to the memory of my dear late father, Mr. John Casine Bolah.

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I wish to thank the Almighty God for his divine protection and guidance through the successful completion of this course.

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ABSTRACT

Health care settings both in developed and developing countries are bedevilled with quality problems, which may be defined, as gap between what is and what is expected.

Quality is how good or bad something is. The thing may be a product or a service. People will only patronise health care services that meet expectations.

Quality of care Assessment is the measurement of the quality of healthcare services. It measures the difference between expected and actual performance to identify opportunities for improvement and where standards have been established, a quality assessment measures the level of compliance with standards.

The study was retrospective as well as a cross-sectional descriptive, using both qualitative and quantitative designs.

It described the causes and possible solutions to the problem of poor quality of care at the Accident Centre of the Korle Bu Teaching Hospital.

Despite the call for health care institutions to deliver quality services to clients, it appeared that quality of care was being compromised in the Accident Centre of the Korle Bu Teaching Hospital.

This is because in the 2005, 2006 and 2007 Performance Reviews and Annual Reports of the hospital, it appeared consecutively that quality of care was poor at the Accident Centre due to factors such as: Lack of or inadequate basic but essential equipment, congestion and long waiting time, acute shortage of staff of all grades, inadequate consumables, heavy work load among others. This prompted the researcher to undertake the study.

Secondary data was mostly employed to describe the quality of health care at the Accident Centre looking at some inputs/structure, process/care provider performance and outcome variables. Availability of equipment, staff strength in relation to requirements and work load and medicine and non medicine consumables were measured as inputs/structural variables while waiting time and interpersonal relationships of care providers towards clients was measured as process or provider performance variable. Case Fatality Rate (CFR) was used as outcome measure.

Findings were that the A/C lacked basic but essential equipment, essential staff such as traumatologist and anaesthetists.

The resuscitation room and the ICU did not have medicine and non medicine consumables such as, antibiotics, pethidine, diagnostic sets and splints.

The average waiting time was also found to be long.

The interpersonal relationships of some care providers toward clients were not good enough.

Finally, the study made some recommendations, which could be used to solve the problems found and a conclusion was drawn.

It was recommended that the KBTH management increases the equipment supply, engages more staff of all grades, opens a pharmacy unit at the A/C, shortens waiting time for the clients, organises regular trainings and workshops for its care providers on effective communication and human relation skills.

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LIST OF ACRONYMS AND ABBREVIATIONS

5YPOW……5 Year Programme of Work

A/C …….....Accident Centre

BMC……....Budget Management Centre

CFR……Case Fatality Rate

CQI……..Continuous Quality Improvement

KBTH……...Korle Bu Teaching Hospital

MOH……Ministry of Health

MTEF……...Medium Term Health Strategy

NHIS…….National Health Insurance Scheme

O/S……Orthopaedic surgeon

OPD……..Out Patient Department

Sub-BMC…….Sub-Budget Management Centre

TQM……Total Quality Management

WHO……World Health Organisation

DEFINITION OF TERMS

Client: User of a product or service. Clients may be internal, that is, among the providers themselves, or external, that is, outside the providers

Communication: A process by which a message is passed from a sender to a receiver. The components of effective communication are the sender, the message, the channel, the receiver and feedback from the receiver to the sender

Effectiveness: The ability of a process to produce the anticipated desirable effect (s)

Efficiency: Carrying out an activity or process with the least waste of time, effort and resources.

Equity: Fairness in the distribution of services.

Evaluation: Assessment of the outcome of a set processes in relation to set objectives

Expectation: What is seen as being satisfactory

Impact: The lasting effect of an activity or set of activities

Indicator: A yardstick used to measure the level of quality

Input: The set of people and things needed to carry out an activity

Outcome: The ultimate effect of an activity or set of activities

Output: The immediate result of an activity

Perspective: Approach or point of view

Privacy: The state of not being seen or heard by a person not expected to do so. (Compare: Confidentiality)

Problem:	The gap between the present level and the expected level of quality
Process:	The actual performance of an activity or set of activities
Protocol:	Strict direction on how to perform an activity. (Compare: Guidelines)
Quality:	The degree to which a product or service meets the expectations of an individual or group
Quality Assurance:	A planned systematic approach for continuously monitoring, measuring and improving quality of health services, with available resources, to meet the expectations of both users and providers
Questionnaire:	A set of questions that help to measure the quality of structures, processes and outcomes
Safety:	The degree to which a service is free from risks to the user and provider
Stakeholder:	A person or group of persons that has vested interest in particular thing
Standard:	Explicit statement of expected quality. (Also see: Guidelines, Protocol, Standard Operating Procedure, Specifications)
Structure:	The set of people and things needed to carry out an activity as well as how well they are organized to achieve desired results
Supplier:	The person who provides a good or service (Also see: Customer, Client)

CHAPTER ONE

1.0 Introduction

This chapter will provide the background to the study in terms of the study problem, conceptual framework, and justification for the study.

1.1 Background Information

Health care settings are bedevilled with quality problems, which may be defined, as gap between what is and what is expected (Belcher, 2003). Quality may include reputation, durability of a product, pricing, timeliness or promptness of service and standards. It may even extend to include friendliness and availability, if at all, of service. Quality recognises room for improvement. While good quality care ensures both provider and consumer satisfaction, sustained poor quality of health service leads to dissatisfaction on the part of both the client and health worker as well as waste of resources including money, material, men and time (Belcher,2003).

Globally, quality issues started from industries in Japan in the 1950's (Duodo, 1998) It is now extended to service provision, the world over, including health care.

According to Offei et al, (1995), quality issues in health care in developing countries receive low attention vis-à-vis low utilisation of health services. Dimension of health care quality includes access to services, socio-cultural acceptability, relevance to need, effectiveness, equity and efficiency of service et cetera.

It may also include cost, humaneness, and 'informativeness', competence, bureaucracy and continuity (Fitzpatrick, 1991).

Haddad et al, (1998) noted that quality can be viewed from the perspectives of providers, managers and consumers among others and health care quality can be assessed using structural, process and outcome measures (Donabedian, 1996).

The process of providing care in developing countries is often poor and varies widely. A large body of evidence from industrial countries consistently shows variations in process, and these findings have transformed how quality of care is perceived McGlynn et al (2003).

A 2002 study found that physicians complied with evidence-based guidelines for at least 80% of patients in only 8 of 306 U.S. hospitals (Wennberg et al, 2002)

It is important to note that these variations appear to be independent of access to care or cost of care: Neither greater supply nor higher spending resulted in better care or better survival. Studies from developing countries show similar results. For example, care in tertiary and teaching hospitals and care provided by specialists may be better than care for the same cases in primary care facilities and by generalists (Walker et al, 1988).One explanation for variation and low-quality care in the developing world is lack of resources. Limited data indicate, however, that high-quality care can be provided even in environments with severely constrained resources Walker et al, 1988).

This study will describe the causes and possible solutions to the problem of poor quality of care at the Korle Bu Teaching Hospital's Accident Centre. The study will describe quality in terms of the inputs, processes and outcome.

1.2 Background to the study Area

1.3 Korle Bu Teaching Hospital

The Korle Bu Teaching Hospital was established in 1923 as a General Hospital during the reign of Sir Gordon Guggisberg as Governor of the Gold Coast. It was meant to address the health needs of the people. The hospital started as a 200 bed capacity facility.

With time, population growth and an increased conviction in the efficacy of hospital treatment, the number of people seeking medical care increased. The demand was so high that by 1953, the government had set up a task force to study the situation and make recommendations for the expansion of the hospital. The recommendations of the task force were accepted and new structures, such as the Maternity, Medical, Surgical and Child Health Blocks were constructed, expanding the hospital to a 1,200 bed facility.

In 1962, Korle Bu was made a Teaching Hospital for the University of Ghana Medical School, now College of Health Sciences. Additional Centres and Units were established over the years.

Currently, the Korle Bu Teaching Hospital is the premier national referral hospital. It serves as the teaching hospital of the College of Health Sciences. The hospital has a bed capacity of 1,600 and 3,000 members of staff.

The daily out-patients attendance is 1,000 and an average of 120 people are admitted daily.

The hospital has now developed into seventeen (17) clinical and diagnostic departments and centres. There are the Obstetrics and Gynaecology, Surgery, Child Health, Polyclinic, Oral Maxillofacial Surgery, Internal Medicine, Radiology, Pharmacy, Laboratories, Radiotherapy, Anaesthesia, Accident Centre and the Surgical Medical Emergency, Pathology, Haematology, Microbiology as well as the Ear, Nose and Throat (ENT). Supporting services departments are the Administration, Finance, Engineering, Catering and Nursing Services etc.

The hospital also provides sophisticated and scientific investigative procedures and specialization in various fields such as Neuro-Surgery, Dentistry, Eye, ENT, Renal, Orthopaedic, Oncology, Cardiothoracic and others.

The hospital has three specialized centres within the premises. These are the Cardiothoracic Unit, Reconstructive Plastic Surgery and Burns Unit and the Radiotherapy and Nuclear Medicine Centre.

The hospital also plays an active role in training of Health Professions. It conducts research and carries out outreach services in Ghana and other West African countries.

Korle Bu is not only a teaching hospital for the College of Health Science but also serves as a platform for training students of other health professionals institutions located within the hospital's premises. The schools include the School of Public Health, School of Allied Health Sciences and the Nursing and Midwifery Training College.

The objectives of the Korle Bu Teaching Hospital are:

(a) To provide advanced clinical health services to support the health services provided by the service

(b) To serve as a training facility for both under graduate and post graduate medical Professionals

(c) To undertake research into health issues for the purpose of improving the condition of health of the people in Ghana.

1.4 Background of the Accident Centre

The Accident Centre or Casualty as it was called in the past had been in existence since Korle Bu Teaching Hospital was commissioned in the early 1920's.

The department may be described as the GATEWAY to the hospital and one of the busiest in the hospital.

The department receives and resuscitates all traumas as well as non-trauma adult surgical and medical emergencies.

It has a bed capacity of 37 and 2 cots making a total of 39 beds.

In line with the mission of the hospital, the Accident Centre exists to provide high quality resuscitative care to clients to enhance full or near recovery within available resources, provide teaching and learning opportunities for medical, nursing and allied students and staff.

1.5 Management Structure of the Accident Centre

The above form the core members of the Accident Centre Sub-BMC who take decisions on issues as they occur. The Administrator ensures the implementation of decisions and co-ordinates affairs in the department.

Head of Sub-BMC - Consultant, Orthopaedic Surgeon

Health Service Administrator

Accountant

Deputy Director of Nursing Service (DDNS)

Engineer/ Technical Officer

Pharmacist

The following members together with the above listed form the management of the Sub-BMC:

The PNO of Accident Centre Theatre

The Sub-BMC Engineer/ Technical Officer

The Sub-BMC Stores Manager

The PNO in charge, Allied surgery

Core members meet every four (4) weeks to deliberate on issues affecting the Sub-BMC and prescribe appropriate solutions. The discussions centre on how best to give optimum care to patients and staff to ensure quality of care.

1.6 Continuous Quality Improvement (CQI) at the Accident Centre

Below are other activities which are carried out continuously to improve the quality of care at the Accident Centre:

A. Other Activities

- Weekly lectures and Clinical meetings including journals club

- Drug presentation by pharmaceutical agents
- National Medical Conferences
- International Conferences

B. Patient Care

The care of patients involves the following:

- Reception
- Triage
- Resuscitation
- Surgical Management
- Referral
- Transfer

C. Unit Meetings

Unit meetings are held once a month for all members of the Sub-BMC. It gives opportunity for every one regardless of grade to express his or her views on pertinent issues regarding patient care and staff welfare.

D. Scientific Meetings

This is held for all staff. Resource persons are invited to present topics of interest to improve upon knowledge and of understanding of some concepts in patient care.

E. Journal/Text Book Club

These are scientific meetings held every week and is designed for the Senior Residents doing their post graduate training in Orthopaedics and Trauma. It is compulsory for all doctors in the Sub-BMC.

1.7 Services Provided By the Accident Centre

The department of Accident and Emergency, in order to fulfil the mission and vision of the hospital provides the following services:-

Receives triage and resuscitate all trauma and non-trauma patients (Accident victims and Orthopaedic patients)

i. Clinical Service:

Clinical Services comprise the following;

- Reception of patients/clients
- Triage of patients
- Resuscitate Poly trauma patients
- Treat/manage
- Referral/Transfer to specialised Units/Departments
-

ii. Teaching/ Training:

The Accident Centre provides teaching and learning opportunities for Surgical, Medical, Nursing, Allied students and staff. It is resolute in transforming the department into a centre of excellence. It is accredited by the West African College of Surgeons (WACS) as a Training and examination centre for Postgraduate Orthopaedic/Trauma residents.

1.8 Management of Poly Trauma and Walk – in patients

A. Poly trauma patient

B. Walking – in patient

1.9 Service Processes for the poly trauma patient

Poly trauma arriving in an ambulance (ideal), taxi or truck May be received unto a MARQUET trolley.

Ambulance crew may have given a call of their impending arrival- The need for a two way communication system between where the patient is being brought from and the receiving health facility.

The poly trauma or severely injured, usually;

a. Get a Card or Tag (if unconscious), RTA, Falls etc

b. Do a primary survey

A irway

B reathing

C irculation

D- Neurological disability

E – Exposure for thorough Examination

c. Resuscitate + Monitoring

Definition:

Done in tandem with Primary Survey

d. Secondary Survey (when patient is stable) involves a detailed and thorough history from the patient or bystanders.

- Physical examination
- Investigations(General/specific)
- Management (Day/Surgery)
- Referral/Transfer

Management of the Dead

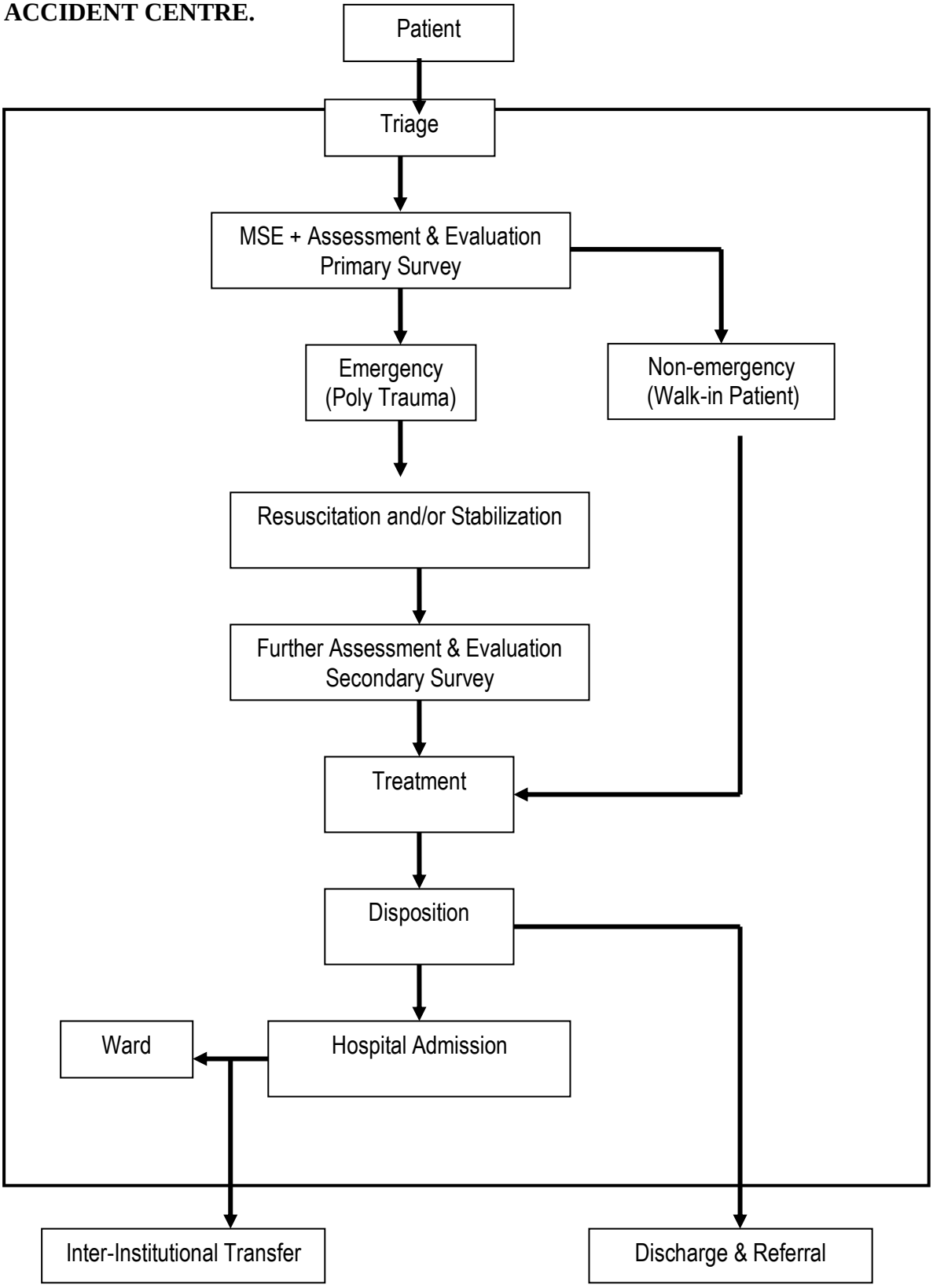
- Brought In Dead (BID)
- In-House

1.10 Service Processes For the walk –in patient

1. Patients arriving in an Ambulance/Taxi or a Truck. The patient is then received by an Orderly, a Nurse and put in a Trolley or Wheelchair.
2. The process starts by making an Out Patient Department (OPD) card for patients
3. Taking the history of the patient, giving first aid if necessary
4. Examination and consultation with the doctor by patient
5. Investigations (Laboratory, X'ray etc)
6. Treatment (Infusions, drugs etc)
7. Detention or refer patient to a Specialist (Surgeon)
8. Transfer of patient to another unit
9. Discharge and follow up advice
10. Last offices (tidy up the dead if it occurs) by labelling and using shrouds

Figure 1.

FLOW CHART ON POLY TRAUMA AND WALK-IN PATIENTS OF THE ACCIDENT CENTRE.



MSE-Medical Screening Examination

In short, figure 1 above shows the services provided by the Accident Centre (A/C) for poly trauma and walk-in patients. The Accident Centre receives triage and resuscitates all casualties including burns of all degrees and provides surgical interventions.

Upon arrival in the Accident Centre, patients undergo a brief triage, or sorting, interview to help determine the nature and severity of their illness. Individuals with serious illnesses are then seen by a physician more rapidly than those with less severe symptoms or injuries.

1.11 Problem statement

One of the reforms of the MOH is the introduction of National Health Insurance in 2003, Act 650 which is in its implementation stage, hospitals are expected by law to put in place programmes that secure quality assurance, utilization review and technology assessment to ensure the following among others;

a) The quality of health care service delivered are of reasonable good quality and high standards
b) The basic healthcare services are of standards that are uniform throughout the country
c) The use of medical technology and equipment are consistent with actual need standards of medical practice

However it will appear that quality of care is being compromised in the Accident Centre of the Korle Bu Teaching Hospital, in the 2005, 2006 and 2007 Performance Reviews and Annual Reports of the hospital, it appeared consecutively that quality of care was poor at the Accident Centre due to factors such as: Lack of or inadequate

basic but essential equipment, congestion and long waiting time, acute shortage of staff of all grades, inadequate consumables, heavy work load among others.

The World Health Organisation recommends that nation wide, there should be one (1) Orthopaedic Surgeon to 60, 000 of the population. In Ghana, information from the Ghana Orthopaedic Association indicates that, with about 20 Orthopaedic Surgeons, the ratio is 1:1,000, 000 WHO (2000).

Observations and preliminary investigations carried out by the researcher , there were complaints of congestion, heavy work load, lack of motivation on the part of care providers, long waiting time of clients/patients, lack of basic equipment and emergency medicine and non- medicine consumables to work with, et cetera.

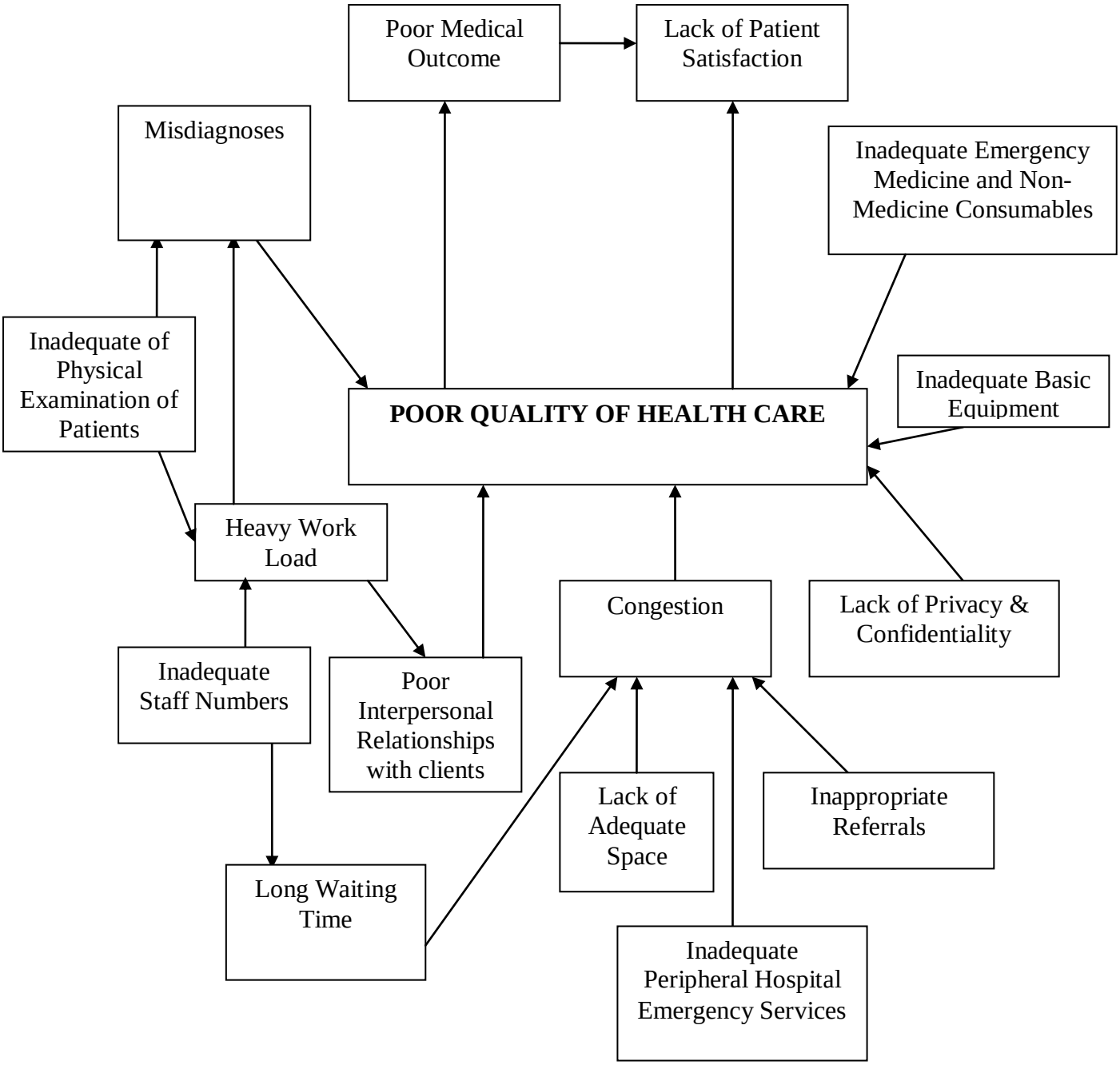
Observations from the Orthopaedic clinic of the Accident Centre revealed that, patients seemed unhappy about the waiting time at the clinic.

Figure 2 below is a diagram to help analyse the causes of the problem of poor quality of patient care at the Accident Centre of the Korle Bu Teaching Hospital.

Figure 2

PROBLEM ANALYSIS DIAGRAM

Problem Analyses of the causes of Poor Quality of Patient Care at the Accident



In describing the problem of poor quality of care at the Accident Centre as indicated in the problem analysis diagram in figure 2 (the page above), heavy work load and congestion contribute to the problem.

Congestion was identified as leading cause to long waiting time. Lack of adequate space, inappropriate referrals and inadequate peripheral hospital emergency services also directly contribute to congestion at the Accident Centre.

Inadequate numbers of staff directly result in congestion, long waiting time, poor staff- client relationship and eventually poor quality of health care in general.

Heavy work load may result in inadequate physical examination with the risk of misdiagnoses and hence inappropriate management.

Quality of care is also found to be associated with availability of adequate basic equipment as well as adequate emergency medicine and non-medicine consumables.

The lack of all these will probably be contributing to poor quality of care at the Accident Centre.

Undoubtedly, congestion can lead to tension and then, to misdiagnoses and mistakes on the part of the health care professional. The outcome of these may be poor quality of healthcare or poor medical outcome (morbidity and mortality) and then may also lead to lack of patient satisfaction.

In the conceptual framework, there are inputs, processes and outcome.

A client satisfaction survey was conducted in 2002 by a Quality Assurance Team of the Korle Bu Teaching hospital. However, this survey did not cover the Accident Centre and it only looked at the client/patient perception of quality.

According to Donabedian (1966) in his conceptual framework for measuring quality, he identified three basic components central to the quality of health care: structure process and outcome. Although each of these elements can be assessed individually, Donabedian emphasised that proper integration of all three elements is critical.

There is therefore the need for a comprehensive research to be conducted taking into consideration the structure and processes culminating into the care of patients at the Accident Centre. It is necessary to also describe the quality of care from the perspectives of not only the client but the health care workers and the manager.

Though, other factors may be contributing to the problem of quality of care at the Accident Centre as has been analysed, the researcher cannot cover all these factors due to the constraint of time, space and financial resources.

1.12 Conceptual framework

1.13 Quality Definition and Population Framework

Deficiencies in quality of care represent neither the failure of professional compassion nor necessarily a lack of resources (Institute of Medicine 2001). Rather, they result from gaps in knowledge, inappropriate applications of available

technology (Murray and Frenk 2000), or the inability of organizations to change (Berwick 1989). Local health care systems may have failed to align practitioner incentives and objectives, to measure clinical practice, or to link quality improvement

to better health outcomes. Increasing evidence, much of it developed since the mid 1990s, shows that quality can be improved rapidly. However, to improve clinical practice—and thus quality of care—quality must be defined and measured, and appropriate steps must be taken (Silimper and others 2002).

1.14 Definition and Framework

Health systems provide health actions—activities to improve or maintain health. These actions take place in the context of and are influenced by political, cultural, social, and institutional factors. Demographic and socioeconomic makeup, including genetics and personal resources, affect the health status of individuals seeking care.

Access to the health care system is required to obtain the care that maintain or improves health, but simple access is not enough; the system's capacities must be applied skilfully. Thus, quality means optimising material inputs and practitioner skill to produce health. As the Institute of Medicine defines it, quality is "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge'' (Institute of Medicine ,2001)

1.15 Element of Quality

Quality comprises three elements:

- Structure refers to stable, material characteristics (Infrastructure, tools, technology) and the resources of the organizations that provide care and the financing of care (levels funding, staffing, payment schemes, incentives).
- Process is the interaction between caregivers and patients during which

structural inputs from the health care system are transformed into health outcomes.

- Outcomes can be measured in terms of health status, deaths, or disability-

adjust life years-a measure that encompasses the morbidity and mortality of patients or groups of patients. Outcomes also include patient satisfaction or patient responsiveness to the health care system (WHO 2000).

Structural measures are the easiest to obtain and most commonly used in studies of quality in developing countries. Many evaluations have revealed shortages in medical staff, medications and other important supplies, and facilities, but material measures of structure, perhaps surprisingly, are not causally related to better health outcomes (Donabedian, 1980). Although higher technology or a more pleasant environment may be conducive to better-quality care, the evidence indicates only a weak link between such structural elements and better health outcomes (Donabedian 1988). The notable exceptions are cases in which physical improvements either increase access to primary care in very poor settings or increase the volume of a clinical procedure, such as cataract surgery, that is specifically linked to better health outcomes (Javitt, Venkataswamy, and Sommer 1983). At best, however, structure is a blunt approximation of process or outcomes; structural improvements by themselves rarely improve the health of a population. Process, by contrast, can be measured with every visit to a provider. Measuring process is difficult, however, particularly in developing countries. The private nature of the doctor patient consultation, a lack of measurement criteria, and the absence of reliable measurement tools has limited the ability to assess process (Peabody, Tozija, and others 2004). However, new methods are being developed that can provide valid measurements of clinical practice (Thaver and others 1998).

In addition, evidence-based clinical studies have steadily revealed which process measures lead to better health outcomes. This combination of ubiquity, measurability, and linkage to health outcomes makes the measurement of process the preferred way to assess quality.

Although good outcomes are the objective of all health actions, outcomes alone are not an efficient way to measure quality for two reasons. The first is the quality conundrum. A patient may receive poor-quality care but may recover fully, or a patient may receive high-quality care for an illness such as cerebral malaria and still not recover. Second, adverse health outcomes are relatively rare and obviously do not occur with every encounter. The classic framework of structure-process-outcome is well established.

However, in recent years the concept of quality has been expanded to include specific aims for improvement. For example, the Institute of Medicine's (2001) landmark report, Social Factors, Institutional Factors, Health Policy Reforms, Health Outcomes, Cultural Factors (Peabody and others 1999).

1.16 Quality-of-Care Framework

Crossing the Quality Chasm broadens the concept to include other, more contextual elements to illuminate how process changes can improve care. It focuses on six aims: patient safety, effectiveness, patient centeredness, timeliness, efficiency, and equity.

1.17 Quality Assessment Perspectives

We can look at the Institute of Medicine's aims from two perspectives: patient perception and technical or professional assessment. Patients' perceptions of quality depend on their individual characteristics and affect their compliance, follow-up decisions, and long-term lifestyle changes (Zaslavsky and others 2000). Interpersonal relationships, cultural appropriateness and gender sensitivity—long thought to be luxuries of wealthier countries—are also major determinants of patient access and utilization in developing countries. These findings have led to the inclusion of patient satisfaction and patient responsiveness as outcome measures. Technical assessment concerns whether providers meet normative standards for appropriateness of care or adherence to explicit evidence-based criteria. Although patient perception or satisfaction is important, researchers increasingly rely on objective, evidence-based quality criteria that can be more readily linked to better health outcomes at both the individual and the population levels.

1.8 Population-Level Considerations

Quality is typically assessed through the interaction between individual doctors and patients. However, emerging evidence shows that the average quality of care given by groups of doctors and other providers is an important determinant of overall community health status. For example, in a cross-sectional analysis in the former Yugoslav Republic of Macedonia, researchers found not only that patients' health status was significantly higher in areas where quality was higher but also that the overall self-reported health status of those members of the general population who had not recently received care was higher (Peabody, Tozija, and others 2004).

Their quality-of-care framework supports these findings. When process is improved among groups of providers, the aggregate improvement in quality leads to better health outcomes for the entire patient population. In addition, resources can be allocated among clinical interventions based on actual effectiveness and the overall impact of care on the population. For example, cancer chemotherapy may be available and may prolong the lives of cancer patients. However, it may result in fewer lives saved than the expansion of coverage of directly observed treatment short course coverage for tuberculosis patients.

1.19 Justification

One of the challenges of the Ministry of Health (MOH) is inadequate service quality. The devastating economic problems of the 1970's and 1980 have left Ghana's Health Facilities in a state of disrepair (Amanoo-Lartson et al, 1984). Many people perceived that the quality of health services was poor and therefore chose alternative treatment sources (Amanoo-Lartson et al, 1984). Confidence was eroded by the high cost and the lack of medicine and non-medical supplies, long waiting time, the absence of emergency services and poor staff behaviour, which was perceived as uncaring, demoralizing and financially motivated (Yeboah, 2003),

The World Health Organisation (WHO) in 1989 directed all member states to introduce regular assessment of the quality of their health services and to establish principles for quality assurance programmes WHO (2000).

The patients' charter (1992) outlines clearly how health services should perform, what patients' should expect and governments' commitment to the rights of patients.

Improvement in quality of health care in Ghana is a key objective of the Medium Term Health Strategy (MTHS) set out by the Ministry of Health (Haran et al, 1994). Two major initiatives in quality assurance were begun in 1994 to improve the quality of health care. These were in Eastern Region with the support of the Liverpool School of Tropical Medicine (LSTM) and the Upper West Region supported by the Danish International Development Agency (DANIDA). Some other regions and institutions also began the quality assurance programme on their own including Korle Bu Teaching Hospital (Haran et al, 1994).

Owing to the fact that quality concerns are a priority of the MOH, it has supported a number of studies, meetings, training programmes and development of service-Guide Manuals. All these initiatives have the potential to facilitate quality improvement.

Recently, a number of programmes have been introduced by the Government to improve the quality of health care in the country of which the Medium-Term Strategy and the Five Year Programme of Work (5YPOW) are part. These programmes lay much emphasis on the quality of health care. The importance of quality of care to the MOH and the health care delivery system in particular cannot be overemphasised if it is to achieve the objectives of the (MTHS) and (5YPOW) of the MOH

It is therefore justified for undertaking a study of this nature in the public hospitals with Korle Bu Teaching Hospital' Accident Centre as a case study. The study will serve both theoretical and practical purposes.

1. The findings of this research will be communicated to management for improvement in patients' care.

2. The study will add to the existing body of knowledge on the subject of quality of health care in the MOH.
3. It will provide the basis for reviewing the healthcare delivery system in the MOH to enhance the realisation of their overall goals.
4. It will also serve as a spring board for further research on the subject since in academia no research is ever exhausted.

1.20 Objectives

1.21 General objective

Describe the causes and possible solutions to the problem of poor quality of care at the Accident Centre of the Korle Bu Teaching Hospital.

1.22 Specific objectives

The specific objectives are to:

1. Describe the availability and adequacy of the minimum required basic equipment at the Accident centre
2. Describe the availability of staff and the staff workload at the Accident Centre
3. Determine the availability of emergency medicine and non-medicine Consumables
4. Describe clients/patients waiting time from arrival before first assessment by care provider (physician consultant, Residents)
5. Describe the interpersonal relationships that staffs have towards Clients/patients
6. Determine the case fatality rate at the Accident Centre
7. Make recommendations on possible solutions to the problem of poor quality of patient care at the Accident Centre, to stakeholders based on the findings

CHAPTER TWO

2.0 Literature Review

2.1 Introduction

This section will cover the following: Total Quality Management/Continuous Quality Improvement (TQM/CQI); the essence of quality of care; quality compared to satisfaction; the dilemma of measuring quality; attributes of quality; differing dimensions of quality and the concept of quality of care and the measurement of quality.

2.2 The TQM/CQI Movement

Total Quality Management/Continuous Quality Improvement (TQM/CQI) dominates the process of quality improvement and quality control in the industrial and business world, Edward Deming and Joseph Juran, among others, developed TQM by applying statistical techniques to the production process. It can be defined as "an ongoing effort to provide services that meet or exceed customer expectations through a structured, systematic process for creating organization-wide participation in planning and implementing quality improvements". Moss and Garside (1995) contend that too often, in health care, efforts to improve quality of patient care in hospitals are stratified hierarchically. Physicians take responsibility for one aspect, nurses for another and managers for still another. Donald Berwick, M.D., and David Blumenthal, M.D., applied TQM principles to health care. Berwyck (1989) measured performance in terms of clinical outcomes, patient satisfaction, error rates, waste, unit production costs, productivity, market share and other measurable elements. Using

case studies, Blumenthal et al, (1998) provide an evaluation of progress in health care, using CQI techniques. They maintain that organizational processes represent the objects improvement in CQI. Their improvement promotes better quality.

Paul Turner (1996) reviews ways in which The Williamsport Hospital benefited from the use of CQI techniques to improve the quality of health care in that institution. He presents a number of successes in hospital processes, measured primarily by patient satisfaction surveys. He connects these successes to Deming's principles: personal service or C.A.R.E which stand for Courtesy, Attentiveness, Responsiveness and Emphathy. Chesanow describes the use of CQI to improve the Milwaukee Medical Clinic's efficiency, particularly in terms of ensuring fast delivery of test results from other affiliated hospitals. They reduced waiting times, and found that posting signs about waiting times for results reduced patient concerns. A team of physicians and staff intend to establish guidelines for managing chronic diseases Chesanow (1997). Blumenthal (1998), points to concrete accomplishments. Administrators resist assigning blame for mistakes and focus instead on detecting problems with process. Activities focus on the health care consumer. His evaluation concludes, however, that CQI has not yet made a sizable impact on the U.S. health care system. Until a profound, organization wide recognition of the need for change occurs; universal commitment to CQI principles will not be achieved.

2.3 Essence of quality of health care

It can reasonably be argued that the quality of health care impacts upon utilization of health facilities and hence improvements to quality lead to increased efficiency. Improvement in quality is, in fact, a natural phase of the process of development of health systems (Amanoo-Lartson and Ebrahim, 1984).

There are many reasons why health care quality is important.

Providers consider increasing quality in health care to be "the right thing to do". The revival of customer service occurred, in part, because service quality, as opposed to cost, distinguishes among health care institutions (Hudson, 1998).

Secondly, involvement and satisfaction of the customer affect behaviour. Legnick-Hall (1996) developed a conceptual model of the consumer contribution to quality, which includes a description of the relationship of perceived quality to satisfaction, and the motivation to change behaviour. This is of considerable importance if you consider the relationship between patient satisfaction and compliance with medical treatment plans. Researchers found a positive relationship between the patients' feeling of satisfaction and compliance with respective medical regimes (Harris et al, 1995)) and Salimbene (1999)

Third, as quality improves, expectations increase. According to Moore and Berry, as consumers become more quality conscious, service firms not only need to satisfy their expectations, but to exceed them (Moore et al, 1994) and (Berry et al, 1988).

The consequences of NOT meeting expectations received some attention. Researchers identify managing negative reactions, which come from unmet expectations, as a strategic method for ensuring patient satisfaction. Not to do so, is to lose market share and customer loyalty (Mittal et al, 1996). Dube and Menon (1998) conducted further research on the relationship of negative emotions to reduced satisfaction. Leaders in the health care industry, therefore, need to anticipate patient expectations and then develop health care services that will exceed them (Sherden, 1988).

The more pragmatic argument relates quality to increased market share and a stronger competitive edge. Shetty (1987) maintains that quality can advance profitability by reducing costs and improving a company's competitive position. Within the health care industry, competitive advantage is best attained through service quality and customer satisfaction in the minds of customers (Taylor, 1994). Woodside et al, (1989) provided support for service quality influencing service provider choice.

Clearly, there are many reasons why quality measurement is important. The terms quality and satisfaction are sometimes used interchangeably. While they are closely related, there are differences worth noting.

2.4 Quality Compared to Satisfaction

Although different, satisfaction and service quality relate closely. Parsuraman (1988) suggests that service quality is similar in nature to an attitude. It is related, but not equivalent, to satisfaction. Cronin and Taylor (1992) ask whether a provider's objective should be to have consumers who are merely "satisfied" or who consider the

experience of their encounter as one which has achieved maximum levels of quality. They suggest that:

- Service quality perceptions should be considered as long-term consumer attitudes
- Satisfaction should be referred to as short-term encounter-specific consumer judgments

The literature indicates a positive relationship between service quality and patient satisfaction with hospital care and a willingness to return to the hospital or even to recommend it to family or friends (Peyrot et al, 1993), John (1991) and (Strasser et al, 1991). According to Oswald and Taylor, consumers cannot evaluate medical treatment per se, but must rely on attitudes toward caregivers and the facility itself in order to evaluate their experience. They maintain that there is a strong connection between health service quality perceptions and customer satisfaction (Oswald et al, 1998).

2.5 The Dilemma of Measuring Quality

But what is quality, actually? Can it be counted, compared, or consistent from person to person or situation to situation?. Jun et al, (1998) sum up the dilemma of service quality measurement:

Unlike a manufactured product, where quality can readily be assessed, service quality is an elusive and abstract concept that is difficult to define and measure. Ross (1995) states that services are not actions and behaviours in and of themselves, but the way

customers perceive and interpret those actions…..services in health care are intangible because it is not possible to count, measure, inventory test or verify them in advance of sale. Health care services cannot be stored inventoried or tested for quality. Customer experience, either directly or vicariously from outside sources, is frequently the only means of verifying whether health care services meets manifest quality.

Second, the nature of service performance diverges from one transaction to another. This "heterogeneity" can occur because the service is delivered by different physicians, nurses and others to a variety of patients with varying needs. Caretakers provide services differently because of variations in factors, such as their specialty training, experience and individual abilities and personalities. Patient needs frequently vary from person to person and from visit to visit. Some seek regular check-ups while others need life-saving treatments. Needs and performance levels may also fluctuate according to the season, day of the week and even time of day, interactions among physicians, nurses, administrators, patients and timing factors combine in an infinite number of ways to affect the quality of the health care service rendered.

Finally, in health care, production and consumption are inseparable. The services are consumed when they are produced, which makes quality control difficult. This necessitates that marketing and operations functions occur simultaneously. In short, the management of health care quality cannot be separated from the management of its provision. The customers usually serve as participants in the service act.

Despite this dilemma, we will endeavour to study the various attributes of quality, to differentiate between technical and functional aspects, and to explore how these aspects affect one another.

2.6 Attributes of Quality

According to Donabedian (1980), Quality is simply an attribute that the technical and interpersonal aspects of medical care manifest in varying degrees. He provided criteria for what constitutes "good care", using the framework of structure (related to physical environment and facilities), process (related to interaction with service personnel) and outcome ((the result of the interaction). Donabedian developed seven attributes of health care quality:

- Efficacy, (the best result or benchmark for a particular diagnosis)
- Effectiveness, (ordinary medicine, or the industry average)
- Efficiency, (a measure of cost, or the least costly of two identically effective treatments)
- Optimality, (cost-benefit evaluation, or the point at which further resources do not add benefit)
- Acceptability, (adaptation of care to the wished, expectations and values of patients and their families)

- Legitimacy, (the community's view of care) and
- Equity, (the principle by which one determines what is just or fair in the distribution of care and its benefits among the members of a population)

(Zifko-Baliga, et al, 1997) expand upon this model, linking 15 perceived quality dimensions to it in the following manner:

Structure:	Building/Technology Environment
	Amenities-Parking
	Billing Procedures

(Process)	Professional Expertise
Physician	Validation of Patient Beliefs
	Interactive Communication
	Image
	Antithetical Performance
(Process)	Interactive Caring
Nurse	Professional Efficiency
	Individual Reliability
(Process)	Percispacity (insight, acumen)
Support Staff	Skills
Outcome	Physical/Emotional Cure

The theme continues regarding the relationship between expectations and perception of service. Lytle and Mokwa maintain that service quality depends on two variables: expected service and perceived service. (Lytle and Mokwa, 1992). They further state that "A health care service product is a "bundle" of tangible and intangible benefits that satisfy patients' needs and wants (Lytle and Mokwa 1992)". Two research groups linked perceived service quality on the part of consumers to the level of employee satisfaction with work roles (Steffen et al, 1996). Both groups maintain that such factors job design, role clarity, and autonomy affect employee attitudes, which in turn affect patient experience in the institution.

These observations emphasize the need to look beyond the immediate and obvious aspects of satisfaction and to consider other aspects, which affect perception of their experience.

2.7 Differing Dimensions of Quality: Technical vs. Functional – Technical Aspects

Jun et al, (1998) discussed the two separate aspects of quality, technical and functional, in the following manner. Technical quality means "the material content of the buyer-seller interaction, or what the customer receives." The health care service dimensions that fall more closely in line with the technical aspect of quality care:

Competence (professional expertise, qualifications); and Patient outcomes (rate of cure, mortality rates).

Physicians tend to identify quality using these dimensions. They define outcomes as minimizing/curing disease and or rate of cure. This aspect of health care quality exceeds the full understanding of most patients. Physicians have the knowledge of what constitutes the best medical procedures for achieving optimal well-being. Anderson and Zwelling contend that technical quality tends to focus on Donabedian's first four attributes- efficacy, effectiveness, efficiency, and optimality, (bringing about wellness with the best possible result). Thus, excellence in technical quality is the attainment of the best possible clinical outcome. While these attributes seem quantifiable, a problem emerges, as these attributes converge with such considerations as quality of life, cost effectiveness and appropriateness (Anderson et al, 1996). O'Brien elaborates on these physician attributes, identifying the following as technical aspects of quality:

- Accessibility
- Appropriateness
- Effectiveness
- Continuity, and

- Efficiency

He adds patient satisfaction, which results from meeting patients informed expectations about the outcomes of care, respecting their dignity, values and choices, and providing care with compassion and concern. This last attribute-satisfaction-relates to the functional aspects of quality. (O'' Brien et al, 1991).

2.8 Functional Aspects

Functional quality involves the process of how a patient receives a service. Administrators, nurses and other medical staff members frequently determine how services are delivered in health care. Patients can better understand functional aspects, by relating them to aspects of their own experience. Examples of functional quality (other than those mentioned above), include:

- The quality of nurse/patient interaction; and
- The condition of the environment

Additionally, Donabedian considers the attribute of accessibility to be a highly subjective attribute. Accessibility of care, the doctor patient relationship and the "amenities of care" will greatly influence acceptability, legitimacy, and equity (Donabedian, 1990). Anderson and Zwelling (1996) contrast technical quality with functional quality by defining functional quality as the customers' perceptions of service received relative to their expectations of what service should be. Most empirical research on service quality measures the gap between perceptions and expectations (Parsuraman, 1994), Gronroos (1984) and (Lewis et al, 1990).

While there is some ease in differentiating technical and functional aspects of quality, there is difficulty integrating the measurement of these concepts. Anderson and Zwelling (1996) concur that a high level of technical and functional quality must be maintained by medical professionals. They ask if high levels of functional quality contribute to the perception higher levels of technical quality, or if functional quality distinguishes between providers of apparently equal technical quality.

The best technical quality may not offset poor functional quality (i.e. patients will not want to got to that provider). At the same time, the best functional quality may not offset poor surgical results (i.e. patients will be afraid to go to such providers). They cite the Cleveland Health Quality Choice Program as an example of an effort to assess technical and functional quality (Cleveland Health Quality Choice, 1993). In this case, technical quality was assessed using severity-of-illness adjusted outcome measurements compared with hose predicted by a statistical model. Functional quality was assessed by patient satisfaction surveys. They consider this to be a start in the process of integrated measurement. There are other attempts to integrate clinical outcomes and patient satisfaction, (Lytle and Mokwa 1992), Weber (1991) and (Todd et al 1989), but usually the two components are studied in isolation. Both dimensions of quality are essential, if a comprehensive definition of quality is to be determined. What follows is a comparison of quality dimensions.

2.9 The concept of quality of care

Many definitions of quality of health care have been suggested. This may cover reputation, pricing, timeliness or promptness of service and standards. It may also include friendliness and availability of service as noted earlier. What quality does not mean is "sophistication and exclusiveness of service but absolutely meeting client needs at the lowest possible cost to the provider within limits set by the authorities" (Wouters et al, 1993).

Ofei et al (1995) and Wouters et al, (1993) define quality as the degree to which the actual performance or achievements of the health facility correspond to established standards.

Haddad et al, (1998) also define quality as the facility's capacity to perform certain specific health interventions, combined with some indicators of how well these interventions are carried out these criteria are what Haddad et al (1988) view as the "technocratic" perspective of health professionals with regards to quality of care.

However, other authors acknowledge multiple dimensions to quality, as these criteria do not provide a traceable approach to measuring quality (Aldeman and Lavy, 1996).

The alternative perspective is not only that of the user but also that of the manager. Management of quality assesses most efficient and productive use of resources, providing the needs of both the client and the professional (Ofei et al, 1995). From the client's point of view quality is what they expect from the health care setting. Quality to a client is his judgment of how good or bad the care is (Donabedian 1989, 1992). Jain and colleagues (1992) consider a programme of high quality as one, which is client oriented and helps individuals achieve their goals or intentions.

Increasingly, discussions about measurements of health care quality have included patient satisfaction as an important dimension (Fitzpatrick, 1991).

Besides external pressures, health care providers have been urged to take user satisfaction seriously because satisfaction is an important outcome measure. It is useful in assessing patterns of communication and consultations and if used systematically, feedback from patients can help in making informed decisions on alternatives in organizing and providing care (Ofei, 1995) and (Fitzpatrick, 1991)

Analysis of user perception of quality offers a useful complement to evaluations conducted from the viewpoint of providers and managers of health care institutions or public health authorities (Haddad et al, 1998)

Health workers and drugs account for half to two-thirds of client visit costs so their use is of concern to all (Belcher, 2003). Efficient patient flow can improve the quality of care, resource use, and satisfaction for both client and providers (Belcher, 2003).

In developing countries, quality of care is one of the major challenges to be met under the current health reforms. Measurement of perceived quality is justifiable because of the powerful influence user's perceptions have on service utilization (Haddad et al, 1998).

These perceptions also affect the success or otherwise, of policies that aim at revitalising the health systems. Such initiatives e. g. the Bamako Initiative, endorses user fee charges, which means consumers will continue to contribute to the sustenance of such initiatives (Haddad et al, 1998).

2.10 Ensuring Quality

Improving quality requires that we measure it accurately. Donabedian (1966) described and evaluated methods of assessing and measuring the quality of care at the level of the physician-patient interaction. He identified three approaches to assessment of quality as Outcome of care, Process of care and Structure which includes the following; attributes of care providers, settings and arrangements.

Outcome variables describe some relevant characteristic, usually of the patient, after provision of care that is presumed to result from the care given (i.e. survival, death, length of hospital care, complications, etc.). These may be difficult and expensive to measure.

Process variables describe what care is provided or characteristics of its provision. (i.e. doctor's orders, the procedure to obtain a test and its results, or the steps by which a patient gains access to a doctor). This may still be difficult and expensive to do. But, it is not as difficult to do as outcome measurement. (Donabedian, 1996)

In the works of Donabedian (1966), Wilson, L., Goldschmidt, P., (1995) stated that Outcomes variables are the least expensive and easiest to obtain. These variables describe the characteristics of inputs to care processes (i.e. hospital's physical structure and condition, doctors' training and qualifications, nursing training and competence, etc.).

Donabedian (1996) framework on quality of care assumes that when all inputs to care processes are available and properly mixed and the processes are right, then the outcome of medical care will be desirable. However, it should be noted that the inputs and processes may be right but this does not always necessarily lead to desirable outcomes such as recovery, survival and satisfaction. Factors such as the patient's perception of quality, the health condition, and others can also influence the outcome.

Quality Assessment is the measurement of the quality of healthcare services. In the works of Donabedian (1996), Lin and Tavrow (2000) stated that quality measures the difference between expected and actual performance to identify opportunities for improvement and where standards have been established, a quality assessment measures the level of compliance with standards (Lin and Tavrow 2000).

Quality can be measured at different points in the health system in order to assess various factors at these points. These include structural, process and outcome factors. Assessment of structure studies the settings in which health care takes place. It may include administrative and related processes, which support and direct the provision of care including adequacy of facilities and equipment; qualifications of medical staff; organizational structure; operations of programmes. Donabedian (1996)

In assessing the process of care, Donabedian (1996) indicated that "one is interested not in the power of medical technology to achieve results but in whether what is known to be 'good' medical care has been applied".

This approach, he suggested, should be based on considerations such as appropriateness, completeness of medical history, physical examination, and diagnostic test; justification of diagnosis and treatment; technical competence in the

performance of this duty; evidence of preventive care in health and illness; coordination and follow up of care; acceptability of care to the beneficiary among others. He emphasizes that in this assessment, attention should be paid to relevant dimensions and standards to be used.

The outcome of medical care relates to cure or restoration of function and survival, and is perhaps the criterion for which validity is seldom questioned. However, a particular outcome may not be relevant as is the case when survival is used as a criterion of success in a situation that is not fatal Donabedian (1966). Other factors may influence outcome in addition to medical care. Therefore, all these factors should be taken into consideration in drawing valid conclusions from this criterion. Donabedian (1966).

A study carried out in St. Vincent the Grenadines reports the status of the health care infrastructure and the emergency medical services system. Data regarding the health care system and emergency medical services in the nation were gathered from various sources, including the Ministry of Health, government publications, hospital records, accident and emergency department logbooks, and interviews with physicians, nurses, and ambulance workers. (Boros, 2003).The study found that the health system is similar in structure to that of the United Kingdom. Generally, the health infrastructure

and available staffing are adequate and comparable to those of developed nations (Boros, 2003).

However, out-of-hospital emergency medical services are lacking in both equipment and trained personnel (Boros, 2003). This study was however done in a different environment as compared to developing countries and hence, the result.

Many studies have shown interest in user perceptions or satisfaction in developing countries, most of which have used it as a complement to other evaluation methods. (Boros,2003).

Some of these studies have focused on general components of quality while others have dealt with specific elements such as attitudes, conduct and provider competence, quality of information given to patients and availability of resources especially drugs (Haddad et al, 1998).

In assessing quality, a study recommended observation of health worker performance using standardized checklist, client entry and exit interviews, and interviews with health worker, supervisor's record review, and inventory of essential equipment among others (Haddad et al, 1998).

Hadddad et al, (1998) conducted a study using different approaches to explore lay peoples' perceptions on quality of care, a combination of exit and key informant interviews and focus group discussions were held in 11 villages in Guinea.

The respondents' views included 44 quality attributes that referred to varied dimensions including reception of patients, drug availability and health outcomes (Haddad et al, 1998). In the same study, a survey using role-playing was carried out in ranking the criteria.

Quality of care programs were introduced in the Asuogyaman District in the late 90s in line with the policy of the Eastern Regional Health Directorate. The aim of the programme was to create awareness among the health facilities about the importance of quality assurance in their daily work and to provide them with tools for monitoring what users think of the health services. This was in order to help them integrate

quality issues in their routine work. The VRA hospital was the first to benefit from QA programmes in the district. The first baseline patient satisfaction surveys were done using client exit interviews in the first half of 2000. The results showed that quality of care rendered to the patients in the hospital was, on the whole, above average. However, over 50% of patients who took part in the study were seen after 2 hours and more than half of the study participants were not asked to return for follow up. Over 60% were delayed unnecessarily; over 40% were either not told diagnosis or given instructions on their illnesses.

There were also communication and attitudinal problems among staff. More than half (57%) were not very satisfied with the service they received during their visit (30). The last survey carried out from January to June 2002 showed a general improvement in most of the indicators but there were a few problems with staff attitude, instructions about illness, and overall satisfaction of clients. Less than half (<50%) of the participants were seen in less than 2 hours, informed about follow-up visits, and informed about condition.

Certain criteria emerged as important in the measurement of perceived quality. These were good diagnosis; good follow-up of hospitalized patients; prescribing the correct drugs; use of diagnostic equipment; reception; compassion or sympathy for patients; reduced costs; access to credit, and availability of drugs, personnel, facilities (buildings, rooms) and diagnostic equipment (Haddad et al, 1998).

Many people are prepared to pay higher fees if drugs, supplies, diagnostic equipment, qualified accessible staff and humane treatment are available. If they are not, they will seek other private health facilities (Mwesigye, 1994).

In a study to assess user expectations and degree of user satisfaction and quality of care provided in rural Bangladesh, Aldana et al. (2001) interviewed 1913 persons by systematic random sampling. It was discovered that the most powerful predictor for client satisfaction with the services provided was provider behaviour (staff interpersonal relationship) especially respect and politeness. This aspect was much more important than technical competence of the provider. Another element was that shortening of waiting time was more important to patients than the prolongation of the usually short consultation time. Overall, 75% of the clients were satisfied. It was concluded that the cultural background of the people determines client satisfaction.

It should be born in mind that this study was done in a rural setting (rural Bangladesh) where the illiteracy level will obviously be high. The study did not define respect and politeness.

In a culture where the aged are supposed to be respected, an elderly care provider may not accord the respect that a younger client may require.

In a religion which rates women as subordinates to men a female client might not get the respect from the provider who may be a male. All these factors could have affected the results.

In a study done in a rural health centre in Ghana, Ashitey et al, (1972) provided baseline information about clinic organization, bottlenecks in patient-flow, worker roles, appropriate in-service training, and sites for outreach activities. They analysed exiting information and interviews. The patient flow form was given to each patient on arrival for 5 conservative days.

It revealed seasonality and frequency of endemic diseases and injury that could be managed by paramedics.

They also discovered wide variations in distance covered by clients needing clinical or preventive care. They also realized that large areas were under-covered by the centre. Staffs were under utilized and lacked in-service training.

There were unnecessary processes and delays for routine problems. Using the information, intervention led to improvements in staff, drug and time use. Patient waiting times improved, MCH services became more convenient and outreach satellite clinics were established.

In a study using mainly qualitative methods to explore factors contributing to quality of care offered by a group of health care professionals, it was discovered that the group recognizes the individuality of clients in terms of rights, expectations and privacy during their care. However, they are unable to meet these because of poor service factors and personal problems. They also recognize that the nature of interpersonal relationship that develops between the professional and the client is an essential determining factor in the outcome of the care (Richardson et al, 1992).

The quality of health care will be described looking at the inputs/structure,

Process/Care provider performance and outcome variables.

Hesse et al, (2005) in a study conducted in Adult tetanus in Accra, at the Korle Bu Teaching Hospital showed a high CFR of 50%.

In order to determine the factor underlying this high case fatality they conducted a retrospective clinical audit of the clinical management of Adult tetanus admitted in 1994 to 2001 to the Korle Bu Teaching Hospital.

Data was extracted from the admission and discharge books of the Fever's Unit of the Korle Bu Teaching Hospital, Accra and patients case notes were examined.

Generally, results showed that CFR varied from 25% in 1999 to 72.7% in 2001.

The high CFR in Accra was attributed to inappropriate management with most of the patients not treated with immunoglobulin and antibiotics and had inadequate wound care.

It can be inferred that the processes were not right leading to undesirable outcome of high CFR. The process can be said to be the inappropriate management of patients.

It was found that the CFR correlated with the severity of tetanus and increased when an expected treatment action, wound debridement, administration of antibiotics and/or immunoglobulin, was not performed.

A retrospective follow-up study which reviewed the pattern, types and case fatality of stroke in Ogun State University Teaching Hospital (OSUTH) on stroke in South West Nigeria classified patients into hemorrhage or infarct using the WHO criteria. Information was obtained as to the time of death in those who died and case fatality at 24 hours, 7 days, 30 days and 6 months recorded.

Results indicated that stroke constituted 1.8% of all deaths at the Emergency Unit and the case fatality was 9% at 24 hours, 28% at 7 days, 40% at 30 days and 46% at 6 months.

A retrospective cohort study conducted by Papadopoulos et al (1996) evaluated the causes of death which occurred during the years 1995-1999 in a single hospital in Athens, Greece. They found that 3.4% of patients seen died.

The causes of death ranged from; cerebrovascular disease 15.8%, ischemic heart disease 10.3%, cardiac failure 7.9%, disease of the digestive system 6.7%, diabetes mellitus 6.6% etc.

It was also found that the highest death rates occurred in the Intensive Care Unit (23.3%).

CHAPTER THREE

3.0 Methods

3.1 Introduction

This section will cover the study type and design, study area, variables, study population, sampling, sampling method, data collection techniques/methods and tools, quality control, data processing and analysis, training of research assistants, ethical issues and pre-testing.

3.2 Study Type and Design

The study type is retrospective as well as cross-sectional descriptive, with both qualitative and quantitative data collection methods.

Observation with check lists and record reviews were used to identify facility based structural, process and outcome variables. Observation and pink paper for clocking time was used to describe clients' waiting time from arrival to first assessment by a care provider (casualty doctor/orthopaedic surgeon).

3.3 Study Area

The study area was the Accident Centre of the Korle Bu Teaching hospital (KBTH) covering: Casualty Reception Area; Resuscitation Area; Intensive Care Unit (ICU); and Orthopaedic OPD.

3.4 Study Population

The study population comprised of patients/clients and staff at the Accident Centre of the Korle Bu Teaching Hospital.

3.5 Variables

The variables which were measured in the study with their specific objectives, operational definitions/indicators, source and scale of measurements are shown in table 1 at the appendix section

3.6 Sampling

Sample size was determined based on the historical records of the facility for waiting time.

A minimum of thirty (30) patients needed to be followed to make a statistical inference.

At the Accident Centre, 9 casualty officers were on duty in a week and on the average 252 accident cases /patients with Multiple Injuries and walking in wounded patients were seen per month thus, 9 patients were seen per day on the average.

The researcher would have wished to observe 9 patients per day for one month for waiting time from first arrival at the Accident Centre to first assessment by a casualty doctor/orthopaedic surgeon. However, there was a time constraint for the conduction of an MPH study. The researcher had to be on the field for the period of about 3 months. During this period, she was expected to gather data on equipment, staff workload and do other things. Therefore, she observed 9 patients per day for 5 days at the Accident Centre making a total of 45 patients.

The same procedure was used for the waiting time at the orthopaedic OPD with Orthopaedic Surgeons or Specialists.

The purposive sampling method was used to have in-depth interviews with key informants on waiting time at the Accident Centre and orthopaedic OPD to ascertain their views.

These key informants were the heads of the following units at the Accident Centre: Head of Accident Centre; Head of Accident Centre records unit: head of Casualty reception; PNO in charge of orthopaedic clinic and the DDNS of the Accident Centre.

3.7 Data collection Technique and tools

The researcher observed with observation checklists the availability of:

basic equipment, medicine and non medicine consumables.

There was a retrospective analysis of Intensive Care Unit returns on case fatality for a three year period (2005 to 2007).

Records were reviewed and data on staff strength was obtained from Accident Centre staff database.

The number of nurses and admissions at the Intensive Care Unit per day was observed for one month (July) which yielded the same numbers per day. A week's returns were collected and analysed for nurses' workload at the Intensive Care Unit.

Records were reviewed for year 2007 at the Orthopaedic clinic and data was collected and analysed on workload of Orthopaedic Specialists.

Health care providers (physicians/specialists, nurses) were observed vis a vis clients/patients arriving at the casualty reception area under emergency and also those arriving at the orthopaedic OPD usually not under emergency were observed for waiting time.

Interpersonal relationship of Care Providers towards clients/patients was also observed with a checklist at the orthopaedic clinic.

Data on the availability and adequacy of basic equipment was obtained from the equipment inventory of the facility through record reviewing and the use of assessment check list. The Resuscitation Room and the Intensive Care Unit were observed for the availability of basic equipment.

Data on the availability of staff and staff work load was obtained through record reviewing and the use of assessment check lists on staff data base of the facility.

Data on the availability of emergency medicine and non-medicine consumables was obtained from the emergency consumable stock using assessment check list.

The Resuscitation Room and the Intensive Care Unit (ICU) were observed for the availability of emergency medicine and non medicine consumables.

For data on clients/patients waiting time, clients arriving at the Casualty Reception Area of the Accident Centre under emergency were observed for waiting time by clocking time of arrival and time of first assessment by a casualty doctor as well as time of arrival and time of first assessment by orthopaedic specialists for those arriving at the Orthopaedic OPD usually not under emergency.

Orthopaedic Specialists were observed with checklist in the consulting rooms on the way they related with clients/patients. The observation was done on 9 patients a day for 4 days in each of the 4 consulting rooms.

Case fatality rate was determined from the Intensive Centre Unit records using the total number of deaths from all causes over the total number of admissions per annum, for a three (3) year period. That is, from 2005 to 2007.

3.8 Quality Control

Two research assistants were recruited and trained on time clocking.

The principal investigator (PI) verified data at defined intervals to correct any inconsistencies.

Data was checked on the field before brought to study office to ensure consistency, accuracy and completeness.

Data was entered twice by two different people for comparison, and the necessary corrections were made.

3.9 Data processing and analysis

Data analysis employed only quantitative method. The quantitative data were entered and analyzed in Microsoft Excel. The time spent data was analyzed in STATA version 9.0 using frequencies, mode, median, means and standard deviation.

Other statistical methods used were frequency distribution tables, charts and percentages. Average waiting time of clients from arrival to the first assessment by a

Casualty doctor and an orthopaedic specialist was calculated for the Casualty Reception Area and the Orthopaedic OPD respectively.

3.10 Training of Research Assistants

Two (2) research assistants were recruited and trained basically on how to identify a client/patient arriving at the Accident Centre casualty reception under emergency and generally, on time clocking skills.

3.11 Ethical clearance

Ethical clearance was obtained from the Ghana Health Service (GHS) Research Ethics Committee, the management of Korle Bu Teaching Hospital and the head of Accident Centre Sub-BMC of the Korle Bu Teaching Hospital.

Direct observation was done with checklists with the permission of care providers and patients. All information gathered was held private and confidential.

3.12 Pre-testing

Checklists were Pre-tested for acceptability and reliability at the study area and the necessary corrections were made.

3.13 Limitations

The researcher used Direct Observation with checklist for the Interpersonal Relationships of providers with clients. Ethically, the provider and the patient must be informed of the observation or recording which introduces participation bias because provider behaviour may change as a result of being evaluated.

Time constraints and financial resources did not permit the researcher to do an in-depth interview of key informants to ascertain their views on the other indicators such as interpersonal relationship of care providers, availability of equipment etc. Their views might have enriched the study.

CHAPTER FOUR

PRESENTATION OF RESULTS

Table 1

4.1 EQUIPMENT AND ADEQUACY (RESUSCITATION ROOM)

Functioning Equipment	**Ideal number required**	**Number Available**	**Percentage Available**
Stethoscope	6	1	16.7%
Sphygmomanometer	6	1	16.7%
Pulse Oximeters	10	-	0%
Ventilators	6	-	0%
Monitors	6	-	0%
Wheel Chairs	20	4	20%
Examination Trolleys	20	2	10%
Examination Screens	4	2	50%
Autoclaves	1	1	100%
Ambu Bags	10	1	10%
Oropharegeal	20	-	0%
Nasophargeal	20	-	0%
Trachiostomy Tubes	6	-	0%
Marquet Trolleys	6	-	0%
Suction Machines	10	1	10%

*** The researcher asked the Care Providers (in charges) for the ideal number of equipment and this was determined intuitively.

From the above table, (table 1) the Resuscitation Room lacked some basic but essential equipment to work with and where these equipments were available they were woefully inadequate.

Table 2

4.2 EQUIPMENT AND ADEQUACY (INTENSIVE CARE UNIT)

Functioning Equipment	**Ideal number required**	**Number Available**	**Percentage Available**
Stethoscope	6	1	16.7%
Sphygmomanometer	6	2	33.3%
Pulse Oximeter	10	-	0%
Ventilators	2	-	0%
Monitors	6	3	50%
Wheel Chairs	4	1	25%
Ambu Bag	10	-	0%
Oropharegeal	100	20	20%
Nasophargeal	100	-	0%
Trachiostomy Tubes	6	-	0%
Suction Machines	6	2	33.3%

The Intensive Care Unit did not either have certain equipment to work with or those available, were inadequate. (Refer to table 2).

Table 3

4.3 STAFF STRENGTH IN RELATION TO REQUIREMENTS AND WORKLOAD

STAFF STRENGTH	IDEAL NUMBER REQUIRED	NUMBER AVAILABLE	PERCENTAGE OF STAFF AVAILABLE
Orthopedic Specialists	8	6	75%
Senior Residents	4	4	100%
Nurse Anesthetists	3	-	0%
Casualty Officer	10	10	100%
Critical Care Nurse	12	3	25%
Accident and Emergency Nurses	10	1	10%
Theatre Nurse	20	12	60%
Traumatologists	4	-	0%
Orderlies	20	10	50%
Porters	10	1	10%
Doctor Anaesthetists	2	-	0%

*** The researcher obtained the ideal number of staff required from the Care Providers and this was provided based on intuition.

The number of some categories of Professionals available such as Senior Residents and Casualty Officers was adequate but the supporting staffs; porters and orderlies were inadequate. (Refer to table 3 above).

Table 4

4.4 STAFF WORKLOAD AT THE ORTHOPAEDIC CLINIC FOR 2007

MONTH	NO OF OPD CASES PER MONTH	NO OF OPD DAYS PER MONTH	AVERAGE NO OF O/S PER DAY	AVERAGE NO OF CASES PER DAY	AVERAGE NO OF OPD CASES PER DAY PER O/S
JAN	10,430	18	4	579	145
FEB	11,604	20	4	580	145
MAR	9,602	17	4	565	141
APR	9,329	18	4	518	130
MAY	3,902	16	4	244	61
JUNE	8,679	19	4	457	114
JULY	8,527	16	4	533	133
AUG	7,987	18	4	444	111
SEPT	10,954	13	4	843	211
OCT	10,167	14	4	508	127
NOV	12,427	15	4	565	141
DEC	12,788	14	4	752	188
TOTAL	**104,886**	**198**	**48**	**6,588**	**137**

The number of OPD Cases seen per month in 2007 was over 5,000 except May which recorded a total of almost 4,000 cases.

The number of orthopaedic specialists at the clinic per day was 4.

Overall, average number of cases seen per specialist per day in the year under review was **137**. (Refer to table 4) Hence, the average number of cases seen per Orthopaedic Specialist per day was **34.**

*** All Residents and Medical Officers directly work under the specialists and do not and cannot take independent decisions without the knowledge of the specialists.

Table 5

4.5 ACCIDENT CENTRE INTENSIVE CARE UNIT –ICU

DAYS	NO OF ICU ADMISIONS PER DAY	AVERAGE NO OF ICU NURSES PER SHIFT PER DAY	NO OF SHIFT PER DAY	AVERAGE NO OF ICU CASES PER DAY PER NURSE
MON	4	2	3	2
TUES	4	2	3	2
WED	4	2	3	2
THURS	4	2	3	2
FRI	4	2	3	2
SAT	4	1	2	4
SUN	4	1	2	4
TOTAL	**28**	**12**	**19**	**2**

The number of Intensive Care Unit admission/beds per day was 4.

The number of nurses per shift per day was 2.

The number of cases per day per nurse was 2. Hence the ratio of Intensive Care Unit nurse per day was 1:2 (one nurse to 2 patients). But ideally the ratio should be 1.5:1 for an Intensive Care Unit (i.e. 1 nurse to one patient plus 1 floating nurse).

******* The number of admissions in the Intensive Care Unit is not always equal to the number of beds. This is because; the bed capacity is 4 but sometimes there are patients on trolleys both inside and outside the Intensive Care Unit on the corridor.

Table 6

4.6 MEDICINE AND NON-MEDICINE CONSUMABLES (RESUSCITATION ROOM)

List of Emergency Medicine Consumables	**Availability (Yes=1,No=0)**
Antibiotics	0
Pethidine	0
Hydrocortisone	1
I.V.Fluids	1
Anti Convulsants	1
List of Emergency Non Medicine Consumables	
Examination Gloves	1
Syringes	1
Gauze	1
Cotton Wool	1
Disinfectants	1
Diagnoses sets	1
Splints	0
Cut-down sets	1

The Resuscitation Room lacked some emergency medicine and non-medicine consumables. (Refer to table 6).

Table 7

4.7 MEDICINE AND NON-MEDICINE CONSUMABLES AVAILABILITY (INTENSIVE CARE UNIT)

List of Emergency Medicine Consumables	**Availability (Yes=1,No=0)**
Antibiotics	0
Pethidine	1
Hydrocortisone	1
I.V.Fluids	1
Anti Convulsants	1
List of Emergency Non Medicine Consumables	**Availability (Yes=1,No=0)**
Examination Gloves	1
Syringes	1
Gauze	1
Cotton Wool	1
Disinfectants	1
Diagnostic sets	0
Splints	0
Cut-down sets	1

The Intensive Care Unit did not also have antibiotics in the list of emergency medicine consumables as well as diagnostics sets and splints in the list of emergency non medicine consumables.

Table 8

4.8 AVERAGE WAITING TIME FROM ARRIVAL BEFORE FIRST ASSESSMENT BY CARE PROVIDERS (CASUALTY RECEPTION)

Waiting Time (Minutes)	Frequency	Percentage
0-10	11	24.4
11-20	10	22.2
21-30	10	22.2
31-40	4	8.9
41-50	3	6.7
51-60	5	11.1
61-70	1	2.2
71-80	1	2.2
TOTAL	**45**	**100%**

Range=68

Min waiting time=3mins

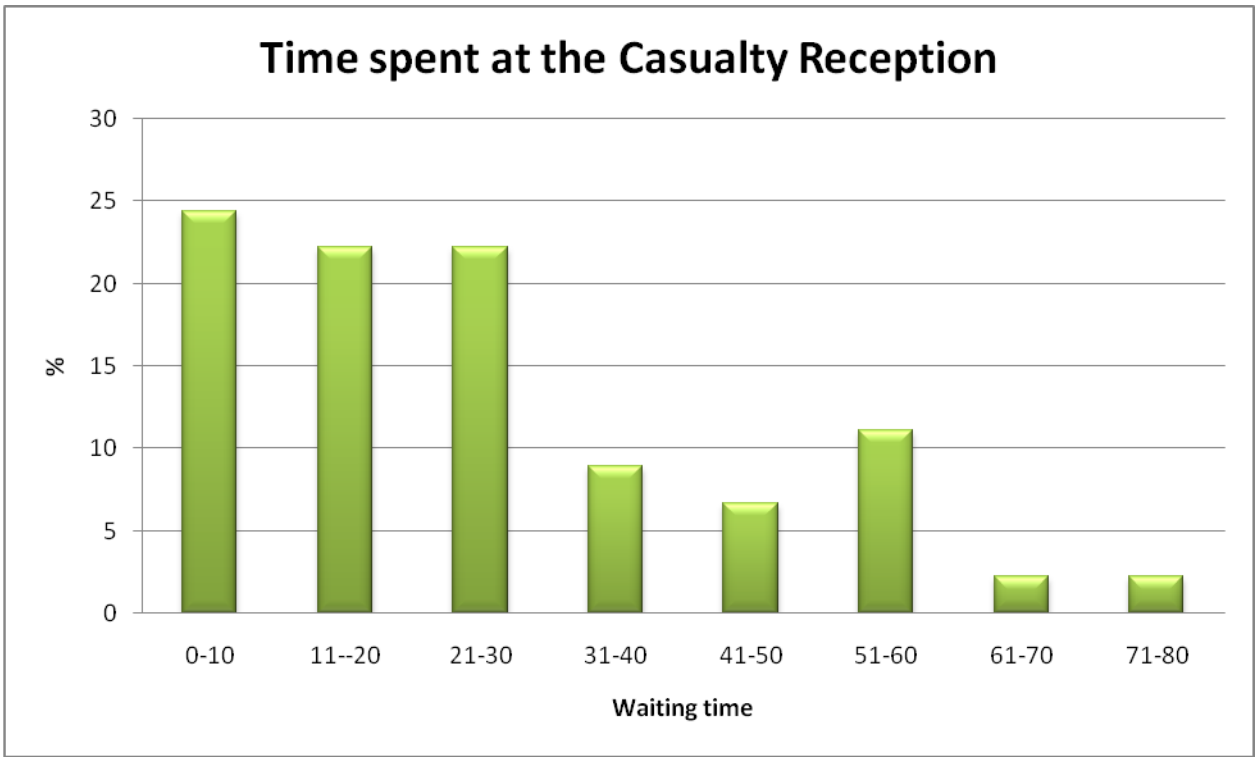
Max. waiting time=71mins

Median=22

Mean (Average Time)=26

Standard deviation=19.2

Figure 3



The waiting time spent at the casualty reception ranged between 3 and 71 minutes with an average time (mean) of 26minutes and standard deviation of 19.2.

From the graph, majority of clients spent less or equal to 10 minutes(24%) at the casualty reception. (Refer to fig 3)

Table 9

4.9 AVERAGE WAITING TIME FROM ARRIVAL BEFORE FIRST ASSESSMENT BY CARE PROVIDERS (ORTHOPEADIC CLINIC)

Waiting Time	Frequency	Percentage
0-30	1	1.9
31-60	18	33.3
61-90	18	33.3
91-120	7	13.0
121-150	2	3.7
151-180	2	3.7
181-210	1	1.9
221-240	1	1.9
241-270	1	1.9
271-300	-	0
301+	3	5.6
TOTAL	**54**	**100%**

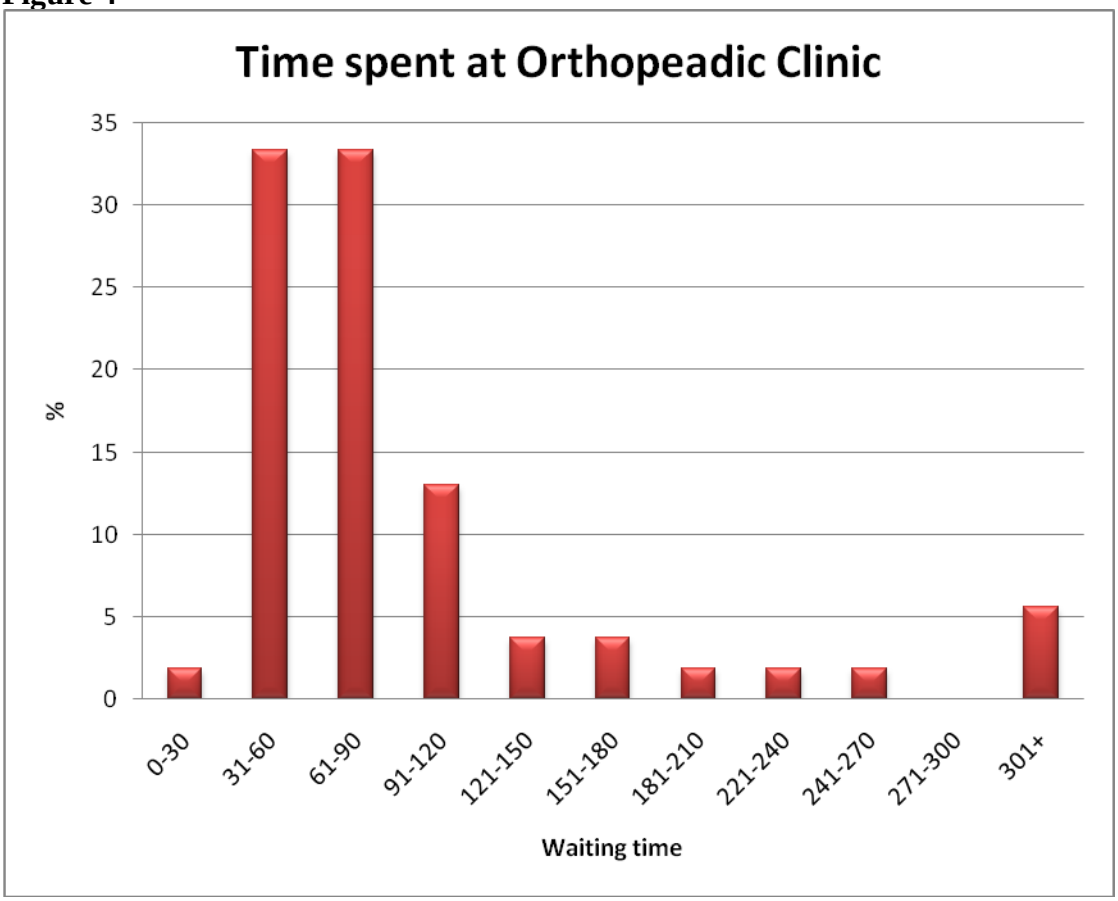
Range= 335 mins (5 hours, 35 mins)

Median=76

Mean (Average time) =97.6

Standard deviation=75.1

Figure 4



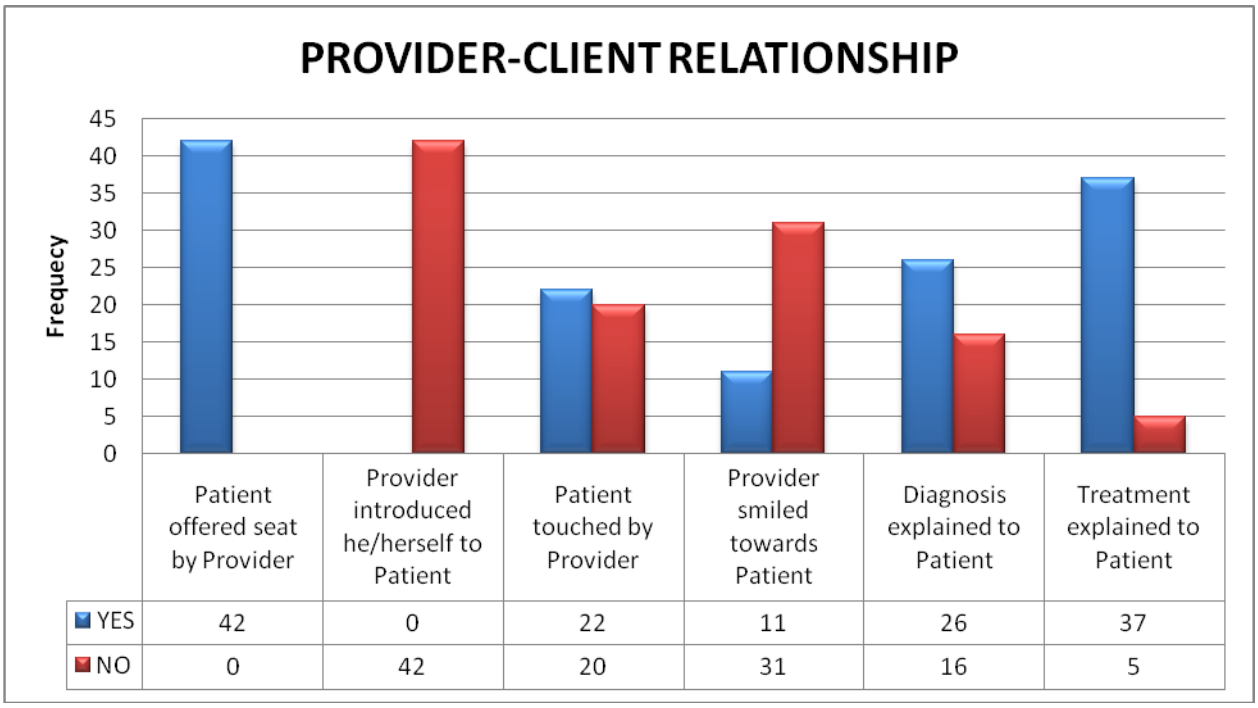
The waiting time spent at the Orthopeadic clinic ranged between 30 minutes and 365 minutes (Half an hour and 6 hours, 5 mins) with an average waiting time of 96.6 and standard deviation of 75.1.

Table 10

4.10 PROVIDER-CLIENT RELATIONSHIP

INDICATORS	CLIENTS RESPONSES			
	YES	%	NO	%
Patients offered seats by Providers	42	100	0	0
Provider introduced him/herself to Patients	0	0	42	100
Patients touched by provider	22	52	20	48
Provider smiled towards Patients	11	26	31	74
Diagnosis explained to patients	26	62	16	38
Treatment explained to patients	37	88	5	12

Figure 5



The above graph showed that all Care providers who were observed offered seats to clients they saw but non of them introduced themselves to the clients.

Table 11

4.11. CASE FATALITY RATE (CFR)-ACCIDENT CENTRE INTENSIVE CARE UNIT (2005 – 2007)

MONTH	2005		
	ADMISSION	DEATH	CFR
JANUARY	25	10	40%
FEBRUARY	22	6	30%
MARCH	24	9	40%
APRIL	26	11	40%
MAY	14	2	10%
JUNE	24	7	30%
JULY	31	12	40%
AUGUST	26	4	20%
SEPTEMBER	17	4	20%
OCTOBER	26	6	20%
NOVEMBER	23	6	30%
DECEMBER	28	9	30%
TOTAL	**286**	**86**	**86/286**

CFR at the ICU in 2005 ranged between 10% and 40%.

***Case Fatality Rate (CFR). This was calculated not from a specific cause of death but from all causes of fatality at the ICU.

Table 12

MONTH	2006		
	ADMISSION	**DEATH**	**CFR**
JANUARY	32	10	30%
FEBRUARY	27	9	30%
MARCH	38	6	20%
APRIL	20	7	40%
MAY	22	10	50%
JUNE	5	2	40%
JULY	22	8	40%
AUGUST	32	9	30%
SEPTEMBER	21	10	50%
OCTOBER	29	9	30%
NOVEMBER	23	5	20%
DECEMBER	23	10	30%
TOTAL	**283**	**94**	**94/283**

CFR at the ICU in 2006 ranged between 20% and 50%.

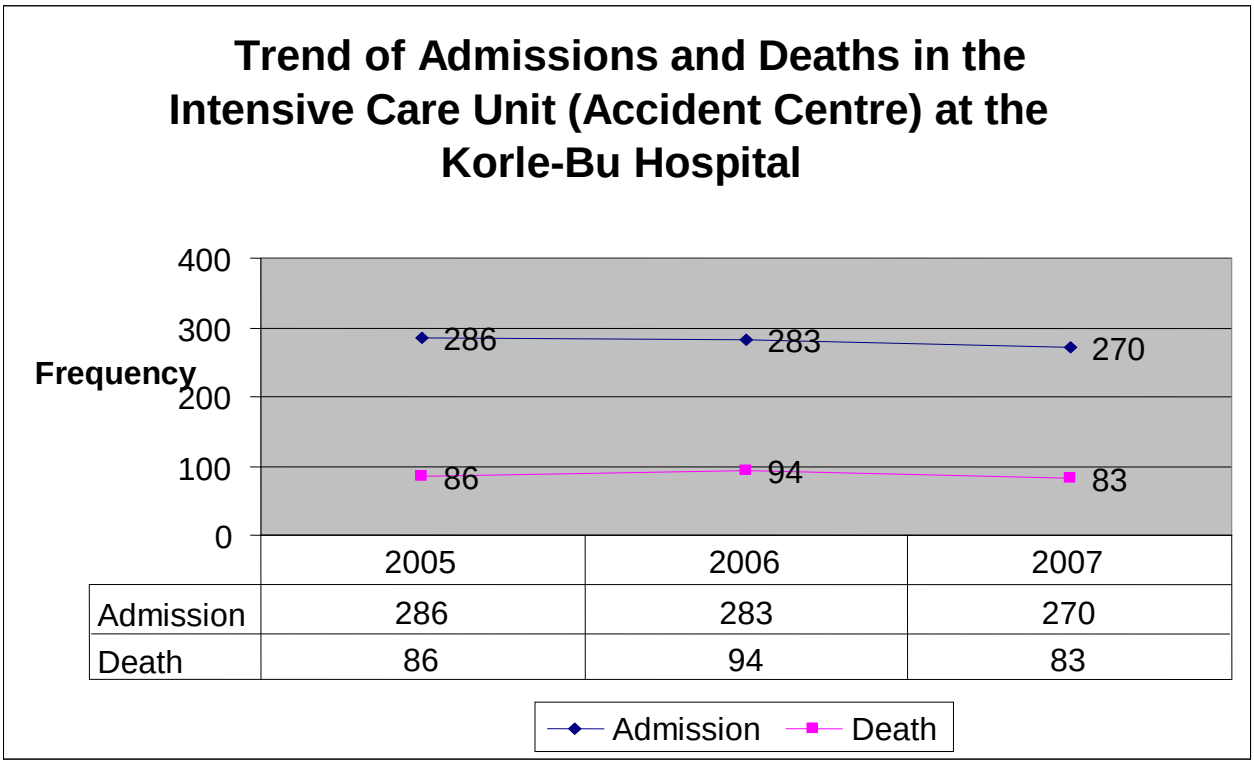
Table 13

MONTH	2007		
	ADMISSION	**DEATH**	**CFR**
JANUARY	19	8	40%
FEBRUARY	21	9	40%
MARCH	35	16	50%
APRIL	28	7	30%
MAY	12	1	10%
JUNE	16	4	30%
JULY	26	8	30%
AUGUST	18	6	30%
SEPTEMBER	20	8	40%
OCTOBER	29	8	30%
NOVEMBER	22	5	20%
DECEMBER	24	3	10%
TOTAL	**270**	**83**	**83/270**

CFR at the ICU in 2007 ranged between 10% and 50%.

Overall, CFR at the ICU from 2005 to 2007 ranged between 10% and 50%.

Figure 6



	2005	2006	2007
Admission	286	283	270
Death	86	94	83

There was a decline in admissions across the period under review but this was not significant. There was an increase in deaths by 8 from 2005 to 2006 but fell by 11 in 2007. Though the increase was slight as compared with the number of admissions, it is still significant because loosing one life is a case.

In 2005, January, March April and July had the highest Case Fatality Rate (CFR) of 40% with May as the least with 10% CFR.

The months of May and September 2006 emerged with the highest CFR of 50% each. In 2007, May and December recorded the lowest CFR of 10%.

4.1 From In-Depth Interviews (IDI's) with Key Informants

A total number of five (5) In-depth-Interviews (IDI's) were held with 5 key informants at the Accident Centre on waiting time. They intimated that the waiting period was very long ranging from 2 to about 6 hours at the Orthopaedic Clinic and a minimum of 30 minutes at the Casualty Reception.

They also said that the long waiting time at the Orthopaedic Clinic was attributed to the fact that the Institution was a tertiary one where training of Medical students takes place. Unfortunately, the person who teaches is the same person who takes care of the patients at the Consulting Rooms, hence the delay.

Another factor contributing to the long waiting times is that the clinic sometimes does not start early as doctors will have to meet briefly before they start work. Clients after preparing their folders for new cases or picking them for reviews would have to wait.

The third factor which was identified to be causing the long waiting time was inadequate staffing (Orthopaedic Surgeons/Specialists) to take care of the large number of clients who attend the clinic.

At the Casualty Reception where emergency cases are seen, IDI's revealed that the preparation of cards for history taking sometimes delay especially with the inception of the National Health Insurance Scheme which involves lots of processes and documentation, thereby increasing the waiting time from arrival to the first assessment by a casualty doctor.

Informants said waiting time could be cut down if the record system was computerized for National Health Insurance Scheme and non –National Health Insurance Scheme clients/ patients.

CHAPTER FIVE

5.0 Discussion

The study sought to describe or determine the following specific objectives:

1. The availability and adequacy of the minimum required basic equipment at the Accident Centre (A/C).
2. The availability of staff and the staff workload at the Accident Centre
3. The availability of emergency medicine and non-medicine consumables
4. The client/patient waiting time from arrival before first assessment by care provider (Casualty Doctor and an Orthopaedic Specialist)
5. The interpersonal relationships of staff towards client/patients
6. The Case Fatality Rate (CFR) at the Accident Centre

5.1 Equipment and Adequacy

The study revealed that both the Resuscitation Room and the Intensive Care Unit of the Accident Centre lacked basic but essential equipment such as Pulse Oximeter, Ventilators, Monitors, Oropharegeal, Nasophargeal, Marguet Trolleys, Trachiotomy Tubes and Ambu Bags. While these equipment were totally absent, those which were available were woefully inadequate. For example, the Accident Centre Resuscitation Room and the Intensive Care Unit of the Korle Bu Teaching Hospital which is a very busy referral hospital in Ghana to have only 10% of its required number of suction machines is very serious. This will definitely affect the treatment outcome negatively.

5.2 Staff Strength in Relation to Requirement and Workload

The department had inadequate number of staff. For example, a critical department such as the Accident Centre requires permanent anaesthetists (both Nurse and Doctor). However, the study revealed that the Accident Centre does not have its own anaesthetist which does not ensure quality care at the department as it is possible that most of the deaths could have been prevented if the department had its own anaesthetists.

The importance of Orderlies in the Accident Centre where there is always spillage of blood requiring constant cleaning to prevent infection cannot be overemphasized. Yet, the Accident Centre had only 5% of the full complement of Orderlies.

Availability of staff in the public health facilities remain a major problem in the sector. With the increasing brain drain in the sector, the few trained staffs that remain at post have to contend with the ever increasing number of clients. Staffs available in our facilities are woefully inadequate as compare to the demand for services from the populace.

The study revealed that, the number of Nurses and Porters was inadequate at the Accident Centre. The limited numbers of staff has negative impact on quality of care.

Findings on the staffing at the Accident Centre do not tally with a study by Boros, (2003) on emergency Medical services at St. Vincent and the Grenadines, an eastern Caribbean nation made up of a series of small islands located 1,600 miles southeast of Miami that generally, the health infrastructure and available staffing are adequate and

comparable to those of developed nations. However, out-of-hospital emergency medical services are lacking in both equipment and trained personnel. This study was done in a different environment hence, might have led to these results.

According to WHO requirements, a population of about 22million requires 333 Orthopaedic Surgeons. The study has shown that there are only 16 Orthopaedic Surgeons at post in the entire country, representing 4.8% of the number required in Ghana.

This means that even for the whole country, the Orthopaedic Surgeons are already overstretched and this will negatively affect quality of care.

The Accident Centre of the Korle Bu Teaching Hospital has 75% Orthopaedic Surgeons out of the number required. These Orthopaedic Surgeons' are also involved in outreach programmes. One can say the situation seems better at the Korle Bu Teaching Hospital due to the Medical School.

The norm is that 1.5:1 nurses to one patient at the Intensive Care Unit (The 1.5 representing 1 nurse to 1 patient plus a floating nurse in the ICU). The situation on the ground at the Accident Centre Intensive Care Unit is 1 nurse to 2 patients. Sometimes there is spill over and patients are seen on trolleys both inside and outside the Intensive Care Unit on the corridor. Quality care cannot therefore be ensured with the limited number of Critical Care nurses who have to also keep an eye on corridor cases. The already limited number of equipment such as monitors cannot be used by these extra cases and this could negatively affect outcome.

5.3 Medicine and non Medicine Consumables Availability

The Accident Centre did not have antibiotics and pethidine at the Resuscitation Room and the Intensive Care Unit as well as splints and diagnostic sets and this will affect the outcome of treatment negatively. There was also no minimum stock level of Medicine and non Medicine Consumables and this was not good enough.

5.4 Average Waiting Time at the Accident Centre Casualty Reception and Orthopaedic Clinic.

Though, findings indicate average waiting time at the Casualty Reception to be 26 minutes (Ref.table 8) which is not long at all in relation to the scale of measurement in table 1 at the appendix section, from the graph in Fig 3, majority of the clients (24%) spent less or equal to 10 minutes. The Accident Centre has its full complement (100%), of Casualty Doctors required. This may explain why the average waiting time at the Casualty Reception is 26 minutes which is “not long at all”

Results from the study show that the average waiting time at the orthopaedic clinic was 97 minutes with 75 standard deviation .The Accident Centre has 75% of its required number of Orthopaedic Surgeons at post. This may explain why less than 50% of clients i.e. (33%) waited ‘’long’’. The rest of the percentage of clients was distributed among the ranges from 3.7 to 1.9 who waited ‘’very long’’. (Ref. Table 9)

The average waiting time at the orthopaedic clinic was 97.6 minutes (Ref.table 9) which was ‘’long’’ in relation to the scale of measurement in table 1 at the appendix section. These delays may be due to queuing- jumping or preferential treatment and unnecessary delays at the records section.

5.5 Provider –Client Relationship

Two of the interpersonal relationship indicators such as providers introducing themselves to the clients, out of the 5, scored below 50%.

The heavy work load at the Orthopaedic clinic might have accounted for this.

Taking other factors into account, Mwesigye (1994) indicated in his study that people are prepared to pay more if humane treatment is available. Haddad et al also found warm reception as a major criterion for quality of care. Other studies, Richardson et al (1992) discover that interpersonal relationship between the professionals and the client is essential in determining the outcome (medical and psychological) of the care.

5.6 Case fatality Rate (CFR) ICU

There is no expected CFR from international literature to compare the Korle Bu Teaching Hospital Accident Centre Intensive Care Unit CFR with:

Literature reviewed so far has not revealed any expected international Intensive Care Unit CFR as conditions vary from place to place and CF depends on a number of factors including the age of the patient, the sex, chronic disease history etc.

CF also depends upon the treatment regiment, life style of the patient (a past smoking history, alcohol intakes etc) and environmental factors such as exposure of the patient to hazardous substances Karlberg et al (2003). Some literature reviewed by the author has shown different CFR's ranging from 17% to 50% for Intensive Care Unit's deaths as a result of various conditions.

CHAPTER SIX

6.0 Conclusions and Recommendations

6.1 Conclusions

The study has shown that there is poor quality of care at the Accident Centre and these cuts across all the sub units in the Accident Centre.

It also permeates through the structure, care provider performance which culminates into an undesirable outcome.

It has also come to light that the Accident Centre lacked basic but essential equipment, essential staff such as traumatologist and anaesthetists, medicine and non medicine consumables such as, antibiotics, pethidine, diagnostic sets and splits.

The average waiting time was also found to be long and the interpersonal relationships of some care providers toward clients were not good enough.

6.2 Recommendations

- The Korle Bu Teaching Hospital Management should adequately fund the Accident
- Centre Sub Bmc from the Internally Generated Funds (IGF) to be able to meet its equipment requirements such as pulse oximeters, ventilators etc.

- It is recommended that the MOH and the Korle Bu Teaching Hospital Management re-
- strategise and improve on their overall human resource planning.

- It is recommended that action is expedited by the Korle Bu Teaching Hospital pharmacy

department on the opening of the Pharmacy Unit at the Accident Centre as soon as possible to ensure that all emergency medicines such as Pethidine and Antibiotics are stocked.

- Management of the hospital should also ensure that Non-Medicine consumables such as diagnostic sets and splints which were lacking at the Resuscitation Room and the Intensive Care Unit are available.

- Accident Centre clinicians should ensure that waiting time at the Orthopaedic Clinic is reduced by instituting appointment systems.

- Management of Korle Bu Teaching Hospital should computerized the record system for both National Health Insurance Scheme (NHIS) and non –National Health Insurance Scheme (NHIS) clients/ patients at the department to help reduce the waiting time.

- There is the need for the management of the hospital to organised regular in-service training and work shops for its care providers on customer care, effective communication and human relation skills.

- It is recommended that the hospital and the MOH train and employ more critical care nurses for the Accident Centre Intensive Care Unit.?

- It is recommended that Korle Bu Teaching Hospital Management puts up a bigger Intensive Care Unit to replace the existing 4 bed capacity one in the short term and institute measures to build an ultra modern trauma hospital as has been done at the Komfo Anokye Teaching Hospital (KATH) at Kumasi.

- It is also recommended that Korle Bu management constitute an active Quality Assurance (QA) team at the Hospital to oversee quality related issues to ensure continuous improvement in quality care of its patients/clients.

Findings of this study provide enough room for a more detailed study on quality of care for the entire Korle Bu Teaching Hospital.

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APPENDICES

DATA COLLECTING INSTRUMENTS
ACCIDENT CENTRE (KORLE BU TEACHING HOSPITAL)

APPENDIX 1

CHECKLIST FOR INVENTORY OF EQUIPMENT (2008)

HOSPITAL: ……...……

CODE NO: …… **DATE:** …….. **TO:** ……

FUNCTIONING EQUIPMENT	IDEAL NUMBER REQUIRED	NUMBER AVAILABLE	PERCENTAGE AVAILABLE
Stethoscope			
Sphygmomanometer			
Pulse Oximeter			
Ventilators			
Monitors			
Wheel Chairs			
Examination Trolleys			
Examination Screens			
Autoclaves			
Ambu bag			
Oropharegeal			
Nasophargeal			
Trachiostomy Tubes			
Marquet trolley			
Suction Machines			

APPENDIX 2

CHECKLIST FOR STAFF AND STAFF WORKLOAD

HOSPITAL: ……

CODE NO: …… **DATE:** …….. **TO:** ……

(i) STAFF

STAFF	IDEAL NUMBER REQUIRED	NUMBER AVAILABLE	PERCENTAGE AVAILABLE
Orthopaedic Specialists			
Senior Residents			
Nurse Anaesthetists			
Casualty Officers			
Critical Care Nurses			
Accident and Emergency Nurses			
Theatre Nurses			
Traumatologists			
Orderlies			
Porters			

(ii) WORKLOAD

Days	NUMBER OF STAFF		NUMBER OF A/C ADMISSIONS PER DAY		NUMBER OF OPD ORTHOPAEDIC PATIENTS PER DAY	
	No Of A/C ICU Nurses	**No Of Orthopaedic Surgeons (O/S)**	**Total No Of Cases**	**Average No Of Admission Per A/C ICU Nurse Per Day**	**Total No Of Cases**	**Average No Of OPD Patients Per Day/Per O/S**
1.						
2.						
3.						
4.						
5.						
6.						
7.						

APPENDIX 3

HOSPITAL: ……

CODE NO: …… **DATE:** …….. **TO:** ……..

CHECKLIST FOR MEDICINE AND NON-MEDICINE CONSUMABLES

		AVAILABILITY	
No	**List of Emergency Medicine Consumables**	**Yes**	**No**
1	Antibiotics		
2	Pethidine		
3	Hydrocortisone		
4	I.V. Fluids		
5	Anti Convulsants		
No	**List of Emergency Non Medicine Consumables**	**Yes**	**No**
1	Examination Gloves		
2	Syringes		
3	Gauze		
4	Cotton Wool		
5	Disinfectants		
6	Diagnostic Sets		
7	Splints		
8	Cut-down sets		

APPENDIX 4

CHECKLIST FOR WAITING TIME

HOSPITAL: ……

CODE NO: …… **DATE:** …….. **TO:** ……

No of Patients	Time of Arrival	Time first assessed by Casualty Officer/Consultant/Resident	Waiting Time
1			
2			
3			
4			
5			
6			
7			
8			
9			

APPENDIX 5

CHECKLIST ON INTERPERSONAL RELATIONSHIP OF CARE PROVIDERS TOWARDS PATIENTS

HOSPITAL: ……

CODE NO: …… **DATE:** …….. **TO:** ……

INDICATORS	**PATIENTS**						
	1	**2**	**3**	**4**	**5**	**6**	**7**
1. Patient offered seat by Provider	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO
2. Provider introduced he/herself to patient	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO
3. Patient touched by Provider	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO
4. Provider smiled towards patient	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO
5. Diagnosis explained to patient	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

APPENDIX 6

CHECKLIST ON CASE FATALITY RATE (CFR) AT THE ACCIDENT CENTRE INTENSIVE CARE UNIT FROM 2005 TO 2007

HOSPITAL: ……

CODE NO: …… **DATE:** …….. **TO:** ……

	2005			2006			2007		
MONTH	**NO OF CASES**	**NO OF DEATHS**	**CFR**	**NO OF CASES**	**NO OF DEATHS**	**CFR**	**NO OF CASES**	**NO OF DEATHS**	**CFR**
JAN									
FEB									
MAR									
APR									
MAY									
JUNE									
JUL									
AUG									
SEPT									
OCT									
NOV									
DEC									
TOTAL									

APPENDIX 7

ACCIDENT CENTRE (KORLE BU TEACHING HOSPITAL)

Guide for IDI with key informant on waiting time at the Casualty Reception and Orthopaedic Clinic

Facility:……**Hospital:**……...

Date:…… **Time:**…….....

1. Do you think clients/patients wait for longer period of time before they are seen by the Casualty Doctor/Orthopaedic Surgeon?

2. In your view, how long does it take a patient to be assessed by a Casualty Doctor/Orthopaedic Surgeon after arrival?

3. What in your view contribute to the long waiting time of the patient?

4. Do you think that the client/patient is happy with the waiting time?

5. In your opinion, what can be done to improve upon the waiting time?