



HAYDOM LUTHERAN HOSPITAL

To His Praise and Glory

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WORD FROM THE DIRECTOR

Dr. Emanuel Q. Nuwass, Ag. MMD



2014 was a turbulent but ultimately rewarding year for Haydom Lutheran Hospital. Despite the aftereffects of some setbacks in 2013, we succeeded in achieving all of our major goals for 2014 in the course of the year. We celebrated these successes during our glorious 60th anniversary gala on January 15th, 2015.

60 glorious years

The 60-year celebrations clearly demonstrated that HLH is thriving and continues to add undeniable value to patient care in an area that would otherwise go largely unserved. Importantly, our many successes would not have been attainable without the help of our (long) list of valuable partners. Haydom benefited in 2014 from the tremendous support of the Tanzanian government, as well as from the continued backing of our long-standing international partner, Norway-based Friends of Haydom, to whom HLH will always be inextricably linked. The Norwegian government also provides us with generous financial assistance, which helps us maintain the balance between our

revenues and costs. Sørlandet Hospital in Kristiansand, Norway, deserves special mention for being a strong partner, supporting the hospital not only financially, but also materially and through knowledge exchange. Also in 2014, Friends of Haydom Germany became very active, and we look forward to a growing support base in Germany thanks to them. The list does not stop here, however. We extend a huge THANK YOU to all of our partners. You enable us to make a difference, especially when it comes to serving the underprivileged people in our catchment area, who would otherwise go without the medical care they desperately need. **Thank you for helping us save lives!**

OVERVIEW OF HLH IN 2014



Our hospital has now been functioning as a referral hospital at the regional level for five years. In this time, Haydom has been growing steadily, both in terms of staff and services. We now offer specialist services in several of the hospital's key medical disciplines, and this trend will continue over the next few years.

Management changes

Our management team underwent some changes in 2014. In September, the term of Assistant Managing Medical Director Dr. Anderson Sakweli ended and he returned to clinical work. He was succeeded by Dr. Emanuel Q. Nuwass, who had just returned from his specialization as general surgeon at KCMC hospital in Moshi. In the same month, the Head of Finance, Timothy Burra Dakay, left to pursue a master's degree and CPA certification in accountancy in Arusha. In his absence, Emanuel Fabiano was appointed as acting head.

In November, the imminent retirement of Managing Medical Director Dr. Olav Espegren was announced for January 16th, 2015.

The current management team (formally known as the Central Administrative Team or CAT) consists of:

- Acting Managing Medical Director: Dr. Emanuel Q. Nuwass
- Assistant Managing Medical Director: Dr. Paschal Mdoe
- Nursing Officer in Charge: Emmanuel Mighay

- Hospital Health Secretary: Joseph Ndukusi
- Head of Finance: Emanuel Fabiano
- Head of Fundraising, External Relations, and IT: Jonas Rosenstok

Several other administrative points were also worthy of note in 2014:

The hospital board of directors met twice, from May 21st-22nd and December 11th-12th. In addition, the hospital executive committee met once, on October 23rd.

We revised our organizational chart to include the entire hospital staff. The new version was accepted by the board and we are now awaiting the approval of the executive committee of the Evangelical Lutheran Church of Tanzania (ELCT), Mbulu Diocese, which we expect to receive in the first half of 2015.

After intensive collaboration between the hospital and the Royal Norwegian Embassy (RNE), the RNE released two-thirds of its 2014 funding to us during the year, with the remainder expected in the first half of 2015. This marks the end of the embassy's five-year funding period for HLH. We are currently engaged in dialogue to secure continued funding for 2015 and beyond.

The hospital's internal control department officially began operating, headed by Elibariki Fissoo. Initial focus is on defining strong internal control processes. Many policies and manuals were developed or updated, enhancing the functioning of the hospital. These include policies on whistle-blowing, debtor management, anti-corruption, and bribery and fraud, as well as manuals relating to procurement, the hospital's tender committee, human

resources, internal control, IT, and all of the hospital's medical departments.

In March, Haydom received a significant donation through an inheritance from a Norwegian benefactor. The board earmarked the funds for improving the hospital's self-sustainability.

Haydom continued its effective collaboration with the Tanzanian Ministry of Health and Social Welfare, as well as with the regional and district authorities. Hospital staff included on the government's payroll increased from 82 to 148 in 2014.

The year was also marked by the return of four fully specialized medical doctors (one gynecologist and three general surgeons) who, thanks to scholarship support, had been receiving training through HLH's staff capacity building program. We also welcomed the return of an orthopedic surgeon who had also been receiving training support from our hospital, though working at another institution.

In 2014, we welcomed a Dutch senior pediatrician, who was to be with us for two years. Unfortunately, he had to depart in November for family reasons.

Over the next few years, each September, we expect several specialist doctors to return to Haydom following their specialization training:

- 2015: Pediatrician
- 2016: Physician (internal medicine)
- 2017: Pediatrician, urologist, and dentist.
- 2018: Orthopedic surgeon

FUNDRAISING



2014 was a successful year from a fundraising perspective. The hospital raised more than a quarter of a million U.S. dollars, on top of the grant from the Norwegian government. We collaborated intensively with the Norwegian government through the RNE in Tanzania, which proved itself in 2014 to be a strong partner, dedicated to HLH’s structural professionalization.

The “large donors” segment provided very strong support, contributing a total of Tanzanian shillings 420 million (USD 230,000). Our partners in this segment include, first and foremost, Norway-based Friends of Haydom, to whom HLH is inextricably linked. Sørlandet Sykehus (with all of its staff) also deserves very special mention; their partnership is a true blessing to HLH. Humanity Direct (humanitydirect.org) became an important new partner in 2014, and Friends of Haydom Germany (www.haydom-friends.de) also became very active through the significant efforts of Dr. Theresa Harbauer. Within the German Friends network, we would like to single out Mr. Jurgen

Kuschert as a major donor. We must also highlight the invaluable contribution of Norway-based company Boxed Solutions and its owner Alex Hoogerhuis; the time they have invested and their donations of high-end computer and network equipment have been instrumental in the development of HLH’s strong ICT infrastructure.

In 2014, the Dutch Lyo Lyock Foundation started supporting our eye outreach program, helping us to provide cataract surgery to poor patients in the remotest areas. HLH also benefited from the tropical medicine course led by Dr. Jorunn Ulriksen of Norway, as well as the large do-

nations from the Roa Kirke church and the Rennesøy Skule secondary school in Norway to support important child health programs/services (our Lena Ward Food Program and our Child Care Unit).

In the “private” segment, HLH also received heart-warming support from a long list of individuals. The list is too long to print here, but we would like to give special mention to the following people:

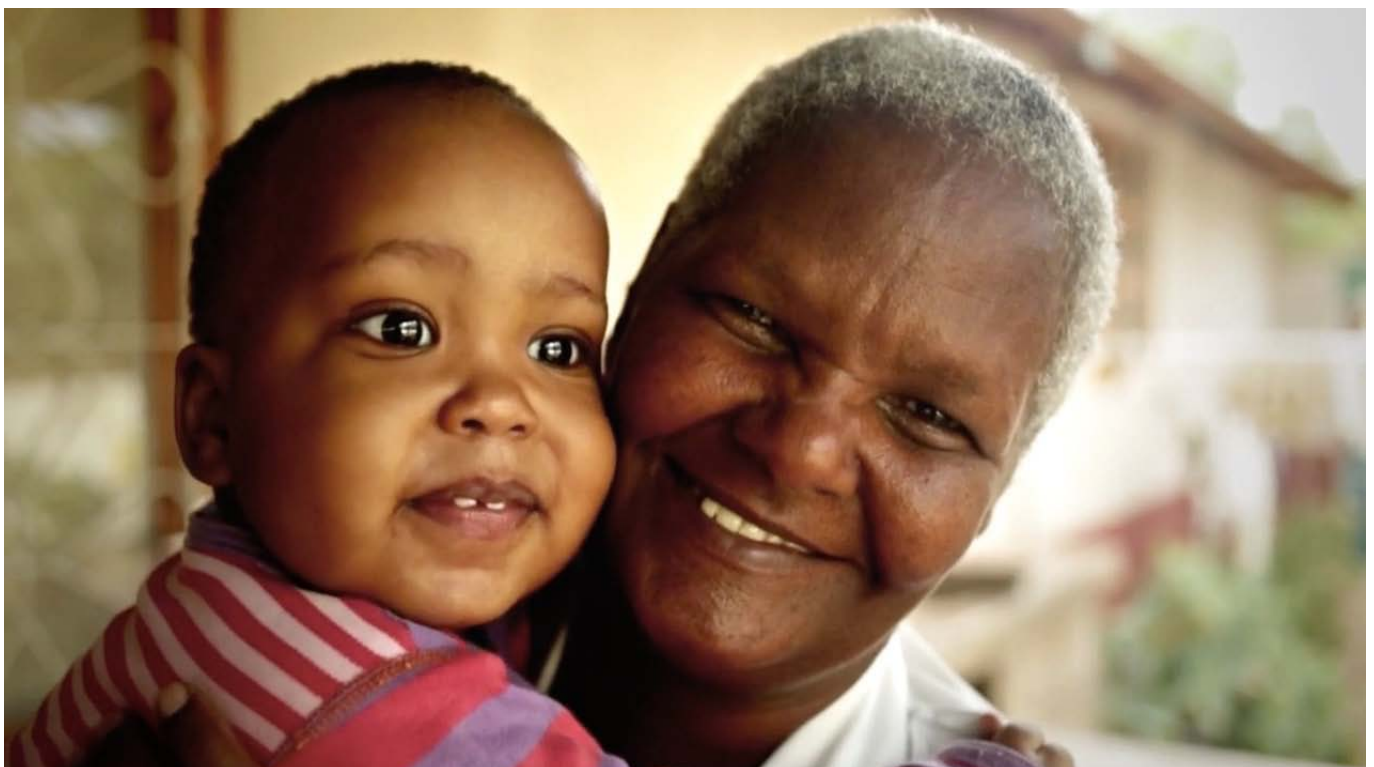
- The family of Turid Espegren, whose contribution helped us fund the construction of a new room for premature babies
- Chris Hasenkam, Megan Sewel, and Kieran Bates—three Australian medical students who raised a very large sum of money to support the construction of a Maternity Waiting Home
- Alexander Radinger, who raised a large amount of money to support our hospital
- Magne Øydvin—our great plumber, aka “Fundi Bomba Bomba”—and the Bjørnstad family, who once again contributed their expertise and resources while staying and volunteering at HLH for several months

Support for our hospital does not only come from overseas. We are particularly grateful to our Tanzanian

supporters: the Ministry of Health, the ELCT Head Office and its Health Department, the Christian Social Services Commission, the National Institute of Medical Research, Muhimbili National Hospital, the St. Luke Foundation, Sokoine University, KCMC, ENGENDER Health, AIDS Relief, Mulbadaw Farm, the Arusha Lutheran Medical Center, and the Ndorobo Community Fund.

Finally, special mention goes to all of our research partners, who, together, create an ever-stronger network that is fundamental to the many impressive successes of our research institute. Our most important research partners are: Laerdal Global Health, the University of Virginia, the Bill & Melinda Gates Foundation, Stavanger University, University of Bergen CiH, University of Agder, Oslo and Akershus University, and HINT Nord Trondelag University College.

HLH is truly blessed to have so many partners, and, inevitably, we may have accidentally left some of them out. Nevertheless, we are eternally indebted to everyone’s support, large and small. We aim to repay this debt by being increasingly successful in providing high-quality health care to our surrounding community.



REPRODUCTIVE & CHILD HEALTH

I. Maternity Ward



HLH's maternity ward has 86 beds and 6 delivery rooms. The ward is divided into four units: labor & delivery, postnatal, antenatal, and neonatal. The neonatal unit also includes a special room for kangaroo (skin-to-skin) care, which is registered with the Ministry of Health.

TYPICAL SERVICES

- Admission and management of women before, during, and after delivery
- Admission and management of patients with obstetric or gynecological problems
- Care and treatment of newborns with complications (e.g., prematurity, birth asphyxia)
- Research related to the "Helping Babies Breathe" and "Helping Mothers Survive" training programs

COMMON CONDITIONS/PROCEDURES

- Deliveries
- Anemia
- Spontaneous abortions
- Puerperal sepsis/infection
- Urinary tract infection
- Cervical cancer
- Preeclampsia and eclampsia
- Prematurity and birth asphyxia

SUCCESSSES

- Division of maternity ward in three units with dedicated staff.
- 2 full time working OBS-GYN specialists.
- Introduction of kangaroo (skin-to-skin) care
- Start of construction on a new operating room

Category of staff	Number
Specialist(Gynecologist)	2
Medical Doctor(MD)	2
Assistant Medical Officers(AMO)	1
Nurses/Midwives	51
Medical Attendants	19
TOTAL	75

ANNUAL STATISTICS MATERNITY WARD

	2012	2013	2014
Number of admission maternity ward	6,874	7,074	6,246
Number of deliveries maternity ward	5,164	5,460	4,588
Number of mothers death maternity ward	8	16	12
Number of infants Deaths (0-28 days)	108	122	181
Number of caesarean surgeries	715	900	890

NB in 2014 HLH introduced cost-sharing for deliveries. This has clearly impacted the number of deliveries. A secondary effect is that of the increased number of deliveries outside the hospital, some are complicated and the infant has a poor start. The delay to hospital for these newborns has caused the number of infant deaths to increase.

II. Outreach & RCH Services

This department includes:

- The Reproductive & Child Health (RCH) Services unit and the HIV AIDS Prevention & Outreach (HAPO) unit.
- The Balangdalalu, Gendabi, and Kansay health centers.
- The Buger Dispensary in Karatu.
- Ambulance services in Dongobesh village.

HLH has 28 clinics, 27 of which are mobile. Of these 27 clinics, 21 can be reached by car and 6 by plane.

TYPICAL ACTIVITIES

- Antenatal and postnatal care
- Vaccination and diagnosis/screening of children under age 5
- Family planning
- HIV testing, diagnosis, and treatment for pregnant mothers
- Health education
- Cervical cancer screening

Category of staff	Number
Nurses/Midwives	18
Maternal child health aids	1
Medical Attendant	17
Secretary	2
Driver	1
TOTAL	39

ANNUAL STATISTICS OUTREACH & RCH WARD

	2012	2013	2014
Number of women RCHS seen in total	31,810	28,979	28,397
Of which new clients	8,828	8,734	8,457
Of which returning clients	22,982	20,245	19,940
Number of children RCHS seen in total	86,010	81,088	80,425
Of which new clients	6,614	6,551	6,634
Of which returning clients	79,411	74,534	73,791
Total vaccinations	50,365	67,627	70,587

HAPO UNIT (HIV AIDS PREVENTION AND OUTREACH).

NUMBER OF CLIENTS CHECKED HIV

	VCT*		PITC**	
	Clients	Pos. Clients	Clients	Pos. Clients
Male	2,771	17	973	20
Female	2,138	41	781	46
Total	4,909	58	1,754	66.

* Voluntary counseling and treatment

** Provider-initiated counseling and treatment



PAEDIATRICS



The Lena Ward (paediatric ward) treats children from infancy to age 15. Neonates and premature babies are admitted into the Maternity Ward, Room 20. It has 70 beds.

COMMON CONDITIONS

- Pneumonia
- Diarrhea diseases
- Burns
- Osteomyelitis
- Malnutrition
- Trauma
- Congenital abnormalities eg. Hydrocephalus / spinal bifida
- Tuberculosis
- Malaria
- Poisoning/ neonatal sepsis

SUCCESSES

- Improvement of TB diagnosis following research project. (GenXpert)
- Reduced hospital stay days
- Stable nursing allocation within the department
- Introduction of afternoon meeting for doctors to discuss patient management
- Full time paediatric care in RCHS/ CCU

STAFF

Category of staff	Number
Paediatrician	1*
Medical Doctor(MD)	1
Assistant Medical Officers(AMO)	1
Nurses	21
Medical Attendants	16
TOTAL	40

**We are grateful to have been able to count among our medical staff a Dutch senior paediatrician, René Vreuls, who helped us from February until November 2014. Unfortunately, he had to cut short his planned two-year stay for personal reasons.*

LENA WARD ANNUAL STATISTICS

	2012	2013	2014
Number of admission	2,772	2,282	2,052
Length of stay (days)	21,466	20,502	18,526
Avg. length of stay (days)	7.7	9.0	9.0
Number of deaths	185	157	147
% of admissions	6.7	6.9	7.2

INTERNAL MEDICINE

I. Old Ward

The Internal Medicine Ward is for all patients aged 15 and above. It is divided into two sections, male and female. Each section has 28 beds.

COMMON CONDITIONS

- Pneumonia
- Heart failure
- Hypertension
- Gastroenteritis
- Diabetes Mellitus
- HIV AIDS
- Liver cirrhosis
- Psychosis
- STI
- PUD/ Gastritis

DIABETIC CLINIC

Patients with symptoms of diabetes come to the Diabetes Clinic to receive their final diagnosis, and, if they test positive, receive treatment and medication. Diabetes is a life-long disease, and as such, lifestyle is an important factor

in its treatment. For this reason, educating the community is vital in controlling the disease.

STAFF

Category of staff	Number
Doctors	2
Nurses	17
Medical Attendants	12
TOTAL	31

OLD WARD ANNUAL STATISTICS

	2012	2013	2014
Number of admission	2,182	2,081	1,949
Length of stay (days)	17,356	17,085	16,144
Avg. length of stay (days)	8.0	8.2	8.3
Number of deaths	258	256	237
% of admissions	11.8	12.3	12.2



II. Care and Treatment Clinic

The Care and Treatment Clinic (CTC) provides free treatment to all eligible HIV-infected patients. Support comes mainly from the Ministry of Health, through Aids Relief.

GOALS

- Early diagnosis and treatment of HIV infection
- Early HIV diagnosis for pregnant women in order to prevent mother-to-child transmission (PMTCT)
- Tuberculosis (TB) screening to detect TB infection in HIV patients

STAFF

Category of staff	Number
Clinical Officer	2
Nurses	3
Medical Attendant	5
Total	10

PATIENTS ENROLMENT INTO CTC

	Child	Adult	Total
Males	0	9	748
Females	0	23	1463
Total	0	32	2211

PATIENTS ON ARV* THERAPY IN 2014

	Child	Adult	Total
Males	23	150	173
Females	34	442	476
Total	57	592	649

* Antiretroviral

MOTHERS ON PMTCT* PROGRAM

	2012	2013	2014
Mothers	42	41	61

*Prevention of mother-to-child transmission

III. Psychiatry

The psychiatry and addiction services target individuals, families, and communities suffering from mental-health conditions and substance abuse. The department provides treatment on both an inpatient and outpatient basis. A 12-step model is used to care for patients with substance abuse problems such as alcoholism.

TYPICAL ACTIVITIES

- Care of mentally ill patients
- Substance abuse treatment and alcohol rehabilitation
- Health education and counseling to patients and their families
- Community advocacy through media and testimonials from former patients who have been in recovery since the establishment of the ward

STAFF

Category of staff	Number
Nurses	5
Medical Attendant	5
TOTAL	10

N.B. Two nurses with ordinary diplomas have received training in the 12-step treatment program at Sørlandet Hospital in Norway, and, in addition, one of them has attended a three-month course on alcohol and drug counseling in Uganda.

PSYCHIATRIC WARD ANNUAL STATISTICS

	2012	2013	2014
Consultations	195	133	115
Returning patients	5,035	5,028	3,799
Amani ward (addiction treatment)	57	55	41

IV. Tuberculosis Ward

The TB ward has 56 beds and is divided into two sections, isolation and general. Most of the patients in this ward already have TB.

COMMON CONDITIONS

- Tuberculosis
- Pneumonia
- HIV
- Brucellosis

ACTIVITIES

- Provision of appropriate health care and counseling to TB patients.
- Health education on prevention of TB

STAFF

Category of staff	Number
AMO	1
Nurses	13
Medical Attendant	11
TOTAL	25

TB WARD ANNUAL STATISTICS

	2014
Number of admission	574
Length of stay (days)	10,542
Avg. length of stay (days)	14.6
Number of deaths	84
% of admissions	6.8



SURGERY

I. General Surgery

Surgery One (the General Ward) receives all adult patients presenting either a general or urological surgical condition.

COMMON CONDITIONS

- Intestinal Obstruction
- Benign Prostate Hyperthrophy (BPH)
- Burns cases
- Hernia
- Hydrocel
- Haemorrhoid
- Breast cancer
- Oesphagus and stomach cancer.

STAFF

Category of staff	Number
General Surgeons	3
Medical Doctor	1
Nurses	29
Medical attendant	12
TOTAL	53

SURGERY ONE ANNUAL STATISTICS

	2014
Number of admission	1,559
Length of stay (days)	14,460
Avg. length of stay (days)	9.3
Number of deaths	99
% of admissions	6.3

II. Orthopedic Surgery

Surgery Two (the Orthopedics Ward) deals with all adult orthopedic and some neurosurgical patients. It has 45 beds.

COMMON CONDITIONS

- Fractures (femur,tibia and fibula)
- Head injuries
- Osteomyelitis
- Arthritis
- Pyomyositis
- Myositis
- Bone Tumor

STAFF

Category of staff	Number
Orthopedic Surgeon	1
Medical Doctor	1
Senior AMO	1
Nurses	14
Medical Attendants	12
TOTAL	29

SURGERY TWO WARD ANNUAL STATISTICS

	2014
Number of admission	561
Length of stay (days)	13,371
Avg. length of stay (days)	23.8
Number of deaths	18
% of admissions	3.2

III. Intensive Care Unit

The ICU provides intensive care to all critically ill and postoperative patients. The hospital is gradually improving the ICU’s infrastructure, as and when resources allow.

COMMON CONDITIONS

- Post operative patients
- Head injury
- Stroke
- CCF
- Severe Pneumonia

STAFF

Category of staff	Number
General Surgeon	1
Nurses	19
Medical Attendants	11
TOTAL	31

ICU ANNUAL STATISTICS

	2014
Number of admission	775
Length of stay (days)	2,682
Avg. length of stay (days)	3.5
Number of deaths	150
% of admissions	19.4



IV. Operating Room

The operating room operates 24/7, handling all planned and emergency operations. Major operation days are Monday, Wednesday, and Friday. Minor operation days are Tuesday and Thursday. On average, the hospital performs 11 operations a day.

COMMON SURGERIES/PROCEDURES

- Laparotomies
- Caesarian section
- ORIF
- TVP
- TAH
- Craniotomies
- Thyroidectomy
- Vp- shunt
- Colostomy

STAFF

Category of staff	Number
Nurses anesthetists	10
Nurses	27
Medical Attendants	17
TOTAL	53

OPERATING ROOM ANNUAL STATISTICS

	2012	2013	2014
Major operation	2,219	2,302	2,240
Minor operation	1,812	1,756	1,678
Total	4,031	4,058	3,918

V. Eye Unit

A cohesive team of enthusiastic eye professionals provides surgical and optical services at HLH on an inpatient and outpatient basis, and also runs an outreach program in seven administrative districts within a radius of 150 km (93 miles) of Haydom.

COMMON SERVICES

- Screening of patients
- Cataract operation
- Foreign bodies removal
- Optometric

STAFF

Category of staff	Number
Cataract Surgeon AMOs	1
Nurse Officers	3
Clinical Officer	1
Optometrist	1
Medical Attendants	3
TOTAL	9

EYE UNIT ANNUAL STATISTICS

	2014
Major operations	433
Minor operations	49
Total	482



VI. Dental Unit

The dental unit's main activities relate to preventing and treating oral diseases. We are grateful for the return in 2014 of two clinical dentists from their studies. The strength and success of the unit is rooted in the support received from Norway-based Dental Sør in the form of visiting doctors and equipment.

COMMON SERVICES

- Conservation (filling of the caries and broken tooth traumatically).
- Extraction surgical excision and drainage.
- Root canal treatment.
- Scaling and root planning.
- And provision of oral health education to the patient.

STAFF

Category of staff	Number
Clinical dentists	2
Medical attendants	2
Total	4

DENTAL UNIT ANNUAL STATISTICS

	2014
Consultations	858
Returning patients	149

OUTPATIENT CARE



The OPD (outpatient department) consists of a general outpatient clinic and a specialist clinic (general surgery, orthopedics, and obstetrics/gynecology). Outpatients from Haydom village and the surrounding areas come to the OPD for examinations, medicine, and treatment.

COMMON CONDITIONS

- Broncho pneumonia
- Malaria
- Urinary tract infections
- Diarrhea diseases
- ARI
- Sexual Transmission Infections
- Gastro enteritis

STAFF

Category of staff	Number
AMO	1
Clinical Officers	3
Registered Nurses	8
Medical Attendants	14
Total	26

OPD ANNUAL STATISTICS

	2012	2013	2014
New consultations	28,987	28,768	22,865
Returning outpatients	41,164	50,509	44,550
Total	70,151	79,277	67,415

DIAGNOSTIC SERVICES

I. Clinical Laboratory

The clinical laboratory plays a vital role in patient care by collecting, analyzing, and providing results of various medical tests for inpatients and outpatients. HLH’s laboratory has been getting stronger in terms of both staff and equipment, thanks to the support of its collaborative partners Sørlandet Hospital in Norway, the Tanzanian Ministry of Health, and AIDS Relief.

The laboratory is divided into seven sub-units:

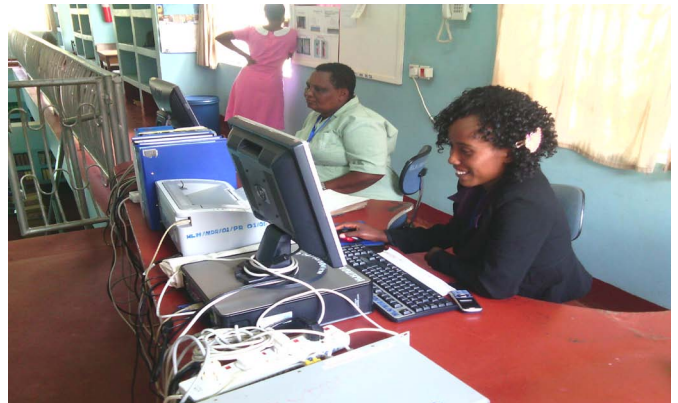
- Microbiology
- Parasitology
- Haematology
- Clinical Chemistry
- Serology
- Blood bank
- Mini-Cytology

STAFF

Category of staff	Number
Health Lab Scientists	1
Health Lab Technologist	5
Health Lab Assistants	7
Lab Attendants	12
Total	25

LABORATORY ANNUAL STATISTICS

	2012	2013	2014
Test/ Investigations	195,812	204,478	284,672



II. Imaging

Through comprehensive diagnostic imaging examinations, HLH’s clinicians are able to make correct diagnoses in managing both inpatients and outpatients. Services include X-rays, CT scans, ultrasound, and invasive and noninvasive contrast studies.

STAFF

Category of staff	Number
AMO Radiologist	2
Radiographers	3
Medical Attendants	5
TOTAL	10

IMAGING ANNUAL STATISTICS

	2012	2013	2014
Examinations	20,993	21,386	21,308

III. Medical Records

This unit houses all reliable hospital records, ensuring their safekeeping and their accessibility for easy tracking. The main objective for 2015 is to implement a computerized patient information system (Care2x).

STAFF:

Category of staff	Number
Records Management Assistant	1
Medical Attendants	7
Nurse Auxiliary	1
TOTAL	9

PHYSIOTHERAPY



Physiotherapy offers rehabilitation programs to both inpatients and outpatients. Most of the patients treated are either stroke victims or have post-injury and other conditions.

TYPICAL ACTIVITIES

- Massage
- Strengthening exercises
- Manual therapy
- Electro therapy *Tens and vibration machine*
- Gait training
- Making orthopedics devices like knee cap, shoe raised and splintage, arch support, etc

STAFF

Category of staff	Number
Physiotherapists	4
Medical attendants	1
Total	5

PHYSIOTHERAPY ANNUAL STATISTICS

	2012	2013	2014
Consultations	290	330	458
Returning patients	1711	1,705	2600
Total	2,001	2,035	3,058

PHARMACY



The principle activity of the Pharmacy Department is to ensure an uninterrupted supply of medicines and medical supplies to all of the hospital’s departments/units. This was achieved successfully in 2014.

TYPICAL ACTIVITIES

- Selection of items to be held on stock for provision of health care services in the hospital.
- Quantifying medicines/ supplies requirements and preparation of requisitions for purchase.
- Receive and proper storage of medicine/ medical equipments and supplies.
- Issuing medicine/ medical equipments and supplies to various departments of the Hospital.
- Small Scale production of medicines
- IV fluids production

STAFF

Category of staff	Number
Registered Pharmacists	1
Enrolled Pharmaceutical Technicians	3
Enlisted Pharmaceutical Assistants	2
Assistant Nursing Officers	1
Medical attendants	23
Total	30

ANNUAL PRODUCTION OF IV FLUIDS

	2012	2013	2014
IV fluids bottles	65,177	61,197	49,328

SUPPORT SERVICES

I. Laundry

Despite the challenges of too few and outdated laundry machines, the laundry team works hard to provide clean linens for the entire hospital, usually up to 1,000 kg per day.

STAFF

Category of staff	Number
Medical Attendants	15
TOTAL	15

II. Garage

The garage is the vibrant technical heart of the hospital. This is where the ambulances are serviced and technical staff such as plumbers, electricians, and carpenters have their workshops.

STAFF:

Category of staff	Number
Drivers (incl. ambulance)	28
Mechanics	5
Electricians	3
Carpenters	3
Plumbers	5
Welding mechanics	2
Storekeepers	1
TOTAL	51

TYPICAL ACTIVITIES

- Adjustment / Maintenance of hospital vehicles.
- Plumbing
- Carpentry
- Welding
- Electricity

III. Library

The hospital library is a resource for staff, students, visitors, and the Haydom community

SERVICES

- Internet cafe
- Conference hall
- Other library services

STAFF

Category of staff	Number
Assistant librarian	1
Library Attendants	2
TOTAL	3





IV. Information & Communications Technology (ICT)

The support services provided by the ICT unit help make our hospital special in Tanzania. We strengthened our ICT team in 2014 with the hiring of Goodluck Membi, bringing the total to four, with Kinto, Joseph, and Alex. But this is not everyone. We must mention our “behind-the-scenes” expert, Alexander Hoogerhuis, who functions as the architect and mastermind behind the ever-increasing importance of IT in Haydom. His support is invaluable, both in terms of the countless hours he has spent configuring and making endless improvements to our systems, as well as his donations of valuable, high-end equipment that he tirelessly collects from his many global clients.

In 2014, we welcomed a huge increase in our Internet connection speed (by 20 times!). In addition, we installed a new server at the heart of our network and started expanding the core area of our local network into a 1-Gigabit intelligent network. The modern switching capabilities enable us to increasingly focus on security and create a clear internal structure based on user needs. These switching capabilities also provide us with increasing control over the hospital’s external traffic, which is limited by a very costly satellite-based Internet connection and is restricted by a download allowance.

Alexander has also been working behind the scenes to improve our backup/disaster recovery system, ensuring continuity of technical operations in the event of an unforeseen problem. Other improvements that deserve special mention are the further roll-out of HLH’s telephone

intercom system; wireless links to various areas in Haydom that are difficult to reach by cable connection, such as the 4CCP Cultural Center; a modern Wi-Fi system in the hospital’s guesthouse and library, allowing free access to guests at limited bandwidth and paid access for those requiring higher speeds; and the overall increased reliability of our IT infrastructure through stronger emphasis on “redundancy,” whereby if a key piece of hardware fails, there is a backup system in place ready to ensure uninterrupted service.

These continuous enhancements enable our hospital to rely increasingly on IT at the core of its services. With ever stronger and more reliable IT infrastructure, we aim in 2015 to develop the patient administration system Care2x to a new level of full use throughout the hospital.

Last, but certainly not least, we owe special recognition to Friends of Haydom Norway, which played a key role in our IT development in 2014. First of all, through Mulbadaw Farm, HLH received 80 quality flat-screen computers, increasing the number of computers in the hospital to more than 100 from less than 40 before. Secondly, several years ago, Friends of Haydom Norway donated a hospital-size uninterruptible power supply (UPS) and generator, ensuring continuous power supply to our hospital despite unreliable national electricity supply. The stability that this UPS has brought to our electrical system enables us to continue to develop our IT infrastructure without its breaking from constant power outages.

CHAPEL



We are indebted to God, whom we thank for having shed His grace on us to be able to accomplish His work of serving patients, staff, and students here in our hospital.

TYPICAL ACTIVITIES

- Counseling
- Pastoral Care
- Encouragement
- Intercession
- Testifying the good news of salvation through grace, and comforting

STAFF:

Category of staff	Number
Pastors	1
Theologians	1
Evangelists	2
TOTAL	4

BAPTISM CONDUCTED

	Male	Female	Total
Children	71	64	135
Adult	19	24	43
		Grand Total	178

RESEARCH

HLH formalized its Research Department mid-2009. Since then, it has grown and gained increasing global recognition for its high-quality data. Data collection is carried out both through health facilities and the local community, focusing on low-income areas with the greatest health challenges. The department's research programs generate new knowledge that contribute to the improvement of health worldwide.

To date, most of the research has focused on early life (pregnancy through infancy and children up to 12 years of age). Research progress continued in 2014 and included the launch of new research projects and applications for future research programs. A total of about 50 staff were involved in research work full time, and a few were involved part time on HLH's clinical side. Below is a summary of the projects carried out during the year.

Research Laboratory

- The Etiology, Risk Factors and Interactions of Enteric Infections and Malnutrition and the Consequences for Child Health and Development
- Towards MDG 4 & 5; Implementing "Helping Babies Breathe" (HBB) and "Helping Mothers Survive" (HMS) to improve perinatal and maternal outcomes at HLH
- SAFER Births
- Improving Pediatric TB Diagnosis and Management in Tanzania
- Vaccine effectiveness study to estimate the effectiveness of the oral rotavirus (ORV) and pneumococcal conjugate (PVC13) vaccines

Sponsors

The department is proud to be sponsored by The Bill & Melinda Gates Foundation (BMGF) and the National Institute of Health in the USA, and The Laerdal Foundation/Laerdal Global Health in Norway, Stavanger University Hospital, and GLOB-VAC in Norway.

Collaborators

Local: Muhimbili Research Centre (part of Tanzania's National Institute for Medical Research/NIMR), Muhimbili National Hospital, and Kilimanjaro Clinical Research Institute.

International: In the USA, the University of Virginia, the Foundation for the National Institutes of Health (FNIH), the Fogarty International Center (FIC), and Weill Cornell Medical College; in Norway, The Laerdal Foundation/Laerdal Global Health, the Center for International Health (CiH), the Stavanger Acute Medicine Foundation for Education and Research (SAFER), and Stavanger University Hospital; and, in the Netherlands, VU University Amsterdam.

Research grant applications submitted and pending decision:

- INTERACT—Interaction Research for Adults and Children: Integrating Communities and Health Systems for Child Development in East Africa (GLOBVAC)
- Etiological Causes of Severe Infection in Young African Infants (WHO)
- Creating and Measuring Integrated Solutions for Healthy Birth, Growth, and Development: A New Grand Challenge (BMGF)

Publication and dissemination of research findings:

IMSH, 2014, USA

- Low-Dose High-Frequency Simulation Training Reduces Early Neonatal Mortality
- Oral presentation in 2014 at the International Meeting on Simulation in Healthcare (IMSH); overall first-place award to the research group

Accepted abstracts/posters

For the Pediatric Academic Societies (PAS) Annual Meeting, May 2014, Vancouver, Canada

- Cord Clamping Beyond 10 Seconds After Onset of Spontaneous Respiration Improves 24-Hour Neonatal Outcome in a Low-Resourced Setting
- Cost-effectiveness of the "Helping Babies Breathe" Program in a Rural Hospital in Tanzania.
- Neonatal Resuscitation in a Low-resource Setting; When Should Bag Mask Ventilation be Discontinued in a Non Breathing Infant
- Intermittent Monitoring of Fetal Heart Rate with an Acoustic Fetoscope Identifies Infants at High Risk for Early Neonatal Mortality when Abnormal and Fresh Stillbirths when Absent.
- Delayed Cord Clamping after Onset of Bag Mask Ventilation does not Improve 24 Hour Neonatal Outcome in a Low-resourced Setting.

Publication in peer review journals

- The Etiology, Risk Factors, and Interactions of Enteric Infections and Malnutrition and the Consequences for Child Health and Development Study (MAL-ED): Description of the Tanzanian Site.
- Cost-Effectiveness of the "Helping Babies Breathe" Program in a Missionary Hospital in Rural Tanzania
- Neonatal Outcome Following Cord Clamping After Onset of Spontaneous Respiration

PROJECTS



Projects are units that offer support to core hospital departments; some of these have the goal of generating income to support the hospital.

FARMS AND GARDENS

HLH has a total of 2,334 acres of farmland in various villages in the Mbulu and Hanang districts:

- Gaghata: 1,500 acres
- Wandela: 613 acres
- Endagaw: 191 acres
- Harar: 30 acres
- Haydom: 5 acres (fruit and vegetable gardens)

The total cultivated area was 1,044 acres in 2014.

THE COW PROJECT

The hospital owns 16 cows: 10 adult females, 2 adult males, and 4 calves. It supplies more than 15,326 liters of milk a year, which are used to feed children patients in the Child Care Unit and the Pediatric Ward, and to supply the canteen and guesthouse (where the milk is income generating).

WATER SOURCES

The hospital gets its water supply throughout the year from three sources: Endagulda, Basonygwe, and Ng'wandakw. This is a vital service to the hospital and incurs high costs given that the water must be pumped using a diesel generator. The cost could be reduced significantly if other energy sources like the national grid or solar energy were available.

THE CANTEEN AND GUESTHOUSE

The hospital canteen provides food, snacks, and refreshments to hospital staff and visitors. The kitchen was enlarged in 2014.

The hospital guesthouse receives some 500 visitors each year, providing comfortable and hospitable accommodation—including three good meals per day—to all visitors.

	2010	2011	2012	2013	2014
Inpatients	15,664	16,744	15,400	15,005	13,757
Average staydays	7.5	6.9	6.4	6.7	6.7
Outpatients	52,330	72,484	70,151	69,203	67,415
Women examined through RCHS	29,232	30,108	31,810	28,979	28,397
Under-5 children examined through RCHS	80,716	83,610	86,010	81,088	80,425
Maternity					
Admissions Maternity Ward	6,023	7,222	6,874	7,074	6,246
Deliveries Maternity	5,086	5,461	5,164	5,460	4,588
Caesarean Sections	573	600	715	900	890
C/S (% of deliveries)	11%	11%	14%	16%	19%
Staydays maternity	16,984	21,026	17,802	20,198	16,959
Avg no. of staydays	2.8	2.9	2.6	2.9	2.7
Maternal Deaths	6	16	8	16	12
Maternal Death (% of deliveries)	0.12%	0.29%	0.15%	0.29%	0.26%
Infant Deaths (0-28 days)	84	93	108	122	181
Infant Death (% of deliveries)	1.7%	1.7%	2.1%	2.2%	3.9%
Paediatric					
Admission Paediatric Ward	3,454	2,941	2,704	2,227	2,052
Under-5 admission	2,582	2,202	2,031	1,606	1,094
Over-5 admission	872	739	673	621	958
Mortality Paediatric Ward	217	181	172	147	138
Under-5	167	138	117	103	81
Over-5	50	43	55	44	57
Mortality (% of admission)	6.3%	6.2%	6.4%	6.6%	6.7%
% Under-5 death	4.8%	4.7%	4.3%	4.6%	3.9%
% Over-5 death	1.4%	1.5%	2.0%	2.0%	2.8%
Staydays paediatric	24,316	22,392	21,466	20,502	18,526
Avg no. of staydays	7.0	7.6	7.9	9.2	9.0
Other indicators					
Mothers PMTCT	51	22	42	41	61
Total Vaccination to Mother/Children	57,316	54,137	50,365	72,480	70,587
Total X-ray Examinations done	8,164	7,401	7,879	7,918	7,081
Total Ultrasound Examinations done	12,630	12,737	12,946	12,919	10,260
Total CT scan Examinations done	404	193	353	638	576
Total Laboratory test examination done	170,620	198,812	195,177	202,750	284,672
Total Mortality	960	993	901	985	928
Mortality as % of admissions	6.1%	5.9%	5.9%	6.6%	6.7%
No. of Major operations	2,191	1,858	2,219	1,756	2,240
No. of Minor operation	1,779	1,641	1,812	1,043	1,678

Note: In 2014 there has been a visible decrease of patients admitted. This decrease can probably be attributed to:

1. An increase in cost-sharing with patients for almost all areas of service, including the introduction of pricing for formerly free maternity services.
2. A decrease in malaria prevalence possibly due to successful public bed-net campaign.
3. A decrease in diarrhea prevalence possibly due to introduction of Rota-virus vaccine.