TELEMEDICINE

Annual Report 2023

MEDECINS SANS FRONTIERES

TELEMEDICINE

CONTENTS

ACRONYMS

ATFC	Ambulatory Therapeutic Feeding Centres
CCD	Clinical Case Discussion
HIV	Human Immunodeficiency Virus
ICU	Intensive Care Unit
IDP	Internally Displaced Person
MSF	Médecins sans Frontières
OC	Operational Centre
OCA	Operational Centre Amsterdam
OCB	Operational Centre Brussels
OCBA	Operational Centre Barcelona-Athens
OCG	Operational Centre Geneva
OCP	Operational Centre Paris
POCUS	Point of Care Ultrasound
RIO	Regional Implementation Officer
SJS	Stevens-Johnson Syndrome
SM	Secure Messaging
TM	Telemedicine
WaCA	West and Central Africa

“2023 is a pivotal year for Telemedicine at MSF. Our teams have made great strides in their knowledge and use of it. The next few years will be just as interesting, thanks to the evolution of new technologies and their application across our medical teams. The link between the network of specialists and clinicians on the ground is crucial to improving the care of our patients,but also to continuous learning.”

ISABELLE MOUNIAMAN
Head of Monitoring and Operation Support, OCP
Telemedicine Steering Committee member

HIGHLIGHTS

Target Baseline 2022

CASE MANAGEMENT

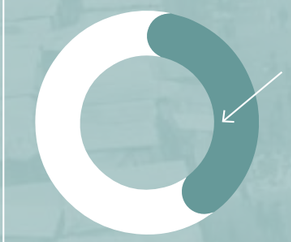
ACCESS

276 MSF projects have access to the Telemedicine Platform.

269 projects

200 projects

USAGE



43% of MSF projects with access posted at least one case in 2023.

50% **85%**[1]

NUMBER OF CASES

4,898 cases were posted on Telemedicine Platform.

4,091

SECURE MESSAGING

NUMBER OF USERS

977 users have access to the secure messaging application.

254

CLINICAL CASE DISCUSSIONS

NUMBER OF VIDEO CALLS

60 CCD video calls were held.

NUMBER OF CASES

109 cases were discussed during CCD video calls.

[1] The observed variation in the data can be attributed to a modification in the measurement approach, as the indicator is now assessed on a quarterly basis instead of annually. This implies that for a project to be counted as part of this indicator, it needs to post a minimum of one case per quarter.

YEAR IN REVIEW 2023

"The Telemedicine Program breaks down geographical barriers by providing secure solutions to healthcare professionals across MSF that enable clinical collaboration and offers more equitable, accessible, quality patient care."

In 2023, the program steered its efforts toward this aspirational goal. Having established robust foundations, the time had come to elevate and strengthen the program further. The primary focus was on enhancing connections within our diverse user base, including those using our services in MSF projects, the specialists in our volunteer network, and colleagues across MSF offices worldwide. Various initiatives were launched to achieve this objective and I am eager to provide you with the highlights of this past year.

STAYING CONNECTED:

208 MSF projects re-engaged

The Regional Implementation Officers started a re-engagement initiative with the goal of reestablishing connections and building relationships with every MSF project using at least one Telemedicine service. This provided a comprehensive overview of our portfolio, enabling the assessment of training needs and gauging interest in accessing additional services, such as the Secure Messaging application.

PROXIMITY TO OUR USERS:

20 MSF projects visited

ELEVATING EXPERTISE:

215 volunteer specialists were contacted to complete a refresher training

RAISING AWARENESS:

Over 19,000 people were reached through our communication campaign

The Telemedicine Program collaborated closely with the operations and various members of the team visited 20 projects to offer training and promote Telemedicine services. In collaboration with OCB in Ethiopia, we piloted a novel training approach, where our team successfully organized the first regional workshop, leveraging the proximity of users and allowing to synergize efforts. This experience yielded numerous positive outcomes, marking the first but certainly not the last occurrence of such an initiative.

Providing Telemedicine services would not be possible without the invaluable contributions of our medical specialists. This year, we continued our recruitment efforts to ensure a wide representation of various specialties on the Telemedicine platform, enhancing our ability to respond to cases. Our training activities have been refined to ensure that specialists are adequately equipped to provide tailored answers within the context of projects.

The program dedicated significant efforts to craft a new visual identity, including the creation of a logo, the revamping of our website and SharePoint, and the development of an informational video, among other initiatives. Tailoring our message to resonate with specific audiences is crucial to ensure that the program is recognizable and accessible to anyone interested in using its services.

In 2023, the efforts made in recent years to reorganize the program and refine its processes have shown significant results. These brief words only provide a glimpse of various initiatives. If you wish to explore more about the Telemedicine Program's 2023 activities, I invite you to delve into this report filled with detailed data, patient stories, and much more.

I hope you enjoy reading the 2023 Telemedicine Annual Report.

CLARA MAZON
Director of Telemedicine Program

TELEMEDICINE PROGRAM

Designed for MSF, the Telemedicine Program:

1. **Provides telehealth services for MSF healthcare professionals**
2. **Connects a global network of clinical specialists**
3. **Fosters a community of knowledge**

The TM Program offers both asynchronous and synchronous services that are available through secure applications.

The three services are as follows:

CASE MANAGEMENT

A secure platform ('Telemedicine Platform') that provides healthcare professionals in MSF projects with access to expert clinical and medical advice on a case-by-case basis.

SECURE MESSAGING

An instant message application that facilitates the exchange of sensitive information and files among healthcare professionals across MSF.

CLINICAL CASE DISCUSSIONS

A videoconferencing service that gives MSF project staff the opportunity to connect in real-time with a specialist matched to their project's needs.

PATIENT STORY

CHILD IN ETHIOPIA WITH FEVER AND HEPATOMEGALY

By Dr Nilza Angmo and Dr Ahmed Igbin

A 3-year-old male weighing 8 kg presented to the Médecins Sans Frontières (MSF) clinic in Afar, Ethiopia. He had a medical history of abdominal distension and fever for three months. After being admitted, treatment began with blood transfusion and correction of hypoglycemia. However, the intravenous injection site was hemorrhaging, and examination findings indicated that the child had elevated body temperature and hepatomegaly (enlarged liver) without icterus (jaundice) but had elevated liver enzymes.

The Telemedicine Platform was used to seek assistance due to an onset of jaundice and persistent fever despite treatment for leishmaniasis (with amphotericin B) and malaria and rule out any hematological abnormalities. The pediatrician from Brazil alerted the MSF team to the child's acute liver failure, based on the symptoms and bleeding. The pediatrician emphasized the necessity of intensive care and recommended strict monitoring of fluid balance.

A pediatric intensive care expert from the UK advised the administration of Vitamin K injections and other medications to mitigate the progression of liver disease and prevent hemorrhaging. Reiterated practical recommendations for monitoring the patient's condition included maintaining adequate fluid intake and monitoring urine output. The team successfully followed all instructions, and the patient's condition stabilized as liver enzymes began to decline, hemorrhage ceased, and the child became more alert.

An India-based MSF expert for leishmaniasis suggested the implementation of the leishmaniasis treatment protocol alongside regular monitoring of bilirubin and hemoglobin levels. On the 17th day, the child exhibited significant improvement, but he continued to present with low levels of hemoglobin and platelets, which the intensivist attributed to an enlarged spleen.

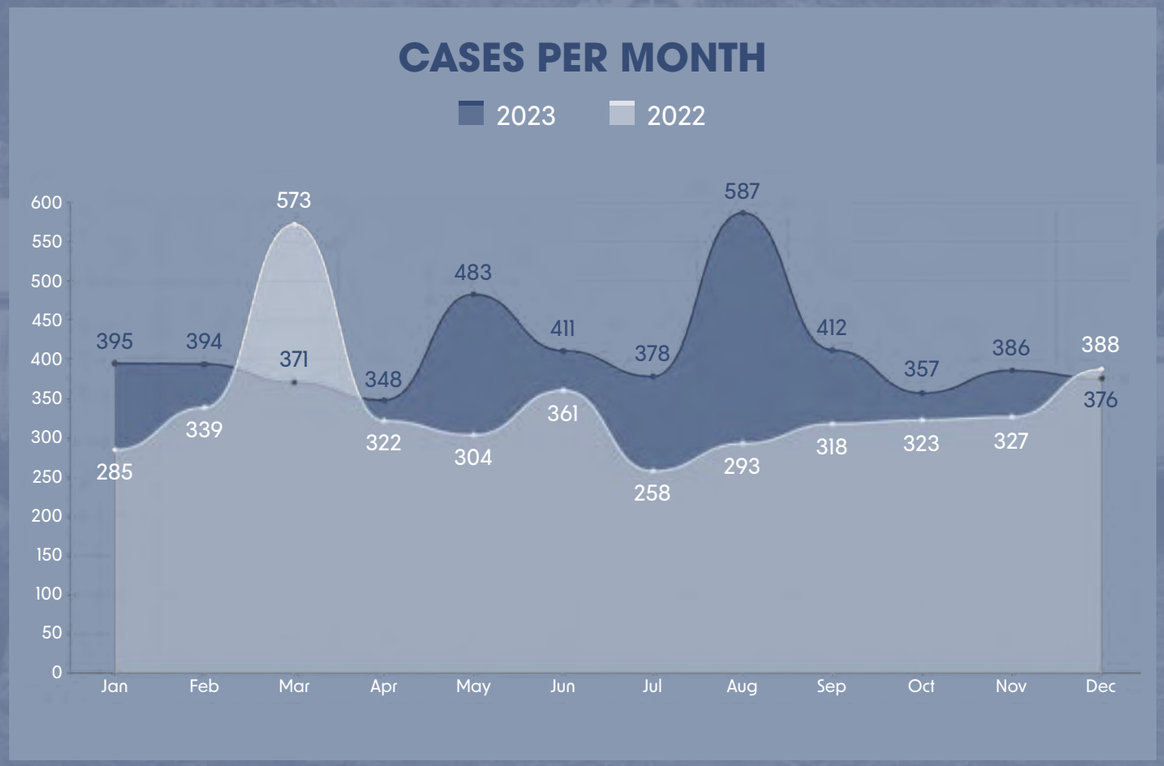
With the interdisciplinary evolution of the case, yet another specialist was added, a pediatric hepato-gastroenterologist located in Canada who raised the suspicion of an immunogenic condition known as hemophagocytic lymphocytic histiocytosis (HLH), which can occur after leishmaniasis. After two weeks of intensive discussions and follow-up, the child had fully recovered and would be discharged.

The complex nature of the cases encountered at the MSF clinics in resource-limited environments poses a challenge for the teams in managing these cases independently. The telemedicine platform offers multispecialty support, which empowers healthcare teams to efficiently handle such intricate cases by providing supplementary guidance for patient care and reassurance for the team throughout the life cycle of a patient case. The management of these intricate cases facilitates the acquisition of knowledge and information, benefiting not only the project healthcare team but also the specialists involved, as exemplified in this case.

CASE MANAGEMENT

The Telemedicine Platform connects MSF healthcare professionals with experts around the world, providing access to specialized clinical and medical advice for any questions requiring a second opinion. MSF projects can submit a patient case on the platform at any time to receive written advice from a specialist within 24 hours.

In 2023, over 300 volunteer specialists, both internal and external to MSF, played a crucial role in supporting MSF projects around the world by offering specialized advice on a total of 4,898 cases. This reflects a 20% increase compared to 2022, during which 4,091 cases were submitted.



The analysis of Telemedicine Platform usage data in 2023 reveals a noticeable increase in the median number of cases per month, reaching 390 compared to 323 in 2022. Several initiatives may have contributed to this rise in cases, including the re-engagement initiative led by the Regional Implementation Officers, project visits throughout the year, and increased program communications.

The strong increase in usage throughout the year, particularly in August, can also be attributed to the OCG-Chui project in Kyrgyzstan, wherein the Telemedicine Platform was used to disseminate expert insights on cervical cancer screening. Projects with substantial usage, notably **OCB-Kenema Hospital** and **OCG-Chui**, exert a significant influence on the overall usage pattern.

It is important to recognize that various factors can significantly influence the usage of telemedicine. Limited access to healthcare facilities during specific months can be attributed to factors affecting patient mobility, such as seasonal conditions like heavy rainfall, snowfall, or extreme temperatures. Additionally, other influencing factors may include conflicts that impede regular access to healthcare services.

An analysis of each OC's activity is available in Appendix 1.

OCG-Chui (Kyrgyzstan)

Cervical and breast cancers screening

1,313 cases in 2023

Located in the northern region of Kyrgyzstan, the OCG-Chui project focuses on women's health. Telemedicine is used to ensure quality control across diverse screening methods, particularly in cervical cancer and breast cancer detection through ultrasound. It serves as a valuable tool for obtaining second opinions on breast mammography results. Telemedicine supports enhancing and sustaining the diagnostic and management competencies of health staff, while also facilitating the organization of tailored mentorship and refresher training programs.

OCB-Kenema Hospital (Sierra Leone)

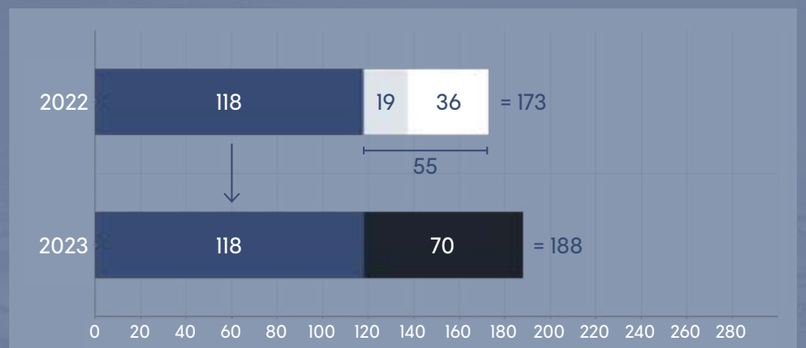
Pediatric and maternity hospital

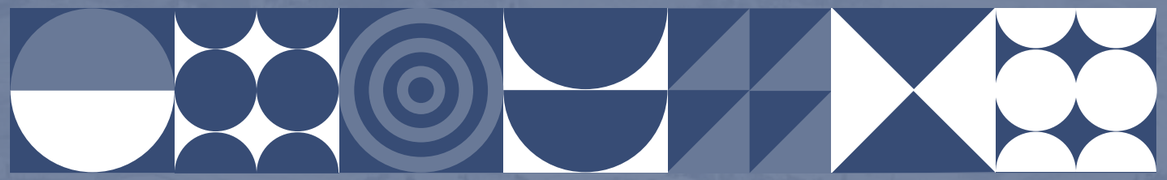
521 cases in 2023

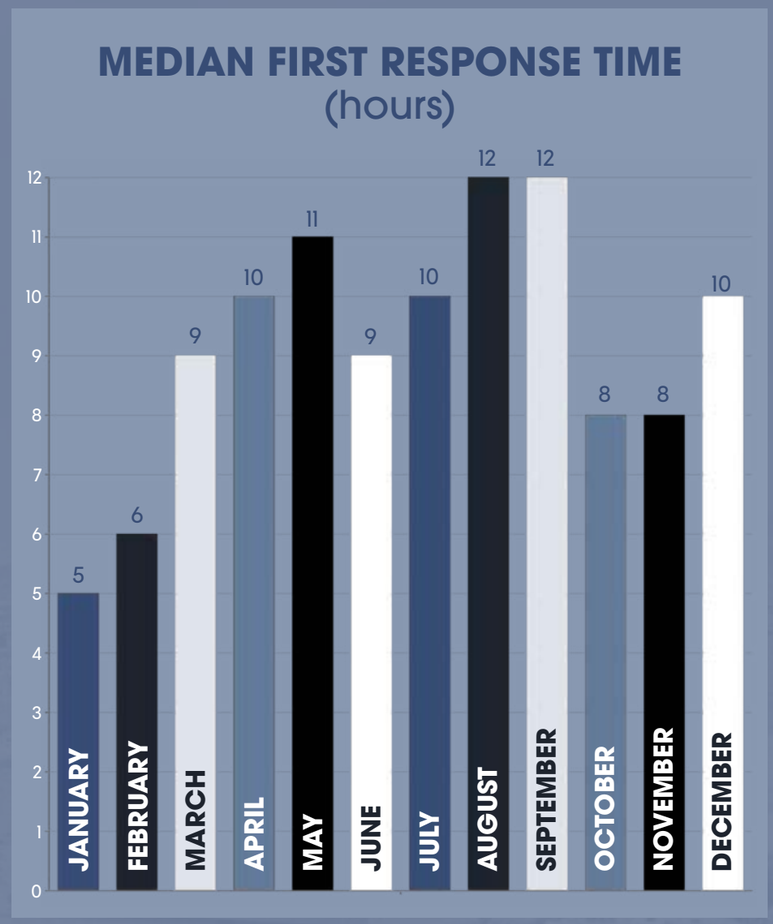
MSF Hangha Hospital officially opened in 2019 and delivers healthcare services to children under five years old. It is one of OCB's biggest pediatrics projects and the only ICU pediatric ward available in the region. The OCB-Kenema Hospital was the first OCB project to send all X-ray images to Telemedicine and therefore to incorporate TM into its operations by having a dedicated radiologist perform X-ray interpretations using the Telemedicine Platform. This way of working explains the high usage of TM.

PROJECT USAGE

In 2023, the number of projects posting at least one case rose to 188, surpassing the 173 recorded in 2022. Despite the apparent consistency in project usage, noteworthy changes were made. Specifically, 55 projects that were active in 2022 ceased posting cases in 2023, 65% of which were attributed to project closure. In contrast, 70 new projects posted their first case in 2023. This notable variation can be attributed to the MSF project life cycle and to the re-engagement initiative led by the Regional Implementation Officers.







First response time refers to the number of hours it takes for a specialist (MSF HQ specialist or volunteer specialist) to respond to a case from the time it is created. It includes the time taken for allocation and a specialist to accept the case once allocated to them.

In 2023, the median first response time was 9 hours, meaning cases submitted on the Telemedicine Platform are typically answered by a specialist within the same day. It is important to note that not all cases require a quick response from specialists. Some projects will use the TM platform for secure storage and information exchange in operational research or for the Clinical Case Discussions service, which do not require immediate response. To accurately reflect the response time of specialists, these projects have been excluded from this measure.

OCA-Kandahar Secondary Healthcare (Afghanistan)

Drug-resistant tuberculosis testing and treatment project

238 cases in 2023

Located in the southern part of Afghanistan, the OCA-Kandahar project focuses on drug-resistant tuberculosis. The project uses TM to send the baseline X-ray of patients diagnosed with multidrug-resistant TB to radiologists on the TM platform, resulting in high usage of the service with 238 cases in 2023.

OCP-Khamer (Yemen)

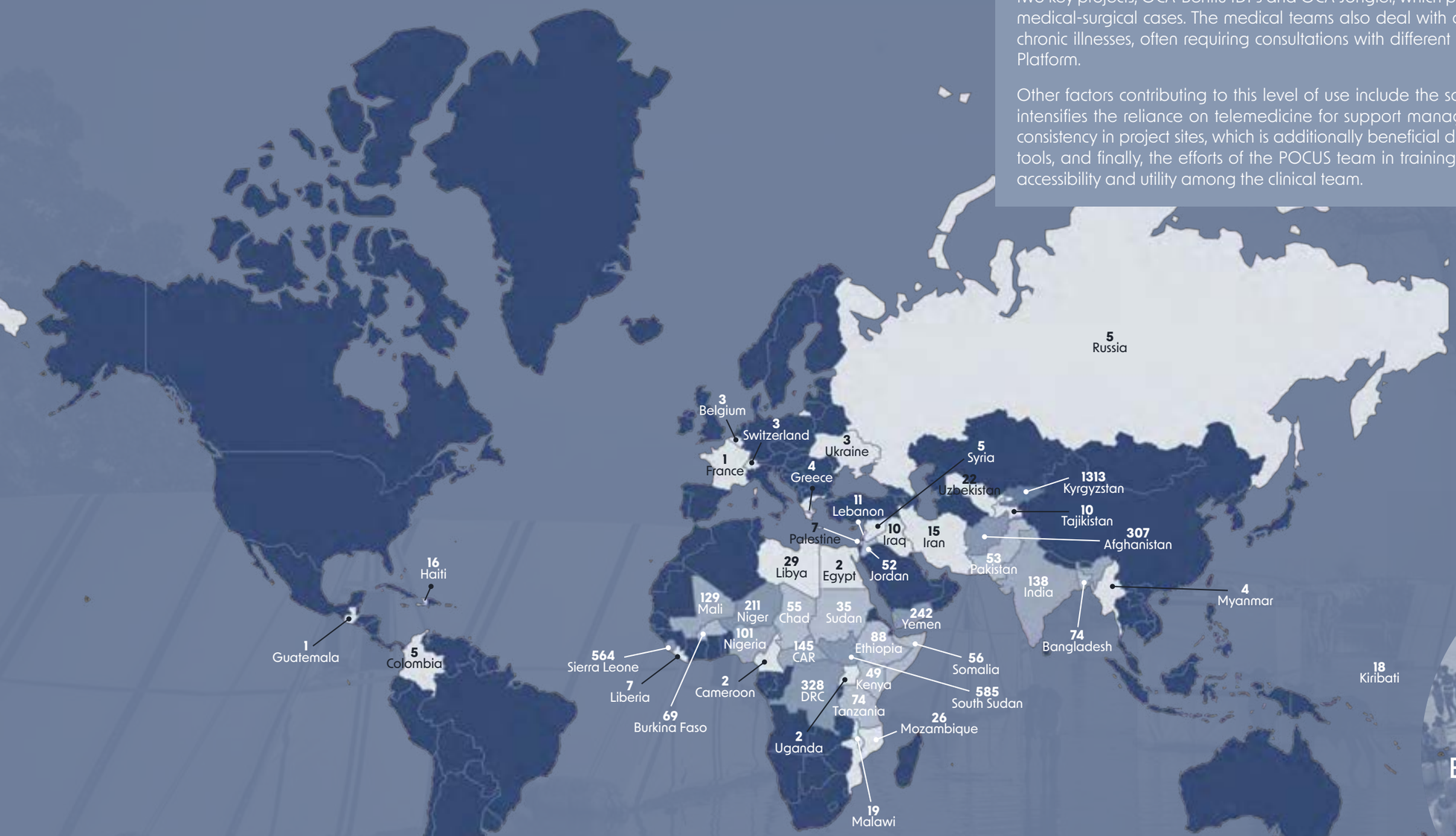
Focus on maternal and child health

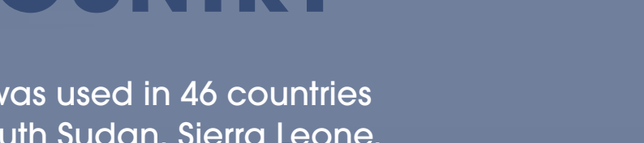
40 cases in 2023

Since 2013, OCP-Khamer has actively participated in all facets of the hospital, with a primary focus on maternal and child health. The project now offers support for the emergency room, maternity care, operating theatres, laboratories, sterilization, X-ray, sexual reproductive health services, vaccination, ambulatory therapeutic feeding centres (ATFC), and physiotherapy. The usage of telemedicine is attributed to locally hired staff, who have seamlessly integrated telemedicine into their work.

CASES PER COUNTRY

In 2023, the Telemedicine Platform was used in 46 countries where MSF operates. Kyrgyzstan, South Sudan, Sierra Leone, Democratic Republic of Congo and Afghanistan posted the most cases throughout the year.





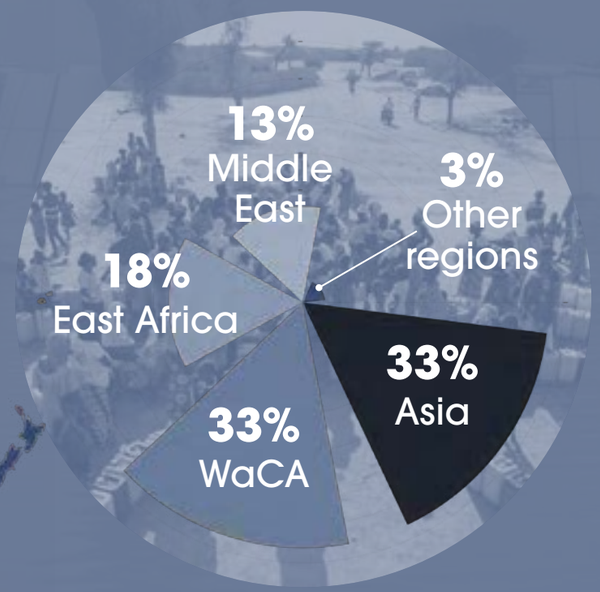
SOUTH SUDAN

585 cases in 2023

Various factors contribute to the extensive usage of Telemedicine in South Sudan. The predominant drivers are two key projects, OCA-Bentiu IDPs and OCA-Jonglei, which provide secondary healthcare and handle complex medical-surgical cases. The medical teams also deal with complex tropical health diseases and challenging chronic illnesses, often requiring consultations with different specialists and advisors through the Telemedicine Platform.

Other factors contributing to this level of use include the scarcity of tertiary healthcare options, which further intensifies the reliance on telemedicine for support managing complicated cases; internet availability and consistency in project sites, which is additionally beneficial due to staff that are well versed in the use of digital tools, and finally, the efforts of the POCUS team in training staff and advocating for improved telemedicine accessibility and utility among the clinical team.

CASES PER REGION



CASES ACCEPTED PER SPECIALITY

Pediatrics · Radiology · Gynecology/Obstetrics · Infectious Diseases · Internal Medicine
Surgery · POCUS · Ultrasound Imaging[2] · Emergency Medicine · Mental Health · Allied Health[3]

This information illustrates the demand for each specialty on the Telemedicine Platform. The specialties are representative of the expertise of specialists accepting cases. It is worth noting that the total count surpasses the number of cases reported in 2023, as more than one specialty is often required on a case.

In 2023, pediatrics and radiology had the highest demand for support on the Telemedicine Platform. The demand for pediatrics was anticipated, considering the operational context of MSF, where over 60% of patients are younger than 15 years old[4]. Additionally, a substantial number of radiology cases were posted due to specific projects relying on the Telemedicine Platform for transmitting X-ray images. This is driven by the absence of specialized experts within MSF projects for interpreting such images. Radiology seamlessly integrates into telemedicine services, as the interpretation of radiological data yields concise and straightforward advice, establishing well-defined expectations. Using telemedicine in radiology proves highly cost-effective and contributes to reducing the necessity for referrals on the ground.

TELEMEDICINE SPECIALISTS

MSF HQ specialists · Volunteer specialists

404
specialists in the network[5]

186
218

256
specialists have logged in within the last 3 months of 2023[6]

97
159

32
specialists onboarded in 2023

20
12

"I AM HONOURED TO SUPPORT MSF'S RADIOLOGY TELEMEDICINE TEAM THROUGHOUT MANY PARTS OF THE WORLD. I AM GRATEFUL TO HAVE AN OPPORTUNITY TO CONTRIBUTE TO THE CARE OF PATIENTS IN VARIOUS SETTINGS, AND OFTEN END UP LEARNING MORE IN RETURN FROM MY COLLEAGUES AND PATIENTS. THANK YOU, MSF, FOR THE OPPORTUNITY TO SERVE."

- DR. MUHAMMAD MUNSHI (VOLUNTEER RADIOLOGY SPECIALIST)

[2] This value represents the number of cases that involved a non-POCUS specialist reviewing ultrasound imaging. Due to the nature of the analysis, please factor in a possible error rate of up to 10%.

[3] Allied Health includes Blood transfusion, Clinical Pharmacy, Dentist, Dietetics, Laboratory, Nursing, Physiotherapy Public Health, Vaccination and Wound Care.

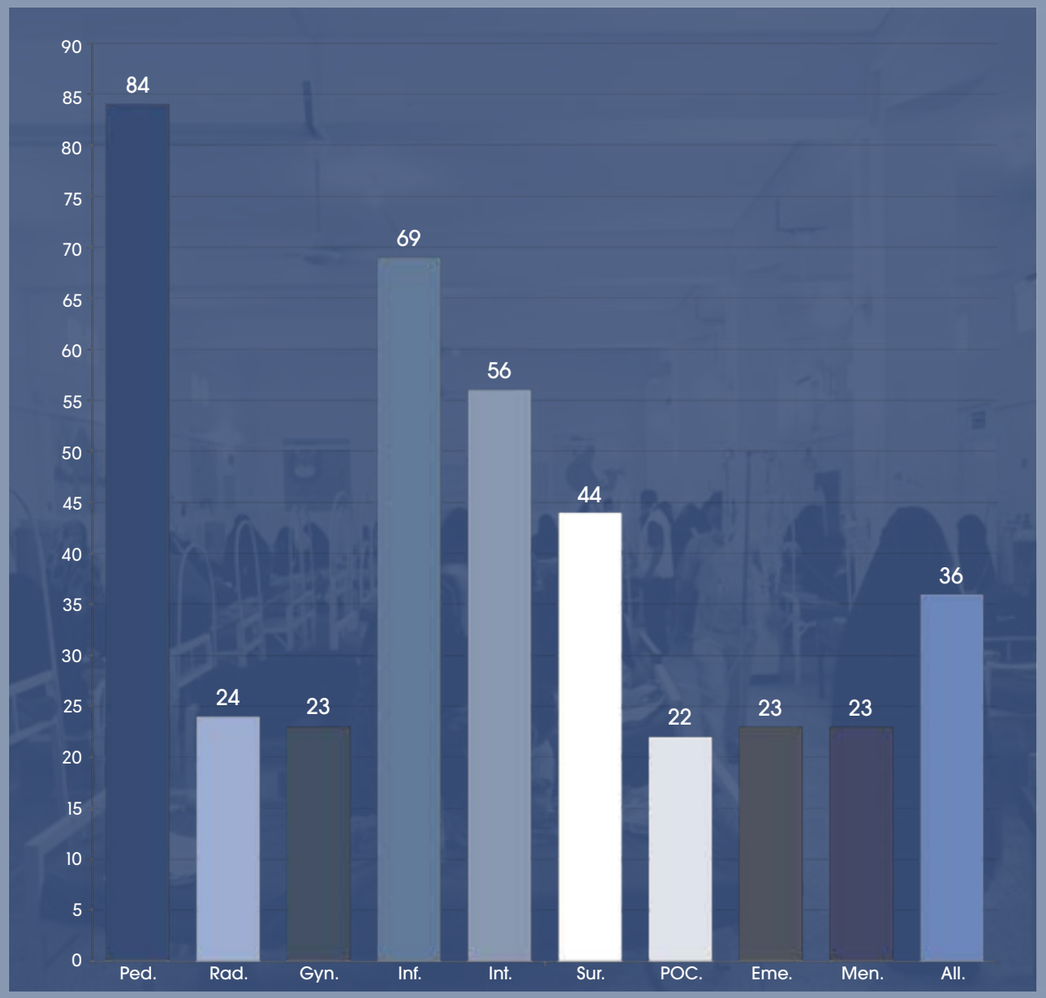
[4] MSF International. **Medical Activities: Child Health**. Available at: https://www.msf.org/child-health

[5] Includes specialists marked available on the Telemedicine Platform.

[6] These data are intended to inform about the use of the Telemedicine Platform by our users. However, it is important to consider that some specialists may have longer intervals of no logins if their specialty receives a lower-case volume (e.g, Allied Health.)

VOLUNTEER SPECIALISTS BY PRIMARY SPECIALTY

Pediatrics · Radiology · Gynecology/Obstetrics · Infectious Diseases · Internal Medicine · Surgery · POCUS · Emergency Medicine · Mental Health · Allied Health



To uphold efficient response times for our projects, the program must ensure that the specialist pool is well prepared and trained to handle incoming cases. To achieve this, a training module was developed on Tembo and sent to every specialist to complete. Additionally, data analysis plays a crucial role in guiding specialist recruitment and optimizing their capacity management, contributing to the overall effectiveness of the program.

PATIENT STORY

PEDIATRIC EMERGENCY IN KABUL: PNEUMONIA AND SEPTICEMIA

By Dr Nilza Angmo and Dr Ahmed Igbin

A 9-month-old male child, moderately malnourished at 5 kg, presented with a high fever and cough at the MSF clinic in Kabul, Afghanistan. An initial diagnosis of suspected pneumonia and sepsis of unknown origin was made. The child had previously been treated for pneumonia in another facility and was unvaccinated for measles.

The child was started on parenteral antibiotics (Ceftriaxone) and nutritional therapy on admission, and by the sixth day, had developed a generalized body rash, conjunctivitis, and difficulty in breathing. Suspecting a hospital acquired measles infection the child continued to receive antibiotics. Antibiotics brought fever down, however, the child's condition deteriorated over a few days, requiring oxygen therapy and nasogastric feeding. Also, the skin rashes became bullous and desquamated, increasing the risk of infection.

At this stage a drug reaction was suspected by a local specialist, and all medications were discontinued. The case was then submitted to the Telemedicine Platform for further assistance with a tentative diagnosis of Stevens-Johnson Syndrome (SJS).

The case was reviewed and supported on TM by a dermatologist based in Switzerland and a general pediatrician based in Belgium, who validated the diagnosis of Drug induced reaction of SJS. This case exhibited a severe manifestation known as Lyell Syndrome or Toxic Epidermal Necrolysis (TEN), which is attributed to the prolonged administration of parenteral antibiotics.

In addition to protecting against hypothermia and protein loss, the Telemedicine specialists suggested discontinuing all non-essential medications, particularly cephalosporins while continuing the pain medication. Furthermore, a wound care specialist based in the United States recommended extremely specific skin care practices, such as bathing without soap, pat-drying, and not applying any disinfectant to the skin's surface. It was recommended that generous amounts of petroleum jelly be applied to all open wounds, protected by a layer of gauze.

The child received the recommended treatment, and a week later, the team reported that the child's condition had improved. They noted good healing of the skin, resolving mouth lesions and eye infection, an increased level of consciousness, and tolerance of oral feeding with therapeutic milk following the removal of the nasogastric tube.

Stevens-Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN) also known as Lyell Syndrome, are dermatological emergencies of a severe and life-threatening nature. These conditions are distinguished by the extensive involvement of the skin and mucous membranes, affecting areas such as the eyes, mouth, and genital regions. SJS affects approximately 10% of the skin surface, but TEN involves more than 30% of the body's skin area and is associated with an average reported mortality rate of 25% to 35%[7].

In this case of dermatological emergency, a positive outcome was achieved due to prompt diagnosis, thorough recommendations from the specialists, and effective communication and follow-up by the Kabul team.

[7] French LE. Toxic epidermal necrolysis and Stevens Johnson syndrome: our current understanding. Allergol Int. 2006 Mar;55(1):9-16. doi: 10.2332/allergolint.55.9. PMID: 17075281.

CLINICAL CASE DISCUSSIONS

The Clinical Case Discussions service gives MSF project staff the opportunity to connect in real-time with a specialist matched to their project's need. During the regular video call, the healthcare professionals get the chance to discuss potential solutions to complex cases and explore learnings from resolved cases. This service is available as an add-on to the Case Management service.

In 2023, the existing service was revamped to enhance scalability, leading to a temporary suspension of new implementations, with plans to relaunch in early 2024.

OCA-Patna Advanced HIV (India)

80 cases
39 sessions

The project was established in February 2019 with the aim of providing quality healthcare to patients with advanced HIV. Since December 2020, weekly sessions have been held to review specific cases selected by the project medical staff. Patients living with HIV who have severe comorbidities and opportunistic infections are discussed, facilitating diagnosis, medical management, or subspecialty consultation.

OCBA-Diffa (Niger)

29 cases
21 sessions

Located in the southeast of Niger, the OCBA-Diffa project operates in a context of armed conflict, supporting the Centre Materno-Infantile of Diffa and in Nguigmi primary facility. The main activities at the project are pediatric, including neonatology, maternity, and obstetric emergencies.

"Understanding the precise role of a "focal point" can often be challenging, yet through my collaboration with the telemedicine team, I've discerned key areas where our collective efforts have significantly benefited patient care. In 2023, we contributed to a notable increase in telemedicine usage by raising awareness of the streamlined case management service and enhanced secure messaging capabilities. Additionally, through collaborations with various stakeholders, our focus has been on improving the quality of care delivered while simultaneously advocating for stringent adherence to healthcare regulations. Furthermore, as part of my responsibilities, fostering collaboration and networking both within and beyond MSF remains integral to achieving our telemedicine objectives effectively."

NORTHAN HURTADO
Deputy Medical Director, OCP
OCP Telemedicine Focal Point

SECURE MESSAGING

Baseline 2022

The secure messaging (SM) application allows healthcare professionals to securely connect with experts in their network to discuss patient and case-related information via instant messages. The application is being used by various MSF staff, including clinicians, HQ medical advisors and referents across all six operational centres. The service offers a safe and secure messaging alternative for medical discussions.

981
members in 2023

105
projects with access to Secure Messaging

44
countries

254 members

VENDOR TRANSITION

In May 2023, the Telemedicine Program received notice of a strategic shift in the business approach of its secure messaging service vendor, prompting the termination of the contract. Immediate efforts were initiated to search for a new vendor, ensuring a smooth transition for Telemedicine users. By early June, a new vendor was selected, and the user transition was successfully completed. This transition not only ensured the continuity of the service but has also led to a growing number of users gaining access to the service. Enhanced communication efforts have played a key role in raising awareness about the service offered.

Hence, the 2023 data presented above only encompasses the final six months of the year, specifically from June 2023 to December 2023.

WaCA-Agboville (Côte d'Ivoire)

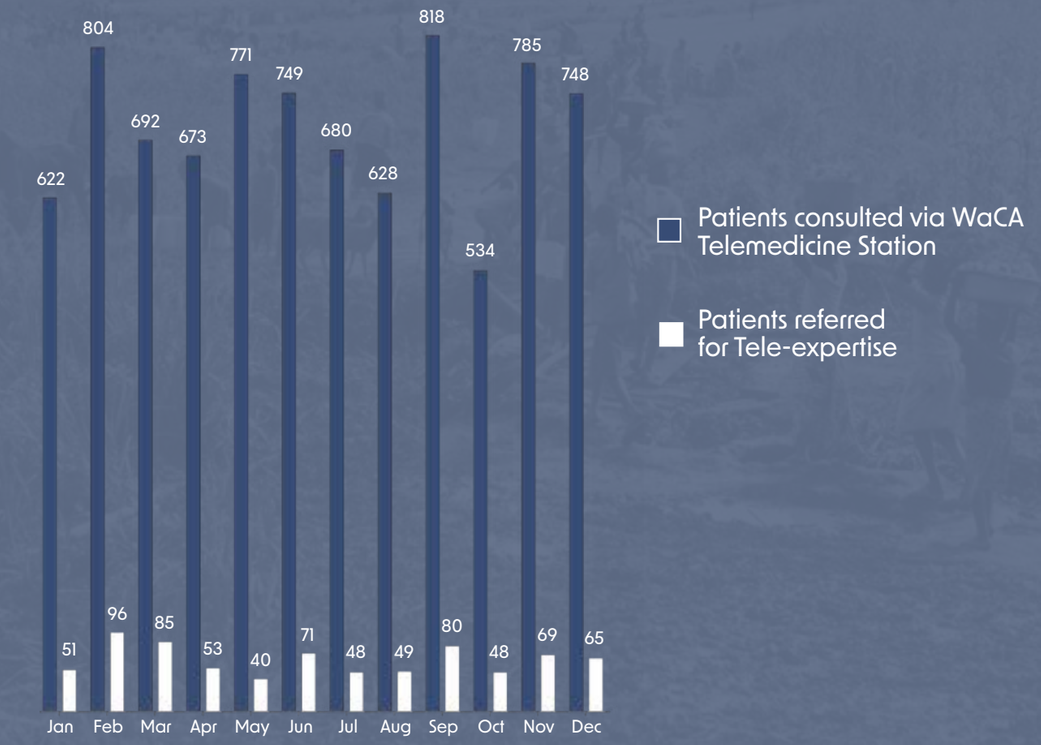
WaCA-Led Initiative

Access to quality medical care poses a significant challenge in remote areas, where shortages of medical personnel and geographical and financial obstacles hinder healthcare services. Recognizing the potential of Telemedicine as a solution, WaCA collaborated with local NGOs and the Ministry of Health to implement an initiative that aims to develop healthcare coverage, enhance the quality of care, and provide an effective response to epidemics and disasters. This aligns with the broader hospital reform in Côte d'Ivoire, where telemedicine plays a pivotal role.

Focusing initially on the Agboville Health District, WaCA has implemented Telemedicine Stations in 11 Health Centres of the district. The teams, composed of nurses and midwives, use portable diagnostic stations to gather important information about patients' physical conditions, to provide diagnostic assessments and to monitor patients during treatment or rehabilitation. The station enables diverse functions, such as measuring blood pressure, conducting electrocardiogram examinations, echography, monitoring heart rate, measuring blood glucose levels, analyzing urine, and assessing respiratory function.

While this initiative functions independently of the Telemedicine Program, the WaCA project incorporates the **Secure Messaging application** alongside this technology. Leveraging this application facilitates efficient case discussions and collaborative efforts among the team.

In 2023, WaCA-Agboville used the Telemedicine Station for 8,504 patients to measure vital signs. Among them, 755 patients were referred to tele-expertise, using the secure messaging service from MSF's Telemedicine Program to reach out to a local network of experts to discuss the best course of treatment and receive support.



PROGRAM INITIATIVES

INVITING USER FEEDBACK

Introduced as part of our commitment to a user-centric approach, a survey was sent to all users to better understand their needs and collect feedback to enhance satisfaction. This initiative produced notable outcomes, including the development of a comprehensive requirements matrix that serves as the cornerstone for the expansion of Telemedicine services.

Based on feedback received from users, the training modules were updated to better address gaps, with a particular focus on the specialist training needs, leading to the creation of a course on Tembo. This course equips specialists with additional information on how to tailor their responses to the unique context of MSF's operations, ensuring compliance with data privacy regulations, and staying well informed about the resources available in project settings.

Given the need for more accessible ways of using Telemedicine, mobile applications have been in development to ensure users can access the Telemedicine Platform on their phones with limited or no connectivity. In 2023, the mobile apps for the Telemedicine Platform were piloted successfully, with plans to roll-out in 2024. These outcomes highlight the program's commitment to a user-centric service design and continuous improvement.

RAISING AWARENESS

To amplify awareness and understanding of our services, the Telemedicine Program launched an awareness campaign through various channels across MSF. Throughout the year, the Telemedicine website was revamped and launched, a new logo was created, and program resources were designed in various formats (videos, one-pagers, poster, etc.). Additionally, engagement through social media and internal MSF channels were leveraged for communications to increase visibility. These efforts were directed to all MSF staff, ensuring they are well informed about the TM program and can easily access any services they need.

Website

Video

CONNECTING WITH USERS

To better connect with projects using Telemedicine, a re-engagement initiative was launched by the TM program to establish stronger relationships with users. Regional Implementation Officers (RIO) engaged projects using Telemedicine within their portfolios to establish their role as the designated contact for Telemedicine. They addressed any issues or barriers hindering usage of TM services raised by projects and offered training support. To ensure continued engagement, they identified a point of contact at every project for future communications.

The outcomes of this initiative were substantial, with 208 projects contacted and 165 points of contact established with projects and coordination offices using Telemedicine services. Notably, the team conducted 57 training sessions for the Secure Messaging and Case Management services. This initiative also resulted in 23 new requests to implement the Secure Messaging service and 18 new requests to implement the Case Management service. It significantly bolstered connections and support within the Telemedicine network, significantly contributing toward its growth and effectiveness.

POCUS & Telemedicine usage in OCG-Angumu (DRC)

76
cases

Located in Ituri province within the Democratic Republic of Congo, the OCG-Angumu project has been operational since 2019. This intervention encompasses diverse facets of community healthcare, primary and secondary healthcare, addressing crucial issues such as the well-being of children under 15, malnutrition, sexual and reproductive health, mental health, and health promotion. Furthermore, the project provides secondary care at the General Referral Hospital, with a specific emphasis on nutrition and pediatrics. The high usage of Telemedicine by the project (76 cases in 2023) is closely tied to Point-of-Care Ultrasound (POCUS).

Within projects such as OCG-Angumu, the medical teams have been trained to perform POCUS. This training, in addition to the support received through the Telemedicine Platform, has given them the ability to diagnose complex congenital heart diseases. The proficiency of the project team enabled the TM pediatric cardiology specialist assigned to these cases to make precise diagnoses and offer prognoses, crucially aiding communication with families and patients. While complete cures may face limitations due to restricted access to cardiac surgery, the team adeptly focuses on offering targeted symptom management for heart failure, along with providing counselling to families and medical teams, ultimately avoiding unnecessary procedures and treatments.

“Thank you for your extremely detailed and insightful advice on how to approach such a case. It contains very valuable information that I will put to use in this project but that I also keep with me on my next assignments.”

DR AMIN MANSSOURI, OCG-SAMOS IN GREECE

PATIENT STORY

One notable patient case involved a young girl exhibiting generalized edema and respiratory distress. Theteam used Cardiac Point-of-Care Ultrasound (POCUS) to send images for review through the Telemedicine Platform. The case was assigned to a pediatric cardiologist in the TM volunteer network, who confirme heart failure and ruled out congenital malformations. Following the prescribed medication recommendations, the team observed a swift improvement in the patient's cardiac symptoms. Concurrently, additional tests were conducted to ascertain the underlying diagnosis, showcasing the collaborative approach between telemedicine and onsite medical interventions.

Angumu team, DRC

A pediatric case involved a young patient with a bony swelling on the leg. The team considered potential causes such as a tumour or infectious conditions like osteomyelitis. The case was posted on the TM Platform and assigned to a radiologist in the TM volunteer network who reviewed the submitted Point-of-Care Ultrasound (POCUS) images of the bone and confirmed that it resembled a tumour. This information allowed the team to communicate effectively with the family, avoiding unnecessary treatments and guiding them to a facility equipped to address this particular medical condition, even though our capabilities at MSF were limited in this regard. Providing accurate and informative guidance to the family was perceived as a valuable outcome by the team.

Angumu team, DRC

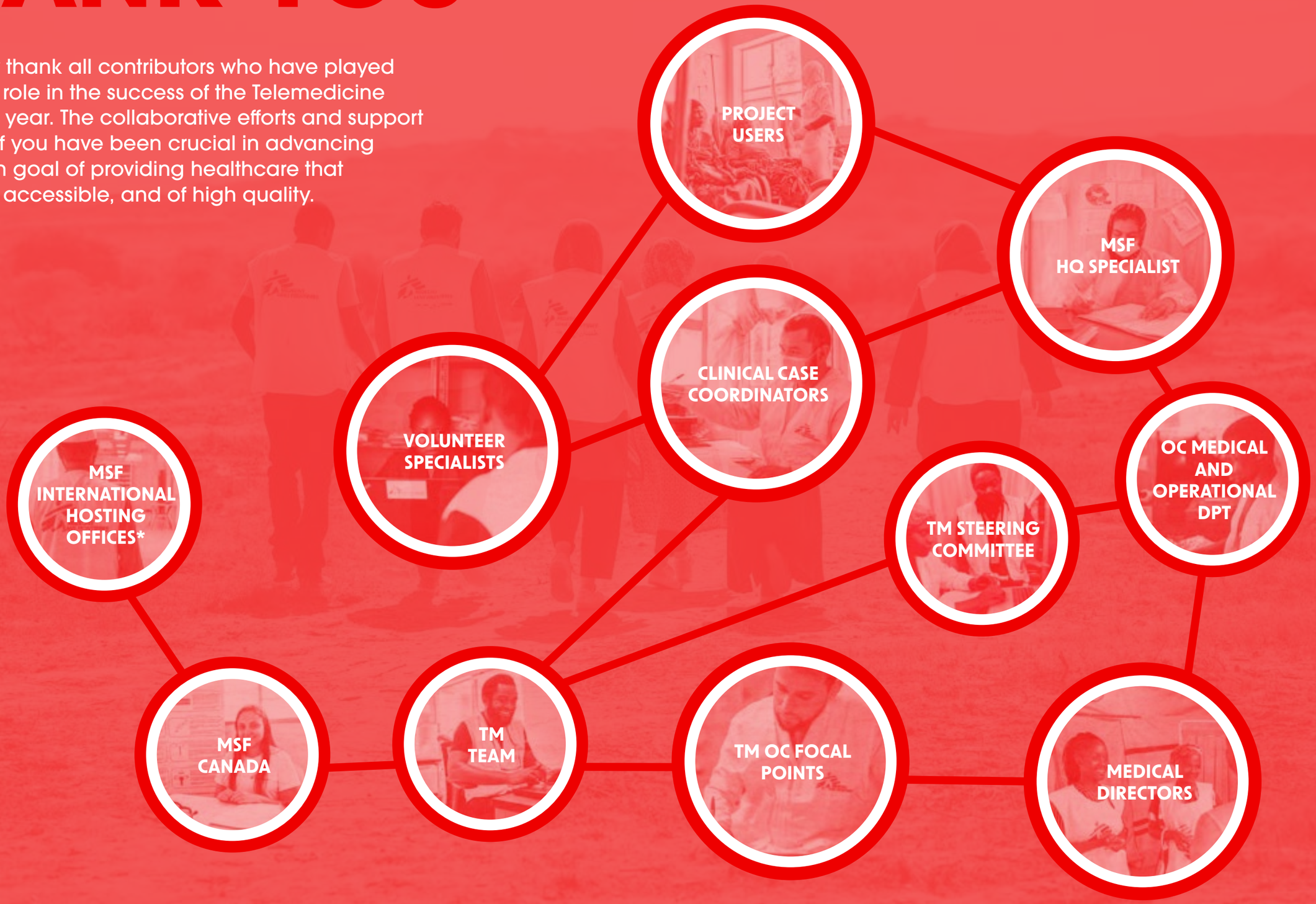
PERSPECTIVE 2024

Looking ahead, we will build off our established foundations, focusing on connectivity and scalability. As we plan for the year ahead, we will prioritize:

- Connecting with our users and continuing to understand their needs and barriers.
- Engaging with our current volunteers and recruiting new specialists interested in joining the TM network, using the TM awareness package developed in 2023.
- Training our users, including volunteers, through various means (remote, in-person, workshops, self-paced courses, etc.) to ensure continued access to and usage of Telemedicine services with minimal interruptions to daily workflows.
- Improving our understanding of connectivity limitations in MSF projects to better support the implementation and usage of TM services.
- Exploring new TM services to expand our offering and better meet the needs of our users.
- Scaling the usage of TM services across MSF by leveraging streamlined implementation processes and relaunching the Clinical Case Discussions service.
- Streamlining our operational workflows, with a specific goal to reduce the time to respond to cases.

THANK YOU

We sincerely thank all contributors who have played a significant role in the success of the Telemedicine Program this year. The collaborative efforts and support from each of you have been crucial in advancing our common goal of providing healthcare that is equitable, accessible, and of high quality.

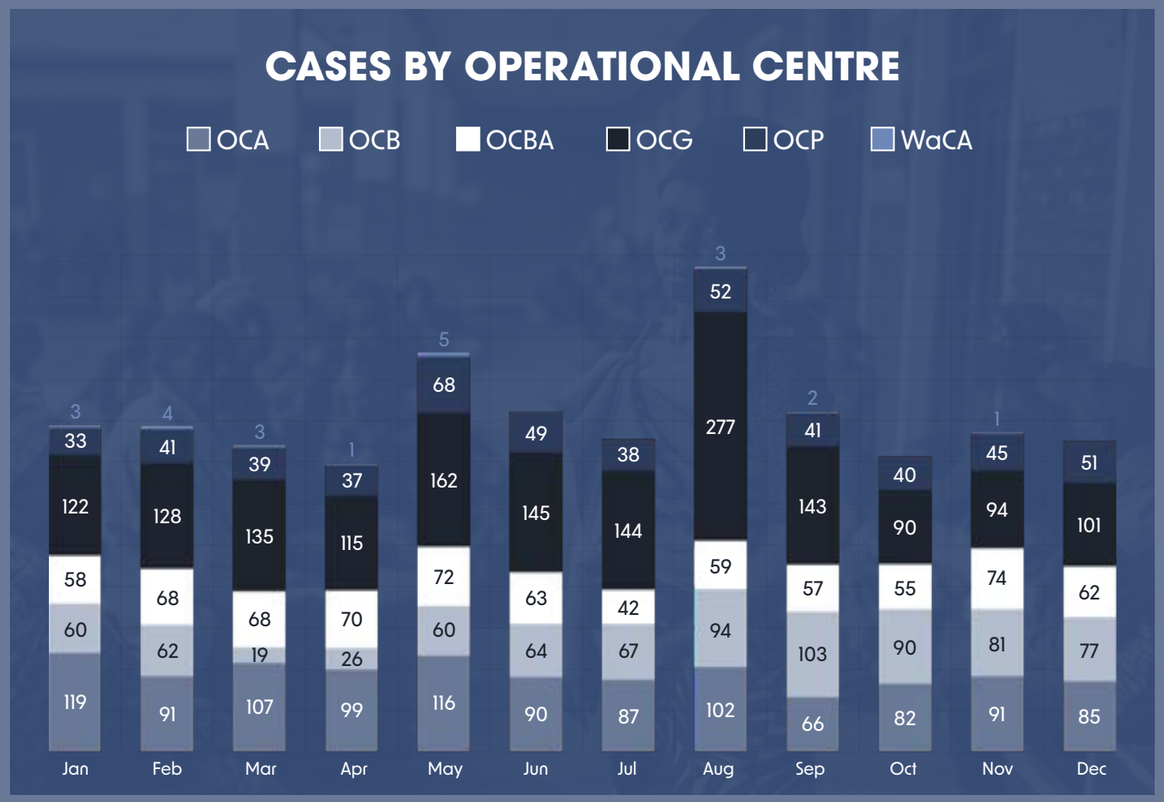


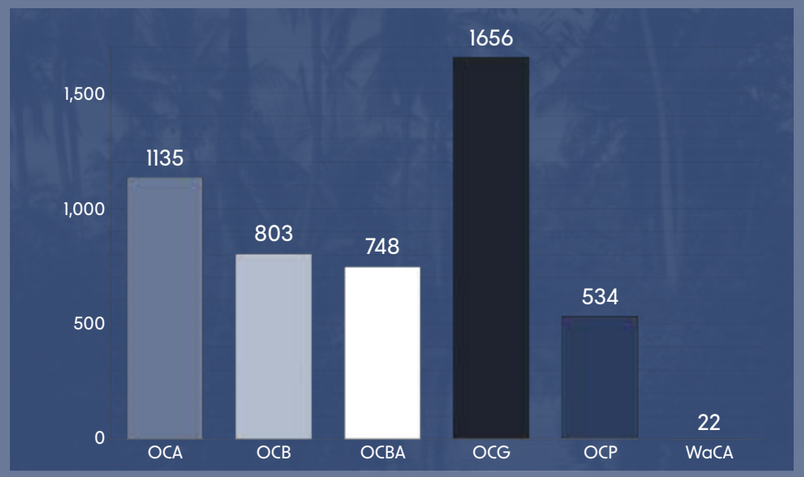
* and regional hubs

APPENDIX 1

CASE MANAGEMENT

CASES BY OPERATIONAL CENTRE





OCA

ACTIVE PROJECTS[8]	NUMBER OF CASES	COMPARISON 2022[9]
44 (39 in 2022)	1,135 cases	-11%

HIGHEST CASE SUBMISSIONS

- **OCA - Kandahar, Afghanistan:** 238 cases
- **OCA - Bentiu, South Sudan:** 180 cases
- **OCA - Jonglei, South Sudan:** 123 cases
- **OCA - Bihar, India:** 118 cases
- **OCA - Unity Primary Healthcare, South Sudan:** 74 cases

OCB

ACTIVE PROJECTS	NUMBER OF CASES	COMPARISON 2022[9]
29 (28 in 2022)	803 cases	-19%

HIGHEST CASE SUBMISSIONS

- **OCB - Kenema Xray, Sierra Leone:** 521 cases
- **OCB - Afar, Ethiopia:** 48 cases
- **OCB - Bangassou, Central African Republic:** 40 cases
- **OCB - Kajokeji, South Sudan:** 21 cases
- **OCB - Masisi, Democratic Republic of Congo:** 21 cases

[8] Project posted at least 1 case within 2023

[9] Number of cases posted in 2022 and number of cases posted in 2023

OCBA

ACTIVE PROJECTS	NUMBER OF CASES	COMPARISON 2022[9]
32 (31 in 2022)	748 cases	-8%

HIGHEST CASE SUBMISSIONS

- **OCBA - Diffa, Niger:** 108 cases
- **OCBA - Salamabila, Democratic Republic of Congo:** 78 cases
- **OCBA - Malakal, South Sudan:** 77 cases
- **OCBA - Douentza, Mali:** 70 cases
- **OCBA - Batangafo, Central African Republic:** 56 cases
- **OCBA - Zamfara State, Nigeria:** 56 cases

OCP

ACTIVE PROJECTS	NUMBER OF CASES	COMPARISON 2022[9]
49 (46 in 2022)	534 cases	+18%

HIGHEST CASE SUBMISSIONS

- **OCP - Amman Hospital, Jordan:** 52 cases
- **OCP - Khamer, Yemen:** 40 cases
- **OCP - Homa Bay, Kenya:** 37 cases
- **OCP - Aweil, South Sudan:** 35 cases
- **OCP - Goyalmara, Bangladesh:** 31 cases

OCG

ACTIVE PROJECTS	NUMBER OF CASES	COMPARISON 2022[9]
30 (23 in 2022)	1,656 cases	+198%

HIGHEST CASE SUBMISSIONS

- **OCG - Chui, Kyrgystan:** 1,313 cases
- **OCG - Angumu, Democratic Republic of Congo:** 76 cases
- **OCG - Nduta, Tanzania:** 74 cases
- **OCG - Ad Dahi, Yemen:** 28 cases
- **OCG - Kiribati, Kiribati:** 18 cases

WaCA

ACTIVE PROJECTS	NUMBER OF CASES	COMPARISON 2022[9]
4	22 cases	N/A

HIGHEST CASE SUBMISSIONS

- **WaCA - Guidan Roumdji, Niger:** 13 cases
- **WaCA - Madaoua, Niger:** 4 cases
- **WaCA - Nutrition Ndjamena, Chad:** 3 cases
- **WaCA - Kano, Nigeria:** 2 cases

[9] Number of cases posted in 2022 and number of cases posted in 2023

PRODUCED BY

MSF Telemedicine team

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MAPS: Visme & Freevectormaps
ILLUSTRATIONS: Freepik
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