

TELEMEDICINE

Annual Report 2024



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ACRONYMS

CAMINO	Central America and Mexico Integrated Office	OCA	Operational Centre Amsterdam
CCD	Clinical Case Discussions	OCB	Operational Centre Belgium
CM	Case Management	OCBA	Operational Centre Barcelona-Athens
DRTB	Drug-Resistant Tuberculosis	OCG	Operational Centre Geneva
DRC	Democratic Republic of Congo	OCP	Operational Centre Paris
GIS	Geographic Information System	OPD	Outpatient Department
HIV	Human Immunodeficiency Virus	PDA	Patent Ductus Arteriosus
ICT	Information and Communication Technology	POCUS	Point of Care Ultrasound
IMS	International Mobile Staff	RIO	Regional Implementation Officer
IPD	Inpatient Department	SM	Secure Messaging
LATAM	Latin America	SRH	Sexual and Reproductive Health
MSF	Médecins Sans Frontières	TACTiC	Test, Avoid, Cure Tuberculosis in Children
NCDs	Non-Communicable Diseases	TM	Telemedicine
NEAD	Non-Epileptic Attack Disorder	URENI	Intensive Care Unit for Nutrition, Education and Rehabilitation
OC	Operational Centre	WaCA	West and Central Africa

“ In 2024, the Allocation Policy was in-depth reviewed and harmonized across the different Operational Centres, and a communication package was developed alongside. This policy will streamline the redistribution of Telemedicine cases and will surely lead to a significant increase in reported cases and better support for projects. Its implementation has already begun this year and will be completed in May, following a phased approach to monitor the quality of allocation. This is an important change to celebrate. ”

CRISTIAN CASADEMONT
 Medical Director, OCBA - Telemedicine Steering Committee member



YEAR IN NUMBERS

Baseline 2023

Telemedicine Services



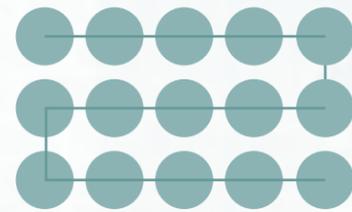
298

MSF projects with access to at least one TM service in 2024¹



98

of these projects were newly implemented in 2024

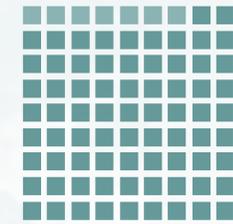


465

active specialists

Baseline 2023 **404**

Case Management



256

projects with access in 2024

Baseline 2023 **276**



5,236

cases posted in 2024

Baseline 2023 **4,898**

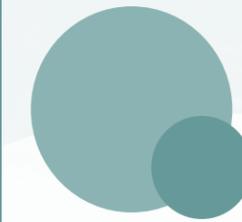
Secure Messaging



178

projects with access in 2024

Baseline 2023 **105**



1,872

users in 2024

Baseline 2023 **977**

Implementation Efforts



114

new implementations across the three TM services



968

users trained



204

live training sessions held online or in person

Clinical Case Discussions



6

projects with access

Baseline 2023 **2**



39

videoconferences held

Baseline 2023 **60**



*The highlights of each OC's Telemedicine activity for 2024 are available in Appendix 1.

¹ Note this number only includes projects that were still active at the end of the year. If a project had access at some point in 2024 but closed prior to the end of the year, it is not counted in the access number.

YEAR IN REVIEW

The Telemedicine Program is dedicated to fostering a digital environment for equitable healthcare, empowering communities through the implementation of services that improve access to quality care.

In 2024, we focused on two main objectives to prioritize and measure the success of our activities:



IMPROVE [HUMAN] CONNECTIVITY WITHIN MSF

We aimed to establish human connections and influence investments in technical infrastructure to increase Telemedicine (TM) access and usage. This included four project visits, to Chad, Guatemala, Greece and Jordan, where we interacted with our TM users for implementation and training purposes.

During Coordination Week, MSF OCP gave us the opportunity to present our TM services at a dedicated information booth. We collaborated with OCG to organize mini workshops between the medical coordination sessions, and we engaged with MSF OCBA stakeholders to strengthen our collaboration in providing TM solutions.

To ensure that we remain responsive to the needs of our users, we began measuring the amount of annual training delivered, particularly in contexts where project visits and live implementation were not feasible. A total of 204 training sessions were held online and in person, during which our Regional Implementation Officers (RIOs) successfully trained 968 remote medical team users.²

We listened to feedback from our users and explored the needs and solutions for sharing the medical information of 'people on the move'. Although we did not move forward with this initiative, it taught us that it's essential to broaden our network within the MSF movement and document every exploration for a potential new service.

² Knowing that at least 80% of MSF project staff is locally hired, we assume at least 60% of the medical team users trained are locally hired staff.



DESIGNING SCALABLE SOLUTIONS AND PROCESSES

We worked diligently to streamline processes within the Telemedicine Program, focusing on the quality of our services. We analyzed and reported on cases closed by project teams in our Case Management service, establishing a baseline for our performance by producing a medical quality report. This analysis highlighted areas of success and opportunities for improvement, providing actionable insights for the future.

Close collaboration with the Focal Points of TM enabled us to streamline the allocation policies for the Case Management service. Given the intersectional nature of telemedicine, it was crucial to harmonize our case allocation policy to improve the efficiency of the allocation process. Through workshops and brainstorming sessions, we reached a consensus on improvements that will be implemented in early 2025.

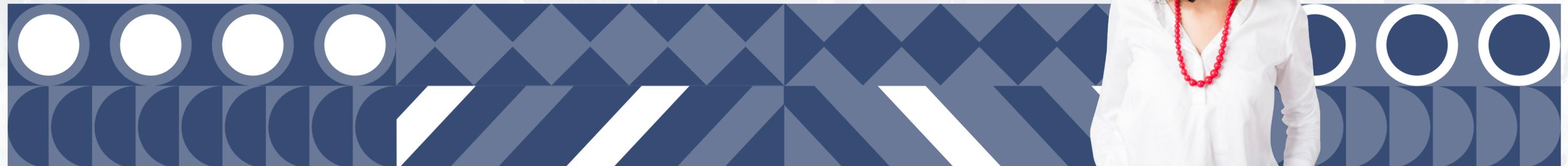
Following a recruitment push for volunteer specialists, based on project needs and feedback, we received 133 applications and successfully recruited 81 volunteer specialists, focusing on critical needs, such as French-speaking specialists in obstetrics and neurology. Concurrently, 20 MSF medical advisors/referents were onboarded, bringing our total of specialists welcomed worldwide in 2024 to 101.

Throughout 2024, the TM team made a deliberate effort to connect with our users and stakeholders, gathering feedback on the impact of our services. We invite you to read this report to learn more about the TM cases, data and user testimonials.

Thank you for your interest in the Telemedicine 2024 Annual Report. We hope you find it informative and enjoyable to read.



CLARA MAZON
Director, Telemedicine Program



TELEMEDICINE PROGRAM

Designed for MSF, the Telemedicine Program:

1. Provides telehealth services³ for MSF healthcare professionals
2. Connects a global network of clinical specialists
3. Fosters a community of knowledge

The Telemedicine Program offers asynchronous and synchronous services available through secure applications.

The three services are as follows:

<p>CASE MANAGEMENT</p> 	<p>SECURE MESSAGING</p> 	<p>CLINICAL CASE DISCUSSIONS</p> 
<p>A secure platform that provides healthcare professionals in MSF projects with access to expert clinical and medical advice on a case-by-case basis.</p>	<p>An instant message application that facilitates the exchange of sensitive information and files among healthcare professionals across MSF.</p>	<p>A videoconferencing service that gives MSF project staff the opportunity to connect in real-time with a specialist matched to their project's needs.</p>

³ "Delivery of health care services, where patients and providers are separated by distance. Telehealth uses information and communication technology (ICT) for the exchange of information for the diagnosis and treatment of diseases and injuries, research and evaluation, and for the continuing education of health professionals."

Source: WHO <https://iris.who.int/bitstream/handle/10665/356160/9789240050464-eng.pdf>

PATIENT STORY



PERSISTENT FEVER IN A NEONATE

A Diagnostic Challenge

By Dr. Nilza Angmo and Dr. Ahmed Igbin

A day-old female infant presented to an MSF hospital in Magburaka, Sierra Leone with a history of fever, convulsions and poor feeding. The infant was born at term to a mother who had one previous uneventful pregnancy and delivery. The mother stated that the infant had not cried and was unable to feed since birth. Prior to arriving at the MSF hospital, the infant was treated at a community health centre with antibiotics and fever-reducing medication.

Upon examination, the infant had a moderate-grade fever of 38.2°C, seizures and respiratory distress. An initial diagnosis of neonatal sepsis, a blood infection that occurs in infants younger than 90 days old, was made and treatment with antibiotics and supportive care commenced. Despite this initial management, the fever continued for 10 days, raising suspicions about antibiotic resistance, congenital malaria and other possible causes. Owing to these concerns and the limited local resources, the project's medical team looked for additional insight and assistance through the Telemedicine Case Management service.

A pediatrician was consulted on the Telemedicine platform. The pediatrician recommended a procedure called lumbar puncture to rule out meningitis, and a reassessment of the patient's condition for other potential fever sources. An empiric treatment for meningitis with high-dose antibiotics was advised. With this revised treatment plan, the infant's condition started improving progressively; fever lessened,

alert level increased, oral feeding improved, and the infant gained weight. The mother consented to the medical team's recommendation of having the infant stay in the hospital for a complete 21-day antibiotic course to continue her gradual recovery.

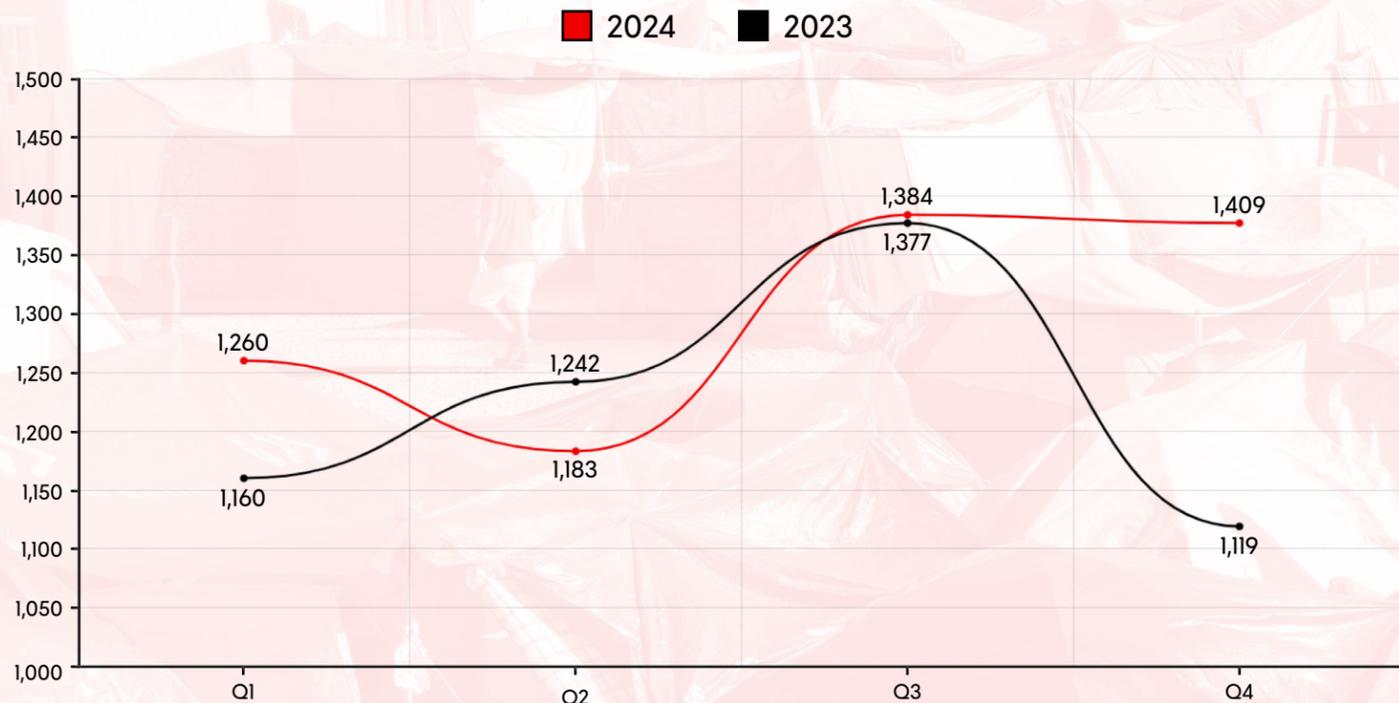
This case highlights the difficulties of recognizing and treating newborn sepsis in a resource-limited environment. The limited availability of investigations such as blood cultures, lumbar punctures, and imaging modalities needed a more practical approach. A Telemedicine consultation with an experienced pediatrician provided essential guidance, leading to critical treatment modifications and supportive care that resulted in significant clinical improvement. This example also emphasizes the importance of collaboration and resourcefulness in managing complex neonatal maladies, as well as the usefulness of Telemedicine Case Management in such situations.



CASE MANAGEMENT

The Case Management service provides MSF healthcare staff access to expert medical or clinical advice from specialists worldwide. MSF projects can post cases to the platform with relevant media files and receive specialized advice within 24 hours.

CASES PER QUARTER



In 2024, 5,236 cases were posted to the Telemedicine platform, an increase of 7% over the 2023 total of 4,898 cases posted by MSF projects. The breakdown of cases posted per quarter indicates a major increase in the number of cases posted in Q4 with 1,409 cases compared to 1,119 cases in 2023. This increase can largely be attributed to the OCP-Punjab Tuberculosis project in the district of Gujranwala, Pakistan and the OCBA-Mazar Pediatrics project in Afghanistan that

both posted more cases during this quarter than they did the rest of the year.

It is important to note that various factors can impact the usage of Telemedicine services, such as limited access to healthcare services due to weather conditions, or conflicts that restrict patient mobility.



	Mazar Pediatrics Afghanistan	OCBA 142 cases
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The Mazar Pediatrics project receives an exceptionally high volume of cases in the emergency room and other departments such as maternity, neonatology and the pediatric intensive care unit, amounting to thousands of patients triaged, consulted and admitted per month.

The project submitted a high number of cases to the Telemedicine platform over the last nine months of the year, particularly in radiology. With a limited number of radiologists, the medical team relies heavily on TM for interpreting X-rays, CT scans, MRIs, and ultrasound images. The high number of cases can also be attributed to the thousands of deliveries handled monthly by the project's medical staff, creating significant demand for TM support, as well as the management of complex pediatric cases requiring specialist consultations via TM.

	Punjab Tuberculosis Pakistan	OCP 199 cases
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MSF has been supporting a 'Programmatic Management of DRTB' (PMDT) site in Gujranwala District since December 2021, in collaboration with multiple local health authorities. PMDT Gujranwala is the referral site for patients in this area with this illness and receives patients from other districts without their own DRTB care services. In 2024, the number of cases posted to the Telemedicine platform by the project grew exponentially, going from 13 cases in 2023 to 199 cases in 2024. This increase is attributed to radiology cases posted mostly for the interpretation of X-rays of children who have been exposed to DRTB.

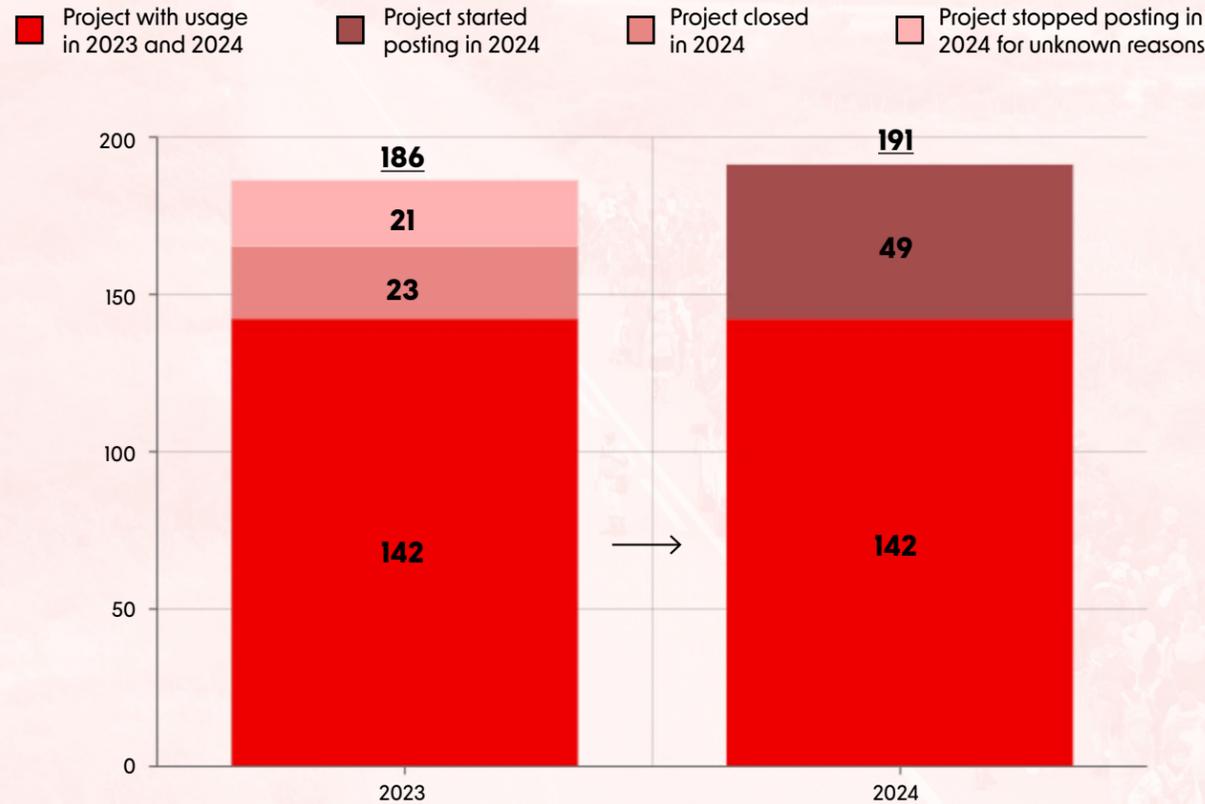
A few reasons explain why such cases have been increasingly posted to the platform in 2024. The medical team of Punjab Tuberculosis has been undertaking efforts to systematically evaluate all pediatric household contacts. Pakistan is also part of TACTiC, an MSF project aimed at reducing children tuberculosis mortality by increasing access to treatment and preventive treatment for children.⁴ Although not directly supported by TACTiC, the number of cases posted does reflect the prioritization of children in the Punjab Tuberculosis project. Finally, there is an advocacy initiative within the project to update pediatric and TB guidelines by training and bringing stakeholders together to introduce treatment decision algorithms, shorter regimens for DR-TB (endTB regimens) and prevention.

⁴ MSF International. TACTIC - Test, Avoid, Cure Tuberculosis in Children. Available at: <https://www.msf.org/tactic-tuberculosis-children>

PROJECT USAGE

The number of projects that posted at least one case in 2024 increased to 191, surpassing the 186 projects posting in 2023. Of these 191 projects, 142 used the TM platform in 2023 and 2024. Despite 23 projects that closed and 21 projects that stopped posting cases, 49 projects posted their first case to the Telemedicine platform in 2024.

PROJECTS POSTING CASES IN 2023 VS 2024



⁵ Note that projects that use the Case Management service platform to store information safely, exchange information in operational research or for CCD do not require immediate responses and have been excluded from this measurement.



FIRST RESPONSE TIME

In 2024, the median first response time, defined as the time between case submission and the specialist's first response, increased by 0.5 hours, for a median total of 9.5 hours.⁵ This delay includes the time taken by Clinical Case Coordinators to allocate the case and for a specialist to accept it. This difference can be associated to an increased demand for obstetrics and neurology specialists on cases in Q1 and Q2. To address this operational issue, significant recruitment efforts were conducted, resulting in the introduction of 101 new specialists to the pool in 2024.

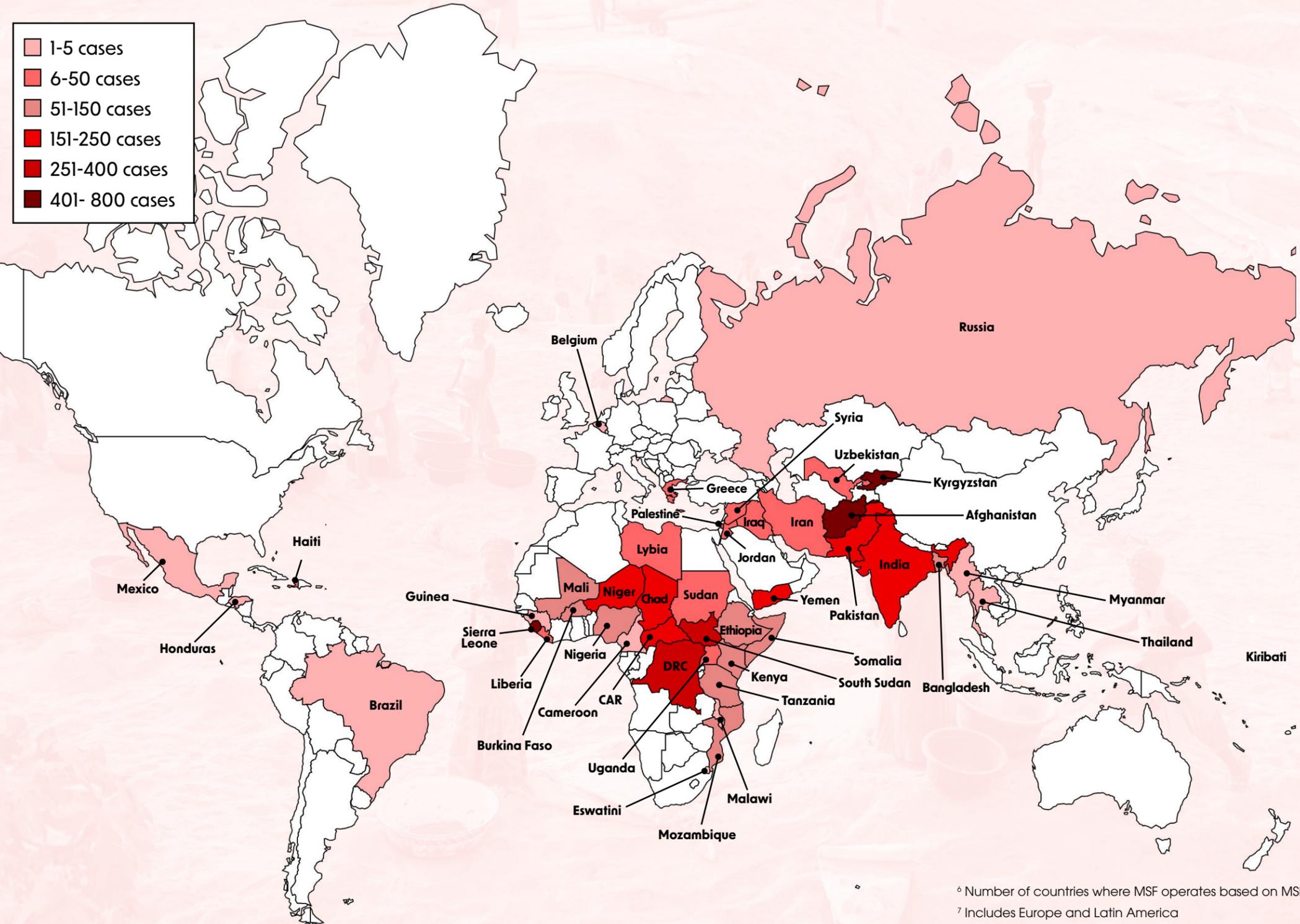
“ This year has seen a marked rise in the use of Telemedicine services by our teams, and the relaunch of Clinical Case Discussions is a very positive development. These should be used more widely in the coming months. The diversity of digital solutions in recent years has opened up a field in telemedicine where teleconsultations and other initiatives will continue to improve the quality of care and best outcomes for our patients in the years to come. ”

ISABELLE MOUNIAMAN

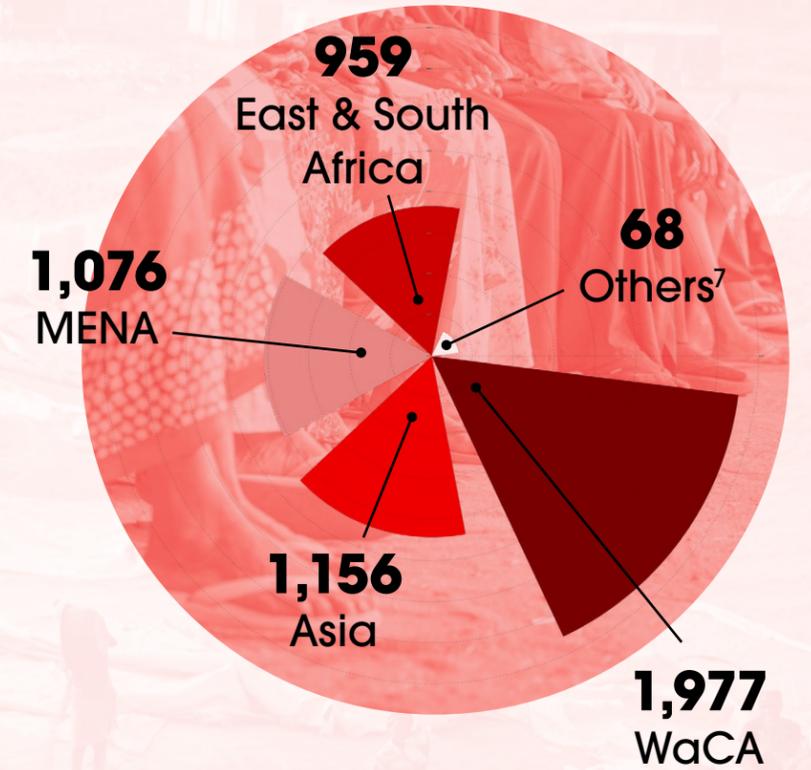
Head of Monitoring and Operations Support, OCP – Telemedicine Steering Committee member

CASES PER COUNTRY

In 2024, the Case Management service was used in 44 countries among the 74⁶ where MSF operates. While projects in eight countries stopped posting on the platform, five new countries (Eswatini, Mexico, Honduras, Brazil, Thailand) started to use the platform.



CASES PER REGION



Sierra Leone, Afghanistan, Kyrgyzstan, South Sudan and the Democratic Republic of Congo remained the five countries that posted the most cases throughout 2024, with Sierra Leone being the number-one contributor. Sierra Leone's high number of cases posted to the platform reflects the extensive usage of OCB's Kenema Hospital project, which accounted for 724 of the 760 cases posted from Sierra Leone. Kenema Hospital was the first project to send all X-ray images to Telemedicine back in 2021, leading to the incorporation of TM into its regular operations by having a dedicated radiologist perform X-ray interpretations using the TM platform.

⁶ Number of countries where MSF operates based on MSF 2023 International Activity Report.

⁷ Includes Europe and Latin America

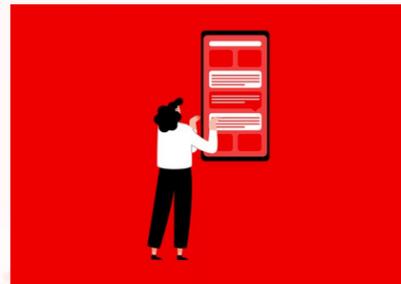
TELEMEDICINE NETWORK OF SPECIALISTS

In 2024, 330 specialists played an instrumental role in supporting MSF project staff by responding to at least one of the 5,236 cases posted to the Telemedicine platform. The Telemedicine network consists of 465 specialists, which includes MSF medical advisors/referents and volunteers recruited globally. Following a recruitment push through 2024, the diversity of the volunteer network has significantly increased, involving specialists not only located in Europe but also across Latin America, Africa, Asia and the Middle East.



465

active specialists within the TM network⁸



330

specialists responded to at least 1 case in 2024



101

new specialists onboarded in 2024

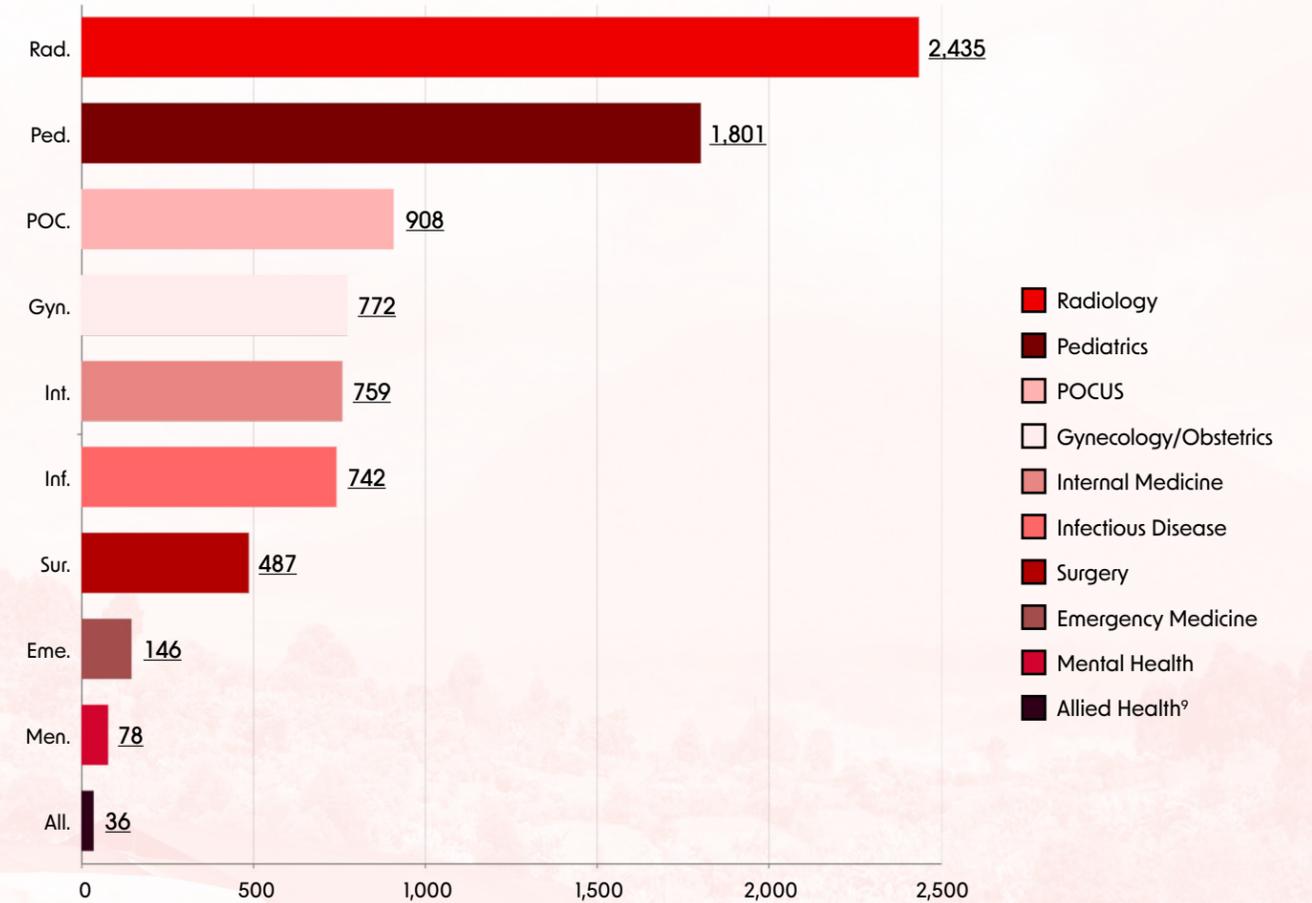
“ I was invited to become part of MSF as a Telemedicine volunteer in 2016, in the early days of cardiac POCUS. At the time, I did not know what it would mean. I am in awe of the dedicated physicians, nurses and medics who work in conflict-ridden settings and find a way to help children in the most limited settings. It has been an honour to provide guidance via the platform. The ability to interpret echocardiographic images using Telemedicine solutions from the other end of the world is truly remarkable. **”**

DR. LYNNE NIELD

Volunteer Pediatrics and Fetal Cardiology specialist

⁸ Includes specialists marked available on the Telemedicine Platform

CASES ACCEPTED PER SPECIALTY



Case will only be counted once if accepted by multiple specialists of the same specialty; it will be counted multiple times if accepted by specialists of different specialties.

This data shows the demand for each specialty on the Telemedicine platform. The specialties in this chart represent the primary expertise listed on the profile of the specialists handling cases.

It's important to note that the total count exceeds the number of cases reported in 2024, as most cases are multidisciplinary and require involvement of multiple specialists in a single case.

Similar to 2023, radiology and pediatrics specialists responded to the largest number of cases on the platform this year. The reasons provided in 2023 remain true for 2024: pediatrics demand is high, as over 60% of MSF's patients are under 15 years old¹⁰, and radiology demand has grown with the use of Telemedicine for X-ray image transmission. There are few experts to interpret X-rays in projects and this integration is cost-effective, offering clear advice and reducing the need for on-site referrals.

⁹ Allied Health includes Blood Transfusion, Clinical Pharmacy, Dentist, Dietetics, Laboratory, Nursing, Physiotherapy, Public Health, Vaccination and Wound Care.

¹⁰ MSF International. Medical Activities: Child Health. Available at: <https://www.msf.org/child-health>

PATIENT STORY



MANAGING CONVULSIONS IN PREGNANCY: A Complex Case of Suspected Non-Epileptic Attacks in a Resource-Limited Setting

By Dr. Nilza Angmo and Dr. Ahmed Igbin

A 20-year-old pregnant woman (37 weeks gestation) faced with life-threatening convulsions presented to an MSF hospital in South Sudan. She was a known epileptic, and her condition had worsened during pregnancy, raising concerns about her health and her unborn child. Due to limited resources, the local medical team resorted to Telemedicine for advice and support from specialists.

The patient has had epilepsy since infancy but had stopped her medication prior to pregnancy. Over the course of 11 days, she experienced multiple daily seizures and initial treatment with anti-epileptic medications (carbamazepine) did not control the seizures. Despite having stable vital signs without fever, her condition raised concerns about whether the episodes were epileptic or non-epileptic attack disorder (NEAD).

Obstetricians and a neurologist engaged in a debate regarding the diagnosis and treatment of the condition via the Telemedicine platform. They questioned the appropriateness of the anti-epileptic medications and advised a change in the treatment plan with a careful and gradual dose increase. Since NEAD is often associated with stress or trauma, psychological

elements were also factored in. For additional evaluation, video recordings of her seizures were recommended.

Despite having seizures, she remained stable. When medical staff did not find any signs of eclampsia, plus remained unsure about her diagnosis, they decided to watch her condition closely in addition to a careful adjustment of her treatment. Just before delivery, her seizures stopped. Medical staff induced her labour, and she delivered a healthy baby without problems.

This case shows how valuable Telemedicine has become in places with limited medical resources. It also points out real challenges doctors face when they treat seizures in pregnant patients and proves why doctors must create flexible treatment plans and consider how social and mental factors impact brain disorders.

The case highlights true grit along with innovative solutions, plus the impact of teamwork in saving lives. It also underscores the fact that Telemedicine stays vital as it extends access to specialist medical care and has positive outcomes for patients.



PROJECT TESTIMONIAL FROM IMS DR. EMMA KINGHAN

Walikale project, DRC, 2024

DRC: 'There's always something we can do'



"Expect the unexpected." That was the part of my briefing that kept circling my head, that Monday in October.

I was in Walikale, a town in the east of the Democratic Republic of Congo. MSF runs a large mother and child hospital there, and I was working as the Medical Activities Manager.

I was at our big World Mental Health Day celebration, but I had a sort of sixth sense that something was going to happen.

Twenty minutes into the presentation, I got a call over the radio about a complex pediatric case. Could I come urgently?

I think the sight of that child will forever be etched in my brain.

The boy was about 12 years old, very thin, barefoot. He was clearly in pain, resting on his dad's knee, barely able to stand. His fingers and toes were black and cold. This is a sign that the blood supply isn't reaching those areas, and the tissue is starting to die.

The boy had similar areas of very painful tissue in his knees, which was part of why he couldn't walk, and all over his groin and genital area.

As with so many of our patients, this father had travelled with his sick son for several days through forest and mud to reach the hospital, most likely on foot and motorbike. I will

leave it to you to imagine what that must have been like for that child.

It was clear to all of us that the boy was very unwell, and that he would need more specialist care than we could provide at Walikale. We immediately began to arrange a transfer to the regional capital, most likely for surgery to remove the gangrenous tissue.

The next flight wasn't for two days. We would have to find the best way to care for this child for that time. None of us had seen anything quite like this before. We thought the gangrene was most likely caused by an infection that had affected the blood supply, but there were many other possibilities.

We needed help. While the team made the boy as comfortable as possible, I posted details of the case on our Telemedicine platform, an online system which connects MSF medics with experts around the world.

Within 24 hours I had responses from specialists in London, Amsterdam, Spain and Harvard. They agreed with our initial thoughts about the infection and gave us crucial advice as to what to do next.

That was vital, as we were also hit by bad news. The unpredictable local weather and volatile security situation meant that the flight within two days was not possible. We tried everything we could to find another way to do the transfer, but the situation just wouldn't allow it.

All we could do was wait. However, we made sure that the time wasn't wasted. **Following the advice from the Telemedicine specialists, we focused on the boy's nutrition, got him started on appropriate antibiotics, and optimized his dressings to help those painful wounds.**

The mental health team was hugely involved, bringing games and talking to both the boy and his dad, who was understandably in need of support.

The pair ended up staying with us for 10 days. And thankfully, the Telemedicine advice had been to wait for at least that long before attempting surgery, which was incredibly reassuring. Still, it was a tremendous relief that Saturday morning, as we watched the helicopter take off with the boy and his father inside.

As I watched them go, I knew that we had done our best, but I was fearful for the way ahead. He would definitely lose some fingers, some toes. But he might also lose his hands or feet. This would have huge implications, not only physically and psychologically, but also for his ability to earn a living in the future, in a part of the world where there are few protections for the most vulnerable.

And I had another fear. Despite everything we'd done over the past 10 days, he was still very, very sick – he had a look you never want to see in a child. I was afraid he might not survive at all.

As the helicopter took off, I doubted I would see the boy or his father again. And then one afternoon in early January,

just a few days before I was due to leave Walikale, I turned the corner past our pharmacy, and there they were.

The boy was the same but not the same. The same eyes and quiet temperament, but now he was well-nourished and warmly clothed with shoes and mittens. And he was standing upright!

His dad explained that they had just returned from Goma after several months of care with one of our partner hospitals. With treatment, it had been possible to preserve the boy's thumbs and some of his fingers, so he still had use in both hands. And he was able to walk.

I was so touched to see that they recognized me and the team. From my first encounter with him, through those dark days when I thought he might not survive – to seeing him actually standing and smiling was astounding.

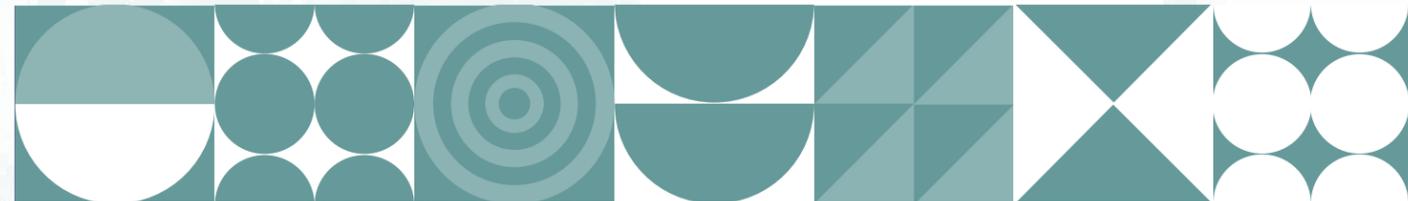
Around that time, I was talking through another challenging case with an incredible Congolese MSF doctor who has worked at the project for years. As we worked out a plan together, he said, unforgettably, "You see Emma, there is always a solution."

And that resonated with me and is something I try to hold on to. **Yes, we should expect the unexpected, but when that happens, even in extremely difficult circumstances, there's almost always something we can do.** It may not be perfect, but there's always a way to make things better, to build patients up, and even in small ways, to help them heal.

CLINICAL CASE DISCUSSIONS

The Clinical Case Discussions (CCD) service is offered as an add-on to the Case Management service for projects with large numbers of cases from the same specialty. The service connects the project’s medical team with one or multiple specialists to discuss complex cases and potential solutions.

CCD was relaunched in January 2024, following a substantial revamping of the service and temporary pause in 2023. The service is now available in six projects across three OCs and three regions, including four new ones. It is worth noting that OCBA-Diffa, one of our longest running projects using CCD since 2021, was paused earlier this year. With a new infectious disease specialist recently onboarded for the project, we look forward to resuming sessions with the project’s medical team by the end of Q1 2025.



 <p>Ansongo - Mali Pediatrics specialist</p>	<p>OCBA 9 sessions CCD</p>
<p>In a context where access to healthcare remains a major challenge, MSF, in partnership with the health authorities of the region, decided to support the Ansongo district hospital in the following departments: pediatrics, neonatology, URENI, the operating theatre, the maternity ward and the emergency department, by implementing initiatives aimed at improving the quality of care in remote areas, one of them being the TM Clinical Case Discussions service.</p> <p>Implemented since April 2024 in the Ansongo project, CCD is an important complement providing clinical guidance to medical teams in the management of complex diseases often encountered in this remote project with limited resources. During regular meetings, the pediatrics specialist examines complex patient cases with the medical team at the Ansongo Reference Health Centre, guiding them in their clinical orientation. These CCD sessions have not only enabled patients to access specialized care faster, thus contributing to a reduced morbidity-mortality rate, but have also fostered continuous learning and capacity-building for staff through exchanges with specialists.</p>	



 <p>Palong Khali - Bangladesh Endocrinology specialist</p>	<p>OCP 7 sessions CCD</p>
<p>Palong Khali is a large project with a broad range of activities, including IPD and OPD services. NCDs and adult internal medicine make up a large share of the patient population, but they also have a sizeable mental health, hepatitis C, and SRH programs. The NCD clinic follows a cohort of about 2,500 patients. Of these, over 1,500 have diabetes, and about 400 of the patients with diabetes require insulin. The project was among the first to provide home-based insulin care for these patients, so they would not have to endure the hours-long walk to the clinic twice daily for their injections.</p> <p>Clinical Case Discussions have been used by the IPD and OPD teams since 2024. Both departments joined the sessions and traded off which team supplied the case, to provide a learning environment for all and to improve both IPD and OPD management. Most cases discussed are about diabetes, but thyroid disorder is also discussed. The discussions featured particularly challenging cases that did not conform easily to the clinical protocols in place because of complex clinical features. The clinical staff in attendance asked broad questions during the sessions, allowing them to apply advice shared by the endocrinology specialist more generally.</p>	

 <p>Mathare - Kenya Mental Health specialist</p>	<p>OCP 6 sessions CCD</p>
 <p>Kasese - Uganda Mental Health specialist</p>	<p>OCP 8 sessions CCD</p>
<p>Since 2024, both the Mathare and Kasese projects have been using the Clinical Case Discussions service to contribute to the ongoing learning process of counsellors and young psychologists providing psychological support to youth populations and survivors of sexual violence. According to the projects, the sessions with the mental health specialist can be conducted either as group case discussions or as individual technical supervisions. CCD adds value by offering an opportunity to discuss complex cases with an experienced clinician.</p>	

	<p>Patna advanced HIV - India Infectious Diseases + Neurology specialists</p>	<p>OCA 9 sessions CCD</p>
<p>Established in February 2019 with the aim of providing quality healthcare to patients with advanced HIV, the Patna project gained access to the CCD service in December 2020. Videoconference calls have been held with two infectious diseases specialists and one neurology specialist to review complex cases selected by the project medical staff. The management of patients with HIV who also have severe comorbidities and opportunistic infections is addressed to help with diagnosis, medical treatment, or referral for subspecialty consultations.</p>		

“ Since the inception of our project in 2019, Telemedicine has been an invaluable tool in managing critically sick and unwell patients. The ability to receive specialist advice through Telemedicine has greatly enhanced our clinical capabilities. Many of our advanced HIV patients have complex clinical conditions that require expert intervention. The specialist advice we receive is not only practical but also realistic, providing us with actionable solutions that significantly improve patient outcomes. We utilize both the Parsys (CM) system and real-time virtual case discussions, which allow us to collaborate effectively with specialists and make informed decisions swiftly. Telemedicine has truly revolutionized our approach to patient care, making it possible to deliver high-quality medical services even in the most challenging situations. ”

DR. SHREYAS MURALI
Medical Activity Manager (MAM) for the Patna advanced HIV project

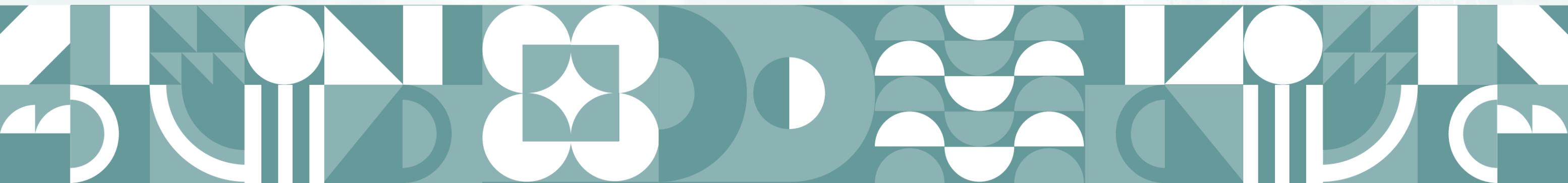
“ The MSF Telemedicine Program is extremely valuable. There is very limited access, or no access, to neurological care in many places around the world, despite neurological disorders being very common and often disabling. The MSF Telemedicine Program is an amazing way to increase access to neurological care and provide support for the medical providers seeing these patients all around the world. It is a great way to increase exposure and education of neurology for the medical providers, and I often try to provide more of a discussion in my responses of different neurological disorders or image findings. ”

DR. ALLISON NAVIS
CCD volunteer neurology specialist for the Patna advanced HIV project



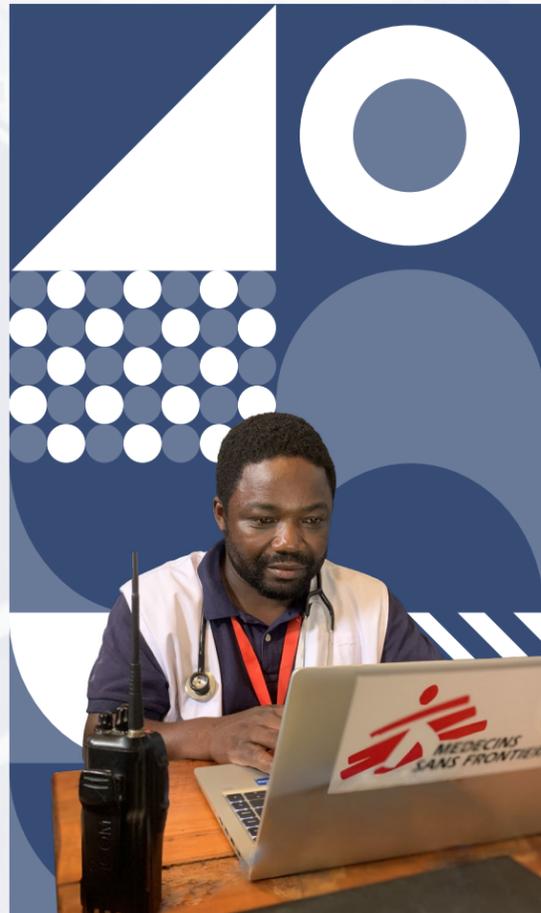
“ Telemedicine is an essential component of medicine and the push to ensure equity and access to medical care globally, a good example of doctors working without borders, true (to) the name ‘Médecins Sans Frontières’. Telemedicine has become an integral part of my daily work as an infectious diseases doctor here in Canada, and I have also really appreciated the opportunity Telemedicine offers to work as a volunteer with MSF. Specifically, I have appreciated the ability to interact with colleagues all over the world, and participate in providing the best possible care for people, even in very austere environments. Telemedicine helps address social justice issues of access to medical care, and helps level the playing field of who has access to specialists and medical expertise. ”

DR. JAN HAJEK
CCD volunteer infectious diseases specialist for the Patna advanced HIV project



SECURE MESSAGING

The Secure Messaging (SM) application is designed for MSF health-care professionals to safely discuss sensitive patient information and share files and images through instant messages. Secure Messaging provides a secure alternative to similar instant messaging applications for medical discussions. Having transitioned to the current SM provider (Celo) in June 2023, the data in last year's report represented 6 months of use. While it may seem that this is the reason for the 92% increase in users in 2024, that progress can largely be attributed to the work accomplished by the TM Regional Implementation Officers (RIO) through the Celo Scale Up initiative.



1,872
users¹¹



178
projects¹²



48
countries



84
newly implemented projects

¹¹ Based on number of email addresses that logged in in 2024.

¹² Includes HQ project from each OC.



SECURE MESSAGING & THE SOUTH AMERICA MIGRATORY ROUTE

In 2024, a notable use of the SM service was observed in MSF migration projects across Mexico, Guatemala, Honduras, Panama and Colombia. Colleagues from different teams, clinics, projects and even OCs used the application to securely share patient information, particularly on the topic of mental health and sexual violence. Sharing information through the app helps prevent the re-victimization of patients as they move along the migratory route and reach other MSF projects. In OCG Mexico projects, the teams developed a workflow that includes the SM service for referring patients travelling along the migratory route. A case is created in the application with a patient code, allowing

confidential details about their treatment to be shared. It also includes a list of individuals who need access to the patient's information, regardless of whether they are part of a different project or section. Group chats were created with various MSF members across the route to easily and securely share patient information and referrals if needed along the migratory route.

“As the social work manager for CAMINO, the impact of Telemedicine tools such as Celo has been very efficient, as it has allowed a confidential communication channel, direct and open communications between the people who directly accompany the person. Celo is a space for transferring information and digital medical records, which means that the person can consult it at any point of care along the migratory route where MSF is located.

We are increasingly working on the challenges for the follow-up of people who cross the migratory route from America to the United States and Celo has undoubtedly allowed us to shorten those gaps and make people feel accompanied during their journey.

It has also allowed us to unify follow-up methodologies with other OCs, which enriches the intersectional work on behalf of the patients.”

FABIOLA NAVARETTE

Social Work Activity Manager - OCG-Mexico Coordination

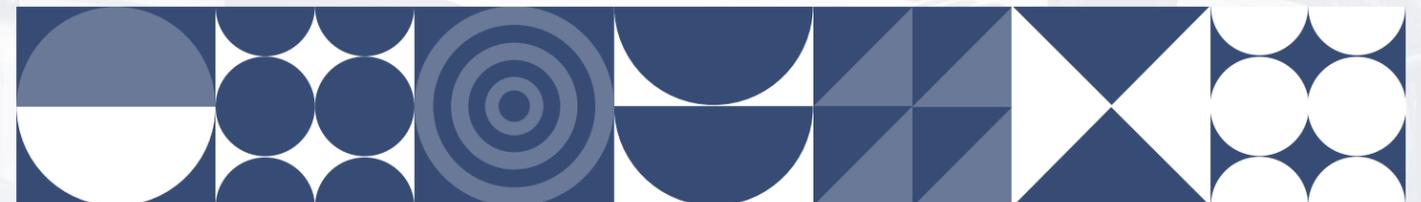


WaCA - Agboville (Côte d'Ivoire)
Project Update 2024

In last year's report, the WaCA project was highlighted as an example of how the SM service is used in tandem with the Telemedicine Stations implemented in 11 health centres of the district that function independently from the Telemedicine Program. These portable diagnostic stations collect crucial details about patients' physical health to conduct diagnostic evaluations and track their progress during treatment or rehabilitation. The medical teams, composed of nurses and midwives, are using SM to discuss patient treatments among the team and with a local network of experts.

In 2024, 7,907 patients were consulted via the telemedicine station in the Agboville health district. Of these, 810 were referred to tele-expertise¹³ using the MSF Telemedicine Program's SM service to contact a local network of specialists to discuss the best course of action and treatment for patients.

¹³ The World Health Organization (WHO) defines tele-expertise as a component of telemedicine where healthcare professionals seek remote guidance or a second opinion from specialists. This practice enhances medical services by facilitating access to specialized knowledge, thereby improving patient care. Source WHO <https://www.who.int/publications/i/item/9789240059184?utm>



CELO SCALE-UP

In 2024, the Telemedicine Program focused on expanding access to Celo. Our team launched the Celo Scale-Up initiative at the beginning of Q2. Throughout the quarter, each RIO worked with healthcare staff in their region to promote and implement the SM application. By the end of the initiative, 729 new accounts were activated on Celo, with new users from 70 MSF projects. Following the scale-up, the RIOs continuously engaged with Celo users to ensure training

needs or challenges were addressed and user accounts were updated to align with staff changes. The scale-up initiative strengthened the relationship between the TM Program and projects/ coordinations, increased awareness of Celo, and better engaged users. As we head into 2025, the team will continue to focus on promoting Celo, onboarding new users and engaging existing users.

PROGRAM INITIATIVES



ALLOCATION STREAMLINING

As the Telemedicine Program is reaching more projects across MSF, the number of cases is growing, and so is the complexity of allocating a case. With each OC having a distinct set of rules for allocating a case, the Clinical Case Coordinators have to spend more time ensuring the case is being allocated appropriately and there is a higher possibility of human error. For this reason, our team launched an initiative this year to work with the Focal Points of each OC and consolidate the allocation policies. With everyone's collaboration, we successfully defined and agreed on a

streamlined policy that better leverages our volunteer network of specialists. This will be rolled out in Q1 and Q2 of 2025. The new streamlined policy now paves the way for our team to implement an automatic allocation feature that we have been designing with our service provider. This will reduce the time for specialist first response and allow our Coordinators to focus more on the clinical quality of cases. We hope to have this new feature implemented by Q4 2025.



QUALITY & AUDITS

In 2024, the Clinical Operations pillar of the Telemedicine Program completed several quality assurance activities to ensure the effectiveness of the Case Management service. Performance indicators were reviewed and reported quarterly, alongside regular POCUS audits, and findings were shared with relevant stakeholders, notably the POCUS team. A six-month case closure satisfaction survey was conducted and its report was disseminated to key parties, such as the Telemedicine OC Focal Points. Additionally, a comprehensive analysis of the Clinical Case Coordinators'

daily reporting was submitted, identifying issues through the Case Management workflow. New quality assurance protocols were developed, including a peer review process for Clinical Case Coordinators and feedback mechanisms for specialists from our network, both internal and external to MSF, scheduled for implementation in Q1 2025. These efforts aim to continuously improve service delivery and address potential issues proactively.

“ Throughout the years, I've witnessed a significant rise in the adoption of the Telemedicine platform and Secure Messaging app across our missions, with a particular surge in 2024. Most importantly, our frontline staff have expressed high levels of real-time satisfaction with the support provided through Telemedicine. It is encouraging to see an essential milestone achieved in 2024 by shifting focus from merely improving access to Telemedicine to establishing a patient-safety-incident process management system. Now, we have a dedicated patient-safety-incident reporting TM email address and cases are being brought forward. I believe such quality improvement initiatives and the growing demand for Telemedicine usage will continue to thrive as we foster collaboration with the various entities involved in patient care. ”

TESHOME ADEBABAI

Head of Medical Unit, OCBA – OCBA Telemedicine Focal Point

POCUS & TELEMEDICINE USAGE Patient story from OCBA-Abs (Yemen) 17 cases

A 22-day-old baby girl, one of a set of twins, was born through normal delivery with a birth weight of 1.29 kg. She initially had trouble breathing and was less active, prompting treatment with antibiotics, help with feeding, and oxygen support, which was discontinued after a few days. However, shortly after being weaned off oxygen, her condition worsened with increasing respiratory distress and hypoxia, with oxygen levels dropping to 86% in room air.¹⁴ A heart murmur was heard, and the patient remained oxygen-dependent, with levels reaching only 85% when oxygen was reduced. The medical team's examination revealed she was alert, had good reflexes, was mildly pale, but showed no blueish color (cyanosis). The heart murmur was heard loudly, radiating to her back. Suspecting a congenital heart condition called patent ductus arteriosus (PDA), the team asked for help from a pediatric heart specialist.

The cardiologist's feedback revealed that the baby had a rare heart condition called tricuspid atresia, where the right side of the heart is underdeveloped. The blood flow in the heart was abnormal, but the veins in the liver and lower body didn't show signs of extra pressure. The left side of the heart also appeared to be working well. If surgery was possible, they suggested giving medication to help the baby grow for potential future procedures. The cardiologist nevertheless presumed that long-term palliation of single ventricle hearts, a procedure that allows one ventricle to pump blood to the lungs and body, was not available in the region. With this assumption in mind, the advice for the medical team was to provide supportive care with hopes that the baby's condition would stabilize which would lead her to live quite long. However, with the unlikelihood of the baby's condition stabilizing, the cardiologist advised the medical team to counsel the family on how to approach decisions regarding aggressive treatment and the very high chance that their baby might not survive.

The local medical team thanked the cardiologist for the advice but shared that heart surgery and the necessary medication were unavailable in their country. They informed the family and worked on a plan for the baby's discharge.

¹⁴ Note that normal oxygen saturation for a neonate at room air should be between 93-98% <https://doi.org/10.1016/j.earlhumdev.2024.106134>.

CHALLENGES & OPPORTUNITIES 2024

1. Access to devices and Internet

Access to laptops and the Internet remains a challenge in some areas. It is essential to collaborate more closely with Information and Communication Technology teams to ensure access to the appropriate devices and reliable connectivity for all users.

2. Understanding digital health initiatives

With multiple digital health initiatives underway within the MSF movement, gaining a clearer understanding of current projects is crucial to avoid duplication and redundancy. Proactively sharing information about ongoing initiatives will foster transparency and collaboration. Until a clear prioritization framework is in place, open communication will be key to aligning efforts.

3. Competing priorities in medical operations

Medical operations have multiple competing priorities, making it difficult to allocate time and resources to raising awareness about the importance of embedding Telemedicine. A possible mitigation strategy is to integrate TM implementation goals into each department or operational area. This will help drive accountability and ownership across teams. Integrating the TM Program data into the medical activity reports of each OC and in the International Activity Report could also provide a consolidated view of the projects with access to TM services.

4. Gaining operational insights across six OCs

As a movement-wide initiative, it can be challenging to gather comprehensive operational insights from all six OCs. One way to improve visibility and understanding is by leveraging the GIS tool that serves as a valuable resource for gathering data and insights, while also reinforcing relationship-building efforts within the MSF movement. By strengthening these connections, we can ensure a more streamlined flow of information across OCs to better support medical operations with TM services.



PERSPECTIVES 2025

In 2025, with the launch of MSF Canada's strategic plan, the Telemedicine Program will align with the organization's strategic priorities and core objectives. Key focus areas include:

• Strengthening strategic partnerships

Foster closer collaboration between MSF sections, operational directorates, and emerging MSF entities to optimize resource allocation, improve operational efficiency, and enhance MSF Canada's role and impact within the global movement.

• Advocating for Telemedicine access

Engage with MSF stakeholders to advocate for projects that face barriers to accessing Telemedicine services, ensuring that these challenges are addressed and mitigated.

• Enhancing access to Telemedicine

Increase access to Telemedicine services within medical operations by deepening the understanding of the program's impact across MSF. This will help integrate Telemedicine more effectively into field operations.

• Improving program visibility

Develop a comprehensive communications strategy to increase the visibility of MSF Canada's Telemedicine contributions, both internally and externally, showcasing the program's value and impact.

• Expanding program recognition

Strengthen the recognition of the Telemedicine Program by ensuring that users and stakeholders can identify the Telemedicine services in use and their key features within existing MSF projects.

• Prioritizing field-based initiatives

Focus on field-based initiatives to improve adaptability and foster greater engagement among field teams and stakeholders.

• Ensuring stakeholder involvement

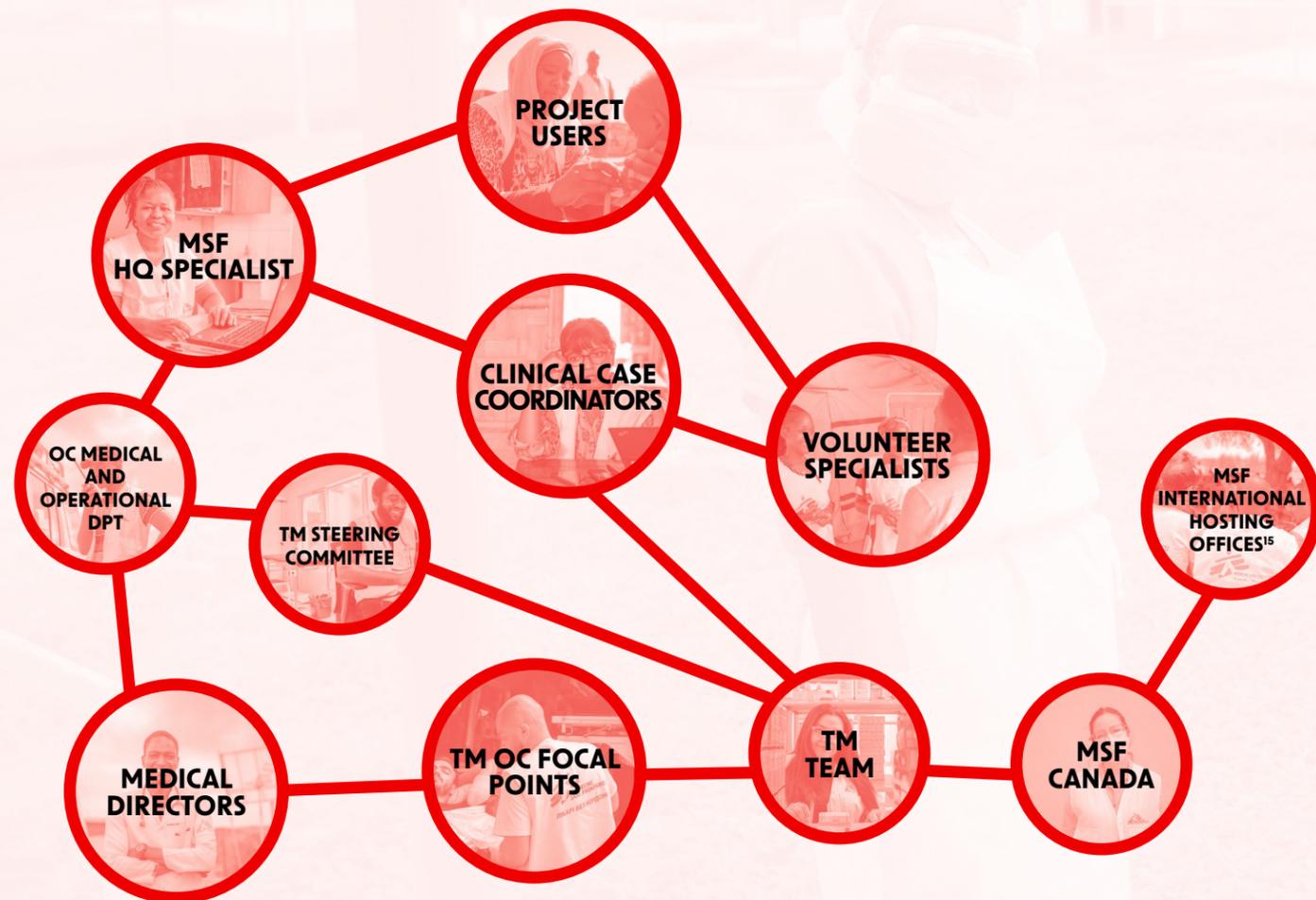
Ensure that new Telemedicine initiatives are closely aligned with field needs by involving field teams and stakeholders in key decision-making processes from the outset.

• Reviewing clinical feedback

Actively collect and review clinical feedback from field users on existing Telemedicine models to ensure that services remain relevant, effective, and adaptable to the specific needs of each project.

THANK YOU TO ALL OUR COLLABORATORS!

Your hard work, collective efforts, and support have been instrumental to the success of the Telemedicine Program this year. We are extremely grateful for your continuous commitment to combine forces and work together towards our shared goal of delivering accessible, equitable and quality people-centered care.



¹⁵ and regional hubs

CLOSING WORDS

As we reflect on 2024, it's clear that the Telemedicine Program has significantly expanded its reach and impact across MSF, embodying our commitment to people-centered care. The numbers speak for themselves: 114 new TM service implementations, 1,594 new users accessing vital services, and 5,236 cases receiving timely specialized medical advice. The dedication of 81 new volunteer specialists and the training of 968 staff members demonstrate a powerful network dedicated to improving patient outcomes.

However, our commitment extends beyond mere expansion. The past year's achievements underscore that Telemedicine is undeniably a core enabler—and catalyzer—of our social mission. Every day, telemedicine empowers teams to reimagine and challenge what it means to advance people-centered care. It demands that we relentlessly focus on quality of care. I am personally inspired by the team's quest for continuous improvement, willingness to learn from shortcomings and ability to quickly adapt. Embedded in our work is a drive to break free from outdated approaches and mindsets, while reinforcing resources where the telemedicine team is uniquely positioned to excel.

Looking ahead, we will leverage TM's capacity to strengthen access to specialized support, prioritizing quality and patient safety above all else. The future of digital health offers immense promise for enhancing equity and ensuring greater field proximity. As the digital divide narrows, Telemedicine will empower MSF to "go where no one else goes" with unprecedented reach, providing timely access to expertise for the most vulnerable populations.



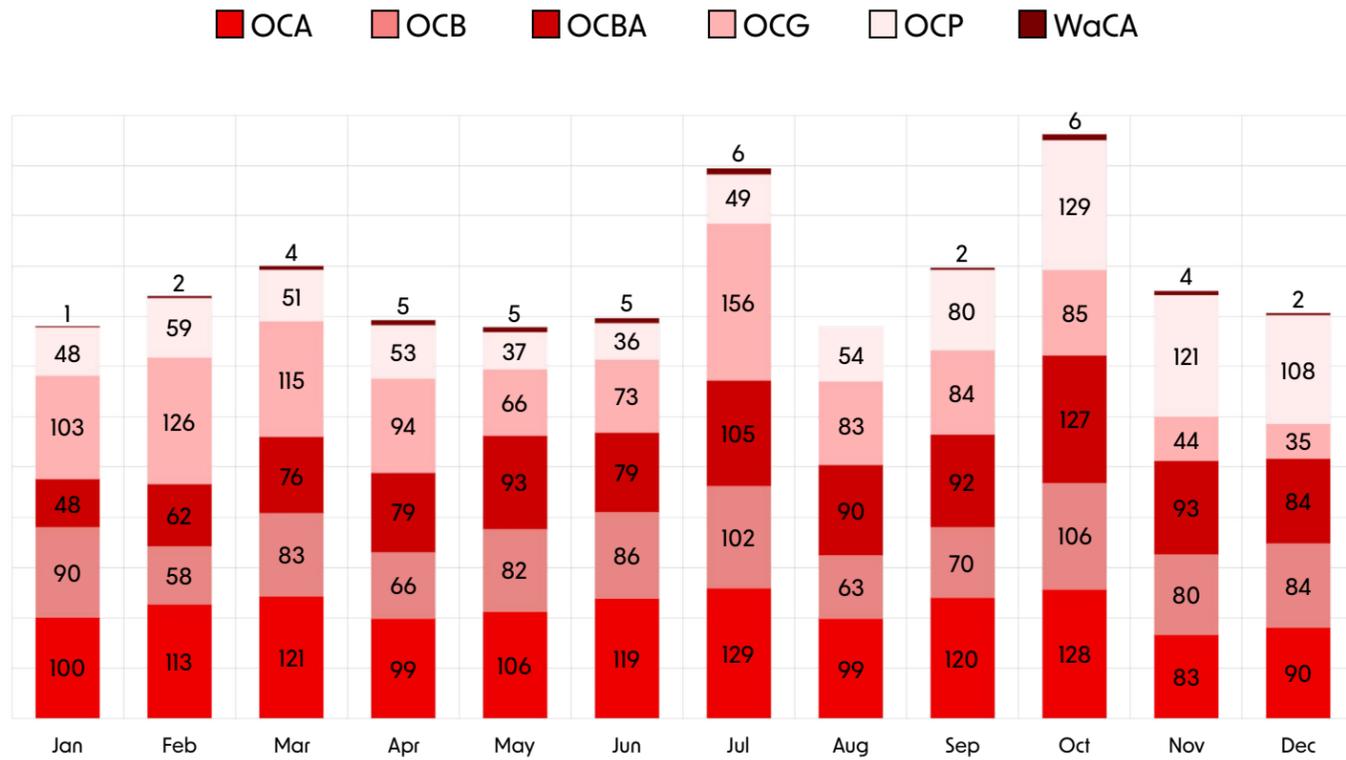
Telemedicine is more than just a technological solution. It is a means of ensuring that, even in the most challenging contexts, we deliver high-quality, patient-centered care. By embracing innovation, prioritizing quality, and fostering collaboration, we can unlock our shared potential to become the MSF the world needs us to be, delivering care to those most in need, wherever they may be.

SANA BÉG
Executive Director, MSF Canada
Telemedicine Steering Committee Member

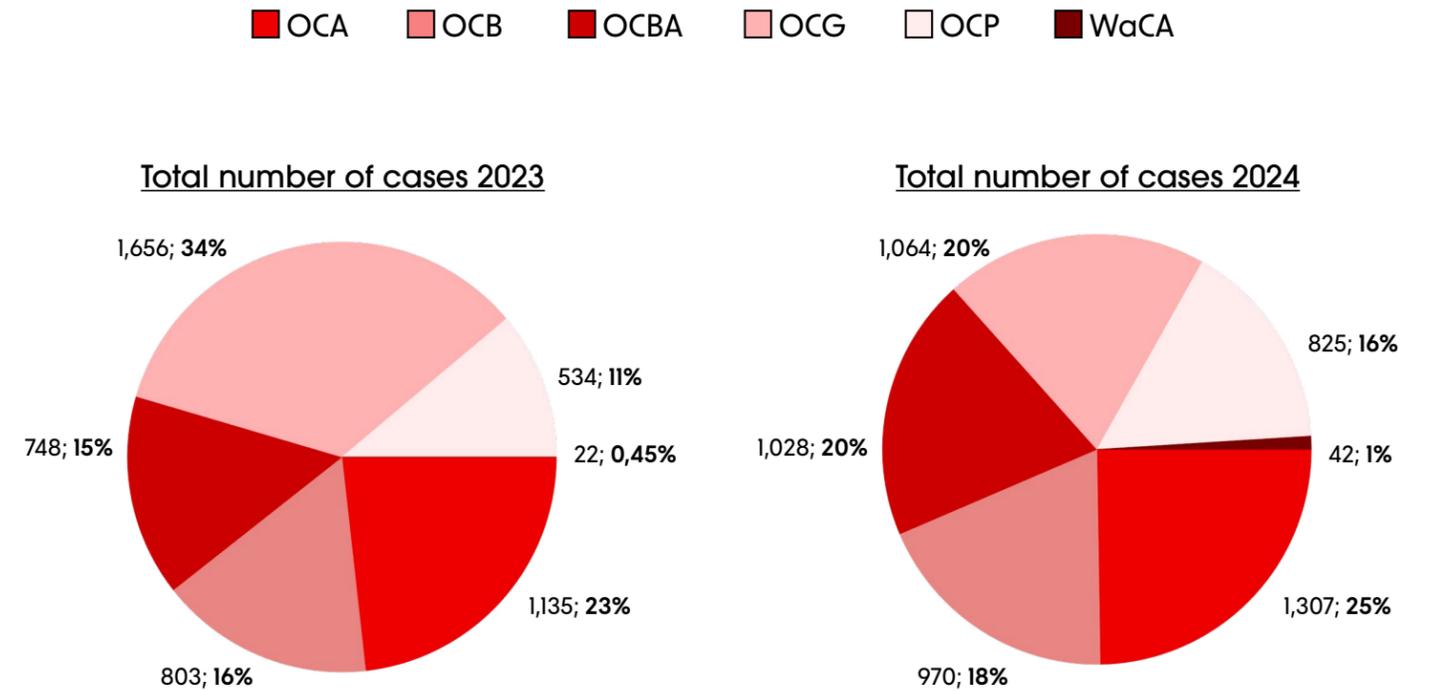
APPENDIX 1

Case Management

2024 MONTHLY CASES BY OPERATIONAL CENTRE



COMPARISON 2024-2023 CASES PER OPERATIONAL CENTER



OCA

CASE MANAGEMENT

PROJECTS WITH ACCESS TO CM SINCE 2021	PROJECTS POSTED AT LEAST 1 CASE WITHIN THE YEAR	% USAGE VS ACCESS OF PROJECTS	NUMBER OF CASES POSTED IN 2024
51 (66 in 2023)	35 (44 in 2023)	67%	1,307 (1,135 in 2023)
TOP 3 PROJECTS POSTING CASES	<ul style="list-style-type: none"> OCA- Kandahar, Afghanistan: 440 cases OCA- Patna, India: 155 cases OCA - Galkayo, Somalia: 115 cases 		TOP 3 SPECIALTY
			<ul style="list-style-type: none"> Radiology Pediatrics Internal Medicine

SECURE MESSAGING

NUMBER OF USERS ¹⁶	COMPARISON WITH 2023 ¹⁷	PROJECTS	COUNTRIES
517 (162 in 2023)	219%	41	18
TOP 3 PROJECTS WITH MOST USERS	<ul style="list-style-type: none"> Kutapalong Rohingya Refugees Secondary Healthcare: 103 Kashmir Mental Health: 64 Chhattisgarh Primary Healthcare: 39 		

CLINICAL CASE DISCUSSIONS

PROJECT	<ul style="list-style-type: none"> Patna - India
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¹⁶ Users that logged in to the application in 2024

¹⁷ Users that logged in to the application in 2023

OCB

CASE MANAGEMENT

PROJECTS WITH ACCESS TO CM SINCE 2021	PROJECTS POSTED AT LEAST 1 CASE WITHIN THE YEAR	% USAGE VS ACCESS OF PROJECTS	NUMBER OF CASES POSTED IN 2024
50 (51 in 2023)	33 (29 in 2023)	65%	970 (803 in 2023)
TOP 3 PROJECTS POSTING CASES	<ul style="list-style-type: none"> OCB - Kenema Xray, Sierra Leone: 703 cases OCB - Bangassou, DRC: 55 cases OCB - Afar, Ethiopia: 25 cases 		TOP 3 SPECIALTY
			<ul style="list-style-type: none"> Radiology Pediatrics Internal Medicine

SECURE MESSAGING

NUMBER OF USERS ¹⁶	COMPARISON WITH 2023 ¹⁷	PROJECTS	COUNTRIES
280 (147 in 2023)	90%	30	17
TOP 3 PROJECTS WITH MOST USERS	<ul style="list-style-type: none"> NWS Idlib Project: 68 Anzoategui: 41 Yanomami: 36 		

OCBA

CASE MANAGEMENT

PROJECTS WITH ACCESS TO CM SINCE 2021	PROJECTS POSTED AT LEAST 1 CASE WITHIN THE YEAR	% USAGE VS ACCESS OF PROJECTS	NUMBER OF CASES POSTED IN 2024
49 (47 in 2023)	37 (32 in 2023)	73%	1,028 (748 in 2023)
TOP 3 PROJECTS POSTING CASES	<ul style="list-style-type: none"> OCBA - Mazar Pediatrics, Afghanistan: 142 cases (New project) OCBA - Malakal, South Sudan: 92 cases OCBA - Salamabila, DRC: 80 cases 		TOP 3 SPECIALTY
			<ul style="list-style-type: none"> Pediatrics Radiology Internal Medicine

SECURE MESSAGING

NUMBER OF USERS ¹⁶	COMPARISON WITH 2023 ¹⁷	PROJECTS	COUNTRIES
323 (247 in 2023)	31%	39	14
TOP 3 PROJECTS WITH MOST USERS	<ul style="list-style-type: none"> MEXICO, migrants intervention: 51 IDAL, Emergency: 25 CAI, SOIT: 21 		

CLINICAL CASE DISCUSSIONS

PROJECT	<ul style="list-style-type: none"> Ansongo - Mali
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¹⁶ Users that logged in to the application in 2024

¹⁷ Users that logged in to the application in 2023

OCG

CASE MANAGEMENT

PROJECTS WITH ACCESS TO CM SINCE 2021	PROJECTS POSTED AT LEAST 1 CASE WITHIN THE YEAR	% USAGE VS ACCESS OF PROJECTS	NUMBER OF CASES POSTED IN 2024
40 (46 in 2023)	29 (30 in 2023)	66%	1,064 (1,656 in 2023)
TOP 3 PROJECTS POSTING CASES	<ul style="list-style-type: none"> OCG - Chui, Kyrgyzstan: 606 cases (closed in Nov.) OCG - Mogovolas, Mozambique: 90 cases OCG - Ad Dahi, Yemen: 57 cases 		TOP 3 SPECIALTY
			<ul style="list-style-type: none"> Gynecology/Obstetrics POCUS Pediatrics

SECURE MESSAGING

NUMBER OF USERS ¹⁶	COMPARISON WITH 2023 ¹⁷	PROJECTS	COUNTRIES
226 (81 in 2023)	179%	22	12
TOP 3 PROJECTS WITH MOST USERS	<ul style="list-style-type: none"> Chui: 50 Reynosa/Frontera: 27 Regional Migration Guatemala: 20 		

OCP

CASE MANAGEMENT

PROJECTS WITH ACCESS TO CM SINCE 2021	PROJECTS POSTED AT LEAST 1 CASE WITHIN THE YEAR	% USAGE VS ACCESS OF PROJECTS	NUMBER OF CASES POSTED IN 2024
59 (62 in 2023)	51 (49 in 2023)	85%	825 (534 in 2023)
TOP 3 PROJECTS POSTING CASES	<ul style="list-style-type: none"> OCP - Gujranwala, Pakistan: 199 cases OCP - Homa Bay, Kenya: 63 cases OCP - Carnot, CAR: 59 cases 		TOP 3 SPECIALTY
			<ul style="list-style-type: none"> Radiology Pediatrics Internal Medicine

SECURE MESSAGING

NUMBER OF USERS ¹⁶	COMPARISON WITH 2023 ¹⁷	PROJECTS	COUNTRIES
434 (278 in 2023)	56%	35	18
TOP 3 PROJECTS WITH MOST USERS	<ul style="list-style-type: none"> Trauma Unit, Syria: 87 Amman Irak Chirurgie: 64 Palong Khali Project: 56 		

CLINICAL CASE DISCUSSIONS

PROJECTS	<ul style="list-style-type: none"> Mathare - Kenya Kasese - Uganda Palong Khali - Bangladesh
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¹⁶ Users that logged in to the application in 2024

¹⁷ Users that logged in to the application in 2023

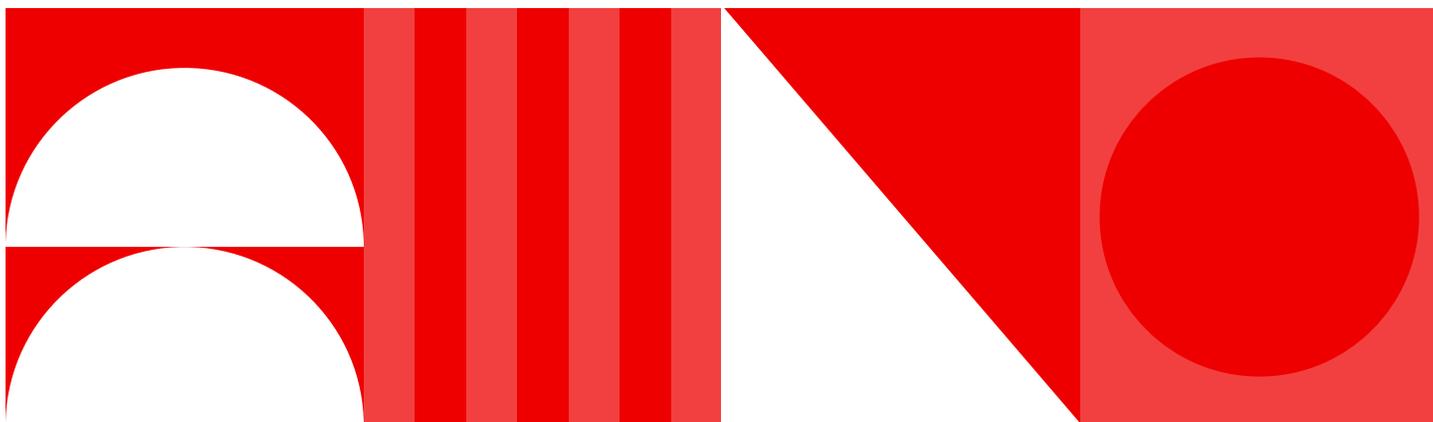
WaCA

CASE MANAGEMENT

PROJECTS WITH ACCESS TO CM SINCE 2021	PROJECTS POSTED AT LEAST 1 CASE WITHIN THE YEAR	% USAGE VS ACCESS OF PROJECTS	NUMBER OF CASES POSTED IN 2024
7 (4 in 2023)	6 (4 in 2023)	86%	42 (22 in 2023)
TOP 3 PROJECTS POSTING CASES	<ul style="list-style-type: none"> WaCA - Nutrition Ndjamena, Chad: 20 cases WaCA - Kano, Nigeria: 7 cases WaCA - Guidan Roudji, Niger: 5 cases 		TOP 3 SPECIALTY
			<ul style="list-style-type: none"> Pediatrics Internal Medicine Radiology

SECURE MESSAGING

NUMBER OF USERS ¹⁶	COMPARISON WITH 2023 ¹⁷	PROJECTS	COUNTRIES
66 (76 in 2023)	-13%	10	4
TOP 3 PROJECTS WITH MOST USERS	<ul style="list-style-type: none"> Agboville/CI: 22 Kano: 15 Iriba: 13 		



PRODUCED BY MSF TELEMEDICINE TEAM

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