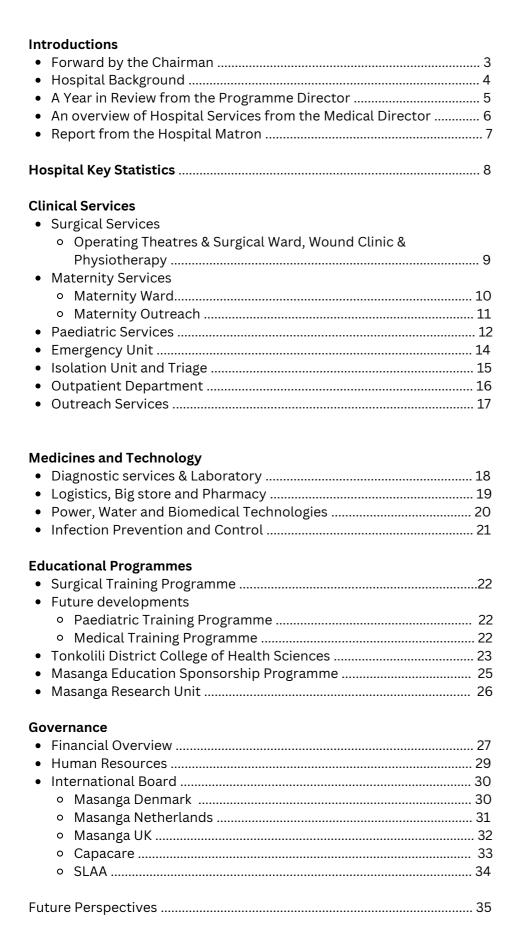


ANNUAL REPORT



ANNUAL REPORT CONTENTS















FORWARD FROM THE CHAIRMAN

Masanga Hospital is a not-for-profit partnership with the Ministry of Health and Sanitation of the Government of Sierra Leone (MOHS). Our mission is to equitably serve those who seek medical help, and build human resource capacity for sustainable and affordable healthcare in one of the poorest countries in the world.

As you go through our report, you will read about our work in primary healthcare, child health, maternal care, ophthalmology, internal Trauma. We medicine. and are becoming one of Sierra Leone's leading institutions for surgery and surgical education. Our partners Capacare deliver surgical training at Masanga Hospital to equip 16 healthcare professionals annually with essential surgical skills. We take you through the much needed clinical research conducted by Masanga Medical Research Unit. You will read about how we train next generation nurses and physiotherapists at Tonkolili College of Health Sciences.

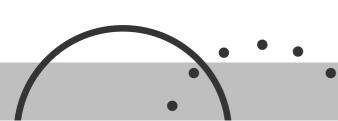
All of this was made possible by our committed staff that work tirelessly for their community; our generous donors and our loyal international partners. I express immense gratitude to you all, to all International Board Members for their dedication and leadership, and to our management team led by Mr Kelfala Kamara. Sadly, we said farewell to our Medical Superintendent Dr Jan Henk Dubbink who came to the end of his tenure in charge of medicine at Masanga. He made a tremendous impact and we wish him well for the future. We welcomed Dr Emil Kelling, our new Medical Superintendent who has made a great start in moving the hospital another step forward.

Equitable access to quality and affordable healthcare, without undue financial hardship, key United Nations Sustainable Development Goal. This is a national priority of many low and middle-income countries, and Sierra Leone is making steady progress. There is still work to be done. We look forward to strengthening our partnership with the MOHS and support their vision "to ensure a functional national health system delivering efficient, high quality health care services that are accessible, equitable and affordable for everybody in Sierra Leone." Together we can make this dream a reality.

DR EDWARD COLE

CHAIRMAN OF MASANGA HOSPITAL REHABILITATION PROJECT INTERNATIONAL BOARD





MASANGA HOSPITAL REHABILITATION PROJECT

In 1964 the Government of Sierra Leone (GoSL) established Masanga Leprosy Hospital in Tonkolili District. Soon after opening, the hospital developed an international reputation for treating Leprosy. Until 1997 the Seventh-Day Adventist Church ran the hospital as a Leprosy institute. During the civil war, the hospital was heavily damaged by the rebels and forced to close. The hospital reopened in 2006 with support of the Danish organisation Association Friends of Masanga (AFOM) and the English based Sierra Leonean Adventists Abroad (SLAA). The two organisations signed a Memorandum Of Understanding (MOU) with the GoSL on Thursday the 13th of July 2006. The Masanga Hospital Rehabilitation Project (MHRP) was born with these organisations responsible for rehabilitation and management of the hospital for the next 20 years. They have subsequently been joined by other partner organisations including Masanga Netherlands, Masanga UK and the Norwegian charity Capacare which together make up the International Board of Masanga.

The hospital offers free health care to leprosy patients, children under 5, and pregnant women. All other patient groups are treated at a subsidised cost. The former leprosy-focused facility is now a 120 bed general hospital providing medical care for patients coming from Tonkolili District and beyond. It is an established teaching platform to build the medical expertise of health care workers across the country. Tonkolili District College of Health Sciences (TDCHS), based at Masanga, has enrolled hundreds of State Enrolled Community Health Nurse (SECHN) and State Registered Nurses (SRN) students since the opening in 2012. Furthermore, Masanga Hospital provides the first six months of a nationwide surgical training programme for community health officers (CHO's), nurses, midwives and other health professionals. Graduates of this programme carry out over half the surgeries in the country. The reputation of Masanga Hospital as a centre of clinical and teaching excellence is a legacy MHRP endeavours to continue.







A YEAR IN REVIEW

FROM THE PROGRAMME DIRECTOR

Another year in the midst of the pandemic, but also a year of much positive development. Fortunately we have not seen the pandemic take hold as it has in other countries. However we have shown great resilience in contending with the global impacts from which none could hide. Challenges have been numerous from procurement of medicines and equipment, and barriers to expatriate volunteers and trainers, to deepening suspicions in the community of healthcare institutions. We now see light at the end of the tunnel as patient numbers start to return to pre-pandemic levels. I am proud of how we have overcome these obstacles and the end of a year is the time to reflect on our achievements along the way.

Following the large donation from Dutch AFAS, Masanga will have one of the country's largest Emergency Units as well as new and improved accommodation for our staff. This project was not easy at every step, as we had to negotiate a settlement between the government and local land owners. I am delighted to say this issue was resolved and the buildings are near finished and ready to use. We are very grateful for the ongoing support and generous contribution from AFAS to Masanga.

We were also able to resume the development of the Masanga Eye Care Clinic, which was put on hold when the Ministry of Health converted the buildings for the COVID treatment Centre. The Eye clinic was officially opened in October 2021 under the health professional guidance of the Dutch ophthalmologist, Pieter Slager.

In the college, we received accreditation from the physiotherapy education in September. Thus we host the country's first and only bachelor's education in physiotherapy, in excellent addition our nursing to qualifications. We also entered into collaboration with German Doctors on the training of Paediatricians in a model similar to Capacare's proven surgical training programme.

Dr. Jan Henk and his partner Claire ended their assignment with the project as Medical Officer in charge and handed over to Dr. Emil Kelling and his partner Ika. At Masanga we are no strangers to farewells and new beginnings, so it is with a touch of sadness I would like to dearly thank Jan Henk and Claire for their dedicated service. I would like to warmly welcome Emil and Ika and have already seen that they will continue the good work.

It is my pleasure at this point to thank all our donors, friends of Masanga, volunteers, our management and staff past and present. Let us keep up the good job, and the Lord will reward each one of us.

MR KELFALA KAMARA

PROGRAM DIRECTOR MASANGA HOSPITAL REHABILITATION PROJECT







DR EMIL KELLING

INCOMING MEDICAL SUPERINTENDENT MASANGA HOSPITAL

HOSPITAL SERVICES

HIGHLIGHTS FROM THE MEDICAL DIRECTOR

COVID-19

Sierra Leone faced significant consequences from both the virus and socio-economic impact of the pandemic. Masanga played a role in the case management of Covid-19 when a Community Treatment Center (CTC) was opened in an existing eye care building within the hospital compound. In Spring 2021 the CTC was officially closed and transformed into the Masanga Eye Care Centre. Furthermore, during that time the Covid-19 vaccinations were rolled out first for health workers and later for all adults above 40 years of age.

MECC

The Masanga Eye Care Clinic preparations have had some challenges largely as the building was used for the Covid-19 response. However, preparations resumed with closure of the COVID treatment centre. A Toyota Landcruiser for the eye care and outreach was purchased in Spring 2021. Following much planning at the start of the year, the clinic was officially opened in October under the leadership of a dutch ophthalmologist, Pieter Slager.

Outreach

The hospital started a medical outreach campaign as a reaction to the sharp drop in admissions due the contingency measures in response to Covid-19. Maternity outreach continued to address the high maternal mortality in the communities and peripheral health facilities. In 2021, increased efforts and cooperation by all involved led to the formation of a Masanga Outreach Unit. Read more on page 17.

Infrastructure and Technical Team Improvements

Danish engineers from Engineering World Health conducted a preliminary visit to Masanga in September 2021 to prepare for improvements to the Hospitals infrastructure as well as expansion and training of the technical team. There are exciting plans in place for the solar park, water systems and biomedical technologies. We are expecting to welcome a team of three Engineers for a 4 month project of training and technical improvements from early 2022. You can read about these plans on page 20.

AFAS projects

Although AFAS is only one of several important donors, the long partnership we started in 2020 and continued in 2021 is worth mentioning. AFAS funded the new operating theatre and maternity blocks in 2020 and construction was started for a new emergency ward and staff houses which should be completed in 2022. Plans and drawings are made for extension of the administrative building and new waste management incinerators. We are very thankful for this long-term commitment to the hospital as a whole.

INTRODUCTION FROM THE MATRON



VICTORIA I KAMARA

SENIOR NURSING OFFICER MATRON MASANGA HOSPITAL

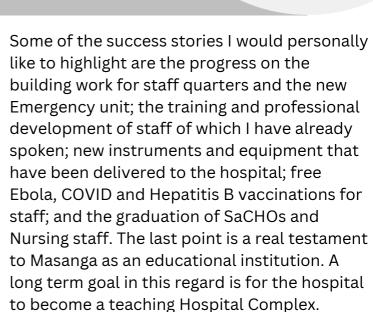
Masanga Hospital is located in the Tonkolili District, Northern province of Sierra Leone. It remains one of the biggest referral and teaching hospitals in the north. Our patient population continues to grow due to Gold mining activities, the college, affordable costs, coupled with the quality of care given by the hospital.

Nurse Training Report

As Matron, the quality and professional development of Nursing staff to improve patient care at Masanga is my first and most important priority. I am pleased to report great progress in the training and development of the nursing staff this year. The training events completed include:

- Emergency Room (ER) Training
- Nursing training on Early Warning Scores and ETAT, Neonatal training for Paediatric and Maternity ward staff
- IPC Trainings: Donning and Doffing of Personal Protective Equipment, chlorine mixing, hand hygiene
- Disease Surveillance (IDSR)
- Trainings of three senior nurses of the Government of Sierra Leone.

The growth of the hospital is a marker of its success, however with it has also come great challenges. The first of these difficulties is the registration or 'pincoding' of staff onto the government payroll. When I started my post in 2018, there were only three government pin coded staff, and currently, we have retained seventeen pincoded in the Facility; and fifty six Clinicians are MHRP employed paid staff. This marks important progress however we clearly have a long way to go as we transition to a Government funded and run institution in 2026. We will continue our negotiations in this regard for the benefits of all staff and patients at Masanga. A second problem is the retention of pincoded staff with some examples of staff leaving unannounced following posting to Masanga. I will continue to work with Human Resources and the Government to improve retention and accountability of staff.



My sincere thanks and appreciation goes to the Program Director, Management, and the Clinical team for their relentless efforts to make this year a success. Our Surgical Training Program students and nurses have done so well, thumbs up. Blessings





HOSPITAL STATISTICS



119

Number of inpatient hospital beds



2268

Number of hospital admissions in 2021





6507

Number of patients seen as outpatients in 2021



1008

Number of surgeries performed in 2021





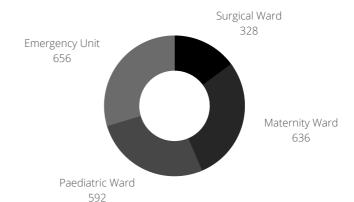
504

Number of deliveries in the maternity ward in 2021

ADMISSIONS

Admissions numbers for individual wards. In 2021 we have seen 549 more admission than in 2020, taking us back to pre-covid-19 rates of admission of ~6 per day.





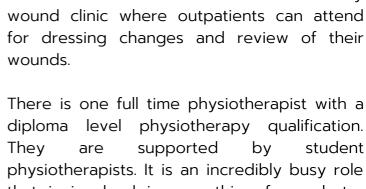
SURGICAL SERVICES

MARY WAI KFR

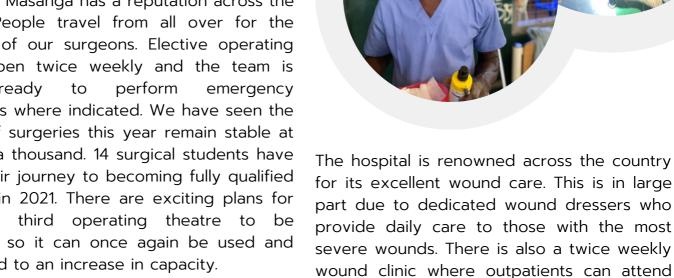
NURSE IN CHARGE OF SURGICAL WARD

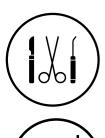
Surgery at Masanga has a reputation across the country. People travel from all over for the expertise of our surgeons. Elective operating days happen twice weekly and the team is readv perform to procedures where indicated. We have seen the number of surgeries this year remain stable at just over a thousand. 14 surgical students have begun their journey to becoming fully qualified surgeons in 2021. There are exciting plans for 2022 the third operating theatre to be renovated so it can once again be used and should lead to an increase in capacity.

Surgical ward is the largest inpatient facility at Masanga with 50 beds split into Male and Female sections. The ward takes patients presenting with chronic wounds or needing elective surgical procedures. It will also accept cases from the EU once they are stable. 8 nurses rotate to provide 24 hour care. Patients here require less intensive management but still have access to vital services and daily medical review. Some patients can be on the surgical ward for many months receiving wound dressings and rehabilitation before they are ready for discharge.



that is involved in everything from plaster casts for acute fractures to intensive rehab for amputees. The role is a crucial aspect of treatment for many inpatients outpatients and is an area we hope to expand once the current students graduate.





1008 surgeries performed



328 admissions





MATERNITY SERVICES

FATMATA HAWA BANGURA

MIDWIFE AND IN CHARGE OF MATERNITY WARD

The maternity team has had a busy year with a dramatic increase in safe hospital deliveries from 285 in 2020 to 504 in 2021. In total we had 700 admissions this year. Sadly there were 2 maternal deaths. Every single maternal death is a tragedy, however the decrease from a total of 7 in the 2020 and no deaths since February 2021 gives us much hope and reassurance that things are improving. The increase in deliveries and lower death rate may be due to the expanding role of maternal outreach which improves awareness of the services available at Masanga and reduces the incidence of late presentation.

The maternity department has two wards but presently it is occupying only one ward because of the ongoing construction of the new Emergency Unit. The department has a total of twelve nurses which includes four midwives posted by the Ministry of Health and Sanitation and eight State Enrolled Community Health Nurses (S.E.C.H.N). There are two cleaners for both labour and the ward. I am pleased to report there has been an improvement in weekly supplies of consumables this year. One area we are working to improve is the availability of equipment such as dopplers, pulse oximeters for adults and neonates. It would be best if these were provided separately for maternity and also the labour room. We also hope to introduce a cleaning rota for overnight.

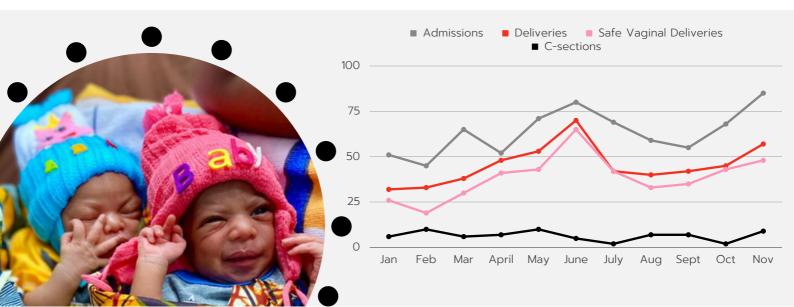
Thanks to the entire administration of MHRP at home and abroad, not forgetting our donors, may they continue to sponsor us with more beautiful projects. Special thanks to the medical team for their great effort in serving mankind. God bless us all.



79 C-sections performed



504 safe hospital deliveries



MATERNITY OUTREACH

TOM VERSTEEGE

MD IN INTERNATIONAL HEALTHCARE AND TROPICAL MEDICAL DOCTOR IN TRAINING

The Maternity Outreach Programme is designed to reach the most vulnerable women who may not otherwise access timely antenatal care. We achieve this by visiting four villages (Mabontor, Masumbiri, Bumbuna and Bendugu) every 6 weeks. Around 80 to 100 women are seen on every individual outreach, which is slowly increasing back to pre-Covid-19 levels. The women receive antenatal education and counselling as well as an ultrasound scan. Women who are deemed to be high risk are referred to Masanga Hospital for Safe Hospital Delivery. Unfortunately there are still barriers preventing women from attending; we estimate that only 50% of referrals arrive in Masanga. Improving attendance of referred mothers to the hospital is an important part of the maternity team's plans looking forward - starting with data collection on referral rates, attendance rates and outcomes after delivery.



Main reasons for referral to Masanga Hospital for safe delivery included: breech presentation (26%), twin gestation (16%) and risk factors for postpartum haemorrhage.

ULTRASOUND TRAINING

This year, a structured training programme was established to teach CHO and midwifery staff members to perform antenatal ultrasound. The idea is to create a high standard of ultrasound techniques that can be tested and verified, and will consistently provide high quality imaging and information. Newly certified staff members will play an important role in the training of colleagues to also perform ultrasound scans and dramatically increase the skills of the workforce. The long-term goal is for the maternity be independent ultrasonography with only distant supervision of obstetricians for difficult cases and educational purposes. This will be a great achievement on the road to improving maternal health outcomes across Sierra Leone.





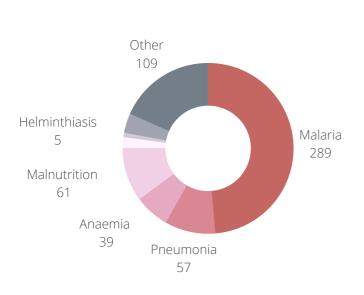
PAEDIATRIC WARD

FATMATA A TURAY

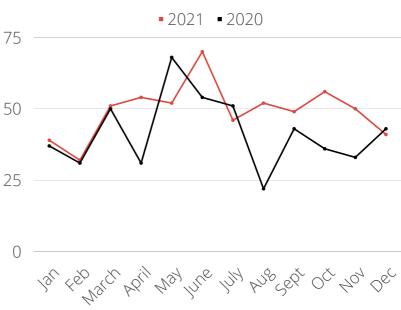
NURSE IN CHARGE OF PAEDIATRIC WARD AND ETAT TRAINER

The paediatric ward cares for all children from neonates up to 17 years old. There are 23 admission beds and 3 admission cots for neonates. This year there has been much development on the paediatric ward with the installation of new neonatal and intensive care areas for paediatric patients. The ward now can deliver CPAP ventilation to neonates and nurses have completed their Emergency Triage And Treatment (ETAT) training. We have also benefited from a beautiful renovation and new bed nets for all patient beds. We are very grateful to the visiting specialists, Dr Sarah Chambers, Dr Merel Boom for all their work with the paediatric team. We are looking forward to 2022 when we will welcome the first paediatric trainees to the ward on their clinical placements.

The health of children in Sierra Leone is a priority for the staff at Masanga Hospital. As a country there are national health issues affecting the paediatric population; malaria causes a significant proportion of admissions to the paediatric ward. Good preventative practices like using bed nets and water practices can make a big impact. We make education a key cornerstone of paediatric care at Masanga.



Reasons for admissions to the paediatric ward in the year 2021



Number of admissions to the paediatric ward in 2021 compared to 2020 by month



Going forward

Paediatric Project

Child morbidity and mortality are a big problem in Masanga Hospital. The arrival of Dr Sarah Chambers and Dr Merel Boom gave us the opportunity to make paediatric care a priority by focusing on 4 key areas.

Health awareness: Masanga Hospital has now established and outreach service which focusses on education, delivered by the outreach team and paediatric nurses. The opportunity is used to educate women on paediatric care while they wait for their antenatal appointments. We hope this initiative continues to grow and prevents paediatric morbidity and mortality.

Ward development: Previously, sick neonates were cared for on the maternity ward. A neonatal corner was created on the paediatric ward with 3 neonatal beds, an incubator with a phototherapy light, a CPAP machine (Pumani), a resuscitation trolley and a pulse oximeter. This has proved quite successful with multiple neonates benefiting from the CPAP machine. There has also been the development of two intensive care beds for the most unwell children with emergency trolley and extensive revision of guidelines.

Education: The most important objective is education and training. Training has been delivered on the use of CPAP machine as well as ETAT. To improve sustainability there is also a Training of Trainers (ToT) programme established. This means that Fatmata A. Turay and Aminata Bangura will continue to deliver ETAT training on a rolling basis. In 2022 we will welcome the Paediatric Training Programme run by German Doctors. Masanga will host first year trainees on their first clinical placements after they have completed intensive theory modules.

Protocols: A new neonatal protocol has been created which will be rolled out with training in January. A new paediatric protocol is in progress and will be completed in the new year.





EMERGENCY UNIT

KADIATU SANKOH

NURSE IN CHARGE OF EMERGENCY UNIT

The emergency unit is a busy 19 bed ward which admits the acute cases in the hospital. Patients may have a medical or surgical diagnosis so our nurses are trained to manage a lot of conditions. Reasons for admission included: trauma, surgical emergencies, chronic non communicable diseases and infectious diseases.

The EU team includes 10 nurses and one cleaner. This year we have been supported on the EU by Dr Putnam and Dr Turnball from Masanga UK. They have focused on improving the medical care across the hospital with a particular focus on blood transfusion and diabetic care. We thank them for all their hard work and the training they delivered. We are delighted they will remain involved as volunteer coordinators for Masanga UK and look forward to working together.

The EU team thanks all the management and donors for their continued effort and support and we hope that the good work can continue into the next year!



AIMS FOR THE EU IN THE FUTURE INCLUDE:

The Emergency Unit is temporarily moved to the Maternity Ward whilst the construction of the new Emergency Unit is completed. The expansion of Emergency Unit to the 50 bed department with HDU and radiology rooms will greatly improve the facilities within which we can deliver quality care to emergency patients. We are excited to expand and thankful to AFAS for providing the funds to do so.



The graph compares admissions in 2020 with 2021. Total admissions to the unit increased by 158 (31%) to 656 admission compared to 498 last year. The number total deaths on the unit was 65 and 520 patients were discharged home.



Triage is the process of separating patients according to their complaints and severity of illness. A key function of triage is to identify possible contagious patients so that they can be safely treated in isolation and not pose a risk to staff or other patients.

The four bed isolation unit is designed to care for patients who are suffering from or are at risk of infectious diseases. In West Africa there are many infectious diseases which the hospital must be prepared to manage including tuberculosis and viral haemorrhagic fevers. In August, there was the news of a possible Ebola case on the border in Guinea. Luckily this never developed into the outbreaks seen in the recent past. However it has given the Isolation ward team a chance to reflect on our outbreak preparedness and a working group was set up to review the triage process and PPE policy. This has resulted in a new triage area, new PPE storage areas and new donning and doffing protocols. Live simulation testing of the hospital preparedness is planned for the coming year, as well as construction of a new isolation unit with increased capacity and infection control capabilities.

The Isolation Ward is supported by the Infection Prevention and Control team who have delivered PPE training for all staff and continue to improve all aspects of sanitation on the hospital ground. The cleaning staff, groundsmen and waste management team are all integral to maintaining a safe hospital environment. The focus in the coming year will be on improving sterilisation of medical equipment as well as outbreak preparedness.

OUT PATIENT



DEPARTMENT

Attendances to OPD by month



The outpatient department remains very busy despite the impact of the pandemic. The staff in the outpatient department play a key role linking the hospital to the community and act as gatekeepers to the hospital facilities. The CHOs work with the laboratory staff and pharmacy to create a strong outpatient team delivering safe and effective care to the local population. Expanding the staff and training in this department is key to improving the health of the district.

The outpatient department is looking forward to a year of professional development with incoming supervisors from the Masanga UK team. There is hope to expand the outpatient department team by hiring more community health officers. This will be vital in the coming year as the outpatient department expands its aspirations and moves towards running dedicated clinics for specific diseases.

The health of the nation is changing and noncommunicable diseases are increasing in frequency. We would like to run clinics dedicated to the review and follow up of patients with diabetes and hypertension. This is an aspiration that could help us control the general health of the population and prevent disease developing further. Hepatitis B is another major contributor to early deaths in the local population. Unfortunately there is great difficulty throughout the country in and distributing receiving hepatitis investigations and treatments. It remains a goal of the outpatient team to have full treatment available for all hepatitis B positive patients.

LOOKINGFORWARD

Antenatal clinic makes Wednesdays in the outpatient department a very busy day! Upskilling the outpatient staff to perform dedicated ultrasound scans has improved the safety of the antenatal clinic and we are proud to offer this service for the mothers of the district. Working with the outreach team helps improve links between the hospital and community.

There can be no underestimation of the importance of primary care in a developing health system. We are keen to grow and educate ourselves to deliver the best care to the public.



M ASA MASAITAL

OUTREACHDEPARTMENT

AMINATA KANU

NURSE IN CHARGE OF MASANGA OUTREACH UNIT



Masanga Community Outreach has been working on a Maternal and Child Community Health Approach (MCCHA) in five communities in Tonkolili District. MCCHA is a step by step approach developed by Masanga Outreach to empower communities so they will be able to take responsibility of their own health. The concept is based on a participatory approach to communities and uses bottom-up and buy-in strategies to gain the trust of communities. Masanga Community Outreach has been there to guide and advice the communities through the Community Health Committees (CHCs) in carrying out the different types of interventions and activities.

We know that knowledge alone is not enough to change deep routed traditions. We always use "training of trainers" methods to create role models in the community. This approach increases the chance that the knowledge will stay in the village and be transformed into behavioural changes. This has been demonstrated this year by the Family Planning Agents who have been trained and supported to deliver family planning education and teach about sexually transmitted infections.

Topics Covered in Outreach Teaching

Nutrition/malnutrition
WASH
Pregnancy behaviours
Family planning
Danger signs
Giving birth
Postnatal care
Child diseases and symptoms

Health rights Hospital services This year we have had great success within the Outreach Department to improve the water quality of two local communities. The river which supplies the villages with water was contaminated with mercury. The outreach team has helped to plan and build safe wells to supply the villages with clean and safe water for drinking and sanitation. Alongside the provision of safe water, the outreach team is also working with communities to improve waste disposal.

MASANSA

LABORATORY

MAXWELL SESSAY

LABORATORY TECHNICIAN AND IN CHARGE OF MASANGA LABORATORY

The staff at Masanga Hospital provide continue to haematology, microbiology and biochemistry services 24/7 for both inpatients and outpatients. The laboratory staff are dedicated to continual improvement of the quality and breadth of tests provided whilst maintaining the reliability and speed of results.

As well as routine testing, the laboratory team also manage the blood bank and blood transfusion service within the hospital. This is a vital service and is becoming more and more important as the surgical capacity of the hospital The team increases. are proud to announce there has been no adverse reaction to blood transfusion this year transfusions and 539 have been completed successfully.

Supply chain management and reliability has been very difficult in the past. This has somewhat stabilised in 2021 but there is always concern about low stock of reagent and the strength of the cold chain which is vital for laboratory tests. Issues with the maintenance and repair of the biochemistry machine has led to few tests being performed. In the coming years, the maintenance and upgrading of lab equipment will be vital for the ongoing clinical work of the hospital.



Number of positive diagnostic laboratory results for the year 2021

Anaemia (Hb<8g/dL): 1,284

Sickle Cell Disease: 99

Malaria (RDT): 4,068

Tuberculosis (microscopy): 115

Syphillis: 235

Hepatitis B: 181

Leprosy (skin snip): 2

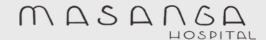
HIV: 196

Intestinal Parasitosis: 2,464

Looking forward to 2022 Areas of focus for the laboratory staff in the coming year are as follows:

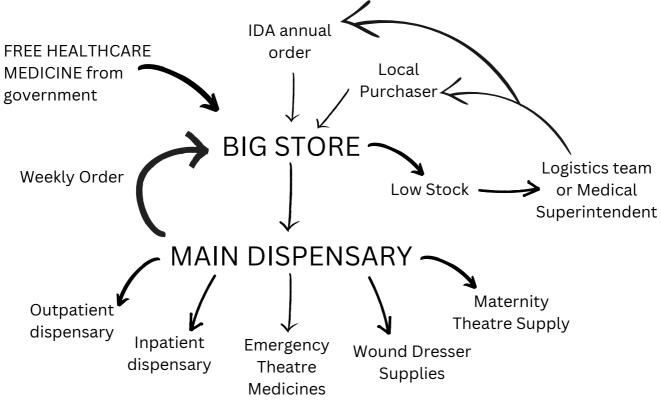
- Blood donation outreach
- Procurement of Genexpert machine (TB diagnostics) and CD4 count (HIV)
- Increased training to be able to participate studies relating to culture of bacterial infection and causes of ulcers.

LOGISTICS



THE BIG STORE AND PHARMACY

The big store is a place where all the hospital items are kept and later supplied to wards and various departments when needed. This year there has been an overhaul of how the big store is run. We are happy to say our store is now is functioning far more efficiently. Hospital equipment and consumables are more readily available when needed. Furthermore, better recording and accountability has made the process of restocking more reliable and should reduce waste. A well functioning logistics department is crucial to support each of the busy clinical departments. While there is still work to be done, we have taken steps in the right direction this year.



The pharmacy team of a technician and two State Enrolled Community Health Nurses have contributed immensely to Hospital services by providing good pharmaceutical care according to WHO recommendations. They work alongside the logistics team and the Medical Superintendent in managing the supplies of medicines by distributing between the big store, main dispensary and departmental supplies, ensuring timely external orders are placed to avoid stock outs. The team provides a 24/7 service with someone always available oncall should the need arise.

Developments in the pharmacy department this year include the addition of a pharmacy technician and electronic recording of medicine stock levels and sales. Going forward we are looking to continue to improve the monitoring of stock which will allow the more efficient procurement of medicines through purchasing accurate bulk orders through the IDA foundation. We are also hoping for an external volunteer to be placed at Masanga in 2022 and provide training to the pharmacy department and raise the standard of clinical pharmacy and medicines management.

Technical Services

Power, Water and Biomedical Technologies

IBRAHIM TURAY

TECHNICAL MANAGER

Water and power infrastructure are vital to the running of a hospital. Masanga is not connected to the national grid so we have to be self-sufficient in power. This comes from two sources - our on site solar park and diesel generators. These assets allow for life saving work from lighting an operating theatre for a caesarian section to giving oxygen to a child with severe pneumonia. There are great challenges with managing this with rising fuel costs and the expense and expertise necessary to carry out maintenance. There has been an increasing frequency of power cuts which are a clear and present danger to the safety of patients.

The water at Masanga is provided by four wells. During the rainy season there is no shortage of water however it is a different story during the dry season of March to May. The plumbing at Masanga fills water storage tanks across the hospital site and provides running water to certain key services like the operating theatres. Other wards and the many handwashing stations must be manually refilled each day. New buildings under construction such as the new Emergency Unit will have improved plumbing and running water stations as well as toilet blocks. This will require an upgrade of Masanga's existing plumbing infrastructure.

Masanga has many different biomedical technologies to support our clinical diagnostics and management. We were very fortunate to have received donated equipment including an ECG machine, oxygen concentrators, pressure mattresses and pulse oximeters. Maintenance of our growing technological inventory remains a key challenge.



This year we took the first steps of a plan to upgrade the infrastructure for both power and water, and expand and upskill our technical team. In September a Danish engineer from Engineering World Health visited Masanga for preliminary a assessment visit to assess the hospital's current systems and plan the much needed improvements. The visit was successful and she will be returning with two other engineers early in 2022 for four months to improve power, water and technologies at Masanga and provide training for the technical team.



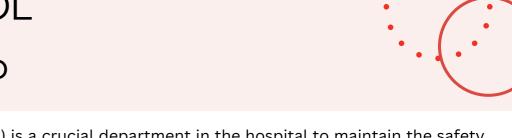


INFECTION PREVENTION

AND CONTROL

THOMAS Y KARGBO

IPC FOCAL LEAD



Infection Prevention Control (IPC) is a crucial department in the hospital to maintain the safety of staff and patients. MHRP endeavors to adhere rigidly to World Health Organisation standards for IPC. The Infection Prevention and Control Unit Committee exists to ensure compliance with these standards and across all departments in the Hospital. It is composed of the Hospital IPC Focal Lead, Programme Director, Medical Superintendent, Hospital Matron and all the Heads of Departments.

This committee meets every second Wednesday of every month to discuss IPC Hospital related matters and to make new action plans for concerns raised. The IPC Unit Committee is supervised by the National IPC unit from Freetown every quarter. All new staff undergo training in Personal Protective Equipment (PPE) Donning and Doffing training to manage contagious diseases, particularly viral haemorrhagic fevers. Existing staff must undergo annual refreshers. These sessions are part of the tight schedule of mandatory training that we provide in IPC.



22 IPC focused staff



13 IPC training events in 2021



25 hospital hand washing stations







TRAINING

SURGICAL TRAINING WITH CAPACARE

The Norwegian NGO *Capacare*, one of the five members that make up Masanga's international board, has been training community health officers to perform common and lifesaving surgical procedures since 2011. Masanga is the central partner to this programme and graduates or SaCHOs (surgically assisted community health officers) now perform half of all surgeries across the country. Students of the programme 'STPs' as they are widely known make up the backbone of the hospital's clinical staff and are crucial to patient care. The students spend their first 6 months at Masanga learning the basics of surgery and hospital medicine with change over in April and October each year. In 2021 fifteen new students for the STP (Surgical Training Programme) were recruited, three female, twelve male.

A core element of the STP is module-based training by international and national tutors. These training modules are usually conducted in Masanga by Gynaecologists, Midwives, Orthopaedic Surgeons, Paediatric Surgeons, Surgeons and SACHOs. In 2021, the international trainers came from Denmark, Germany, the Netherlands, Norway, and the United Kingdom. All international tutors are engaged on a voluntary basis. In 2021, 12 training modules and nine CPD courses were conducted.

ROSA ROEMERS

JAAP GUNNEWEG

SAMUEL SANKOH
PROGRAM MANAGER AT CAPACARE

PROGRAM MANAGER AT CAPACARE

PROGRAM MANAGER AT CAPACARE

Paediatric Training Programme

The first of two new exciting developments is that Masanga will be hosting a new training programme in paediatrics. This will be run as a partnership between the NGO German Doctors and the Government. The programme will accept clinical science students from the Makeni School of Sciences who will then specialise in paediatrics over two years. Our first 3 students arrived in December 2021 and will spend 6 months on placement at Masanga. Much like the STPs have done for the last decade, PTPs will rotate around the hospitals across the country and on graduation we expect them to be a crucial part of paediatric care across the country and key to driving down child mortality.



Medical Training Programme

We have undertaken the first stages of hosting a third training programme at Masanga. An Internal Medicine Programme has been developed and started this year by the American NGO Partners in Health in collaboration from the government. The first cohort of five students started placement in Kono in October 2021. Masanga UK have entered negotiations with PIH and there has been a preliminary agreement for Masanga to accept students of the programme for placement. We hope to receive our first students for a 3 month trial in 2022.

22

MR AMARA FORNAH

PRINCIPAL OF TDCHS



TONKOLILI DISTRICT COLLEGE OF HEALTH SCIENCES

Vision

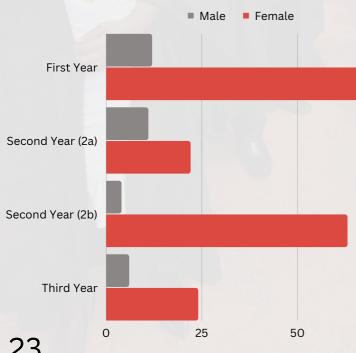
The Vision of TDCHS is to help develop sustainable health services through quality education that is accessible to all.

Mission

- 1. To provide equal opportunities to all and create an academic, practical and creative learning environment.
- 2.To promote national and international partnership and be financially transparent and sustainable
- 3. To produce qualified and community oriented healthcare workers through highly motivated and committed staff with strong team work spirit



Diploma in Nursing Student Numbers 2021



Tonkolili District College of Health Sciences (TDCHS) was accredited by Nurses and Midwives Board of Sierra Leone in 2011 and officially commenced the Certificate in Community Health Nursing (CCHN) training programme in September 2012. It is also a Tertiary Education Commission accredited Institution.

Programmes

- Bachelor in Physiotherapy
- Diploma in Physiotherapy
- Diploma in Nursing
- Certificate in Community Health Nursing (SECHN)

Graduates

- 97 students were matriculated in August
- 280 students are to be graduating in February 2022.

TONKOLILI DISTRICT COLLEGE OF HEALTH SCIENCES

Progress and Successes

Our proudest achievement will be witnessing the large numbers of students graduating, some of whom have already been putting their qualifications to excellent use in healthcare institutions across the country. We have received accreditation for the Bachelor degree in Physiotherapy from the College of Medicine and Allied Sciences. We are the only provider of this qualification in the country.

Progress has been made on various ongoing construction and renovation projects this year. A total of five rooms have been renovated in the staff quarters. 10 solar light poles have been installed within the school campus for constant light supply at night. 50 chairs and 50 tables has been constructed for student use. 40 beds, 40 chairs, 10 tables and 10 wardrobes were rehabilitated for hostel facilities. 37 Foam bought for mattresses were student accommodation. 6 wall fans were bought and inserted in three classrooms to improve ventilation. Work will continue construction of two classrooms and two office spaces in January 2022.

We continue to benefit from the enormous generosity from our national and international partners. We have received medical textbooks, computers, a projector, white boards and furniture for classrooms and accomodation. We would like to particularly thank the College of Allied and Medical Health Sciences, the Miyar Foundation, Friends of Denmark, and the Sierra Leone Nurses and Midwives Board Association.

Challenges and future developments

We are still working on gaining accreditation for a Bachelor in Nursing Programme as we have with physiotherapy. This will raise our level of education and hopefully lead to the graduation of Nurses with a more advanced skill set. We are constantly looking for opportunities to expand into new programmes while improving the quality of our existing qualifications. A key to this will be improvement in infrastructure. More classroom space and accommodation will be required and facilities must be upgraded with the introduction of internet facilities for students being a particular priority. For now I would like to thank our staff, students and donors for another successful year. Together we have taken another step in our dream of health and education for all!





MASANGA EDUCATION SPONSORSHIP PROGRAMME

Masanga Education Sponsorship Project (MESP) was founded in 2009. The aim of this project is to assist with capacity building of the local community surrounding Masanga Hospital, to ensure qualified staff for the running of the hospital in the future.

MESP is facilitating the sponsorships between international volunteers and others who want to assist with financial support towards education and nationals who need assistance in relation to education. We assist students on all levels, from primary school to university, and in different educational institutions all over Sierra Leone, from Local Masanga to Magburaka, Bo, Lunsar, Freetown, Kono and many other cities nationwide.

The past year we have assisted **90** students with their education. Even for international sponsors. Education in Sierra Leone can be expensive. That's why many of our students have sponsorships shared between several different sponsors, which is also an option in MESP. Some sponsors finance the full education while others assist with some of the expenses relating to education. Because of the direct and close contact we have with both the student and the sponsor, we have the capability to design the

sponsorship in whatever ways is best for both parties. Since 2009, **38** students have finished their education with assistance from MESP.

Beside individual sponsorships, we have also assisted with capacity building for hospital staff who wanted to finish their Secondary school education. Here we arranged private lessons for staff to qualify them to take the West African Senior Secondary School Examination (WASSSE), which allows them to further their education.

A new initiative we are involved in is schooling for children admitted at the paediatric and surgical wards for longer periods of time. These children are missing out on their school and for some of them this means that they end up dropping out of school for good. Our aim is that they can follow the level of education they are at, while they are admitted, so they can continue school after they are discharged and return to their various communities. We will do this by collaborating with the local schools and assist with private lessons at the hospital compound.

None of this would be possible without the support from all our sponsors. On behalf of our students and the project, we want to send our sincere gratitude for continued support.

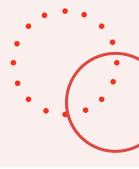




Masanga Medical Research Unit (MMRU)

PROF. MARTIN GROBUSCH

HEAD OF MMRU



The Masanga Medical Research Unit (MMRU), our platform to promote medical research in Sierra Leone, was started in 2018. Due to a lack of resources and education only little is known on the epidemiology and the best treatment methods for diseases in Sierra Leone. The MMRU aims to bring Sierra Leonean healthcare professionals together with a large network of international partners to perform medical research together. We hope to improve access of Sierra Leonean researchers to academic degrees, and, at the same time, to improve patient care at Masanga Hospital and beyond.

The main project in 2021 was initiation of the DELAY study. this study is a prospective observational cohort study of complicated odontogenic infections in two district hospitals in Tonkolili District, Sierra Leone. For this study we collaborate with Lion Heart Medical center. Furthermore the research unit hired the first dedicated research nurse Issa Sessay. 2021 was also used to plan and prepare for the future projects that hopefully can start in 2022: the first RCT in the MMRU and the a large scale study on the causes of fever in the region. Both of which will have far reaching impacts for antibiotic stewardship.



Ensuring laboratory and research

facilities meet standards required



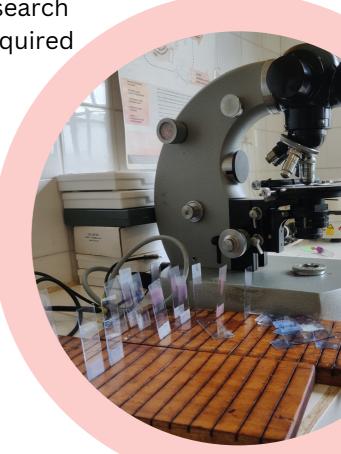
Preparing for large scale study on cause of fever



Increasing staff dedicated to and skilled in research



Preparation for the first RCT on use of Clindamycin in wound management





MASANSA









FINANCIAL OVERVIEW

Funding for MHRP comes from three main sources.

Hospital activity generates 29% of the overall budget through charges made to patients.

5% of the hospital budget is provided by the Sierra Leonean Government. Although this is less than 2020, we hope that this will increase as we move towards the transition phase of MHRP. This will hopefully include pin coding more staff to be on government payroll.

The final source of income for MHRP is private and company donors who provide 66% of the hospital budget. We are eternally grateful for all the support from our donor partners and look forward to continued work with them in the future.



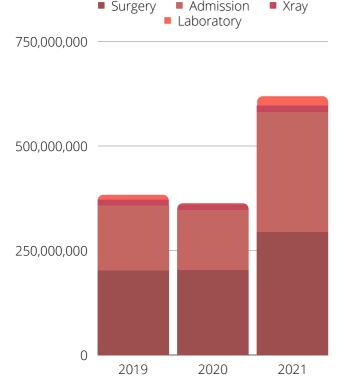




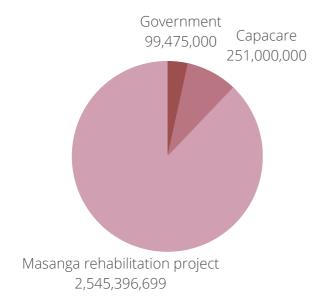




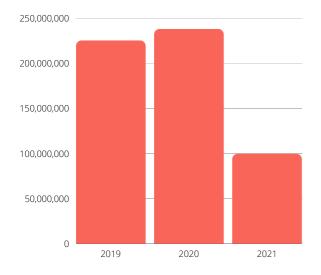
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A comparison of income generated from hospital activities over the last 3 years



Amount of money contributed to running costs of the hospital in 2020 (Leones)



Government contribution to Masanga Hospital running costs over last 3 years (Leones)

This graph shows the increase in funding generated by inpatient hospital activities. There has been a striking increase in the revenue from surgery services and associated admissions; reflecting the specialist surgeries which are performed in trauma and wound management at Masanga. The outpatient department also generated 643,858,000 Le for hospital funds - this is despite a Covid-19 related drop in attendances. The increase in funds generated in outpatient department is due to management decision to increase price of laboratory services and prescriptions to keep pace with inflation.

The MHRP is a donor driven hospital and more than 53% of its fund comes from the international board of which Masanga DK is the majority financial contributor. Of the 44% remaining, 29% was generated locally by management which is 10% higher than last year, 13% from a combination of Capacare and research unit to complement operational activities of the MHRP and 2% from the government of Sierra Leone. This does not take into account the salaries of pincoded staff (18% staff) and free healthcare medications which are additional contributions from the government.

This graph shows the sharp drop in government subvention in the last year. This has been difficult to manage in the face of increasing work and demands on the hospital. The drop in government support has been compensated by private donors through Masanga DK. But this is a very limited intervention and cannot be upheld in the coming years. If the hospital is to be transferred to government control by 2026, this funding gap must be addressed in the coming year.

The International Board for Masanga Hospital comprises of Masanga DK, Masanga Netherlands, Masanga UK, Capacare and SLAA. These organisations work together at board level and each brings different areas of expertise to the running of the hospital. Each group has provided a summary of their year in the following pages:

Masanga DK Board Report

SUSANNE HAAS

CHAIRWOMEN MASANGA DK

The support of our members is crucial to the organisation and the running of the hospital. We spend a great amount of time creating newsletters, making the Masanga work visible on our webpage, blog, and social media. We give talks, run stories, and campaigns and we thank you all for your willingness to share your stories in this context. Sadly, due to the Covid pandemic, we have not hosted our annual symposium. Sara Thordal, now receiving (a minor) salary for her massive efforts as the Head of the Secretariat for Masanga, stepped formally out of the Danish Board in March 2021 and left her seat as deputy chair open. The rest of the board was re-elected. Susanne Haas kept her role as chairman and Lone Brink was elected deputy chairman. Inge Haas continues as our secretary and Pernille as treasurer.

A big project going out from Denmark this year was funded by a grant from the Ramboll Foundation: In collaboration with Engineers without Borders concerning improved hygiene various aspects including from reestablishment of the incinerator. This has led to a bigger donation from The Otto Mønsted Foundation: In collaboration with Engineering World Health (EWH) from DTU, the project will upgrade the infrastructure at Masanga Hospital. As the project grows, it also places greater demands on running clean water, electricity, and maintenance of the donated medical equipment.

Over the next five years, towards the final handover, EWH will carry out this task with our local technicians, so that we can ensure safe and stable water, electricity, and medical equipment in the future.

It was a landslide for the physio sub-group and their partners at TDCHS to officially receive acknowledgment and accreditation by National Tertiary Education Commission. Sierra Leone now officially has a Bachelor in Physiotherapy offered by Tonkolili District College of Health Sciences in Masanga. The group continues to offer their support to the team on the ground. The Masanga Educational Sponsorship program has 92 students sponsored equally distributed between primary/ secondary school and higher teaching institutions. This sub-project is working hard every day to ensure these students' education locally through a structured approach. Masanga Community Outreach has received funding to continue and expand its activities. They form part of the medical outreach department which is still growing and finding its way.



The Eyecare unit is funded by Lions Club International Foundation through the Danish Lions Clubs. It has caused some frustration to this group that the building was used by the government to establish the COVID treatment center. However, the building was released and the eye care unit was (re) opened in August 2021 with Dutch Ophthalmologist Pieter Schlager on board.

From Masanga DK we want to say thank you to our private donors, foundations, and companies for supporting the hospital activities. These are, among many, the private hospital Aleris Hamlet, Erik Thunes Legat, Jubilæumsfonden, Fonden of 24 dec. 2008, Dansk Sygeplejeråds Solidaritetsfond, Otto & Birthe Bangsdal Fund and Novo Nordisk Honorarfond. The last two funds have supported the great initiative for Medical Outreach started at the beginning of 2021.



Masanga NL Board Report

FRANK VAN RAAIJ

CHAIRMAN MASANGA NL

We were pleased to welcome Hanna Matheron and Jonathan Vas Nunes into the board of Masanga Netherlands. Their efforts in the collaboration with the AFAS foundation have had a great impact on lifting up the project in Masanga. Besides the sponsorship received from individual donors, the organisation is responsible for managing the funds from institutional donors like AFAS and Dental Health International.

Through the student sponsorship programme, Masanga Netherlands has continued to support education at Masanga. Please see the detailed report on page 25.

In December, as in 2020, there was a request to raise money to provide funds to double the Christmas gift to the staff from a half to a full bag of rice. In a short space of time we raised the required sum from our donor network and the Rotary Club from Zutphen who kindly donated the proceeds from their annual wine sale for this purpose. The Dr Wouter Run followed straight after and an additional sum was raised through our network. We hope to keep contributing to the great work of the team in Masanga in 2022 and many years to come.





Masanga UK Board Report

AATISH PATEL

CHAIRMAN MASANGA UK

Despite the ongoing disruption of COVID 19, Masanga UK has endeavoured to have a productive 2021. Our volunteers on the ground have worked tirelessly to support the local team and supporters back home have drawn on the goodwill of the public to raise vital funds. Looking ahead to 2022, we hope to develop some of our exciting projects targeting medical education including developing a training curriculum and a smart phone/table app.

Tom Putnam set about trying to break the world record for number of burpees done in 12 hours. Tom showed incredible physical strength and mental resilience to smash the existing world record and raise over €4000! This absolutely fantastic achievement was broadcast live in Masanga and inspired_local residents and staff to their own burpee challenge, to show Tom solidarity in this epic mission!



Going forward into 2022, we want to consolidate some of the projects we have started in 2021.

We are in healthy discussions with our friends at Partners in Health in creating and delivering the Internal Medicine arm of the country's new Health Sciences Diploma. This diploma will aim to develop the medical knowledge and skills of cohorts of community health officers. Masanga UK will aim to deliver part of the medical curriculum from Masanga Hospital. Our vision will be to replicate successes of the Cape programme and create a task shifting programme that will improve standard of healthcare delivered across Sierra Leone.

We hope to launch the 'Sim Padi Medical Training App' - an app developed to supplement in person teaching. The app consists of a range of medical scenarios that the user can work through and receive feedback on their progress. We hope this will provide an alternate and interesting way for students to learn!

In addition to last year's board, fresh from their successful stint on the ground, we welcome Alex and Harry who will assume the role of Volunteer Coordinators for Masanga UK. We hope for a successful 2022 and look forward to what it has in store!



Capacare Board Report

HAKON BOLKAN

CHAIRMAN AND FOUNDER OF CAPACARE

2021 has been another interesting and rewarding year for CapaCare and all of us involved with strengthening surgical care in West-Africa. We have had a series of meetings and engagements with good colleagues in Liberia throughout the year which has resulted in the establishment of CapaCare Liberia. Together with organisations and individuals we have found common ground with both the Ministry of Health and with the Liberia College for Physicians and Surgeons that seems to be a solid platform for strengthening surgical human resources in the country. We are looking forward to developing this further in the coming years.

The most significant development in Sierra Leone has been the signing of an agreement with the Ministry of Health and Sanitation, the School of Clinical Sciences Makeni, German Doctors, Partners in Health and CapaCare. This allows the Ministry, partners and CapaCare to take a long step forward of establishing surgical task-sharing in Sierra Leone. While Partners in Health will offer sub-specialisation of clinical officers in internal medicine, German Doctors in paediatrics, CapaCare will continue to offer high quality training in general surgery and emergency obstetrics. This collaboration in the School of Clinical Sciences in Makeni will spearhead a nationwide strengthening of middle-level workforce that will benefit first level hospitals.

In CapaCare we aim to further train more local trainers, that also can be of benefit for future surgical training in the Makeni school. With some additional guidance and training, many of our graduates have the qualifications necessary to become future trainers in surgery and obstetrics.





SLAA Board Report

EDDIE COLE

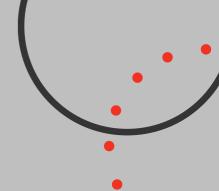
CHAIRMAN SLAA AND INTERNATIONAL BOARD MASANGA HOSPITAL

Undoubtedly, the highlight for SLAA in 2021 was the UK national Three Peaks Challenge fundraising event for Masanga Hospital. For three consecutive days in Sept 11 to 13th September 2021, the CEO of SLAA and MHRP International Board Chairman, Dr Cole, climbed to the summit of the three of UK's highest mountains, Ben Nevis in Scotland, Skafell Pike in England (Lake District) and Snowdon in Wales. Thanks to 95 private individuals who donated, a total of £4345 was raised for Masanga Hospital. This is what Dr Cole said "I didn't anticipate how phenomenally difficult the National Three Peaks Challenge is until I was only about quarter up the 1st peak, Ben Nevis, and I felt like I would never make it to the top. But amazingly, I smashed it. After 18.5hrs of climbing over three days I reached the summits of Ben Nevis, Skafell Pike and Snowdon, 10,000ft and 23 miles. Fantastic feeling to have achieved this. My body ached all over, but I kept going to raise funds for Masanga Hospital in Sierra Leone where I volunteer. I did not give up because I remembered the countless number of patients, children, mothers and people of all ages who travel long distances to seek treatment at Masanga Hospital. I remembered our good friend and colleague, Dr Wouter Nolet, who sadly died from Lassa Fever while trying to help others".

Having been one of the three parties that signed the MOU with the Government of Sierra Leone in 2006, SLAA is pleased to continue to represent the Sierra Leone diaspora community in the UK in management of Masanga Hospital. This is an amazing project that make real difference in many people's lives and we look forward to supporting in 2022."



Future PERSPECTIVES



On July 13th 2006 an Agreement for the Rehabilitation and Management of Masanga Leprosy Hospital, was signed between the Government of Sierra Leone, Sierra leonean Adventist Abroad (SLAA) and Association Friends of Masanga (AFOM - now Masanga DK). SLAA and AFOM committed to finance capital projects at the Hospital. This was to happen over a period of 20 years. Several attempts have been made to renew the contract as part of new government strategies for NGO collaboration. Most recently, in October 2019, MHRP was asked to re-submit a standardised MOU in line with an overall national strategy. However, the pandemic prevented this process from being completed.

The landowner dispute in the spring of 2021, with the involvement of the government, led to a meeting between the honourable Minister of Health and the International Board. Strong will to continue and to revise the MOU towards handing over in 2026 was expressed by the minister. Thus, we are currently in the process of doing so with a draft presented to the minister in October 2021. The International board has received constructive feedback and is continuing to work on the revised document. Essentially, what will be the focus over the coming years is to streamline the organisation and the running of the hospital towards a smooth transition.

It is our focus and priority to increase the number of staff on the government payroll so that the financial burden of running costs is gradually transferred to the government to facilitate a smooth transition in 2026 as agreed. Also, it is important that the many clinical, educational and research projects with international input can continue to work alongside the core hospital services beyond 2026. We are drafting a governance structure that will enable Masanga Hospital to keep collaborating with external partners, with core activities being the full responsibility of the government. The International Board as we know it will be dissolved, but the individual organisations represented in the board (and any other organisation who wishes to contribute to the development of the Hospital) can continue to collaborate with the Government. We expect this process, as well as the streamlining of the organisation, to take time and are happy to get a head start.

This concludes our annual report for 2021. We want to thank all involved in another busy year including our staff, our donors and most importantly our patients. Happy New Year!





Annual Report compiled by Dr Rebecca Davy and Dr Patrick Eaton of Masanga UK on behalf of the International Board