2016 Annual Report

KOMFO ANOKYE TEACHING HOSPITAL, KUMASI

A Center of Excellence

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ACRONYMS

AAOS: Academy of American Orthopaedic Surgeons

ACESO: Austere Consortium for Enhanced Sepsis Outcomes

A&E: Accident and Emergency

AEFI: Adverse Event Following Immunization

AETC: Advance Emergency Trauma Course

AFP: Acute Flaccid Paralysis

AIDS: Acquired Immune Deficiency Syndrome

AMD: Age-related Macular Degeneration

AO SEC: Arbeitsgemeinschaft fur Osteosynthesefragen Social Economic Committee

ARIC: Audit and Audit Report Implementation Committee

ATLS: Advance Trauma Life Support

BLT: Bilateral Tube Litigation

BCG: Bacillus Calmette-Guerin

B.SC.: Bachelor of Science

CAC: Comprehensive Abortion Care

CCTV: Closed-Circuit Television

CDC: Centre for Disease Control and Prevention

CPD: Continuous Professional Development

CR: Consulting Room

CSSD: Central Supply Sterilization Department

CPD: Continuous Professional Development

CPR: Cardiopulmonary Resuscitation

CT: Computerized tomography Scan

CTG: Cardiotocography

CVA: Cerebrovascular Accident/ Stroke

CWC: Child Welfare Clinic

DISC: Drug Information Service Centre

DM: Diabetes Mellitus

DNS: Domain Name System

DOVVSU: Domestic Violence and Victim Support Unit

DPDM: Diploma in Project Design and Management

DSW: Department of Social Welfare

EBRT: External Beam Radiotherapy

ECG: Electrocardiogram

ED: Emergency Department

EEG: Electro Encephalography

EENT: Eye, Ear, Nose and Throat

EMR: Electronic Medical Records

ENT: Ear, Nose and Throat

EVD: Ebola Viral Disease

EPI: Expanded Program on Immunization

FFP: Fresh Frozen Plasma

GAAP: Ghana Access and Affordability Partnership Program

GCNM: Ghana College of Nursing and Midwifery

GCPS: Ghana College of Physicians and Surgeons

GHS: Ghana Health Service

GIT: Gastrointestinal Tract

GOG: Government of Ghana

HAMS: Health Administration and Management Systems

HBV: Hepatitis B Virus

HCP: Himalayan Cataract Project

HCV: Hepatitis C Virus

HDU: High Dependency Unit

HIV: Human Immunodeficiency Virus

HOD: Head of Department

HOU: Head of Unit

HPT: Hypertension

HRM: Human Resource Management

HVO: Health Volunteers Overseas

ICT: Information Communication Technology

ICU: Intensive Care Unit

IDF: International Diabetes Federation

IGF: Internally Generated Funds

IGOT: Institute of Global Orthopaedics and Traumatology

IPC: Infection Prevention and Control

IUD: Intrauterine Device/Copper T

IVF: In-Vitro Fertilization

IVU: International Voluntary Union of Urologists

KATH: Komfo Anokye Teaching Hospital

KNUST: Kwame Nkrumah University of Science and Technology

LAN: Local Area Network

LAPS: Laparoscopy

LDR: Low Dose Rate

LDU: Low Dependency Unit

LINAC: Linear Particle Accelerator

MAF: Millennium Development Goals Accelerated Framework

MBU: Mother-Baby Unit

MCH: Maternal Child Health

MDG: Mellium

MIS: Management Information Systems

MMU: Medicines Management Unit

MOH: Ministry of Health

MRI: Magnetic Resonance Imaging

MSC: Master of Science

NCI: National Cancer Institute

NCT: National Competitive Tendering

NGO: Non-Governmental Organisation

NHIA: National Health Insurance Authority

NHIS: National Health Insurance Scheme

OCT: Optical Coherence Tomography

ODF: Optical Distribution Frame

O&G: Obstetrics and Gynaecology

OPD: Out-Patient Department

OTI: Orthopaedic and Trauma Institutes

PCW: Palliative Care Works

PEU: Paediatric Emergency Unit

PICU: Paediatric Intensive Care Unit

POP: Plaster of Paris

PPA: Public Procurement Authority

PPH: Post-Partum Haemorrhage

PQ: Price Quotation

QA: Quality Assurance

R&D: Research & Development

RDT'S: Rapid Diagnostic Test

RTI: Respiratory Tract Infection

SBS: Sector Budgetary Support

SCD: Sickle Cell Disease

SCMU: Supply Chain Management Unit

SGHT: St. George's Health Care Trust

SICS: Small Incision Cataract Surgery

SOPD: Specialist Outpatients Department

TAT: Turn Around Time

TB: Tuberculosis

Td: Tetanus-diphtheria

THET: Tropical Health and Education Trust

TMU: Transfusion Medicine Unit

TV: Television

UCSF: University of California, San Francisco

UK: United Kingdom

USA: United States of America

USAID: United States Agency for International Development

UTI: Urinary Tract Infections

VHF: Viral Haemorrhagic Fever

WACS: West African College of Surgeons

WHO: World Health Organisation

ACKNOWLEDGEMENTS

The Management of KATH would want to expresses its special thanks to all staff of KATH for their commitment and contributions towards the moderate achievements recorded for the year.

Special gratitude goes to the Board of Directors, the Chief Executive and his Management Team members and all Heads of Departments and Units who supervised the achievements recorded in this report.

Again, we would like to thank all those who contributed in diverse ways towards the writing of this report.

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PREFACE

The 2016 Annual Performance Review of the Hospital was held on 16th March, 2017. The workshop was attended by representatives from Ghana Health Service, Korle-bu Teaching Hospital, Cape Coast Teaching Hospital, Tamale Teaching Hospital and Ministry of Health.

The 2016 annual report provides a summary of what the individual Directorates / Units achieved during the year and performance trend over the last five years.

The annual review followed and relied upon a number of priorities as contained in the Hospital's 2015-2019 Strategic Plan document for which resources were committed to their implementation. These priorities included;

1. Quality health care delivery, leading to better health outcomes, especially in maternal and child health
2. Improve staff attitude
3. Human resource development and welfare
4. Improve resource mobilization
5. Intensify planned preventive maintenance activities
6. Provide outreach services
7. Strengthen collaboration with other institutions

These priority areas are aligned to the Hospital's Strategic Objectives and the Health Sector Objectives 1, 2, 3, 4 and 5.

The report is divided into 4 sections: Section 1 deals with the introduction, Section 2 reviews the summary of overall performance trends, including financial performance, Section 3 gives an overview of Directorates/ Units performances and Section 4 deals with the summary of achievements, challenges and focus for 2017.

FROM THE DESK OF THE CHIEF EXECUTIVE

Dr Oheneba Owusu-Danso
The Chief Executive

The hospital managed to register some significant achievements in its operations during the period under review.

The hospital's push towards the reduction in the maternal mortality rates continued to register positive results. The maternal mortality rate at the hospital dropped from 1057 per 100,000 live births in 2015 to 1020 per 100,000 live births in 2016. There was also a drop in maternal deaths from 102 in 2015 to 91 in 2016. The above achievement was chalked thanks to the re-training and dedication of staff of the Obstetrics and Gynaecology Directorate. The establishment of a dedicated blood bank for directorate, the provision of specialist support and training to the 22 medical facilities which refer most cases to the hospital also contributed to this feat.

Surgical operations stood at 17,928 in 2016 as against 16,513 registered in 2015 which translate into an increase of 8.57 per cent. Specialist Out Patient Department services also increased from 240,920 in 2015 to 261,038 cases in 2016. Radiotherapy services recorded in 2016 was 6,697 cases as against 6,485 cases in 2015. Family Medicine Directorate's primary care (OPD) services stood at 62,638 in 2016 as against 61,616 cases in 2015. Blood Units collected dropped from 19,057 in 2015 to 16,734 in 2016. Diagnostic services also fell from 315,946 in 2015 to 263,347 in 2016. Ward admissions went down from 37,213 in 2015 to 35,699 in 2016.

Following the provision of eight new lifts by the government, work on the replacement of all the eight obsolete lifts at old "Gee" blocks have been completed. In addition to the above, it is worthy to note that the asphalting of 1.8 kilometres of the hospital's road network was also carried out.

In line with our mandate as a teaching hospital and in recognition of the high standard of practice and facilities at the hospital, the World Federation of Societies of Anaesthesiologists designated the hospital as its training centre for Anaesthesiologists in Africa. The hospital also became the first medical establishment in the West African sub-region to perform Craniofacial surgery to correct coronal and sagittal craniosynostosis for a child suffering from coronal sagittal craniosynostosis. This procedure was done in collaboration with medical experts from University of Alabama, USA.

Another significant development that the hospital witnessed in the course of the year was the completion of the first

population-based Cancer Registry in Ghana dubbed " The Kumasi Cancer Registry."

With the special assistance from the German Society for International Corporation (GIZ) a €175,000.00 smokeless Medical Incinerator with daily capacity of burning 400 kilogrammes of medical waste was constructed for the hospital. The hospital, with funding from the USAID, through the Himalayan Cataract Project (HCP) of the U.S. installed a 42 kilowatt Solar Power System for the Eye Centre at the cost of US $320,000.00. By this installation, the Eye Centre's theatres can operate 24/7 with power from this solar system without depending upon the national grid.

The hospital boosted its infrastructure base by embarking on the Phase 2 of the Mortuary Expansion project at a cost of GH¢ 370,770.29. Additionally, renovation works on the main Theatre block was completed at a cost of GH¢ 147, 652.05. Renovation works at the Dental Clinic was also undertaken at a cost of GH¢ 256, 046.80.

In our quest to provide quality care to our cherished clients, the hospital retooled its equipment base by spending an amount of GH¢ 2,000,000.00 to procure various equipment from its Internally Generated Fund. Among the items procured were mobile operating lamps, supply and installation of two operating tables for the A1 Theatre at Obstetrics and Gynaecology Directorate, craniotomy sets for Neurosurgery Unit, suction machines, dual head theatre lamps, patient monitors and electronic power drill and its accessories for the Trauma and Orthopaedics Directorate.

To enhance the human resource capacity of the Hospital which is the driving force for the transformation of any institution, the Hospital incurred a cost of GH¢2,273,377.04 on staff development in various specialty training in Ghana and beyond.

In line with our mandate of supporting the Ghana Health Service (GHS) facilities, some of the clinical directorates at the hospital undertook a number of outreach and mentorship programmes to some district hospitals in the country. The Eye Unit for instance went to the Goaso, Samreboi, Keta and Jetiase Hospitals among others to provide specialist ophthalmic services to needy patients. About 800 patients received specialist surgical services during these outreach programmes. In the coming years, the hospital intends to deepen its collaboration with the Ghana Health Service (GHS) through such outreach programmes so as to improve the quality of health care services in this part of the country. Taking a dispassionate look at the Hospital's 2016 operations, it would not be out of place to state that our performance over the period was a mixed one largely due to the difficult operational environment.

Our challenges included delayed reimbursements from the NHIA, rising cost of medical and non-medical consumables, ageing infrastructure and some patients' inability to pay their bills. Management wish to reiterate the appeal made over the years to the Ministry of Health (MOH) for support to procure a new and bigger Oxygen Plant to replace the obsolete one which should have been decommissioned years ago.

Finally, I wish to commend, the directorate management team members, staff members and the various professional groups for their continued support throughout the year. My humble appeal to you all is to work extra hard to claw back the declining service figures recorded last year. I urge all Heads of Directorates and Units to plan more strategies to improve the performance and enhance the quality of services provided to our clients for the betterment of the hospital.

Thank you.

CHAPTER 1
INTRODUCTION

Background

Established in 1955 as the Kumasi Central Hospital, the name of the hospital was later changed to the Komfo Anokye Hospital in honour and memory of the powerful and legendary fetish priest, Okomfo Anokye. The Hospital became a teaching hospital for the training of medical students from the Kwame Nkrumah University of Science and Technology (KNUST) in 1975. Currently, it is one of the training centres for postgraduate training for the Ghana College of Physicians and Surgeons and the West African Colleges of Physicians and Surgeons.

The hospital has twelve (12) clinical Directorates, two non-clinical Directorates and seventeen (17) supporting units. A directorate management team is responsible for the day to day operations of each directorate whilst Central Management concentrates on strategic management of the hospital and provides support to the various Directorates and Units.

The catchment area for the hospital stretches beyond Ashanti region, to some parts of the Eastern, Central, Western, Brong Ahafo, and the three northern regions, with an estimated population of about ten million people.

Governance

- The Ghana Health Service and Teaching Hospitals Act 525, 1996 established autonomous Teaching Hospital Boards.
- The Hospital is governed by a Board made up of 4 Non-Executive members (government appointees), 6 Executive members and the Deans of the School of Medical Sciences (SMS) and KNUST Dental School.
- The Hospital operates within the Ministry of Health Broad Policy Framework
- The Chief Executive is in charge of the day to day management of the Hospital

Mandate

Our mandate as provided by Act 525 is in three areas as indicated below:

- Advanced clinical care
- Training
- Research

Vision

The vision of the Hospital is to become a centre of excellence in the provision of specialist health care services.

Mission

The mission of the Hospital is to provide quality services to meet the needs and expectations of clients. This will be achieved through well-motivated and committed staff applying best practices and innovation.

Core Values

All the activities of the hospital will be built on the following values;

- Client-focused
- Staff empowerment
- Continuous quality improvement
- Recognition of hard work and innovation
- Discipline
- Team work

Corporate Objectives

The corporate objectives which will guide the actions of the hospital for the year 2016 were as follows:

- To provide specialist healthcare services
- To support training of undergraduate and postgraduate health professionals
- To conduct research into emerging health problems
- To support primary and secondary health

Health Sector Objectives Pursued In 2016

In 2016, the objectives of KATH fell in line with the following broad objectives pursued by the Health Sector;

HO1: Bridge equity gaps in geographical access to health services

HO2: Ensure sustainable financing for health care delivery

HO.3: Improve efficiency in governance and management of the health system

HO.4: Improve quality of health services delivery including mental health

H.O.5: Enhance national capacity for the attainment of the health related MDGs and sustain the gains.

Services Provided By Directorates

The hospital provides services in all aspects of specialist care in fulfilment of its mandate of providing advanced clinical care services to people in Ghana. The following are the summary of services provided in the hospital.

Anaesthesia &Intensive Care

- Intensive care
- Anaesthesia
- Pain medicine

Child Health

- Cardiology
- Neurology
- Respiratory Medicine
- Paediatric Emergency
- Nephrology
- Gastroenterology
- Infectious Diseases
- Neonatology
- Oncology/Haematology
- Critical Care
- Endocrinology
- Sickle Cell
- Malnutrition

Diagnostics

- Pathology
- Chemical pathology
- Radiology /Imaging
- Microbiology
- Haematology

Domestics Services

- Sterilization services
- Catering Services
- Laundry services
- Transport Services

Emergency Medicine

- Emergency services
- Minor Procedures

Eye, Ear, Nose & Throat

- Ear, Nose and Throat Unit
  - ➢ Audiology/hearing assessment
  - ➢ Speech and therapy
- Ophthalmology
  - ➢ Occuloplastic
  - ➢ Glaucoma
  - ➢ Retina
  - ➢ External eye disease and cornea
  - ➢ Paediatric ophthalmology and adult strabismus
  - ➢ Neuro-ophthalmology
  - ➢ Refraction and low vision services
  - ➢ Investigations and imaging services

Family Medicine

- Chronic Care
- Palliative Care
- Rehabilitation medicine
- Medical Examinations
- Wound care
- Minor procedures
- Physiotherapy

Medicine

- Cardiology
- Endocrinology
- Nephrology
- Neurology
- Gastroenterology
- Haematology
- Respiratory Medicine
- Psychiatry
- Infectious Diseases
- Geriatrics
- Rheumatology
- Dietherapy

Obstetrics and Gynaecology

- Foeto-maternal Medicine
- Gynaecologic-oncology
- Urogynaecology
- General Obstetrics & Gynaecology
- Family Planning

Oncology

- Radiation
- Brachytherapy
- Chemotherapy

Oral Health

- Oral Diagnosis and Community Dentistry
- Oral/maxillofacial Surgery
- Restorative Dentistry
- Orthodontics and Paedodontics

Surgery

- Paediatric Surgery
- Plastic and Reconstructive Surgery
- Urology
- Neurosurgery
- General Surgery
- Cardiothoracic and Vascular Surgery

Technical Services

- Biomedical Engineering
- Plants and Machinery
- Estates
- Environmental Health Services

Traumatology & Orthopaedics

- Trauma
- Orthopaedics
- Hand Surgery

Other Supporting Units

- Biostatistics
- Chaplaincy
- Finance
- General Administration
- Human Resource Management
- Internal Audit
- Information Communication Technology (ICT)
- Pharmacy
- Public Health
- Policy, Planning, Monitoring & Evaluation
- Public Relations
- Quality Assurance
- Research & Development
- Security
- Social Welfare
- Supply Chain Management
- Transfusion Medicine

Corporate Priorities For 2016

The priorities of the Hospital for the period January – December 2016 were drawn from the Hospital's 2015-2019 Strategic Plan and aligned to the Health Sector Medium Term Objectives 1,2,3,4, and 5. The priorities were as follows:

1. Quality health care delivery
2. Improved staff attitude
3. Human resource development and welfare
4. Improved resource mobilization
5. Strengthen collaboration with other institutions
6. Intensify planned preventive maintenance activities
7. Provision of outreach services

Priority Activities

The priority activities pursued by KATH in 2016 were as follows;

1. Increase the range of specialist services
2. Sustain activities to reduce mortalities, especially maternal and neonatal deaths
3. Continue to support emergency services
4. Continue the provision of advanced diagnostic services
5. Conduct operational research into emerging diseases
6. Procure requisite medical equipment, especially imaging equipment to improve service delivery
7. Support district and regional hospitals in the northern sector of Ghana, by way of providing outreach services

8. Continue to improve performance monitoring and promote financial accountability and controls
9. Expand Oncology centre to include Nuclear Medicine Treatment and Diagnostic Unit
10. Continue efforts in securing the necessary funds for the completion of the maternity and children block
11. Intensify planned preventive maintenance activities
12. Improve Management Information Systems
13. Support training of Staff
14. Provide infrastructure for clinical training of students

2016 Hospital-wide Expected Outputs

The following were the expected outputs for 2016;

1. Specialist Out-patients seen; 241,754
2. General Out-patients seen; 76,680
3. Inpatients/Admissions; 41,700 recorded.
4. Surgical operations (major & Minor); 24,279 performed.
5. Emergency cases; 40,140 recorded.
6. Deliveries; 10, 500 supervised.
7. Physiotherapy services; 23,116 patients seen.
8. Diagnostic investigations; 322,634 conducted.
9. Radiotherapy treatment; 6,458 sessions.
10. Blood screened; 19,000 screened.
11. Maternal death rate reduced by ≥ 10% of 2015 rate of 1056/100,000 live births
12. Neonatal mortality reduced by ≥ 10% of base rate of 13.1%
13. Maternal deaths on unconfirmed diagnosis; 100% post-mortem conducted on.
14. Maternal death audit; 100% audited.
15. Neonatal death audit; 20% audited.
16. Outreach services; 25 district hospitals supported.
17. Patient satisfaction level improved from 57% in 2015 to ≥60%
18. NHIA claims rejection rate reduced to 3% from 5% in 2015
19. Total expenditure reduced by 2.5%

CHAPTER 2

HUMAN RESOURCE PERFORMANCE

In the year 2016 the hospital's priority areas in Human Resource Management were to provide training and development opportunities for all staff improve staff attitude and staff welfare and uphold discipline.

Staff Strength Analysis

There was a total workforce of 3,895 in the year 2016. This comprised KATH Staff – 3,519, House Officers – 175, Residents from other institutions – 138 and KNUST Staff – 63. There was an increase of 0.93% in the total workforce compared to the 2015 figure of 3,859 as shown in the Figure 1.

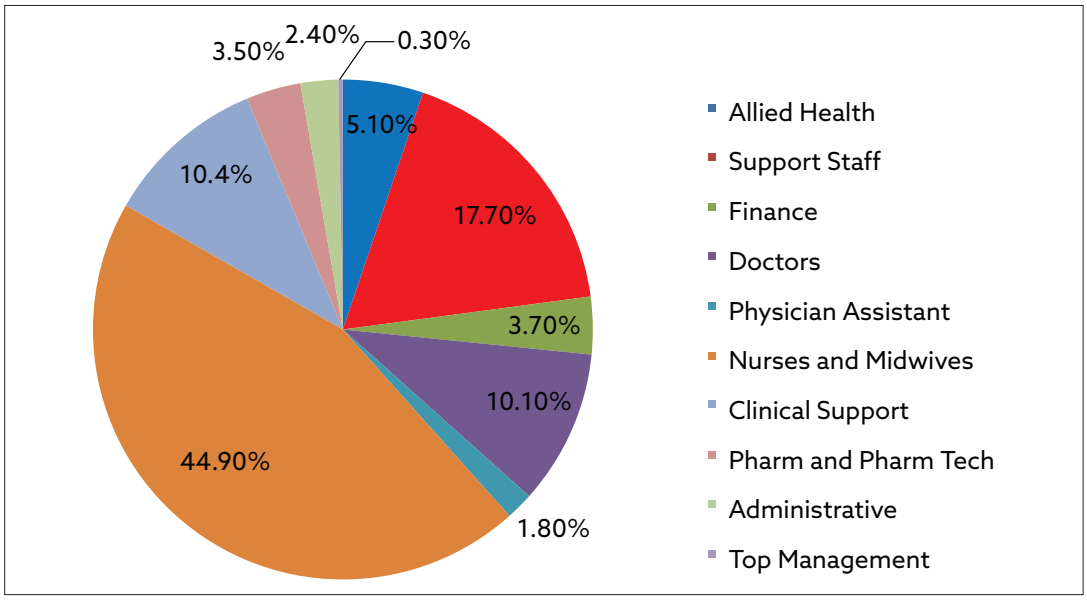


Figure 1: Category of staff by Professional Groups, KATH 2016

In Figure 1, 44.9% of the total staff were Nurses and Midwives, 10.1% Doctors, 10.4% Clinical Support, 3.5% Pharmacists and Pharmacy Technicians, 5.1% Allied Health Staff, 17.4% Support Staff, 2.4% Administrative and 4.0% Finance.

Age Group of Staff

The age analysis of staff in the year 2016 revealed that 18.9% of staff were between 20-29 years, 53.2% were in the range of 30-39 years, 13.1% in the range of 40 – 49 years and 14.9% between the age ranges of 50 – 59 years. The hospital has 72.1% of its workforce being in the age bracket of 20-39.

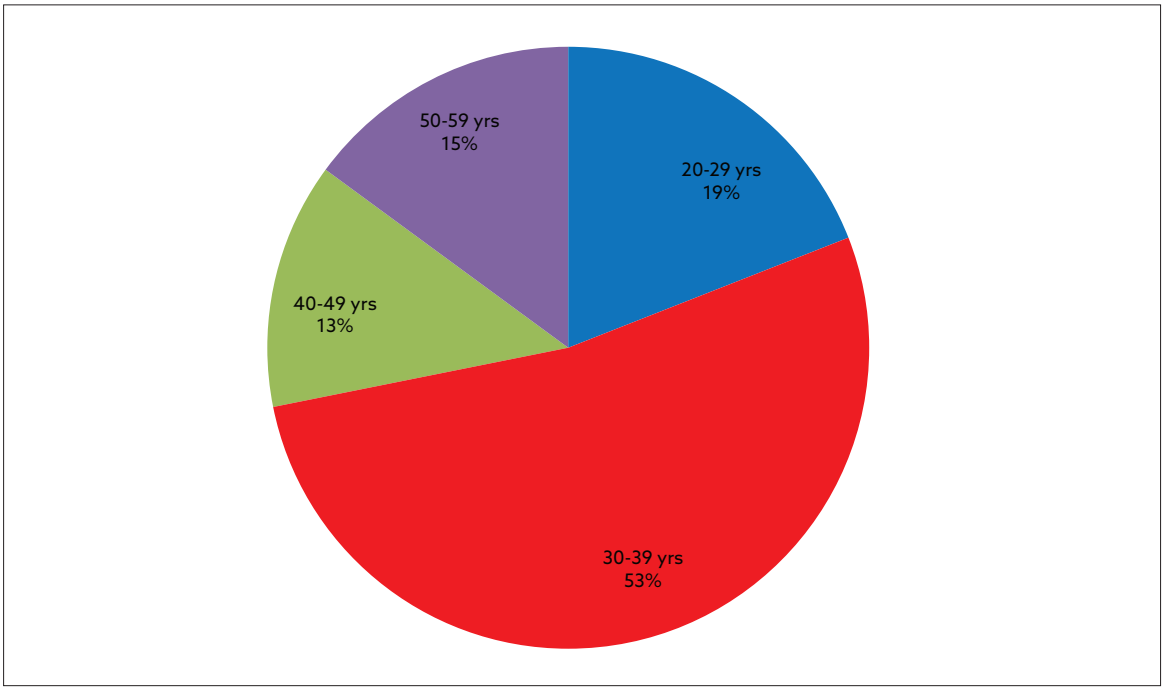


Figure 2: Age Group of Staff, KATH 2016

Staff Strength Analysis for Doctors

There was a total number of 354 KATH doctors in the year comprising 68 Consultants and Senior Specialist representing 19.2%, 81 Specialists representing 22.9% and 205 Medical Officers representing 57.9%. There were also 59 doctors from the KNUST/SMS who provided service at the hospital in 2016. There were a total of 60 Physician Assistants (Anaesthesia) and 3 Physician Assistant (Dental) in the year.

Table 1: Number of Doctors and Physician Assistants per Directorate/Unit, 2016

Directorate/ Unit	Consultants/ Senior Specialists	Specialists	Medical Officers	KNUST Doctors	Total	Physician Assistants
Anaesthesia & Intensive Care	1	5	17	3	26	60
Child Health	6	13	28	9	56	
Diagnostics	2	6	23	8	39	
EENT	4	3	16	5	28	
Emergency Medicine	2	9	11		22	
Family Medicine	1	6	23		30	
Medicine	9	12	32	9	62	

Obs/Gyn	15	5	17	13	50	
Oncology	1	1	8		10	
Oral Health	4	2	9	5	20	3
Public Health		2	1		3	
Research & Development			1		1	
Surgery	16	12	12	6	46	
Transfusion Medicine	1		2		3	
Trauma & Orthopaedics	6	5	5	1	17	
Total	**68**	**81**	**205**	**59**	**413**	**63**

Staff Strength Analysis for Nurses and Midwives

In the year 2016, Nurse/Midwife population was 1,574. This represents 5.7% increase of the 2015 total number of 1,485. This was mainly due to the issuance of financial clearance for the recruitment of nurses and midwives.

Table 2: Nurses and Midwives by Directorates

Directorate	Midwives	Professional Nurses	Enrolled Nurses	Community Health Nurses
Anaesthesia &Intensive Care	1	85	13	
Child Health	12	141	19	
CSSD		2		
Diagnostics			2	
EENT	2	69	11	
Emergency Medicine	1	177	25	
Family Medicine	3	28	31	
Human Resource		1		
Medicine	2	183	54	
Obstetrics & Gynaecology	263	26	4	
Oncology		20		
Oral Health		29	4	
Public Health	2	4		28
Quality Assurance		1		
Surgery	2	154	63	
Transfusion Medicine	1	5	1	
Trauma &Orthopaedics	5	70	37	
Total	**294**	**995**	**264**	**28**

Staff Strength Analysis for Pharmacists and Pharmacy Technicians

In 2016, the hospital had 60 Pharmacist
66 Pharmacy Technicians working in
the various directorates and units

Table 3: Pharmacists and Pharmacy Technicians by Directorates

Directorate	Pharmacists	Pharmacy Technicians
Anaesthesia & Intensive Care	1	2
Child Health	7	5
EENT	5	4
Emergency Medicine	7	6
Family Medicine	6	12
Medicine	11	5
Obstetrics & Gynaecology	5	8
Oncology	1	2
Oral Health	1	
Medicines Management	3	2
Manufacturing	1	4
Specialist OPD	5	9
Drug Information	1	
Surgery	6	6
Health Insurance		1
Total	**60**	**66**

Staff Strength Analysis for Allied Health Professions

In 2016, the hospital had a total number
of 190 Allied Health professionals
providing services in their various fields.

Table 4: Allied Health Staff per Cadre

Cadre	Number at Post
Biomedical Scientist	61
Biostatistics Officer	6
Dental Prosthesis Technologists/Technician	3
Dental Surgery Assistant	4
Dietician	2
Field Technician	3
Medical Physicist	4
Nutrition Officer	6
Optical Technician	2
Optometrist	3
Physiotherapist	20
Physiotherapy Assistant	17
Radiographer/Technician	14

Technical Officer – Biostatician/Health Information	32
Technical Officer – Nutrition	1
Technical Officer (Lab)	12
Technical Officer – Disease Control	3
Technical/Biostatistics Assistant	10
Therapy Radiographer	3
Ultrasonographer	1
Total	**190**

Separation

A total of 172 staff left the hospital through transfer, resignation, vacation of post (VOP), death, retirement and dismissal.

The figure recorded represents an increase of 30.0% compared to the 2015 figure.

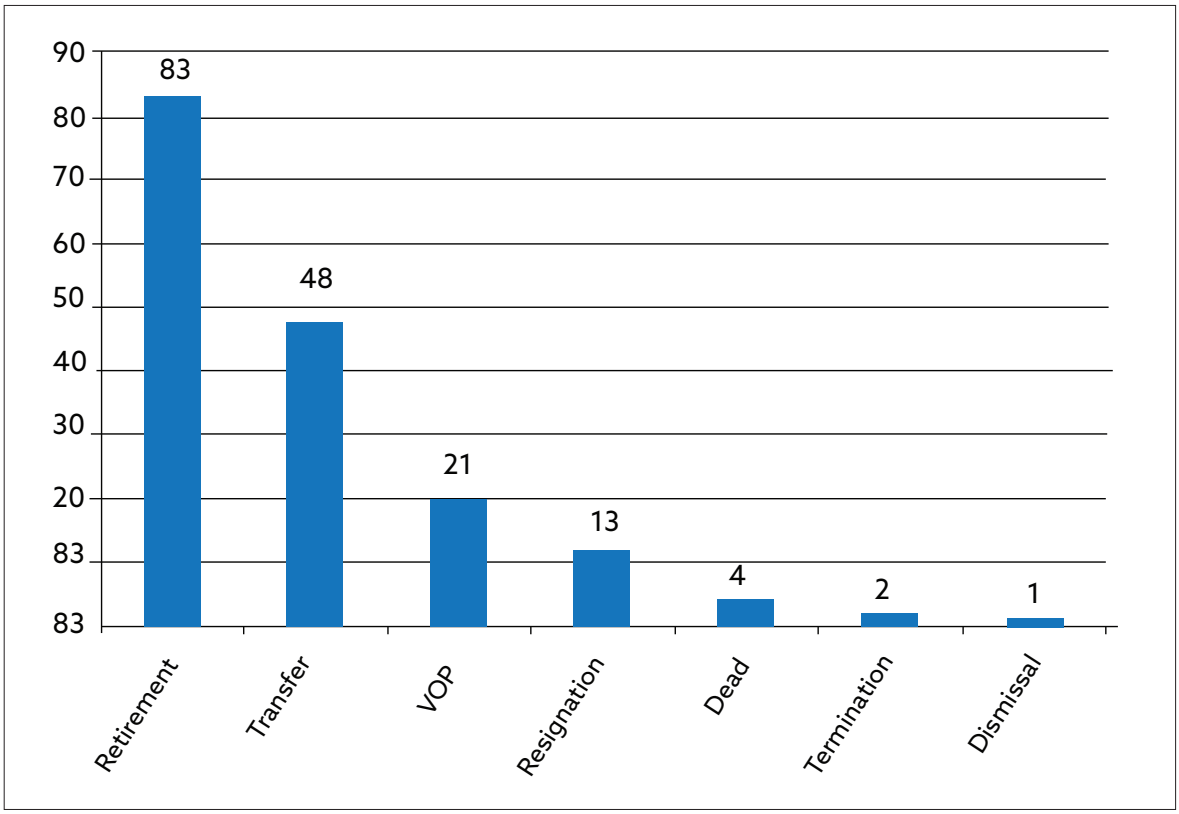


Figure 3: Separated Staff, KATH 2016

Staff Training and Development

In 2016, training and development activities were intensified in line with the hospital's vision. A total of 629 staff were given in-service training. A total of 221 staff (fresh and continuing) were also given the opportunity to further their studies on study leave with/without pay, part-time, sandwich and online basis during the period under review (table 5).

Table 5: Staff Pursuing Further Studies per Directorate

DIRECTORATE	DOCTORS	NURSE/ MIDWIVES	ALLIED HEALTH	PHYSICIAN ASSISTANT	PHARMACY/ TECH	ADMIN	SUPPORT	TOTAL
Transfusion Med	2							2
Trauma & Ortho	2	3					1	6
Oncology	3	3	1		1			8
Quality assurance			1					1
Surgery	5	15					1	21
Emergency Med		12				1	3	16
EENT	7	8						15
Medicine	7	11	1					19
Anesthesia	3	7		2			1	13
Child Health	17	5	1		2	1		26
Diagnostics	6		7				1	14
O&G	5	20			2			27
Public Health	1	9	2					12
Domestics							3	3
Biostatistics			5					5
Supply Chain						1		1
Family Medicine	11	2	2		1			16
Technical Service							1	1
Oral Health	5	2	2				2	11
Human Resource						1		1
General Office						3		3
Total	**74**	**98**	**22**	**2**	**6**	**7**	**12**	**221**

Staff Welfare and Recognition programmes

One hundred and sixteen (116) staff benefited from the hospital's Free Medical Care Scheme in the year 2016. The hospital spent a total amount of GHC64, 484.66 as reimbursement to staff on medical care. The hospital also granted waivers to staff in other service areas such as MRI and CT scan investigations. Birthday cards were sent to staff during their birthdays and Christmas packages were also given to staff during the year under review. Free bus services were also provided for staff on selected routes to facilitate early reporting to work.

CHAPTER 3

CLINICAL CARE SERVICES

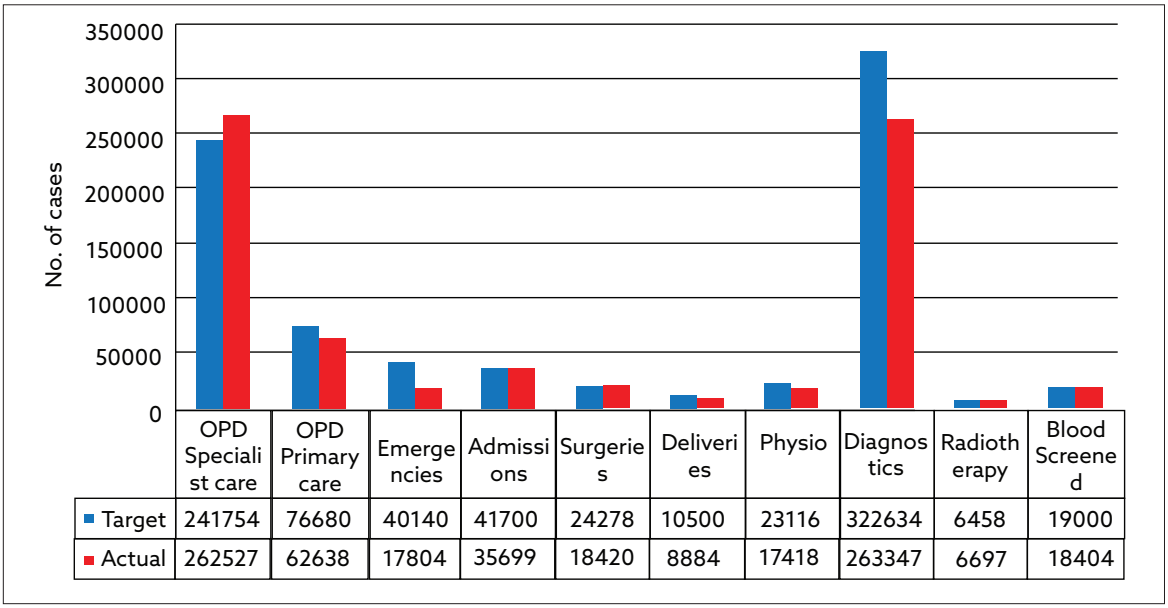
A summary of the hospital's clinical care performance in the year 2016 is presented in this chapter. Observable achievements made in out-patient services utilization, in-patient services, surgical operations performed, diagnostic services among others are classified below;

HO4: Improve quality of health services including mental health

Priority Activity 1: Increase the range of specialist services

➢ 2016 Service Targets and Actual Utilizations

Performance targets were set at the beginning of 2016. These served as benchmarks to measure the Hospital's actual performance at the end of the year. Figure 4 represents the summary of these targets and the achievements made during the period.



	OPD Specialist care	OPD Primary care	Emergencies	Admissions	Surgeries	Deliveries	Physio	Diagnostics	Radiotherapy	Blood Screened
Target	241754	76680	40140	41700	24278	10500	23116	322634	6458	19000
Actual	262527	62638	17804	35699	18420	8884	17418	263347	6697	18404

Figure 4: Service Utilization (2016 Targets and Actuals)

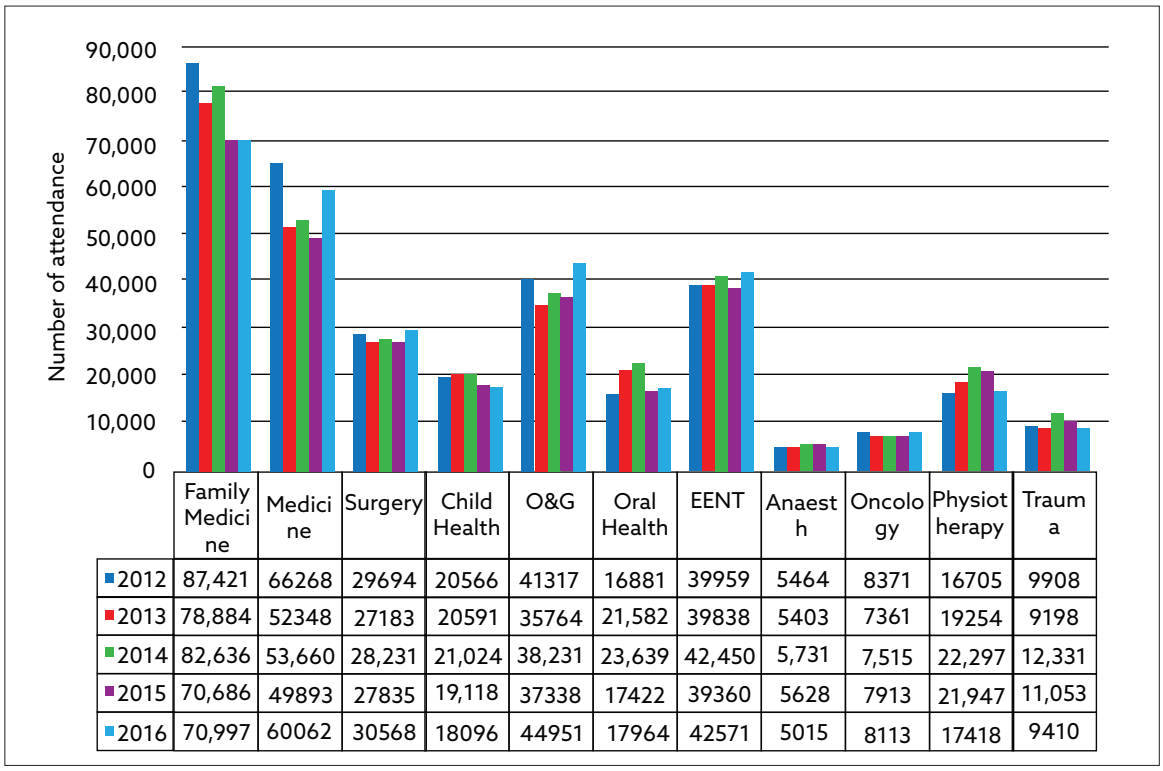
As shown above, with the exception of OPD-specialist care and Radiotherapy all the clinical targets were not achieved during the year.

Outpatient Services

The provision of outpatient services is a major component of health service delivery. There have been variations in the overall OPD attendance over the last five years and this situation is also similar within various clinics.

➢ Trend Analysis of OPD Utilization by Directorates

There has been inconsistent trend in OPD attendance in the various clinical directorates over the last five years. Figure 5 shows performances across individual specialties.



	Family Medicine	Medicine	Surgery	Child Health	O&G	Oral Health	EENT	Anaesth	Oncology	Physiotherapy	Trauma
2012	87,421	66268	29694	20566	41317	16881	39959	5464	8371	16705	9908
2013	78,884	52348	27183	20591	35764	21,582	39838	5403	7361	19254	9198
2014	82,636	53,660	28,231	21,024	38,231	23,639	42,450	5,731	7,515	22,297	12,331
2015	70,686	49893	27835	19,118	37338	17422	39360	5628	7913	21,947	11,053
2016	70,997	60062	30568	18096	44951	17964	42571	5015	8113	17418	9410

Figure 5: Trend in OPD Service Utilization, KATH 2016

In 2016, with the exception of Anaesthesia, Trauma and Physiotherapy Directorates that recorded reductions in their OPD attendances, all the other clinical directorates increased their OPD attendances.

- Trend in Aggregated OPD Services Utilization

There was an increase of 2.1% in aggregated OPD service utilisation in the hospital. The year 2014 recorded the highest OPD attendance whilst 2015 recorded the lowest attendance in the last five years. Figure 6 below, indicates the trend in OPD performance in the hospital for the last five years.

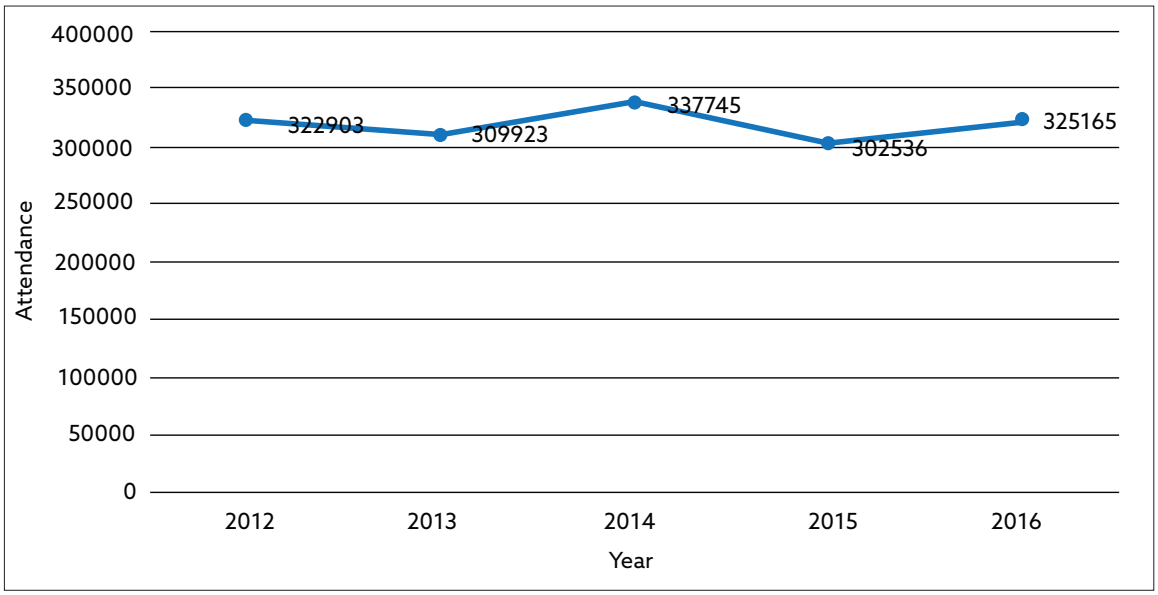


Figure 6: Trend in Aggregated OPD Service Utilisation, KATH 2016

Top Ten Specialist OPD Attendance

The O&G directorate recorded the highest OPD attendance among the top ten clinics. Table 6 below shows top ten specialists OPD attendance recorded during the year 2016.

Table 6: Top Ten Specialist OPD Attendance, KATH 2016

RANKS	CLINIC	TOTAL	% OF TOTAL SPECIALIST ATTENDANCE
1	O&G (ANC & PNC)	24613	9.42%
2	EYE (GENERAL-CASES)	19618	7.51%
3	ORAL HEALTH	17964	6.88%
4	PHYSIOTHERAPY	17418	6.67%
5	ENT GENERAL	14046	5.38%
6	INTERNAL (GENERAL MEDICINE)	13031	4.99%
7	MEDICINE DIABETES	12403	4.61%
8	FAMILY PLANING	12387	4.74%
9	PSYCHIATRY(MENTAL HEALTH)	12224	4.68%
10	FAMILY MEDICINE (CHRONIC CARE& REFERALS)	8359	3.20%

Admissions

There was a reduction in in-patient beds from 891 to 880. In addition to the 880 in-patient beds, there were also 224 emergency beds, 57 treatment/examination beds and 43 recovery beds making a total bed capacity in the hospital to be 1,204. A total of 35, 699 patients were admitted at the main wards. There has been a downward trend in hospital admissions since 2012. In 2016, admissions decreased by 4.07% as compared to the figure recorded in 2015. Figure 7, shows the trend from 2012-2016.

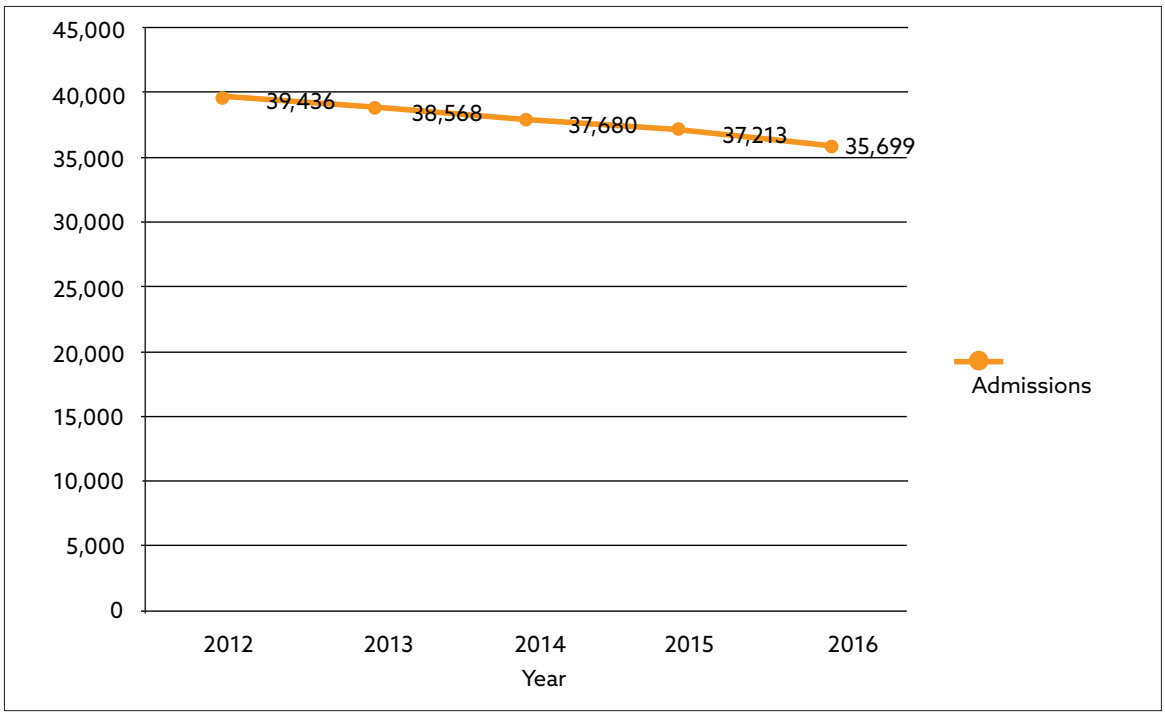


Figure 7: Trend in In-patient service utilization, KATH 2016

There was an increase in percentage bed occupancy from 79.60% in 2015 to 83.03% in 2016. However, average length of stay on the wards also increased from (7 days) to (8 days) in 2016.

Top Ten Causes of Admissions

The leading causes of admissions in 2016 were Preterm/Low Birth Weight, Eclampsia / Pre-Eclampsia and Disease of the Heart. Disease of the Kidney, Hypertension related complications and Abortions recorded the least causes of admissions among the top ten. Table 7, shows the top ten causes of admissions in the Hospital.

Table 7: Top Ten Causes of Admissions (2016)

DISEASE	TOTALS IN 2016	POSITION IN 2016	POSITION IN 2015
PRETERM/LBW	1158	1	2
ECLAMPSIA/ PRE-ECLAMPSIA	1157	2	1
DISEASE OF THE HEART	1132	3	7
NEONATAL SEPSIS	736	4	4
NEONATAL JAUNDICE	619	5	5
BIRTH ASPHYXIA	576	6	6
DIABETES	474	7	8
ABORTIONS	450	8	3
HYPERTENSION RELATED COMPLICATON	442	9	-
DISEASE OF THE KIDNEY	431	10	-

➢ Theatre Services Utilization

The Hospital has five (5) operating theatres with seventeen (17) operating rooms. Main Theatre (5 operating rooms) performed a total of 3,146 cases, A1 Theatre (2 operating rooms) a total of, 4,282 cases were done. Poly Theatre (2 operating rooms) performed a total of 947 cases, A&E theatre (4 operating rooms) performed a total of 2544 cases and A&E special O & G ward theatre also performed 298 cases. The Eye theatre also performed a total of 1,147 cases in 2016. There was a general decline in theatre utilisation in the year 2016. This information is represented in Table 8.

Table 8: Theatre Service Utilization, KATH, 2016

Theatre	Total Cases done for the year	Average number of hours per case	Total hours for the year for all cases	Optimal Hours for the year	% Utilization 2015	% Utilization 2016
Main Theatre (5-op. rooms)	3,146	2.5	7,720	21,900	35.3	35.9
Poly Theatre (2-op. rooms)	947	1	1,010	8,760	11.5	10.81
A&E Theatre (4 – op. rooms)	2,544	2.5	6,785	17,520	38.7	36.3
A&E Special Ward Theatre.	298	1	388	4,380	8.8	6.8
A1 Theatre (2 – op. rooms)	4,282	1	4,506	8,760	51.4	48.88
Eye Theatre (3 – op. rooms)	1,147	1	1,761	13,140	13.4	8.74

There was an increase in surgeries in the year under review. A total of 17,928 surgeries were done during the period; representing a shortfall of its target by 26.16% and 8.57% increase over the previous year's figure. Generally, there has been reduction in surgeries since 2012 (Figure 8).

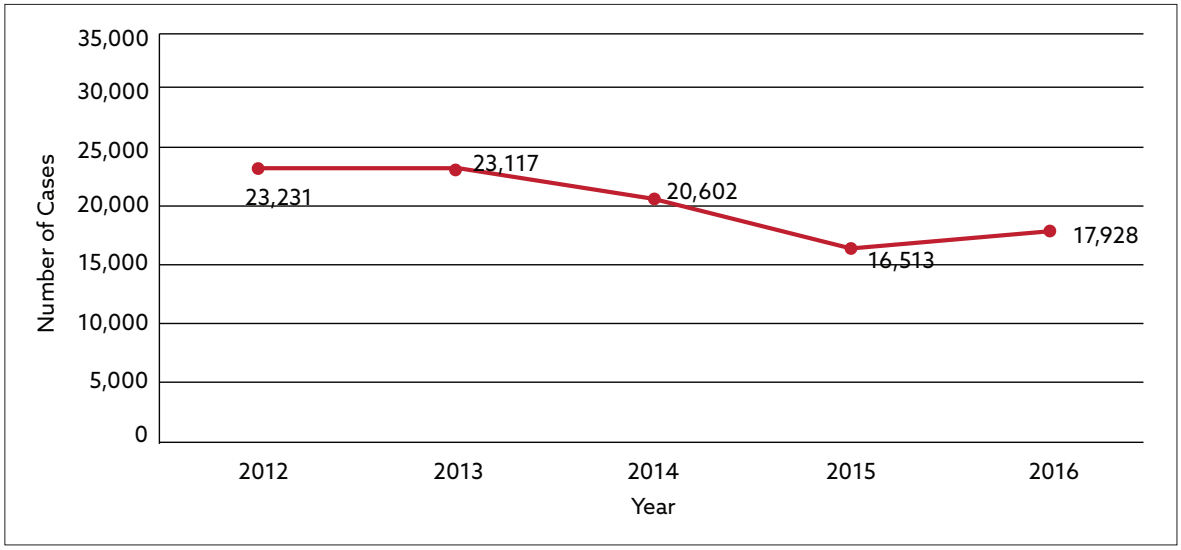


Figure 8: Trend in Surgical Operations Performed, KATH 2016

Critical Care and Recoveries

Admissions to the Recovery and Intensive Care Wards in the hospital have been fluctuating since 2012. The hospital also admitted 11,216 patients to its recovery wards during the year under review. This information is presented in figures 9 and 10.

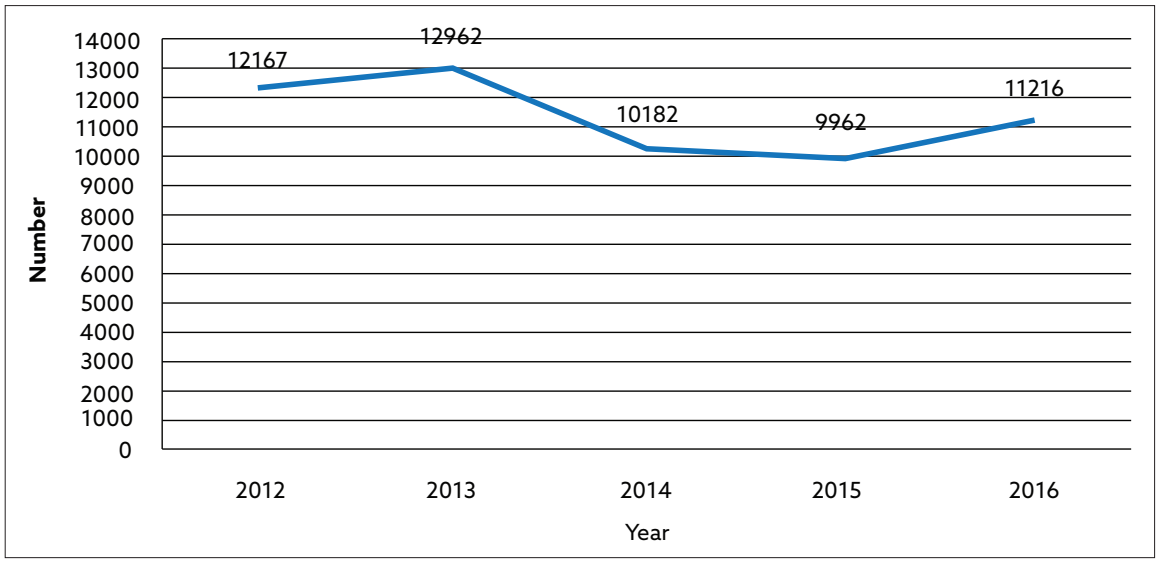


Figure 9: Trend in Recoveries, KATH 2016

In 2016, a total of 129 patients were provided with intensive care services. This represents a decrease of 57% below the expected output of 300 set for the year and 39% decrease compared to the previous year's performance of 210. Figure 10 below shows the trend in ICU admissions in the hospital over a five year period.

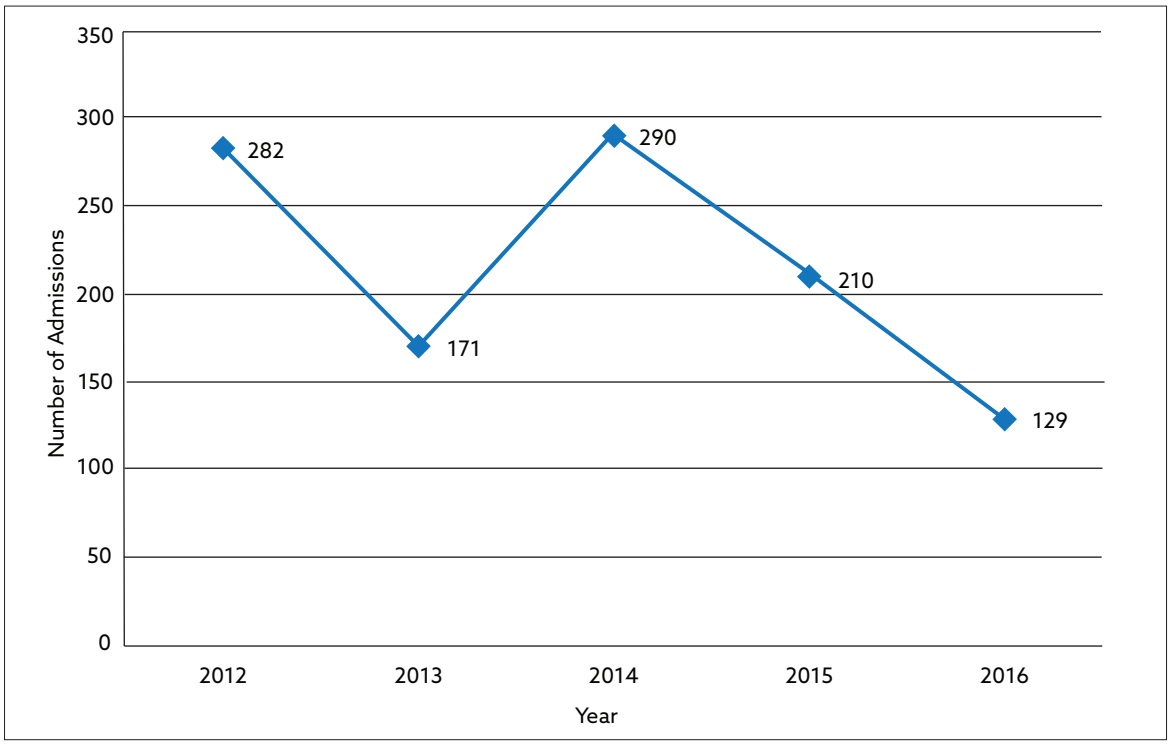


Figure 10: Trend in ICU Admissions, KATH 2016

HO 4: Improve quality of health services including mental health

Priority Activity 2: Sustain activities aimed at reducing mortality, (especially maternal mortality) and improving general care outcomes

➢ Improving Mortality Auditing and Quality Assurance Activities

The hospital instituted various measures in 2016 to reduce mortality, especially maternal deaths. These included the Mortality Audit Committees auditing all deaths which occurred during the period.

As part of efforts to improve maternal health, five (5) midwives were sponsored for training in Peri-Operative and Critical Care nursing. The Obstetrics and Gynaecology directorate also trained 300 staff in reproductive health. Again, all Medical Officers and some Residents in the Obstetrics and Gynaecology Directorate were trained in basic surgical skills and outreach supervisory skills.

The hospital intensified efforts to reduce neonatal deaths by regularly organizing neonatal mortality meetings. The Child Health Directorate also offered neonatal support services to other healthcare facilities within Ashanti region including the Suntreso Government Hospital, Tafo Government Hospital and the Child Welfare Clinic. The hospital engaged the public in several Educational programmes on child health as part of efforts to reduce mortality.

Overall, the hospital recorded a decrease of 3.41% in maternal mortality rate for the year 2016. Details of these are discussed below.

➢ Mortality

One of the key measures of a hospital's quality performance is mortality ratio. The hospital management continues to identify the various factors that affect mortality and develop strategies to monitor and improve performance (Figure 11).

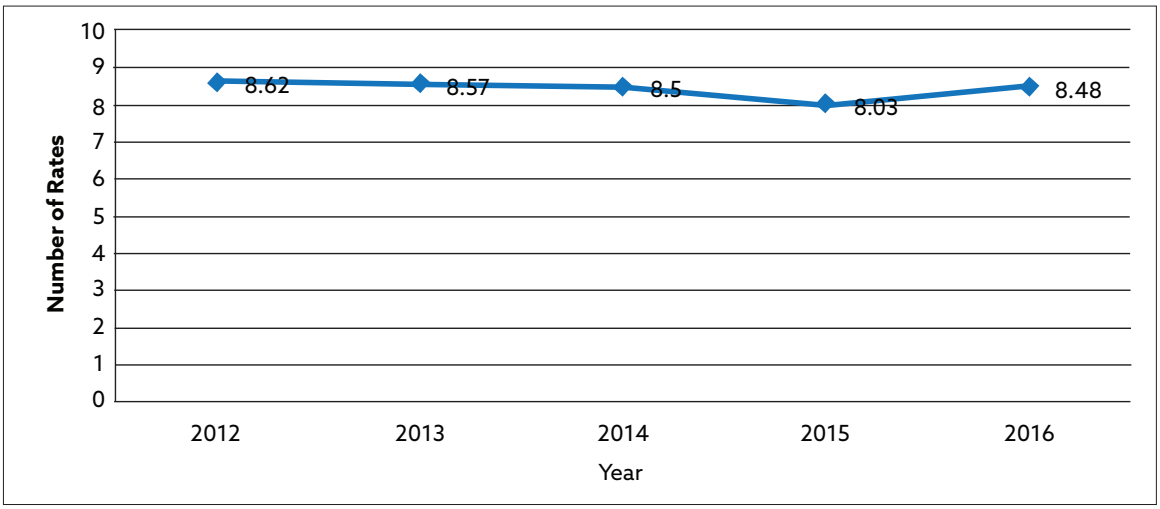


Figure 11: Trend in Total Mortality Rate, KATH (2012-2016)

Table 9: Top ten causes of death 2016

DISEASE	TOTALS IN 2016	POSITION IN 2016	POSITION IN 2015
PRETERM/LOW BIRTH WEIGHT	313	1	1
DISEASE OF THE HEART	265	2	RECLASSIFICATION
BIRTH ASPHYXIA	196	3	3
RETROVIRAL INFECTION	117	4	4
DISEASE OF KIDNEY	102	5	5
DISEASE OF LIVER	84	6	6
DIABETES MELLITUS	75	7	7
NEONATAL JAUNDICE	68	8	10
NEONATAL SEPSIS	57	9	RECLASSIFICATION
RESPIRATORY DISTRESS	45	10	RECLASSIFICATION

In the year 2016, Preterm/Low Birth weight and Diseases of the Heart were the leading causes of deaths in the hospital with totals of 313 and 265 cases respectively. Respiratory distress was the 10th highest cause of death in the hospital recording a total of 45 cases in 2016 (Table 9).

➢ Supervised Delivery

Deliveries in the hospital have been declining for the past 5 years. Amidst the challenge of inadequate space for skilled delivery services, the hospital supervised 8,884 deliveries representing 85% achievement of the targeted output of 10,500.

There was also a decrease of 8% in the number of deliveries recorded as compared to the 2015 performance of 9,653. Figure 12, depicts the falling trend of supervised deliveries in the hospital from 2012 to 2016.

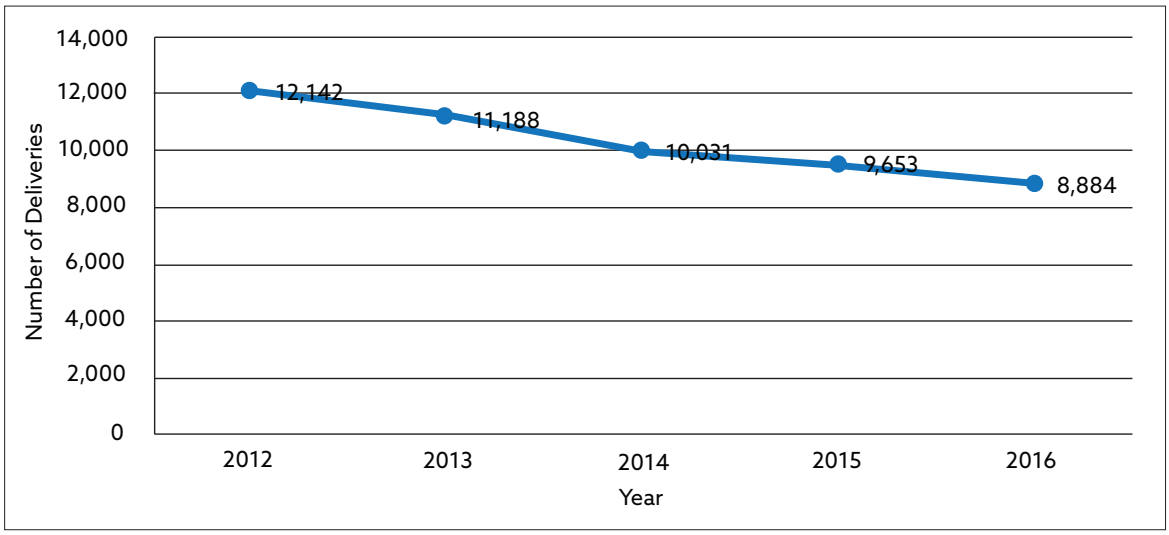


Figure 12: Trend in Deliveries, KATH 2012-2016

➢ Maternal Mortality

Maternal mortality rate is one of the quality assessment benchmarks of a hospital's performance.

In the year 2016, the hospital recorded 91 maternal deaths. As part of efforts to reduce maternal deaths in the hospital, various training programmes were organised for doctors and midwives on maternal mortality and morbidity as well as perinatal mortality and morbidity.

In the year under review, maternal mortality rate for the hospital was 1,020 deaths per 100,000 live births. Figure 13, shows that maternal mortality rate in the hospital has been declining since 2012.

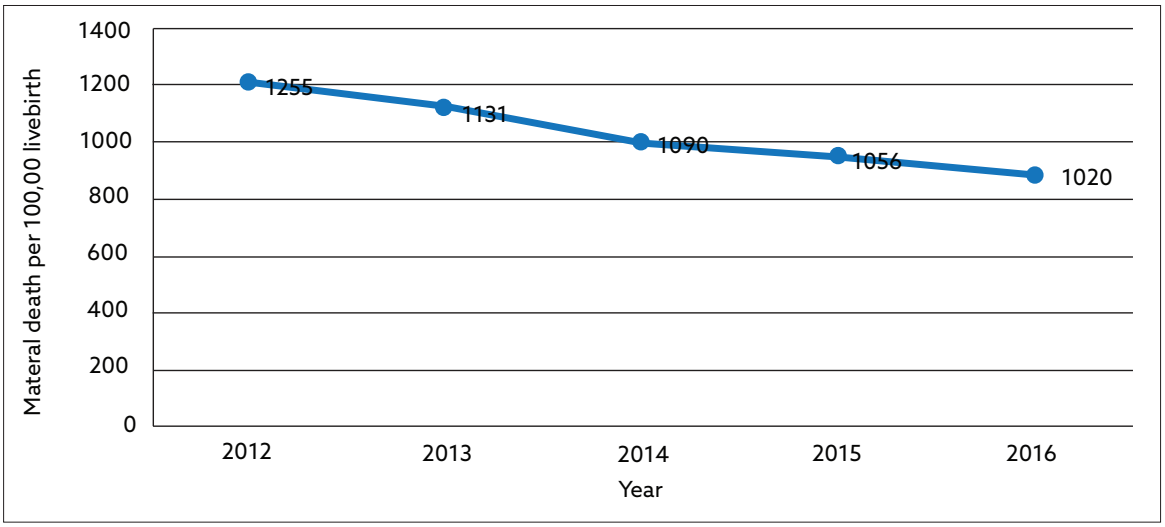


Figure 13: Trend in Maternal Mortality Rate (2012-2016) per 100,000 live births, KATH

Top Ten Causes of Maternal Mortality

Figure 14, shows the top ten causes of maternal deaths in the hospital.

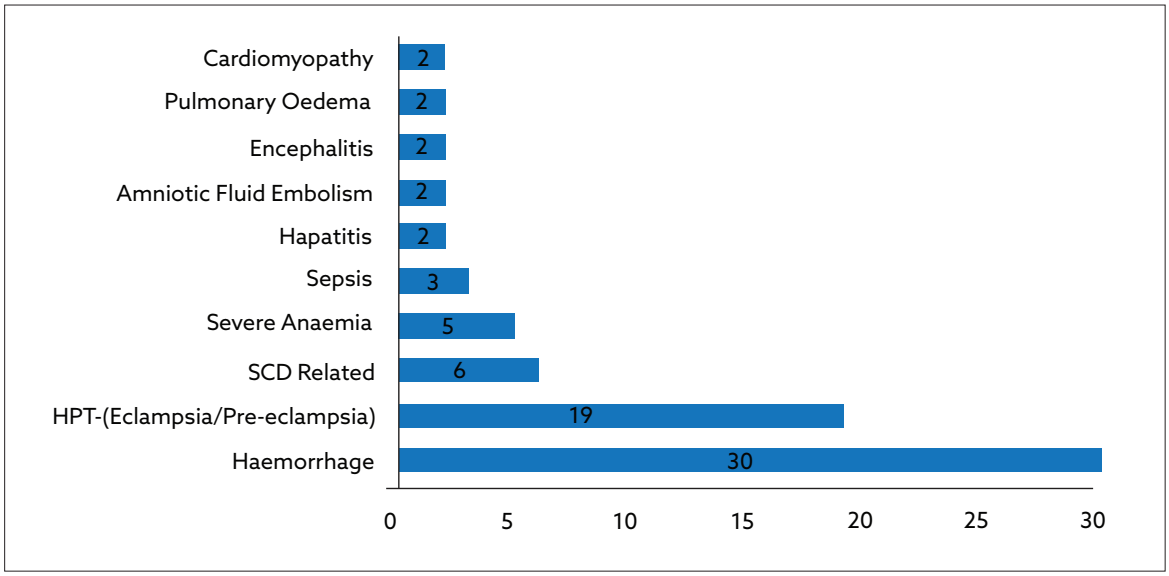


Figure 14: Top Ten Causes of Maternal Deaths, KATH 2016.

Post-partum haemorrhage (PPH) and Eclampsia/Pre-Eclampsia were the leading causes of maternal deaths in the hospital for 2016. This has been the trend in the hospital for the last five years. Cardiomyopathy and Pulmonary Oedema on the other hand also recorded the least among the top ten causes of maternal death in the year 2016.

HO4: Improve quality of health services including mental health

Priority Activity 3: Continue to support emergency services

In the year 2016, twenty-six (26) nurses were trained in emergency management of soft tissue injury, management of meningitis, administration of oxygen, management of emergency cases and dengue fever. Again, twenty (20) residents were trained in emergency ultrasound and one hundred and eighty two (182) nurses were also trained in recognition and assessment of critically ill patients.

- Emergency Services Utilization

Paediatric Emergency Unit (PEU) and Emergency Medicine Directorate are the two emergency areas in the Hospital, with a total bed capacity of 224. In 2016, 20,811 emergencies were seen in the hospital representing 23.1% decrease over the 2015 performance of 27,080. Generally, emergency services utilisation in the hospital has been declining since 2013. Figure 15, shows the five year trend in emergency service utilization of the hospital.

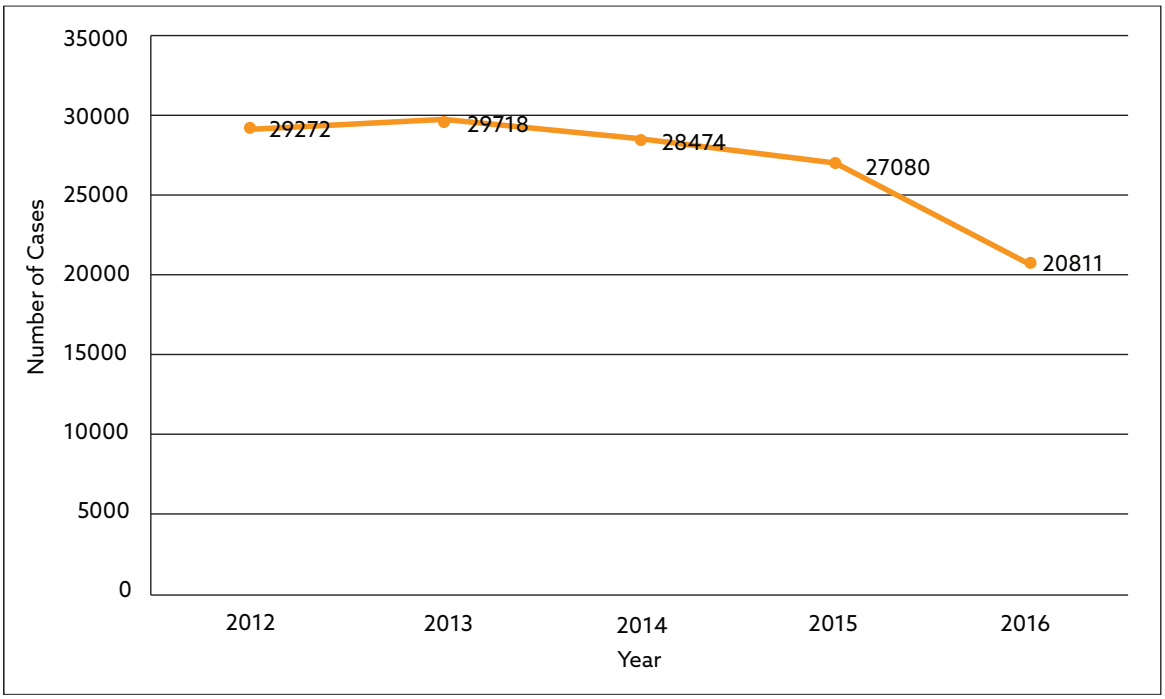


Figure 15: Trend in Emergency Services Utilization (2012-2016) KATH

HO 4: Improve quality of health services including mental health

Priority Activity 4: Continue the provision of advanced diagnostic services

Diagnostics Services

During the period, two (2) Biomedical Scientists were sponsored to train at University of UTAH. Fifteen (15) Biomedical Scientist and fourteen (14) Radiographers were supported for annual continuous professional development programmes.

In order to enhance service provision in the hospital, CT and MRI machines were repaired. Plan preventive maintenance was also undertaken at all the laboratories of the diagnostics directorate. Number 1-5 walk-in cold rooms was built. The Biochemistry unit was also provided with a 25 back-up analyser (Cobalt integral 400 plus machines).

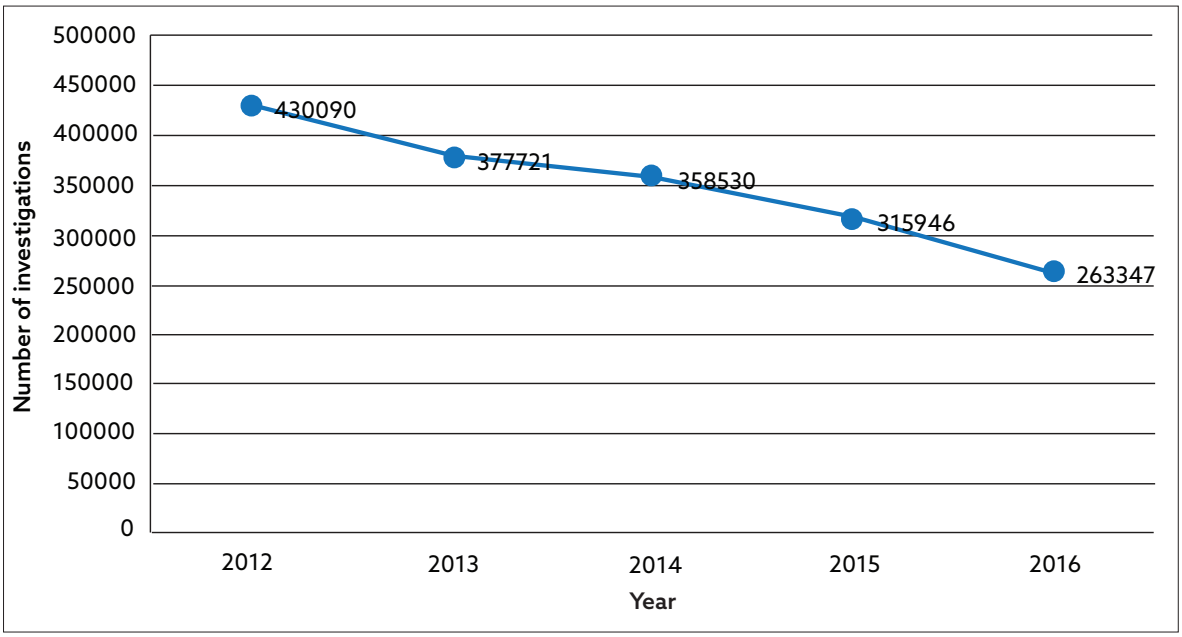


Figure 16: Trend in Diagnostic Investigations (2012-2016) KATH

The trend in diagnostic investigations for the last five years has seen a consistent decline in output (figure 16). The number of diagnostic investigations conducted in the year 2016 was 263,347. The actual performance for 2016 fell short of the year's target of 322,634. This represents 18.4% decrease. There was also a decrease of 16.6% against the previous year performance of 315,946.

HO 4: Improve quality of health services including mental health

Priority Activity 5: Conduct operational research into emerging diseases

In 2016, a number of research activities were completed and others were ongoing in the hospital. However, the hospital's main focus remains the implementation of the various research findings for organizational development.

➢ Ongoing Research Activities

The following research activities by directorates/units were on-going during the period:

- Austere Consortium for Enhanced Sepsis Outcomes (ACESO)
- Patient Flow in the Emergency Directorate
- Trauma Registry
- Clinical Evaluation of Restoration of Non-Caries Cervical Tooth Surface Loss Lesion with Tooth Colored Restorative Material among Patients Attending Komfo Anokye Teaching Hospital; A Three Month Review
- Study of Breast Cancer Subtypes
- Patient dose relationship with exposure parameters in chest X-ray examination in KATH and Agogo
- Interpositional variation in applicator position of patients undergoing low dose rate (LDR) brachytherapy
- In – Vivo Dosimetry
- Dosimetry Effect of thermo plastics immobilization
- Treatment Gap techniques for common cancer

➢ Completed Research

The following research works were completed during the year 2016

- Bedside Urinalysis Study: November – December 2016
- Illicit Drug Study – January – May, 2016

- Depression and Associated Factors in Adult Primary Care Patients
- Prevalence of Hepatitis B and C Viral Infection among Patients seeking Primary Care at KATH.
- Comorbidities among Geriatrics at the Chronic Care Clinic
- Experiences with International NGOs in Africa
- Ghana Breast Health Study
- A retrospective study of Ludwig's Angina at the Maxillofacial unit of KATH
- Urinalysis of Pregnant women visiting Ante natal clinic at KATH
- Hookworm Cases Presenting at KATH over the period 2006-2015
- "Epidemiology, Distribution and Factors Associated with Intestinal Parasitic Infection among Abattoir Workers at Kumasi Abattoir Ltd";
- Ten Year Retrospective Study of the Epidemiology, Confirmation and Distribution of Onchocerciasis reported at KATH from 2006-2015
- Baseline and Progress Evaluation of the MAF Implementation Strategy in KATH undertaken by the Unit
- Study on risk factors for delayed vaccination of children.
- Collaboration with Duke University to examine vaccination perception amongst parents
- Study on recognition of the early clinical signs of pneumonia at home – collaboration with KATH R&D

➢ Published Research

The following research works were published during the year 2016

- Informed Consent under the Ghana Service Patients Chapter: Practice and Awareness
- Immunisation Status of Children Born with Orofacial Cleft Clinic
- Labial Talon Cusp-A case report in Ghana
- Auto Transplantation of an Impacted Maxillary Canine and Surgical Verticalisation and Composite Build Up of Tilted Lateral Incisor
- You have no choice but to go on: How physicians and midwives in Ghana cope with frequent perinatal death". Maternal Child Health J DOI 10.1007/s10995-016-1943-y
- Characteristics and contributory factors for injectable contraceptive usage among women in Kumasi, Ghana" I. Contraception and Reproductive Medicine (2016) 1:8, DOI 10.1186/s40834-016-0019-0
- Perception and risk factors for cervical cancer among women in northern Ghana. Ghana Med J 2016; 50(2): 84-89 DOI: http://dx.doi.org/10.4314/gmj.v50i2.6
- Health worker Motivation in Ghana; the Role of Non-Financial Incentives. A case study of Komfo Anokye Teaching Hospital in Ghana. International Journal of Biosciences, Healthcare Technology and Management. Vol 6 (4), pp. 34-39
- The Role of First-Line Managers in Healthcare Change Management: A Ghanaian Context. International Journal of Biosciences, Healthcare Technology and Management. Vol. 6, (3) pp. 20-33
- Palliative Care training as a process, not an event". 5thInternational African Palliative Care Conference. Oral presentation. August 2016, Kampala, Uganda
- The Grantham-KNUST twinning project" Knowledge Fiesta, GCPS, Accra, September 2016.
- Prevalence of Hepatitis B and C infection in primary care patients at Komfo Anokye Teaching Hospital" Knowledge Fiesta, GCPS, Accra, September 2016.
- Rehabilitation Medicine Physician Training in Ghana". Knowledge Fiesta, GCPS, Accra, Sept, 2016.
- Predictors of repeat abortion in Kumasi, Ashanti region, Ghana". American Public Health Association Annual Meeting and Exposition, Denver; November/2016
- Palliative Care at Komfo Anokye Teaching Hospital (KATH), Kumasi,

Ghana – A preliminary report". 21st World Conference of Family Doctors (WONCA), 2-6 Nov, 2016. Rio de Janeiro, Brazil.

- Depression and associated factors in adult primary care patients at Komfo Anokye teaching Hospital". 21st World Conference of Family Doctors (WONCA), 2-6 Nov, 2016. Rio de Janeiro, Brazil.
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- Characterization of posttransfusion Plasmodium falciparum infection in semi-immune nonparasitemic patients.Transfusion. 2016 Sep; 56(9):2374-83. doi: 10.1111/trf.13706.
- Effect of Plasmodium inactivation in whole blood on the incidence of blood transfusion-transmitted malaria in endemic regions: the African Investigation of the Mirasol System (AIMS) randomised controlled trial. Lancet. 2016 Apr 23; 387 (10029):1753-61. doi: 10.1016/S0140-6736(16)00581-X.
- A novel strategy for screening blood donors for syphilis at Komfo Anokye Teaching Hospital, Ghana. Transfus Med. 2016 Feb; 26(1):63-6. doi: 10.1111/tme.12279.
- Syphilis screening practices in blood transfusion facilities in Ghana. Int J Infect Dis. 2016 Feb; 43: 90-4. doi: 10.1016/j.ijid.2015.12.020.

HO 4: Improve quality of Health services including mental health

Priority Activity 6: Acquire requisite medical equipment to improve service delivery

The Hospital during the period initiated the process of procuring a new oxygen plant to augment the obsolete plant. The hospital also procured other medical equipment worth GH₵ 3,153,305. They include a craniotomy set, monitors, ultrasound machine, and dual head lamps for theatre among others.

HO1: Bridge equity gaps in geographical access to health services

Priority Activity 7: Continue efforts in providing support to district and regional hospitals in the northern sector of Ghana, by way of providing outreach services

As a major tertiary care service provider, supporting primary and secondary services has been one of our key objectives. In 2016, management aggressively pursued strategies and activities to achieve a higher impact in clinical outreach.

The hospital collaborated with Ghana Health Service institutions in the northern sector of Ghana, to perform surgeries and other procedures. The Eye Unit conducted five (5) major offsite outreaches during the year under review. These outreach programmes took place at Goaso, Samreboi, Keta, Jetiase and Aburi. A total of 21,727 people were screened with 1,293 surgeries performed during the period under review.

There was also cancer education and examination for communities and religious institutions by the Oncology Directorate. There were outreaches at Seventh Day Adventist Church, Bohyen, Benin, Mampong and Sokoban to screen women for breast and cervical cancers. A total of Two hundred and fifty nine (259) people were screened during the outreach. Fifteen (15) home visits were also done.

The Oral Health Directorate also embarked on an outreach with 4,747 patients screened. Neonatal support services and Telephonic consults were rendered by the hospital to peripheries in Kumasi. There were several Child and Maternal Health education programmes on radio and TV.

The Family Medicine directorate also embarked on various outreach programmes including regular medical care to the Kumasi Central Prisons. The directorate also regularly provided a regular medical care to the people of Sepe-Buokrom, Kumasi as part of the Community Oriented Primary Care programme. The directorate again organised an outreach programme at Bibiani during the World Family Physicians' Day celebration to screen about 600 patients.

The hospital continues to provide support by way of outreach to adopted facilities within its periphery under the MAF programme.

HO.3: Improve efficiency in governance and management of the health system

Priority Activity 8: Continue to improve performance monitoring and promote financial accountability & controls.

During the period under review the Planning, Monitoring and Evaluation Unit of the hospital relied on the weekly reports of the various directorates and units as the basis for monitoring the performance of the various directorates and units of the hospital. The purpose was to monitor the implementation of the 2016 approved programmes and plans of these directorates and units. The Audit Unit also undertook financial and compliance monitoring visits to the various directorates and units.

CHAPTER 4

QUALITY ASSURANCE ACTIVITIES

Quality Assurance is made up of the following activities: Infection Prevention and Control, Patient Safety, Complaints Management and Audit, Documentation and other activities aimed at improving customer care.

Achievements for the year 2016

1. Infection prevention & control

In the year 2016, the hospital intensified its Infection Prevention and Control (IPC) activities. Surveys on Hand hygiene compliance and waste management among staff were conducted in all service points at the hospital. The unit also conducted hand hygiene monitoring in all service points. Six (6) IPC Committee and IPC Focal persons meetings were also organised.

2. Patient Safety

The unit organised training on hand hygiene during the World Hand Hygiene Day celebrations.

Safe Surgery training was also conducted to improve quality of care for patients.

3. Complaints Management and Audit

Surveys on Customer care satisfaction, Patient waiting time, Hand hygiene audit, Waste management, and Staff canteen services were conducted.

4. Improving customer care

Periodic surveys on Client Satisfaction were done at all the service points in the hospital.

5. Customer care issues of concern

- Poor communication
- Long waiting time especially at Eye Clinic, Radiology, Pharmacy and records.
- Poor staff attitudes

Survey on Patient waiting time

As shown in figure 17, the Eye Clinic consulting room recorded the highest patient waiting time with 2.4 hours.

However, the pharmacy unit of the Eye clinic recorded the lowest patient waiting time with patient spending 0.1 hours.

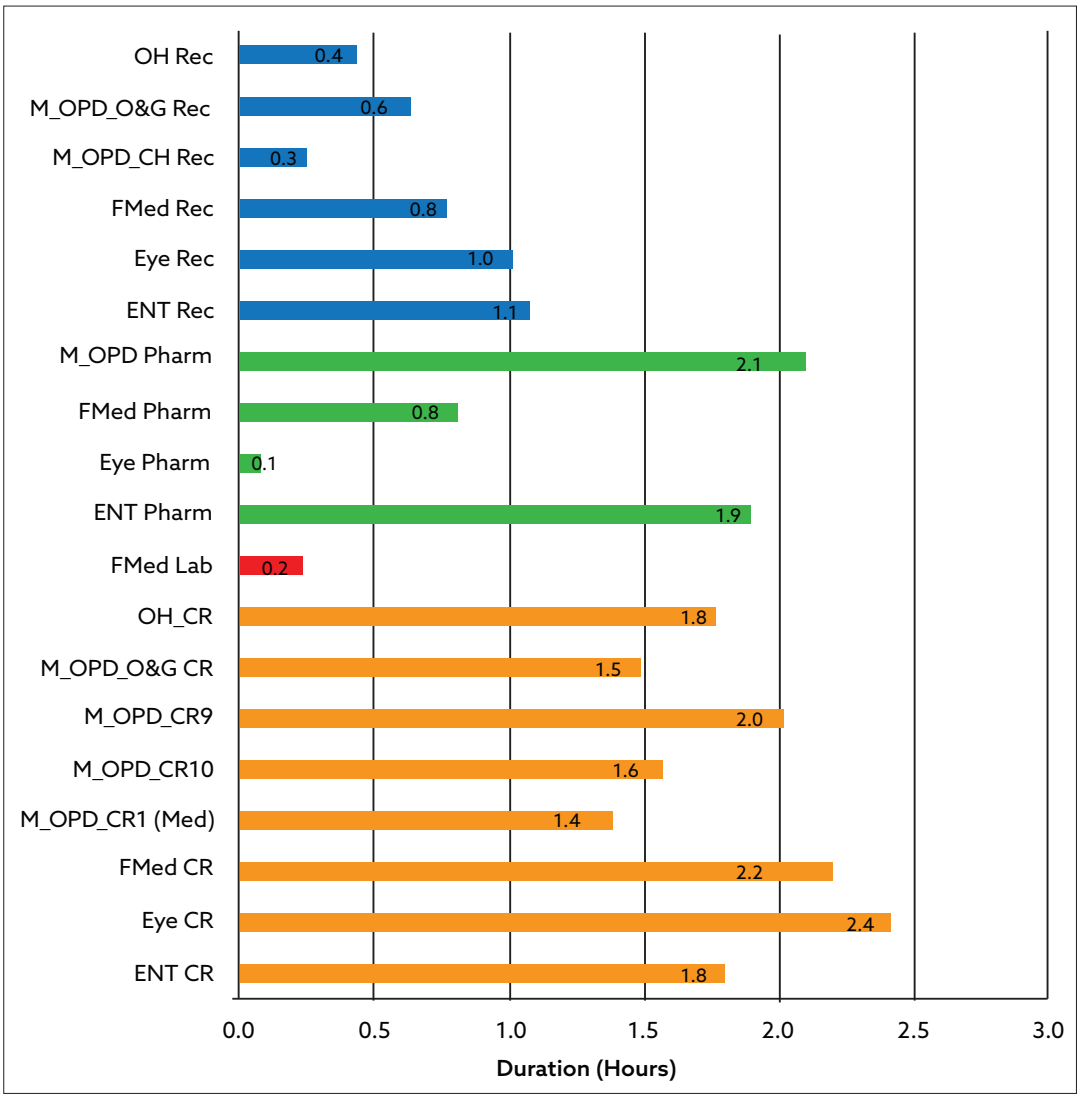


Figure 17: Patient Waiting Time, KATH 2016

CHAPTER 5
DOMESTIC SERVICES

Domestic Services Directorate is made of CSSD, Laundry, Catering, and Transport units. During the year 2016, the directorate undertook various activities to improve services to clients. Among the major activities carried out during the year included the purchase and installation of a boiler machine, two new washing machines and two new autoclave machines. The directorate also undertook vehicle servicing and maintenance. Table 10, shows the number of vehicles their conditions and operational cost as at 2016.

Table 10: Number, condition and operational cost of available vehicles, 2016

ACTIVITY INDICATOR	2012 ACTUAL	2013 ACTUAL	2014 ACTUAL	2015 ACTUAL	2016 ACTUAL
Number of Vehicles/ Tractors	32	42	42 (11 were auctioned)	33	33
Serviceable Vehicles	29	30	26	29	29
Cost of fuel	234,170.00	219,119.41	177,866	203,360	218,195.30
Cost per KM	0.67	0.62	0.62	0.75	0.57
Total Km Travelled	350,915	351,211	283,598.46	270,648	380,624
Maintenance Cost	-	67,739.70	53,683.34	84,627.28	129,254

In 2016, In the total number of vehicles and tractors at the beginning of the year was 33.

In the year 2016, Twenty three (23) of the cars representing 67% of the fleet of vehicles were above 7 years whilst (10) representing 33% of the vehicles were under 7 years. This is shown in the figure 18:

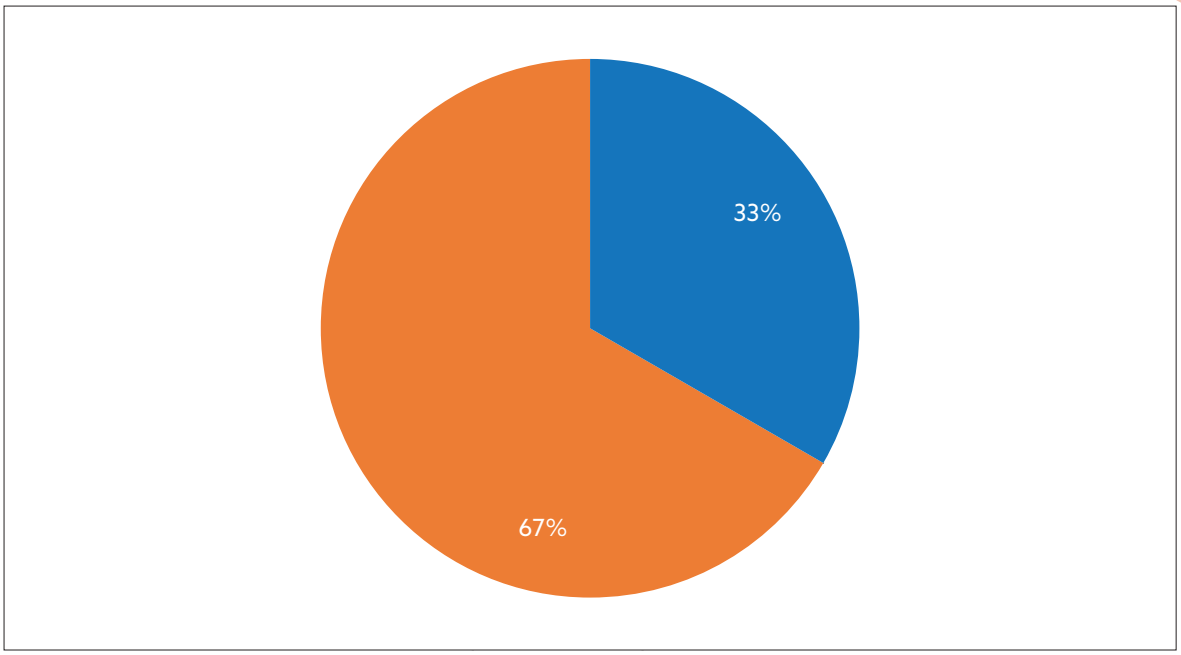


Figure 18: Age of vehicles, 2016

CSSD, CATERING AND LAUNDRY.

In the year, a total of 491,887 gauze and cotton wool packs were produced, sterilized and supplied to the various operational units. This represent a decrease of 7.8% compared to the targeted figure of 533,280. In 2016, a total of 301,958 meals were prepared and served to patients on admission. The unit achieved 0.7% over its target of 300,000 with regards to the catering services. Renovation work was undertaken in the kitchen and work is currently 90% complete.

During the year a total of 547,446 linen were washed and distributed to the various directorates. This represents 3% increase compared to the year's target of 534,000.

CHAPTER 6

TECHNICAL SERVICES

The Technical Service Directorate focused on Planned Preventive Maintenance and coordination of activities for projects in the hospital.

Infrastructural and Equipment Development

In 2016, substantial number of infrastructural and equipment works were carried out in the hospital. These included the construction of Gas Sub-Station at Eye Centre and the construction of 10 glazing booths at Family Medicine, Consulting room 8, blocks A, B, C, and D for the HAMS Project as well as the tiling of concrete roof of Main Block D.

Tables 11 and 12 gives a summary of the state of infrastructural and equipment development in the hospital in 2016.

Table 11: Infrastructural Development

PLANNED ACTIVITY	EXPECTED OUTPUT %	END OF YEAR RESULT %
Construction of Gas Sub-Station at Eye Center	100% Completion	100% completion achieved
Construction of 10nr glazing booth at Family Medicine and Consulting room 8, blocks A, B, C, and D for HAMS Project	100% Completion	100% Work done
Construction of fence wall at Danyame, Bung. No. 3	100%	100% of work done
Construction of fence wall at Neem Avenue, Bung. No. 14	100% completed	100% completed
Tiling of concrete roof of Main Block D	100%	100% achieved
Reconstruction and refurbishment of KATH Main Entrance	100%	90% achieved
Renovation work at former Consulting Room 10 and Main Dental Clinic	100%	85% achieved
Drilling and mechanization of borehole at Asuoyeboah SSNIT flat, Blk 10	100%	95% achieved
Construction of fence wall at Danyame Bung, No. 2	100%	95% achieved
External renovation works at Main Theatre	100%	95% achieved
Expansion/Alteration works for installation of LINAC Machine at KATH	100%	70% achieved (the project is 3 years behind schedule)

Table 12: Equipment

EQUIPMENT	STATUS
Mortuary Cold Room	A 200 body capacity walk-in mortuary constructed and in use. Additional 150 body capacity completed
Lifts	Replacement of all eight (8) lifts in progress. Six under test-run: Two under construction.
Oxygen Plant	Process of procuring new plant underway.
Tumblers dryers	All two are working but having challenges with steam supply.
Dryers	Two 100kg dryers installed at old laundry
Electrical Dryers	One electric dryer has been commissioned and in use.
Electric Generators	All five standby generators in good working condition.

CHAPTER 7

FINANCIAL PERFORMANCE

This section gives the general overview of the financial activities as well as the financial performance of the hospital for the year 2016.

Sources of Funding

The operations of the hospital were financed mainly by Internally Generated Funds (IGF), subventions from the Government of Ghana (GOG) and Sector Budgetary Support (SBS).

Government of Ghana Subventions (GOG)

During the year under review, the hospital received subventions in the form of employee compensation from the Government of Ghana. However, no funds were allocated for Administration and Investment/Projects.

Internally Generated Funds (IGF)

During the year under review, the hospital generated a total net revenue of GH¢54,865,426.37. The execution of the IGF revenue budget in the various broad revenue categories is illustrated in Table 13.

Table 13: Internally Generated Fund (IGF) Revenue Execution

ITEM	BUDGET (GHC)	ACTUAL (GHC)	% OF BUDGET ACHIEVED
SERVICE	40,198,735.07	44,944,635.66	112%
MEDICINES (DRUGS)	11,053,763.87	9,270,228.15	84%
OTHERS	799,972.00	650,562.56	81%
TOTAL	**52,052,470.94**	**54,865,426.37**	**105%**

The hospital performed fairly well when the 2016 revenue figures were compared with those of 2015. In all, the year's total revenue generated exceeded that of 2015 by 6.0% (Table 14).

Table 14: The 2015 and 2016 Revenue Figures Compared

ITEM	2015 (GHC)	2016 (GHC)	% CHANGE
SERVICE	41,608,079.71	44,944,635.66	108%
MEDICINES (DRUGS)	9,545,962.68	9,270,228.15	97%
OTHERS	620,937.34	650,562.56	105%
TOTAL	**51,774,979.73**	**54,865,426.37**	**106%**

The service revenue generated increased by 8% over the previous year's figure, but only 97% of the medicines revenue, compared with the 2015 figure was achieved.

CLASSIFICATION OF IGF REVENUE

The classification of the 2016 revenue generated by mode of receipt indicates that the Cash, NHIS and Others exceeded the 2015 figures by 6%, 6% and 5% respectively. Out of the total revenue for the year under review, 56% was received in the form of cash, 43% in NHIS and 1% from others (Table 15).

Table 15: Classification of IGF Revenue by Mode of Receipt

MODE OF RECEIPT	2015 (GHC)	2016 (GHC)	% CHANGE	% OF TOTAL REVENUE
CASH	28,852,136.83	30,527,365.18	106%	56%
NHIS	22,301,905.56	23,687,498.63	106%	43%
OTHERS	620,937.34	650,562.56	105%	1%
TOTAL	**51,774,979.73**	**54,865,426.37**	**106%**	**100%**

EXPENDITURE (IGF):

In the year 2016 a total expenditure of **GH₵56,211,724.81** was incurred against budgeted expenditure of **GH₵52,052,470.94**, representing 8% above the budgeted expenditure. When it comes to expenditure by economic classifications, the goods and services actual expenditure exceeded the budgeted figure by 14%. The over spending in goods and services were contributed mainly by expendables, patient feeding and cleaning. These items were affected much by the increases in the prices of foodstuffs and items under those categories. However, 92% and 88% of the budgeted figures for Compensation and the Assets were spent.

Table 16: IGF Expenditure Budget Execution 2016

ITEM	BUDGET (GHC)	ACTUAL (GHC)	% OF BUDGET SPENT
COMPENSATION	9,529,832.12	8,765,062.24	92%
GOODS & SERVICES	38,208,729.54	43,648,128.06	114%
ASSETS	4,313,909.28	3,798,534.51	88%
TOTAL	**52,052,470.94**	**56,211,724.81**	**108%**

Comparing the expenditure figures for the two years, Goods and Services and Assets figures for 2016 exceeded the 2015 figures by 15% and 114% respectively. However, the 2016 Compensation expenditure was 78% of the 2015 amount. In total, the expenditure for 2016 exceeded the amount for 2015 by 10%. The details are in the Table 17.

Table 17: Comparison of 2015 and 2016 Expenditure

ITEM	2015 (GHC)	2016 (GHC)
COMPENSATION	11,212,248.11	8,765,062.24
GOODS & SERVICES	37,959,434.25	43,648,128.06
ASSETS	1,777,513.40	3,798,534.51
TOTAL	**50,949,195.76**	**56,211,724.81**

CHAPTER 8

COLLABORATION AND SUPPORT

The Hospital in its efforts to provide quality care to its clients collaborates with some organizations and receives support from certain benevolent individuals and organizations. During the year under review, the following were the organizations that the hospital collaborated with:

Table 18: Collaboration and Support

Institution	Nature of collaboration
Guangdong Cardiovascular Institute, China	Open heart surgeries and pacemaker implantation
Cardio-start International, USA	Open heart surgeries and Implantation on adults.
Boston Children's Hospital, USA (Harvard University)	Open heart surgeries for children
Aalst Cardiovascular Institute, Belgium	open heart surgeries
Orbis International	Training support, research and paediatric eye care services.
International Voluntary Union of Urologists (IVU)	Training facilities and surgeries in hypospadias and hermaphrodites for Doctors and Nurses
Children Surgery International, USA	Training and surgeries to cleft lips and palate patients
Himalayan Cataract Project (HCP), USA	eye care services and training
University of Michigan	Training of residents and Nurses in Emergency medicine also collaboration with Breast Cancer Research Eye.
Georgia Southern University	Conversion of Paper-based Medical Records into Electronic format
John Hopkins University & KATH	GAAP Study
KATH, WHO & MOH	Congenial Rubella Surveillance Programme
U. S Naval Medical Research Unit & KATH	Sepsis study
University of Utah	Collaborating with the University in the areas of Anaesthesia, Medicine, Trauma, Eye and other disciplines
Health Volunteers Overseas (HVO), USA	Collaborated with Trauma & Orthopaedics to offer training and provision of equipment
SIGN fracture care international	Collaborated with Trauma and Orthopaedics Directorate in the area of training
RESTORE California, USA	Collaborated with surgery in the area of reconstructive surgeries
Interplast Education Team (USA)	offer plastic and reconstructive surgeries to patients in the hospital
AO SEC Foundation	Collaborated with Trauma & Orthopaedics Directorate in the training of non-operative and basic surgeries

Academy of American Orthopaedics Society (AAOS)-	Collaborated with Trauma and Orthopaedics Directorate in the area of training
McGill University Health Center, Canada & KATH Medicine directorate	TB Study
University of California, San Francisco (UCSF) Orthopaedics Department, USA	Collaborate with Trauma in the training of doctors
Institute of Global Orthopaedics and Traumatology (IGOT)/UCSF/OTI, USA	Collaborate with Trauma & Orthopaedics in the training of residents and research
NCI-USA & KATH	Breast Cancer Study
UK External Quality Assurance Scheme, Birmingham (Biochemistry)	
Palliative Care Works (PCW) – UK	Collaborated with Family Medicine in building capacity in Palliative Care through workshops
Project Echo – Palliative Care Africa – The University Of Texas – MD Anderson Cancer Center	Collaborated with Family Medicine in building capacity in Palliative Care through monthly teleconference discussions

CHAPTER 9

DIRECTORATE OF MEDICINE

The Medicine Directorate is one of the twelve (12) clinical directorates of KATH. Among the specialized clinics run by the Directorate are; Hypertension, Asthma, Diabetes, HIV, Chest, Psychiatry, Dermatology, Haematology, Neurology, Cardiology, and Renal. The directorate also runs a daily physician Specialist-General Out-Patient clinic in Specialist Consulting Room 1 (CR1).

Priority Activity 1: Increase the range of specialist services

The Directorate made significant effort to enhance its services in 2016. Appointment system was used at all the Out-Patient Clinics. All the clinics recorded increases in attendance with the exception of Dermatology, Hepatitis and Non – Diabetic Mellitus (DM) Endocrine which recorded decreases compared to their previous year's performance.

Out – Patient Services

During the year 2016, a total of 60,062 OPD cases were seen by the directorate. This represents 20.4% increase in outpatient consultation compared to the 2015 performance. From Figure 19, General clinic (CR 1) recorded the highest OPD attendance of 13,031, followed by Diabetic clinic (12,403) and Psychiatry (12,224). Non DM Endocrine and Rheumatology Clinics recorded the least OPD attendance of 268 and 209 respectively. The attendance per clinic during the year is shown in detailed (Figure 19).

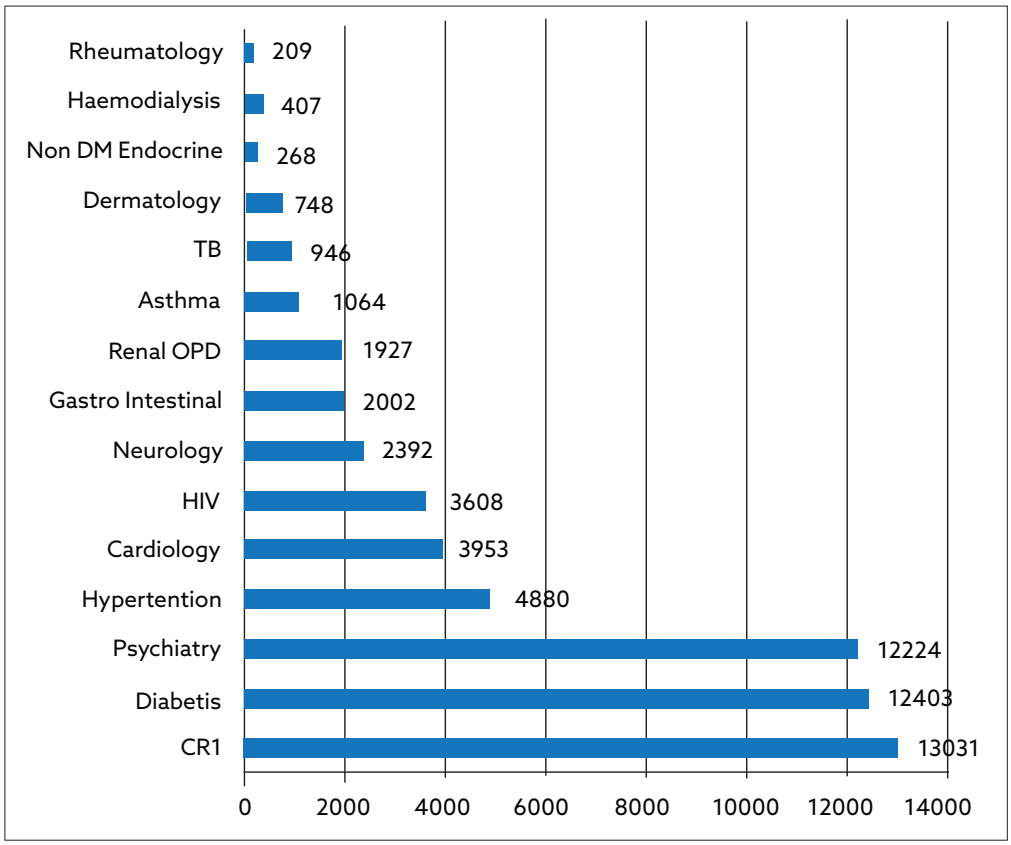


Figure 19: OPD Service Utilisation by Clinics in Medicine Directorate, KATH (2016)

Trend in OPD Services Utilization by Clinics

From Table 19, HIV clinic attendance increased significantly during the year under review. This is as a result of the reintroduction of the HIV clinic. Most of the clinics in the directorate saw increases in their attendance during the year 2016. The table below shows the trend in OPD utilization of specialist clinics from 2012-2016 (Table 19).

Table 19: Trend in OPD Services Utilization by Clinics

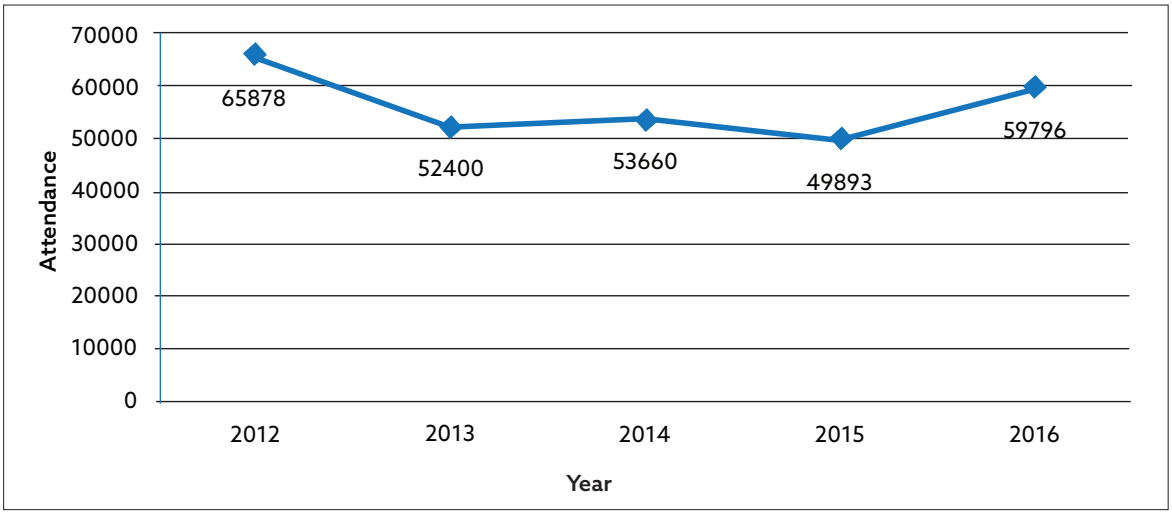
CLINIC	2012	2013	2014	2015	2016
CR1 (General)	9,376	8,913	10,454	9,955	13,031
Diabetes Mellitus	12,789	11,612	11,003	10,729	12403
HIV/AIDS	12,925	3,096	1,029	899	3608
Psychiatry	11,826	12,543	14,625	11,567	12224
Hypertension	4,908	4,088	3,806	3,412	4880
Asthma	1,974	1,140	1,083	952	1064
Cardiology	3,585	3,358	3,968	3,499	3953
GIT	2,002	1,887	1,694	1,831	2002
Chest(TB)	1,321	445	749	849	946
Renal OPD	1,326	1,274	1,602	1,466	1927
Neurology	1,900	2,144	2,292	2,138	2392
Dermatology	973	996	941	928	748

Respiratory	10	197	-	-	-
Haemodialysis	253	538	278	163	407
Non.DM Endocrine	390	298	268	289	268
Rheumatology	26	120	146	170	209
Totals	**65,620**	**52,400**	**53,660**	**48,948**	**60,062**

Hepatitis Clinic run by the Directorate of Medicine at Oncology also recorded 241 cases representing 8.7% increase compared to the 2015 performance.

Trend in OPD Utilization 2012-2016

Specialist out-patients seen at the directorate declined in 2015. However, the year under review registered an increase of 19.8% compared to the 2015 performance of 49,893. This information is shown in the Figure 20.



Figur20: Trend of OPD Attendance in Medicine Directorate, KATH 2012-2016

Dialysis Services

In the year 2016, Dialysis services increased from 163 to 407 representing a 149.7% increase compared to the 2015 performance. The increase is attributed to the acquisition of new dialysis machines and assumption of duty of additional specialized staff (Nephrologist). A total of 2,350 dialysis sessions were performed. This represents 180.1% increase compared to the previous year's performance. Renal OPD cases recorded for the year 2016 also increased from 1,466 to 1927. Table 20, presents the breakdown of sessions rendered for the past five years.

Table 20: Haemodialysis and Renal OPD

Year	Haemodialysis		Renal clinic
	No. of patients	No. of sessions	
2012	243	1,332	1,326
2013	538	1,683	1,274
2014	278	1,514	1,602
2015	163	839	1,466
2016	407	2350	1,927

In-Patient Services

The Directorate operated with seven (7) wards and a bed complement of 187. The Turnover per bed for the year was 31 with bed occupancy of 86.37%. The average length of stay remained 10 days.

Trend in Admissions 2012 – 2016

The trend in admissions has been decreasing since 2013. In 2016, there was a decrease of 3.8% in admissions in relation to 2015. Figure 21, indicates the trend of In-Patient Services at the Directorate of Medicine from 2012– 2016.

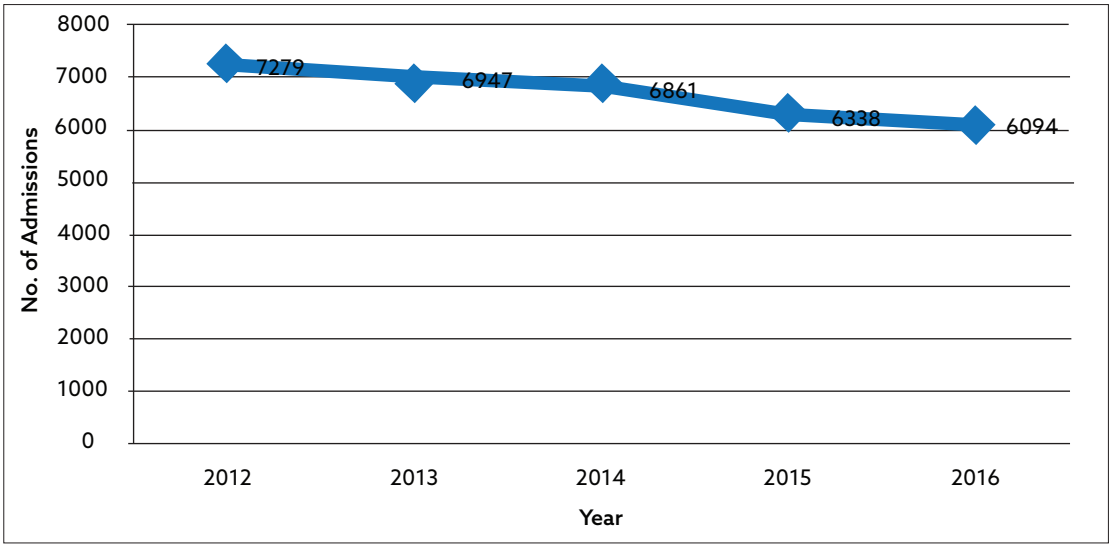


Figure 21: Trend in Admissions, KATH (2012-2016)

In 2016, Diseases of the heart, Diabetes Mellitus, Diseases of the kidney and Retroviral Infection were the major causes of admissions. Figure 22, shows the top ten causes of admissions in the Directorate.

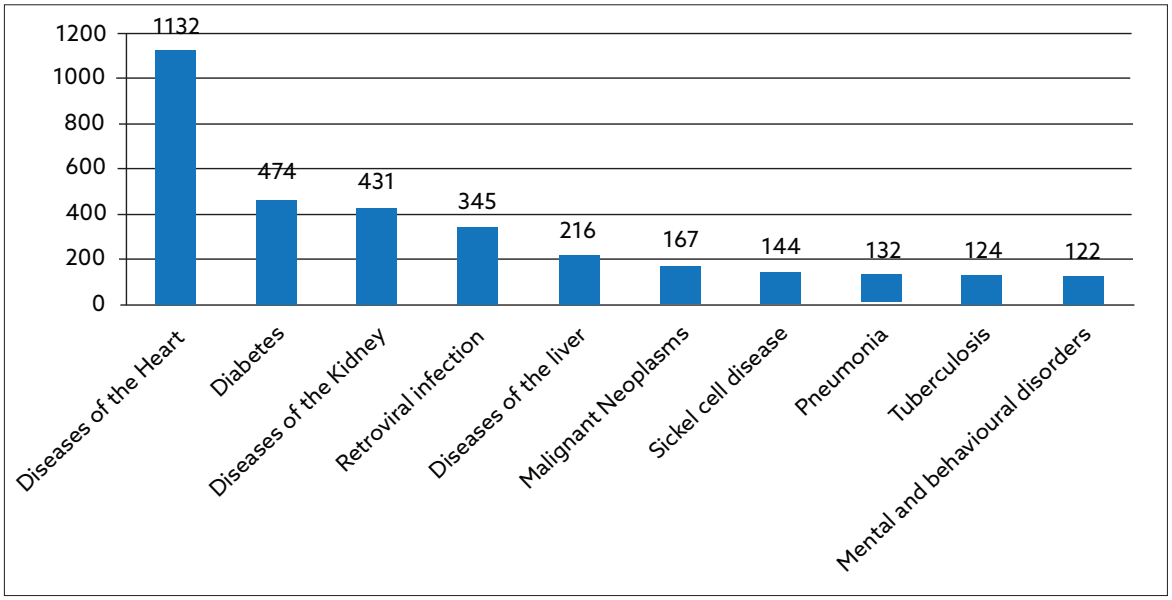


Figure 22: Top Ten Causes of Admissions in the Medicine Directorate – KATH 2016

Priority Activity 2: Sustain activities aimed at reducing mortality, especially maternal mortality

Weekly clinical meetings and technical heads team meetings were held during the year as part of efforts to strengthen quality assurance activities. Standard protocols were enforced as part of quality assurance measures. During the year under review, mortality rate increased slightly from 24.3% to 24.5%.

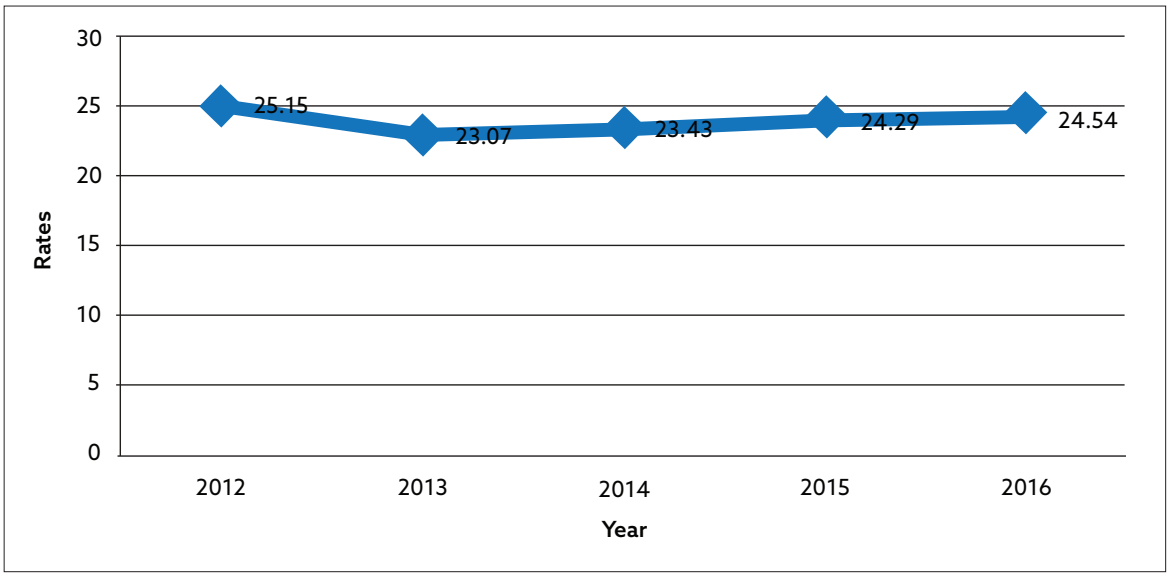


Figure 23: Trend in Mortality Rate (%) in the Medicine Directorate 2012-2016

Mortality rate in the Directorate decline in 2013 but increased steadily from 2014 to 2016. The highest death rate of 25.15% in the last five years was recorded in 2012.

Top Ten Proportion of Death as a Percentage of Admissions Causes of Deaths

A summary of the top ten proportions of Deaths as a Percentage of admissions in 2016 is shown below.

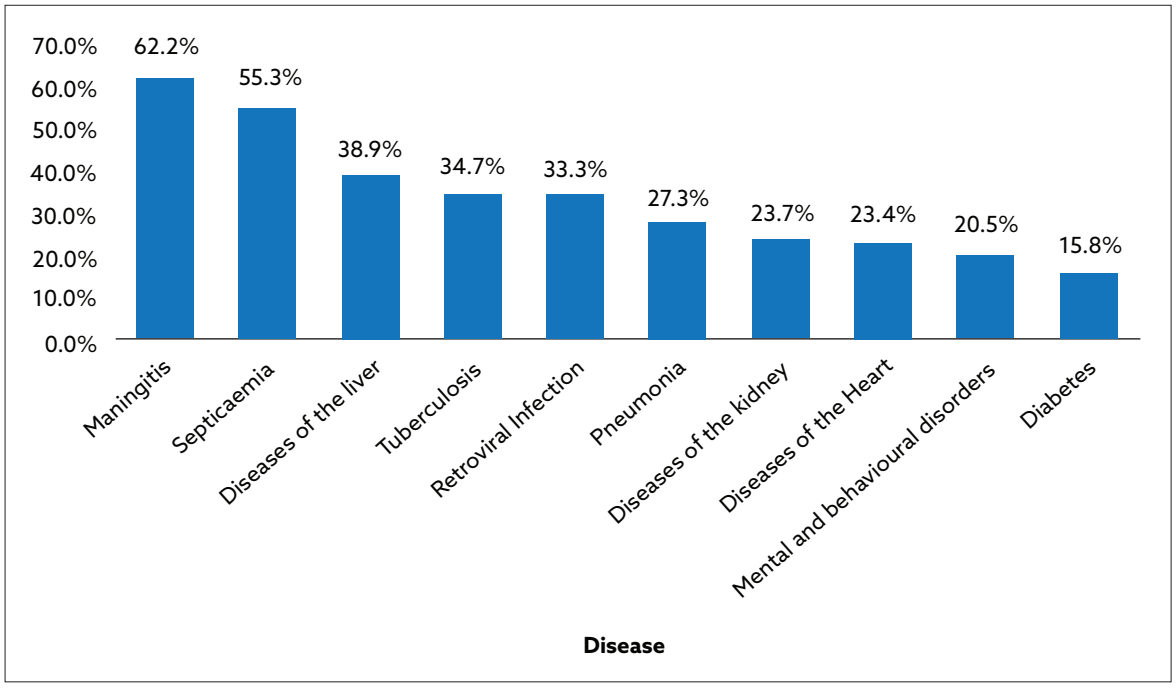
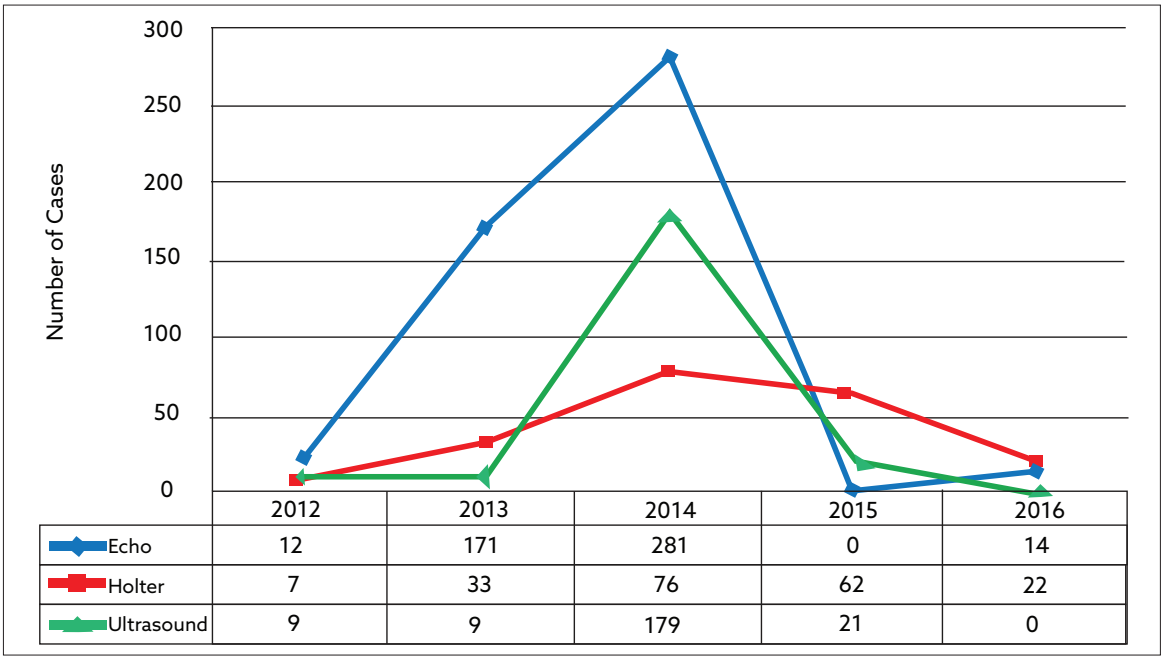


Figure 24: Top Ten Causes of Deaths in the Medicine Directorate, (2012 – 2016)

The leading cause of death in the directorate in 2016 was Meningitis with 62.0% of those admitted dying, followed by Septicaemia (55.3%) with Diabetes (15.8%) recording the least proportions of deaths to admissions.

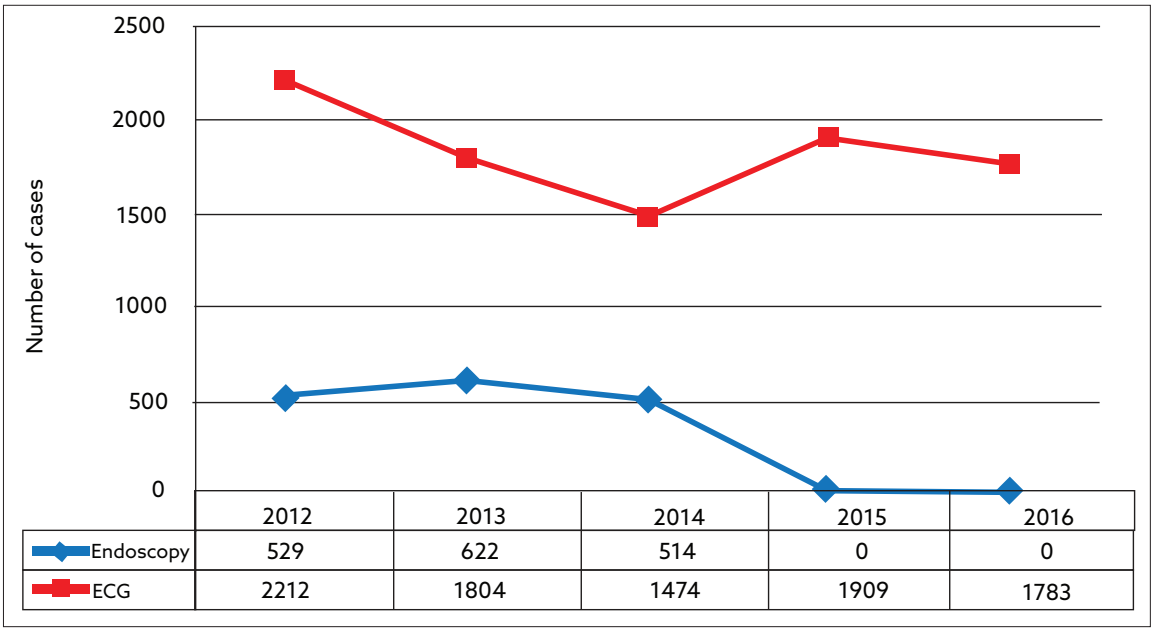
Priority Activity 4: Continue the provision of advanced diagnostic services

There were a total of 2,120 diagnostics investigations that were successfully carried out during the year under review. This represents an increase of 1.2% compared to the previous year's performance of 2,094. Figure 25, shows the various diagnostics investigations for the past five years.



	2012	2013	2014	2015	2016
Echo	12	171	281	0	14
Holter	7	33	76	62	22
Ultrasound	9	9	179	21	0

Figure 25: Trend in various Diagnostic Investigations in Medicine Directorate (2012-2016).



	2012	2013	2014	2015	2016
Endoscopy	529	622	514	0	0
ECG	2212	1804	1474	1909	1783

Figure 26: Trend in Endoscopy and ECG Investigations in Medicine Directorate (2012-2016).

Generally, the five year trend shows a decline in performance of all the diagnostic investigations carried out during the year under review. ElectroEncephalograph was introduced during the year under review with 134 cases done. Colonoscopy and spirometry performed 102 and 26 cases respectively.

CHAPTER 10
DIRECTORATE OF SURGERY

The Directorate of Surgery provides specialist surgical care in the following areas;

- General Surgery
- Cardio Thoracic and Vascular Surgery
- Neurosurgery
- Urology
- Plastics, Reconstructive & Burns Surgery
- Paediatric Surgery.

There is also a Breast Care Centre in the directorate devoted to clinical services for breast-related disease conditions.

Priority Activity 1: Increase the range of specialist services

During the period, the directorate experienced an increase in almost all clinical indicators. The detailed performances by the various clinics are indicated below.

Out Patient Services

In the year 2016, a total of 30,568 patients were seen at the various clinics in the directorate. This was 1,432 less the year's target of 32,000. In the same year, Breast Care clinic recorded the highest OPD attendance (6,583, 22%) while the newly established Cardiothoracic clinic accounted for the least (729, 2%) of the OPD visits as indicated in the Figure 27.

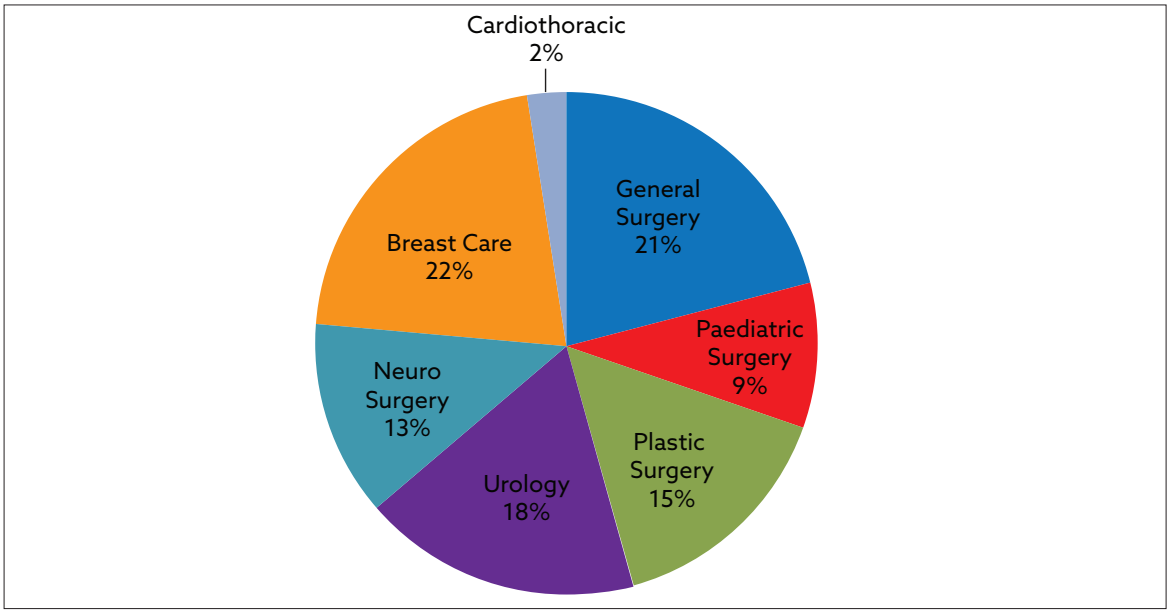
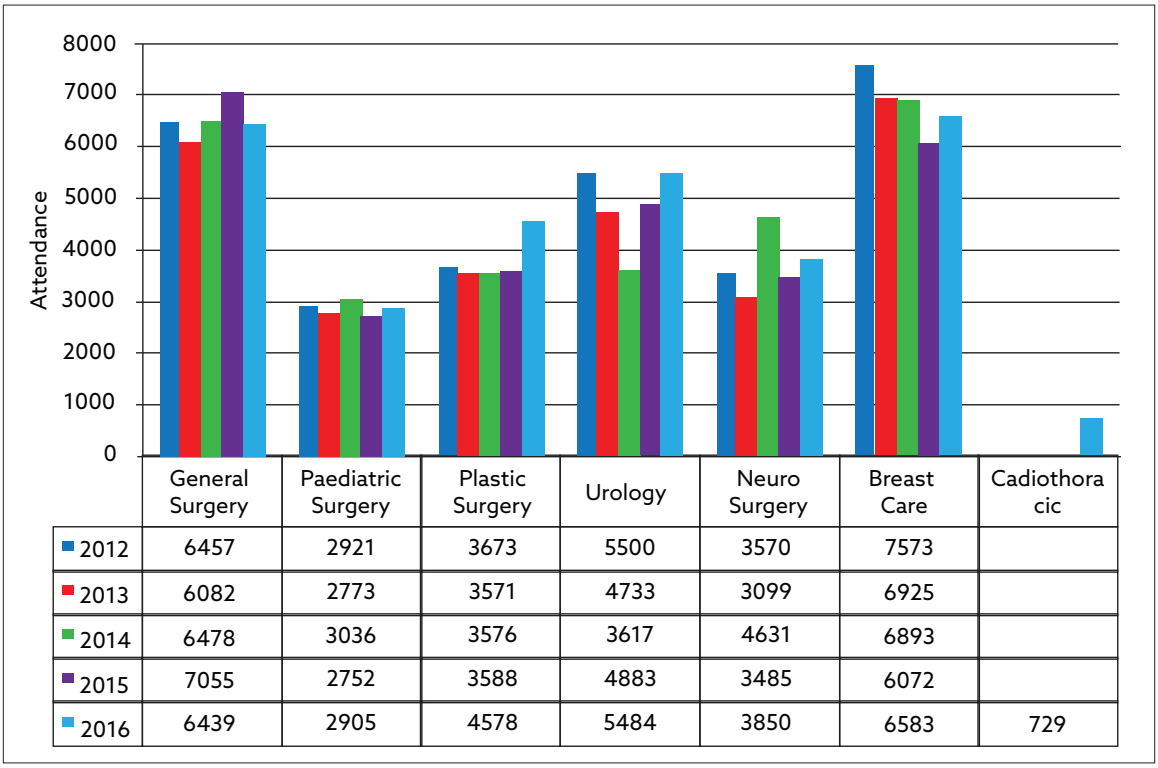


Figure 27: OPD Clinics in the Directorate of Surgery, (2016)

Trend analysis of OPD Utilization by Clinics 2012 – 2016

In 2016, all the Clinics recorded increases in outpatient attendance except for General Surgery. (Figure 28).



	General Surgery	Paediatric Surgery	Plastic Surgery	Urology	Neuro Surgery	Breast Care	Cadiothoracic
2012	6457	2921	3673	5500	3570	7573	
2013	6082	2773	3571	4733	3099	6925	
2014	6478	3036	3576	3617	4631	6893	
2015	7055	2752	3588	4883	3485	6072	
2016	6439	2905	4578	5484	3850	6583	729

Figure 28: Trend in OPD Attendance by Clinics in the Directorate of Surgery (2012-2016)

Trend of OPD Attendance 2012-2016

Over the five-year period (2012-2016), OPD attendance has generally not been consistent. The year 2016 recorded the highest performance exceeding 2015's performance by 9.8%. Figure 26 represents the total OPD attendance over the past five years.

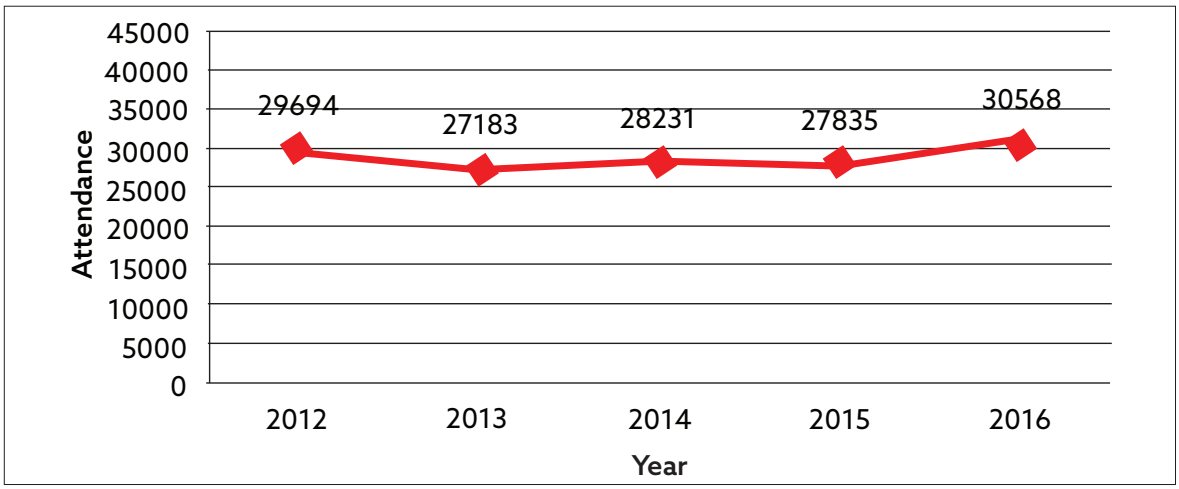


Figure 29: Trend of Total OPD Attendance in the Directorate of Surgery (2012-2016)

In-Patient Services

A total of 4,028 admissions were recorded in the directorate in the year under review. This exceeded the year's target by 0.7%. The directorate's bed complement for the same period was 179. The average length of stay was 34 days and the bed occupancy was 80.9%.

Trend in Admissions

The Directorate has recorded an inconsistent trend in admissions over the years. There was an increase of 4.1% in admissions in the year 2016 compared to the previous year's performance. Figure 30 shows the trend in admissions in the Directorate of Surgery.

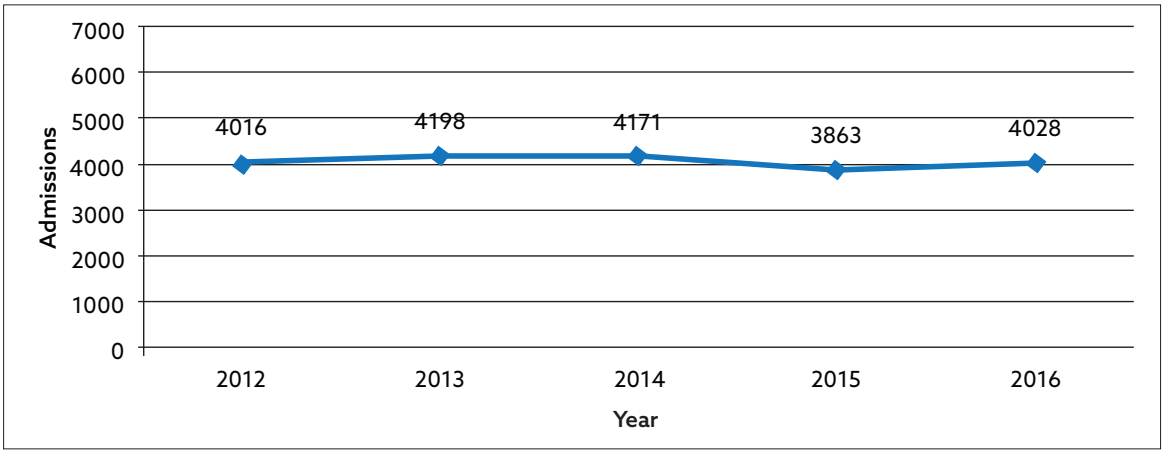


Figure 30: Trend in Admissions in the Directorate of Surgery (2012-2016)

Surgical Operations Conducted by Specialty

During the period, the directorate carried out a total of 3,781 major surgeries. This represents 94.5% of the year's target of 4,000 cases. General Surgery accounted for 41% of all surgeries carried out in the directorate. Figure 31 represents surgical operations by specialties in the Directorate in 2016.

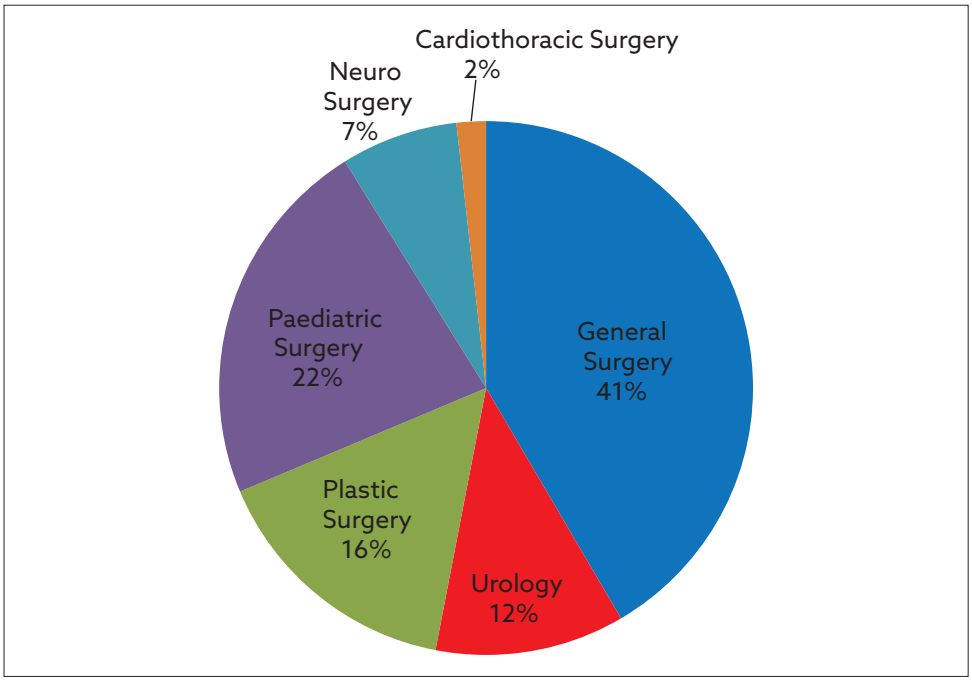


Figure 31: Surgical Operations by Clinic in the Directorate of Surgery (2016)

Trend Analysis of Surgical Operations (2012-2016)

There has been a consistent decline in surgical operations since 2012. However, there was an increase of 1.1% in surgeries conducted in 2016 compared to 2015. Figure 32 shows the trend analysis of surgical operations.

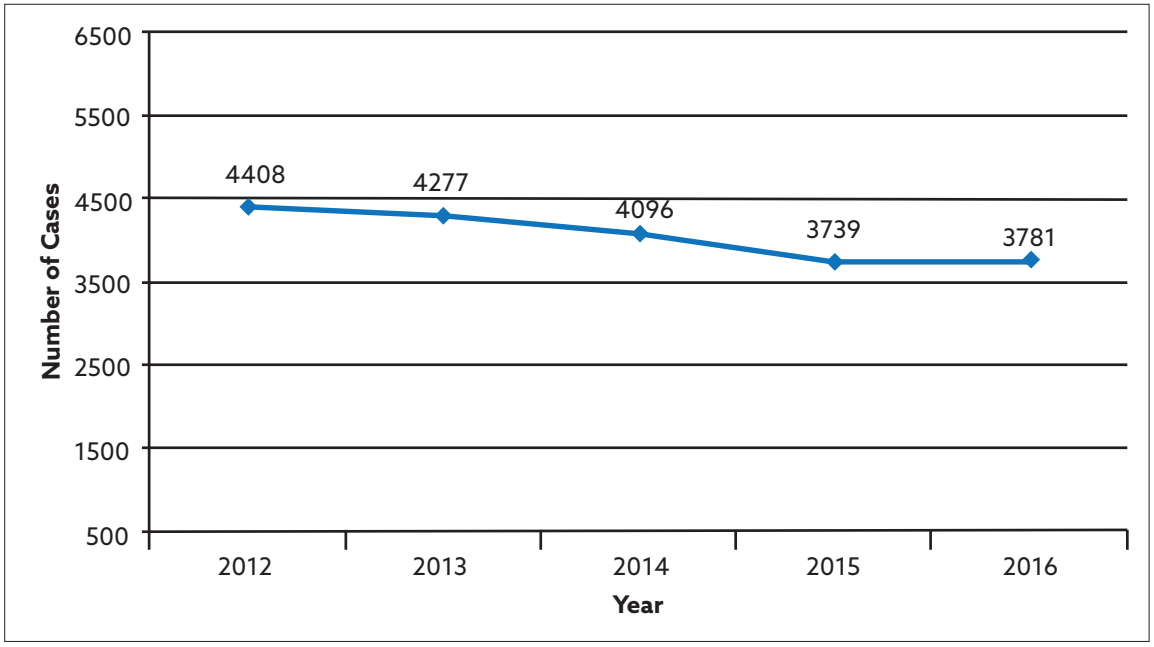


Figure 32: Trend in Surgical Operations in Surgery Directorate (2012-2016)

Priority Activity 2: Sustain activities to reduce mortalities, especially maternal and neonatal deaths

Monthly mortality, morbidity and quality assurance meetings were held during the year under review to strengthen mortality audits and quality assurance within the directorate.

Trend in Mortality

The directorate's mortality rate has been fluctuating over a five-year period. However, 2016, mortality rates recorded the highest at 7.3%. Figure 33 shows the trend analysis in mortalities in the Directorate of Surgery.

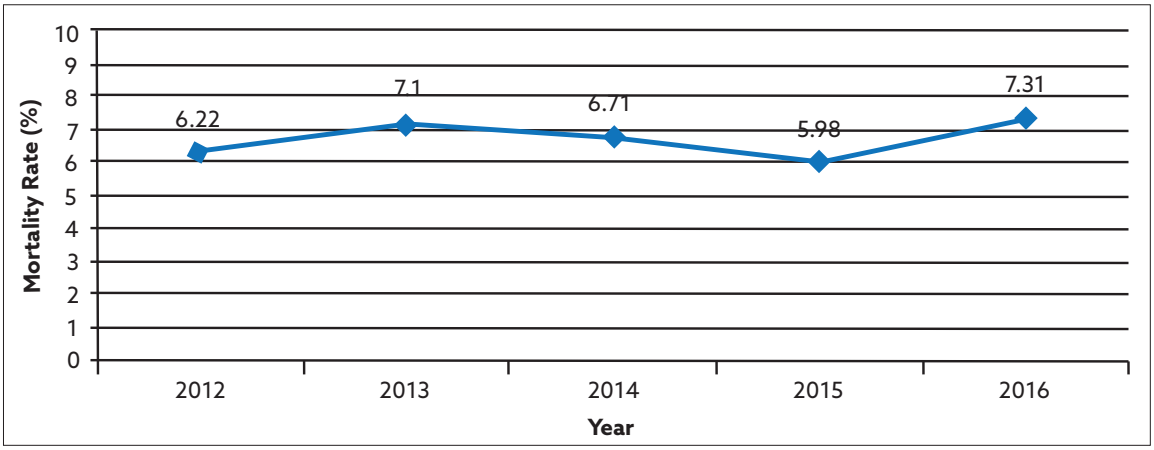


Figure 33: Trend in Mortality Rates in Surgery Directorate (2012-2016)

Priority Activity 3: Support training of staff

The directorate made conscious efforts to improve the quality of clinical care in the year under review. Sixteen nurses were trained in sub-specialties and a workshop on ward state statistics was organised for hundred nurses.

CHAPTER 11

DIRECTORATE OF CHILD HEALTH

This Directorate provides specialist medical services to children. It offers Out-Patient (general and sub-specialty), Emergency and In-Patient services.

Priority Activity 1: Increase the range of specialist services

In the year under review, the directorate committed itself to a number of interventions aimed at providing efficient and innovative response to child health care.

Out-Patient Services

The directorate runs General and Sub-specialty Out-Patient clinics at Consulting Room 10. The Sub-specialty clinics include: Asthma, TB, HIV, Renal, Cardiac, Sickle Cell, Cleft, Neuro/Epileptic, Endocrine (excluding Diabetes), Diabetic, Oncology/Burkitts and Malnutrition.

The directorate saw a total of 19,429 out-patients during the period under review. The overall OPD attendance in the directorate has fluctuated between 2012 and 2016. In the year under review, there were 311 fewer cases seen as compared to 2015. This represents a 1.63% decrease of the 2015 figure of 19,118. Figure 34 shows the trend of OPD attendance, 2012-2016.

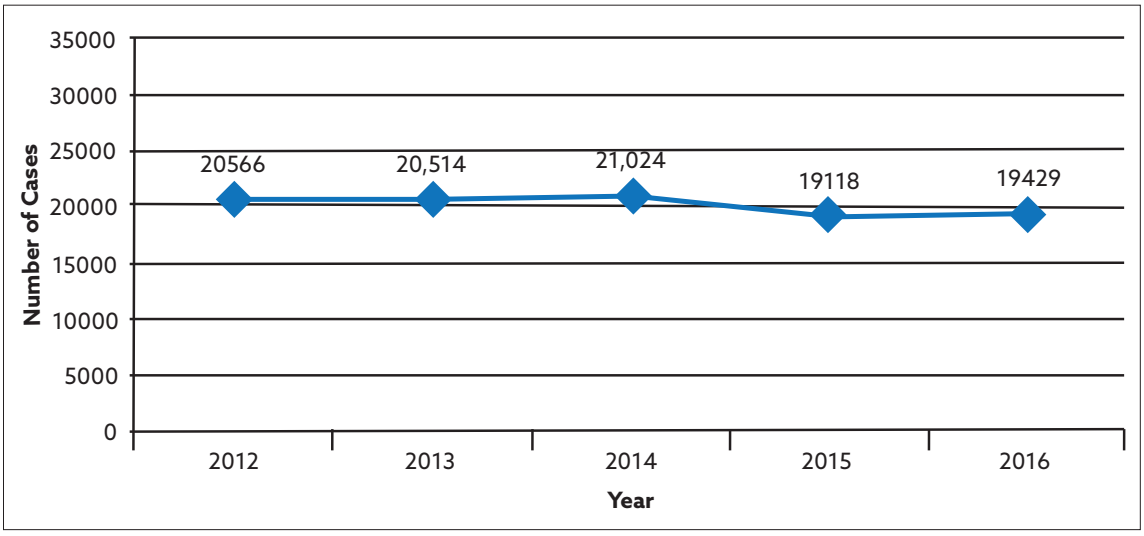


Figure 34: Trend in OPD attendance, Child Health, 2012-2016

Trend in sub-specialty Out-Patient Utilization

A total of 5,621 (28.93%) patients were seen at the general OPD with the remaining cases, 71.07 % seen at the Sub-specialty clinics. The 5,621 general out-patients seen represents 73.2% of the target of 7,680 set for the year. The Sub-specialty clinics contributed 89.9% of the target of 15,370 for the same year. More than 50% of the patients at Sub-specialty Clinics were seen at the Sickle Cell, Paediatric HIV and Neurology/Epilepsy Clinics. The Sickle Cell clinic recorded the highest attendance (4,907) in 2016. Overall, the trend in OPD sub – specialty attendance since 2012 has been inconsistent (Table 21).

Table 21: Trend in OPD Sub-Specialty Clinics in Child Health (2012-2016)

Sub-specialist Clinics	2012	2013	2014	2015	2016	Proportion of OPD attendance, 2016 (%)
Sickle cell	5,447	5,547	4,873	3,576	4,907	34.54
Paediatric HIV Clinic	2,173	1,784	1,864	1,742	1,606	11.63
Neurology/Epilepsy Clinic	1,373	1,576	1,894	1,730	1,545	11.19
Asthma Clinic	844	570	603	616	571	8.95
Oncology/Burkitts lymphoma	509	709	924	996	835	6.05
Cardiology Clinic	827	1,110	957	989	1,156	8.37
Malnutrition Clinic	577	1,110	1,521	1,135	1,236	6.56
Cleft Palate	810	1,000	735	804	625	4.5
Renal	920	972	1,042	957	906	4.14
Endocrine	88	150	222	140	198	1.43
Diabetic	-	-	161	131	223	1.62

In-Patients

The In-patient section of the directorate consists of four wards;

- Ward C5 – Cardiology/ Pulmonology/Endocrine
- Ward B4 – Malnutrition/Nephrology
- Ward B5 – Haematology/ Oncology/Neurology
- Mother-Baby Unit (MBU) – Neonatology

Trend in Admissions and deaths

The directorate admitted 7,258 patients in 2016. Ward B4 recorded 714 admissions. There has been a consistent decline in admission in Ward B4 since 2012. However, the trend in the number of deaths has been inconsistent from 2012 to 2016. Five-year trend in admissions and deaths on ward B4 in Child Health Directorate is shown in Figure 35.

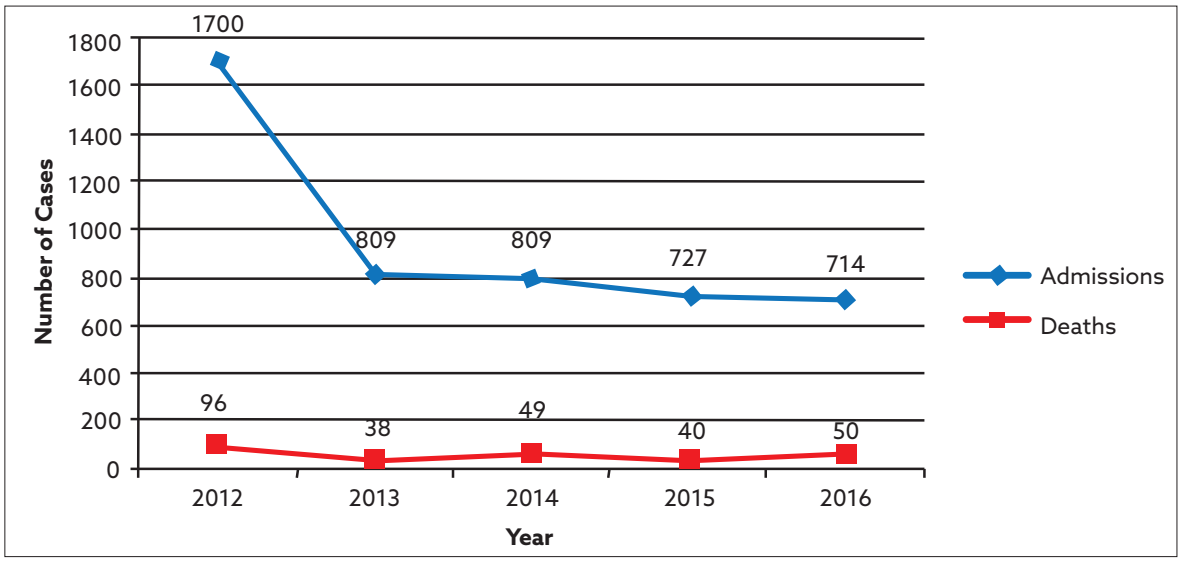


Figure 35: Trend in admissions and deaths, Ward B4 in Child Health Directorate (2012-2016)

The trend in Admissions in Ward B5 shows a consistent decline from 2012 to 2016. Admissions in 2016 were 65 less compared to 2015 actual figure. Figure 36 shows trend of admissions and deaths in ward B5 in Child Health Directorate.

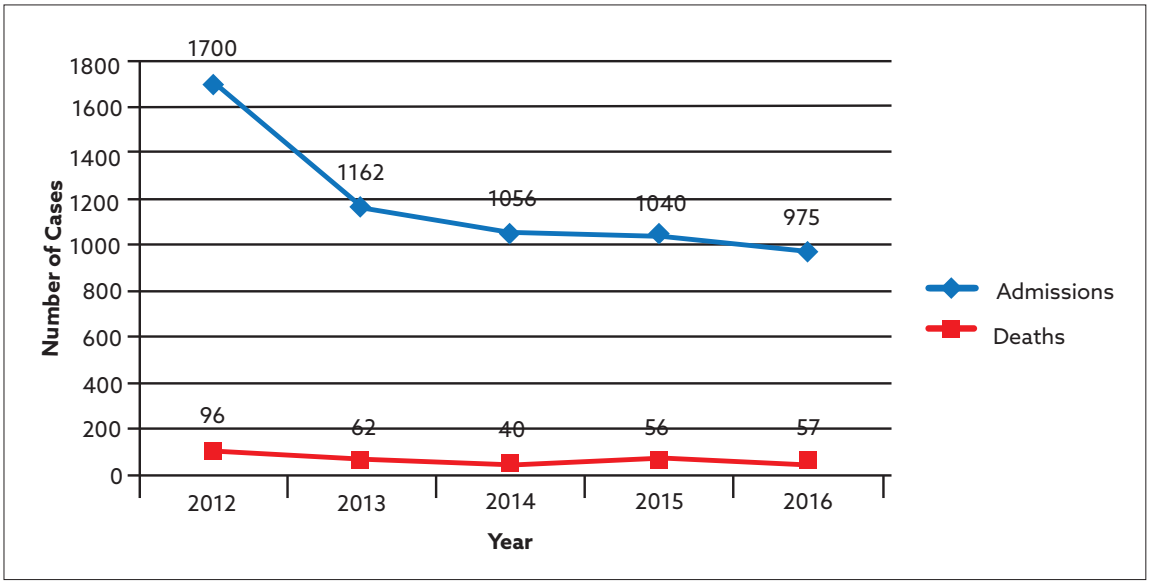


Figure 36: Trend of Admissions and Deaths, Ward B5 in Child Health Directorate (2012-2016)

The trend in admissions in Ward C5 has continuously declined except 2016 which saw a rise. However, mortalities in the ward fluctuated over the period. The trend of admissions and deaths in ward C5 in Child Health is shown in Figure 37.

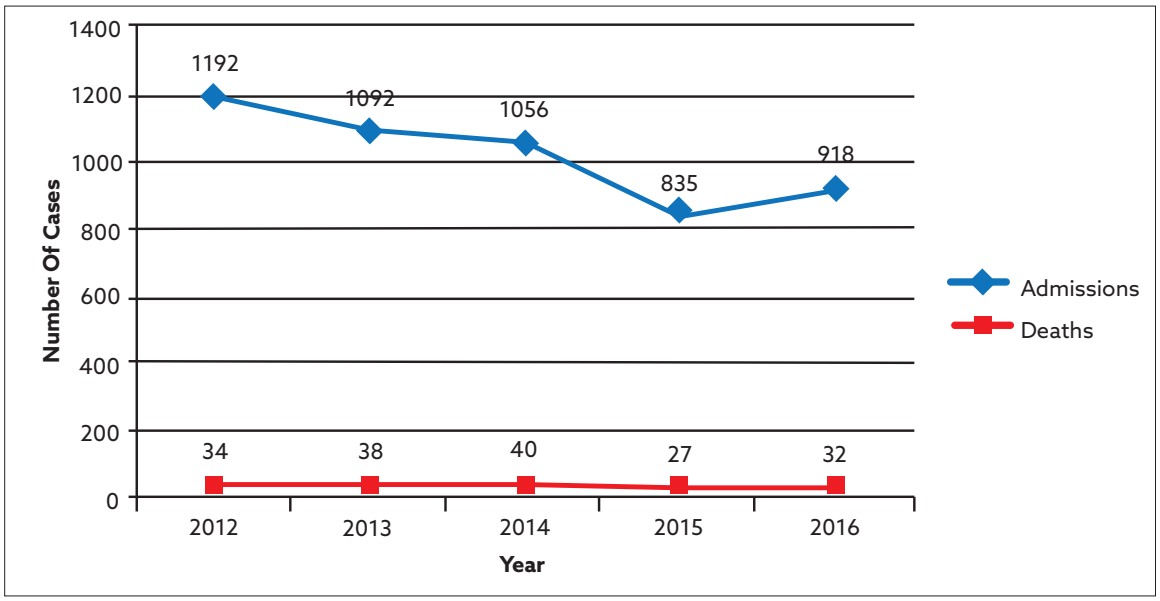


Figure 37: Trend of Admissions and Deaths, Ward C5 in the Child Health Directorate (2012-2016)

The Mother and Baby Unit (MBU) accounted for 64.1% of all admissions in the year under review. Generally, the trend in admissions at the MBU has declined since 2014. Mortality has seen a marginal decline over the same period. Figure 38 illustrates a five-year trend analysis of admissions and mortality in MBU.

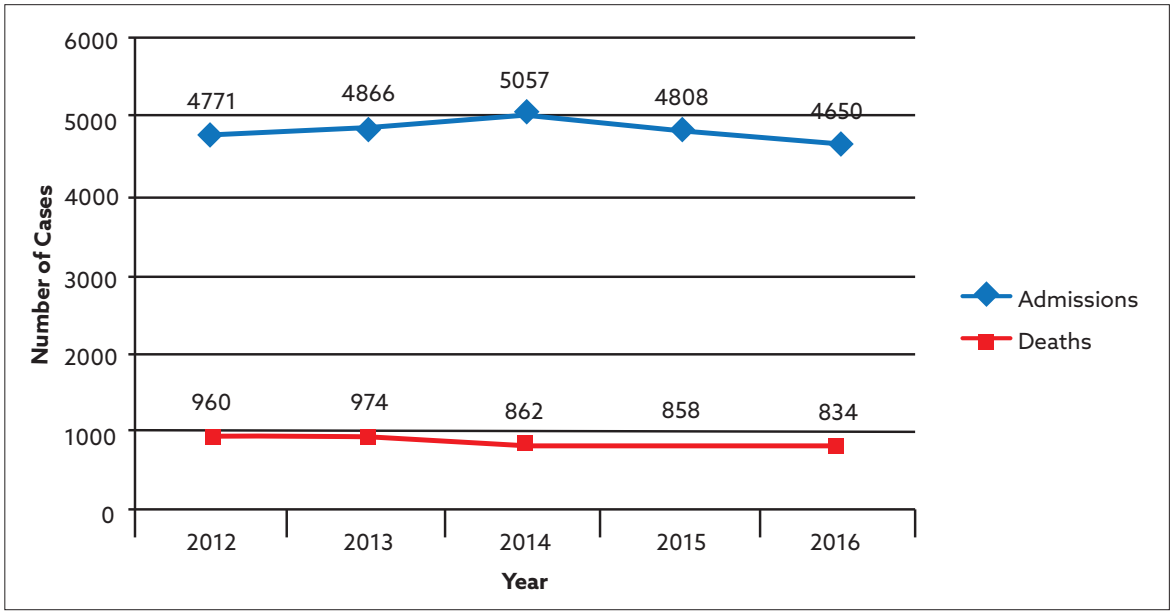


Figure 38: Trend of admissions and deaths, MBU in the Child Health Directorate (2012-2016)

The number of in-patients recorded in the directorate has over the past five years declined except for a marginal increase in 2014 as shown in Figure 39. In 2016, the directorate recorded 2.1% fewer in-patients compared to the previous year. In all, in-patients seen represented 82.5% of the target (8,800) for 2016.

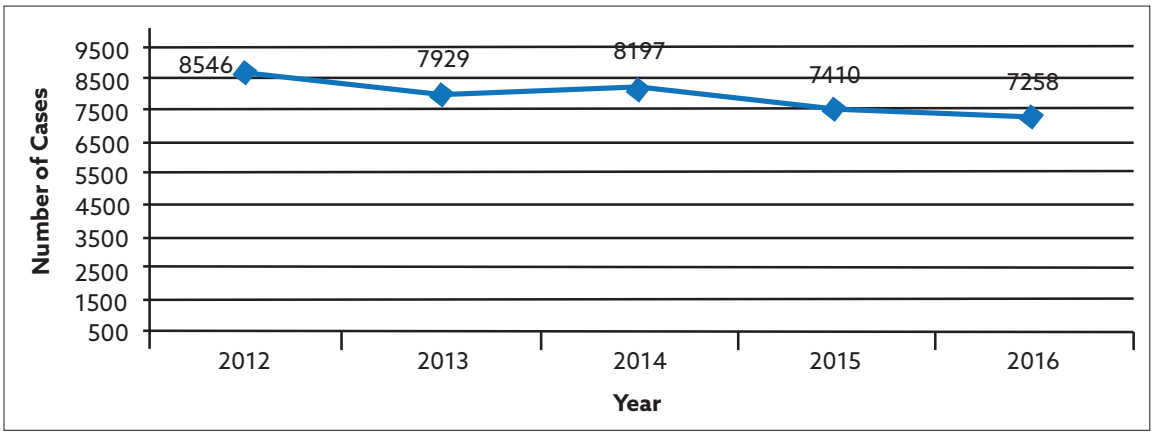


Figure 39: Trend in In-patient Service Utilization, Child Health Directorate (2012-2016)

Top ten (10) causes of Admissions

The major causes of admissions in 2016 were Preterm/Low Birth Weight, Neonatal Sepsis, Neonatal Jaundice and Birth Asphyxia. Figure 40 illustrates the top 10 causes of admissions in the Child Health Directorate.

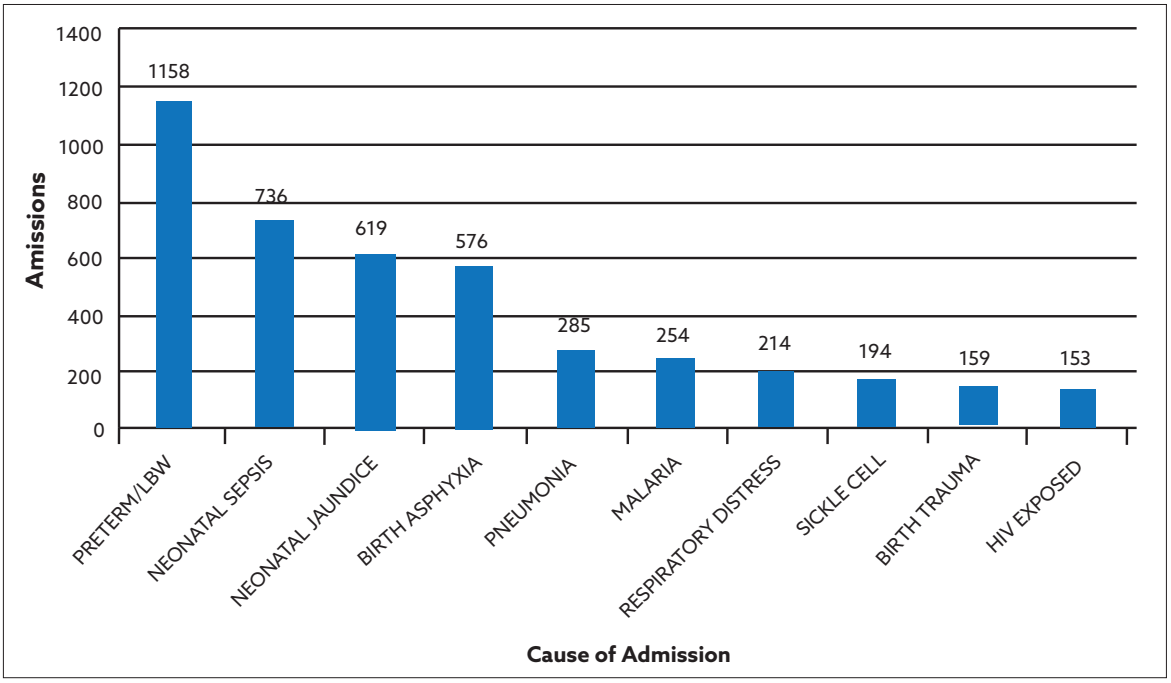


Figure 40: Top Ten Causes of Admissions in the Child Health Directorate for 2016

Priority Activity 2: Sustain activities to reduce mortalities, especially maternal and neonatal deaths

The Directorate over the years has intensified measures aimed at improving quality indicators such as mortality, quality assurance, infection control and patient safety.

Trend in Mortality Rate

Overall, death rate in the directorate saw a rising trend between 2012 and 2014, which subsequently declined in 2015. The five-year trend in mortality rates in Child Health Directorate is shown in Figure 41.

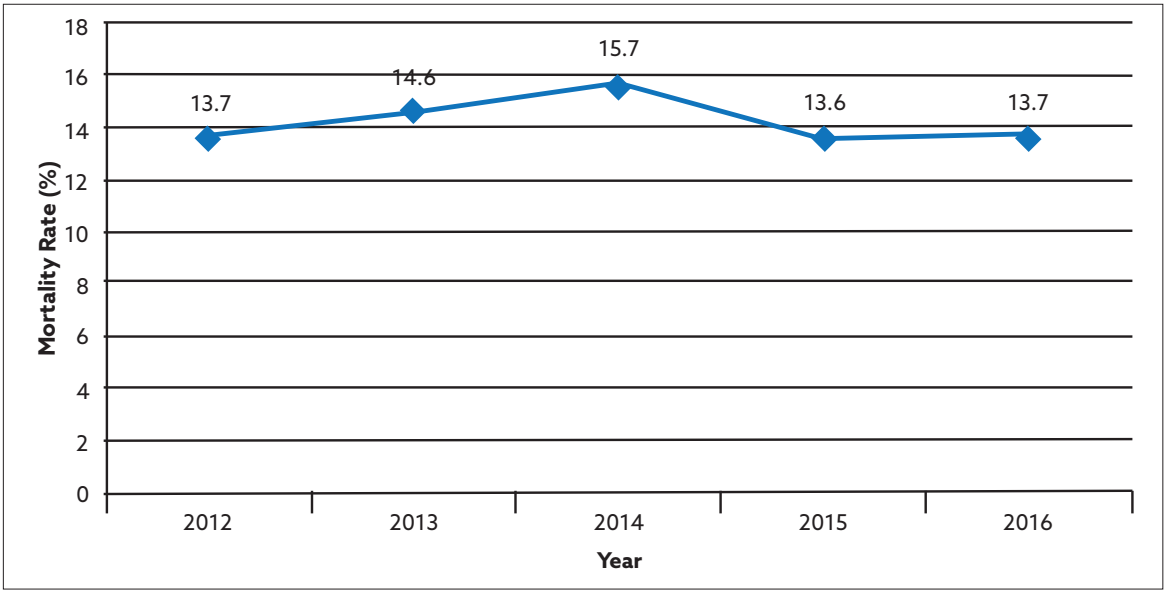


Figure 41: Trend in Mortality Rates in Child Health Directorate in 2016

Top Ten Cause of Deaths

In the year under review, Preterm/Low Birth Weight, Birth Asphyxia and Neonatal jaundice were the leading causes of death and constituted 70.3% of all Top 10 causes of death in the directorate as presented in the Figure 42.

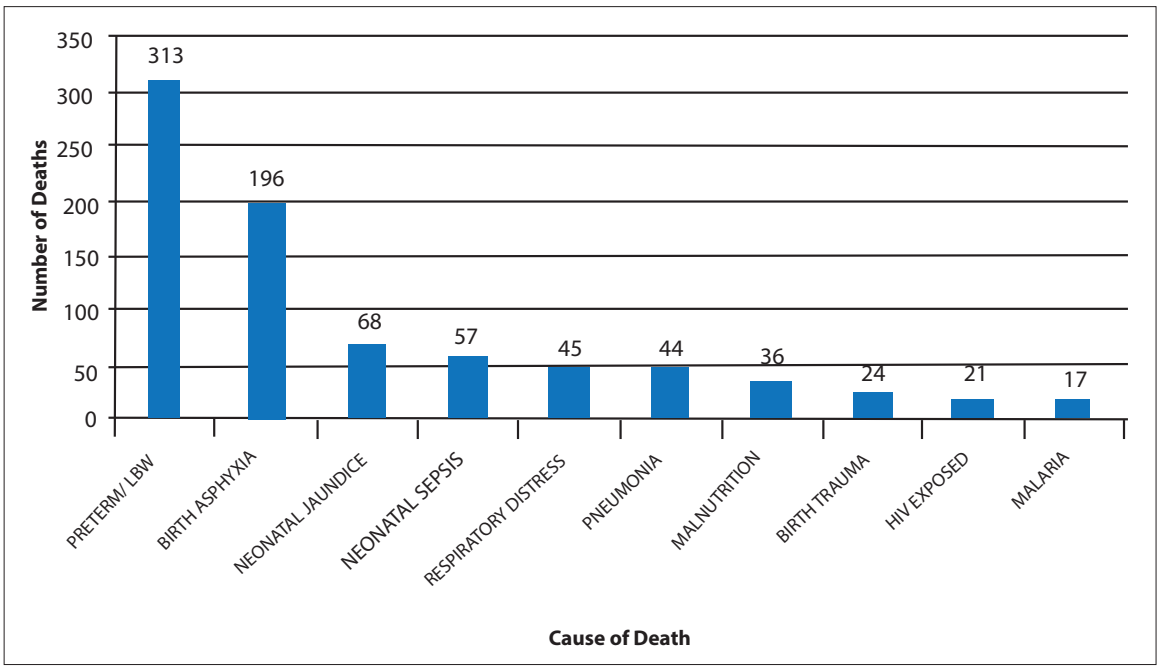


Figure 42: Top ten causes of Death in the Child Health Directorate for 2016

Priority Activity 3: Continue to support Emergency Services

Paediatric Emergency Units

The directorate runs three (3) emergency units;

- Paediatric Emergency Unit (PEU)
- Paediatric Intensive Care Unit (PICU)
- Mother-Baby Unit (MBU)

A total of 3,205 patients were seen at the various emergency units.

Priority Activity 7: Support district and regional hospitals in the northern sector of Ghana, by way of providing outreach services

The directorate undertook the following outreach and support services:

- Provided Neonatal support services to six (6) Hospitals in Kumasi
- Provided telephonic consults to periphery health facilities
- Organized Child Health education on Radio and TV

Priority Activity 13: Support training of Staff

During the year under review, twenty-four (24) nurses participated in a workshop on Critical Care and Emergency Medicine. One (1) nurse pursued BSc Emergency Nursing at Kwame Nkrumah University of Science and Technology and three (3) pharmacists enrolled in West Africa College of Pharmacy.

CHAPTER 12
DIRECTORATE OF EENT

This Directorate consists of two (2) distinct departments – ENT and the Eye Centre. The Directorate is mandated to provide Specialist Eye, Ear, Nose and Throat medical services. As part of its mandate the Directorate also runs outreach services in Eye, Ear, Nose and Throat (EENT).

Priority Activity 1: Increase the range of specialist services

Out – PatTient Services

In 2016, a total of 33,664 cases were seen. The Eye Centre saw a larger proportion of out-patients (19,618) representing 58% of all out-patients recorded. The proportion of cases seen by the respective departments is as shown in Figure 43.

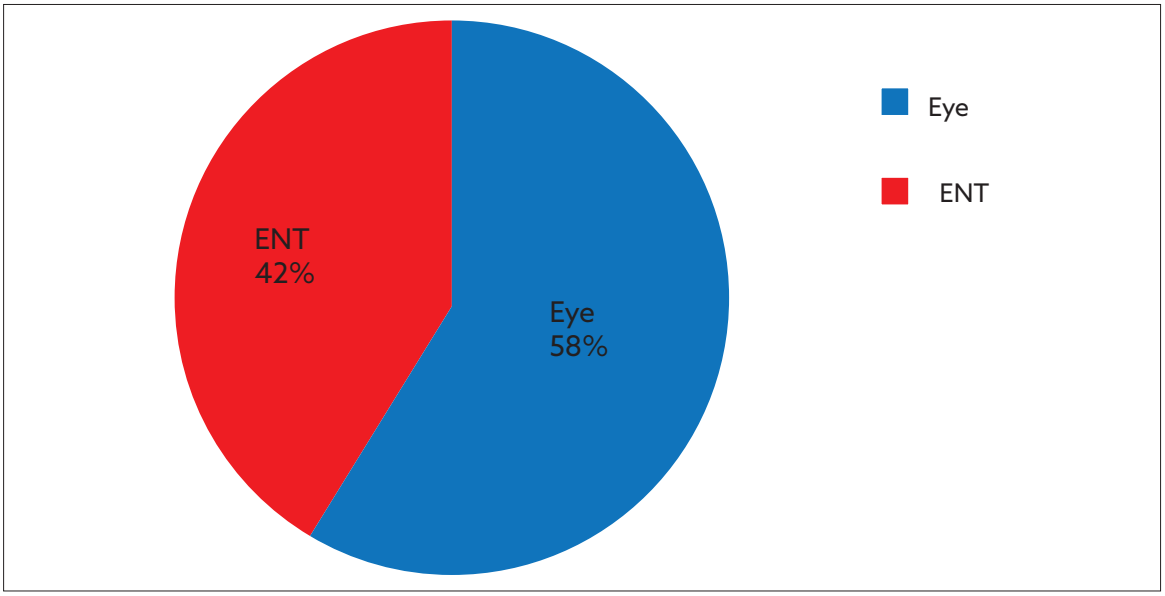


Figure 43: Distribution of out-patients in EENT Directorate by department

Trend in OPD Utilization by Clinics 2012 – 2016

Over the five-year period (2012-2016), the Eye Centre consistently saw more out-patients than ENT for all years with the exception of 2012. Out-patient cases at the ENT department have seen a consistent decline over the five-year period from 17,422 in 2012 to 14,046 out-patients seen in 2016. Figure 44 gives the detailed trend in OPD attendance at the directorate from 2012 to 2016.

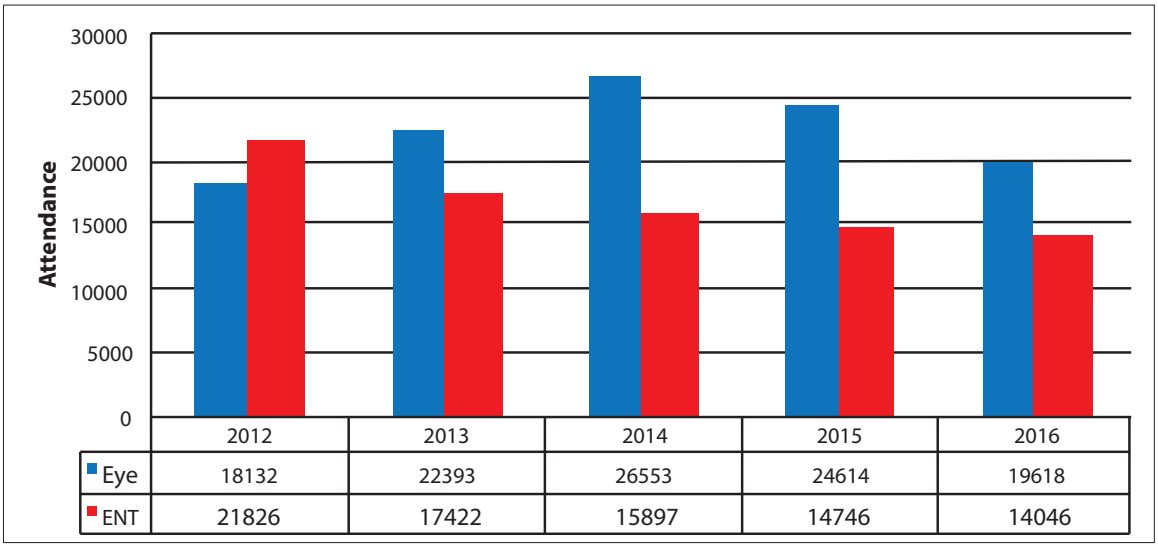


Figure 44: Trend in OPD service by clinics in EENT Directorate (2012-2016)

Other Services

The directorate provided the following services in the year under review:

- Refractive Error
- Low Vision
- Visual Field Test
- Audiology / Hearing Assessment
- Speech Therapy
- Other Procedures

A total of 9,035 patients benefitted from the services listed above. In spite of the fact that the ENT Department lacks a permanent Speech Therapist, a total of 95 cases were seen. The outputs for the various services are as shown in Table 22.

Table 22: Expected and Actual outputs of Other Services in EENT in 2016

Services	Expected Output	Actual Output	Percentage (%)
Audiology	1,000	946	80.60
Speech	400	95	22.25
Refractive Error	7,560	4888	71.02
Low Vision	288	94	10.41
Visual Field Test	400	538	86.25
Syringing & Other Procedures	2,000	2474	133.30

OPD Clinics – Eye Centre

The Eye Centre ran various sub-specialty clinics in the year under review. The top ten causes of OPD attendance are described in Table 23. Glaucoma was the most frequent condition seen, with Cornea scar in tenth position.

Table 23: Top ten causes of OPD attendance, Eye Unit, 2016

	Diagnosis	Attendance
1	Glaucoma	3517
2	Cataract	929
3	Strabismus (Squint)	341

4	Diabetic Retinopathy	293
5	Pterygium	170
6	Proptosis	170
7	Sickle Cell Retinopathy	139
8	Keratocornus	113
9	Age-related Macular Degeneration (AMD)	101
10	Cornea Scar	98

In order to facilitate work and improve upon services rendered, the Directorate created an Imaging Centre during the period to enable them to see all eye imaging procedures using an Optical Coherence Tomography machine (O.C.T). Additionally, the Directorate created a Paediatric Clinic with toys, TV, playground, etc. for children who visit the Eye Centre.

In-Patient Services

During the year under review, a total of 663 in-patients were recorded in the Directorate. This indicates 11.0 % decrease compared to 2015 figure of 744. The average length of stay of patients has improved from 6 days in 2015 to 3 days for the period. Over the period, the directorate recorded 18.73% in its bed utilization. The trend in total admissions recorded in the directorate has been inconsistent over the five-year period as illustrated in Figure 45. It is worth noting that the Eye Centre commenced in-patient service at the latter part of the year under review.

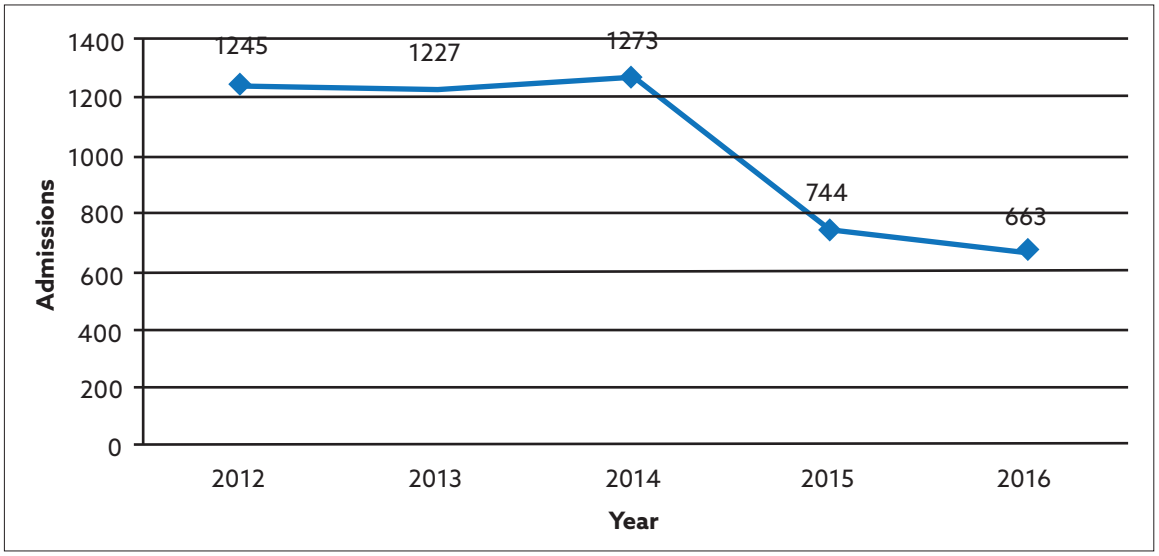


Figure 45: Trend in admissions in EENT Directorate (2012-2016)

In the year under review, hypertrophy of tonsils with hypertrophy of adenoids, hypertrophy of adenoids and foreign body were the leading causes of admission, representing 47 % of all Top 10 causes of admission. Disorder of orbit accounted for 4 % representing the tenth cause of admission recorded in the directorate as shown in Table 24.

Table 24: Top ten causes of admission, EENT Unit, 2016

No.	Disease	Number of cases
1	Hypertrophy of tonsil with hypertrophy of adenoids	79
2	Foreign Body	62
3	Hypertrophy of Adenoids	53
4	Nasal/Nasopharyngeal Tumours	40
5	Goitre	39
6	Other Tumours	37
7	Tonsillitis	32
8	Sinusitis	26
9	Epistaxis	18
10	Disorder of orbit	10

Surgical Operations

In the year under review, the Directorate set up live operating video at the eye theatre. Eye surgical operations accounted for 65% of all surgeries conducted in the year 2016. A total of 613 surgeries were performed at ENT in the year under review. Figure 46, depicts surgical operations in EENT Directorate.

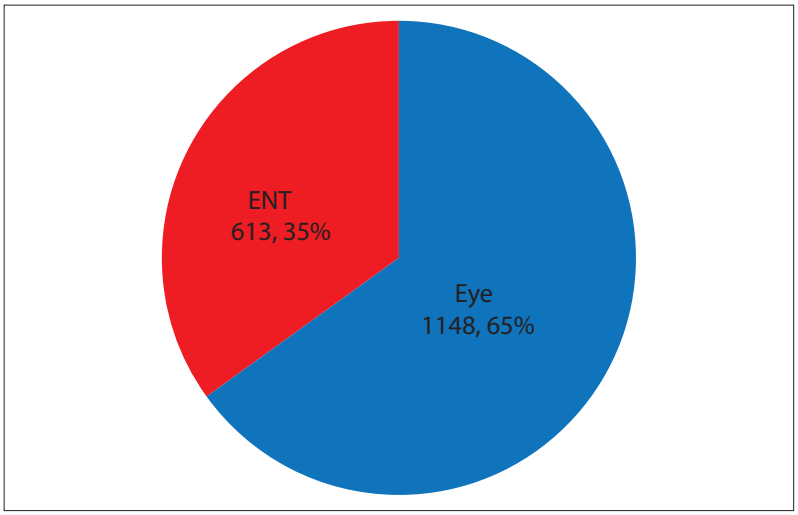


Figure 46: Surgical Operations in EENT Directorate (2016)

Trend in Surgical Operations

The trend in the number of surgeries conducted at the Eye Centre has been inconsistent over the five-year period. There was a decrease in surgeries done in 2016 of about 34.8% compared to the previous year. Surgeries conducted at ENT also showed an inconsistent trend from 2012 to 2016. In 2016, 9.7% fewer surgeries were recorded as compared to 2015. Figure 47 illustrates the trend in surgical operations in the EENT Directorate.

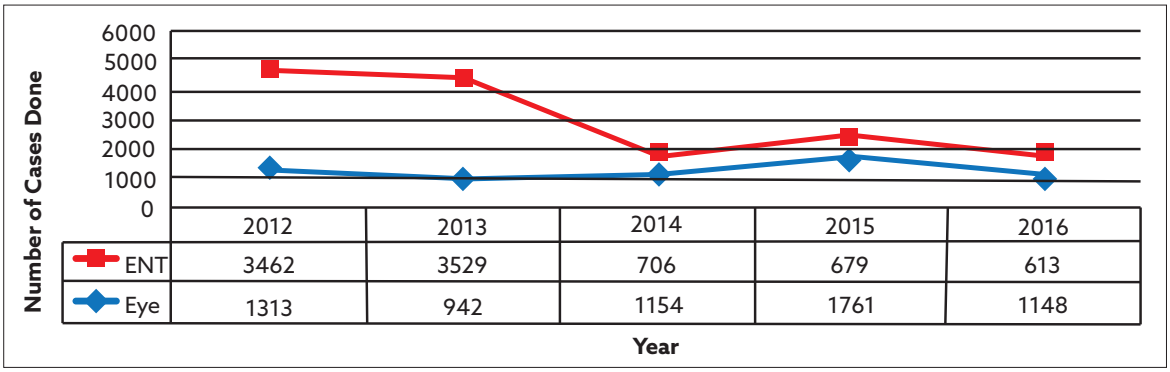


Figure 47: Trend in Surgical Operations in EENT Directorate (2012-2016)

Priority Activity 2: Sustain activities to reduce mortalities, especially maternal and neonatal deaths

From 2012 to 2013, the Directorate recorded a rise in mortality rate. The year 2014 saw an insignificant reduction in mortality. However, an increase was recorded in 2015 and a further significant rise in the 2016 rate. This sharp rise as shown in Figure 48 could be attributed to an increase in Tumors cases with late presentation.

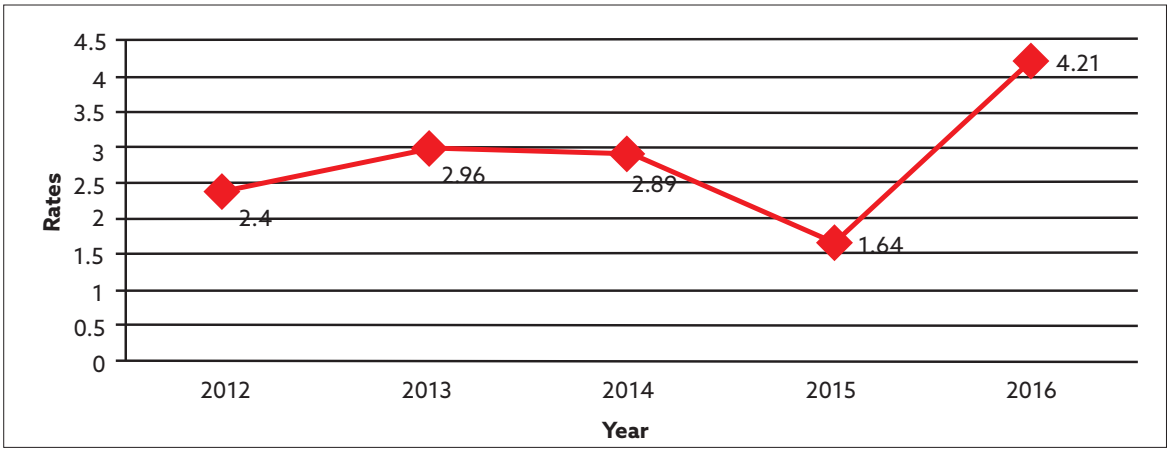


Figure 48: Trend in Mortality Rate in EENT Directorate (2012-2016)

In 2016, the leading cause of death in the Directorate was nasal Tumor as shown in Figure 49.

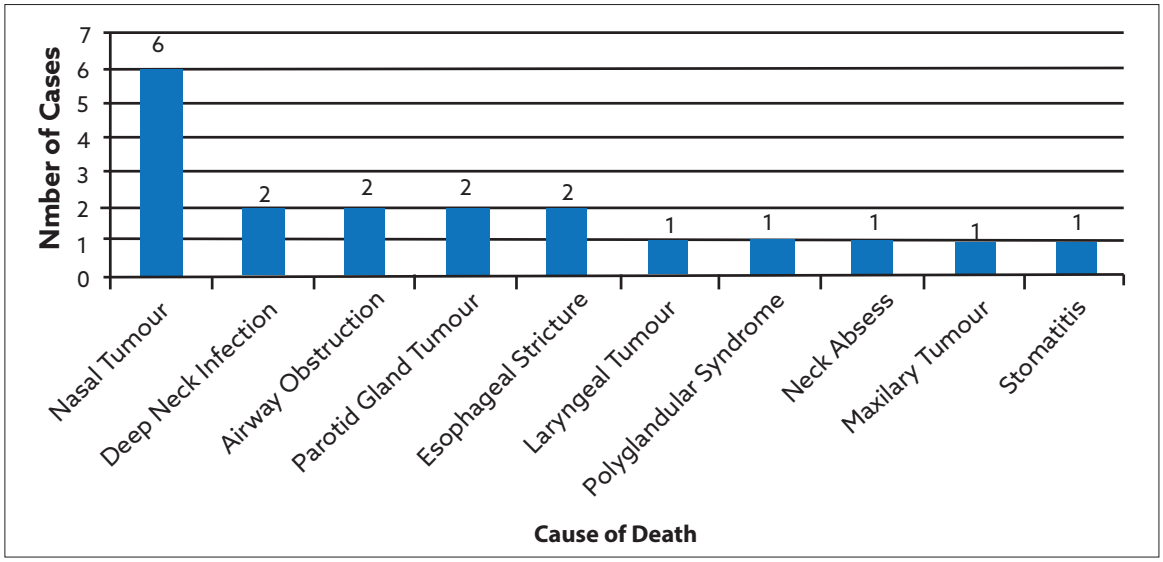


Figure 49: Top 10 causes of death, Directorate EENT 2016

Priority Activity 7: Support District and Regional Hospitals in the Northern Sector of Ghana by way of providing Outreach Services

In the year 2016, the EENT Directorate embarked on various outreach programmes and a total of 22,757 people were screened.

Staff of the Eye Department visited various places and institutions and screened 21,727 people. Out of this number, 1293 were referred for further treatment. Table 25 below shows the areas visited and number of cases seen.

Table 25: Outreach Activities by Eye Department 2016

TOWN	NUMBER SCREENED	NUMBER OPERATED
GOASO	4777	221
SAMREBOI	3313	214
KETA	3453	431
JETIASE	978	103
ABURI	9206	324
TOTAL	**21,727**	**1293**

A total of 1,030 people were screened by the ENT Department in the year under review as indicated in Table 26.

Table 26: Outreach Activities by ENT Department 2016

SCHOOL	NUMBER SCREENED
WOOD VILLAGE	10
HELPLINE	150
GOHYEN	70
NEW MISSION ACADEMY	180
PATDORAMO	150

SOUTH SUNTRESO BASIC	200
TAFO MILE 3 BASIC	170
TAFO MILE 4 BASIC	100
TOTAL	**1030**

Priority Activity 13: Support training of Staff

In order to improve service delivery at the directorate, the following activities were carried out.

- Two (2) theatre nurses were sponsored by Himalayan Cataract Project (HCP) to attend a three – week program in Theatre Nursing at John A. Moran Eye Center, Utah, USA.
- One (1) nurse attended one month training in Occuloplastic Theatre nursing in Nepal in September, 2016.

CHAPTER 13

DIRECTORATE OF ORAL HEALTH

The Directorate of Oral Health is mandated to provide general and specialist care for diseases and ailments of the Oro-facial region. The Directorate offers the under listed specialist services:

- Oral Diagnosis & Community Dentistry
- Restorative Dentistry
- Orthodontic & Paedodontics
- Oral Maxillofacial Surgery

Priority Activity 1: Increase the range of specialist services

The Directorate experienced an increase in clinical indicators like OPD attendance and surgical operations and a slight decrease in the number of OPD procedures.

Out-Patient Service (Attendance and Procedures)

A total of 17,964 patients were seen at the Out-patients Department of the Directorate in 2016. This represents 71.9% of the target (25,000) for the year and 3.1% increase over 2015 attendance. The five-year trend in OPD attendance is illustrated in Figure 50.

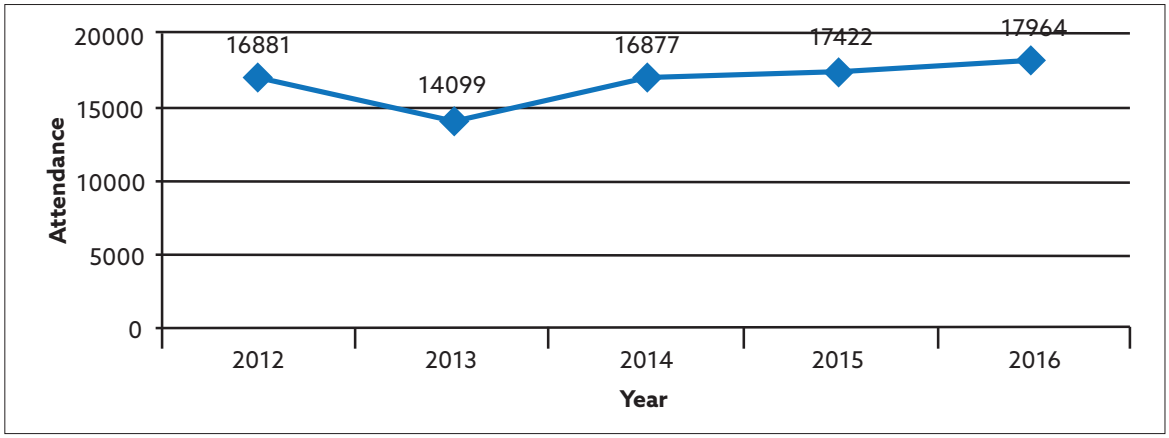


Figure 50: Trend in OPD Attendance, Oral Health Directorate (2012-2016)

The Directorate also performed 22,655 procedures, which represents 80.9 % of a target of 28,000, a decrease of 0.3 % compared to the 2015 performance.

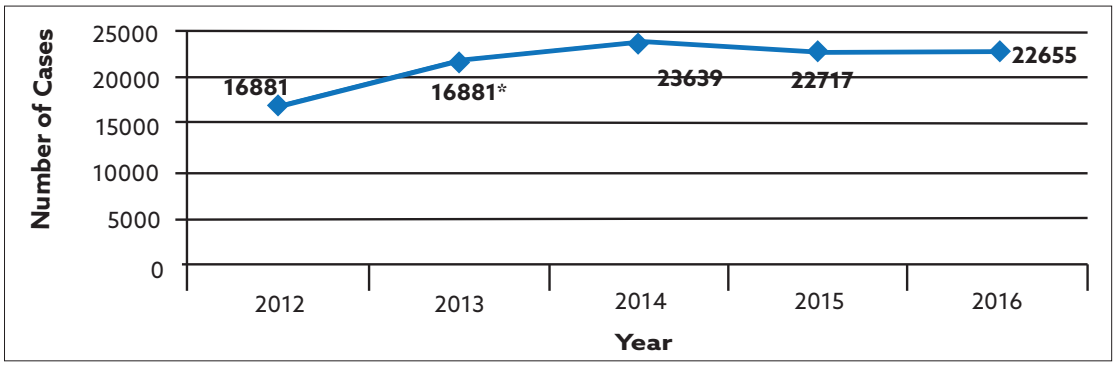


Figure 51: Trend in OPD procedures in Oral Health Directorate (2012-2016)

Out-patients Procedures by Clinic

Oral Diagnosis and Community Dentistry recorded 8,041 procedures for 2016 and was the highest across the various clinics. Orthodontic/ Paedodontic clinic recorded the least number of procedures accounting for 4.7% of all procedures. Figure 52 shows OPD procedures by clinics at the Oral Health Directorate.

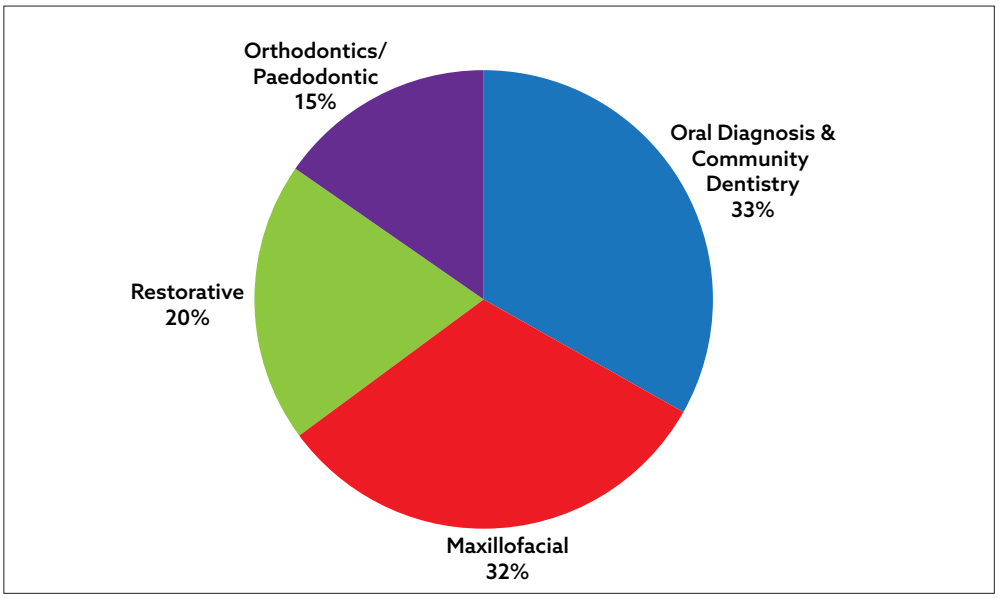


Figure 52: OPD Procedures by clinic at the Oral Health Directorate (2016)

In – Patient Services

The Directorate recorded 553 admissions, 528 discharges and 18 deaths during the year under review. With respect to admissions, the directorate achieved 79% of its target (700). For the period under review the average length of stay was 6 days.

Top ten causes of admissions in 2016

The most frequent causes of admission were cleft lip and cleft palate, accounting for 8.9% and 8.1 % of admissions respectively. Table 27 depicts the top ten reasons for admission which represent 51.9% of all admissions in the directorate.

Table 27: Top ten causes of admission, Oral Health Directorate, 2016

No	Disease category	Number of cases	Proportion of total number of admissions %
1.	Cleft lip	49	8.86
2.	Cleft palate	45	8.14
3.	Ameloblastoma	45	8.14
4.	Cellulitis and abscess of mouth	43	7.78
5.	Fracture of mandible	33	5.97
6.	Fracture of skull and facial bones, part unspecified	22	3.98
7.	Unspecified injury of head (face, ear, nose)	19	3.44
8.	Mucocele of salivary gland	11	1.99
9.	Fracture of malar and maxillary bones	10	1.81
10.	Other cysts of jaw	10	1.81

Trend in Surgical Operations

During the year 2016, a total of 1,345 surgeries were performed, which represents 74.7% of the expected output (1,800). The surgical procedures comprised of 1,011 OPD surgical procedures and 334 theatre cases. In 2016, 12.4% more surgeries were performed as compared with 2015.

Figure 53 shows the five-year trend in surgical operations.

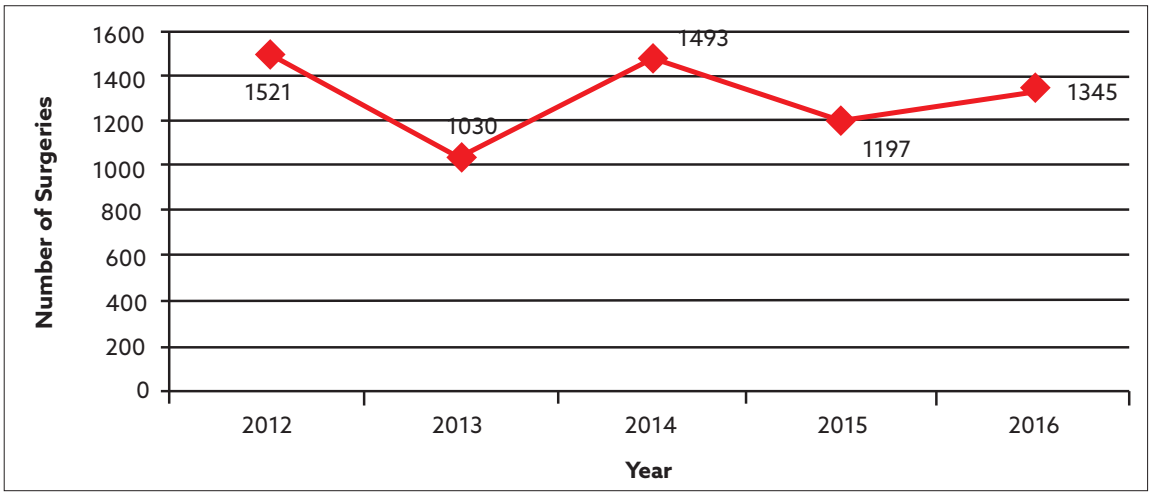


Figure 53: Trend in Surgical Operations, Oral Health Directorate (2012-2016)

Priority Activity 5: Conduct operational research into emerging diseases

Four peer reviewed papers were published. The themes included Informed Consent, Status of Immunisation for children born with cleft, Labial Talon Cusp-A and Auto-Transplantation of an Impacted Maxillary Canine.

Priority Activity 13: Support training of staff

In the year 2016, the following were achieved with respect to staff capacity building.

Continuous Professional Development programme on basic dentistry was organised for 26 nurses

- *Two Specialists passed their Fellowship examinations*
- *Five residents passed their Membership examinations*
- *Five medical officers passed their primaries and have started the membership program*

Priority Activity 7

Support District and regional hospitals in the northern sector of providing outreach services

The Directorate embarked on a number of outreach programmes in the year 2016. A total of 4576 pupils were screened, representing 14.4 % above the expected output of 4000. Out of the number screened, 45.7% were referred for further management. Details of the outreach programmes are presented in Table 28.

Table 28: Oral Health School Outreach Program, 2016

	School	Number of children screened	Referrals	Proportion of Pupil Screened Referred%
1.	Headlines Educational Centre	245	75	30.61
2.	State Experimental School Basic 11	768	425	55.34
3.	S.E.S Basic 1	359	231	64.35
4.	S.E.S Basic 1	598	317	53.01
5.	Adiebeba M/A Basic 1	238	92	38.66
6.	Adiebeba M/A Basic 2	279	143	51.25
7.	Grace Baptist School	591	257	43.49
8.	Grace Baptist School	389	154	39.59
9.	Kinder Circle School	238	92	38.66
10.	Bright Future International School	279	143	51.25
11.	St. Paul's RC Primary	592	217	36.66
	Total	**4576**	**2146**	**45.7**

CHAPTER 14

DIRECTORATE OF ANAESTHESIA AND INTENSIVE CARE

The Directorate of Anaesthesia and Intensive Care is responsible for the provision of anaesthetic services for surgical patients; thus pre-operative, intra-operative and post-operative care. The Directorate is in charge of the management of the Intensive Care Units and Theatre Recovery Wards, management of emergencies including cardiopulmonary resuscitation (CPR) as well as management of acute and chronic pain.

Priority Activity 1: Increase the range of specialist services

Pre-Operative Clinic

In 2016, a total of 5,015 patients for elective surgery were assessed at the pre-operative clinic. This represents 92.0% of the 5,603 expected cases. The cases seen in 2016 were 140 fewer than the numbers recorded in 2015. The trend for pre-operative assessment has been mixed over the five-year period as indicated in Figure 54.

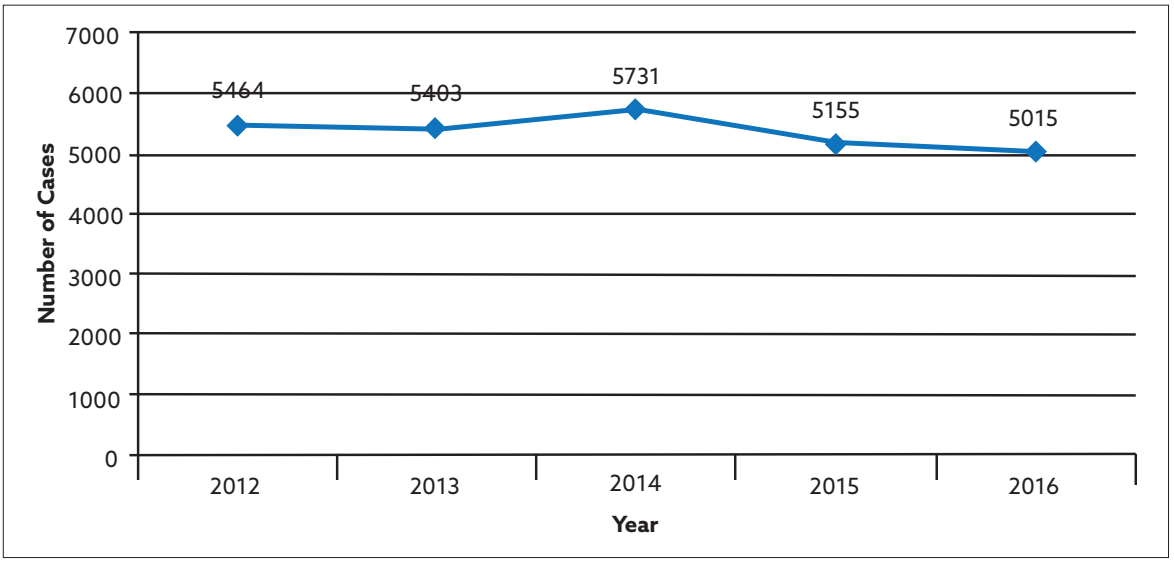


Figure 54: Trend in Pre-Operative Cases in Anaesthesia Directorate (2012-2016)

Intensive Care and theatre Recovery Services

The Directorate manages both the intensive care and theatre recovery units of the hospital. The intensive care unit provides intensive treatment medicine for seriously ill patients. The recovery wards serve as areas where patients are taken to after surgery to safely regain consciousness from anaesthesia and receive appropriate post-operative care.

Critical Care

A total of 281 critically ill patients were managed in the year under review. This depicts 27.25% of the projected target for the year. The trend of critical care has been inconsistent since 2012. (See figure 55).

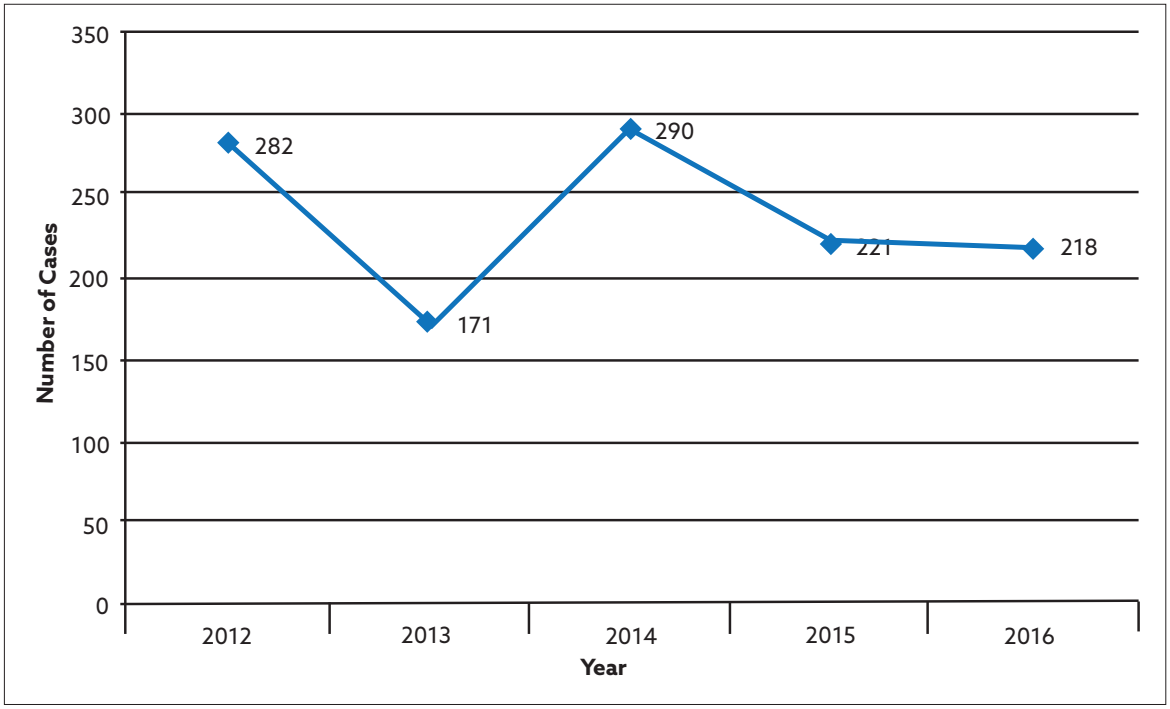


Figure 55: Trend of Critical Care Patients Managed in Anaesthesia Directorate (2012-2016)

Administration of Anaesthesia

A total of 12,213 patients were administered with various forms of anaesthesia during 2016. This represents 101.8 % of the projected 12,000 patients to be anaesthetized. The Directorate administered 18.3 % more patients as compared to 2015. An inconsistent trend over the five-year period is noted in relation to the administration of anaesthesia, as shown in Figure 56.

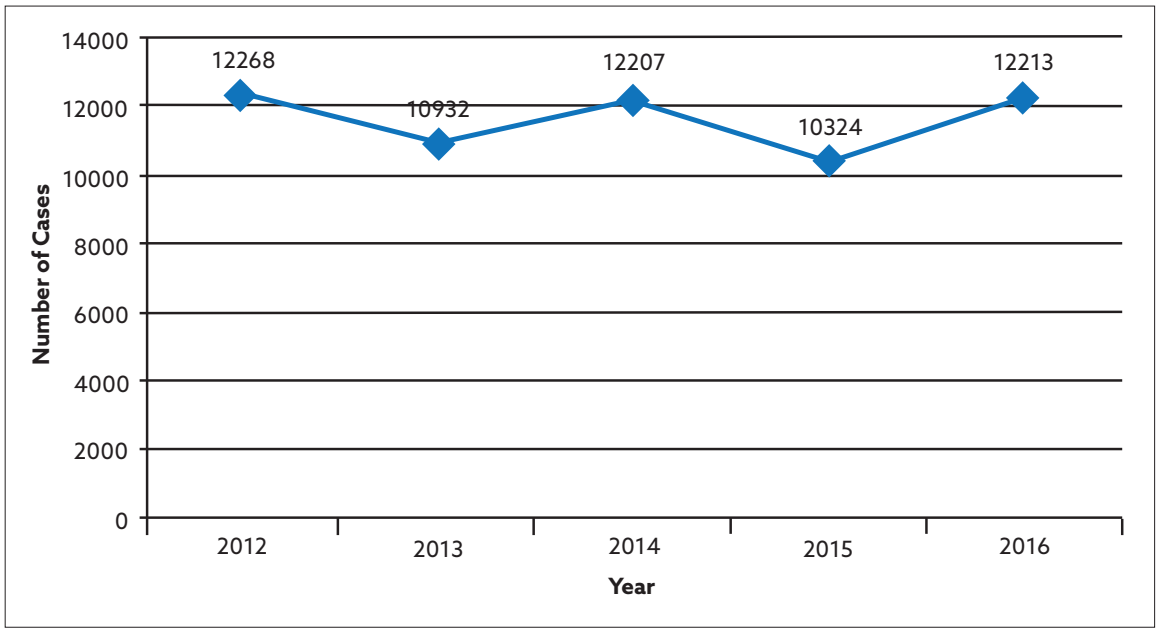


Figure 56: Trend in Anaesthesia Administration. Directorate of Anaesthesia and Intensive Care (2012-2016)

Post-operative Care

The Directorate managed a total of 11,216 post-operative cases in 2016. This was 93.5% of the 12,000 expected cases to be managed in the year. The trend of post-operative care in Figure 57 shows a decline in patient numbers from 2013 to 2015. However, the year under review recorded an increase of 12.56% compared to the previous year's performance.

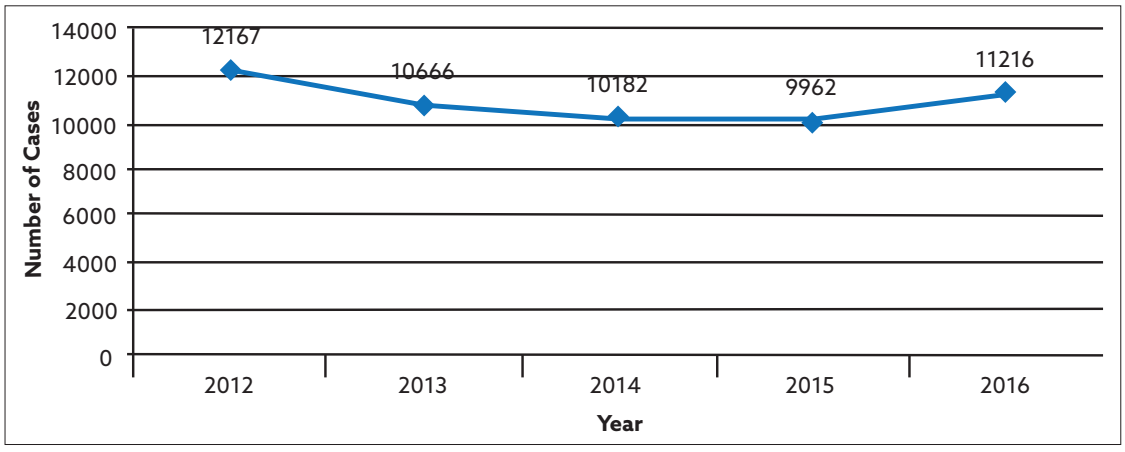


Figure 57: Trend in Number of Post-operative Cases, Directorate of Anaesthesia and Intensive Care (2012-2016)

Anaesthetic activities by Theatre

In the year under review, the highest percentage of anaesthetic procedures was undertaken at the A1 theatre (31.8 %). Special Ward Theatre recorded the least, representing 2.3 %). General Anaesthesia was the most common type of anaesthesia administered to patients in the year under review. It accounted for 48.11% of all anaesthesia administered as indicated in Table 29.

Table 29: Types of Anaesthesia by Theatre. Directorate of Anaesthesia and Intensive Care, 2016

THEATRES	GENERAL	SPINAL	INFILTRATION	REGIONAL BLOCK	LOCAL ANAESTHESIA	TOTAL
Poly Theatre	973	–	4	–	–	977
Main Theatre	2438	664	92	–	–	3194
A1 Theatre	793	3078	2	–	–	3893
A& E Theatre	1326	1020	128	246	–	2720
Eye	319	–	–	–	829	1148
O&G Special	27	254	–	–	–	281
Total	5, 876	5, 016	226	246	829	12,213

Priority Activity 2: Sustain activities to reduce mortalities, especially maternal and neonatal deaths

The Directorate held a total of forty-eight (48) quality assurance and weekly clinical meetings in the year under review. In addition to these, ten (10) mortality and critical incidents meetings were held in the Directorate.

Trend in Mortality

A total of 120 deaths were recorded in various sections of the directorate during the period under review. The Directorate saw a considerable reduction in mortality in 2016 compared with 2015 as Shown in Figure 58 & 59.

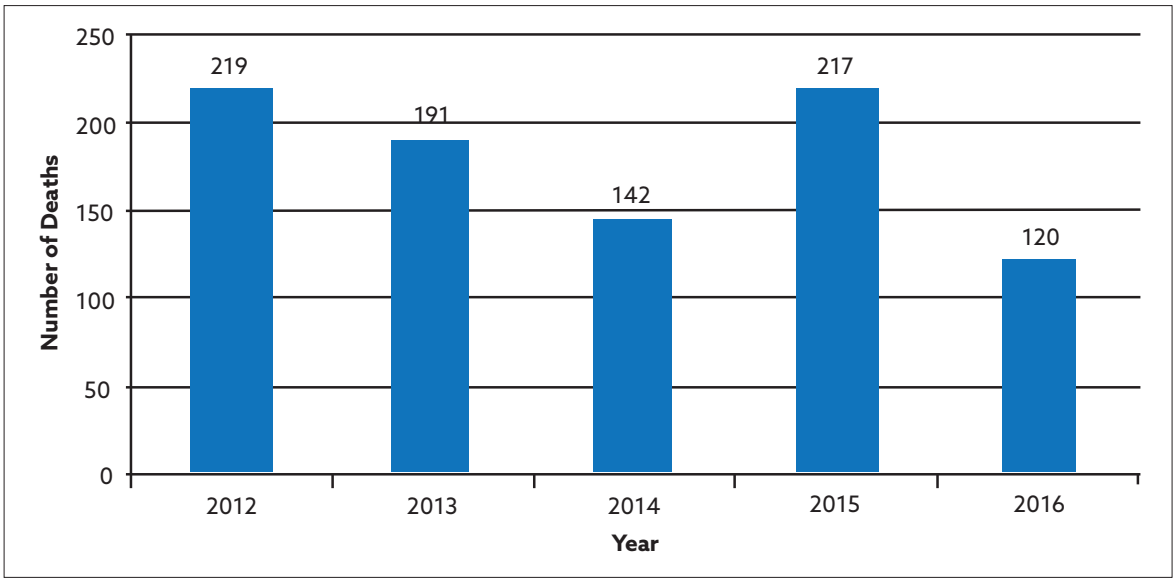


Figure 58: Trend in number of deaths, Directorate of Anaesthesia and Intensive Care (2012-2016)

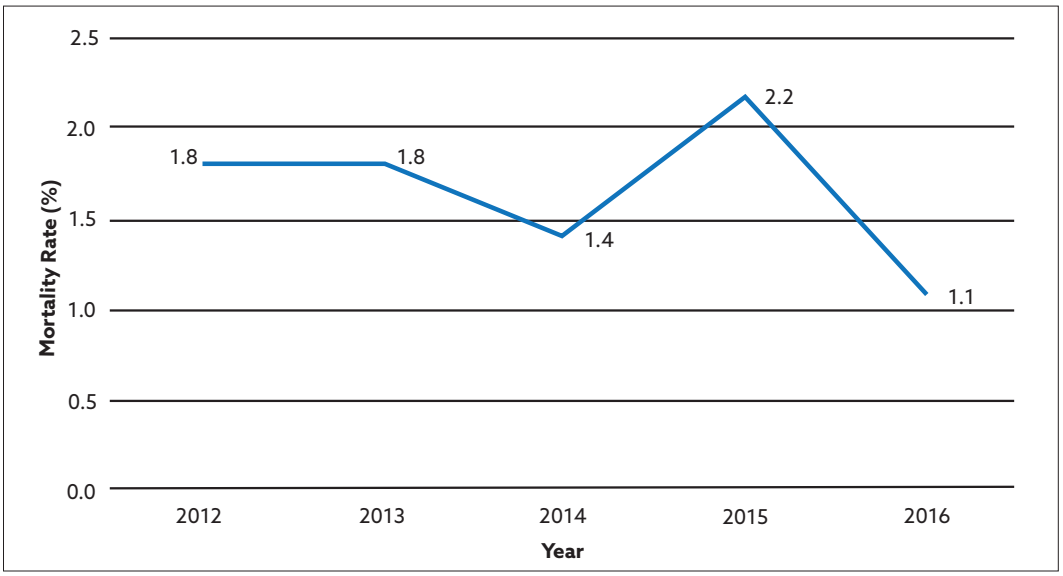


Figure 59: Trend in mortality rate, Directorate of Anaesthesia and Intensive Care (2012-2016)

Priority Activity 13: Support training of Staff

Regarding capacity building in the Directorate, the following activities were undertaken;

- Two (2) staff sponsored for critical care nursing.
- Three (3) staff sponsored for Diploma in anaesthesia course
- Three (3) staff sponsored for B.SC Physician Assistant in Anaesthesia at KNUST
- In service training/refresher courses were organized for Recovery Ward Nurses
- Staff attended an Update Conference in Anaesthesia in Kumasi.
- Three (3) Doctors attended refresher course in Anaesthesia organized by WACS in Accra

CHAPTER 15

DIRECTORATE OF OBSTETRICS & GYNAECOLOGY

The mission of the Directorate of Obstetrics and Gynaecology is to provide high quality women's health care in a user-friendly environment while conducting teaching, training and research. The directorate has Out-patient sections in Family Planning, Obstetrics and Gynaecology services and neonatal sickle cell screening. There are four Labour Wards;

- A1 General Labour Ward
- A&E Special Ward
- A5 (staff delivery ward)
- High Dependency Unit

There are also four operating theatres for emergency and elective surgeries; A1 Theatre and A&E Special Ward Theatre are dedicated for mainly emergency surgeries. The rest are for elective and minor surgeries. The Directorate also provides ultrasound scan, foetal assessment, antenatal, postnatal, sexual and reproductive health counselling as well as pharmacy services.

Priority Activity 1: Increase the range of specialist services

Ultrasound Services

During the year under review 3,692 cases were seen as against 4,344 cases in the previous year. This represents a decrease of 15 % as against 2015's performance.

Cervical Screening, Laparoscopy and Colposcopy Services

Fifty (50) patients received laparoscopy procedures. Four Hundred and Twenty-four patients (424) went through cervical screening tests. Out of that number thirteen (13) were given colposcopy procedures.

Foetal Assessment Centre

The centre was able to monitor five hundred and thirty-six (536) foetuses. This service provided to clients enhanced the management of mothers and their unborn babies. Plans are underway to improve services and revenue in the ensuing year.

Out – Patient (OPD) Services

The OPD clinics of the Directorate (Consulting Room 8 and Family Planning) recorded a total of 44,951 cases in 2016. This represents 15% over the target for the year under review.

Trend Analysis of OPD Utilization

Over the last five years, 2016 recorded the highest number of OPD cases of 44,951 (Figure 60).

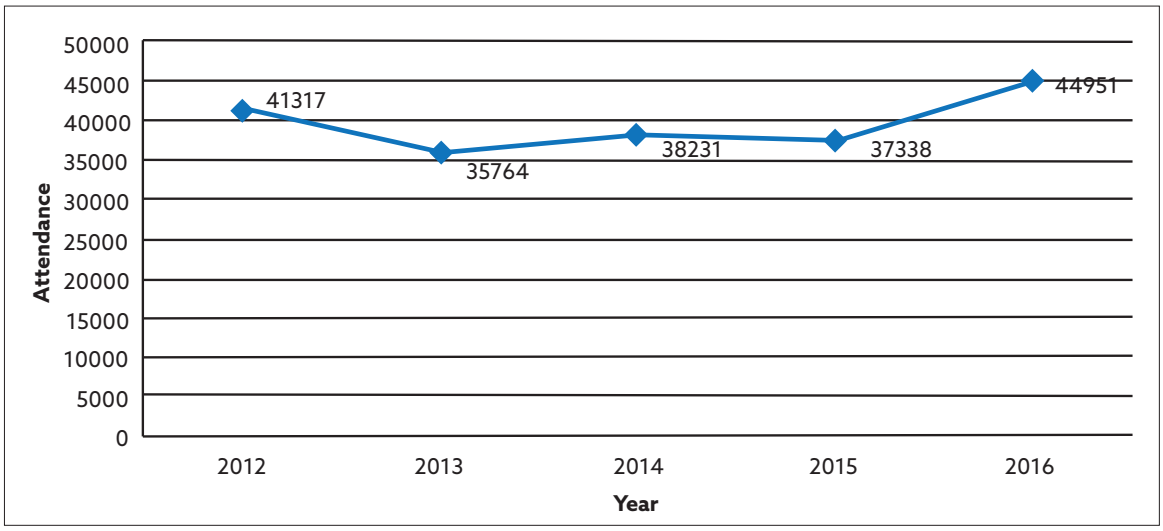


Figure 60: Trend in OPD Services in Obstetrics & Gynaecology Directorate (2012-2016)

In-patient Services

The Directorate has a total of six (6) wards, four (4) of which are Labour Wards. In the year under review, the Directorate recorded 13,206 in-patients, representing 85% of the projected target for the year. The bed complement for the directorate was 156. The average turnover per bed was 84 patients, compared to 92 patients for the previous year. The average length of stay increased from 3 days to 4 days with daily bed occupancy of 130.

Trend Analysis of In-patient services

The Directorate has been experiencing a consistent decline in admissions over the five-year period (Figure 61). In the year under review, the Directorate recorded 11.2 % fewer admissions than the previous year.

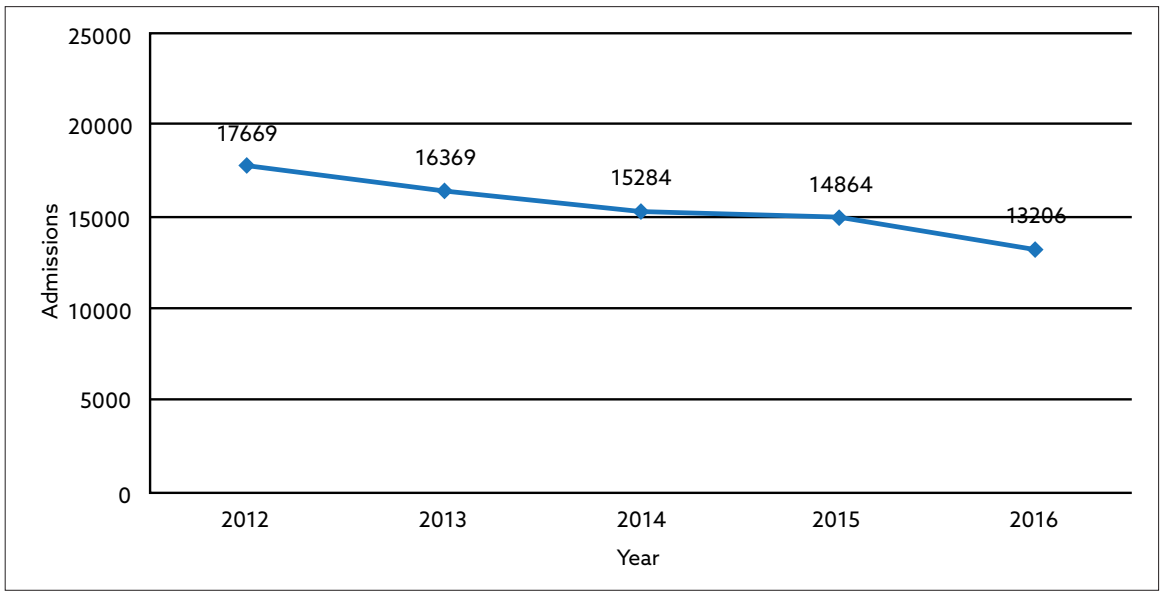


Figure 61: Trend in Admissions in Obstetrics & Gynaecology Directorate (2012-2016)

Top Ten causes of Admissions in 2016

During the period under review, Eclampsia/ Pre-Eclampsia was the leading cause of admissions accounting for 8.8% of all Top 10 admissions. Overall top 10 cause of admissions contributed to 24.1% of all admissions in the Directorate for the year under review. (See Table 30).

Table 30: Top Ten Causes of Admissions in Obstetrics & Gynaecology Directorate, 2016

	Disease Category	Number of Cases	Proportion (%) of Total Number of Admissions
1	Eclampsia / Pre-Eclampsia	1,157	8.76
2	Abortions	450	3.41
3	Hypertension Related Complications	442	3.35
4	Haemorrhage	358	2.71
5	Leiomyoma of Uterus	275	2.08
6	Ectopic Pregnancy	214	1.62
7	Malignant Neoplasm of Female Genital organs	141	1.07
8	Anaemia in Pregnancy	73	0.55
9	Diabetes in Pregnancy	41	0.31
10	Pelvic Inflammatory Disease	34	0.26
	Others	10,025	75.89
	Total	**13,210**	**100.00**

Obstetrics Services

In the year under review, a total of 8,884 deliveries were recorded in the Directorate, and total of 8,917 live births and 378 still births. Table 31 presents the data of obstetrics services from 2012 to 2016.

Table 31: Trend in Obstetric services in Obstetrics & Gynaecology Directorate, 2012-2016

Indicator	2012	2013	2014	2015	2016
Total deliveries	12142	11,188	10,031	9,653	8884
Male	6,611	5,643	4,869	5,042	4752
Female	5,922	5,962	4,707	4,993	4543
Still Births	425	460	408	384	378
Live Births	12,108	11,145	9,168	9,651	8917
Weights Over 2.5kg	7,696	7,324	6,525	6,571	3734
Weights Below 2.5kg	4,837	4,281	3,051	3,464	91
Abortions (EOU)	1069	920	641	483	297
Caesarean Section	3,672	3,652	3456	3357	3424
Caesarean Section Rate	3,024 per 10,000 Deliveries	3,264 per 10,000 Deliveries	3,445 per 10,000 Deliveries	3,478 per 10,000 Deliveries	3,854 per 10,000 Deliveries

Deliveries

In the year 2016, a total of 8,884 deliveries, representing 85% of the projected target were recorded. The pattern in deliveries over the past five years shows a consistent decline as shown in Figure 62. In the year under review, the directorate recorded 8 % fewer deliveries than the year 2015.

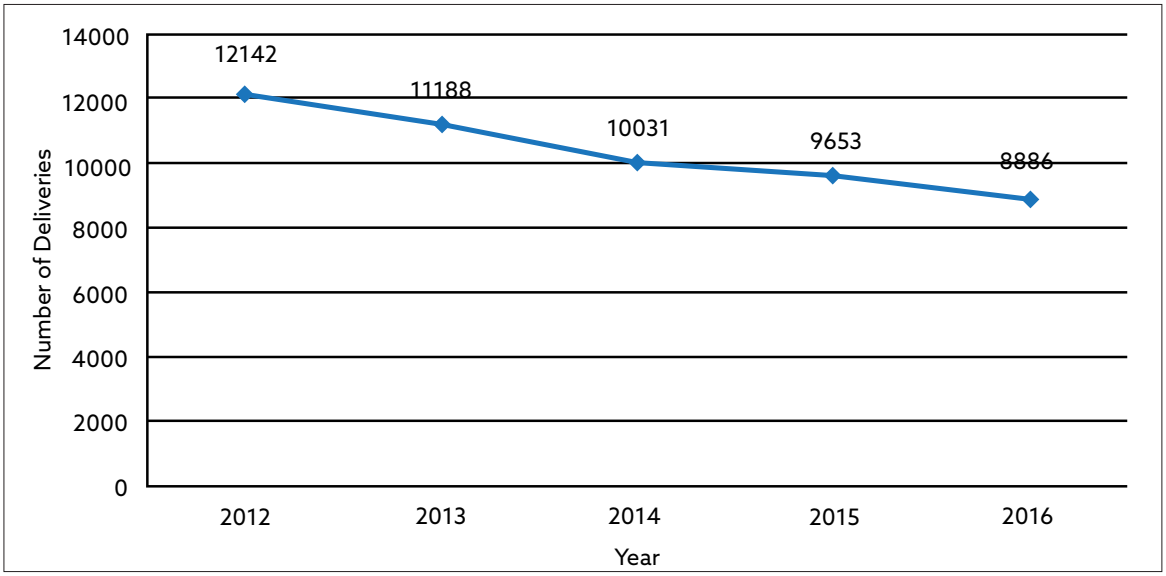


Figure 62: Trend in Deliveries in Obstetrics& Gynaecology Directorate (2012-2016)

Surgical Operations

In 2016, a total of 6,227 surgical cases were conducted. This represents 81.84% of the projected target for the year. The year under review also recorded 5.7% lower than 2015 performance. Major surgeries in the year accounted for 60.80% (4,099) of all surgeries in the Directorate.

Trend in Theatre Utilization

The Directorate recorded a continuous decline in minor surgeries over the five-year period with the highest decline registered in the year under review. However, major surgeries increased from 2012 to 2013 but have since declined (Figure 63).

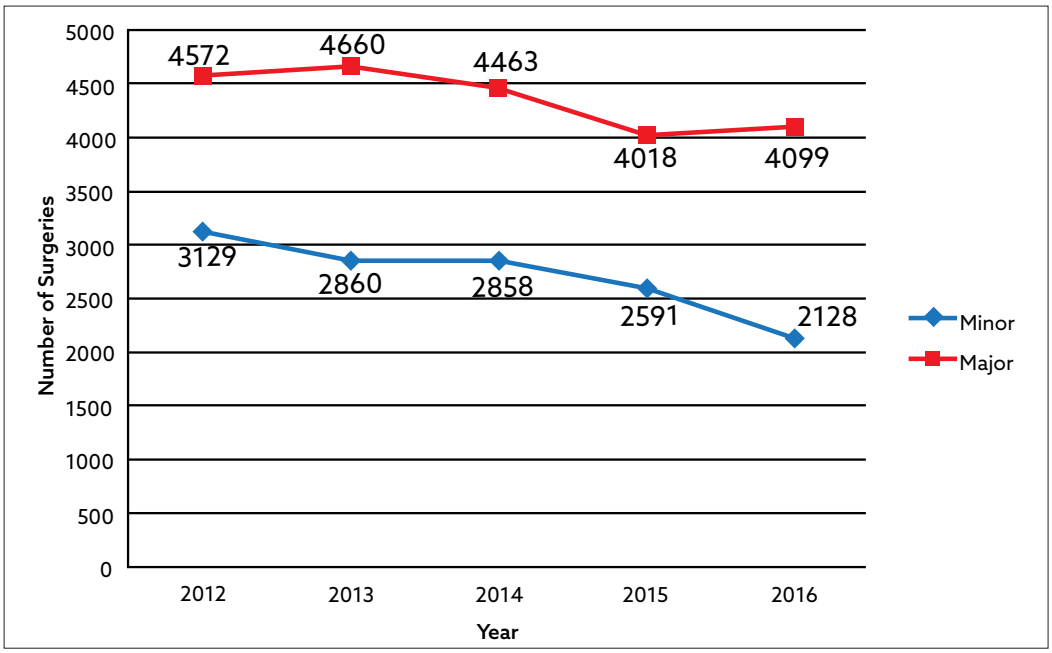


Figure 63: Trend in Surgeries in Obstetrics & Gynaecology Directorate (2012-2016)

Family Planning

During the period, 6100 people patronized the various family planning methods in the directorate. This represents a 35% decline from previous years (Figure 64).

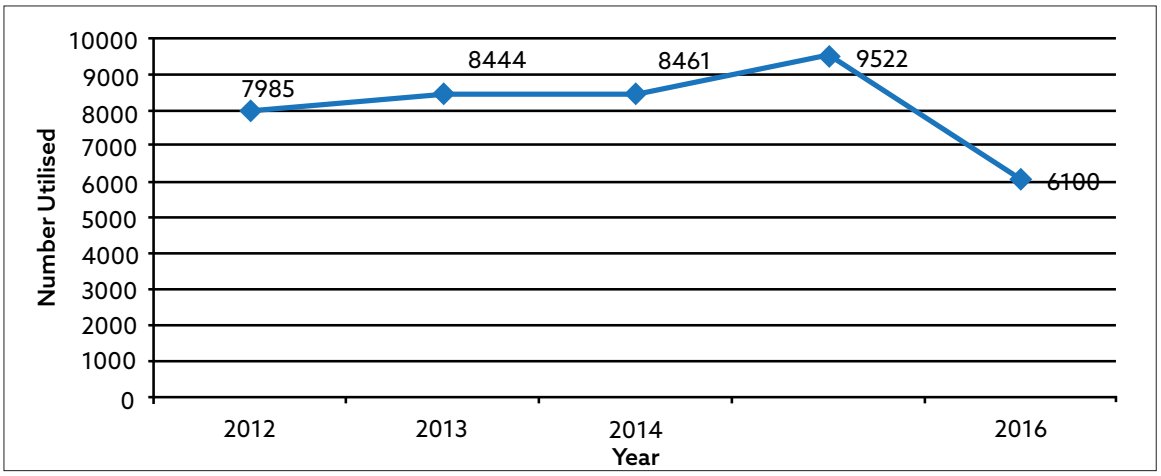


Figure 64: Trend in Family Planning Methods Utilisation in Obstetrics & Gynaecology Directorate (2012-2016)

Depo Provera remains the method most highly patronized by people although it dropped by 16.67% in the year 2016 (Figure 65). Laparoscopy (LAPS) continues to be the least patronized form of contraception throughout the period.

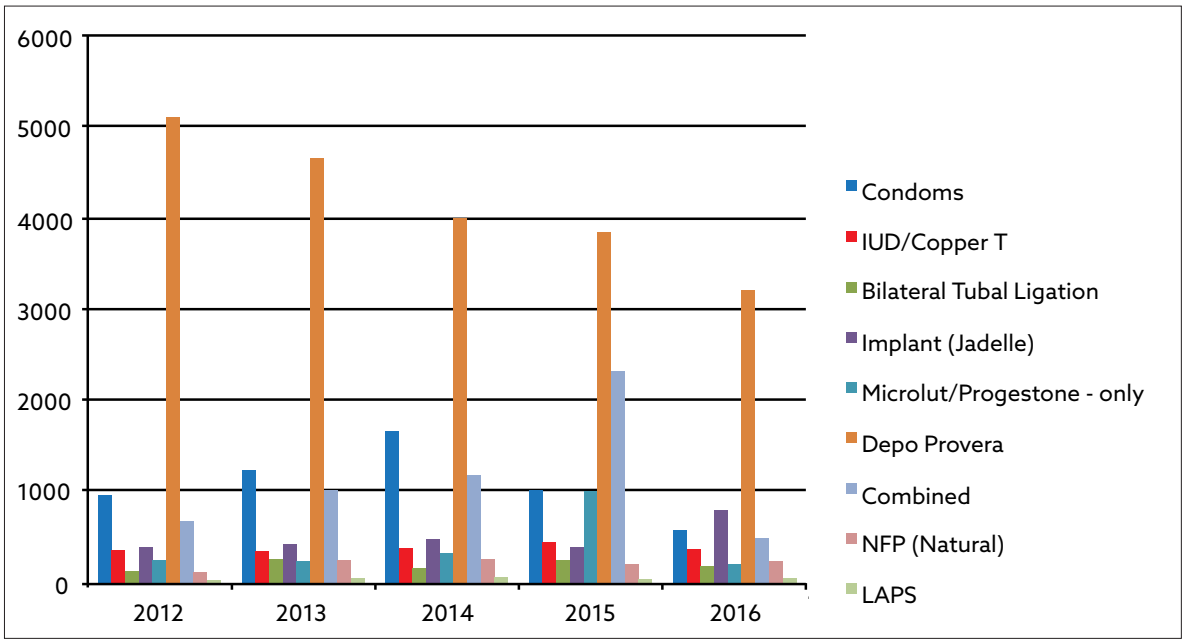


Figure 65: Trend in Types of Family Planning Methods patronised, O & G Directorate (2012-2016)

Priority Activity 2: Sustain activities to reduce mortalities, especially maternal and neonatal deaths

For the year 2016, eleven (11) maternal mortality meetings were conducted and all the deaths that occurred within the period were audited. A monitoring team undertook a supervisory visit to the peripheral facilities to improve the hospital's maternal and child health programme under the Millennium Development Goals Accelerated Framework (MAF) Project. The support rendered to these facilities also culminated in strengthening referral structures between the hospital and the facilities visited.

Trend analysis of Non-Maternal Mortalities

There was a decline in the trend of non-maternal mortalities in the directorate from 2013 to 2014. Subsequently, there has been a rise in 2015 and 2016 (Figure 66).

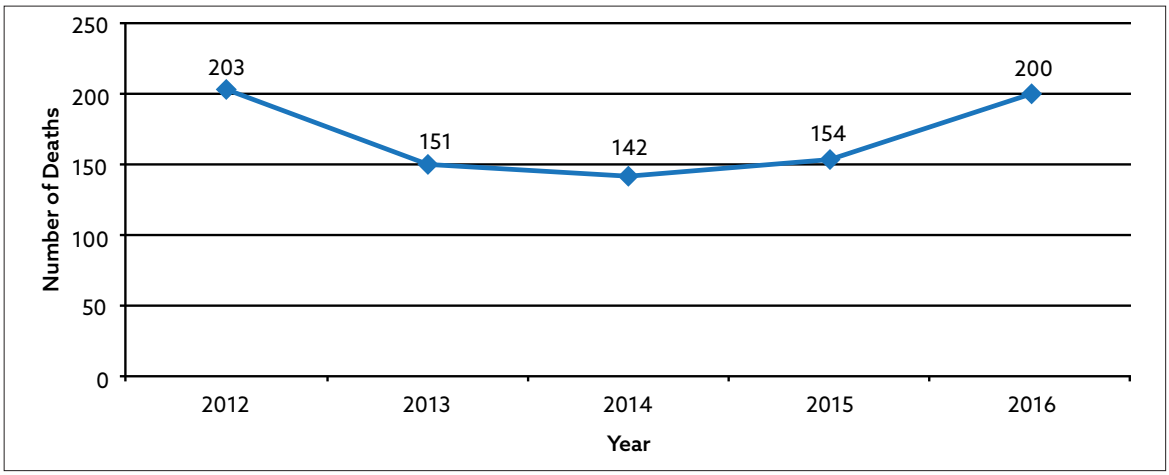


Figure 66: Trend in Non-Maternal Mortality in Obstetrics & Gynaecology Directorate (2012-2016)

Trend in Maternal Death Rate

For the past five years, maternal mortality rates have consistently been declining as indicated in Figure 67. The year 2016 recorded 1021 per 100,000 live births as compared to 1057 per 100,000 live births in 2015.

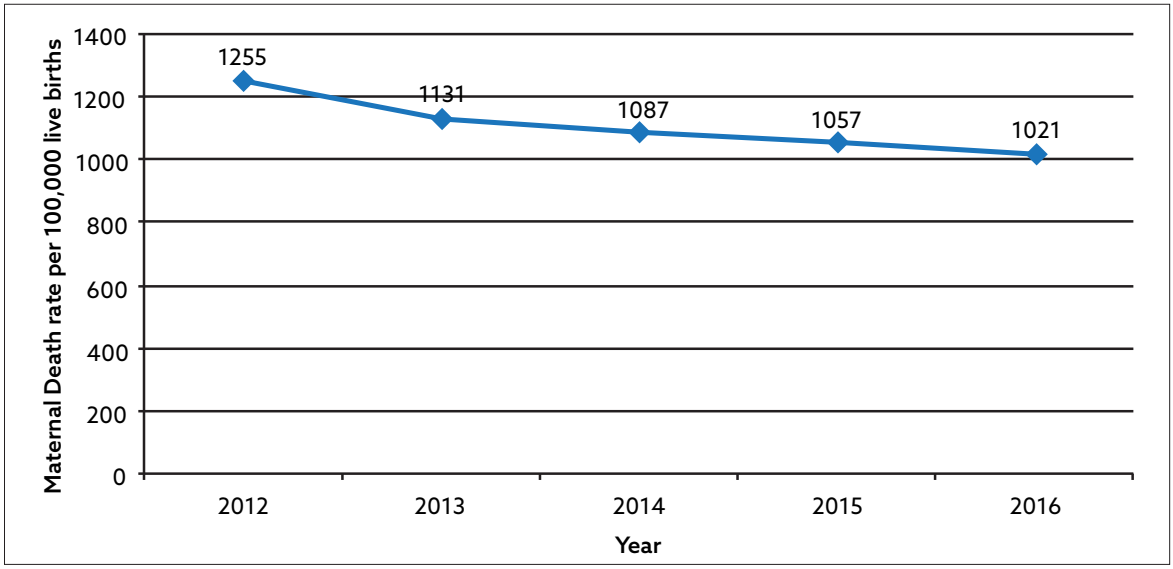


Figure 67: Trend in Maternal Death Rate per 100,000 live births (2012-2016)

Top Ten Causes of Maternal Deaths

In 2016, HPT – Related disease (Eclampsia/ pre-Eclampsia) and Haemorrhage were the two leading causes of maternal deaths, contributing 53.8 % of all maternal deaths in the directorate.

Table 32: Top Ten Causes of Maternal Deaths in Obstetrics & Gynaecology, 2016

	Disease Category	Number of Deaths	Proportion (%) of Total Number of Deaths
1	Haemorrhage	30	33.0
2	Hypertension Related Disorders (Eclampsia/Pre-Eclampsia)	19	20.9
3	SCD Related	6	6.6
4	Severe Anaemia	5	5.5
5	Sepsis	3	3.3
6	Hepatitis	2	2.2
7	Amniotic fluid Embolism	2	2.2
8	Encephalitis	2	2.2
9	Pulmonary Oedema	2	2.2
10	Cardiomyopathy	2	2.2
	Others	18	19.8
	Total	**91**	**100.0**

Maternal Deaths by time

During the period, 59 maternal deaths occurred within 48 hours, representing 65.0% of all maternal mortalities in the directorate. The remaining deaths of 32 ocuured after 48 hours of admissions. "See figure 68"

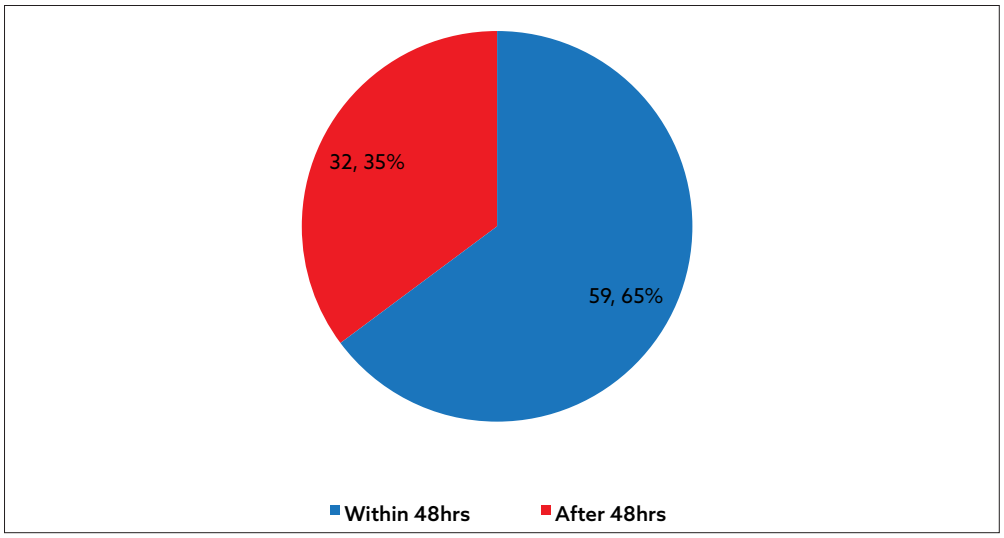


Figure 68: Distribution of Maternal Deaths by time period: Within and after 48 hours, O&G Directorate (2016)

Priority Activity 13: Support training of Staff

To improve the quality of clinical care services in the year under review, the Directorate made conscious efforts to build capacity of its staff. In order to achieve this objective, the Directorate embarked on various training programmes. Fourteen (14) midwives and nurses received approval to pursue further training. One (1) doctor received approval to specialize in Urogynaecology and three training sessions were held with visiting professors. In addition, two doctors received approval for fellowship training in O&G, Ghana College of Physicians and Surgeons. One (1) doctor has enrolled to specialize in Fertility and IVF. Four (4) midwives enrolled for Ghana College of Nursing & Midwifery. Twenty-Seven (27) doctors completed membership programme with a pass rate of 100%. Seventeen (17) doctors enrolled at the Ghana College of Physicians and Surgeons and ten (10) with West African College of Surgeons.

Seventy-two (72) House Officers were trained in Comprehensive Abortion Care.

During the period, the Directorate also organized the following workshops for staff;

- Training on Bilateral Tube Ligation (BLT) and Intra Uterine Device (IUD) were organised for one hundred and fifty (150) staff.
- Fifteen supervisors were trained on management principles.
- In-service training was organised on reproductive health for three hundred staff
- All doctors and nurses received training under the MAF programme on Basic surgical skills, Outreach supervisory skills and Cardiotocography (CTG) training.
- Five (5) midwives were sponsored for peri-operative and critical care training and training on supervisory tools for outreaches.

CHAPTER 16
ONCOLOGY DIRECTORATE

The Directorate provides specialized care to patients in areas ranging from primary, secondary and tertiary prevention of cancer.

The Directorate provides the following outpatient services:

- Haematology
- Medical oncology
- Radiation oncology

It also provides Teletherapy, brachytherapy and chemotherapy treatments to patients. The staff strength of the Directorate stood at fifty-eight (58) at the end of the year.

Priority Activity 1: Increase the range of specialist services

Out – Patient Services

In the year under review, a total of 8,146 outpatients were seen. This represents 97 % achievement of the planned out-patients target for 2016. In 2016, the Directorate saw 3 % more cases compared to 2015. Radiotherapy constituted 82% of total out-patients in the year (Figure 69).

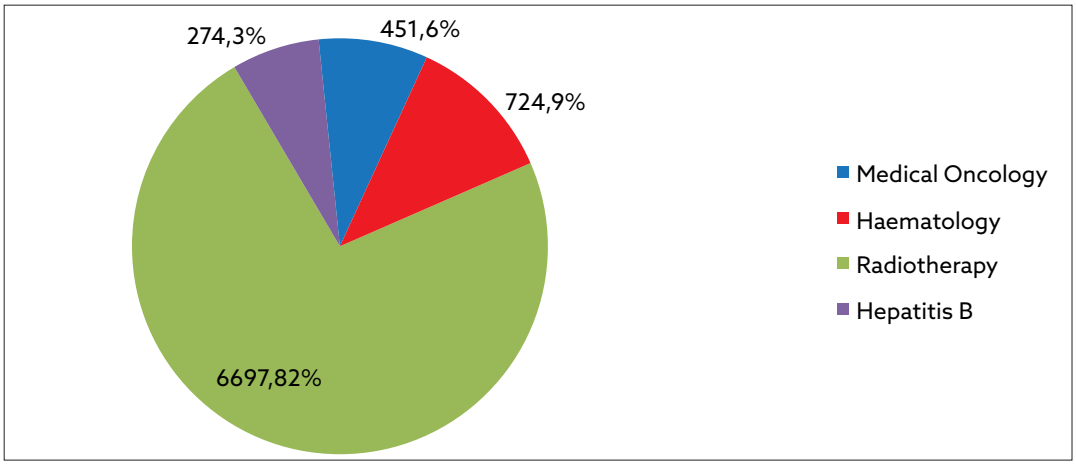


Figure 69: OPD Services Utilization in Oncology Directorate (2016)

Trend in OPD Utilization 2012 – 2016

OPD attendance for the directorate declined in 2013 and has since gradually risen until 2016 (Figure 70).

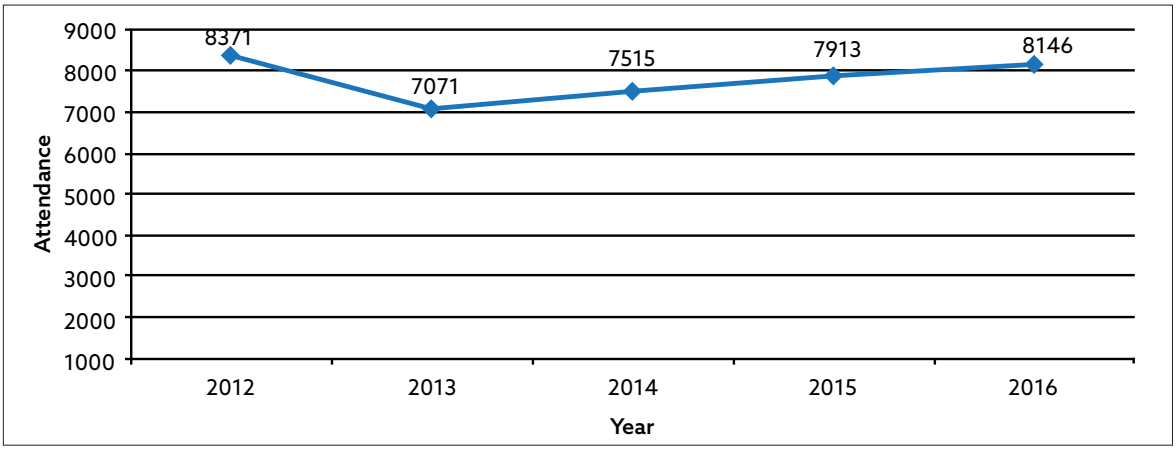


Figure 70: Trend in OPD Attendance in Oncology Directorate (2012 – 2016)

Comparative Analysis of Treatment Options for Cancer Conditions

Over the period, the Directorate offered the following treatment options:

- Teletherapy sessions
- Chemotherapy sessions
- Brachytherapy sessions

In 2016, the Directorate provided 8,207 treatment sessions to patients. Teletherapy accounted for 73.8% of the treatment sessions given by the Directorate. The trend for this treatment shows a rise in 2013 and a subsequent decline from that period to 2015. However, there was a sharp increase in 2016. With the exception of 2014, the number of chemotherapy sessions has shown a consistent rise over the five-year period. In 2016, a total of 63 more sessions were conducted as compared to the previous year. Brachytherapy accounted for 0.49% of the treatment sessions in the year under review.

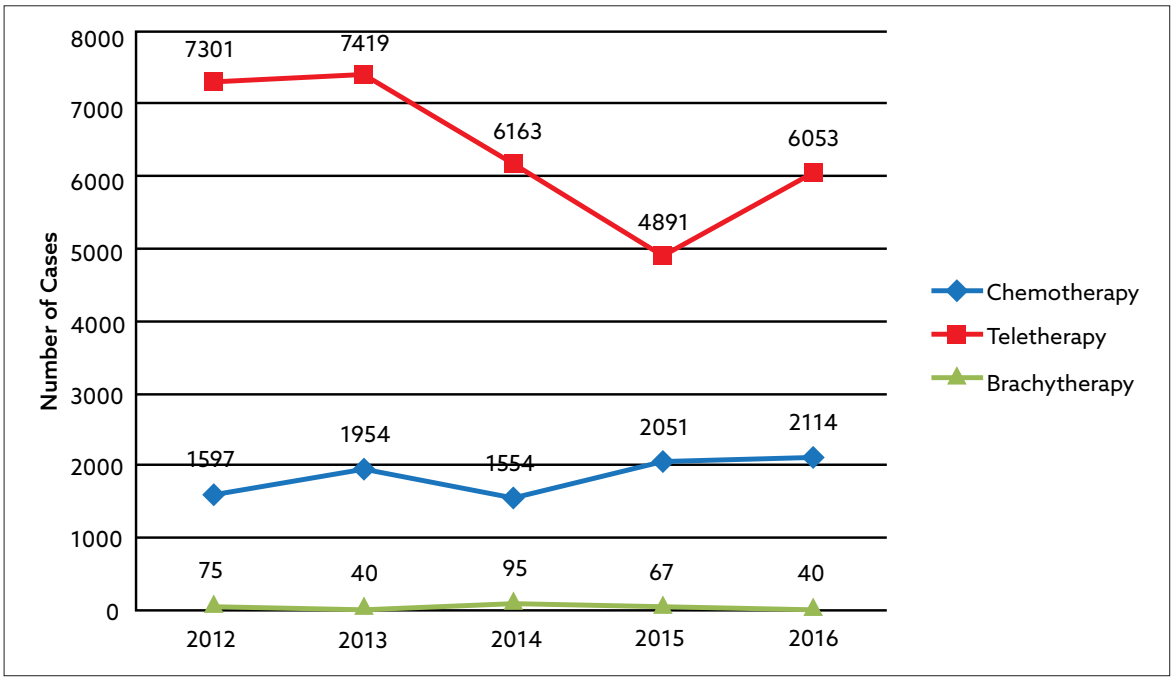


Figure 71: Comparative Analysis of treatment given in Oncology Directorate (2012-2016)

Top ten (10) Cancer cases for 2016

In 2016, Breast and Cervical cancers constituted 71.51% of top 10 cancers recorded in the hospital. Endometrium and colon cancers were the 9th and the 10th leading cancers seen in the Directorate, representing 1.96% and 1.57% respectively (Figure 72).

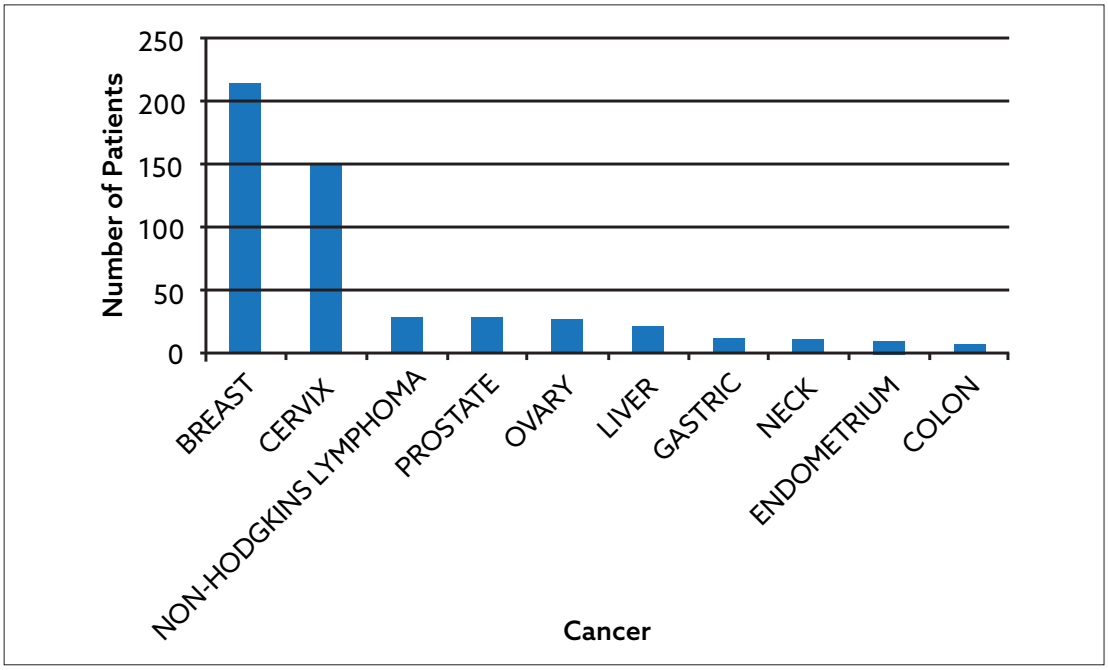


Figure 72: Top ten Cancers treated, Directorate of Oncology (2016)

Priority activity 7: Support district and regional hospitals in the northern sector of Ghana, by way of providing outreach services

In 2016, the Directorate organized outreaches to Seventh Day Adventist Church, Bohyen – Kropo, Benim community in Mampong and Sokoban Community in Kumasi. In all, a total of 259 people were screened. In the same period, 15 home visits were conducted.

Priority Activity 13: Support training of Staff

Some staff in the directorate undertook various training and development programmes; one nurse enrolled in oncology nursing at Ghana College of Nursing and Midwifery (GCNM). One Therapy Radiographer is pursuing a Master's programme in Medical Physics. One doctor completed his membership programme and others also enrolled at the Ghana College of Physicians and Surgeons (GCPS). As part of efforts to achieve the inclusion of nuclear medicine treatment and diagnostics, one doctor is undergoing training in Nuclear Medicine in South Africa.

Priority Activity 5: Conduct operational research into emerging diseases

Three research topics were carried out in 2016 in the areas of Imaging, External Beam Radiotherapy and Brachytherapy (Table 33).

Table 33: Research Topics Undertaken in Oncology Directorate, 2016

Area	Topic	Status
Imaging	Patient dose relationship with exposure parameters in chest X-ray examination in KATH and Agogo Presbyterian Hospital	On-going
Brachytherapy	Interpositional variation in applicator position of patients undergoing low dose rate (LDR) brachytherapy.	On-going
External Beam	In – Vivo Dosimetry	On-going
External Beam	Dosimetry Effect of thermo plastic immobilization	On-going
External Beam	Treatment Gap techniques for common cancer.	On-going

CHAPTER 17
FAMILY MEDICINE DIRECTORATE

The Directorate provides family medicine, physiotherapy and general primary care clinical services. It offers a 24-hour Out-Patient service to clients. Services such as Medical Examination, In-patient, Staff Clinic, Chronic Care, Palliative Care, Casualty procedures, Wound Dressing are offered by the Directorate. It also runs staff Rehabilitation and Specialist Family Medicine Clinics.

Priority Activity 1: Increase the range of specialist services

The Directorate sought to provide 24-hour primary and specialized care services in Family Medicine to all clients. It provided specialized Physical Therapeutics' care for outpatients and inpatients to promote and restore health. The Directorate introduced Rehabilitation service in 2016.

Out-Patient Services (Primary and Specialist Care)

A total of 70,997 cases were seen in 2016 by the Directorate, which comprised of 62,638 primary care cases and 8,359 specialist consultations (chronic care clinic). This performance accounted for 91% and 98% of the annual targets for primary and specialist care consultations respectively.

Trend Analysis in OPD Services (Primary and Specialist Care)

Over the five-year period (2012-2016) OPD attendance has generally been inconsistent. The year under review showed a slight increase in attendance by 0.44% as compared to 2015 as shown in Figure 73.

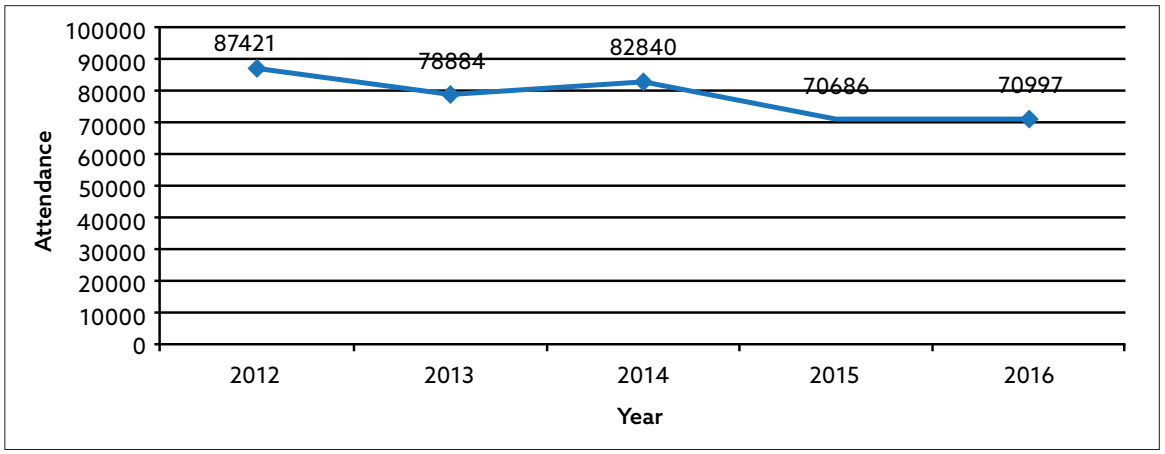


Figure 73: Trend in OPD services (Primary and Specialist Care) in Family Medicine Directorate (2012-2016)

Other Services at Family Medicine Directorate

The Directorate conducted 336 medical examinations, which represented 168% of the expected output set for the year. Palliative Care services were provided to 49 patients in the Directorate (Table 34). The new Rehabilitation clinic saw 139 patients, representing 39% above the target.*Table 34: Services by Family Medicine Directorate, 2016*

Services	2015 Output	2016 Output	Target 2016	% Target 2016
Casualty procedures (Suturing/ I&D – Incision and drainage)	135	266	280	95
Wound dressing clinic	13	1460	600	243
Medical Examinations	376	336	200	168
Palliative Care Services	28	155	80	194
Rehabilitation Clinic	-	139	100	139
Outreach Prisons	74	31		

Top Ten Conditions seen in OPD in Family Medicine Directorate

The leading cause for OPD attendance in 2016 was Hypertension, accounting for 20.02% of total OPD attendance. The remaining nine top causes of OPD attendance in the Directorate contributed 22.0% of total OPD attendance as shown in Table 35.

Table 35: Top Ten Conditions Seen in the OPD – Family Medicine Directorate, 2016

	Conditions	Number of attendance	Proportion of total OPD Attendance%
1	Hypertension	14,214	20.02
2	Malaria	4,025	5.66
3	Diabetes Mellitus	4,011	5.64
4	RTI (Respiratory Tract Infection)	3,469	4.88
5	Normal Pregnancy	3,316	4.67
6	Lumbar Spondylosis /MSP (Musculoskeletal Pain) / Myalgia/ Osteoarthritis	2,905	4.09
7	GERD (Gastroesophageal Reflux Disease) / Gastritis/ Peptic Ulcer	1,977	2.78
8	UTI (Urinary Tract Infection)	1,598	2.25
9	Neuropathy	1,092	1.53
10	Gastroenteritis/Diarrhoea	669	0.94
*	Others	33721	47.54
	Total	**70997**	**100.00**

Top Ten Conditions Seen – Family Medicine Directorate (0-12 Years)

The number one cause of OPD attendance for children between the ages of 0-12 years was Respiratory Tract Infection with Asthma recording the 10th position (Table 36).

Table 36: Top Ten Conditions Seen OPD – Family Medicine Directorate (0-12 Years)

	Diagnosis	Number of cases/ Episodes
1	RTI – Respiratory Tract Infection	1,957
2	Malaria	1,918
3	UTI – Urinary Tract Infection	944
4	Sepsis	624
5	Dermatitis	375
6	Gastroenteritis/ Diarrhoea	348
7	Anaemia	293
8	Conjunctivitis	233
9	SCD – Sickle Cell Disease	142
10	Asthma	131

Top Ten Cases at Chronic Care clinic

A total of 5419 hypertension cases were seen at the Chronic Care Clinic. Hypertension cases were the highest seen at the chronic care clinic followed by diabetes mellitus. Table 37 shows the top ten conditions seen at the chronic care clinic.

Table 37: Top Ten Conditions seen at Chronic Care Clinic – Family Medicine – 2016

	Diagnosis	Number of cases/episodes
1	Hypertension	5,419
2	Diabetes Mellitus	1,573
3	Lumbar Spondylosis /MSP (musculoskeletal pain)/Myalgia/Osteoarthritis	461
4	Neuropathy	276
5	Dyslipidaemia	149
6	RTI (Respiratory Tract Infection)	145
7	GERD (Gastroesophageal Reflux Disease) / Gastritis/ Peptic Ulcer	121
8	Obesity	118
9	Malaria	90
10	Lumbago	55

Trend in Admissions

The Directorate recorded a consistent decline in the number of admissions until the year under review. In 2016, admissions for the period increased by 14.85% compared to the 2015 performance.

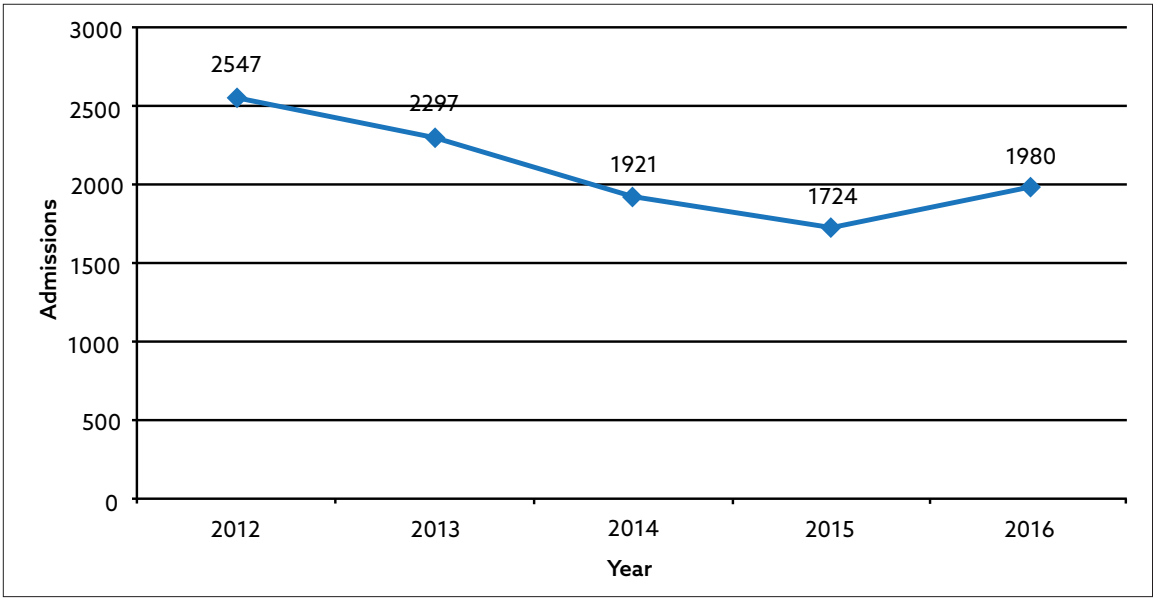


Figure 74: Trend in admissions in Family Medicine Directorate, 2012-2016

Physiotherapy Unit

The Unit specializes in physical therapeutic care for out-patients and in-patients to promote and restore health. Services offered include: OPD Rehabilitation, Clubfoot, Cardiopulmonary Rehabilitation, OPD Electrotherapy, Cerebral Palsy, Back Care, Child Health and Gym and Hand Therapy. Table 38 gives a summary of the various planned activities, targets and performance of the Unit in 2016.

Table 38: Summary of Activities of Physiotherapy Unit, 2016

Planned activities	Target	Performance	% target
Assessment and Rehabilitation of inpatient and OPD cases	1,159 new in-patients 6,284 old in-patients assessed and rehabilitated 2,021 new OPD cases to be seen 18,080 old OPD cases to be seen	1,105 new in-patients seen 3,246 old in-patients assessed and rehabilitated 2,004 new OPD cases seen 15,414 old OPD cases seen	95% 52% 99% 85%
Provide services for Children with Clubfoot	59 new clubfoot patients to be evaluated and managed.	125 New Clubfoot patients evaluated and managed	212%
	1,400 Clubfoot weekly attendance to be evaluated and managed	1,324 weekly clubfoot attendance and managed	95%

To engage Physiotherapist in the medical, surgical and paediatric directorates	At least one physiotherapists engaged in medical, surgical and paediatric directorates	Done	
Fellowship programme for physiotherapists	Support 2 Physiotherapist for fellowship programmes	One (1) Physiotherapist on fellowship programme	50%

Trend of Physiotherapy Outpatient services (2012 and 2016)

The Unit recorded increases in old OPD cases seen between 2012 and 2014. However, in 2015 there was a decline and a further drop of 21.83% in 2016 (Figure 75). Similar trend was experienced for the new OPD cases seen. In 2016, Performance in OPD new cases reflects 92.10% of the previous year's output.

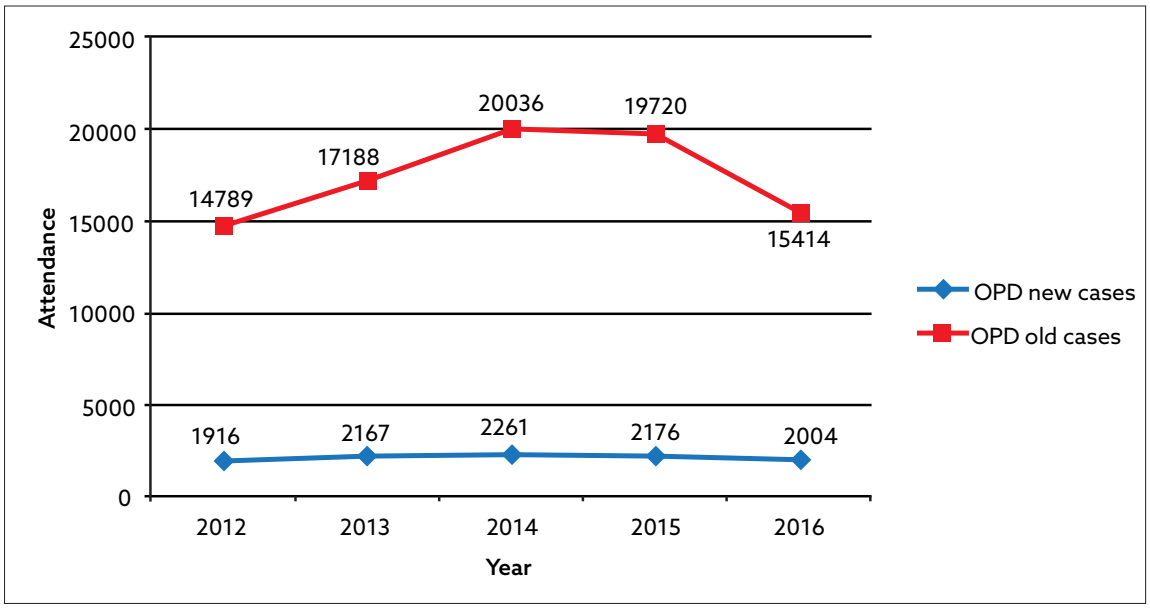


Figure 75: Trend of OPD services – Physiotherapy Unit, 2012-2016

Trend in – Patient Services at the Physiotherapy Unit

The unit recorded 4,351 in-patients' visits, comprising 3,246 old and 1,105 new visits. The trend for new in-patients' visits over the past five years reached a peak in 2014 and has since been declining. The trend for in-patients visit for continuation cases has seen a decline since 2013, as depicted in Figure 76.

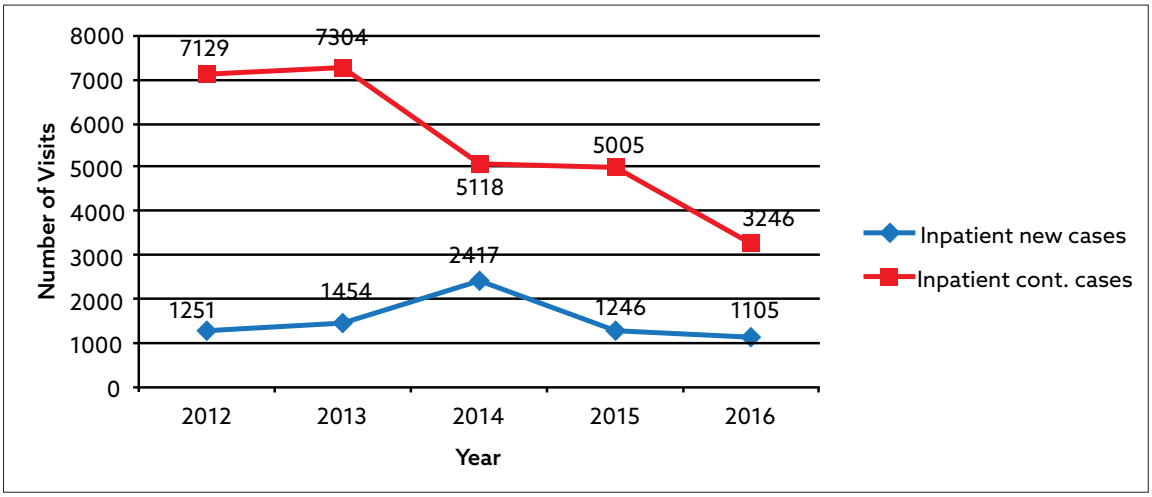


Figure 76: Comparative Analysis of In-patient Services (Physiotherapy Unit), 2012-2016

Priority Activity 5: Conduct operational research into emerging diseases

Five peer review papers and eight conference abstracts were published during the year under review. Research themes included contraceptive usage, perinatal death, health care management, cervical cancer, palliative care service, rehabilitation service and chronic care in the geriatric population.

Conference abstracts published:

1. Two abstracts presented at the World Organisation of Family Doctors (WONCA) in Brazil.
2. One abstract presented International African Palliative Care Conference in Uganda.
3. One abstract – International Society of Physical and Rehabilitation Medicine (ISPRM). World Congress, Malaysia
4. One abstract – World Muslim Health Societies Congress, Turkey
5. One abstract presented at the Annual Conference of the American Public Health Association
6. Two Conference abstracts presented at the Medical Knowledge Fiesta, Accra

Priority Activity 7: Support district and regional hospitals in the northern sector of Ghana, by way of providing outreach services

The Directorate embarked on the following outreach programmes.

- Health education on local radio
- Primary medical services to Central Kumasi Prisons
- Community Oriented Primary Care (COPC) including telephonic consultations to the health centre and community of Buokrom-Sepe.

Priority Activity 13: Support training of Staff

The following were the training programmes and conferences attended during the period under review:

Graduated:

- Fellowship in Family Medicine – Ghana College of Physicians and Surgeons (GCPS)– 1
- Membership in Family Medicine (GCPS) – 4
- Fellow – Ghana College of Nurses' and Midwives (GCNM) – 1
- Nurses 3: Emergency nursing 1, Diploma in Midwifery 2
- Pharmacist – Masters in Clinical Pharmacy (KNUST)
- Physiotherapy:
  - MSc in Speech Pathology KNUST
  - MSc in Neuromuscular Science – UK – Commonwealth Scholar

In-Training

- Membership (GCPS): 17
- Fellowship (GCPS): 6
- Membership – (GCNM) – Palliative Care – 1
- Nurses: 4: ENT 1, Emergency Medicine 1, Public Health 1, GCNM 1
- Foreign trained doctors (8); rotation in Family Medicine
- Pre-service doctors; lectures in Family Medicine
- Physiotherapy: Doctor of Physiotherapy – Paediatrics – California

The following workshops were organised and attended by staff:

- Personal Protective Equipment
- Update on Ebola Viral Disease (EVD)
- Psychiatry Through the Life Cycle

CHAPTER 18

DIAGNOSTICS DIRECTORATE

The Diagnostics Directorate is a clinical directorate and comprises the following departments;

- Haematology
- Biochemistry
- Pathology
- Microbiology services (Bacteriology, Parasitology & Serology)
- Radiology

Priority Activity 4: Continue the provision of advanced diagnostic services

In 2016, the Directorate management team planned to further scale up diagnostic services. To achieve this priority, the Directorate performed the following activities:

I. Number 1-5 walk –in cold room was built.

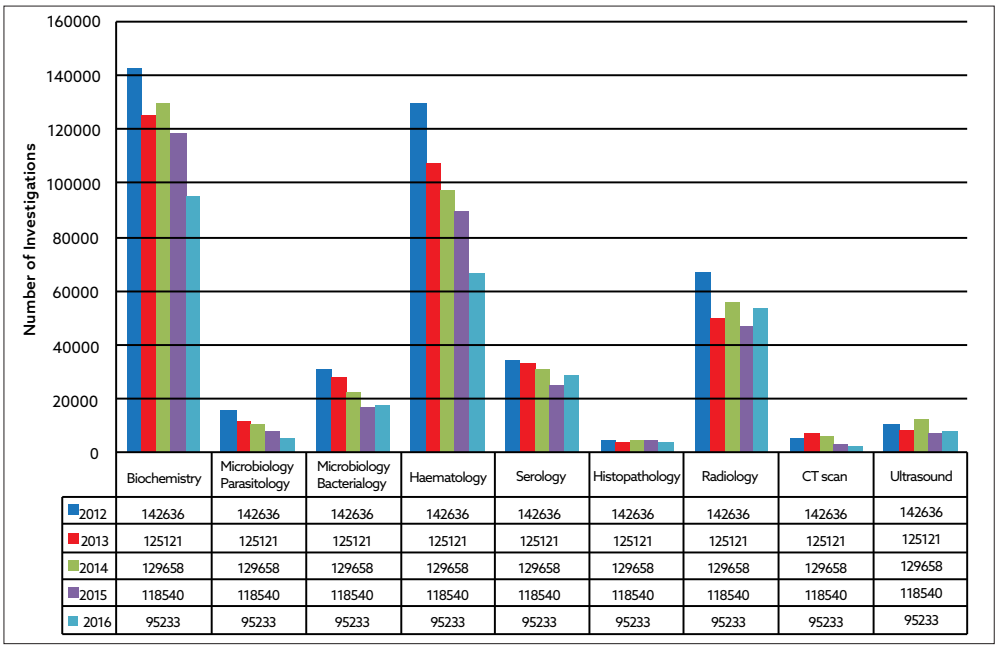
II. CT Scan and MRI equipment were repaired.

III. Biochemistry Unit provided with A 25 back-up analyser (Cobalt integral 400 plus machines)

In the year under review, the Directorate carried out 263,347 diagnostic services which represents a decline of 16.6% compared to the 2015 performance. The 2016 performance also decreased by 18.4% compared to the target set for the year. With the exception of microbiology, serology, radiology and ultrasound which saw increases, the other department in the Directorate recorded a decline in their performance.

Trend Analysis of Various Diagnostic Services

Over the five year period (2012-2016), the trend in the various diagnostic services in the hospital has generally not been consistent. Figure 77 below shows the performance of the various diagnostic investigations.



	Biochemistry	Microbiology Parasitology	Microbiology Bacterialogy	Haematology	Serology	Histopathology	Radiology	CT scan	Ultrasound
2012	142636	142636	142636	142636	142636	142636	142636	142636	142636
2013	125121	125121	125121	125121	125121	125121	125121	125121	125121
2014	129658	129658	129658	129658	129658	129658	129658	129658	129658
2015	118540	118540	118540	118540	118540	118540	118540	118540	118540
2016	95233	95233	95233	95233	95233	95233	95233	95233	95233

Figure 77: Trend in Diagnostics Investigations in the Diagnostic Directorate (2012-2016)

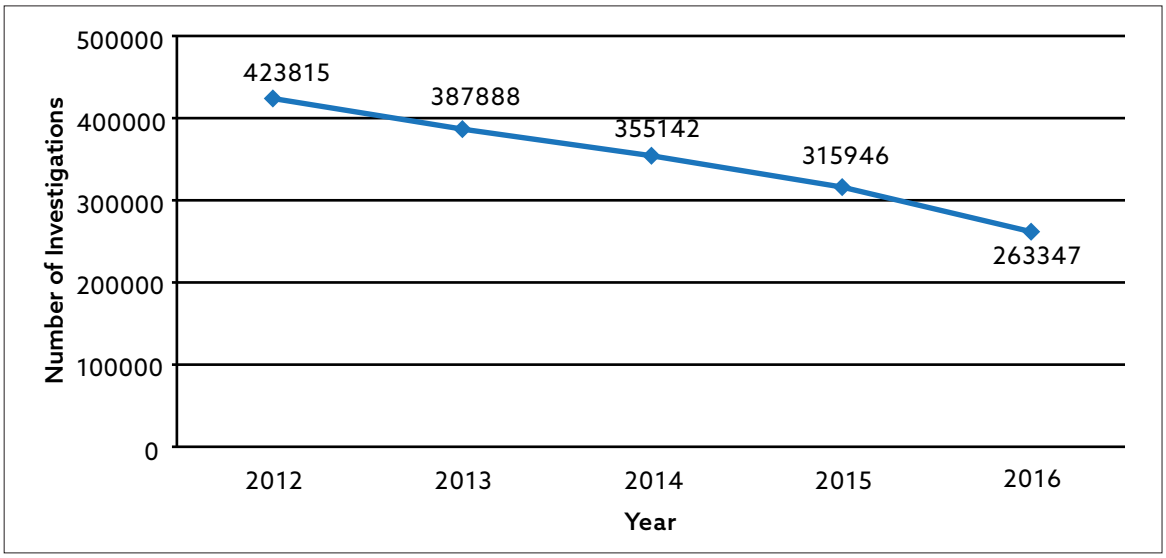


Figure 78: Trend of Aggregated Diagnostic Services in the Diagnostics Directorate (2012-2016)

Generally, there has been a declining trend in Diagnostics service since 2012. In 2016, there was a further reduction of 16% when compared to the previous year's performance.

Priority Activity 13: Support training of Staff

In the year under review, fourteen (14) Radiographers and fifteen (15) Biomedical Scientists attended Continuous Professional Development (CPD) programmes. Two (2) biomedical scientists were sponsored for an exchange programme at the University of Utah, USA. Update course was also organized for all Resident Doctors. Ultrasound workshop was also conducted for peripheral hospitals.

CHAPTER 19

TRAUMA AND ORTHOPAEDICS DIRECTORATE

This Directorate is mandated to provide specialist Out-Patient services, Surgical Operative services, In-Patient services and minor procedures (POP services) in Trauma and Orthopaedics.

Priority Activity 1: Increase the range of specialist services

In 2016, the Directorate Management team, planned to improve on their existing services.

Out – Patient Services

During the year under review a total of 7,961 cases were seen which represents a decrease of 15.4% compared to the 2015 performance. The 2016 performance also represents a 16.2% decrease on the targeted output of 9,500 for the same period.

Utilization of Out-Patient Services for 2016

In 2016, a total of 9,410 OPD cases were seen. Consulting Room 9 (CR9) registered 7,961 (84.6%) of the overall OPD attendance for the year with the club foot clinic recording the remaining 15.4% (1449). (See figure 79).

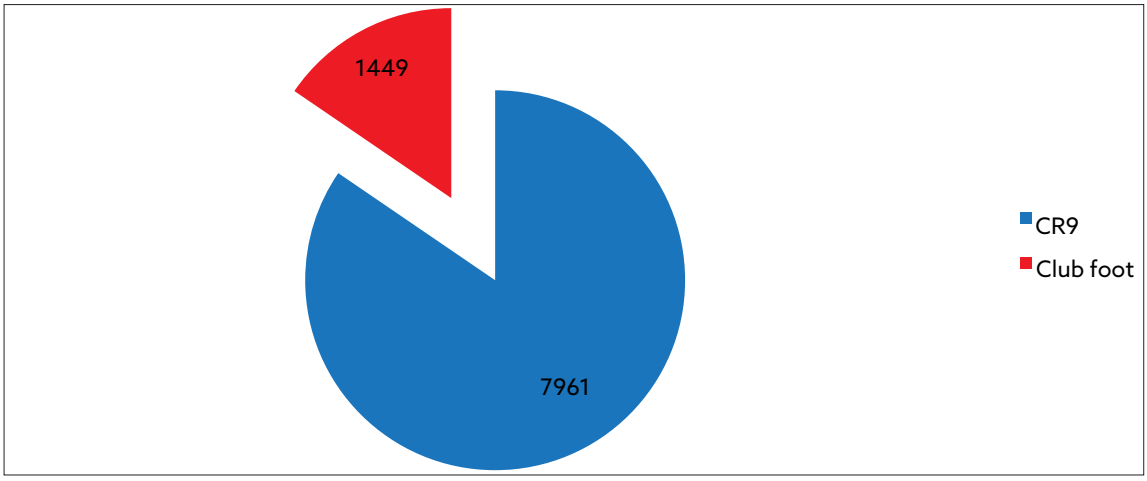


Figure 79: OPD Attendance in Trauma and Orthopaedics Directorate (2016)

Trend of clubfoot cases (2012-2016)

In 2016, a total of 1,449 club foot cases were recorded. This comprises of 1,324 continuing cases and 125 new cases. This is demonstrated in the Figure 80.

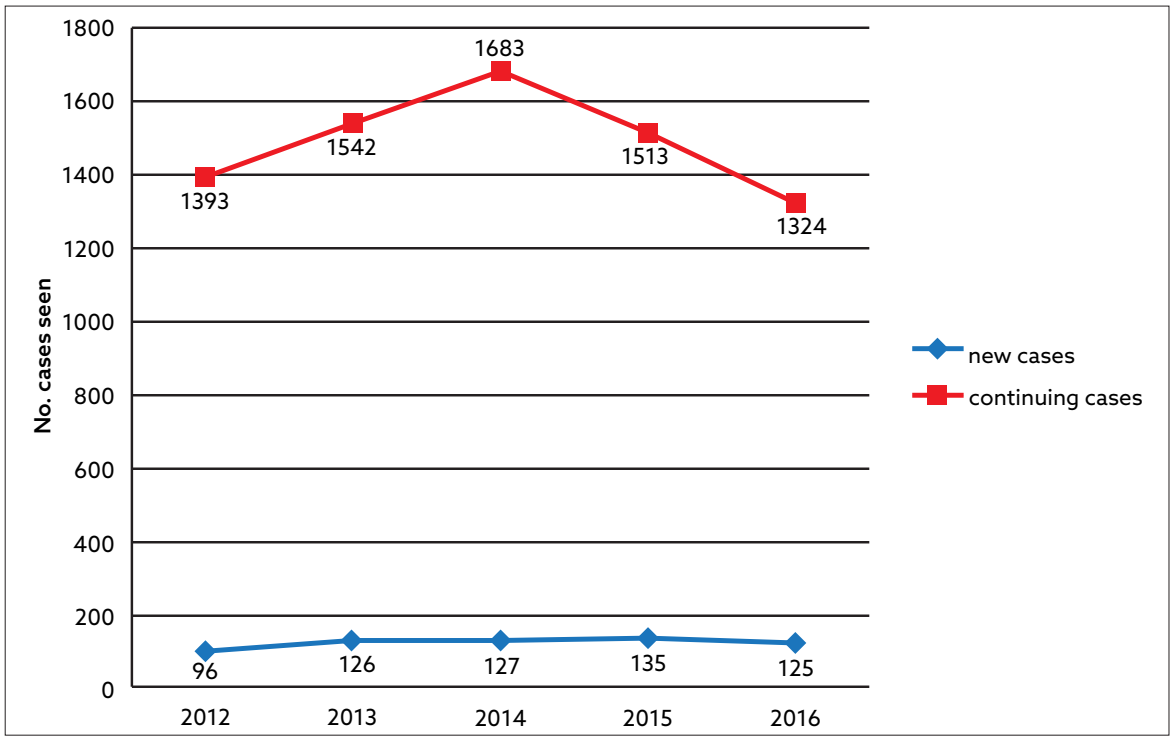


Figure 80: Comparative Analysis of Clubfoot Cases in Trauma and Orthopaedics Directorate, 2012-2016.

The number of continuing cases decline by 12.5% compared to the 2015 performance. Similarly, there was a reduction in the number of new cases by 7.4% for the same period

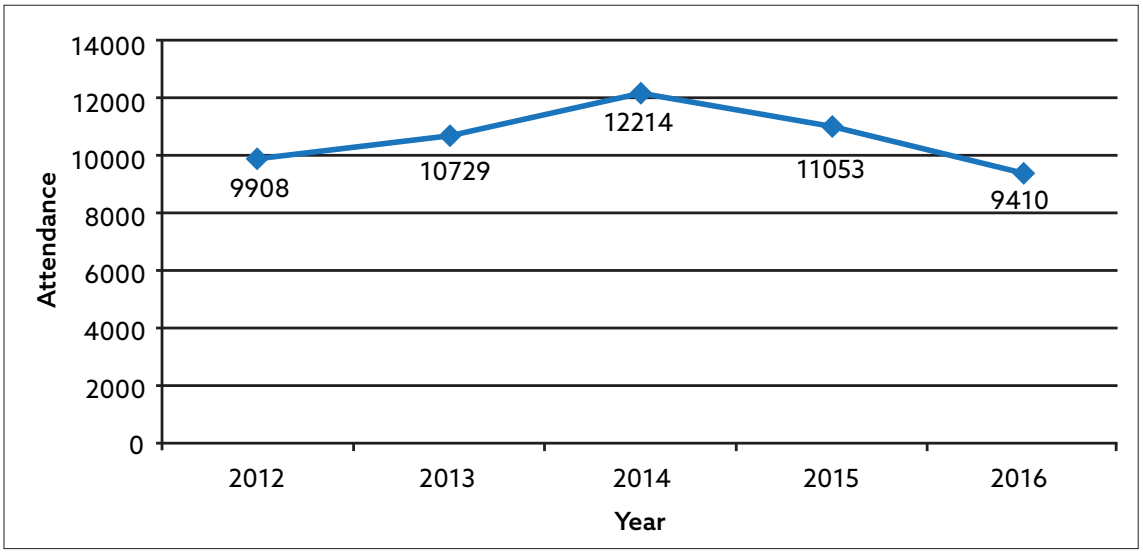


Figure 81: Trend in OPD attendance in Trauma and Orthopaedics Directorate 2012-2016

The OPD attendance saw a rising trend from 2012-2014 but declined afterwards. The year under review recorded a decrease of 14.9% compared to the previous year's performance.

In-Patient Services

Trauma and Orthopaedics Directorate provides in-patient services for its clients. The directorate operated with a total bed complement of 90. Average length of stay increased from 20 to 21 days for the same period. Bed occupancy also increased from 70.30% to 82.48%. During the year under review, the Directorate recorded 1,348 admissions which represent 12.3% increase compared to the target of 1200 set for the year.

Trend Analysis of Admissions 2012 – 2016

Figure 82 below shows a five year trend analysis of admissions at the Directorate. The figure shows an upward trend from 2013-2014 except for year 2015 which registered a decline. The year under review recorded an increase of 6.0% compared to the 2015 performance.

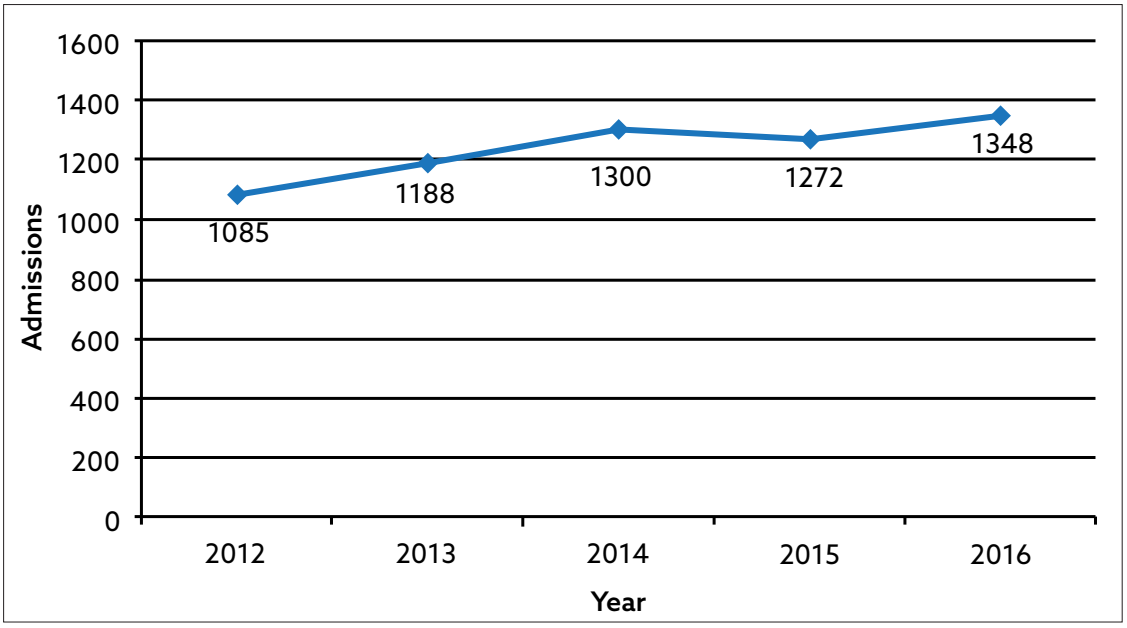


Figure 82: Trend in Admissions in Trauma and Orthopaedics Directorate, 2012-2016

Surgical Operations

The Directorate performed a total of 1,524 major surgeries in the year 2016. This comprises of 397 Emegency, 916 Elective and 211 paediatric trauma surgical cases that were recorded during the year under review. Figure 83 shows the breakdown of major surgeries performed during the year.

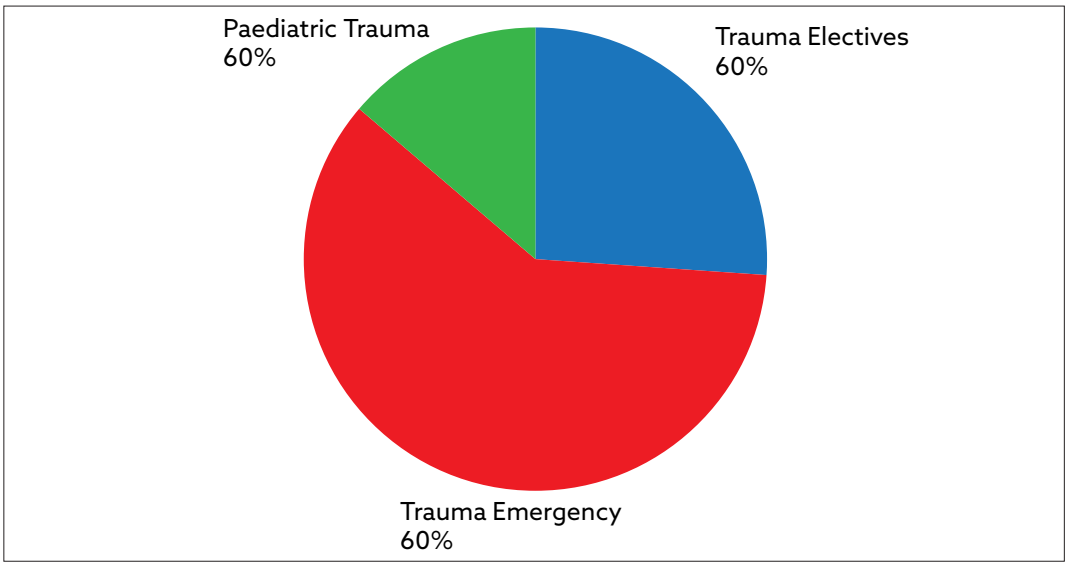


Figure 83: Distribution of Major Surgical Operations in Trauma and Orthopaedics Directorate, 2016

Trend in Surgical Operations

The trend in Surgical operations for the past five (5) years is shown in the Figure 84 below.

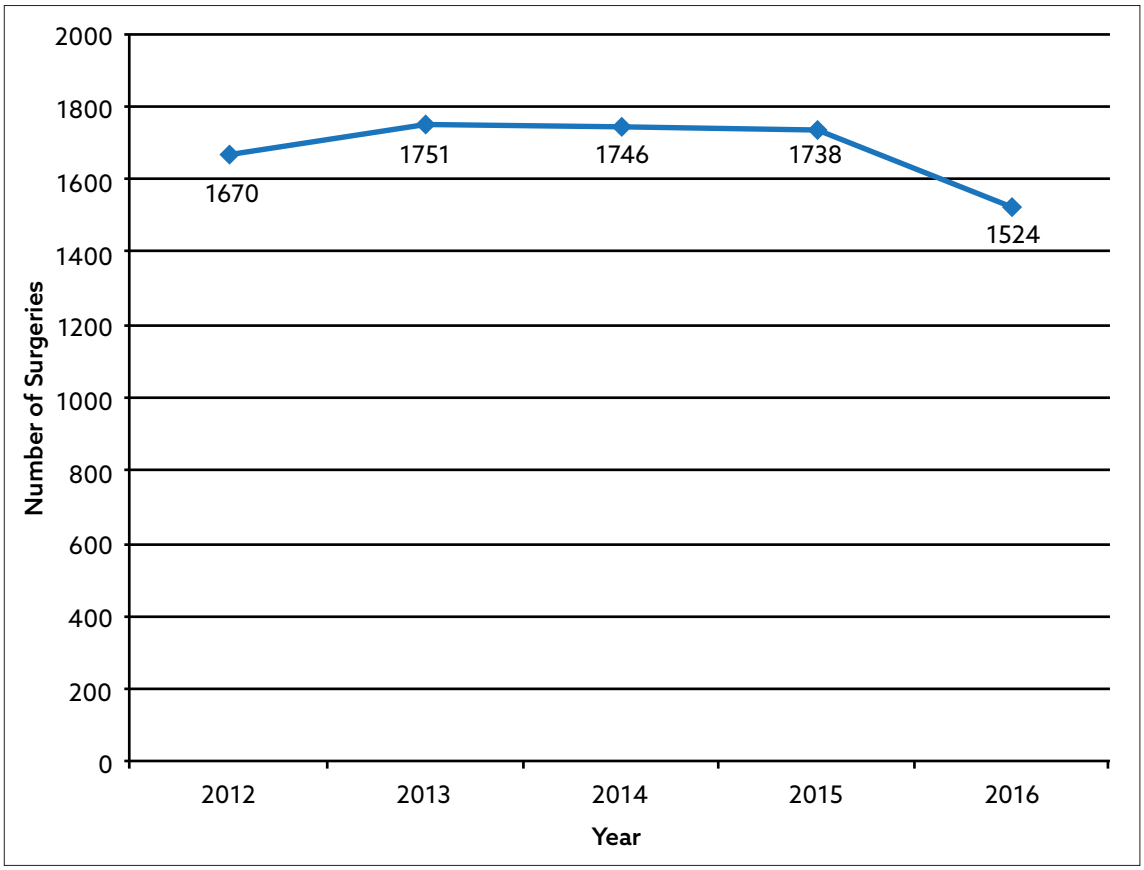


Figure 84: Trend in Surgical Operations in Trauma and Orthopaedics Directorate (2012-2016)

Figure 83 above depicts a significant increase in surgeries performed in 2013 and a marginal decrease in 2014 and 2015. The year under review also saw a further decrease of 12.3% compared to the 2015 performance of 1,738.

Priority Activity 2: Sustain activities aimed at reducing mortality, especially maternal mortality

The Directorate continued its routine mortality audit in 2016. With the exception of 2014, mortality rate for the directorate has risen consistently for all other years over the past five years. Figure 85 shows the mortality rate at the directorate from 2012-2016.

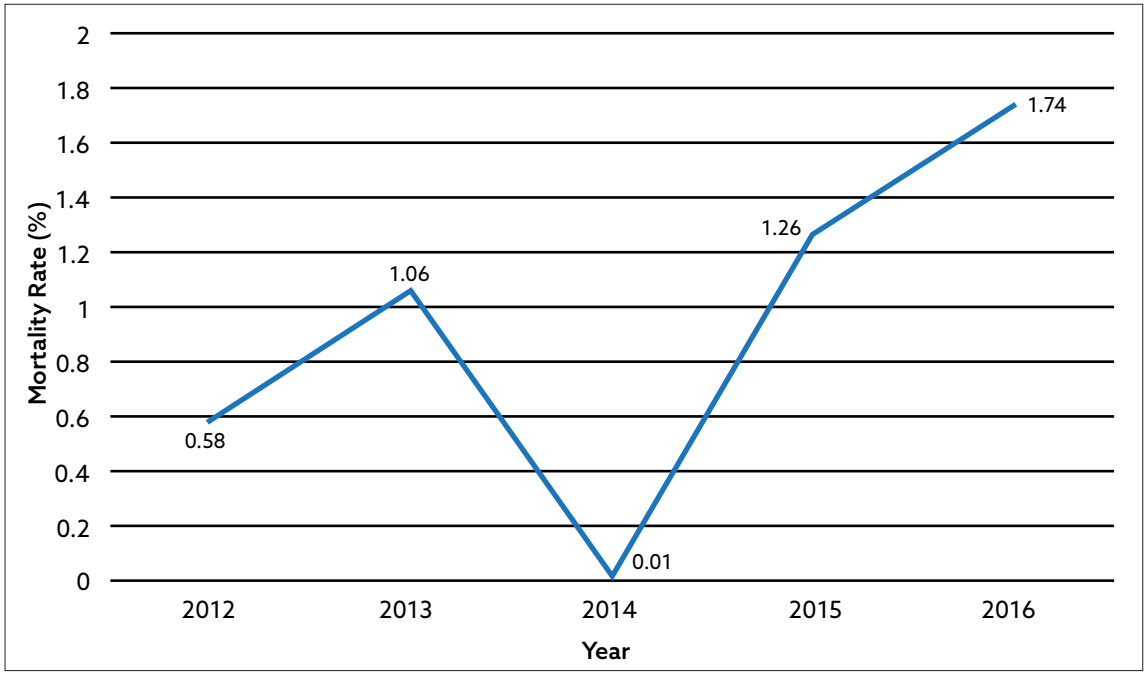


Figure 85: Trend in Mortality Rate (%) in Trauma and Orthopaedics Directorate, 2012-2016

Priority Activity 13: Support training of Staff

During the year under review, the Directorate continue to collaborate with AO Alliance Foundation, American Association of Orthopaedics Surgeons' (AAOS), Health Volunteers Overseas (HVO), SIGN fracture care international, University of Utah Orthopaedic Department, EGOT/UCSF, University of California Orthopaedics Department, Apollo Hospitals to train staff at the Directorate.

Four (4) Trauma/ Orthopaedic Doctors and eight (8) nurses are currently under training. Two (2) training programme were organized for Doctors, Nurses, Physiotherapists and Physician Assistants at the Regional, District and other government health institutions in non-operative and basic operative surgeries in collaboration with AO Alliance Foundation. One hundred and seventy three (173) staff were trained in nine different areas.

CHAPTER 20
EMERGENCY MEDICINE DIRECTORATE

This Directorate provides a 24-hour emergency medicine services.

The Directorate has the following working units:

- Triage/Screening room; Red, Orange and Yellow zones
- Clinical Decision Units – Male, Female and Paediatrics.
- Minor procedure room

Priority Activity 3: Continue to support emergency services

In 2016, the Directorate recorded 17,804 emergency cases which represent 69.7% of the target of 25,550 set for the year 2016 and 8.4% decline compared to the previous year's performance of 19,427. Patients continue to stay beyond the 24-hour limit in the emergency unit due to shortage of patient beds at the main wards. This results in congestion in the Directorate.

The Directorate recorded more medical emergencies (71.0%) than Trauma/surgical emergencies (29.0%). The chart 86 below shows emergency cases recorded in 2016.

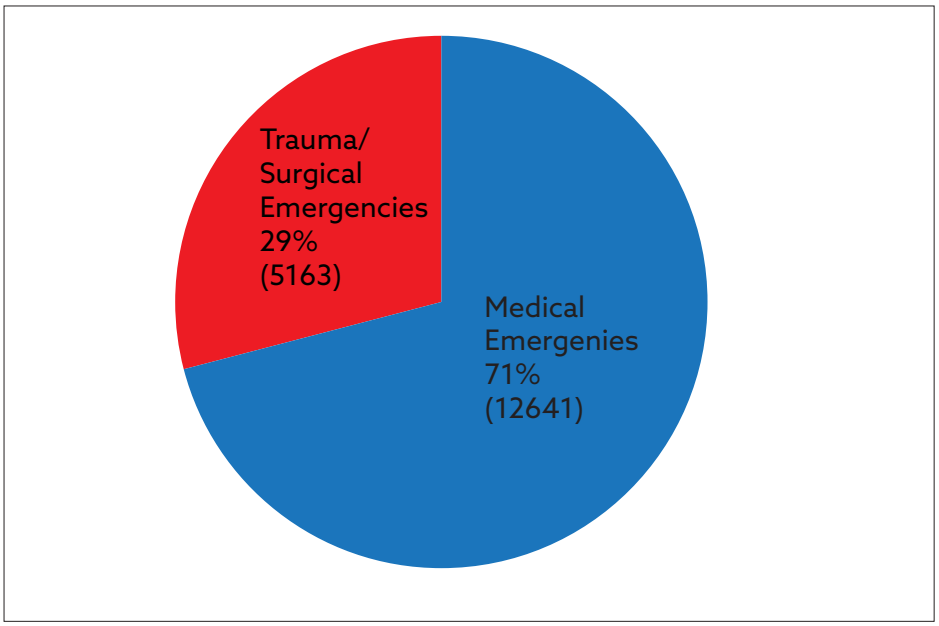


Figure 86: Categorization of Emergencies in Emergency Medicine Directorate (2016)

Trend in Emergency Services Utilization, 2012-2016

The trend in Patients' Attendance at Emergency Medicine for the past five years is shown in Figure 87.

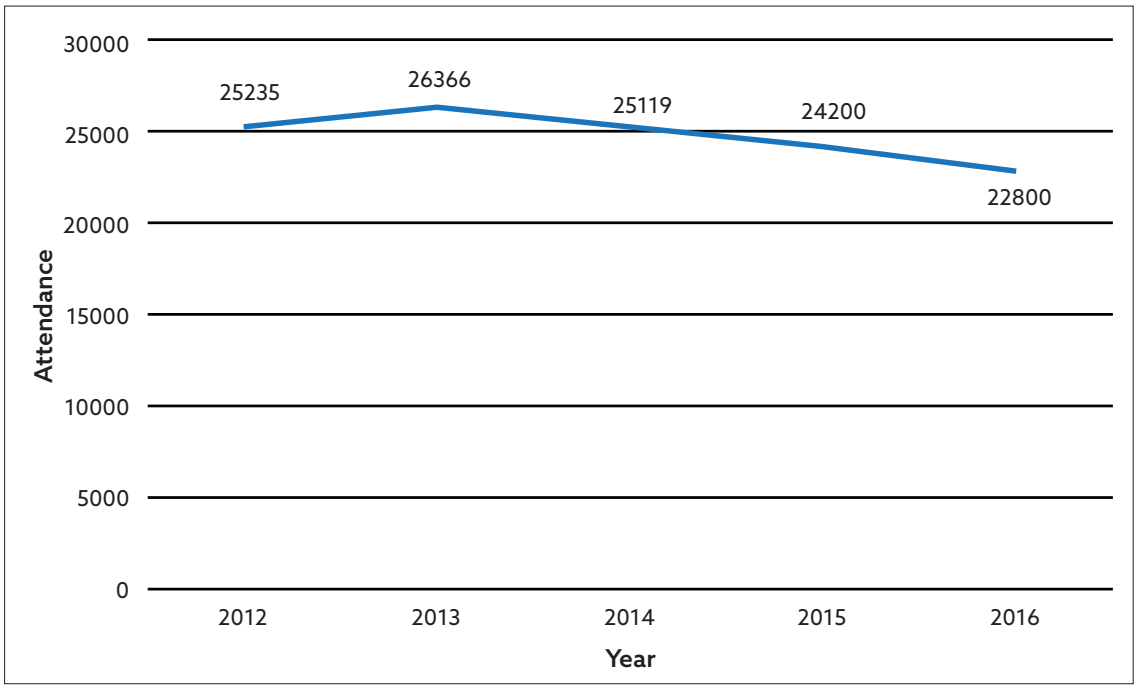


Figure 87: Trend of Patients' Attendance at Emergency Medicine, 2012-2016

There has been a consistent decline in Emergency services since 2014. In 2016, there was a reduction of 5.8% compared to the 2015 performance. There was also 12.3% reduction in the target set for the year.

Minor Procedures in 2016

In 2016, a total of 1,754 minor procedures were successfully carried out at the Emergency Medicine Directorate. Suturing recorded the highest number with Biopsies recording the least. Figure 88 below shows the percentage distribution of minor procedures performed for 2016.

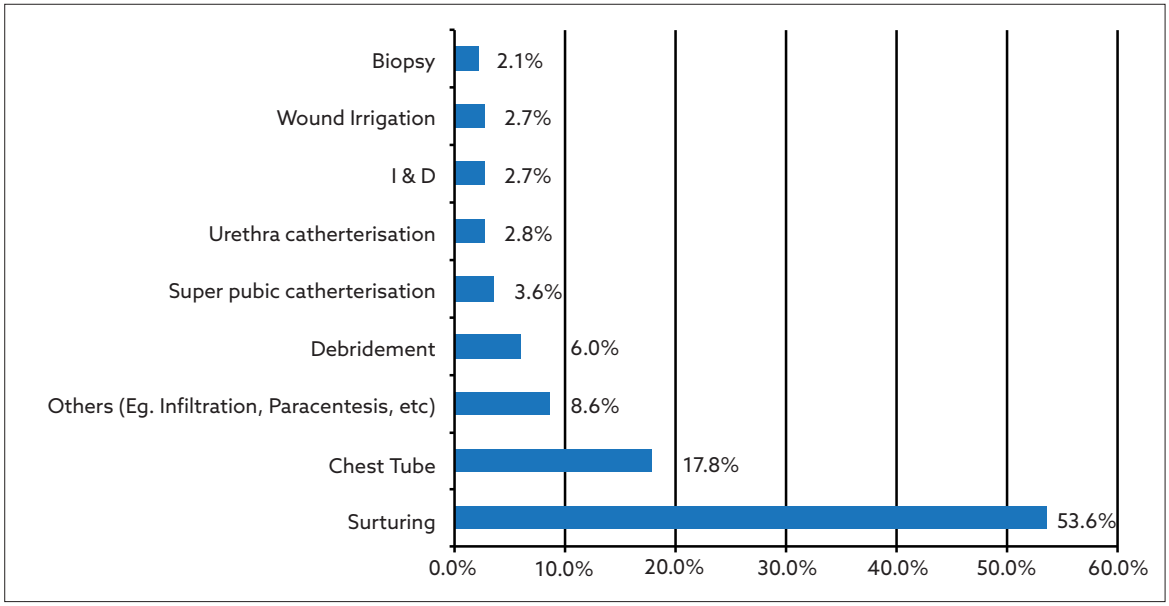


Figure 88: Percentage distribution of minor procedures in Emergency Medicine (2016)

Priority Activity 13: Support training of Staff

In 2016, One hundred and eighty two (182) Nurses were trained in recognition and assessment of critically ill patients, communication skills, taking up and handing over. Twenty (20) residents were also trained in Emergency Ultrasound, nine (9) doctors trained in ATLS in Nottingham (UK) and three (3) doctors went for an exchange programme in Michigan.

CHAPTER 21

TRANSFUSION MEDICINE UNIT

This Unit is mandated to provide safe blood and blood components for clinical use in KATH and other health care facilities within the catchment area of KATH.

BLOOD DONORS SCREENED AND BLOOD COLLECTED

In the year 2016, the Transfusion Medicine Unit (TMU) screened 18,404 donors. This represents 3.4% decrease compared to the 2015 performance. A total of 16,734 units of whole blood were collected as against 17,136 units in 2015.

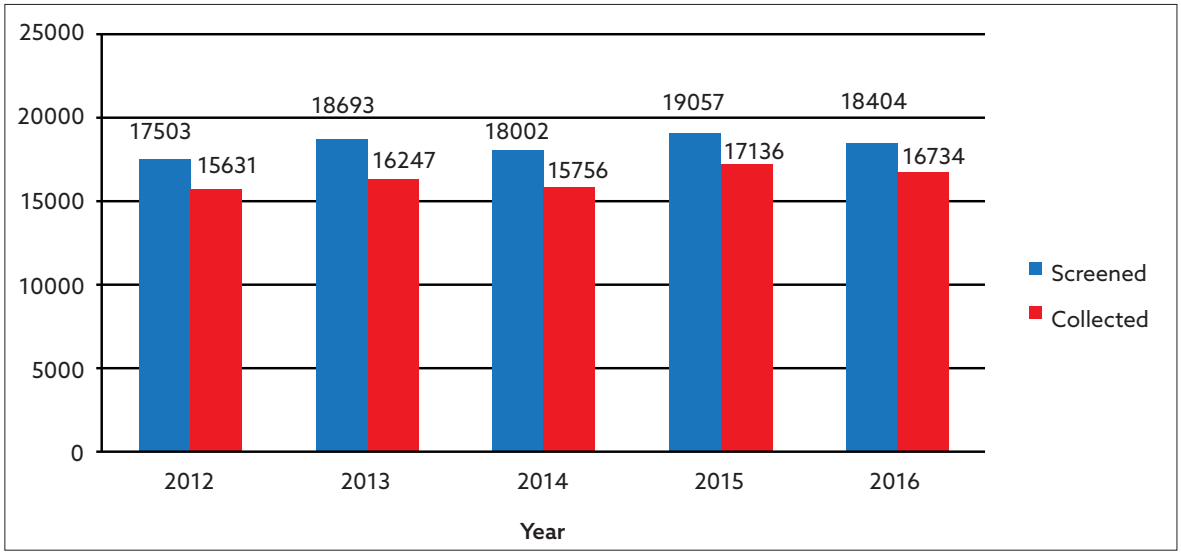


Figure 89: Donors screened vs. Blood collected in Transfusion Medicine unit, 2016

In the year 2016, 74.80% (12,522) of the total blood collected were from Voluntary Donors and 25.20% (4,212) from Replacement Donors. This is presented in the Figure 90.

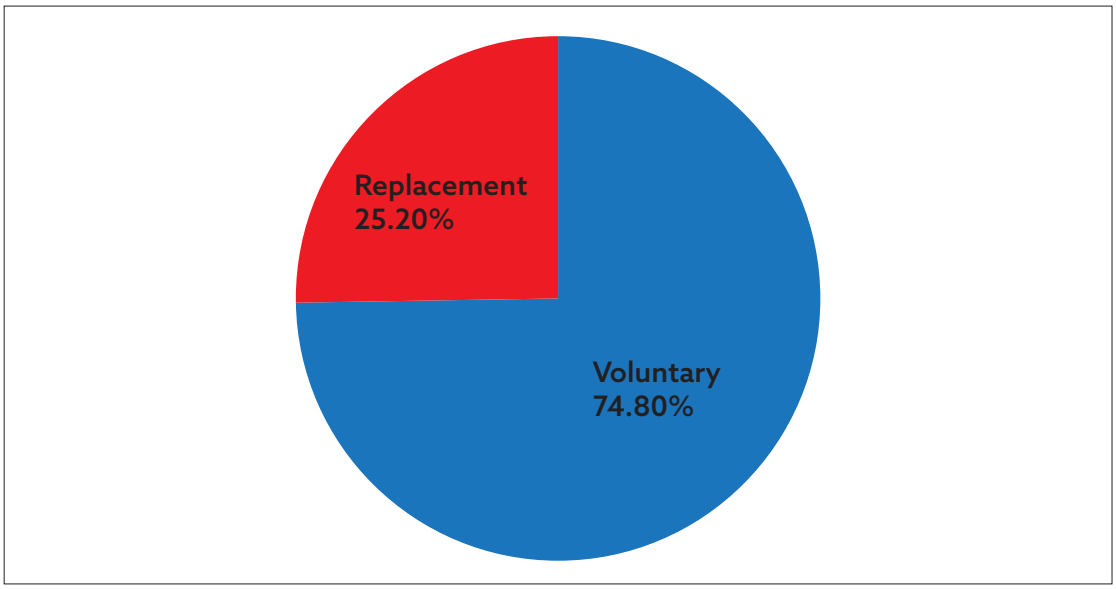


Figure 90: Blood collected in Transfusion Medicine unit, 2016

Trend of Total Blood Donation

Voluntary blood donations which have been the major contributor to the total blood collection by the Unit increased by 4.8% in 2016 compared to the 2015 performance. Replacement donations however, decreased by 18.8% compared to 2015 performance. While voluntary donations continue to increase in the last three (3) years, replacements have been decreasing.

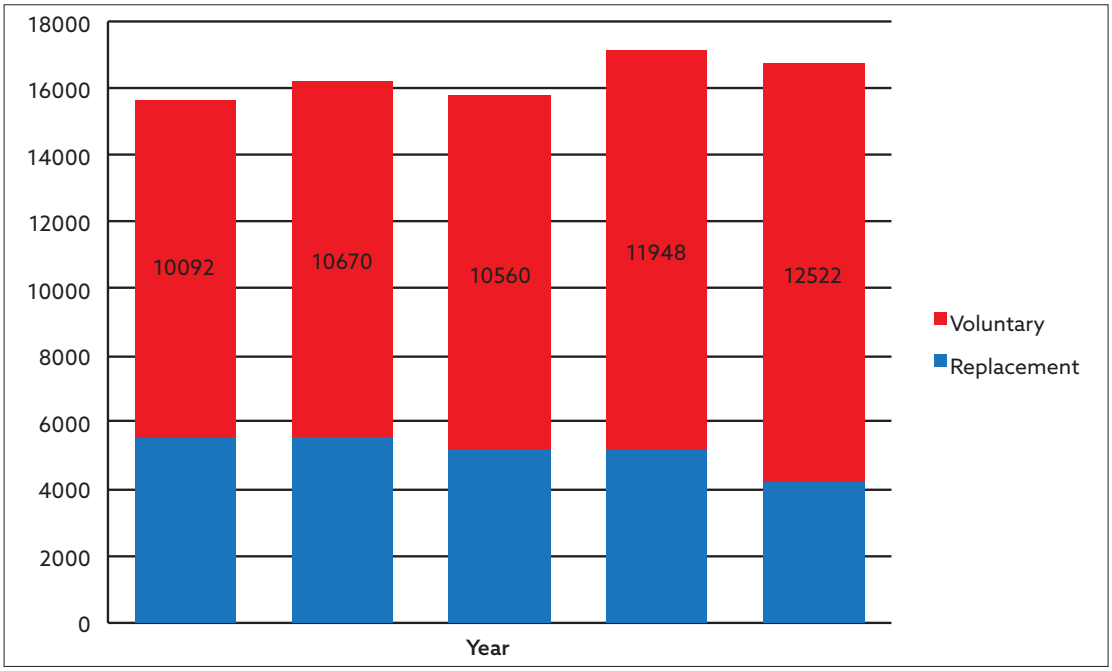


Figure 91: Trend of Total Blood Donations in Transfusion Medicine unit, 2016

Clinical Use of Blood

Whole Blood

From the Figure 92 below, the A&E Centre was the major user of whole blood (27%), followed by Obstetrics &Gynaecology (21%), other hospitals (18%), Surgery (15%), Child Health (6%) and Oncology and Dialysis (4%).

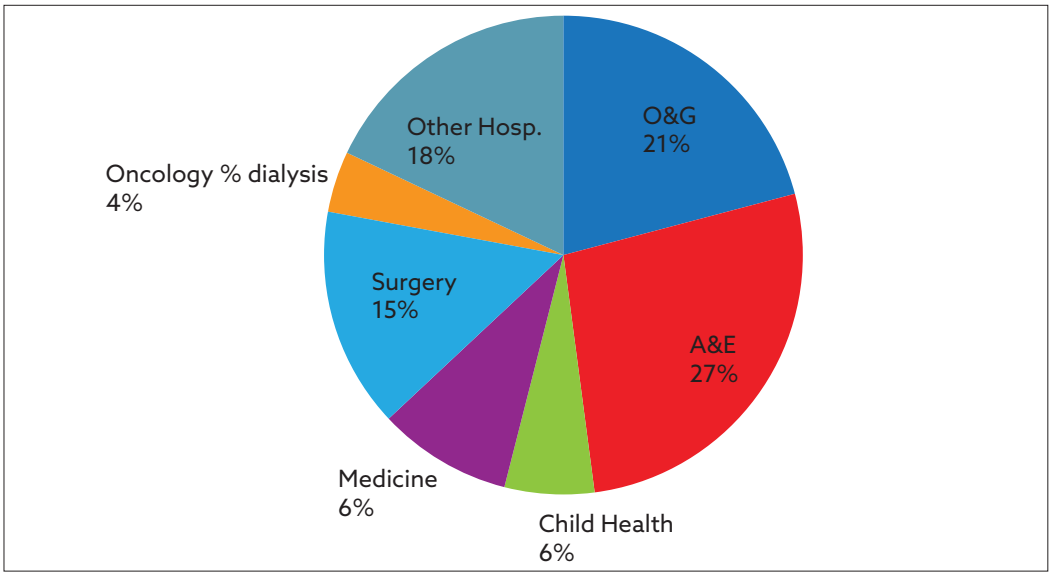


Figure 92: Clinical Use of Whole Blood in Transfusion Medicine unit, 2016

Concentrated Red Cells

In the year 2016 the A&E Centre led in the clinical use of Concentrated Red Cells (18%). Child Health used 17%, O&G (16%), Oncology and Dialysis (15%), Medicine (12%), (Surgery 11%) and other hospitals (11%) as depicted in the chart 93 below.

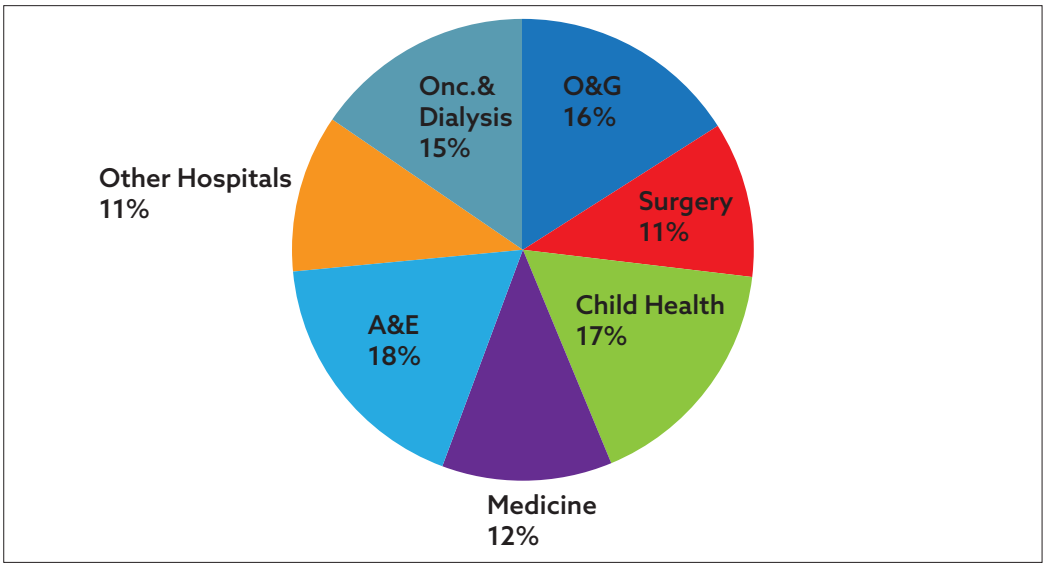


Figure 93: Clinical use of Concentrated Red Cells in Transfusion Medicine unit, 2016

Fresh Frozen Plasma

The Directorate of Obstetrics and Gynaecology was the leading (45%) user of Fresh Frozen Plasma (FFP) in the year under review. Accident and Emergency Centre, Medicine, Surgery, Child Health and other hospitals consumed 17%, 8%, 16%, 8% and 6% of FFP respectively. This is presented in Figure 94.

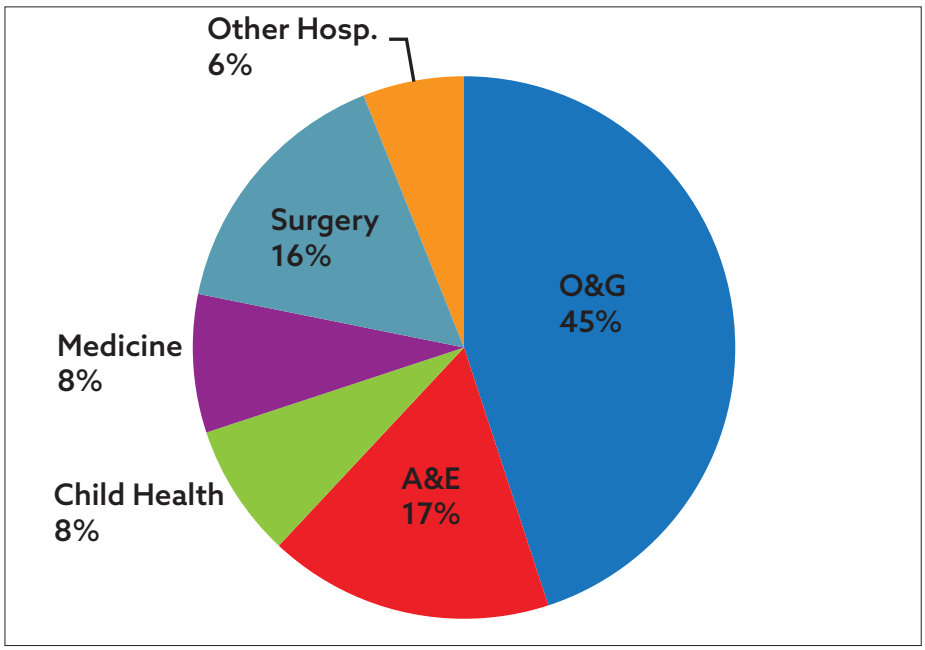


Figure 94: Clinical Use of Fresh Frozen Plasma in Transfusion Medicine unit, 2016

Clinical use of Platelet

The Directorate of Child Health used the highest (56%) platelets in the year 2016. A&E, Medicine, O&G, other hospitals, Surgery and Oncology and Dialysis used 13%, 11%, 9%, 6%, 4% and 1% respectively as shown in Figure 95.

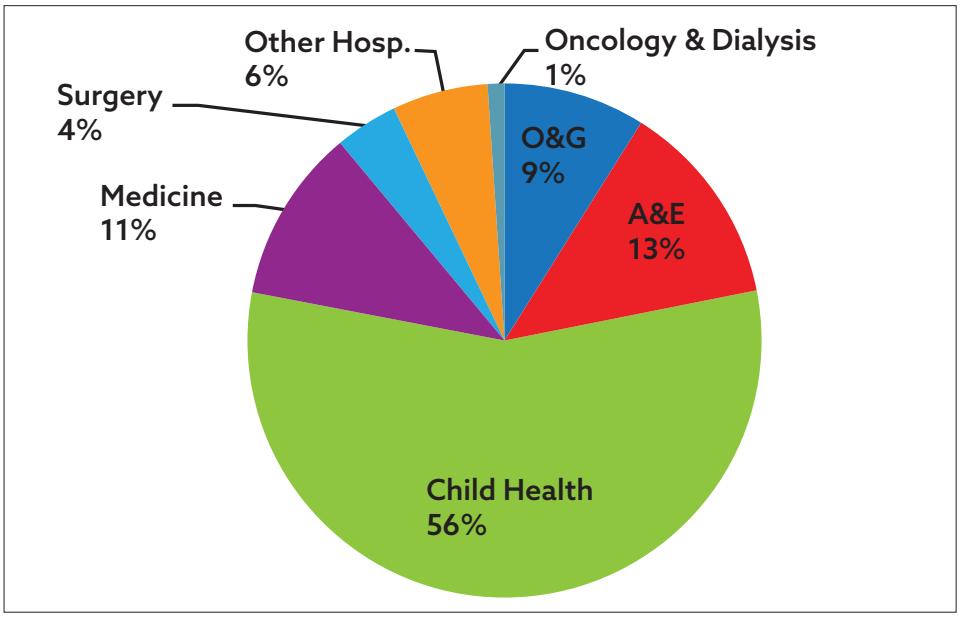


Figure 95: Clinical use of Platelet in Transfusion Medicine unit, 2016

Blood Discards

As shown in the Figure 96 below, 3.2% (539 units) of the total blood discarded were from expired units (43%), Syphilis (17%) and incomplete units (15%), HBV (14%), HCV (5%), HIV (4%) and Leakage (2%). Figure 96 depicts the breakdown of blood units discarded in 2016.

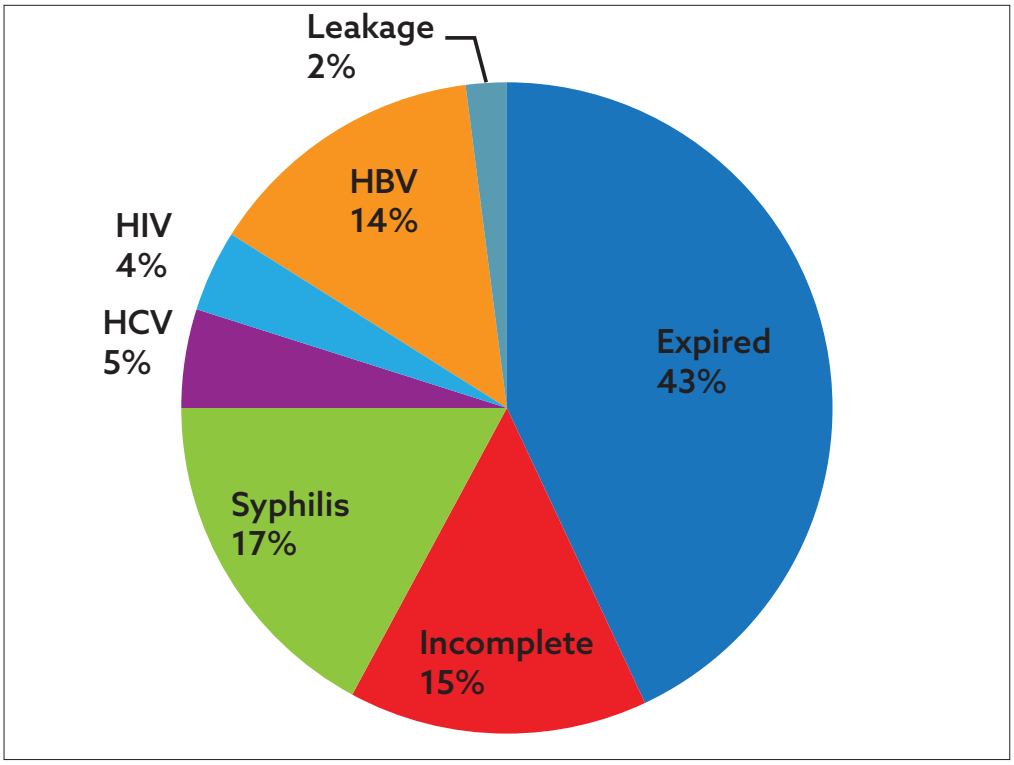


Figure 96: Breakdown of Blood Discarded in Transfusion Medicine unit, 2016

Capacity Building in Blood Transfusion

In 2016, the Transfusion Medicine Unit trained 317 nurses and 71 newly-recruited house officers of KATH, 215 Health Professionals of the Holy Family Hospital, Techiman and 95 Health professionals from the various regions in "Safe Transfusion Practices"

CHAPTER 22
INTERNAL AUDIT UNIT

The Ghana Health Service and Teaching Hospitals' Act, ACT 525 of 1996 and Internal Audit Agency Act, ACT 658 of 2003 make it mandatory for KATH to have an Internal Auditor (Internal Audit Unit).

The activities of the Internal Audit Unit are regulated by Internal Audit Agency Act and Regulations from Internal Audit Agency, as well as Internal Audit Standards.

Internal Audit – An Assurance/ Advisory Service

The Unit provides reasonable assurance to Management on the financial, non-financial and other aspects of the hospital's activities that can be independently reviewed.

The internal audit embarks on the following:

- Designs programmes that would detect fraud
- Gathers evidence to support claims
- Makes recommendations, then follow-up on approved and previous recommendations

The Unit focuses on controls; compliance with policy, regulations and laws; value for money and performance.

The scope of Internal Audit

This includes:

- Examination and evaluation of internal controls
- Review of risk management procedures
- Review of risk assessment methodologies
- Review of management and financial information systems
- Review of means of safeguarding assets
- Review of accounting records and financial information
- Testing of transactions and functioning of specific internal controls

Audit Needs Assessment Methodology

In 2016, the audit approach was risk based. In order to identify the areas that require Internal Audit coverage, the Unit needed to understand the risks facing the Hospital as a whole and at the individual directorates/units levels. As a result, the Hospital's corporate risk register was used to inform the audit needs assessment.

A comprehensive risk based Internal Audit approach was adopted to ensure that risk is integrated into strategic and operational reviews, processes and practices. A summary of this approach is provided below:

- Identification of risk areas;
- Performance of a risk assessment to gauge the degree of risk or materiality associated with a particular area. Audit areas are classified as high, medium or low priority;
- Internal Audit resources are then focused on the areas of highest risk;
- Cumulative knowledge of the organisation from previous Internal Audit work to identify areas that would benefit from Internal Audit coverage was used;`

Nonetheless, the above Audit Needs Assessment also led to the identification of areas for audit coverage which did not appear as high priority risks, but where Internal Audit can provide concrete

inputs to the overall assurance process and its efficiency, for example:

- Requirements of management
- Minimum Internal Audit coverage requirements e.g. key controls audit and documentation of key information flows
- Areas of concern flagged by management or the Audit and Audit Report Implementation Committee (ARIC)
- The requirements of the external auditors
- Emerging issues; and
- Need for on-going assurance in relation to key aspects of internal control

Table 39: Achievements

Planned Activities	Output
Revenue Management: **Task:**	Review of revenue generation process(folder management) Review of NHIS Review of on – site revenue collection. Review of abscondees and paupers. Other revenue investigations Confirmation of lodgment daily.
Stores Verification **Task:** Procurement verification function Medical stores audits &Physical inspection of stores Review of contract award letters Verification on SRA	 Contract documents were reviewed Award letters and SRA were reviewed. Physically inspected items purchased or donated to KATH

Payments Related Audits: **Task:** Compensation and HRM controls (Monthly) Pre audit of petty cash and all other payments IGF Staff Confirmation Follow ups on Salary Validation (GOG) Post Payment Reviews. IGF 2016 post payment review	Payments Worked On Includes; Daily pre-audit of all payments Contracts and KATH projects. IGF Staff salaries and statutory deductions Fuel/Responsibility Allowance Provident Fund monthly payments. Third party deductions Post payment review is on going
Stock Take And Confirmation Task: All Kath Stores Routine Confirmations and Audits Other Special functions and Hospital-wide Assignments: Other Confirmations:	 Stock count in all stores done Confirmation of Inventory Annual Stock Count. Canteen Coupon verifications Special reviews were done: Follow ups Review Mackeown-KATH Guest House Audit Confirmation of Revenue collections at selected activity centres. Procurement and Supply Chain Management Audit. Hospital-wide Review: Governance issues, usage of consumables, procedures, theatres, records and revenues. Investigations on issues referred from management. Different assignments handled as follows: Confirmation of stoppage of salaries/ separation system controls. Unearned salaries via GOG Payroll as reported by HR Unit for 2016 reviewed

Follow Up Audits: Task: To review state of implementation of reports.	All major previous findings followed up. Radiology Audit Rent Cash/Revenue follow ups Salary advance Stores audit Salary Advance Board of survey: disposal of obsolete items Usage of Consumables: Fixumol Plaster, Special Gauze Packs, Silicon Catheter Asset utilisation
To organize Stakeholder meetings	Six (6) stakeholder meetings were organized Six (6) monthly review meetings held
Training	Two staff trained in supply chain management processes audit Two (2) staff participated in Performance Audit One (1) Staff is being trained at GIMPA on CAATs for IT Audit purpose.

CHAPTER 23

RESEARCH AND DEVELOPMENT UNIT

The R&D Unit was set up in 2006 with a mission "To develop a focused research and development strategy which prioritizes support for RESEARCH and in those areas which are consistent with the DEVELOPMENT of clinical and non-clinical services".

The Unit is mandated;

- to coordinate and monitor research activities going on in the hospital,
- provide evidence based knowledge that will contribute to the improvement of clinical and non-clinical services in KATH,
- promote critical review and publication of research work and
- to attract research partnerships to KATH.

The vision of the Unit is "to provide evidence based knowledge that will contribute to the improvement of clinical and non-clinical services in KATH".

The unit planned and prioritised the following activities for the year 2016

- Develop a plan to integrate research into graduate and postgraduate training
- Development of Research Strategies, Policies and Funding
- Support Funding Applications
- Promote both local and International Research Collaborations

Priority Activity 1: Develop a Plan to Integrate Research into Graduate and Postgraduate Training

1. Diploma in Project design and management
2. Plan and run faculty meetings, workshops for students, examiners meetings, and board meetings for the KATH/LSTM diploma program.
3. Organize graduation ceremony for DPDM graduates.
4. Integrate the DPDM into the research framework of KATH
5. Organise seminars/workshops on research capacity development and ethics
6. Research courses

ACTIVITIES	OUTPUTS	RESULTS
Plan and run faculty meetings, workshops for students, examiners meetings and board meetings for the KATH/ LSTM Programme	Organised workshop on data analysis and reflective writing for the 2015/16 batch of candidates Organised workshop on report writing for the 2015/2016 candidates. Two Academic Board meetings held during the year under review Collated results for the 2015/2016 cohort Proposal Writing and Data Collection workshops were held for the 2016/2017 batch of candidates	Increased appreciation of research in the areas of: Research methodologies Data Analysis Report writing Marks sent to LSTM
Develop a plan to integrate DPDM into the research framework of KATH Graduation Ceremony for candidates Organise Seminars/ workshops on research capacity development and ethics	Advertisement was made for application into the 2016/2017 DPDM academic year Organised graduation ceremony for the 2012/13 and the 2013/14 batch of candidates during the period under review Organised manuscript writing workshop for staff members	Candidates have been selected from various directorates for the DPDM programme for the 2016/2017 academic year Increased graduates appreciation of translation from acquisition of knowledge to solving of practical problems Staff members from various directorates participated in the workshop

Priority Activity 2: Development of Research Strategies, Policies and Funding

Develop a five (5) year research strategy for the hospital

- Assist directorates and units in developing a research policy
- Registration of all research and development projects
- Set up Scientific review committee
- Operational Research in Kath

ACTIVITIES	OUTPUTS	RESULTS
Develop a five year research strategy	Management team members of the various directorates and units were invited to a meeting on the development of research strategy	One meeting held
Assist directorates and units to develop a research policy	A guide on research policy was disseminated to all directorates and units to aid in the research policy development	Various directorates and units are in the process of developing their research policies

Registration of all research and development projects going on in KATH	Register all research projects into a database	392 research projects were registered during the year

Priority Activity 3: Collaboration with International and Local Institutions

ACTIVITIES	OUTPUTS	RESULTS
Promote both National and International Research and collaboration	**International Collaboration** KATH & U.S Naval Medical Research Unit – Sepsis Study KATH, Georgia Southern University. KATH, WHO & MOH.– Congenital Rubella Surveillance Programme KATH John Hopkins-Medicine GAAP Study	 Official enrollment began in July 2016 Students from South Georgia University and SMS were in the hospital to continue with the conversion of paper-based to electronic data 21 cases recruited during the period under review Recruitment is ongoing. R&D Unit providing support in the area of data management and monitoring for all sites
Promote both National and International Research collaboration	**International Collaboration** KATH-Utah MMS Study WHO & KATH – Surveillance of Rotavirus	 Enrollment has been completed. The study is in the follow-up stage. Samples and patients are recruited from Suntreso and Manhyia Hospital
Promote both National and International Research collaboration	**Local and KATH:** Child Health-Kumasi Intussusception Study A&E centre repository Child Health-Patients profile at PEU Child Health – Afro Invasive Bacterial Disease Case Investigation Child Health – Surveillance of Poisoning and Injuries presenting to the PEU of KATH	 33 cases recorded during the period under review Provides support for data collection and management Support through data generation The unit supports through data collection and management 309 cases were recorded during the period under review

CHAPTER 24

PHARMACY UNIT

Introduction

The Unit is mandated to provide quality medicines for use by patients and non-clients of the hospital. These services are provided through activities of the various Pharmacy Units. These services are provided by Specialist OPD Pharmacy (SOPD), Medicines Management Unit (MMU), Drug Information Service Centre (DISC), Manufacturing Unit (MU) and Pharmacy Accounts.

In 2016, the Unit focused on activities centered on improving team collaboration with clinicians and ensuring drug availability as well as revenue generation. The quality control lab was set up in the same year.

Manufacturing Unit

The Aseptic/ Manufacturing Unit continues to provide the hospital with about 90 different preparations most of which cannot be obtained from the open market. Formulas are continuously being developed for new products.

Our products are also patronized by other hospitals including Korle-bu and Tamale Teaching Hospitals.

The directorate's manufacturing section continues to produce the following existing products:

- Morphine sulphate syrup
- Potassium chloride injection
- Caffeine citrate solution
- Electrolyte mineral mix
- Sodium bicarbonate injection
- Magnesium sulphate injection

Drug Information Service Centre

Pharmaceutical care issues that were addressed during the ward rounds were centered on therapeutics and drug availability. A total of One hundred and sixty-nine (169) consults were received in 2016, out of which 32% (54) of the consults were received and answered during general ward rounds and 68% (115) received and answered at the centre. Figure 97 shows the distribution of nature of drugs information consults.

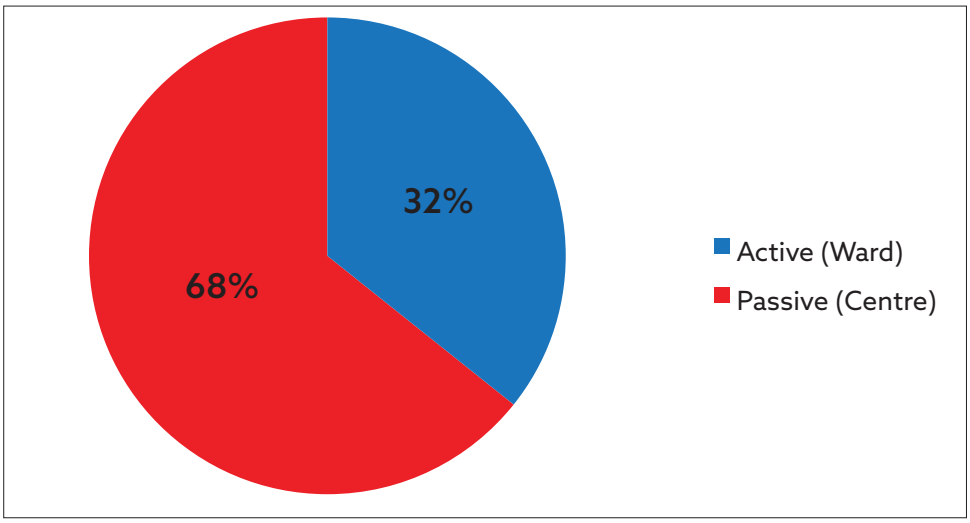


Figure 97: Distribution of nature of drugs information consults (2016)

In 2016, most of the enquiries (consults) were done by pharmacist (57%), doctors (24%), chemical sellers (9%), nurses (6%), patients (2%), Pharmacy Technicians (1%) and Health Services Administration (1%).

Specialist OPD Pharmacy (SOPD)

In the year under review, a total of 82,766 patients were seen at the specialist OPD Pharmacy representing 9.9%increase compared to the previous year's figure of 75,294.

CHAPTER 25

SUPPLY CHAIN MANAGEMENT UNIT

This Unit is responsible for the Procurement of goods & services (i.e. Consulting, Non-consulting and Technical Services), Procurement Planning, Administration and Management, Contract Award & Management, Maintenance of Procurement database among others for the hospital. By the rating of the Public Procurement Authority from various Supply Chain Management Audits conducted, the SCMU of KATH has graduated from matured to excellence in the practice of Supply Chain Management in the country.

Summary of achievements

To ensure uninterrupted flow of medicine, consumables and service to support healthcare delivery, thirteen (13) National Competitive Tenders (NCTs) were conducted for procurement of: Medicines, Non-medicine consumables, Medical equipment, Works and other services. In 2016, the unit received approval from PPA for eight (8) sole source in the following contracts

- Supply and Installation of Laundry Dryer,
- Supply and Installation of Air Compressors,
- Supply of X-Ray Films (35x43), Fuji Dry Imaging Film
- Procurement of Dental Equipment.
- Procurement of INPPRO Dialysis Medical Consumables
- Supply and Installation of Anaesthesia Machines
- Procurement of Reagents, Accessories and other consumables for Roche Analyser Machines, E411 Analysers and Spare Parts
- Extension of Morgue (No.7 Area)

Again, Four (4) ward and user points monitoring exercises were conducted to ensure optimal utilization of consumables, end user satisfaction, improved record keeping and complaints management. The unit facilitated the clearing of some donated items from various organizations and individuals through the Ghana supply company limited.

As a means to ensure quality of consumables delivered, the Unit has intensified its sample evaluation and delivery inspection system. All items delivered which did not conform to specifications were rejected and returned to the suppliers who delivered them.

All store staffs were trained on the HAMS Software (Store Module) and orientation program was organized for all national service personnel posted to the unit in 2016.

Procurement Section

The major activities conducted through National Competitive Tendering (NCT) are as follows:

Table 40: Tendering Activities

#	ACTIVITY	STATUS
1	National Competitive Tendering (NCT) for the supply non – drug consumables	Completed, Awarded and supplied
2	National Competitive Tendering (NCT) for Outsourcing of Weed Control Services at hospital premises and some selected residence	Completed, awarded and execution on-going
3	National Competitive Tendering (NCT) for the provision of cleaning services at Accident &Emergency, Physiotherapy, etc	Completed, awarded and execution on-going
4	National Competitive Tendering (NCT) for the provision of Waste Collection Services	Completed, awarded and execution on-going
5	National Competitive Tendering (NCT) for the construction of Housemen Block at Bantama Nurses' Quarters	Completed, awarded and execution on-going
6	National Competitive Tendering (NCT) for the Filing of Concrete roof of main Block D	Contractor is on site
7	National Competitive Tendering (NCT) for the Renovation Works (External) at Main Theatre	Completed, awarded and execution on-going
8	National Competitive Tendering (NCT) for the supply of Neurosurgical Instruments and Other Equipment.	Completed, awarded but yet to be supplied
9	National Competitive Tendering (NCT) for Planned Preventive Maintenance of Mortuary Fridges and Air Conditioners.	Completed, awarded and execution on-going
10	National Competitive Tendering (NCT) for Repair and Maintenance of Photocopier Machine	Completed, awarded and execution on-going
11	National Competitive Tendering (NCT) for Planned Preventive Maintenance and Routine Maintenance of UPS and Stabilizers	Completed, awarded and execution on-going
12	National Competitive Tendering (NCT) for Outsourcing of Security Services at some Staff Residence	Completed, awarded and execution on-going
	National Competitive Tendering (NCT) for the supply of Pharmaceutical items	Completed, awarded and supplied

FIVE YEAR TREND ANALYSIS FOR ACHIEVEMENTS

Table 41: Trend Analysis of Achievement

#	Service delivery	Achievement for 2012	Achievement for 2013	Achievement for 2014	Achievement for 2015	Achievement for 2016
1.	Conduct of tender	14 NCTs conducted	14 NCTs conducted	17 NCTS Conducted	12 NCTS conducted	13 NCTS conducted
2.	Procurement audit/ Assessment	Excellent Status	Excellent Status	Excellent Status	Excellent Status	Excellent Status
3.	Board of Survey	1	1	1	1	On-going
4.	Ward Monitoring	4	4	4	4	4

Table 42 below shows some other major activities conducted through Price Quotation (PQ):

Table 42: Activities conducted through price quotation

#	ACTIVITY	STATUS
1	Price Quotation (PQ) for the supply of Gram Positive, Negative and Pathogen Disc for the Diagnostics Directorate	Contract has been awarded but yet to be supplied
2	Price Quotation (PQ) for the supply of Biosystem Reagents	Contract has been awarded and items supplied
3	Price Quotation (PQ) for the supply of Anti-Virus	Contract has been awarded and items supplied
4	Price Quotation (PQ) for the supply and Installation of Laboratory Immunofuge.	Contract has been awarded and equipment supplied
5	Price Quotation (PQ) for the provision of security (Barb Wire) from Doctor's Flat to A&E (Eastern Gate)	Contract has been awarded, drilling and execution been completed
6	Price Quotation (PQ) for supply of iletamin injection, Epicrom 2% eye drop, epicrom 4% eye drop.	Contract has been awarded, and execution is on-going
7	Price Quotation (PQ) for the Cleaning and Disinfection of water tanks within the hospital	Completed, awarded and Contractor yet to start work
8	Price Quotation (PQ) for the supply of Diaries and Calendars	Completed, awarded and supplied
9	Price Quotation (PQ) for the supply of Medicines	Completed, awarded and supplied
10	Price Quotation (PQ) for Planned Preventive Maintenance of Medical Oxygen Plant	Completed, awarded and execution on-going

Ward Monitoring Report

Four (4) monitoring exercises were conducted in the year 2016. The monitoring exercise was conducted at the following directorates of the hospital:

- O&G Directorate
- Child Health Directorate
- Medicine Directorate
- Surgery Directorate
- Family Medicine Directorate
- Emergency Medicine
- Trauma & Orthopaedics
- Anaesthesia & Intensive Care Directorate

Table 43 shows some of the major findings in the monitoring report

Table 43: Major findings of ward monitoring report

#	MAJOR FINDINGS	RECOMMENDATIONS/ WAY FORWARD
1	The following wards did not update the ledgers of items received from stores; orange, C5, B3, D5 Fevers, D4 and Dialysis Centre	Ward in-charges were advised about the need to keep proper records on stock received from stores.
2	There were difficulties in tracking consumables from ward ledgers to patient folders	Business managers, directorate accountants Ward in – charges and Nurse Managers were advised to check patient folders to ensure that consumables issued to patients are recorded in their folders. The SCMU will liaise with the Internal Audit Unit to check patient folders to trace the supply of consumables used for the patients
3	There were a lot of overstocked items at ward C4	The Ward in-charge was advised to return the surplus items.

The following groups and individuals donated items to the hospital in 2016

Table 44: Donations

NO.	NAME OF DONOR
1	Himalayan Cataract
2.	Ministry of Foreign Affairs
3.	Women's Health to Wealth
4.	Christian Community of Microfinance limited
5.	Cardiostart International, Inc.
6.	SDA Nursing and Midwery training college,kwadaso
7.	Beautiful Creations company ltd
8.	Ntotroso College of Nursing
9.	Karl Storez Endoscopy America Inc.
10.	Direct Relief International, U.S.A

11.	CSPD Limited , United kingdom
12.	Mr. Benjamin K. Amburah
13.	Korle-Bu Teaching Hospital
14.	Staff of Zenith Bank
15.	Regional Medical stores (Ashanti-MOH)
16.	Novartis Pharma AG. Switzerland
17.	DSMED GMBH (GERMANY)
18.	Cure blindness Organisation Himalayan Cataract project
19.	DCD-NACP (Accra)
20.	ACESO
21.	Christ Apostolic church (Eastern Territory)
22.	Yam sellers Association of Kumasi central market
23.	Aurolab
24.	Ideal Ladies (Ashtown)
25.	Mybet.com company
26.	Dutch ICT Consultant
27.	Orbis
28.	Asanteman Association of Chicago
29.	Shenzen Candisus Printing Group limited
30.	Madam Lilian Acheampong, U.K
31.	Appasamy Association, India
32.	Guangzhou Medsinlong Group co. ltd, Hong kong
33.	Boston's Children Hospital
34.	Reliable Enterprise,USA
35.	Votrant Medical Technology inc.
36.	Lin zhi chen hong kong, China
37.	Derana Barnhart-student from USA

CHAPTER 26
BIOSTATISTICS UNIT

The Unit is responsible for the collection and management of health records in the hospital through traditional and electronic means. The core mandate of the unit for the year under review was outlined in these five (5) areas:

- Register patients into the hospital system.
- Issue cards and folders to patients in the hospital.
- Keep patients' records in the hospital.
- Compile and analyse both clinical and administrative data in the hospital.
- Undertake research activities.

In the year 2016, the total workforce for the Unit was forty five (45). This comprised of six (6) Biostatistics Officers, twenty six (26) Technical Officers, ten (10) Biostatistics Assistant, two (2) Technical Assistant and one (1) orderly. Figure 98 shows the categories of staff that worked in the Unit during the period under review.

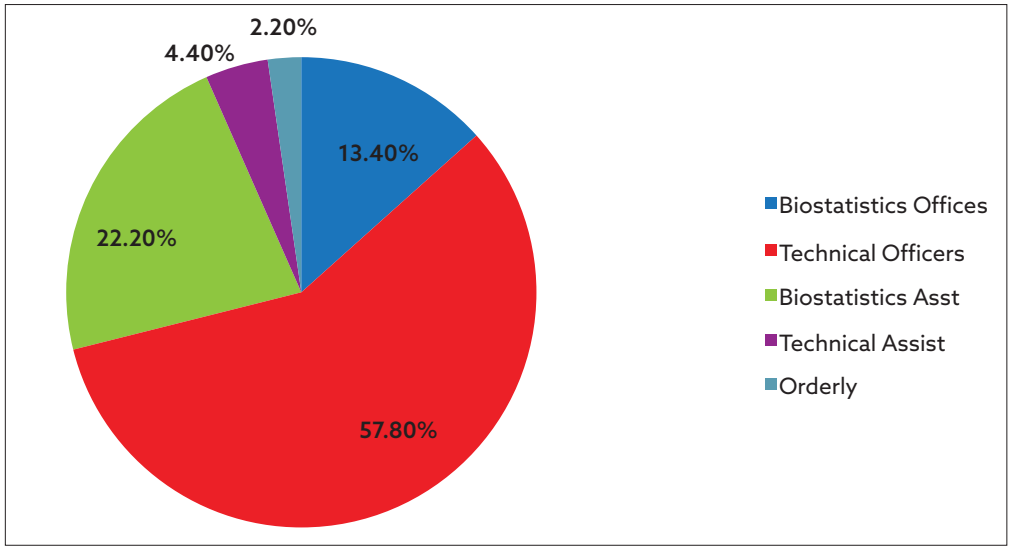


Figure 98: Category of staff, Biostatistics unit, 2016

Staffs of the Unit are distributed to the various directorates of the hospital and are supervised by the management team of the respective directorates. However, there are Biostatistics Officers in almost all the directorates as sectional heads, who are responsible for the day-to-day administration of the unit in the various directorates. The head of the Unit is responsible for providing and equipping all staff in the unit with the technical expertise for their respective duties. This is usually done through on-the – job training, in-house and external training workshops, and conferences. Figure 99 represents the staff in the various directorates.

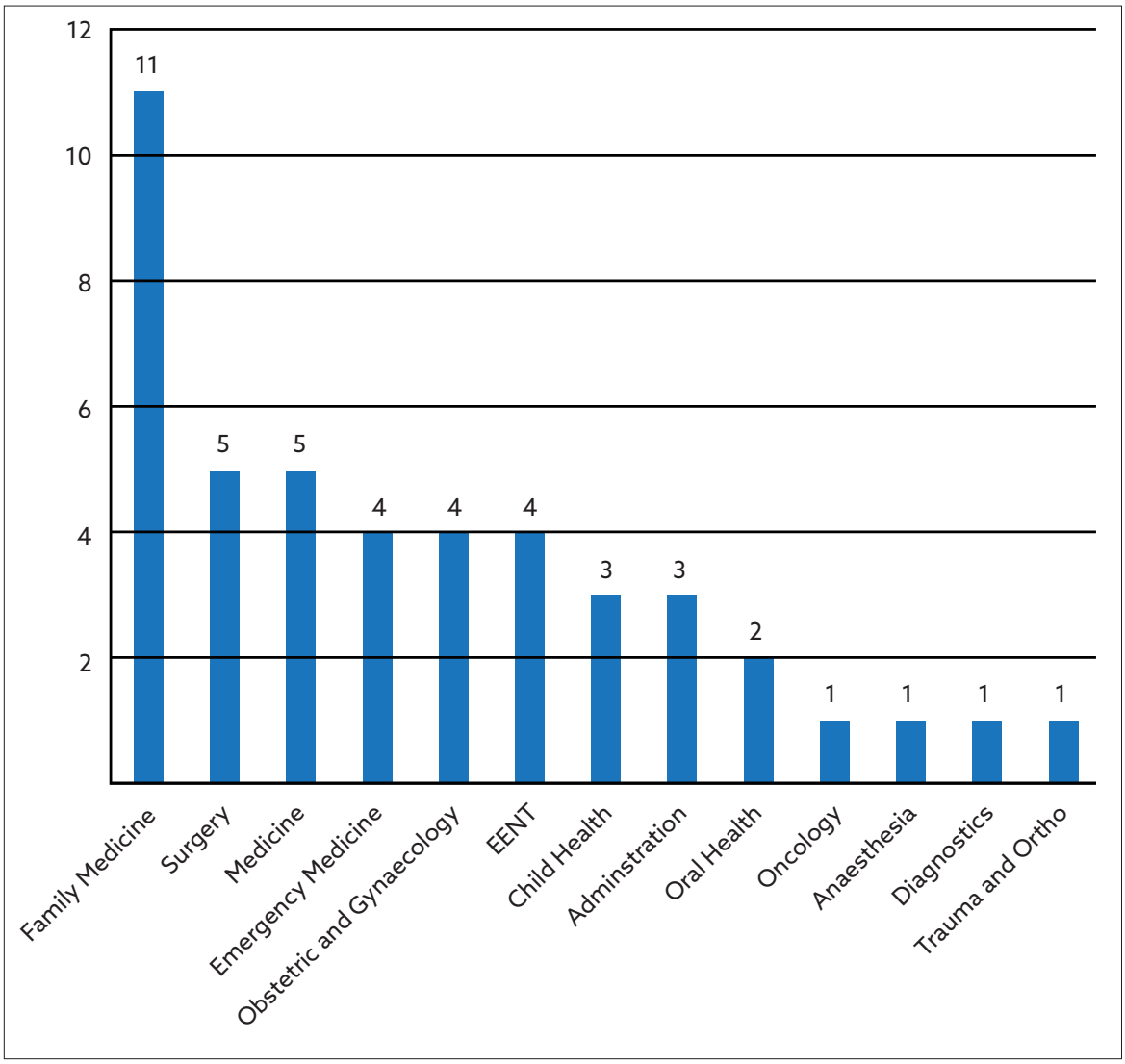


Figure 99: Distribution of staff to the Directorates, Biostatistics unit, 2016

As the main repository of all clinical and administrative data in the hospital, the unit was much involved in most of the research activities in the hospital. The Unit also provided support to researchers in data collection, data compilation, analysis and interpretation to both researchers within and outside the hospital during the year under review.

ACHIEVEMENTS

- Twelve (12) sectional heads meetings were held to discuss the various issues in the directorate.
- Scanning of patient's case notes is still on-going in the unit to help address issues of space for filing.
- Extension of HAMS network to other areas.

CHAPTER 27

SOCIAL WELFARE UNIT

Social Welfare Services commenced operation in the Kumasi Central Hospital, now Komfo Anokye Teaching Hospital (KATH) in November, 1955. The Social Welfare Unit of the hospital aims at improving the psychosocial needs of patients and other health workers in the hospital setting.

Achievements

Table 45: Achievements

NO	ACTIVITY	OUTPUT	RESULTS
1	Conduct social investigations on the background of patients	Background information on 2,133 patients acquired	Patients were supported in the payment of their medical bills. Patients given free diagnostic services. Patients received care and protection. Neglected or abandoned patients were reunited with their families.
2	Contact patients' relatives and trace defaulters	1,510 patients and relatives contacted	Patients received assistance from relatives in the payment of their bills. Defaulters settled their bills. Patients' relatives visited them. Patients reunited with relatives whom they had not seen for a long while.
3	Provide assistance to students on attachment and field work	71 students assisted	Students gained practical knowledge and experience. Strengthened collaboration between KATH and other tertiary institutions
5	Write social enquiry reports to management to seek approval for waiver and instalment payment of patients bills	281 reports written	Approval received from management for patients to be discharged thereby reducing the length of stay. Approval secured for the admission of patients into homes for care and protection.

6	Provide help to abandoned babies	17 babies provided with help	Babies given care and protection at the Kumasi Children's Home.
7	Provide counselling services	1,889 patients counseled	Patients accepted their medical condition and agreed to treatment. Patients rescinded their decision of requesting for discharge against medical advice. Patients agreed to interventions provided for them by the unit. Patients registered with the NHIS after counselling.
8	Advocate for financial and material resources for needy patients	The unit is dialoguing with NHIS managers to offer free cards for paupers.	Reduction in patients' length of stay. Decrease in number of patients unable to pay their bills
9	Attend workshop	3 staff members attended a seminar on protocol development.	Protocol guiding the unit's activities has been developed

CATEGORIES OF SOCIAL ISSUES HANDLED DURING THE YEAR 2016

Table 46: Social issues handled in 2016

NO	ISSUE	OUTPUT	INTERVENTION
1	Inability to pay medical bills	704 patients	Installment-270 patients Waiver – 50 patients Full payment-373 patients Absconders – 11 patients
2	Inability to afford drugs, diagnostic services or consumables	228 patients	121 Requests for free services were written to management 15 patients supported by Doctors and other 7 patients benefitted from little steps foundation. 10 patients benefitted from donations. 75 Discharged home for possible review.

3	Patients abandoned by their families	272	17 patients sent to Children's Home 1 sent to save our lives foster Home 1 patient was sent to Destitute Infirmary. 1 still at the hospital because he is oxygen dependent. 252 patients reunited with their families
4	Discharge against medical advice	52 patients	All patients were counselled 13 rescinded their decision 39 patients were discharged
5	Unknown patients/ relatives	61 patients	4 patients were published in media 4 sent to the police 27 were reunited with their families 4 died
6	Victims of abuse/assault	20 patients	Patients were referred to DOVVSU
7	Attempted suicide	3 patients	Patients were counselled
8	Victims of substance abuse	111 patients	Patients and relatives were counseled on consequences of drug abuse and alcoholism
9	Victims of domestic accidents	104 patients	Patients, parents, caregivers and guardians were counselled on needs of safety precautions at home
10	Attempted abortion	34 patients	Patients were counselled on family planning methods, STI and importance of seeking immediate medical attention
11	Chronic/critically ill/ patients with life limiting conditions	422 patients	Patient and their families were counselled
12	Teenage Pregnancy	44 patients	Patients were counselled on dangers of pre-marital sex and the use of contraceptives
13	Persons with disability	12 patients	1 patient sent to save our soul orphanage 6 patients referred to District DSW. 5 patients were counselled

CHAPTER 28

INFORMATION COMMUNICATION TECHNOLOGY

Introduction

The Information Communication Technology (ICT) Unit focuses on the use of technology to achieve hospital goals such as measuring patient outcomes, operating efficiently, cutting costs, educating students, and supporting research. The Unit has two Sections namely Hardware support and Networking and Software.

Table 47 below shows the ICT installed equipment in the year 2016.

Table 47: Hardware Infrastructure (Equipment)

SERVER	WORK STATION	PRINTER	SCANNER	UPS	SWITCH	LAPTOP
5	405	151	22	189	66	31

During the year under review the ICT Unit undertook the following activities:

NETWORKING AND SOFTWARE ACHIEVEMENTS

System Security

In the year under review the Unit procured, upgraded and Installed Security and vulnerability software on KATH IT Systems. About 7431 scans were done on all systems for system security of which 238 attacks were resolved. The Unit also used the EMCO software for the security of IT system. The Unit also installed a new database server which was configured for the HAMS software.

System and Data Backup

A total of data of 634.6 GB was backed up during the period under review

System software

There were15227 updates done of various Microsoft Operating systems used in the hospital. There were also 166 new installations and reinstallations of operating system on workstations.

There was 154 routine works on the servers.

A licensed software application was also installed and domain hosted.

Status of HAMS Software

The HAMS software continued to run at the following locations:

Records Management (Outpatient)

- All OPD records points

Records Management (In-Patient)

- Paediatric Emergency Unit (PEU)
- Mother and Baby Unit (MBU)
- Accident and Emergency (A & E)

Consulting Room Management
- Family Medicine Except Room 5
- Child Health – Consulting Room 10 (Piloting yet to start)

Ward Management (Admission)
- Family Medicine
- Paediatric Emergency Unit (PEU)
- Wards B4, B5 and C5
- Mother and Baby Unit (MBU)
- Accident & Emergency (A & E)

Pharmacy Management
- Family Medicine Pharmacy
- Oncology Pharmacy
- Medicine Management Unit
- Specialist OPD Pharmacy
- DEENT Pharmacy
- Eye Pharmacy
- Child Health Pharmacy
- Accident & Emergency Pharmacy

Human Resource & Payroll Management
- Human Resource
- Salary Administration
- All IGF staff data has been captured. The system is currently being setup for the generation of IGF payroll

Laboratory Management
- Customisation completed
- Configuration of the laboratory on-going as at the year end

Asset Management
- Asset Registry Unit

Pay group and Service Charge Management
- Health Insurance
- Main Revenue
- Polyclinic Revenue staff were trained

Supply Chain Management
- Medicine Management Unit
- Procurement & Medical Stores

Networking

The following are the computer network engineering issues during the year under review.

1. Network status:
   - 352 workstations and 5 servers are connected to the KATH LAN with 289 of computers in the Active Directory.
2. Internet Services:

Upgraded of internet speed from 2MB to 20MB

   - 123 computers are connected to the Internet
   - The internet service was worked on 123 times
3. Network Monitoring:
   - The DNS was pruned 2 times
   - Active directory related problems were resolved.
   - 2577 network scan was done using vulnerability security software.
4. Email System
   - 533 user accounts with 192 active
   - 9 new accounts with 21 reactivation
   - 143 maintenance works done
5. Network Engineering
   - Installation of cable network connection at specialist OPD
   - Installation of cable network at Physiotherapy
   - Integration of all fiber optic adapters into Optical distribution frame (ODF)
   - 165 network points were added to the existing network

- About 302 minor works were undertaken during the period.

HARDWARE SUPPORT

Repairs and Maintenance on ICT equipment

The table below depicts the rate at which repairs were made on various ICT equipment that were reported faulty and routine maintenance carried out during the period under review:

Table 48: Equipment Repaired and Maintained

Equipment	Frequency
System unit	564
Monitor	25
Printer	78
UPS	165
Laptop	21

New Installation and Replacement of equipment

Table 49 indicates the number of new equipment installed during the period:

Table 49: New Installation and Replacement of Equipment

Equipment	Number	Replacements
System unit	134	20
Monitor	135	18
Printer	16	11
Ups	85	72
Switches	7	3
Laptop	9	2

OTHERS

Other activities carried out were the installation CCTV at the A&E Centre, Specialist OPD Pharmacy and CSSD and the initiation of the procurement of CCTV for Family Medicine Pharmacy and Eye Centre.

TRAINING

The Unit trained 213 staff in the use of HAMS software

CHAPTER 29
PUBLIC HEALTH UNIT

Background

The Public Health Unit of the Hospital has the following sections: Disease Control and Surveillance, Occupational Health and Preventive Medicine, Public Health Nursing and Public Health Research. Operations of the unit cover the entire hospital with 58 staff working in the various directorates.

Disease Control and Surveillance:

Communicable diseases

Communicable diseases as recorded during the year under review included Acute Flaccid Paralysis (AFP), Cholera, Diarrhea with dehydration in children under 5 years, Malaria, Measles, Meningitis, Neonatal Tetanus, Pneumonia in children under 5 years, Rabies, TB, TB/HIV co-infection and Viral Hemorrhagic Fever (VHF).

Pneumonia in Children under 5 years

A total of 502 cases of pneumonia were recorded in the year 2016 at various areas of Child Health care service, namely Paediatric Emergency Unit (PEU), Neonatal ward/ Mother and Baby Unit (MBU), Ward B4 (Malnutrition/Nephrology), Ward B5 (Haematology/ Oncology/ Neurology), Ward C5 (Cardiology/ Pulmonology/ Endocrine) and OPD for Child Health – CR10. Most of the cases (324, 64.5%) were in-patients, 52% were males and 49% were below 12 months of age. Thirty-nine (12.04%) of the in-patients had their samples for blood culture sent to the laboratory for investigation. Out of these, nine (23.08%) had isolates in their samples which included 4 samples with coliforms, four with staphylococcus species and one with Escherichia Coli. Twenty-nine (5.78%) mortalities were recorded due to pneumonia for the period under review.

Tuberculosis (TB)

A total of 544 cases of TB were registered at the chest clinic in 2016 for both adults and children. Majority (61%) were male and 86 (15.8%) were children less than 15 years.

The categories of TB cases seen were as follows: 209 (38 %) new smear negative, 100 (18 %) new smear positive, 144 (26 %) extra-pulmonary, 48 (9 %) clinically diagnosed, 3 (0. 6%) Relapse and the rest 41 (7%) were either Previously Treated (PT) or Treatment after failure (RTR).

TB and HIV co-infection

During the year under review, 499 TB patients were counselled for HIV testing of which 377 (76%) were tested. Out of this number of cases, 161(32 %) tested positive for HIV with females being majority 86 (53 %). Thirty-three (33) of the TB patients were already known HIV positive patients.

Cholera

Seven suspected cases of cholera were recorded during the period under review. All the cases were recorded at the Family Medicine Ward in the month of April. The Majority were male (5 representing 71 %). Rapid diagnostic test for cholera were done for all the cases and the results were negative. Rectal swabs were taken from 2 patients for culture and sensitivity. No vibrio cholerae was isolated in any of the samples. Three of the cases were from the Kumasi metropolis, two from Kwabre East District and one from Amansie West District all in Ashanti Region.

Acute Flaccid Paralysis (AFP)

Two cases of AFP were recorded for the year. This included a four-year old girl from Abuakwa and a twelve-year old boy from Nyinahini, all in the Ashanti Region. No report was received from the reference laboratory.

Measles

There were 4 suspected cases of measles reported in the year of 2016. Their ages ranged between eleven months and four years. Their samples were sent to the Public Health Reference Laboratory, Accra for confirmation within 24 hours of detection. One sample tested negative for measles, whilst results for 3 samples are still pending.

Neonatal tetanus

There were two cases of neonatal tetanus in the period under review. These were twins of a mother from Mfensi in the Ashanti Region. The mother did not receive Tetanus-Diphtheria(Td) vaccine during the pregnancy. Delivery of the twins was by a TBA and mother dressed the cords of the babies with herbal preparation after birth. Both babies died on admission.

Mother was given a dose of the tetanus-diphtheria vaccine (Td) before discharge and information was communicated to the Regional Surveillance team for her to be linked up with the immunization team in her district.

Viral Haemorrhagic Fever (VHF)

There were two cases of suspected Viral Haemorrhagic Fever who were admitted to the Isolation Ward at the Family Medicine Directorate in 2016. Their blood samples that were sent to the Noguchi Memorial Institute for Medical Research (NMIMR) laboratory for investigation tested negative for Ebola, Marburg, Lassa Fever, Yellow fever, Dengue and Zika Viruses. One case died on admission at the isolation ward and the other case was transferred to the Medicine Directorate after receiving the laboratory results.

MATERNAL AND CHILD HEALTH (MCH)

Health education

In line with the program of work of the unit in ensuring health promotion, the MCH unit conducts health education on issues of public health importance for clients who access services on a daily basis. In the period under review 245 health education sessions were conducted. The topics were: importance of Child Welfare Clinic (CWC), respiratory tract infections, tuberculosis, malaria and diarrheal diseases, hygiene, home accidents, infectious diseases and safe motherhood. Clients were routinely educated on the importance of family planning and the

various methods were explained. Clients who expressed interest in family planning were counseled and were subsequently referred to the family planning unit. Mothers were encouraged to avail themselves for cervical cancer screening. Clients were also informed on cervical cancer vaccination and its relevance duly explained.

Immunizations

Table 48 gives a summary of the vaccines in the Expanded Program on Immunization (EPI) and the number of children vaccinated. Comparing the number of children vaccinated in 2015 to the present year (2016), there was a slight reduction in all the vaccines administered which seems to mirror the decreasing trend in deliveries in the hospital. There was a nationwide shortage of yellow fever vaccine in the last month of the year under review, hence the disparity in the number of children administered with measles, rubella and yellow fever which are given concurrently.

In the period under review, a new vaccine (Meningitis A) was introduced into the EPI, to combat meningococcal meningitis type A. It is administered as a single dose together with the measles booster and is given to children who have attained 18 months. Initiation of the new vaccine was successful with no Adverse Event Following Immunization (AEFI) being reported.

Ward surveillance in search of children with delayed/missed vaccinations was successfully done. Children seen on the ward with delayed/missed vaccinations were vaccinated.

In addition, the MCH clinic through a program to involve fathers in child welfare clinics recorded a total of 138 males who actively got involved in their infant's immunization and growth monitoring activities in the year under review.

Table 50: Number of children vaccinated in 2016 compared with 2015.

Vaccine	Total Administered, 2015	Total Administered, 2016
BCG	10190	9141
OPV 0	10179	9141
OPV 1	3651	3196
OPV 2	3264	2555
OPV 3	3076	2416
Penta 1	3691	3196
Penta 2	3386	2555
Penta 3	3090	2477
PCV – 1	3686	3021
PCV – 2	3388	2560
PCV – 3	3111	2420
Rotavirus – 1	3651	3196
Rotavirus – 2	3241	2555
Yellow Fever	2954	2116

Measles – Rubella	3221	2445
Measles – 2	2189	1501
Meningitis A vaccine	-	290*

**Men A vaccination started in November, 2016*

BCG

Bacillus Calmette-Guerin (BCG) vaccination which is given at birth to prevent Tuberculosis is offered at the A1 screening room and occasionally at the main MCH clinic. In the period under review, a total of 9,141 children were vaccinated. The majority (81.97 %), of the clients who received BCG were delivered at KATH, 64 (0.72) % were delivered at home, whiles 20 of them were delivered overseas.

Maternal immunization: Tetanus-diphtheria (Td)

Tetanus-Diphtheria immunizations are administered at the MCH clinic and the Ante-natal clinic at the Obstetrics and Gynaecology Directorate. A total of 3492 episodes of Td vaccination for pregnant women were done in the period under review. A total of1,146 women received one dose of Td in the current pregnancy whilst 634 received two doses in the current pregnancy. Assessment of doses received in all pregnancies (including first time recipients) revealed that about half (49 %, n=877/1,781) had received the first dose of T-Dip, 30 % (n=535/1,781) 2nd dose of T-Dip and 13 had received 6 doses and above.

VITAMIN A administration

A total of 5,934 episodes of vitamin A administration was done in the period under review. In Figure 100, 58.9% (n=3,497/5,934) clients who received vitamin A were aged >12 months.

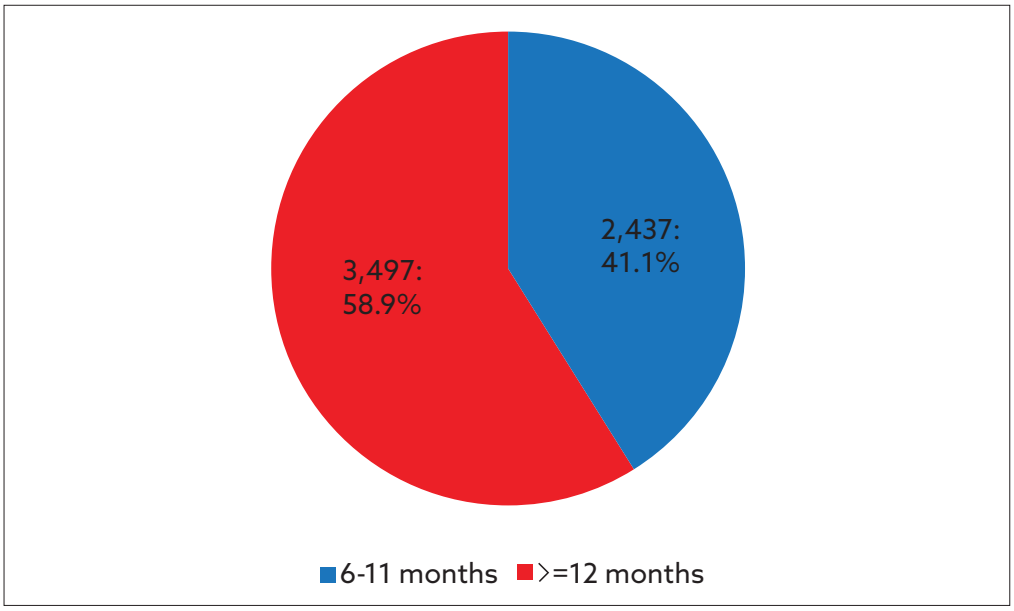


Figure 100: Vitamin A administration by age groups, KATH MCHC, 2016.

Long-lasting insecticide treated net (LLITN) distribution

The MCHC as part of efforts to prevent malaria in children under five and malaria in pregnancy distributed Long Lasting Insecticide Treated Nets (LLITN). Children who receive measles booster (given at 18 months) are given the nets as well

as pregnant women taking 1st dose of Tetanus Diphtheria (T-Dip). In all, a total of 1863 LLIN's were distributed in the year under review. This is significantly fewer than the quantity issued last year (that is 3,939 administered in 2015). The difference is due to the shortage of LLITN's experienced over the period.

GROWTH MONITORING

Table 51 gives a summary of growth monitoring results. A total of thirty-seven thousand four hundred and eighty-one episodes of weighing was done in the period under review. Majority, 98.12% gained extra weight to their previous weight as expected, 1.43% had no weight gain and are at risk of malnutrition whereas 0.45% were considered malnourished. The children who were considered malnourished were referred to the nutritionist at the pediatric ward of the hospital (B4&5). Mothers of children who did not gain weight were counseled.

Table 51: Assessment of growth monitoring results, KATH MCHC, 2016

Indicator	Number	%
Episodes of Children weighed	37,481	100
Episodes of children with weight gain	36,776	98,1
Episodes of children with no weight gain	537	1,43
Episodes of children. with W/A <80% of std	168	0,45

NEWBORN SCREENING OF SICKLE CELL DISEASE

Sickle cell screening was conducted for newborns by the Maternal and Child Health section. A total of 5,512 children were screened in the period under review. The Newborn screening room (on ward A1) conducted 5,467 and 45 at the MCH clinic. Counseling on the sickle cell test was done prior to screening.

PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (PMTCT) OF HIV

HIV TESTING AND COUNSELING

In 2016, 1838 pregnant women were tested and counseled for HIV, out of this 41(2.2%) were positive. Even though the highest number of those tested fell within the age group of 30-34years, the 25-29-year group had the highest number of positive clients (14). The average age was 30.3 years, with a minimum and maximum age of 13 and 48 years respectively. A representation of the age groups of mothers tested and counseled is shown in the Figure 101.

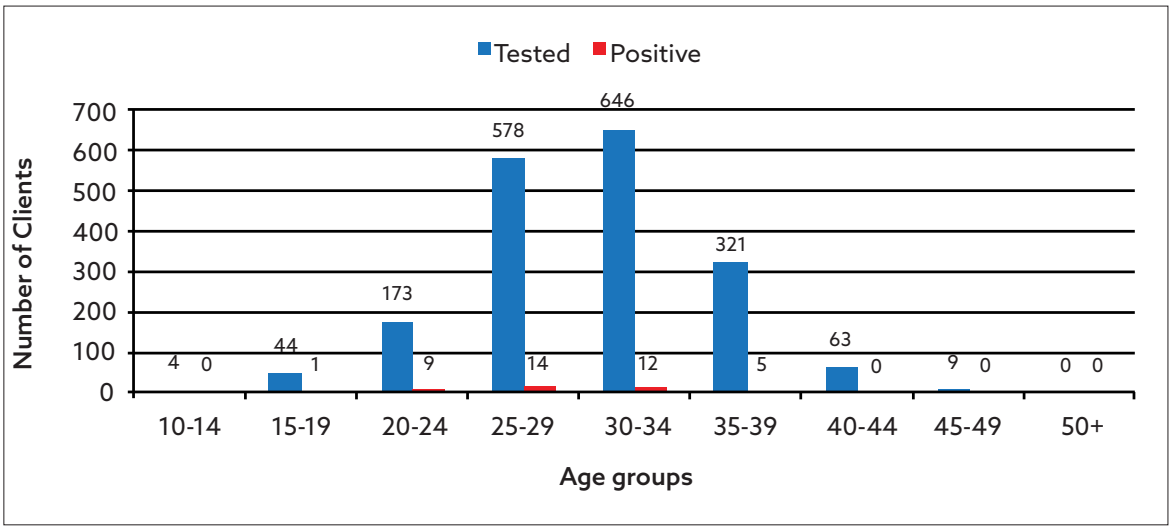


Figure 101: Age distribution and number testing positive for clients who had HIV Counselling and Testing at the PMTCT clinic, KATH, 2016.

Anti-Retroviral (ARV) therapy for pregnant women

During the period under review a total of 106 mothers were given ARV. Out of these, 43 (40.6%) were already on ARVs before getting pregnant, 42 (39.6%) started ARVs during pregnancy, whilst 21(19.8%) were diagnosed and put on treatment after delivery (Figure 102).

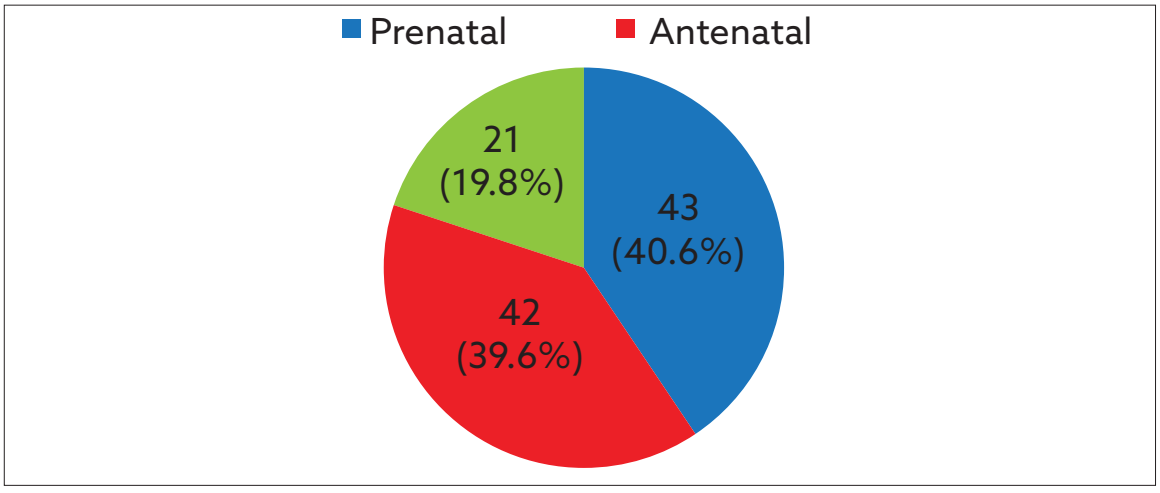


Figure 102: Category of pregnant women on ARV's, KATH PMTCT clinic, 2016

PMTCT Trend analysis

During 2016, a total of 1,838 mothers were given pretest information and tested for HIV. ARVs were given to all positive clients including those referred from peripheral facilities. Trend analysis of number of mothers tested for HIV, those who tested positive, and mothers given ARVs from 2012 to 2016 is represented in the Figure 103.

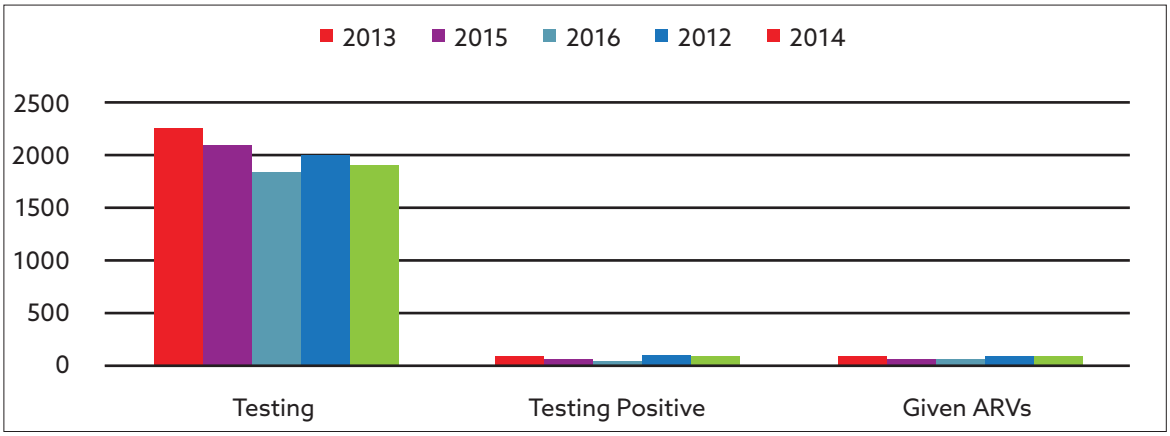


Figure 103: PMTCT 5-year trend analysis, 2012-2016

EARLY INFANT DIAGNOSIS (EID)

PMTCT as part of its mandate collects blood samples from babies born to HIV positive women for PCR investigation at the laboratory to assess their HIV status. As at the end of 2016, out of 165 results received, 10 (6.7%) were positive. Among the infants who tested positive, only 1 infant was from a mother who was a client at KATH PMTCT clinic before delivery whilst 9 (81.8%) were infants of mothers who had delivered elsewhere before being referred to KATH for EID screening. Table 52 gives a 5-year trend of screened exposed babies and their corresponding test results.

Table 52: 5-year Trend of Early Infant diagnosis of HIV (2012-2016)

Year	No. screened	No. positive	Percentage
2016	165	10	6.1
2015	146	6	4.1
2014	142	4	2.8
2013	187	5	2.7
2012	184	6	3.3

SYPHILIS

A total of 679 mothers went through screening for syphilis. The number tested positive and subsequently put on treatment were 11. However, for two months (November and December) no syphilis screening was done because the test kit currently available had expired.

HIV Counseling and Testing at the VCT Centre

During the period under review, a total of 1,953 clients were counseled. Out of the number counseled, 1923 (98.5%) were tested.

Table 53 shows the categories of clients who accessed the services. The majority of the clients were sick patients referred to the Centre by clinicians on suspicion of having HIV and in addition, almost a quarter of clients (24%) had tested positive elsewhere and were referred for a confirmatory test.

Table 53: Categories of Clients seen at the HIV counselling and Testing Centre, KATH, 2016.

Type of clients	Frequency n=1,953	Percentage (%)
Request by a clinician (diagnostic referrals)	1020	52.23
Walk-in	431	22.07
Confirmation of a positive result	469	24.01
Antenatal clients from other facilities	6	0.30
Post Exposure Prophylaxis (PEP)	21	1.08
Rape/Defilements for PEP	6	0.31
Total	**1,953**	**100.0**

Out of the 891 clients who tested positive to HIV, 886 were referred to KATH and other health facilities for continuity of care. Twelve clients did not receive post-test counseling out of which five were positive. These were clients who were lost in the stream of service provision mainly because counseling and testing are done in different rooms.

TRAININGS

Trainings organized by the Unit

- Ebola viral Disease (EVD) training conducted for 145 staff, with support from the World Health Organization (WHO)
- Simulation exercise – dealing with patients with suspected Ebola Virus Disease (EVD) for 105 staff, with support from ESTHER-Germany
- Malaria Case Management training conducted for 480 staff, with support from National Malaria Control Program.
- Meningitis A sensitization workshop was organized within the last quarter of the year at the in-service training centre, KATH for 20 staff comprising of public health nurses, community health nurses, disease control officers, health information officers and a health educator took part in the training. The main purpose of the training was to update public health staff on the introduction of the Men A vaccine into the EPI.

RESEARCH ACTIVITIES

1. The MCH collaborated with the Research and Development Unit for a pilot research study. The study which was done at the MCH clinic aimed to train mothers and caregivers of children less than 2 years to recognize the early clinical signs of pneumonia at home.
2. One peer-reviewed article was published
3. Two (2) conference abstracts were presented at the annual conference of the American Public Health Association
4. Two (2) Conference abstracts were presented at the Medical Knowledge Fiesta
5. Baseline and progress evaluation of the MDG Acceleration Framework (MAF) Implementation strategy in KATH was undertaken by the Unit
6. The study on Risk factors for delayed vaccination of children was completed.
7. Collaboration with Duke University to examine vaccination perception amongst parents

CHAPTER 30
SECURITY UNIT

INTRODUCTION

The Security Unit aims at providing excellent safety and security services for staff, patients, visitors and properties of KATH.

PERSONNEL DEPLOYMENT

In the year 2016 the Unit adopted strategic personnel deployment methods based on level of risk assessed for various locations due to inadequacy of guard force and the architecture of the hospital.

OUT-SOURCED SECURITY

During the year under review Mabot Security Services Company and First Watch Security Services (a new provider) took over security services at some staff residences.

CASES RECORDED AND TACKLED

The Security Unit recorded and tackled 48 cases in the year 2016 which involved the following:

- Fraud
- Theft
- Patient Absconding
- Intrusion Of Privacy
- Fire
- Assault/Violence
- Vehicular Incidents
- Rescue/Safety Management
- Impersonation
- Misuse
- Others

Most of these cases were conclusively resolved while a few are either on-going or require routine follow-ups and continuous vigilance. Figure 104 is the trend of cases from 2014-2016

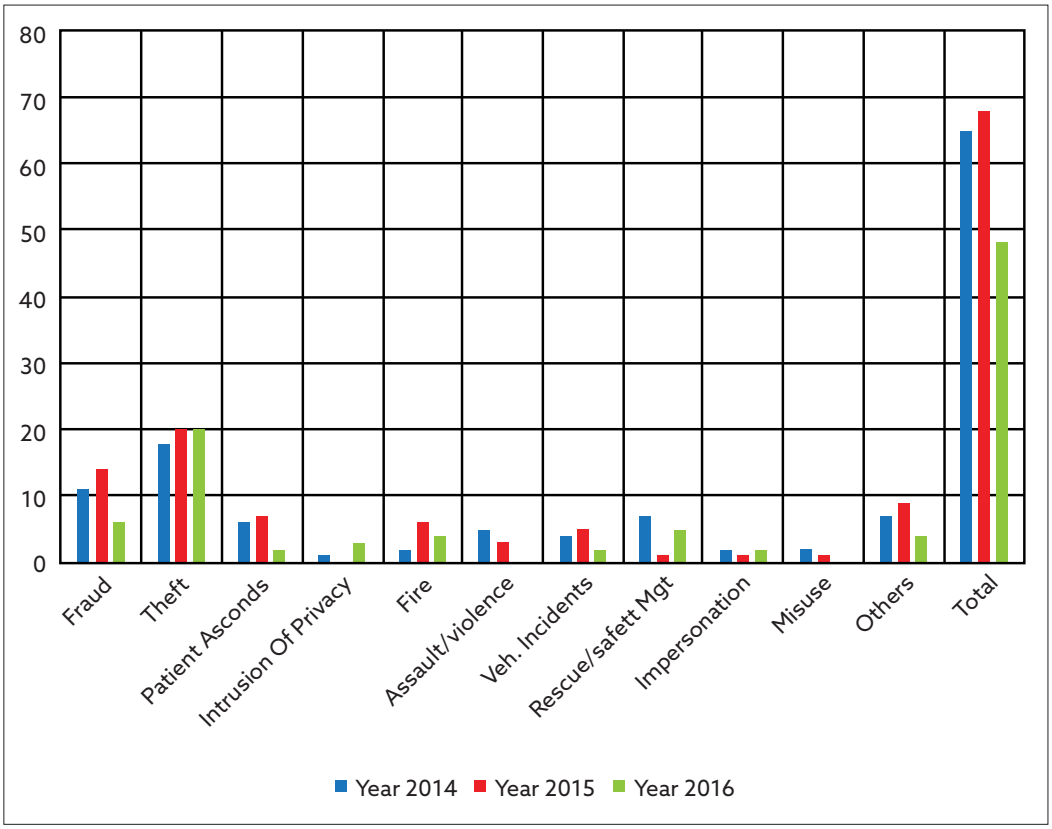


Figure 104: Trend of Cases from 2014-2016

From the chart above, intrusion of privacy, theft, rescue/safety management situations and impersonation cases recorded in the year 2016 have slightly risen above the previous year figures. Theft cases recorded in 2016 are at par with the previous year, 2016. Theft cases recorded were mainly due to inadequate security resulting from lack of personnel and weak physical security barriers such as defective sliding windows and porous fencing (creates unauthorized routes).The theft cases are in the categories of 10 attempted cases and 10 actual theft cases comprising: 5 cases of theft of staff properties and 5 cases of theft of hospital properties). Financial fraud cases have reduced significantly because of creation of awareness about payment procedures over the period and the presence of Fidelity Bank payment points on KATH premises. In the period under review, some responsible staff were less cautious, resulting in some unsafe situations such as unclosed water taps, air-conditioners and fans not turned off, etc. but these were promptly managed by the Security Unit. Other reductions seen were as a result of increased security activity, alertness and reporting. The criminals also continued to perceive that their activities would be detected by security personnel/systems where these were available. Additionally, good cooperation was received from general staff over the period as they continued to play vigilante roles by reporting cases and suspicious activities as a result of the enhanced security policies and measures put in place.

INNOVATIONS

I. Innovations undertaken by the Security Unit in the year 2016 were:

II. Creation of Staff Vehicle Database: This database captures all vehicles owned by staff and staff personal details. It is designed to help locate/contact staff and be able to communicate to them on issues regarding their vehicles; such as unrolled glasses, unlocked doors, and unidentified persons driving their vehicles, etc. without interrupting work/service delivery.

III. Issuance of Vehicular Access Cards at the gates: This was designed to reduce traffic and vehicular congestion, and the use of the hospital as a thoroughfare by public motorists. New cards are to be acquired for continuation and sustenance of this programme.

IV. Creation of Operational/Security Risk Monitoring and Reporting: This Section was created at the Unit for better management of some operational and security risks which affect delivery of quality service in the hospital.

V. Patient-Relatives Permit of Presence in KATH Premise: In order to give human face to the tackling of the continuous presence of patient-relatives problem, forms have been designed to get them registered on arrival and to determine their eligibility of stay on the premises also commits them to practice cleanliness during their stay. Implementation is due to take off within the first quarter of 2017.

CHAPTER 31

CHALLENGES AND MITIGATING STRATEGIES

- **Late referrals of patients or presentation of cases at advanced state**

Increase awareness in early attendance and referral by:

  - ✓ *Intensifying collaborative outreach with Peripheral institutions, social and religious bodies*
  - ✓ *Improving communication systems between KATH and Peripheral Institutions*

- **Congestion, especially at maternal & children's wards and Specialist OPDs**
  - ✓ *Complete of the maternal and children's block (Level of completion – 65% – civil works)*
  - ✓ *Maternal and Child Health Outreach programmes*
  - ✓ *Improve on current appointment systems*
- **Delay in the payment of health insurance claims and Low tariffs**
  - ✓ *Continue Dialogue with National Health Insurance Authority*
- **Increasing number of paupers**
  - ✓ *Identify institutions and individual to support patients who are not able to pay their bills*
- **Inadequate clinical staff, particularly in Pharmacy, Diagnostics (Radiology and Laboratories) and Transfusion Medicine**
  - ✓ *Continuous discussion with Ministry of Health for financial clearance to recruit*
- **Ageing infrastructure, equipment and vehicles and associated high maintenance and repair costs**
  - ✓ *Replace obsolete and equipment especially oxygen plant*
  - ✓ *Look for donor support in the area of equipment and renovation of buildings*
  - ✓ *Intensify planned preventive maintenance activities*
- **Erratic oxygen supply**
  - ✓ *Replacement of oxygen plant. Plans are far advanced to get a new oxygen plant.*

SUMMARY ACTIVITIES/ PROJECTS FOR THE YEAR 2017

- Quality health care delivery, leading to better health outcomes, especially in maternal and child health.
- Provide outreach services including support to the peripheral facilities within our catchment area
- Procure requisite medical equipment (especially imaging) and medicines to improve service delivery
- Improve Management Information Systems especially completing the rollout of Heath Administration Management System (HAMS) software
- Continue with the financial control measures to further increase revenue and decrease expenditure.
- Establishment of Nuclear Medicine treatment and diagnostic centre at the Directorate of Oncology
- Rehabilitate the Old Hospital Block (A-D)
- Provide infrastructure for clinical training of students from Kwame Nkrumah University of Science and Technology (KNUST)
- Intensify planned preventive maintenance activities.

- Continue efforts in securing the necessary funds for the completion of the children and maternity block
- Support staff in sub-specialty training programme
- Strengthen collaboration with other Institutions
- Conduct operational research into top ten emerging diseases