



MSF - OPERATIONAL CENTRE BRUSSELS - **MEDICAL DEPARTMENT**

# OCB MEDICAL ACTIVITY REPORT 2018

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## OCB Medical Activity Report 2018

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# INTRODUCTION

# 01

Dear Colleagues, Dear Friends,

This is a transition year for the Medical Activity Report. Although we understand your satisfaction feeling the weight of our activities when holding the old paper reports in your hands, this year we decided to move on and only offer a digital version. You will find it easy to scroll through each chapter, first looking at some key numbers as well as at the highlights of 2018, then going for a deep dive into the details of the activities, and finally reading the lessons learned in 2018, and the goals for 2019. Our intention is to make the report interactive in the future, an invitation to all of us to explore the amazing work done by the teams in the field.

Maybe you see yourself and your work as only remotely connected to our action with patients and communities. MSF can do incredible things thanks to our diversity and to the contribution of all, you included. This report is the written testimony of what we can achieve together. It is an inspiration that strengthens our medical humanitarian commitment to respond effectively to the priority health needs of the most vulnerable.

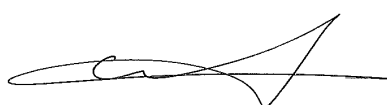
Since January 2019 we have all been involved in defining MSF's strategy for the coming four years, a very inclusive and very demanding exercise. At the core of our activity we will prioritize trauma care and care to victims of violence, response to epidemics, HIV & tuberculosis, child health and women's health. We will continue to invest in the new field of environmental health, in our approach to non-communicable diseases, in access to health care in urban settings, in developing models of care in displacement and forced migration, as well as in our response to rising antimicrobial resistance. Community health care and primary health care have also been identified as deserving much more attention. This is aligned with our strong willingness to develop and manage projects with the communities we serve.

The field recentralization initiative will aim at giving more autonomy to field projects within a defined frame. We also want to reach out and incorporate the expertise of our staff in the field. They will be able to support each other through communities of practice; a pilot for our health promotion community is about to start.

Quality of care to our patients and quality of our interventions in the community are essential. To achieve this, we will continue to improve our support model and focus on the human factor.

This report will, year after year, help us to keep track of our achievements and areas for improvement. Thanks to all those who made it possible.

Wishing you a great read and hoping it will help you designing the projects of tomorrow.



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# EXECUTIVE SUMMARY

02

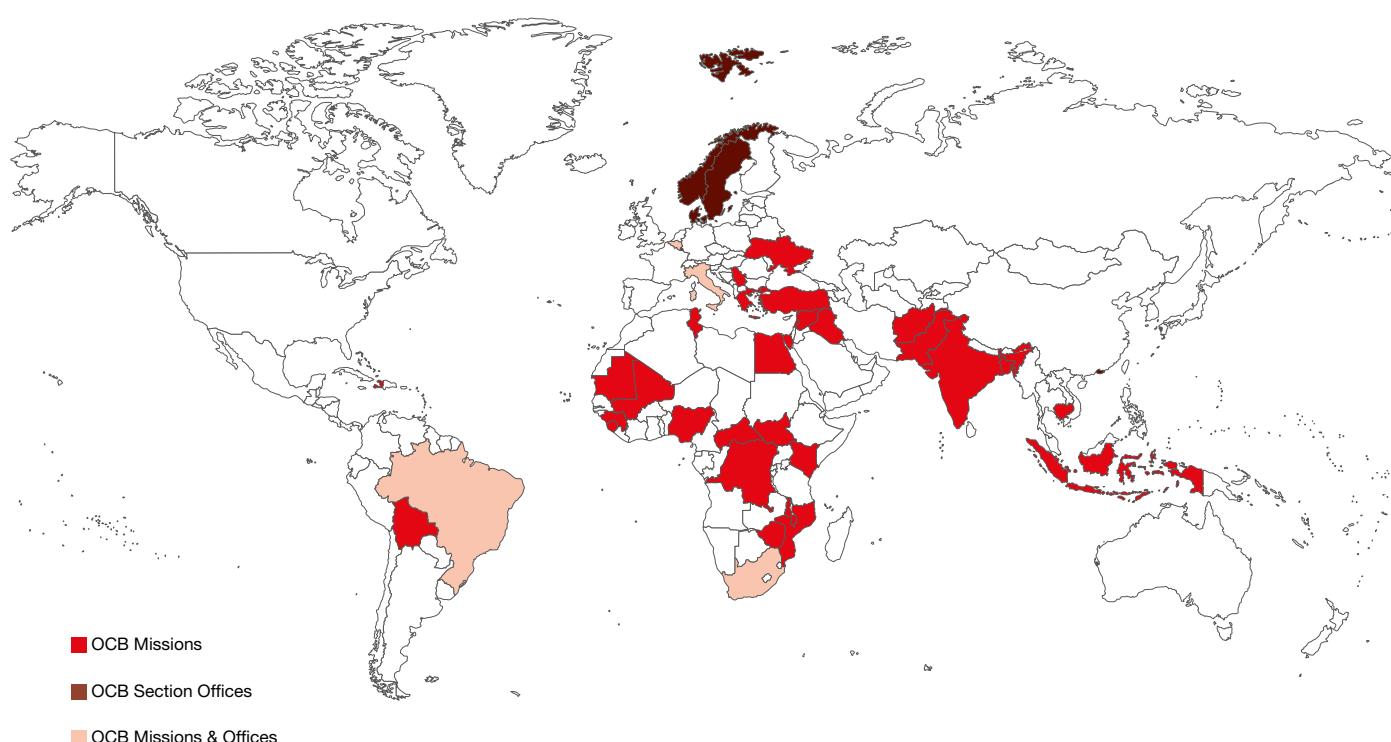
In 2018, Médecins Sans Frontières – Operational Centre Brussels (MSF OCB) ran 94 projects in 35 countries. Overall, 1,832,098 outpatient department (OPD) consultations were performed, of which 541,372 were for children under the age of five. There were 151,590 admissions to in-patient Departments (IPD); 28,202 patients were children (1-59 months) and 7,620 were neonates.

While continuing the support of projects for Rohingya refugees in Bangladesh and for the malnutrition crisis in Borno State in Nigeria, some major responses for OCB in 2018 included: i) initiating the emergency response to the conflict in Gaza; ii) responding to the Ebola Virus Disease outbreak in the Democratic Republic of the Congo; and iii) providing assistance to asylum seekers in and around Europe. Geographically, activities in sub-Saharan Africa remained at the core of MSF OCB interventions (Figure).

In 2018

**1,133,000** doses of vaccines were administered  
**497,411** cases of confirmed malaria were treated  
**90,154** babies were delivered; 7,166 of these by C-section  
**55,102** individual Mental Health sessions were provided  
**19,520** surgical interventions were undertaken  
**6865** victims of sexual violence accessed care  
**1457** cases of Multi-Drug Resistant TB were diagnosed and treated

**FIGURE** Global OCB sections and missions, 2018





# LIST OF ABBREVIATIONS

03

<b>ABR:</b> Antibiotic Resistance	<b>HMTT:</b> Hospital Management Team Training
<b>ACT:</b> Artemisinin-based Combination Therapies	<b>HP:</b> Health Promotion
<b>AIDS:</b> Acquired Immune Deficiency Syndrome	<b>HPV:</b> Human Papilloma Virus
<b>ALSO:</b> Advanced Life Support in Obstetrics	<b>HQ:</b> Head Quarters
<b>AMR:</b> Antimicrobial Resistance	<b>HR:</b> Human Resource
<b>ANC:</b> Antenatal Care	<b>HRP:</b> Histidine Rich Protein
<b>ART:</b> Anti-Retroviral Treatment	<b>iCCM:</b> Integrated Community Case Management
<b>AS:</b> Antibiotic Stewardship	<b>ICRC:</b> International Committee of the Red Cross
<b>ATFC:</b> Ambulatory Therapeutic Feeding Centre	<b>ICT:</b> Information and Communication Technologies
<b>BASIC-DHS:</b> Basic Assessment and Support in Intensive Care for Developing Healthcare Systems:	<b>ICU:</b> Intensive Care Unit
<b>BCG:</b> Bacille Calmette Guérin (TB vaccination)	<b>IDP:</b> Internally Displaced People
<b>BEmONC:</b> Basic Emergency Obstetric and Neonatal Care	<b>IPC:</b> Infection Prevention and Control
<b>bOPV:</b> Bivalent Oral Polio Vaccine	<b>IPD:</b> In-Patient Department
<b>CAR:</b> Central African Republic	<b>IPV:</b> Intimate Partner Violence
<b>CDC:</b> Centres for Disease Control and Prevention	<b>IPV:</b> Inactivated Polio Vaccine
<b>CEmONC:</b> Comprehensive Emergency Obstetric and Newborn Care	<b>IT:</b> Information and Communication Technologies
<b>CHW:</b> Community Health Worker	<b>ITFC:</b> In-Patient Therapeutic Feeding Centre
<b>CNCD:</b> Chronic Non-Communicable Disease	<b>ITM:</b> Institute of Tropical Medicine in Antwerp
<b>CPAP:</b> Continuous Positive Airflow Pressure	<b>KZN:</b> KwaZulu-Natal
<b>CPT:</b> Cognitive Processing Therapy	<b>LAM:</b> Lipoarabinomannan Assay
<b>CrAg:</b> Cryptococcal Antigen	<b>LBW:</b> Low Birth Weight
<b>CS:</b> Caesarean Sections	<b>LEEP:</b> Loop Electrosurgical Excision Procedure
<b>CSW:</b> Commercial Sex Worker	<b>LLIN:</b> Long Lasting Insecticide Treated Nets
<b>CTC:</b> Cholera Treatment Centre	<b>LOC:</b> Level of Care
<b>DAA:</b> Direct-Acting Antivirals	<b>LPA:</b> Line Probe Assay
<b>DBS:</b> Dry Blood Spot	<b>LRTI:</b> Lower Respiratory Tract Infection
<b>DHIS2:</b> District Health Information Software 2	<b>LSHTM:</b> London School of Hygiene and Tropical Medicine
<b>DOC:</b> Direct Obstetric Complications	<b>LuxOR:</b> Luxembourg Operational Research Unit
<b>DoE:</b> Declaration of Equivalence	<b>M&amp;E:</b> Monitoring and Evaluation
<b>DRC:</b> Democratic Republic of the Congo	<b>MAM:</b> Medical Activity Manager
<b>DRTB:</b> Drug Resistant TB	<b>MAST:</b> Monitoring and Surveillance Tools
<b>DRTB:</b> Drug Resistant Tuberculosis	<b>MCV:</b> Measles Containing Vaccination
<b>DSTB:</b> Drug Sensitive TB	<b>MDR:</b> Multi-Drug Resistant
<b>ED:</b> Emergency Department	<b>MENA:</b> Middle East and Northern Africa
<b>EML:</b> Essential Medicines List	<b>MH:</b> Mental Health
<b>EmOC:</b> Emergency Obstetric Care	<b>MHPSS:</b> Mental Health and Psychosocial Support
<b>EMR:</b> Electronic Medical Records	<b>MHS:</b> Management of Health Structures
<b>EPI:</b> Extended Programme on Immunisation	<b>MINOS:</b> Medical Information Network for Operational Support
<b>EPREP:</b> Emergency Preparedness	<b>MIO:</b> Mobile Implementing Officer
<b>EQAS:</b> External Quality-Control System	<b>MoH:</b> Ministry of Health
<b>ER:</b> Emergency Room	<b>MSF:</b> Médecins Sans Frontières
<b>ERB:</b> Ethics Review Board	<b>MSM:</b> Men who have Sex with Men
<b>ESBL:</b> Extended Spectrum Beta Lactamase	<b>MUAC:</b> Middle Upper Arm Circumference
<b>EU:</b> European Union	<b>MUST:</b> Mobile Unit Surgical Trailer
<b>E-Unit:</b> Emergency Unit	<b>NAM:</b> Nursing Activity Manager
<b>EVD:</b> Ebola Virus Disease	<b>NCD:</b> Non-Communicable Disease
<b>FLMT:</b> First Line Medical Training	<b>NDRA:</b> National Drug Regulatory Authority
<b>FP:</b> Family Planning	<b>NET:</b> Narrative Exposure Therapy
<b>FPR:</b> Family Protection Ration	<b>NFI:</b> Non-Food Item
<b>GAM:</b> Global Acute Malnutrition	<b>NG:</b> Nasogastric Tube
<b>GDP:</b> Good Distribution Practice	<b>NGO:</b> Non-Governmental Organization
<b>GIS:</b> Geographic Information System	<b>NICD:</b> National Institute of Communicable Diseases
<b>GPP:</b> Good Pharmacy Practice	<b>NIV:</b> Non-Invasive Ventilation
<b>GTFCC:</b> Global Task Force for Cholera Control	<b>OC:</b> Operational Centre
<b>Gyn-Obs:</b> Gynaecology/Obstetrics	<b>OCA:</b> Operational Centre Amsterdam
<b>HBV:</b> Hepatitis B Virus	<b>OCB:</b> Operational Centre Brussels
<b>HC:</b> Health Centre	<b>OCBA:</b> Operational Centre Barcelona
<b>HCV:</b> Hepatitis C Virus	<b>OCG:</b> Operational Centre Geneva
<b>HH:</b> Household	<b>OCF:</b> Operational Centre Paris
<b>HIV:</b> Human Immunodeficiency Virus	<b>OCV:</b> Oral Cholera Vaccine
	<b>OD:</b> Operating Department

<b>OPD:</b> Out-Patient Department	<b>SEU:</b> Stockholm Evaluation Unit
<b>OR:</b> Operational Research	<b>SGBV:</b> Sexual and Gender Based Violence
<b>OT:</b> Operating Theatre	<b>SOP:</b> Standard Operating Procedure
<b>PBO:</b> Piperonyl Butoxide	<b>SORT IT:</b> Structured Operational Research and Training Initiative
<b>PCR:</b> Polymerase Chain Reaction	<b>SRH:</b> Sexual and Reproductive Health
<b>PCV:</b> Pneumococcal vaccine	<b>STI:</b> Sexually Transmitted Infection
<b>PEP:</b> Post-Exposure Prophylaxis	<b>SV:</b> Sexual Violence
<b>PHC:</b> Primary Health Care	<b>SVR12:</b> Sustained Virologic Response at 12 weeks after treatment completion
<b>pLDH:</b> Parasite Lactate Dehydrogenase	<b>TB:</b> Tuberculosis
<b>PLHIV:</b> People Living with HIV	<b>TFC:</b> Therapeutic Feeding Centre
<b>PMR:</b> Project Medical Referent	<b>ToP:</b> Termination of Pregnancy
<b>PMTCT:</b> Prevention of Mother-to-Child Transmission	<b>tOPV:</b> Trivalent oral polio vaccine
<b>PNC:</b> Postnatal Care	<b>ToT:</b> Training of Trainers
<b>POC:</b> Point of Care	<b>UNAIDS:</b> Joint United Nations Programme on HIV/AIDS
<b>PPD:</b> Preparation for Primary Departure	<b>UNDP:</b> United Nations Development Program
<b>PrEP:</b> Pre-Exposure Prophylaxis	<b>UNICEF:</b> United Nations Children's Fund
<b>PSP:</b> Populations in Precarious Situations	<b>URTI:</b> Upper Respiratory Tract Infection
<b>PUC:</b> Pool d'Urgence Congo	<b>VC:</b> Vector Control
<b>RDT:</b> Rapid Diagnostic Test	<b>VCS:</b> Vaccination Coverage Survey
<b>REMIT:</b> Research Impact Monitoring Tool	<b>VIAC:</b> Visual Inspection Acetic Acid and Cervicography
<b>RPR:</b> Rapid Plasma Reagin	<b>VL:</b> Viral Load
<b>RTI:</b> Respiratory Tract Infection	<b>VoT:</b> Victims of Torture
<b>RUTF:</b> Ready-to-Use Therapeutic Food	<b>WASH:</b> Water, Sanitation and Hygiene
<b>SAC:</b> Safe Abortion Care	<b>WFP:</b> World Food Program
<b>SAM:</b> Severe Acute Malnutrition	<b>WG:</b> Working Group
<b>SAMU:</b> South African Medical Unit	<b>WHO:</b> World Health Organization
<b>SAR:</b> Search and Rescue	<b>YF:</b> Yellow Fever
<b>SATS:</b> South African Triage System	

# YEAR IN REVIEW

# 04

Throughout 2018, Médecins Sans Frontières (MSF) Operational Centre Brussels (OCB) continued to provide primary and specialised medical care (including mental health care) in contexts ravaged by protracted conflicts. Post-surgical care and rehabilitation for the war-wounded in Iraq, Syria and Gaza, psychosocial care for victims of torture, and primary health care for the population of Central African Republic (CAR) were just a few examples of how MSF OCB assisted those in need.

In response to the continuing European migrant crisis, MSF played an important role in the well-being of migrants, refugees, and asylum-seekers, providing care along the migration routes and within European arrival countries (Italy and Greece), transit countries (Serbia and Bosnia) and destination countries (Sweden and Belgium). Furthermore, OCB activities for migrants expanded to sub-Saharan Africa, South America, and the Pacific region with projects in Malawi, Mozambique, the Venezuelan/Brazilian border region, and Nauru (before MSF's unexpected expulsion by the Nauruan authorities).

Examples of outbreak emergencies in 2018 include the Ebola Virus Disease outbreak in the Democratic Republic of the Congo and the Lassa fever outbreak in Nigeria. Throughout the year, along with other operational centres, MSF OCB continued operations in the Rohingya refugee camps in south-eastern Bangladesh in response to the alarming water, sanitation, and hygiene situation.

With the ever-growing volume and complexity of hospital-based activities and surgical interventions, MSF OCB continued its Antibiotic Stewardship programme which is designed to monitor and promote the optimal use of antibiotic medications.

Following the success of the first thematic operational research course, WASH IT (a Water, Sanitation and Hygiene themed course) in 2017, a second thematic operational course, MIGRATE IT (on migration and forced displacement), had its first module in 2018. These trainings were to provide field-based evidence and build research expertise in the domains of WASH and migration.

Regular OCB projects in 2018 were marked by an increase in medical activities across a number of domains including health promotion (HP), malaria treatment, obstetric care, treatment for victims of sexual violence, and water, hygiene and sanitation (WASH). Mental health, HIV/TB, SRH, nutrition and HP activities continued to be better integrated into comprehensive packages of care. 2018 also saw the maturation of abortion care in several MSF projects, specifically those providing care focusing on reproductive health or sexual violence.

In 2018, the domain of Water, Sanitation, and Hygiene (WASH) was redefined as Environmental Health. This redefinition aims to guarantee sufficient medicalisation of the WASH activities in MSF and reflects the reality on the ground: while WASH in MSF has for years aimed to control infections and the spread of diseases by ensuring proper water, sanitation, and vector control strategies around patients and the communities in which MSF works, activities go beyond merely providing water to health facilities, or building sanitation infrastructure for a displaced population or a health facility.

Special attention was given to improving and standardising the quality of care in OCB projects: there was a greater focus on ensuring that essential WASH requirements were in place; expertise on addressing medical waste management was developed further; standard operational procedures, guidelines and protocols were worked on and streamlined; and the value and service afforded by interdisciplinary platforms was capitalised on in multiple areas. There were several new referents, coordinators, mobile implementation officers and field coaches introduced in different departments to improve interaction, expertise and field support. And in order



to ensure intersectional coherence, intersectional working groups and numerous trainings were held across different medical domains.

## CHALLENGES AND PROSPECTS

In 2018, the evolving complexity of OCB projects (higher technical needs, higher expected standards of care, and higher volumes of activities) and complexity of the different contexts where OCB works (in terms of logistics and supply, security, politics, and human resources) continued to be main challenges.

Human resource constraints continued to pose a challenge in many areas. Gaps in headquarters positions, as well as in the field for certain profiles, such as surgeons and anaesthesiologists, hindered capacity to provide quality care.

In 2019, MSF OCB will continue to focus on improving the quality of care provided in the contexts that it works; in middle-income countries, new technologies and services relevant to that context will be introduced; and where possible, concerted efforts will be made to provide more patient-centred care. Finally, special focus will be channelled into continuing implementation of antibiotic stewardship in projects and investing more in MSF-run microbiology laboratories in order to reduce antimicrobial resistance.

A new framework (Operational Research System) for conducting OR in OCB is to be developed in 2019. It is anticipated that this OR framework will incorporate the minimum criteria to be met in advance of launching new research projects. It will also rationalise the prioritisation and decision-making process during OR implementation.

In conclusion, OCB's presence in more challenging and complex settings (e.g., conflict areas or settings with limited supply processes), the increased importance being placed on integrated models of care, and the expectations towards MSF as a leading humanitarian organisation, will necessitate the development and implementation of more innovative models of care delivery, guided and supported by a diversity of operational research.

# ANTIBIOTIC RESISTANCE

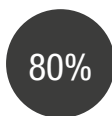
05

**9**

Antibiotic stewardship committee in nine projects

**4**

Four projects conducted Point Prevalence Surveys (PPS)

**1**

One project prescribed antibiotics according to guidelines >80% of the time

**1**

Daily Defined Dose (DDD) measurement used in two projects

**4**

Microbiology culture was accessed in four countries

## HIGHLIGHTS OF 2018

- **Several new monitoring and evaluation tools (PPS, DDD, WHONET) introduced for the first time in 2018**
- **Access to microbiological culture testing became more available**
- **Operational research continued**
- **Several projects implemented antibiotic stewardship packages in 2018**
- **Challenges included gaps in field and HQ positions, delays in implementation due to context and security situations, and budget limitations**

## 1. OVERVIEW

Antimicrobial resistance (AMR), and more specifically antibiotic resistance (ABR), is a serious threat to global public health and a priority in the global health agenda. Since 2015, the multidisciplinary MSF ABR Task Force has been working on the agenda for tackling this issue. In 2018, Health Promotion (HP), Analysis and Advocacy, and Monitoring and Surveillance activities were added to the Task Force, broadening the overall approach of MSF for ABR in our projects. ABR activities are transversal in nature, and a multidisciplinary approach is necessary to successfully implement the recommended three pillars: Infection Prevention and Control (IPC), Antibiotic Stewardship (AS), and Bacteriology in order to improve the quality of our medical care.

In 2018, ABR activities were focused on hospitals' Inpatient Departments (IPD) through the introduction of AS teams, improvement in IPC practices, and in specific contexts, assuring access to quality bacteriological laboratories. However, tackling ABR in Outpatient Departments (OPD) will be the target of 2019, with the feasibility of ABR activities being assessed in various types of projects, including community-based, in the future.

## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. ABR MONITORING TOOLS

New tools for monitoring quality and quantity of antibiotic prescription, such as Point Prevalence Survey (PPS) and Daily Defined Dose (DDD), and for microbiological surveillance (WHONET) were rolled out in several countries in 2018:

- **PPS:** Tabarre (Haiti), Timergara (Pakistan), Bujumbura (Burundi), Nsanje (Malawi)
- **DDD:** Tabarre (Haiti), Bujumbura (Burundi)
- **WHONET:** Mosul (Iraq)

PPS is a tool consisting of a standard questionnaire regarding inpatients that have an active antibiotic prescription at 8:00 am that day. It gives a snapshot of the prevalence of patients receiving any antibiotic in that hospital unit, the “quality” of antibiotic prescription (choice, dose, duration, and route) as well as the indication for the prescription. The appropriateness of the prescription is judged on the basis of available antibiotic treatment guidelines. Results from various PPS studies show that there is a major need for improved antibiotic prescriptions, including documentation of indications in patients’ charts, and dosage calculation (especially among children). These results have stimulated the pilot sites to plan specific actions to change inappropriate practices and to measure the impact of the interventions through repeated PPSs in 2019.

DDD is a tool that calculates the average maintenance dose per day for an antibiotic’s main indication in adults and can be used to monitor trends of antibiotic consumption over time. The piloting of the DDD tool highlighted the areas where it should be refined as data availability in the field and its interpretation is still a challenge.

WHONET is a microbiology laboratory database software supported by the World Health Organization (WHO). Its use for microbiology results has provided a clear overview of resistance patterns and their prevalence. This information can be used for forecasting antibiotic needs and ordering, for defining the logistical and human resources (HR) needs for implementing correct contact precautions, and for advocacy.

### 2.2. ANTIBIOTIC STEWARDSHIP

Antibiotic stewardship (AS) refers to a set of coordinated interventions to monitor and promote the optimal use of antibiotic medications to optimise clinical outcomes, minimise unintended consequences of antibiotic use (such as resistance, toxicity, and adverse effects), and decrease unnecessary costs. In 2018, AS programmes were implemented in Mosul (Iraq), Gaza (Occupied Palestinian Territories), Bujumbura (Burundi), Masisi and Kinshasa (DRC), Timergara (Pakistan), Khost (Afghanistan), and Bar Elias (Lebanon). The stewardship strategy was tailored to each project and type of activities. In 2018, AS activities continued in Tabarre (Haiti) and Nsanje (Malawi).

### 2.3. OPERATIONAL RESEARCH

There were several operational research (OR) projects ongoing in 2018:

- Timergara (Pakistan): a project investigating the prevalence and resistance patterns of urinary tract infection (UTI) pathogens was finalised, while a similar study for sepsis in neonates was discontinued due to high contamination of blood culture results.
- Bangui (CAR): two research studies following the outbreak of *Klebsiella pneumoniae* in 2017 were put on standby due to security constraints and one study was stopped before reaching its sample size.
- Middle East (Iraq, Gaza, Lebanon): discussions are ongoing for a multi-site project in collaboration with local scientific actors to investigate ABR in patients with war wounds and osteomyelitis.

Throughout 2018 there were several publications and presentations given by MSF staff that tackled the topic of ABR:

- A workshop on osteomyelitis was held in Brussels in February, 2018, organised by the Medical Department Strategic Advisor and held in collaboration with the Orthopaedic referent.
- 1<sup>st</sup> Antibiotic Resistance Awareness were days held in Beirut 15-16 November 2018. Participants included medical and paramedical staff from Iraq, Jordan, Lebanon, the International Office, Access Campaign, and non-MSF experts on ABR from Lebanon and Geneva.
- 1<sup>st</sup> World Antibiotic Awareness Week (WAAW) Health Promotion (HP) package targeted the general population and was developed by HP in collaboration with the MSF Lebanon Communications team, 12-16 November 2018.

## **2.4. ABR CIRCLE**

A multidisciplinary ABR Circle was established in August 2018 with medical and non-medical experts from the Medical and Operations Departments and the Analysis and Advocacy Unit. The objectives of the Circle are: to ensure the development, adaptation, and implementation of a well-defined ABR strategy promoting the optimal use of antibiotics; to promote the prevention, diagnosis, treatment, surveillance and containment of ABR-related infections in the health facilities and related communities of MSF projects; and to link and harmonise the activities of the circle within the intersectional ABR Task Force.

## **3. OTHER ACTIVITIES**

- Field visits were made by the ABR Referent to Amman (Jordan, OCP RSP), Erbil (Iraq), Bar Elias (Lebanon), Tabarre (Haiti), and Mosul (Iraq).
- Access to microbiological culture and sensitivity (MC&S) testing started in Mosul and Gaza, while access to MC&S testing continued in Tabarre and Bangui (CAR). In all projects, access was through external laboratories.
- Field training on a variety of ABR-related topics (AS, sepsis, osteomyelitis, infected wounds, etc.) was held in Mosul (Iraq), Erbil (Iraq), Bar Elias (Lebanon), Tabarre (Haiti), and Beirut (Lebanon).
- An ABR communications package was developed specifically for the Mosul project in December 2018.
- There was mapping of the pool of medical doctors (general practitioners and specialists) with competency and/or interest in AS.

## **4. LOOKING BACK AND AHEAD**

### **4.1. LESSONS LEARNED IN 2018**

- Importance of working as multidisciplinary team at Field and HQ level with regular communication between different profiles and involving the Operations Department are the keys for successful implementation of ABR activities.
- Active participation in the intersectional ABR Task Force ensures a common approach to ABR across MSF.
- In contexts where security constraints are challenging, regular follow-up of ABR activities, motivating and training national staff is a priority.

- Technical support from HQ on AS by telemedicine or online tools (communication via email and/or WhatsApp) is possible and can be successful.
- Linking with external scientific actors can boost operational research provided that research objectives and each partner's roles are clarified and agreed upon.
- Challenges: the main ones were gaps in some field and HQ positions; delay in implementation for context and security situations; and budget limitations.
  - There was a lack of experienced Infection Prevention and Control (IPC) Managers that could provide continuous coaching to IPC Officers and supervisors.
  - The Microbiology Referent position was filled for only six months.
  - Security concerns and incidents impacted activities – the need for evacuation of medical profiles and medical priorities shifted projects to “emergency mode” (Timergara, Bangui) or capped the number of medical profiles to the minimum necessary to run the previous ongoing activities, causing delays in introducing new activities and tools (Khost, Mosul).
  - Budget constraints delayed and sometimes even prevented the recruitment of specific new HR (Mosul, Gaza) and construction (Bujumbura, Mosul).

## 4.2. GOALS FOR 2019

- Strengthen ongoing AS programmes in projects already running ABR activities (basic and full package), focusing on implementing stewardship committees.
- Implement AS in new projects, specifically those with access to microbiology but no structured AS programme (Bangui, CAR) and those OPD projects without access to bacteriology (Masisi, DRC, Akkar, Lebanon).
- Invest more in MSF-run microbiology laboratories: Khost (Afghanistan), Kinshasa (DRC), Kunduz (Afghanistan), Kenema (Sierra Leone), Bujumbura (Burundi).
- Design a standard data collection system for projects with the basic and full packages of ABR activities, targeting the three pillars' main indicators and linking to patients' outcomes.
- Continue existing OR projects (e.g., *K. pneumoniae* in DRC), along with development of new AS projects, as well as microbiology surveillance and baseline qualitative assessments on antibiotic prescriptions.
- Support project-based staff in developing research competencies.
- Finalise capitalisation of AS experience in Tabarre, Haiti.

# BIOMEDICAL EQUIPMENT

**06****943**requests for  
medical devices**175**requests for  
medical equipment**40**After-Sales  
requests were made

## HIGHLIGHTS OF 2018

- **New policy for managing medical equipment disseminated**
- **Finalisation of the Steops autoclave project in Tabarre, Haiti**
- **Introduction of bubble CPAP in Khost, Afghanistan**

## 1. OVERVIEW

2018 was marked by the first dissemination of a new policy for managing medical equipment within MSF OCB, an increased focus on quality assurance for local purchases and a harmonisation of the technical support given across the globe. The opening of our most technically advanced hospital in Bar Elias (Lebanon) which was fully equipped with local purchases and using a standardised maintenance schedule is a perfect example.

Many changes within its members have forced the Headquarters (HQ) team to reduce direct field support and stabilise the support structure, but an additional position has created a great opportunity for improvement of After-Sales Services.

## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. PROCUREMENT AND QUALITY ASSURANCE

Medical equipment, being a sub-family of medical devices, has been fully incorporated in the local procurement and quality assurance framework used by the pharmacy in MSF OCB. This significantly increased the amount of local purchase requests and is starting to show the need for having a faster and more context-adapted approach to the choice and technical support of medical equipment.

- Total number of medical devices requested: **323 (2017)** vs **943 (2018)**
- Total number of medical equipment items requested : **39 (2017)** vs **175 (2018)**



## 2.2. TECHNICAL SUPPORT

Technical support focuses on the continuity and quality of services. Timely maintenance, calibration, and repairs remain a challenge, especially for specialised diagnostic equipment. Instead of reinventing the wheel each time complex equipment is installed, effort was made to harmonise the support and rationalise the stocks. At the same time, an analysis was started to review the current set-up in terms of governance and strategy.

## 2.3. AFTER-SALES SERVICES

A project manager was hired to conduct a study on how to set up a sustainable After-Sales solution between the Field, HQ, MSF Supply, and the Suppliers while ensuring the continuity of the use of medical equipment in the field (day-to-day follow-up). Some of the achievements so far include:

- The After-Sales Process was redefined and simplified, revealing that approximately 40 After-Sales requests were generated in 2018.
- Medical equipment is being categorized according to new parameters (e.g., criticality, technical complexity, warranty, etc.); it is an ongoing effort as there is a lot of data missing.
- The need for a software tool to manage the After-Sales requests and to track the inventory and build the history of medical equipment in the field, was highlighted during this project.
- Several discussions took place with different MSF stakeholders, but no progress was achieved regarding After-Sales software and/or a platform.

The project will be continued in 2019 and will focus more on having global service level agreements with the different manufacturers and suppliers of our equipment.

## 2.4. TRAINING

- One seven-day English biomedical training course was set up in collaboration with all sections in Brussels at the Espace Bruno Corbé (OCB training centre). Additional modules on After-Sales and diagnostic equipment were introduced to reflect the field reality better. Unfortunately, the French version of this training had to be cancelled due to a lack of participants.
- The biomed module was moved to the joint Logistics and Medical Day from the First Line Medical Training (FLMT) and the Logistics Second Line Tactical Training (SLTT).
- Official technical certification from suppliers was organised for a few field biomedical technicians so they could manage their maintenance completely independently and autonomously. The training for specific medical equipment was setup for missions like Afghanistan, Pakistan, Lebanon, and Syria.

## 3. OTHER ACTIVITIES

- Field visits were made to missions in Sierra Leone, Afghanistan, and Ukraine. Haiti was visited twice.
- Development and Innovation
  - Finalisation of the Steops autoclave project in Tabarre (Haiti); introduction of bubble CPAP in Khost (Afghanistan);
- Human Resources
  - As a result in a change in the referent from the logistics department and both flying positions, together with the arrival of the After-Sales Officer, starting in 2019, the team will be almost entirely new.
- Intersectional collaboration

- Efforts on having an intersectional guideline have been started. The current OCG guideline will be taken as a basis.
- The processes for intersectional requests of new ITC equipment were reviewed and validated.
- A new project was launched to create an intersectional knowledge base containing up-to-date and verified information on all standard MSF standard medical equipment.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

- The Medical Equipment Policy was finalised, validated, and disseminated to all missions. It gives many missions a better view on the different roles and responsibilities everyone holds towards managing the most complex equipment used in our projects.
- Local quality assurance has improved thanks to the complete integration of medical equipment into the medical stocks and approval systems of the pharmacies.
- After-Sales Services has shown to be an interesting but difficult challenge to tackle; significant results were made since the arrival of a specialised After-Sales Officer.

### 4.2. GOALS FOR 2019

- *Knowledge base*: we plan to create central database of all equipment related information. This includes manufacturer-supplied information (manuals, videos, brochures) as well as MSF-produced information (protocols on use, maintenance, and repair, guidance on ordering). Some other external videos might be considered if validated by medical specialists and/or the manufacturer.
- *Standard ordering lists* and standard mission medical lists (needs assessment and ordering guidance) to be introduced. *Total Cost of Ownership Guidance* will be created at the same time to improve budgeting and planning.
- *Global Service Levels Agreements for laboratory equipment* should be addressed in order to improve the quality of the results (calibration done correctly) and to offer a timely response to breakdowns.
- *Asset monitoring and maintenance management tools* have to be implemented. We need correct data in order to better support and adapt to the actual problems.
- An “International in vitro diagnostic (IVD) and biomedical equipment quality specialist” will be hired to support intersectional collaboration between the technical referents from each OC and the different European Supply Centres.

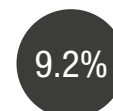
The most important challenge in the coming years will be to organise an effective and efficient support structure while taking into account the medical operational prospects for 2020-2023 and following “field recentralisation” principles.

# CRITICAL CARE

07

**12**critical care beds  
for trauma**10**critical care beds  
for paediatrics**1808**

admissions

**9.2%****9.2%**

Overall mortality

## HIGHLIGHTS OF 2018

- **Short training courses in critical care were provided for all medical and nursing staff involved in critical care at Arche Trauma Centre, Burundi**
- **Non-invasive respiratory support (bubble CPAP) was successfully introduced to the Neonatal Intensive Care Unit, Khost Maternity Hospital, Afghanistan**
- **The critical care unit in Tabarre Trauma Centre, Haiti, closed at the end of 2018, in line with the scheduled closure of the project.**

## 1. OVERVIEW

Critical illness is seen in all the clinical contexts in which we work. When illness or injury is associated with acute organ dysfunction, the survival of patients may depend on the elements of critical care being available to them. These include early recognition of their condition, prompt resuscitation, and emergency treatment, followed by continuing close observation and support of organ functions. Early treatment should be initiated wherever the patient presents, whether in a peripheral clinic, emergency department, or inpatient ward. At the same time, the ability to provide continuous, supportive care in a dedicated critical care unit has been shown to save lives.

During 2018, projects in Tabarre (Haiti) and Bujumbura (Burundi) had dedicated critical care units. Bujumbura provided a basic level of supportive, critical care, while Tabarre offered a more advanced level of care until its closure at the end of 2018.

Less formalised critical care was provided in a variety of other clinical contexts. Bili (DRC) provided basic critical care for paediatric patients and Khost (Afghanistan) recently introduced non-invasive respiratory support into its neonatal unit. Work has also been done to raise the level of care provided for critically ill patients with Ebola Virus Disease in North Kivu (DRC) and advanced HIV disease in Beira (Mozambique).

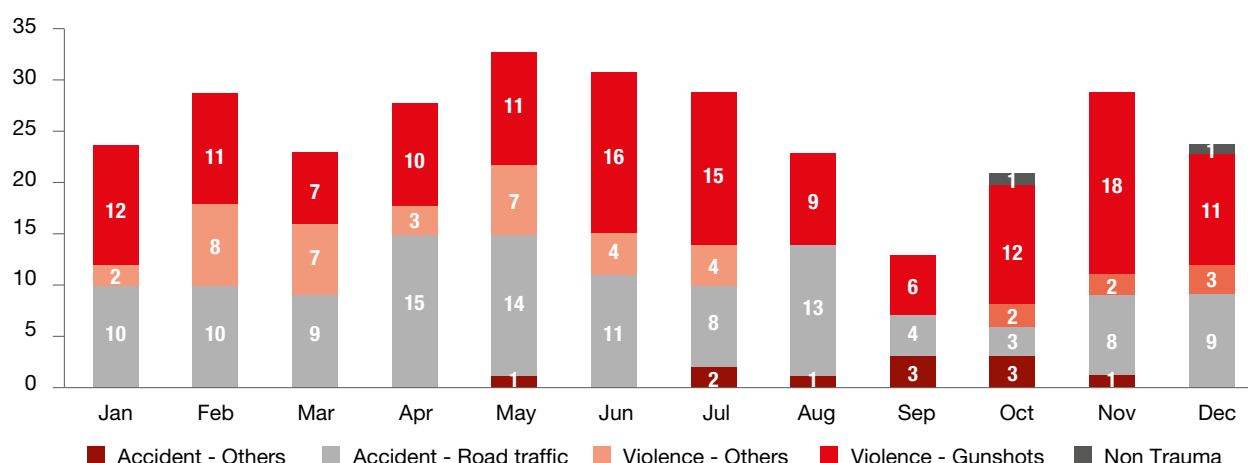
## 2. MAIN PROGRAMME ACTIVITIES

### 2.1 CRITICAL CARE FOR TRAUMA PATIENTS

In 2018, projects in Tabarre (Haiti) and Bujumbura (Burundi) provided acute care for victims of trauma. Admission criteria for Tabarre were changed in December 2017, in preparation for final closure of the project and in 2018 the hospital admitted patients with major or complex trauma referred from other hospitals. The critical care unit was staffed by specialists in anaesthesia with multidisciplinary support from surgeons, physicians, physiotherapists, and pharmacists. There were also comprehensive laboratory and X-ray facilities on site. In this context, the unit was able to provide a relatively advanced level of care, including ventilatory and inotropic cardiac support when necessary.

The unit had 330 admissions during the year, with an overall mortality of 9.3%. The majority of first admissions to ICU were for violent trauma (180/306, 58.8%), including gunshot and knife injuries (Figure 1). The majority of patients underwent emergency surgery before first ICU admission (249/306, 81%). The most common reason for admission to ICU was for close observation and monitoring in patients at risk of sustaining acute organ dysfunction (236/330, 71.5%) (Table 1).

**FIGURE 1** Reason for Admission to Hospital for ICU Patients, Tabarre, Haiti, 2018



**TABLE 1** Reason for Admission to ICU, Tabarre, Haiti, 2018

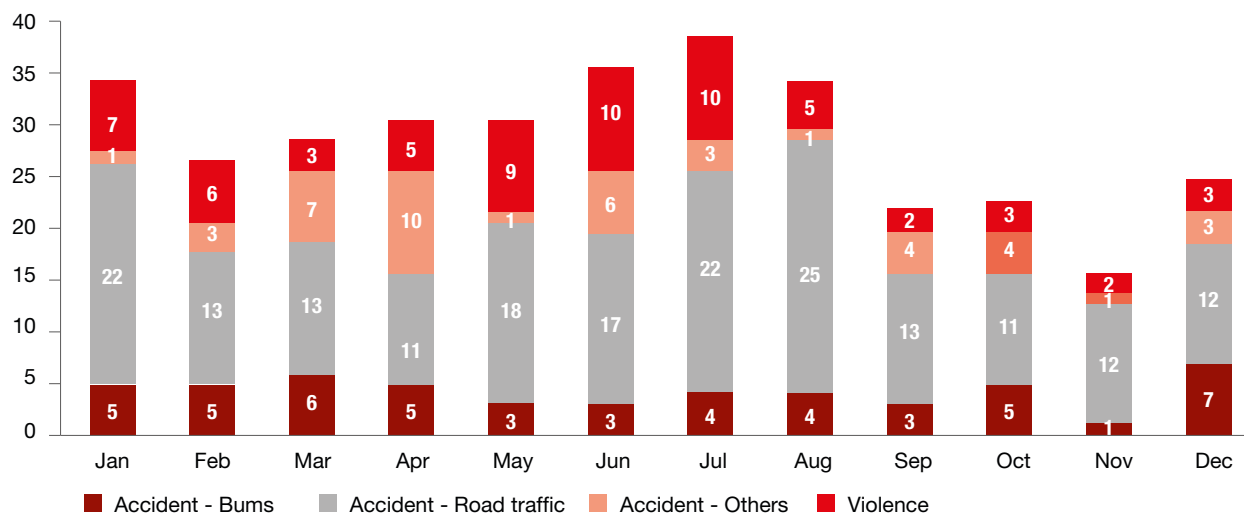
Reason for admission	New cases		Re-admissions		All cases	
	N°	%	N°	%	N°	%
Acute respiratory failure	3	1.0	6	25.0	9	2.7
Haemodynamically unstable	84	27.4	1	4.2	85	25.8
Altered mental status	0	0	0	0	0	0
Metabolic / Renal disturbance	0	0	0	0	0	0
Close observation and monitoring	219	71.6	17	70.8	236	71.5
Others	0	0	0	0	0	0
<b>Total</b>	<b>306</b>	<b>100</b>	<b>24</b>	<b>100</b>	<b>330</b>	<b>100</b>

The critical care unit in Bujumbura is managed by generalists, with specialist, expatriate support. It provides a basic level of supportive critical care that includes continuous monitoring, oxygen therapy, fluid resuscitation, and supervision of intravenous drug infusions.

The unit had 398 admissions during the year, with a mortality of 9.5%. The number of hospital admissions following violent trauma has decreased in recent years and they accounted for 17.6% of first admissions to ICU in 2018 (65/370) (Figure 2). The majority of first admissions followed motor vehicle accidents (189/370, 51.1%),

but domestic accidents, including burns, also accounted for a significant number of admissions. The reasons for admission to ICU in Bujumbura show a greater heterogeneity than in Tabarre (Table 2). This is probably a reflection of the broader range of trauma admitted to the hospital, which included patients with head injuries and burns.

07

**FIGURE 2** Reason for Admission to Hospital for ICU Patients, Bujumbura, Burundi, 2018**TABLE 2** Reason for Admission to ICU, Bujumbura, Burundi, 2018

Reason for admission	New cases		Re-admissions		All cases	
	N°	%	N°	%	N°	%
Acute respiratory failure	11	3.0	7	23.3	18	4.5
Haemodynamically unstable	173	47.0	10	33.3	183	46.0
Altered mental status	35	9.5	1	3.3	36	9.0
Metabolic disturbance	2	0.5	0	0	2	0.5
Close observation and monitoring	147	40.0	12	40.1	158	39.7
Others	0	0	0	0	1	0.3
<b>Total</b>	<b>368</b>	<b>100</b>	<b>30</b>	<b>100</b>	<b>398</b>	<b>100</b>

## 2.2 CRITICAL CARE IN PAEDIATRICS

The project in Bili (DRC) now focuses on the prevention and treatment of malaria and OCB supports a 10-bed, paediatric critical care unit providing a basic level of care for children with severe malaria and other common conditions. During 2018 there were 1080 admissions, with a mortality rate of 9.2%.

The obstetric project in Khost (Afghanistan) includes a neonatal critical care unit, with about 150 admissions each month. Non-invasive respiratory support for neonates (Bubble continuous positive airway pressure, or bubble CPAP) was successfully introduced towards the end of 2018, with training and clinical support for the staff. The unit has five bubble CPAP machines and 67 neonates received respiratory support during the first six weeks of clinical use.

## 2.3 OTHER CRITICAL CARE ACTIVITIES

OCB is contributing to the intersectional response to the Ebola epidemic in North Kivu (DRC) and has managed several facilities for suspected and confirmed cases of Ebola Virus Disease (EVD) in 2018. A significant proportion of patients are critically ill, including many with diagnoses other than EVD. There are significant challenges to providing critical care in this context: the need to wear personal protective equipment (PPE) limits

the time that clinical staff can spend in direct contact with patients and stringent infection prevention and control (IPC) precautions complicate the use of biomedical equipment. Nevertheless, it is possible to identify the sickest patients with a modified triage tool and to create critical care areas where these patients can receive a higher level of clinical observation and monitoring. Basic supportive care, including oxygen, fluid resuscitation, and management of electrolyte disturbances can be provided in these circumstances with limited resources. This care may be combined with the experimental treatments for EVD in patients with confirmed infection.

Efforts have also been made to improve the care provided for critically ill patients with advanced HIV disease. OCB is providing support to the emergency department of Beira Hospital (Mozambique) and has introduced a simple triage tool, resuscitation equipment, and staff training to improve early intervention in critically ill patients. This is combined with laboratory support to establish rapid diagnosis in advanced HIV disease.

### 3. SUPPORTING ACTIVITIES

2018 saw the introduction of BASIC DHS Courses (*Basic Assessment and Support of Seriously Ill Patients in Developing Healthcare Systems*) for critical care staff in MSF projects. The courses were developed in collaboration with the Chinese University of Hong Kong and include separate, short (three-day) courses for nursing and medical staff, supported by training manuals and bedside teaching when possible. An intersectional pool of referents and expatriates with critical care expertise has now been trained as course providers, facilitating delivery of multiple courses to the field during the course of the year. This included a series of courses in Bujumbura (Burundi) which was attended by all the medical and nursing staff who provide critical care in our trauma project.

Field visits by OCB referents with critical care expertise were made to Khost (Afghanistan) supporting the introduction of non-invasive respiratory support into the neonatal unit, to MSF's Ebola projects in North Kivu (DRC), and to Beira (Mozambique) supporting emergency care in advanced HIV disease.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

- The critical care unit in Tabarre (Haiti) closed in December 2018, as scheduled, prior to the final closure of the project later this year. Tabarre was one of OCB's most ambitious surgical projects and was able to offer a relatively advanced level of critical care. Many lessons have been learned from the challenges of providing multidisciplinary and logistical support for critical care and these will serve us well in future projects.
- The BASIC critical care courses provided in Bujumbura (Burundi) during the year were well received by the local medical and nursing staff, who were highly motivated and enthusiastic participants. It was clear that the course was relevant to the clinical context and a longer period of bedside training in the follow-up period would have been useful. It is hoped to provide this in future courses.
- The challenge of providing effective, supportive critical care in the context of an Ebola epidemic is ongoing and the ability to provide training and clinical supervision for local staff is an essential part of the response. In addition, the design and construction of Ebola Treatment Centres is also crucial in facilitating close monitoring of critically ill patients from low-risk areas, without the need for personal protective equipment. Clever incorporation of transparent barriers and flexible, impermeable sleeves permit continuous observation and the employment of biomedical equipment such as electronic monitors and portable ultrasound.



## 4.2. GOALS FOR 2019

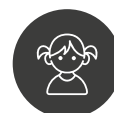
- OCB will re-open an acute trauma project in Kunduz (Afghanistan) in late 2019 and providing critical care for patients is a central component of the planning. We are optimistic because the previous project ran a successful emergency department and ICU at a relatively advanced level, staffed by non-specialist clinicians with specialist, expatriate support.
- We hope that some of these clinicians will be recruited to work with us again, but training of former and new staff will be essential during the opening phase. For security reasons, the expatriate team available for training will be smaller than previously, and we will take a phased approach to the level of critical care provided. All clinical staff recruited for the emergency department and ICU will be invited to attend a BASIC critical care course before the project opens to patients and the ongoing development of clinical competencies will be supported by the introduction of personal logbooks and clinical supervision. Critical care units will initially provide a basic level of supportive care, with progression to higher levels of care as staff training advances.
- A new, centralised critical care ward will open in Bangassou (CAR), where OCB supports the regional hospital. The ward will have 15 beds for medical, surgical, and paediatric patients and will have a dedicated team of nurses and nurse assistants. We hope that the nursing and medical staff will be able to attend a BASIC critical care course in Bangui in the coming months.
- A critical care ward is also part of the plans for the continuing trauma care unit currently under construction in Mosul (Iraq). This is the first time that OCB will use critical care to support elective surgery in high-risk patients.



Guinea Bissau is among the poorest countries in the world. In Simao Mendes national hospital in Bissau, the capital of the country, MSF supports activities in the paediatric emergency unit, in the Paediatric Intensive Care Unit (PICU) and in the Neonatal Intensive Care Unit (NICU). © Raul Manarte/MSF

# EMERGENCY MEDICINE

08

**259,863**Emergency  
Department visits  
worldwide**47%**were high acuity  
presentations**39%**were for  
trauma**19%**hospitalisation  
rate**44%**of patients were less  
than 15 years old**7**Primary Trauma  
Care courses were  
conducted

## HIGHLIGHTS OF 2018

- Emergency medicine involves the management of a broad spectrum of acute illness and injury in all age groups.
- Emergency care was provided in 19 emergency departments in health facilities across 12 countries, of which three were new locations in 2018.
- Specialised emergency care activities within the Emergency Department included projects with a focus on trauma, cardiac care, paediatrics, HIV, and malaria.
- Clinical mentoring in emergency care was highlighted in select local, Ministry of Health partnership projects.
- Majority of emergency care is provided by local staff colleagues.

## 1. OVERVIEW

Emergency medicine involves the management of a broad spectrum of acute illness and injury – trauma, infectious diseases, exacerbations of non-communicable diseases, obstetrical conditions – in all age groups. In Médecins Sans Frontières (MSF) Emergency Departments (ED), we provide care for children and adults with acute and often undifferentiated medical or surgical problems, frequently before complete clinical or diagnostic information is available. Health emergencies can occur anywhere, regardless of resource limitations and irrespective of geography, regional, or cultural context, insecurity, or socioeconomic status, and they may be even more prevalent in a humanitarian crisis. Emergency and critical care is identification and continued observation, assessment, and treatment required to manage critical illness. Essential emergency and critical care is “the care that all critically ill patients should receive in all hospitals in the world”<sup>1</sup>.

1 Schell CO et al. The global need for essential emergency and critical care. Critical Care 2018; 22:284.

## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. EMERGENCY DEPARTMENTS AND TRIAGE SYSTEMS

An Emergency Department (ED) is a patient care area that serves as the first point of contact for patients seeking emergency care within a health facility. Patients present without prior appointment and due to the unplanned nature of patient attendance, the ED provides patient care for a broad spectrum of acute illnesses and injuries. MSF Operational Centre Brussels (OCB) ED activities were either within a MSF-managed facility or in support of a local, Ministry of Health (MOH) hospital. In 2018, emergency care was provided in 19 EDs in health facilities across 12 countries (Figure 1). Emergency care support was also provided to an additional 10 facilities in Syria throughout the year. In 2018, two new ED activities began (Sadr City, Iraq and Beira, Mozambique); a third ED support activity began in the final weeks of 2018 (Mosul, Iraq); one ED was handed over to the local MOH (Port-à-Piment, Haiti); and one ED was handed over to another non-governmental organization (Bassikounou, Mauritania).

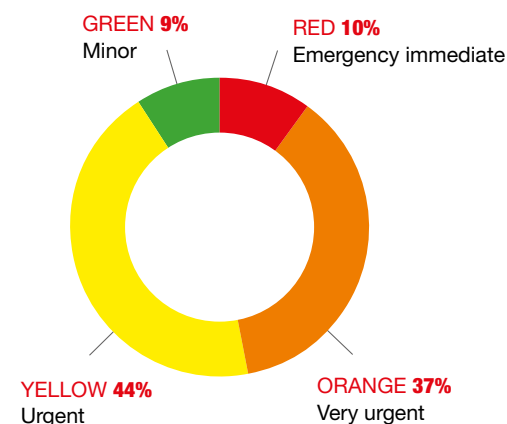
**FIGURE 1** MSF OCB Emergency Departments worldwide in 2018



In 2018, more than 80 doctors, 183 nurses, and 40 clinical officers/other clinical staff provided patient care in MSF OCB ED's worldwide. The vast majority of emergency care was provided by our local/national staff colleagues, as only nine doctors and three nurses were international field staff.

Triage is an essential organisational step to identify critically ill patients with life-threatening conditions. A triage system provides the backbone for essential emergency and critical care within the ED. MSF OCB uses the South African Triage Scale (SATS) for general EDs and Emergency Triage Assessment and Treatment (ETAT) for paediatric EDs as the routine triage system. During 2018, SATS was being used in 13 EDs managed by MSF OCB (Figure 2).

**FIGURE 2** Triage category proportion for 13 MSF OCB Emergency Departments worldwide in 2018



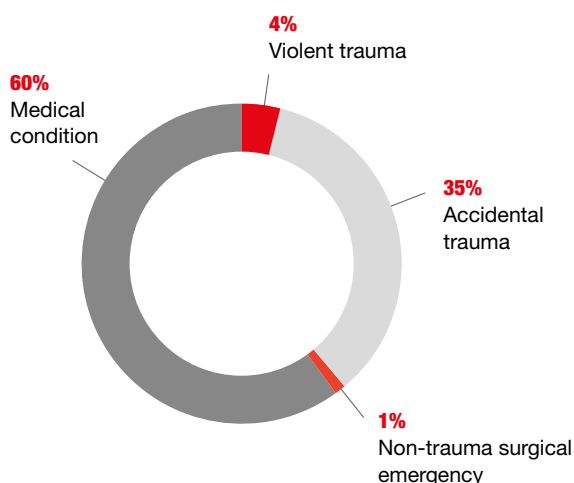
The high acuity proportion – percentage of triage category Red (emergency/immediate) and Orange (very urgent) cases – is a surrogate marker of proportion of critically ill patients. It is an important ED indicator for the general level of acuity of patients presenting to the ED, the urgency for clinical interventions, and the intensity of resource use for the ED. Projects with an elevated proportion of high acuity are expected to hospitalise a greater proportion of ED patients. The overall high acuity proportion was 47% among all ED visits worldwide.

## 2.2 EMERGENCY DEPARTMENT PRESENTATIONS AND OUTCOMES

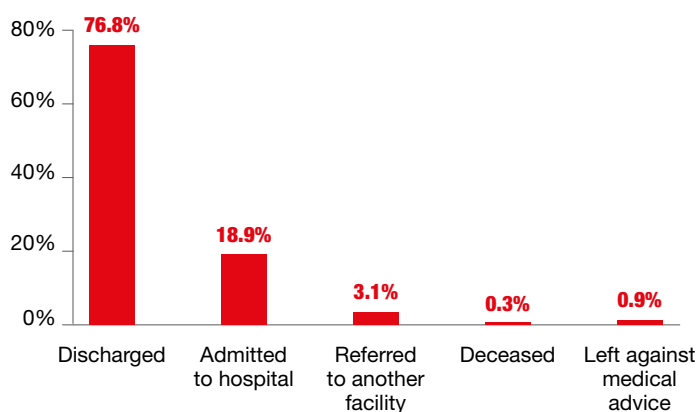
Complete data for ED morbidities and outcomes was only available for 17 EDs (all sites excluding Iraq and Mozambique). There were a total of 259,863 ED visits worldwide of which 44% of ED visits were for children less than 15 years old. Thirty-nine percent of ED visits were due to trauma (4.2% violent trauma and 34.9% accidental trauma), 1% non-trauma surgical emergencies, 0.1% obstetrical emergencies, and 59.8 % medical emergencies (Figure 3).

Worldwide, 77% of ED patients were discharged, 19% were hospitalised (admitted to the hospital), 3% were referred to another health facility, 0.3% died, and 0.9% left against medical advice (Figure 4).

**FIGURE 3** Morbidity proportion for 17 MSF OCB Emergency Departments worldwide in 2018



**FIGURE 4** Outcome proportion for 17 MSF OCB Emergency Departments worldwide in 2018



## 2.3 SPECIALISED EMERGENCY CARE ACTIVITIES

In certain projects, MSF OCB has a special focus on a specific medical condition within its emergency care activities related to the medical context and needs of the region. MSF's work in humanitarian settings positions it with a unique opportunity to provide specialised emergency care for local populations regardless of an ongoing humanitarian crisis. MSF OCB has trauma centres in Burundi and Haiti; a Cardiac Care Unit within the ED in Pakistan; provides fibrinolysis therapy for acute ST-elevation myocardial infarction (STEMI) in Iraq and Pakistan; focuses on paediatric emergency care in DRC and Guinea; offers a HIV-focused rapid assessment unit within the ED in Mozambique; and runs an ED with a special focus on Malaria in DRC.

## 2.4 LOCAL PARTNERSHIPS AND A CLINICAL MENTORING APPROACH TO EMERGENCY CARE

MSF OCB's emergency care activities in Iraq and Mozambique highlight a clinical mentoring approach to supporting Ministry of Health (MOH) hospitals and developing partnerships rather than co-management (Table 1). These projects highlight the importance of supporting patient care beyond the emergency department (ED).

In Iraq, MSF OCB supports the ED of a MOH hospital in Sadr City, which manages over 600 patients per day. There were 237,085 ED visits in 2018, which almost equals the total amount of ED visits of all other MSF OCB

ED sites worldwide. There is a high incidence of non-communicable disease and a significant amount of trauma due to road traffic accidents, firearms, and burns. MSF OCB's focus is to improve care for critically ill patients. In partnership with the MOH hospital management, MSF OCB provided support via specialist emergency doctors and nurses as clinical mentors for local staff, renovations/expansion of the ED to include an area for managing critically ill patients, and implemented a triage system. Implementation of a triage system has improved the ability to provide essential emergency and critical care, allowing MSF staff to mentor local staff and focus on critically ill patients.

In Mozambique, MSF OCB supports the ED of a MOH referral hospital in Beira. MSF OCB's focus is to improve care for seriously ill patients with advanced HIV. MSF OCB supported the ED with a specialist infectious disease doctor, implemented the capabilities for rapid diagnostics of HIV and opportunistic infections, and developed an HIV-focused rapid assessment unit model for advanced HIV within the ED. Since July 2018, MSF OCB supported care for 1036 seriously ill HIV patients, of which 66% required hospitalization.

**TABLE 1** Overlapping roles of a clinical supervisor, clinical mentor, teacher, and coach

CLINICAL SUPERVISION		CLINICAL MENTORING
<ul style="list-style-type: none"> <li>• Facility organization</li> <li>• Ressource allocation and supply chain management</li> <li>• Staffing and human ressource issues</li> <li>• Record-keeping and documentation</li> <li>• Policies, protocols, guidelines</li> <li>• Patient safety and satisfaction</li> <li>• Quality improvement</li> <li>• Process improvement</li> <li>• Inter-departmental collaboration</li> <li>• Formal training / teaching* sessions</li> </ul>	<ul style="list-style-type: none"> <li>• Emergency and critical care systems development</li> <li>• Patient flow and triage</li> <li>• Patient monitoring</li> <li>• Direct patient-care management and guidance to junior colleagues</li> <li>• Bedside teaching*</li> <li>• Team meeting:               <ul style="list-style-type: none"> <li>- Review of admission / referral decisions</li> <li>- Morbidity and mortality meetings</li> <li>- Journal clubs</li> </ul> </li> <li>• Coaching**</li> </ul>	<ul style="list-style-type: none"> <li>• Guidance and support offered by a more experienced colleague</li> <li>• Confidential, non-judgemental relationship</li> <li>• Encouragement to take charge of their own development</li> <li>• Available via distance communication</li> <li>• Conversational tone, over a longitudinal period, and a broad range of topics:               <ul style="list-style-type: none"> <li>- Clinical case review</li> <li>- Bedside teaching*</li> <li>- Assist with care and referral of complicated cases</li> <li>- Career development</li> <li>- Work-life balance</li> </ul> </li> </ul>

**\* Teaching**

- Process by which knowledge is imparted from one individual to another
- Directive approach where the goal is knowledge acquisition for the recipient

**\*\* Coaching**

- Conversation between coach and learner that is meant to guide the learner through a growth process that leads to performance enhancement (execution of the task)
- Direct and indirect observation, incorporates feedback, and leads to specific actionable suggestions for improvement with the aim of enhancing performance of a specific task

## 3. OTHER ACTIVITIES

### 3.1 ACUTE CARE SHORT COURSES

MSF offers the Primary Trauma Care (PTC) course and the Basic Assessment & Support in Intensive Care for Developing Health Systems (BASIC DHS) course in the field. The BASIC DHS course focuses on early identification and management of critically ill patients (i.e. basic emergency and critical care) and has been context-adapted for MSF projects in resource-limited settings. The BASIC DHS course will be discussed in more detail in the Critical Care section of the Medical Activity Report. The PTC course focuses on recognition and addressing life-threatening conditions from trauma with a rapid initial systematic assessment. This course was offered for doctors and nurses together and encouraged multi-disciplinary teamwork. In 2018, MSF OCB conducted seven PTC courses in the field and trained 79 field staff in primary trauma management. MSF OCB also conducted one PTC Training of Trainers course for local/national staff.

## **4. LOOKING BACK AND AHEAD**

### **4.1. LESSONS LEARNED IN 2018**

- Establishing a triage system goes beyond the act of prioritising patients and provides the backbone to providing emergency care by encompassing patient flow, resources, and staffing models. Implementing a triage system for a new ED activity can be challenging if it does not integrate the principles of essential emergency and critical care along the patient care continuum.
- Medical activities that do not integrate the patient care continuum from ED entry, to hospitalisation, to hospital discharge can overwhelm ED resources and staff. This continues to be a challenge for our field teams and should be planned for accordingly before implementing a new emergency care activity.
- Ongoing challenges around staffing for emergency medicine continue to be tackled. Emergency medicine doctors were distinctly identified as a separate pool. The profile for emergency medicine nurses needs to be established.
- Local clinical staff providing emergency care have different professional backgrounds, knowledge, and skills. Focusing on training and clinical mentoring as part of routine clinical operations was initiated towards the latter part of the year with challenges due to the limited international staff who have these capabilities. Clinical mentoring as part of routine clinical operations is important as both the high turnover of field staff and variability of supervision hampers continuous improvement of our activities.

### **4.2. GOALS FOR 2019**

- Improve the quality of care for critically ill patients by incorporating medical activities that integrate the patient care continuum from ED entry to ICU to hospital discharge.
- Promote that essential emergency and critical care is “the care that all critically ill patients should receive in all hospitals in the world”<sup>2</sup>. Emergency and critical care is identification and continued observation, assessment, and treatment required to manage critical illness.
- Focus on clinical mentoring as part of routine clinical operations and encourage training for clinical staff via MSF endorsed courses such as PTC and BASIC DHS.
- Validate and implement a new interagency triage tool that has been jointly developed by the WHO, ICRC, and all Operational Centres of MSF.
- Integrate the MSF OCB Provisions of Critical Care policy into emergency care activities.

2 Schell CO et al. The global need for essential emergency and critical care. Critical Care 2018; 22:284.



# ENVIRONMENTAL HEALTH

09

**81%**

of all medical facilities at the end of 2018 had specific Environmental Health (EH) facility support

**74%**

of all medical facilities at the end of 2018 had specific waste management support

**16%**

of all medical facilities at the end of 2018 had specific infection prevention and control support (e.g., tuberculosis infection control)

**45%**

of all projects providing first line care at the end of 2018 had community-based EH activities

**19%**

of all projects providing first line care at the end of 2018 had specific vector control activities

## HIGHLIGHTS OF 2018

- The domain of “Water and Sanitation” (WatSan), or “Water, Sanitation, and Hygiene” (WASH) was reframed as part of Environmental Health, which is a branch of Public Health.
- A strong emphasis was placed on medical waste management (a frequently neglected topic in MSF) and treatment of health facility waste water.
- An intersectional WatSan policy paper was drafted to ensure better cohesion on WatSan between different sections.
- Hardware solutions (better borehole construction and pumping practices in urban or contaminated contexts) in function of typhoid and cholera outbreak responses were improved through the Gopro project.
- The first thematic operational research course on Environmental Health was successfully concluded.

## 1. OVERVIEW

In 2018, the need to frame Water and Sanitation (WatSan) or Water, Sanitation, and Hygiene (WASH) within the encompassing and overarching perspective of Environmental Health (EH) became overwhelmingly clear. This redefinition of the WASH domain as Environmental Health (also reflected in this report) aims to guarantee sufficient medicalisation of the WASH activities in MSF OCB. The redefinition also reflects the reality on the ground: while WASH in MSF has for years aimed to control infections and the spread of diseases by ensuring proper water, sanitation, and vector control strategies around patients and the communities in which MSF works, activities go much beyond merely providing water to health facilities, or building sanitation infrastructure for a displaced population or a health facility. Over the years, the WASH teams in MSF OCB have implemented projects and activities in all major branches listed by WHO as key components of Environmental Health, improving water and sanitation infrastructure, protection and decontamination after exposure to chemical and biological agents, minimising air pollution (in tuberculosis projects), working in built-up environments (such as urban slums), reducing consequences of intensive agriculture (pesticide and resistance build up), floods, droughts, etc.

Prevention is key to improving the quality of curative care, by reducing caseloads and the demand on health care resources, and targeted EH interventions are one way to achieve this. During emergencies, MSF is starting to find a better balance between curative care and preventive EH activities. The global threat posed by increasing Antimicrobial Resistance (AMR) is an example of this principle, and underscores the importance of appropriately implementing essential EH requirements in MSF-supported health structures to avoid hospital acquired infections. Non-compliance to these requirements was assessed in all missions in order to create a safer environment for patients and MSF staff.

Efforts were made to respond to the rapid surge in acute emergencies. One major challenge was finding appropriate actors to handover expensive EH activities to. Planning an exit-oriented strategy in which appropriate actors are identified for handover should be included from the project design phase. This requires the use of new EH technologies and new ways of intervening in order to facilitate the handover process – such as, for instance, the use of hand pumps instead of expensive water trucks.

Strengthening links with epidemiologists and Geographic Information System (GIS) Officers has proved to be vital in targeting the environmental determinants of diseases in transmission hotspots and cutting transmission of infectious diseases (e.g., Cholera, Ebola Virus Disease).

The intersectional WatSan working group continued to serve as an expedient platform for development and dissemination of tools and guidelines, and for harmonising intersectional EH activities.

## **2. MAIN PROGRAMME ACTIVITIES**

### **2.1 ACTIVITIES AT COUNTRY AND PROJECT LEVEL**

All Operational Centre Brussels (OCB) projects include an EH component aimed at minimising hospital-acquired infections and optimising infection control. A systematic assessment of EH needs is performed for all projects. EH support was provided to established missions to ensure that essential WatSan requirements in the medical infrastructures were being upheld. Trained personnel from the EH pool were sent to the field if the EH needs proved to be technically complex or too large and time-consuming for field staff to manage. EH needs in large emergency interventions were mainly addressed by specialised staff with technical support from headquarters. In 2018, 70 EH experts supported 18 posts in 15 countries.

### **2.2 SPECIFIC EH INTERVENTIONS AND FIELD VISITS**

Some of the main EH operations in 2018 included:

- WASH infrastructure: Installation, management, and rehabilitation of appropriate WASH infrastructure remained a core component of EH activities, and was notably done in the Rohingya refugee camps in Bangladesh; in support to Cameroonian refugees in Cross River State in Nigeria; and by the regional EH hub in Harare, Zimbabwe, to reduce the attack rate of water-related disease outbreaks such as typhoid fever and cholera. For the urban slum context of Okpoko (Nigeria), EH activities were placed on hold.
- Infection prevention and control (IPC): Specific EH contributions to IPC in MSF facilities were provided in the Cox's Bazar district hospital in Bangladesh, the Abakaliki Lassa viral unit in Nigeria, and the Burundi Ebola task force preparedness.
- Hospital construction: Hospital construction in Kunduz (Afghanistan), Kenema (Sierra Leone), and Bar Elias (Lebanon), hospital rehabilitation in Mosul (Iraq), as well as construction of a primary health care centre in Shatila and a maternity in Hariri (Lebanon), was supported by EH staff. Vector control: Insecticide resistance monitoring was performed in DRC; a large-scale Indoor Residual Spraying (IRS) campaign took place in Ryansoro health district, Burundi (cf. Malaria section); bednet distributions and usage surveys were conducted in Kouroussa, Guinea; and malaria vector control strategies were devised for Sifontes in Bolivar State, Venezuela. Entomological investigations for malaria and arbovirus vector control activities in Nigeria were placed on hold.

- Waste and waste water management: Solutions for waste management, including Viral Load (VL) tests for HIV and expired drugs in Kinshasa and in Conakry, were explored: this represented a sizeable issue in DRC, as expired drugs and toxic lab waste had accumulated over years. Installation of an incineration waste disposal solution was prepared. In Afghanistan, a feasibility study on mechanised waste water management was implemented, and in the Nsanje prisons project in Malawi, waste water treatment was combined with generation of biogas to cook the prisoners' food.

### 3. INTERNATIONAL COHERENCE

The intersectional working group on EH has been active since 2007 and aims to improve intersectional coherence on EH issues. Over the course of 2018, activities of the EH working group included:

#### 3.1. DOCUMENTS AND GUIDELINES

The EH unit, in close collaboration with the intersectional working group, was involved in the generation of a broad spectrum of documents and guidelines such as the "Cholera Guideline" (now available as a final draft in French and English); a follow-up study to the "Where is everyone – responding to emergencies in the most difficult places" initiative, including a consultancy on the opportunities and constraints of the WASH sector; technical updates and files for the International Technical Coordination (ITC) catalogue, in close collaboration with the international office; technical documents on ultrafiltration and on laboratory waste management, in collaboration with the lab working group; and finalisation of the Oxford Handbook of Humanitarian Medicine with two chapters on EH. Additionally, an intersectional WatSan policy paper was drafted to ensure better cohesion on WatSan between different sections.

#### 3.2. NEW STRATEGIES AND TOOLS

- Hospital waste water is often released into the environment with minimum treatment. In 2018, a study was finalised comparing the waste water quality improvement in two MSF hospitals in Haiti using water from a septic tank and a rotating biological contactor.
- In the humanitarian world, as well as within MSF, there are few active professionals in the area of groundwater development, which often leads to new boreholes being drilled instead of broken ones being rehabilitated, and can lead to contamination of groundwater supplies through incorrect design of new boreholes. The choice and availability of the correct tools, expertise, and equipment is not always guaranteed; the "GO-Pro project" (cf. Medical Activity Report 2017) will be continued into 2019 and, in principle, beyond.
- Additional experience was acquired on the management of medical waste using semi-industrial incinerators.
- A number of different design criteria and guidelines for the plumbing infrastructure of hospitals were assessed, adjusted, and implemented in complex health structures.

#### 3.3. OPERATIONAL RESEARCH

A number of key operational research initiatives were conducted/completed in 2018:

- In collaboration with the London School of Hygiene & Tropical Medicine (LSHTM), a study was implemented in DRC on the impact of household hygiene kit distribution during cholera outbreaks, aiming to quantify the reduction in household transmission of cholera. Final results are expected in 2019.
- Publication of "Learning from water treatment and hygiene interventions in response to a hepatitis E outbreak in an open setting in Chad" in the Journal of Water and Health (OCA).
- Publication of "Micro-hotspots of Risk in Urban Cholera Epidemics" in The Journal of Infectious Diseases (OCP).

- Publication of “Typhoid fever outbreak in the Democratic Republic of Congo: Case control and ecological study” in PLoS NTD (OCB).
- Publication of “Setting priorities for humanitarian water, sanitation and hygiene research: a meeting report” in Conflict and Health (OCB).
- Assessment of recommended approaches for containment and safe handling of human excreta in emergency settings in PLoS One (OCB as Guest editor).

In addition, the first operational research training course dedicated to EH (WASH IT) was finalised, with the support of LuxOR. This training was open to the WASH sector at large, to build capacity for conducting operational research within the WASH sector, and at the same time augment the evidence base for various EH interventions (cf. Operational Research section). The WASH IT course generated 8 papers submitted to peer-reviewed journals on a variety of EH topics.

## 4. HUMAN RESOURCES & TRAINING

The EH unit remained as is in 2018 with one member dedicated to emergency support, three members dedicated to operational support, one focal point on HR and training, one medical entomologist, one ground water specialist, one implementation expert for initial support with complicated EH works, one innovation and technical support person, and one coordinator.

The EH unit was involved in over 61 full-time days of dedicated trainings – including the EH module of the Populations in Precarious Situations (PSP) training, the EH in Emergencies training (English and French), the Response to Epidemics (REPEPI) course and the Water, Engineering and Development Centre course. A EH training component was also provided for trainings such as the preparation for Primary Departure (PPD) course, Management of Health Structures (MHS) course, Basic Logistics Course (BLoC), and others. A five-day training on new and innovative tools in VC was implemented for the third time. Intensive EH trainings were also provided to field missions to strengthen EH knowledge and practices of national staff in key positions.

## 5. LOOKING BACK AND AHEAD

### 5.1. LESSONS LEARNED IN 2018

- Further integration of EH into the Medical Department is mandatory and the recognition of EH personnel as part of the interdisciplinary team remains vital. Changing the mind-set of medical staff is crucial if the advantages of properly executed EH activities are to be better understood. EH personnel also need to better understand the challenges faced by the medical personnel.
- The unclear management lines and responsibilities for the delivery of EH medical/logistic activities continued to pose a significant obstacle for efficient deployment of EH in the field, and placed the new EH Coordinators under enormous pressure in some contexts. It was, however, important to assign EH Coordinators to the field to boost EH activities and their recognition.
- Lack of operational space for EH is exemplified by the relative small proportion of EH compared to other MSF activities, including a small proportion of basic community vector control activities when compared to the number of projects with a malaria component.
- The MSF portfolio in waste water management is exceedingly limited, resulting in dumping contaminated water into the open environment, with all risks this entails.
- OCB has a minimal EH portfolio in camps compared to other sections in 2018 with most of the attention on secondary health structures.

- OCB has little experience with EH activities and/or advocacy in water scarcity contexts (pollution, drought).
- There is still no advocacy component whatsoever present in EH projects of MSF.

## 5.2. GOALS FOR 2019

- The role of the EH coordinators will be clarified in the field with the logistic and medical staff and the heads of mission, including a clarification of management lines and responsibilities for the medical/logistic delivery of EH.
- The scope of EH will be clarified in MSF and integrated in the OCB prospect documents and medical policy paper.
- Harmonised/standard indicators and tools for assessment, monitoring, and evaluation of EH activities will be included in routine MSF data collection.
- The GO-Pro project will be continued to ensure an appropriate water supply in MSF health structures and extend the emergency strategy for populations with increased focus on EH. The activities will be extended for water supply projects in communities with high burdens of infectious diseases (e.g., hotspots for recurrent cholera outbreaks).
- The medical academy training package for EH will be developed.
- Well-defined vector control activities will continue, and participation of more medical staff in the vector control course will be reinforced.
- In specific contexts, operational research will be used to demonstrate the impact of EH activities on mortality/morbidity (e.g., kits in DRC) and on health economics (e.g., IRS in Burundi).
- In general, the basic expertise in key WatSan activities and vector control will be maintained, while expanding the know-how on broader EH activities (such as EH in pollution by extractive industries).



In the makeshift camps that have become home to hundreds of thousands of Rohingya refugees in Bangladesh, no system has been put in place to drain or pump clean latrines that are shallow and unsanitary. Most of the water in the camps is contaminated. This poses acute problems for everyone, especially for mothers and their young children. © Mohammad Ghannam/MSF

# EPIDEMIOLOGY/ EPICENTRE

10

**7**studies with ongoing  
data collection**5**new studies  
designed**5**studies providing  
analysis and results**3**trainings  
held

## HIGHLIGHTS OF 2018

- **Data collection was completed for the second HIV survey (KwaZulu-Natal), studies on first-line HIV drug resistance (Mozambique), on the LAM test's feasibility for TB diagnosis, and on antiretroviral treatment resistance (Kinshasa).**
- **Recommendations from the kwashiorkor pathophysiology study were implemented in the field (Niger).**
- **Studies were initiated on typhoid vaccine protection (Harare), the HIV care cascade among sex workers (Malawi), the immune response to a delayed second dose of a cholera vaccine (Guinea), invasive bacterial infections in HIV inpatients (Kinshasa), and abortion-related complications (four African settings).**
- **Epicentre supported data collection and negotiations on use and trials of experimental treatment for the Ebola Virus Disease outbreak in Democratic Republic of Congo (DRC).**
- **Epicentre facilitated training on “Responding to Emergencies and Epidemics” (Kinshasa).**

## 1. OVERVIEW

Epicentre's epidemiological studies provide Médecins Sans Frontières (MSF) with evidence to improve their interventions and medical care. The main areas covered by these studies include: research in emergencies, support for MSF programme monitoring activities, and research designed to enhance operational strategies as well as preventive, curative, and diagnostic tools and protocols. Results may be used to support advocacy both in the scientific community and among local, national, and international authorities and stakeholders. Epidemiologists, statisticians, and laboratory specialists, among others, comprise the Epicentre scientific team. In 2018, three epidemiologists were integrated into the MSF Operational Centre Brussels (MSF OCB) Medical Department and two epidemiologists were integrated into the Southern African Medical Unit (SAMU) to enhance communication and facilitate the implementation of new research projects.



## 2. RESEARCH ACTIVITIES

### 2.1. FIELD EPIDEMIOLOGY

In 2018, Epicentre provided epidemiological support in intersectional data collection and analysis for the Ebola Virus Disease (EVD) responses in DRC. In Haiti, Epicentre prepared the reinforcement of the cholera surveillance system in three communes of the Southern Department in order to determine the effectiveness of the Euvichol vaccine, used during two vaccination campaigns conducted in 2016-17 in these communes. Epicentre also wrote a manuscript on the vaccination coverage of these campaigns.

### 2.2. OTHER RESEARCH

#### Ebola Virus Disease

The safety data of the rVSV ZEBOV vaccine against Ebola Zaire among Guinean frontline workers were published<sup>1</sup> in 2018 and the final results on the immunogenicity are expected in 2019.

In the context of the ongoing DRC EVD outbreak, Epicentre supported MSF in the negotiations and implementation of the EVD treatment trial (mAb 114, Remdesivir, Zmapp, REGN-EB3, in collaboration with the NIH, WHO, INRB, and ALIMA<sup>2</sup>). Epicentre also supported MSF as needed for the implementation of vaccination against EVD and monitored emergency use of unregistered and investigational interventions against EVD.

#### Vaccine-preventable diseases

The generic protocol for a randomized non-inferiority trial to evaluate the immune response to a delayed second dose (six to 12 months compared to the standard 14-day interval) of a cholera vaccine has been finalised. After a careful site assessment, this trial will be conducted in Conakry (Guinea).

In 2018, Epicentre designed a case-control study to estimate the protection of one dose of typhoid conjugated vaccine, Typbar-TCV®, against clinical typhoid fever among inhabitants of the Mbare and Kuwadzana suburbs in Harare (Zimbabwe). A field visit was conducted at the end of 2018.

The ethics approval and implementation of both studies are planned for 2019.

#### HIV and Hepatitis C Virus (HCV)

Three scientific papers were published on the findings from the HIV population survey conducted in KwaZulu-Natal, South Africa<sup>3</sup>, and on the comparison of these findings with similar surveys conducted in other countries<sup>4</sup>.

In 2018, three studies focused on HIV prevalence and the care cascade. First, manuscripts on the two population surveys in the MSF OCB projects of Gutu (Zimbabwe) and Nsanje (Malawi) were written in 2018. Second, a second HIV population-based survey was conducted in the Mbongolwane and Eshowe Health Service Areas (KwaZulu-Natal, South Africa), seven years after the implementation of the MSF HIV project, allowing the comparison of results with those of the same survey conducted in 2013. Preliminary results were presented to the field team in 2018. Analysis and communication will continue in 2019. Third, Epicentre and MSF OCB plan to evaluate HIV prevalence and the care cascade among female sex workers working or living in the district of Nsanje, using a respondent-driven sampling approach. The protocol was approved through ethics review in 2018, aiming to include 350 female sex workers 13 years and older in 2019.

In Mozambique, Epicentre and MSF OCB (with MSF OCG, South African laboratory partners, and the Ministry of Health) are conducting a cross-sectional study to assess the prevalence of pre-treatment drug resistance (PDR) for both antiretroviral treatment (ART)-naïve and pre-exposed HIV adult patients<sup>5</sup> initiating ART. A follow-

1 Juan-Giner A *et al.*, Safety of the rVSV ZEBOV vaccine against Ebola Zaire among frontline workers in Guinea. Vaccine, 2018.

2 National Institutes of Health, World Health Organisation, Institut National de Recherche Biomédicale, The Alliance for International Medical Action.

3 Huerga H *et al.* Progress towards the UNAIDS 90-90-90 goals by age and gender in a rural area of KwaZulu-Natal, South Africa: a household-based community cross-sectional survey. *BMC Public Health*. 2018; Grebe E *et al.* Population-level HIV incidence estimates using a combination of synthetic cohort and recency biomarker approaches in KwaZulu-Natal, South Africa. *PLoS One*. 2018.

4 Chihana ML *et al.* Impact of "test and treat" recommendations on eligibility for antiretroviral treatment: Cross sectional population survey data from three high HIV prevalence countries. *PLoS One*. 2018.

5 Prevention of mother-to-child transmission, Pre- or Post-exposure prophylaxis, ART discontinuation for at least 3 months.

up phase aims to assess the frequency of acquired drug resistance (ADR) after at least six months of first-line ART. Recruitment was finalised in 2018 and preliminary analysis showed alarming levels of PDR and ADR. Data analysis and report writing will be completed in 2019.

Also in Mozambique, Epicentre provided technical support to manage and analyse a dataset of Pre-exposure prophylaxis (PrEP) among sex workers in Beira.

In Kinshasa (DRC), the results of the study assessing the level of major genotypic ART-resistance mutations among ART-experienced patients hospitalized with advanced HIV were shared with partners. Final results and recommendations regarding the need for a faster switch to second-line treatment of ART in these inpatients with advanced HIV are under discussion.

MSF OCB and Epicentre plan to describe the prevalence of invasive bacterial infections, the type, and antibiotic sensitivity of associated bacteria in HIV-infected patients hospitalized in the Centre Hospitalier Kabinda, in Kinshasa. In 2018, the study protocol was written and a field visit assessed the laboratory partner's capabilities of performing blood culture. The study aims to include 1225 HIV-positive patients.

Epicentre continued to support the MSF OCB HCV projects (Karachi in Pakistan, Meerut in India, Kibera in Kenya) that were using the HCV cohort database (HepaMUD, developed and supported by Epicentre) to monitor patients receiving a new HCV treatment. Site-specific and intersectional analyses were conducted and communicated<sup>6</sup> in 2018 to assess the effectiveness of the model of care used in these HCV projects.

### **Termination of pregnancy**

With funding from Elrha/R2HC and in collaboration with IPAS and the Guttmacher Institute, Epicentre, MSF OCB, and MSF OCP plan to assess the frequency and severity of abortion-related complications (the AMoCo study) and factors associated with severe and near-miss events in health facilities supported by MSF and situated in fragile or conflict-affected settings (in DRC, CAR, and Nigeria, and possibly other settings). In 2018, the partnership agreement was signed and the protocol was submitted for ethics review.

### **Tuberculosis**

A last publication<sup>7</sup> related to the multi-centric analysis of cohorts of MSF patients with multidrug-resistant tuberculosis was accepted in 2018, identifying a two-month culture conversion as an acceptable prognostic marker for treatment response.

The study assessing the feasibility of TB diagnosis in adult HIV-positive patients using the LAM<sup>8</sup> test in Kinshasa was finalised in 2018. The LAM test seems well accepted and easy to perform, providing quick results with good inter-reader agreement, minimal logistics, and little additional workload. A manuscript summarizing three TB-LAM feasibility studies conducted in Malawi (MSF OCP), Mozambique (MSF OCG), and DRC (MSF OCB) has been submitted for publication.

### **Nutrition**

In 2018, a research project to improve our understanding of the aetiology and pathophysiology of kwashiorkor using omics-based technologies was launched by Epicentre in Niger (Epicentre Research Centre base, Maradi Region), in collaboration with MSF OCB and Ghent University (Belgium). The recruitment reached half of the target sample (n=180) at the end of the year.

6 Report to guide WHO new recommendations (2018): Report on effectiveness of the Sofosbuvir – Daclatasvir regimen in cirrhotic and non-cirrhotic patients with genotype 1-4, DAAs, naïve. Also communicated at the *Global Hepatitis Summit, Toronto, 2018*; Loarec A, *et al.* Extremely Low Hepatitis C prevalence among HIV co-infected individuals in four countries in sub-Saharan Africa. *AIDS* 2018; Freiman J *et al.* Deriving the optimal limit of detection for an HCV point-of-care test for viraemic infection: analysis of a multi-country dataset, *Submitted and communicated at the EASL conference, Paris 2018*; Modelling the Impact and Cost of Screening and Treatment Scale-Up For Eliminating Hepatitis C Virus Transmission in Pakistan. *Manuscript in progress*.

7 Bastard M *et al.* What is the best culture conversion prognostic marker for patients treated for multidrug-resistant tuberculosis? *Int J of Tuberc Lung Dis*, 2019.

8 Test based on the detection of mycobacterial lipoarabinomannan.

### 3. TRAINING AND OTHER ACTIVITIES

#### Training

During the course of 2018, Epicentre conducted two intersectional “Populations in Precarious Situations” (PSP) courses and Epicentre and MSF OCB ran a nine-day course on “Responding to Emergencies and Epidemics” for MSF staff working for the emergency pool in DRC (Pool d’Urgence Congo - PUC). As decided at the end of 2017, MSF OCB did not send any trainees to the Responding to Epidemics (REPEPI) trainings organised in Paris in 2018.

#### Internal and international meetings

Members of Epicentre presented at and participated in internal (including working groups and task force) and international meetings on the different themes discussed in Sections 2.1 and 2.2.

#### Software

The FUCHIA database of the MSFOCB HIV project in Kinshasa was migrated to eTier software through a collaboration involving the Epicentre FUCHIA helpdesk, the SAMU team, and the field team.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

- Research collaboration between MSF OCB, SAMU, and Epicentre continued to be productive and harmonious, allowing ambitious research projects to be conducted. The second Epicentre position in MSF OCB was reopened in 2018.
- However, it was understood that communication between the ongoing MSF OCB/Epicentre projects needed be reinforced, notably by face-to-face communication with the MSF OCB medical direction.
- Also, informal discussions during 2018 underlined a lack of understanding and communication about Epicentre intersectional training (particularly the PSP).

### 4.2. GOALS FOR 2019

- Collaboration between MSF OCB and Epicentre promises a challenging research agenda for 2019.
- As in previous years, Epicentre will continue to ensure the dissemination of study results with MSF OCB and with other sections, as these will be of added value for the whole MSF movement. Epicentre will continue to discuss new research ideas with the MSF OCB Medical and Operations Departments.
- One meeting (or more if necessary) will take place in 2019 to clarify the contribution of MSF OCB in future Epicentre training (PSP in Europe or Africa, REPEPI) as well as the expectations of the MSF OCB’s participating technical referent in terms of organisation and improvement of this training. In the meantime, Epicentre will continue to do its best to tailor training according to field needs, and to smoothly organize this training for other MSF sections.
- Epicentre will continue to work on improving its interaction, communication, and collaboration with MSF OCB partners both in the field and at headquarters. This will ensure that Epicentre support matches the operational ambitions of MSF OCB. To that objective, a meeting is planned for early 2019 to present Epicentre MSF OCB projects to the MSF OCB medical direction. Also, the Epicentre team will visit the LuxOR team in Luxembourg in order to present both Epicentre and ongoing MSF OCB/Epicentre projects. It is planned to have similar meetings on an annual basis in the future to sustain the sharing of experience and face-to-face communication with representatives of the MSF OCB headquarters.
- Epicentre will resume support for the MSF OCB emergency pool.

# HEALTH PROMOTION

11



Health promotion (HP) teams  
involved in implementation of  
7 new regular projects



**64**  
OCB projects with  
HP component



**6**  
training sessions with  
HP component

## HIGHLIGHTS OF 2018

- **64 OCB projects in 31 missions have a health promotion (HP) component (increase of 18%)**
- **63 departures of expats: HP activity managers (48), HP supervisors (14), and anthropologists (1)**
- **456,602 HP sessions in OCB project's target communities and 215,590 HP sessions in MSF supported health facilities (of the 50 projects where data was available)**
- **One international HP training in Brussels, with 22 participants from different missions and sections**
- **Rapid qualitative assessments remain a standard routine HP activity**

## 1. OVERVIEW

Health promotion (HP) remains a technical field within MSF OCB, where health education, service promotion, patient and community engagement, and applied social science are deeply intertwined. 2018 has seen a growing number of OCB projects and missions with a health promotion component when compared to previous years (from 38 projects in 2015 to 64 in 2018). These projects included a wide array of contexts and medical topics, in which the health promotion component was embedded.

In 2018, through the field HP teams, we gained practical experience in topics that HP has typically been less familiar with, including antimicrobial resistance (AMR), Lassa fever, Non-Communicable Diseases (NCDs), adolescent health, and palliative care. Health promotion tools, good practices, and lessons learned from the field continued to be documented and capitalised upon, although there remains a lot of space to increase the sharing of these experiences and lessons learned.

OCB health promotion teams were involved in the implementation of seven new regular projects in 2018: Roraima (Brazil), Jamtoli (Bangladesh), Banten (Indonesia), Kenema (Sierra Leone), Anzoategui (Venezuela), and Ebonyi & Cross Rivers (Nigeria). Three of these (Brazil, Indonesia, and Bangladesh) had no prior MSF experience.

The HP toolkit, which provides resources for all HPs in the field, is currently stored on a USB key, but we hope to integrate it into a digital platform linked to the community of practice, which will be easier

to access in the near future. An HP-focused digital platform that serves as a “community of practice” could facilitate this process and enable a greater horizontal exchange of expertise amongst HP managers and supervisors within the field. We also intend to work with different referents on specific topics inside the toolkit in order to provide a minimum standard of guidance to health promoters on particular medical topics. The development of a set of standard HP indicators and a standard template for an HP registrar or database is in process in collaboration with the E-health unit, which will be linked to DHIS 2 in the future. We hope this will increase also the visibility of the HP work inside MSF.

There is a growing need and willingness to apply more innovative approaches to HP activities, such as the use of social media as a standard HP tool. This has led to the introduction of the concept of “digital health promotion,” which combines technical expertise in both health promotion and social media management. A number of digital health promotion initiatives have been piloted including the “welcome service” campaign for people living with HIV in Khayelitsha, South Africa and the World Antibiotic Awareness Campaign in the Lebanon mission. These pilots provided us with lessons learned, which will help to further develop the framework of digital health promotion for our operations. This initiative also led to the creation of the first position for digital health promotion within the South Africa mission.

Patient and community engagement remained a core component of MSF’s health promotion interventions, but more engagement and ownership is required to further establish these principles as core within the MSF movement. Health promotion teams continued to play a proactive role in collection of patient and community feedback and perceptions about the services provided by MSF, but they had little leverage on the operational planning. This gap remains to be addressed and the prioritisation of community engagement needs to be more visible in operational strategies, decision-making, and resource allocation.

Social science and qualitative research play an important role within the field of health promotion, and help to identify the needs of populations; develop context-adapted approaches, activities, and services; and monitor whether project objectives are met. Many health promotion activity managers have a background in social sciences, but their voices, and those of social scientists in general, are often not well represented or heard in operational decision making, despite MSF teams frequently facing issues that require an in-depth, qualitative approach. Illustrative of this were the challenges faced during the Ebola emergency in Democratic Republic of the Congo (DRC).

2018 was marked by many examples of interdisciplinary cross-collaboration between health promotion and other technical fields, at field and headquarters levels. The collaborations included mental health, social work, nutrition, sexual and reproductive health, and intercultural mediation, and proved to be efficient and beneficial to our patients. Respect and understanding of each other’s roles was crucial for the success and further engagement will improve collaborations in the future.

## **2. MAIN PROGRAMME ACTIVITIES**

### **2.1. HEALTH PROMOTION GENERAL OVERVIEW**

In 2018, HP activities were conducted in 64 projects across 31 missions (not including vertical HIV/TB projects, which are reported elsewhere – cf. HIV/TB section), including 10 emergency intervention projects and 54 regular projects.

### 3. TRAINING AND HUMAN RESOURCES

The following trainings included a HP component:

- Water, Sanitation, and Hygiene (WASH) in emergencies: module “Health promotion in WASH and Emergency.”
- 3 x First Line Medical Training (FLMT) – An integrated approach for community based health care.
- 1 x Project Medical Management Training (PMMT)
- Health Promotion training in Brussels: ten-day training open to all MSF sections.

### 4. INTERDISCIPLINARY PLATFORMS

The following interdisciplinary platforms required HP involvement:

- Primary Health Care circle
- Migration circle
- Antibiotic Resistance circle
- Khost circle
- Critical Care circle
- Palliative Care circle

### 5. PRESENTATIONS

- During coordination week (May 2018): “Reconnection with patient and communities”- shared presentation with Marc Biot, Eva Rocillo, and Jesse Verschuere, followed by group discussions.
- For the Middle East North Africa (MENA) communication department: “Digital health promotion, what does it mean?” – presentation followed by discussion (December 2018).

### 6. SOCIO-CULTURAL ASSESSMENTS

In order to gain a better understanding of the socio-cultural issues in the contexts in which OCB works and to better support medical activities, several qualitative assessments were conducted as part of HP activities, including:

- South Sudan, Pibor: *Nutritional situation in and around Pibor during tagiz season* by Florence Metrailler.
- South Sudan, Pibor: *Infertility, Abortion and Family Planning. Murle Population's Representations and Practices* by Florence Metrailler.
- Sierra Leone, Kenema: *Qualitative assessment on maternal health* by Rebecca Slenes.
- Sierra Leone, Kenema: *Qualitative assessment on child nutrition* by Rebecca Slenes.
- Indonesia, Banten: *Qualitative assessment on adolescent health seeking behaviour* by the project team.

## 7. LOOKING BACK AND AHEAD

### 7.1. LESSONS LEARNED IN 2018

- Community engagement needs to be more visible in operational strategies, decision-making, and resource allocation.
- MSF teams often face issues that require in-depth qualitative analysis of the situation, and that requires the voice of the social sciences to be more represented and taken into account in operational decision making.
- There is a need to improve the capitalisation and dissemination of HP materials, experiences, and lessons learned. More interaction between HP experts is needed to facilitate the regular exchange of information and technical knowledge.



- The use of social media as a standard health promotion tool represents an important added value to existing health promotion strategies and is worth further investment.
- The growing number of MSF projects with an HP component demonstrates the need for more patient and community engagement, health education, and application of social science within our interventions, but at the same time stretches the referents' capacity to provide adequate support to the field.
- Good collaboration with the HR Department continued in terms of the successful recruitment and development of the pool of experienced Health Promoters.

## 7.2. GOALS FOR 2019

- A digital platform that serves as an HP “community of practices” will be developed, to increase horizontal interaction between HP experts in the field or between missions. This will focus on the exchange of HP materials, experiences, and lessons learned.
- Together with the E-health unit, standard HP data collection and monitoring tools will be adapted to the needs and requests in the field and finalised.
- The HP toolkit will be further developed and structured, and will aim for a minimum standardisation of certain topics and types of activities. Strategic guidance papers for HP involvement in ABR, nutrition and child health projects will be further developed, with the help of the corresponding referents.
- Pilot interventions of digital HP will continue and contribute to the development of the digital HP framework.
- The HP policy will be further elaborated, setting the frame of HP within MSF OCB.



Sensitisation session on hygiene and health in Walikale, North Kivu.  
© Gwenn Dubourthoumieu



# HIV

# 12


**374,818**

HIV testing and counselling (HTC) sessions; of which 40,297 (10.8%) took place in non-HIV projects


**96,458**

people on antiretroviral therapy (ART) in MSF-supported facilities, of which 5% were <15 years


**17,520**

people initiated on ART, of which 6% were <15 years


**72%**

of patients retained in care after 12 months on ART


**65%**

of patients on ART for 12 months had a viral load (VL) done; VL suppression among those was 85%


**1052**

(28%) of 3769 patients with advanced HIV admitted in MSF-supported hospitals died during their stay

## HIGHLIGHTS OF 2018

- **Close to 100,000 people are on ART in vertical HIV projects focusing on innovative models of care for adherence, retention, and treatment failure.**
- **Very high in-patient mortality has slightly dropped as new interventions and models of care for advanced HIV were introduced.**
- **While integration remains a priority, planned openings of new HIV projects in West and Central Africa have been delayed to 2019.**
- **Continued focus on innovative strategies to reach the most neglected, including children, men, sex workers, men who have sex with men, prisoners, migrants, and people in conflict.**

## 1. OVERVIEW

There has been little reduction in HIV incidence, and at 1 million deaths per year, HIV mortality remains high. Global optimism that the HIV epidemic will be controlled by 2020 and eradicated by 2030 is waning, as is international interest and funding. MSF increased its focus on advanced HIV disease and HIV mortality reduction, and was one of few actors in differentiated service delivery for advanced disease. Effecting change in policy and practice through innovative catalytic projects, research, and advocacy remains a core strategy with important successes ranging from flucytosine use for cryptococcal meningitis in South Africa to scale up of viral load in Kinshasa. Over 30 HIV and TB scientific publications were produced during the year.

## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. HIV TESTING AND COUNSELLING

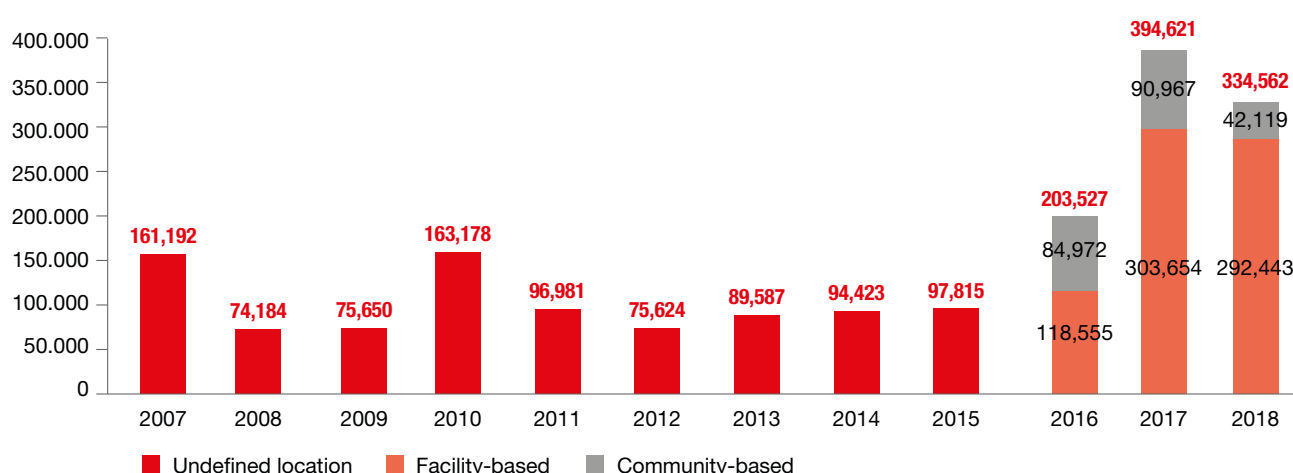
HIV testing and counselling (HTC) in vertical projects remained high (334,531), mostly facility-based in Nsanje (102,000), Gutu (41,690,) and Mwenezi (30,973), despite decreased community testing (Figure 1); 40,287 tests were done in non-HIV projects and 9,000 oral self-tests were distributed.

A total of 17,821 people were diagnosed with HIV; 9,268 in Zimbabwe and Malawi. Overall, 6% of facility-based and 4% of community-based tests were positive, with important variations between populations and contexts; e.g., over 40% of sex workers in Mozambique and Malawi tested positive.

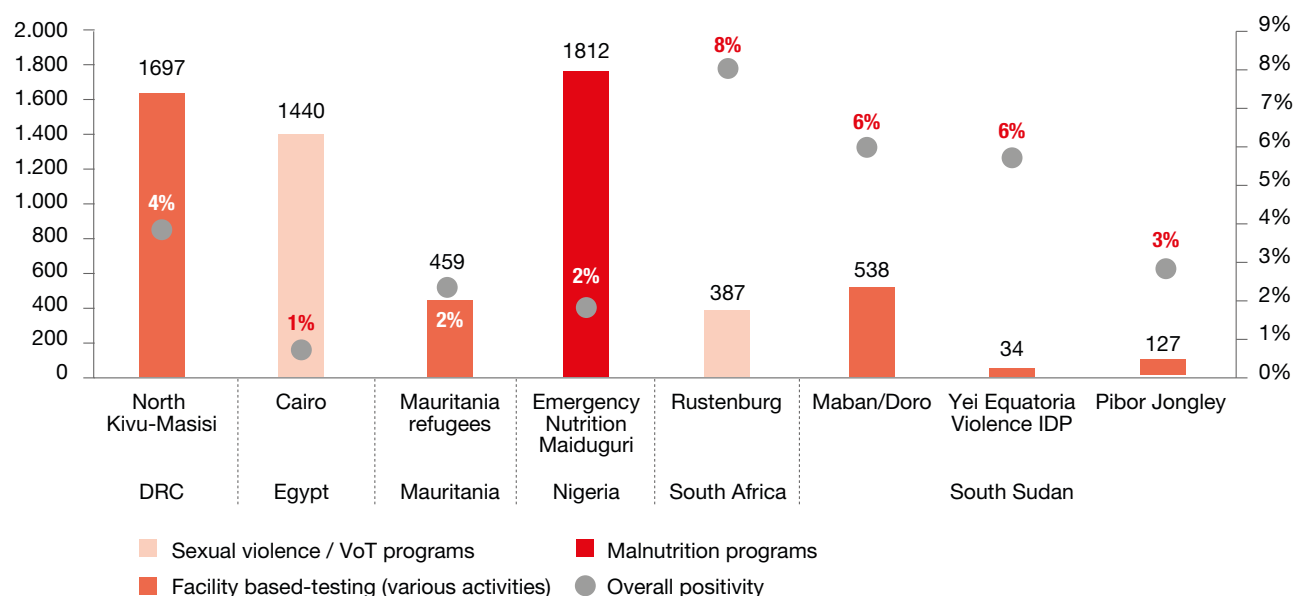
Lower community testing is due to closure of the Tete project and a shift from home-based testing in KwaZulu-Natal and testing campaigns towards targeted community testing. Index-testing increased, especially in low prevalence settings. Identification of marginalised populations remains challenging.

Several non-HIV projects successfully integrated HIV testing services, particularly those focused on malnutrition, sexual violence, and SRH (details provided in the chapter on Sexual and Reproductive Health). High positivity proportions in low prevalence settings suggest highly targeted testing practices (Figure 2).

**FIGURE 1** Facility and Community HIV Testing and Counselling and Positivity in MSF-supported HIV projects, 2007-2018



**FIGURE 2** HIV testing and positivity by service type in projects where HIV is not the primary objective (excluding testing explicitly indicated as done in SRH), 2018



## 2.2. ANTIRETROVIRAL TREATMENT (ART)

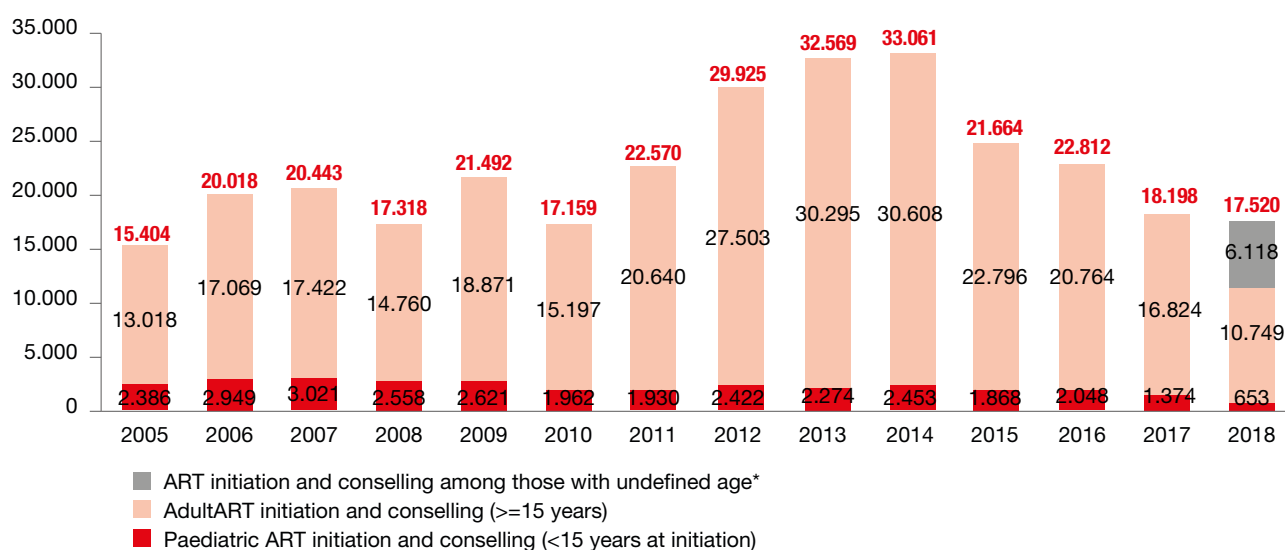
Absolute numbers on ART are an insufficient measure of MSF engagement since many “catalytic” projects focus on gaps in quality of care and access while the Ministry of Health (MoH) adequately covers first-line treatment. Nonetheless, retaining a critical mass of ART delivery under MSF responsibility is important, especially as funding to MoH declines.

The steady decrease of people started on ART has slowed down, although 17,520 is the lowest since 2010. The proportion <15 years dropped from 8% to 6%, reaching a record low, although missing data on age render the data difficult to interpret.

Numbers on ART in vertical HIV projects decreased from 102,028 in 2017 to 96,458 in 2018, of which more than 50% in Nsanje, Gutu, Mwenezi, and Changara/Marara (Annex, Figure 8), all projects which have been or will be handed over in the near future. Strategic plans to shift investments in HIV to West and Central Africa have not yet materialised as the Kinshasa and Conakry cohorts decreased while no new project was opened.

Lower child initiations are due in part to improved prevention of mother to child transmission (PMTCT), but also to MSF’s disengagement from basic PHC support, including PMTCT, to concentrate on older paediatric/adolescent cohorts and to limited integration with SRH and nutrition programmes. MSF involvement in PMTCT is low outside Conakry and remains a concern (see PMTCT section).

**FIGURE 3** Number of people counselled and initiated on antiretroviral treatment, by year



\* Includes: Tete, Mozambique (project closed in 2018); Nsanje, Malawi

## 2.3. ADVANCED HIV AND TREATMENT FAILURE

There was a major focus on Advanced HIV Disease (AHD) and reducing HIV/TB-related mortality. Models of care focus on adapted packages at hospital and PHC level, including referral systems, post-discharge follow-up and early detection and management of severe immune suppression and opportunistic infections. Treatment failure is an increasing contributor to HIV mortality and rapid identification and switch to second-line ART is a critical component of these models of care. Different approaches are being piloted in Conakry (Guinea), Kinshasa (DRC), Nsanje (Malawi), Beira (Mozambique), and Khayelitsha and Eshowe (South Africa).

In 2018, 1052 (28%) of 3769 patients with AHD admitted to MSF-supported hospitals died during their stay (Figure 4). An additional number will have died after discharge. Emerging data suggest modest decreases in mortality in MSF-supported hospitals in Nsanje and Kinshasa after improvements in hospital care, rapid assessment units (RAU), referral systems, and investment in AHD at PHC. Mortality in Nsanje district hospital dropped from 30% in 2017 to 19% in 2018 and in Kinshasa from 31% in 2016 to 25% in 2018.

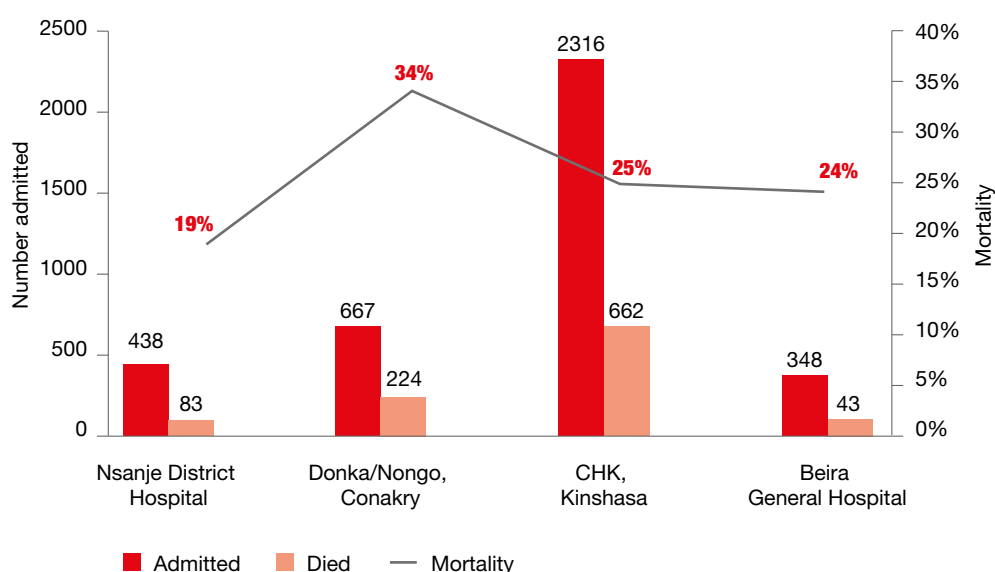
Tuberculosis remained the first cause of death, followed by other severe opportunistic infections such as cryptococcal meningitis, neurological infections, and pneumonia. MSF teams piloted a package of innovative diagnostics for the main causes of death, including point of care CD4 testing, urinary TB LAM (a rapid test for early detection of TB), GeneXpert TB, and CrAg (a rapid test for early detection of cryptococcal meningitis) and ensure early initiation of appropriate treatment. In Kinshasa, blood cultures were introduced for diagnosis of invasive bacterial infections and antibiotic resistance.

The proportion of patients presenting to hospital with severe immune suppression (CD4<200) ranged from 62%-74% and among patients initiating ART at primary care from 11% in Eshowe to 20% in Conakry. To reach people earlier, MSF is piloting a triage and diagnostic package at primary care. Ensuring access to CD4 remains a critical challenge.

Patients on second-line ART increased from 3% in 2016 to 6% in 2018 (Annex, Figure 7), driven by targeted interventions such as the scale up of viral load in Kinshasa, Conakry, and Mbare.

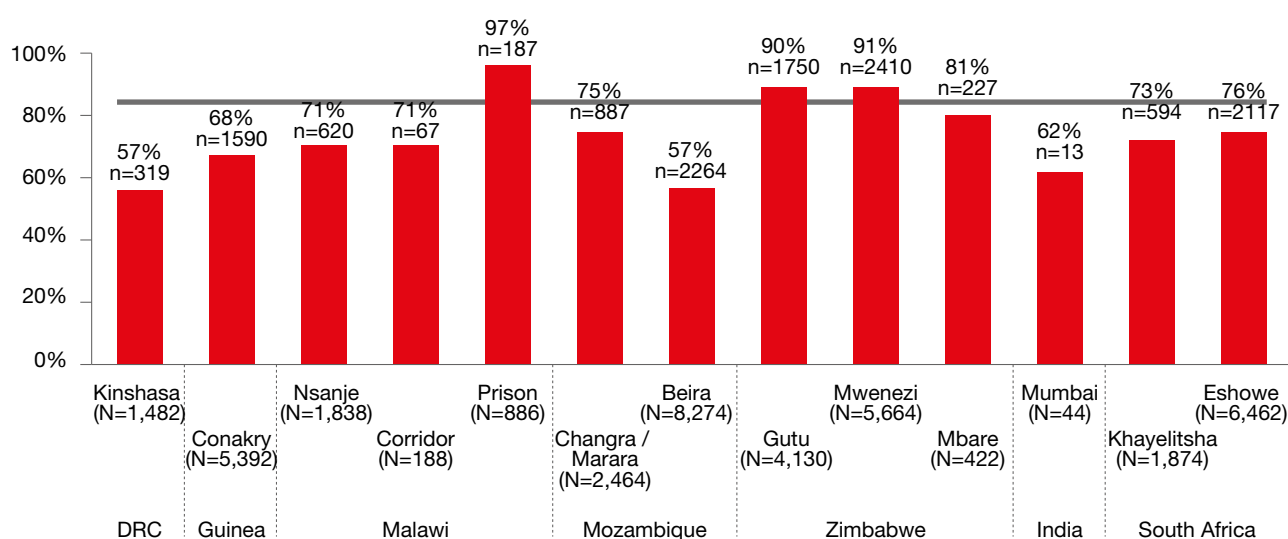
Viral load coverage at 12 months on ART remains too low at 65%. While 85% of those were undetectable, the majority of patients with treatment failure remain undetected. Responding better to their needs is a programmatic and research priority. Rate and time to switching to second-line ART remain unsatisfactory. For example, in Eshowe, a relatively successful example, 78% of those failing were switched, but only 13% within 6 weeks of the second high VL. Dolutegravir as the new preferred backbone for first- and second-line ART will hopefully improve treatment success and its rapid introduction is a priority for MSF.

**FIGURE 4** Numbers of patients admitted and in-patient mortality in MSF-supported hospitals, 2018

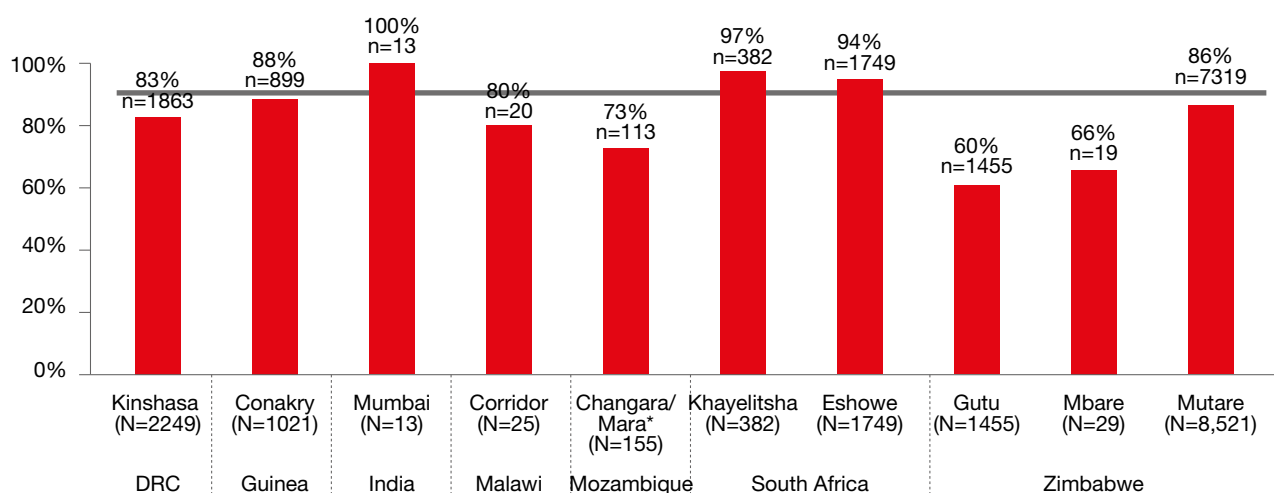


## 2.4. HIV TREATMENT OUTCOMES

Of patients started on ART 72% were retained in care after 12 months (Figure 5), well below the target of 85% only achieved in the large Zimbabwean district projects (Mwenezi and Gutu), Malawi prisons, and the small cohort in Mumbai.

**FIGURE 5** Proportion of patients retained in care 12 months after ART initiation between October 1, 2016 and September 30, 2017**Note:** N includes all who initiated and therefore does not represent the denominator for RIC.

VL completion at 12 months remained low in some settings (Annex, Figure 9). The target of 90 % with VL suppression among those with VL done was achieved by most projects (Figure 6) though VL completion remains poor. Lower VL suppression in Zimbabwe and Mozambique may relate to a rise in resistance to first-line ART (demonstrated in an important MSF study during the year), paired with insufficient switch to second-line ART.

**FIGURE 6** Proportion of patients with a suppressed viral load (<1000 copies/mL) 12 months after initiation of ART, among those who were initiated between October 1, 2016 and September 30, 2017 and whom had a VL completed

### 3. LEARNING, DEVELOPMENT, RESEARCH, AND ADVOCACY

Learning and development, including training and mentorship, as well as guideline development continue to be a main focus. HIV/ TB clinical and clinical implementation support to IPD guides were released and the aligned HIV/TB e-learning course was upgraded. A clinical mentoring guideline and toolkit were also finalised. There was an HIV/TB programmatic course and 2 HIV clinical courses implemented in Cape Town; alongside HIV clinical courses in South Sudan, Mozambique, and DRC these trainings reached 242 people (MSF and partners' staff). Mentorship and TOT training were implemented in Cape Town, Malawi, Eshowe, and Khayelitsha.

More than 30 research articles were published and MSF made numerous presentations at scientific conferences, as well as contributions to national and international guidelines. Highlights include input into new WHO (and South African) guidelines on cryptococcal disease, several studies on AHD from the description of the burden to hospital mortality and HIV drug resistance, impact of lay counsellors, stock outs, findings from populations surveys on HIV incidence and impact of test and treat, differentiated service delivery including a historic presentation on 10 years of community adherence groups in Tete, and a briefer on key populations model of care released at the International AIDS Conference. Advocacy focused on AHD, West and Central Africa, key populations, and a substantial investment on funding.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

The limitations of the 90-90-90 model in reducing new infections were confirmed by community surveys showing achievements of coverage targets with limited incidence reduction. “HIV epidemic control by 2020” and “eradication by 2030” will not be achieved with existing strategies while international funding continues to drop.

Most new infections in Southern Africa occur in adolescents and young adults while in the rest of the world, key populations and their partners are the most affected. West and Central Africa remain extremely neglected with a very poor response.

The linear cascade model (90-90-90) has to be replaced by a circular one. Many drop out of care when clinically better and return only when very ill: the “Return of AIDS.” In reaction, MSF has focused increasingly on advanced disease and mortality reduction and less on management of stable patients.

MSF’s HIV response towards reaching the most neglected and at the highest risk of death has improved for patients with advanced HIV and, to a lesser extent, marginalised populations, though much remains to be done. However, there has been insufficient progress towards reaching children, pregnant women, and people in lower prevalence settings.

### 4.2. GOALS FOR 2019

- **Opening HIV/TB projects and integration in low coverage/conflicts countries** (i.e., CAR, South Sudan, Nigeria). To catalyse change in these settings and to adapt models of care typically used in high HIV prevalence areas, it is necessary to invest more heavily in HIV/TB projects. In addition, we need to ensure that any individual in any project has access to integrated HIV/TB care.
- Approaches to address the needs of specific populations, such as **key populations, pregnant women, children, and adolescents, remain a core area of investment**. Differentiated models, engaging engaging peers in service delivery, have been adapted to their needs, and will continue to evolve as community needs change and new innovations and technologies become available (e.g., long-acting injectables).
- We will also **adapt our service delivery models to address the challenges of disengagement from care, high rates of treatment failure, and increasing resistance**. We focus on friendly services that encourage people to re-engage with health services, welcoming people back to care. The introduction of dolutegravir alongside these activities will hopefully be a game-changer.
- To **reduce inpatient HIV related mortality to < 20%** we will continue to focus on AHD, via rapid assessment units and triage, care, and referral systems at PHC and hospital level. Routine screening with CD4 as well as utilisation of TB Lam, CrAg and rapid diagnoses at PHC level are a priority area for the coming year.

# INFECTION PREVENTION & CONTROL



Infection Prevention and Control (IPC) supervisor/manager present in 71% of facilities



Alcohol-based hand rub (ABHR) available at point of care in 94% of facilities



Cleaning schedule in place in 94% of facilities



Measuring isolation compliance in 30% of facilities



Registration of operation-specific surgical site infections (SSI) in 30% of facilities with surgical activities

## HIGHLIGHTS OF 2018

- **Provided support to projects (field visits, advice)**
- **Developed and adopted new IPC policy and Stepwise Infection Prevention and Control Approach (SIPCA).**
- **Conducted SIPCA survey on the level of implementation of IPC policy and protocols in MSF projects.**
- **Developed IPC Toolbox: <http://ocbmed.msf.be/#./english/medical-table-of-content/IPC/index.html>**
- **Developed guidelines and protocols, including guidance for automated sterilisation methods, antiseptic use.**
- **Involved in the following circles: Antibiotic Resistance (ABR), Essential requirements infix, Intensive Care Unit (ICU), Outbreaks**

## 1. OVERVIEW

People should not get sick while seeking health care. However, millions of people globally are affected every year by Healthcare Associated Infections (HAI). An HAI is an infection acquired by a patient while receiving care in a hospital or other health facility and that was not present or incubating on admission.

The World Health Organization (WHO) describes Infection Prevention and Control (IPC) as a practical, evidence-based approach aimed at preventing patients and health workers from being harmed by HAIs, which are often avoidable. IPC is crucial to ensure patient safety and quality of care, and it is relevant to every health worker and patient, during every health care interaction.

In an era where Antimicrobial Resistance (AMR) is becoming a global threat, and considering that hospitals are hotbeds for AMR, IPC is becoming increasingly crucial. As the severity of illness of hospitalised patients in MSF projects is increasing and the use of invasive devices is expanding, there is a higher risk for HAIs, often caused by AMR pathogens. Hospitals also act as referral sites for difficult-to-treat infections. As such, the need to avoid cross-transmission within and between health care facilities is paramount.



The IPC unit works in close collaboration with the AMR task force and several technical referents in the Medical Department (Infectious Diseases, Diagnostics, Paediatrics, Surgery, Nursing Care, Sexual and Reproductive Health, Pharmacy, and Medical Equipment) to ensure the integration of IPC measures in all relevant guidelines, protocols, and tools within MSF OCB.

## **2. MAIN PROGRAMME ACTIVITIES**

### **2.1. IPC NEEDS AND RESPONSES**

To provide some insight into MSF OCB IPC interventions and needs in 2018: 15 projects offered surgical care and responsible for 22,214 surgical interventions; 22,771 children under five were admitted to Inpatient Departments (IPD) (excluding Inpatient Therapeutic Feeding Centres); and there were 7620 exits from inpatient neonatal services.

Implementation strategies to improve IPC are multimodal and include the following components: i) system change; ii) training; and iii) monitoring and feedback. System change includes availability of the appropriate infrastructure (including WASH) and supplies to enable and enhance good IPC practices, as well as basic structural requirements such as organisational aspects, hospital-built environment (infrastructure and hospital design), material, equipment, and ancillary services.

A toolbox containing all IPC policies, guidelines, and protocols, including guidance for automated sterilisation methods, was developed and made available online in the MSF Online Offline Publication System (OOPS), and the link was sent to all Medical Coordinators.

### **2.2. FIELD SUPPORT**

In 2017, the IPC Mobile Implementation Officer (MIO) and/or referent conducted field visits in Guinea, Central African Republic (CAR), Burundi, Nigeria, Haiti, South Sudan, Sierra Leone, Iraq, Bangladesh, Malawi, Lebanon, and Gaza. The main objectives of the visits were to: i) support new projects with a high Multidrug Resistance (MDR) burden such as Iraq and Gaza; ii) tailor on-the-job training for the IPC supervisors; iii) conduct situation analyses for IPC implementation, design an action plan accordingly, and initiate implementation of activities with the field teams; and iv) strengthen the surveillance of surgical site infections (SSI). The latter has been done in Burundi with the initiation of an SSI surveillance programme.

Support was provided for hospital designs in Mosul, Maiduguri, Kenema (finalisation), Nigeria (Lassa fever context), Kunduz, and L'Arche in Burundi.

### **2.3. IPC AND ANTIMICROBIAL RESISTANCE**

Mosul: 39% of all admitted patients required isolation, demonstrating the need to screen for MDR organisms.

CAR: In 2017, the Neonatology service in Castor faced an outbreak due to *Klebsiella pneumoniae*. The outbreak was controlled but sporadic cases of *Klebsiella* are still being reported.

### **2.4. SUMMARY OF THE SIPCA REPORT**

Since March 2018, a new intersectional IPC Policy was adopted with focus on three pillars (hand hygiene, cleaning and disinfection, and transmission-based precautions), with surveillance of SSI and catheter-related bloodstream infections (CRBSIs) as priority HAI for surveillance. The Stepwise Infection Prevention and Control Approach (SIPCA) was developed as strategy to implement this new policy using the WHO multimodal strategy. Of the 26 projects or facilities that were sent the survey, 17 (65%) completed it.

SIPCA is a multi-centric survey (Self-Evaluation Survey), geared towards understanding the status of IPC activities within participating OCB projects.

The objectives of this analysis were to:

- Describe the overall level of compliance to IPC practices (in line with the IPC policy) across OCB projects
- Determine common successes and challenges of IPC activities across OCB projects
- Provide broad recommendations and steps forward for IPC in OCB projects

**Methods:** The SIPCA evaluation survey is a routine event which occurs in order for projects and missions to appraise their IPC activities (i.e., in preparation for the Annual Review of Operations, ARO). The survey is a self-assessment done by the project itself by the Project Medical Referent (PMR), Nursing Activity Manager (NAM), and/or IPC manager/supervisor. The survey questionnaire is based on the KoBo toolbox platform which can be accessed from the app on a smartphone device or computer.

**Main Findings:** Organisational aspects regarding IPC need to be strengthened, especially in terms of training of the IPC supervisors. The built environment and the availability of equipment enabled good IPC practices. In general, the strongest IPC pillar in MSF OCB projects was hand hygiene, followed by cleaning and disinfection. Transmission-based precautions formed the weakest pillar. The projects gave more attention to the prevention of SSIs than to the prevention of CRBSIs. There were some systematic efforts to prevent SSIs, but nothing was systematically put in place to prevent CRBSIs, such as a bundle (a package of measures), or performing surveillance.

### 3. OTHER ACTIVITIES

- Development and Innovation: IPC guidance for new medical devices: CPAP, nebuliser, breast pump.
- Trainings: In 2018, IPC training was conducted for a range of MSF personnel: surgeons, anaesthesiologists, emergency doctors, medical equipment managers, and other medical staff. Tailored on-the-job training was also provided during the field visits of the IPC MIO. A specific training activity for the preparation of the opening of Kenema in collaboration with MSF Medical Academy.
- Conferences and Publications: IFIC conference participation.
- HR: Building up a pool of IPC professionals is ongoing.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

- Training of the IPC Supervisor remains challenging as there is lack of clarity around the role and responsibilities of this position.
- Departure of the IPC Referent and the second IPC MIO at the beginning of 2019 created a big gap in the service.

### 4.2. GOALS FOR 2019

- Continue support to projects in implementing the new IPC Policy using WHO multimodal strategies through SIPCA.
- Replace the second IPC MIO and IPC referent (who left MSF in early 2019).
- Create a pool of IPC professionals: The IPC team is actively recruiting IPC professionals at the hospital level to increase compliance with correct IPC practices.
- Conduct the second SIPCA survey to assess improvement of IPC level in all projects.

- Continue to develop the toolbox IPC: Bundles for SSI and catheter related bloodstream infections
- IPC training for IPC supervisors.
- Follow-up and analysis (1 year) SSI surveillance in Burundi and rollout for other projects.
- Follow-up and analysis of multi-drug resistant organism (MDRO) project in Mosul - three and six month revisions.

#### General recommendations for IPC in MSF OCB projects

Organisational aspects	<ul style="list-style-type: none"> <li>- Introduce IPC supervisors/managers in all hospital projects</li> <li>- Train IPC supervisors</li> <li>- Reinforce IPC committees</li> </ul>
Built environment, material, and equipment	<ul style="list-style-type: none"> <li>- Pay attention to bed spacing to respect at least one meter in between the beds (according to guideline 1m20)</li> <li>- Put in place dedicated space for a dirty room and sluice area in all hospitals</li> </ul>
Hand hygiene	<ul style="list-style-type: none"> <li>- Reinforce the measurement of hand hygiene compliance</li> </ul>
Cleaning and disinfection	<ul style="list-style-type: none"> <li>- Emphasise the quality check on the dilution of detergents and disinfectants</li> <li>- Implement the measurement of cleaning compliance with reflective surface marker</li> <li>- Implement check for damaged surfaces and medical equipment</li> </ul>
Transmission-based precautions	<ul style="list-style-type: none"> <li>- Alert signs need to be put in place</li> <li>- Implement measurement of isolation compliance</li> </ul>
Prevention of SSIs	<ul style="list-style-type: none"> <li>- Implement a bundle for the prevention of SSIs</li> <li>- Measure the bundle compliance and give feedback</li> <li>- Improve surveillance on SSIs</li> </ul>
Prevention of catheter-related bloodstream infections (CRBSIs)	<ul style="list-style-type: none"> <li>- Implement a bundle for the prevention of CRBSIs</li> <li>- Measure the bundle compliance and give feedback</li> <li>- Start surveillance on CRBSIs</li> </ul>
SIPCA tool	<ul style="list-style-type: none"> <li>- Revise certain answer categories</li> </ul>



An MSF staff member washes his hands with chlorine at a Cholera Treatment Centre (CTC) in Mbandaka, Equateur Province, DRC.  
© Borja Ruiz Rodriguez/MSF

# LABORATORY SERVICES

14

**32**laboratories  
active in 2018**4**new  
laboratories**4**laboratories  
closed**10**laboratories focused  
on HIV and TB**19**laboratories provided  
blood transfusion capacity

## HIGHLIGHTS OF 2018

- Contributed to the Laboratory chapter of the MSF Filovirus manual
- Continued scale up of Advanced HIV disease diagnostics in South Africa, Zimbabwe, Malawi, DRC, and Mozambique
- New laboratory access in Lebanon, Iraq, and Gaza
- Challenges of long turnaround time for HIV viral load results continued
- TB activities started in Sadr City, Baghdad

## 1. OVERVIEW

Following the “Diagnostic Packages for MSF Programmes” document edited by the MSF Diagnostic Network and endorsed by the OCBs’ Medical Directors in 2017, diagnostic tools were discussed in great detail with the opening of each new project.

The diagnostic packages consisted of three different approaches in order to allow for flexibility depending on programme aims, but also to ensure that basic standard services were coherently implemented across MSF projects. Following this, missions began updating their diagnostic packages.

In 2018, MSF continued to build its expertise on hemorrhagic fever diagnosis and patient care (mainly Ebola and Lassa). The OCB Medical Department contributed – at MSF international level – to the Laboratory chapter of the MSF Filovirus guideline.

In 2018, there was a continued scale up of Advanced HIV disease diagnostics (CD4 <200 or stage III/IV) in different country projects (South Africa, Zimbabwe, Malawi, DRC, and Mozambique) at different levels of health care service including Primary Health Care (PHC), Outpatient and Inpatient Departments (OPD/IPD), and mobile outreach screening. MSF’s role in diagnostics was to specifically demonstrate feasibility of using these diagnostics (PIMA CD4, CrAg, urine TB LAM) at PHC level (without the need for a laboratory) together with an acceptable level of quality assurance. The idea was to contribute to the WHO guidance on Advanced HIV disease screening, which lacks clarity on the specifics of diagnostics. At the same time, the Mumbai (India) “catalyst for change” project,

dealing with complex resistant patterns of Drug-Resistant Tuberculosis (DRTB), has reached an advanced stage of provision of MTB sequencing reagents (Illumina) to a Ministry of Health (MoH) laboratory (Jamshedjee Jeejebhoy Group of Hospitals Medical School Laboratory) to enable better diagnostic outcomes for patients who have limited DRTB treatment options. Challenges of long turnaround times (TAT) for HIV viral load results continued to be experienced as MSF handed over most of the testing services in some of the projects (e.g., Zimbabwe). Outsourced HIV Drug Resistance testing continued to increase in different projects, with the Democratic Republic of the Congo (DRC) having the most tests sent (+/-300 per annum).

## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. LABORATORY ACCESS

The table (Annex) presents the active laboratories either supported or run by MSF.

Of the 32 laboratories:

- 10 (31%) were strictly dedicated to HIV and tuberculosis (TB) activities
- Seven (22%) focused essentially on transfusion services related to malaria or maternity activities
- 12 laboratories (38%) laboratories offered a broad panel of clinical testing for hospitals
- Three laboratories (9%) laboratories offered specific diagnostics for more vertical activities such as Hepatitis C or non-communicable diseases (NCDs)

The assessment of external microbiology laboratories was a continual process. OCB had access to two validated microbiology laboratories (Haiti and Iraq); another was pending validation (Kinshasa, DRC), and many more validations were to occur in 2019. Three new projects (Baghdad and Mosul in Iraq, and Gaza) supported or started laboratory activities.

### 2.2. PROJECT HIGHLIGHTS

#### IRAQ

- **Bagdad (Sadr City):** a GeneXpert machine and cartridges were provided to the TB centre (Chest and Respiratory Disease Clinic) together with a laboratory technician for DRTB screening. Nearly 320 tests were performed on GeneXpert.
- **Mosul:** In April 2018, the MSF Comprehensive Post-Operative Care Hospital (CPOC) started medical activities. Samples for microbiology analysis were sent to an external laboratory in Erbil. So far >500 samples have been analyzed. As Erbil is far from Mosul and requires crossing several checkpoints, logistic and transport issues were key issues.

#### ZIMBABWE

- **Mwenezi:** MSF continued to conduct mobile outreach screening among key populations in farming communities and this project was instrumental in demonstrating the feasibility of using point-of-care diagnostics by health care workers outside a laboratory setting.
- **Beit-Bridge (Dulibadzimu clinic):** MSF refurbished the council clinic that saw local and deportee/migrant populations. A small laboratory was built and testing commenced for CD4 counts and other rapid tests.

#### GAZA

MSF started medical activities in May 2018 when Gaza hospitals were overwhelmed by injured at the time of the Great March of Return. At the al-Awda Hospital, MSF sent a laboratory specialist to quickly assess the laboratory needs and found they were lacking a supply of proper reagents. The main laboratory bottleneck was on-site access to quality microbiology. MSF is willing to support further microbiology in Gaza in 2019 and antibiotic resistance will be tackled.

## 2.3. INNOVATION

In the DRC Ebola intervention, OCB piloted its new deployable laboratory structure, directly connected to a treatment centre, aiming to receive and process samples quickly. For the first time, PICOLO Point of Care (POC) equipment was introduced for biochemical analysis.

Three versions of the newly deployable laboratory were field implemented with improvements at each phase (Mbandaka, Mangina, Katwa). The latest version, which was completely field constructed, offered three working benches under a plastic canvas.

## 3. OTHER ACTIVITIES

### 3.1. FIELD VISITS

Visits were aimed at reviewing Good Laboratory Practice, implementing new testing, and discussing laboratory strategies. Visits in 2018 included Zimbabwe, DRC, Iraq, Eshowe (South Africa), Mozambique, Lebanon, Conakry (Guinea). Field visits to Pakistan and Afghanistan were cancelled due to security issues.

### 3.2. TRAINING

OCB participated as facilitator in MSF internal Laboratory trainings, open to all OCs:

- MSF Laboratory workshop in Vienna, Austria
- MSF Laboratory workshop in Nairobi, Kenya, led by OCA

MSF OCB national and international Laboratory specialists (four in total) attended these workshops.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

- In general, specimen transport remained a real challenge. Specifically, microbiology sample transport required temperature-controlled conditions and the specimens had short viability before being processed; this required efficient and rapid logistics to have quality results.
- Haematology blood controls were very difficult to supply due to their short shelf life (four months). A system with MSF Supply has been put in place to avoid field rupture.
- There was a need for better urine TB LAM (Lipoarabinomannan) controls in projects, especially those facing challenges in testing.
- In the quest to see a reduction in HIV-related mortality, we looked into implementing POC diagnostics for co-morbidities that play a major role in “TB deaths,” including pneumocystis pneumonia (PCP), sepsis, toxoplasmosis and cryptococcus. Clinicians found it difficult to diagnose these in patients with advanced HIV disease.

### 4.2. GOALS FOR 2019

- In Nigeria, Abakaliki, Ebonyi State, MSF will technically support the Lassa Diagnostic Laboratory and the Ministry of Health Virological Unit (Federal Teaching Hospital Abakaliki, FETHA).
- CAR: HIV and TB diagnosis by GeneXpert will be integrated into the Bangui laboratory project.
- Kenema, Sierra Leone: MSF will complete the set-up of a clinical laboratory for its paediatric hospital, including Lassa fever.



- Coagulopathy treatment: MSF will provide access to Fresh Dried Plasma (FDP).
- In the Eshowe project (South Africa), a mobile TB screen, using GeneXpert and/or TB LAM and X-ray machine will be introduced to improve diagnosis of TB among key populations.
- Commence blood culture referrals to the H. J. Private Hospital laboratory for inpatients suspected of septicaemia in Kinshasa, DRC.
- Ongoing multi-country research on the diagnostic accuracy and feasibility of using the Omega POC CD4 rapid test (LFA).



An MSF lab technician looks at a nurse who's showing a blood sample in the high risk zone of the laboratory. The laboratory is divided in two zones: a high risk zone and a low risk zone, reducing biomedical hazard and decreasing the time to obtain test results. This is the first time in DRC that a research laboratory is integrated in the Ebola Treatment Centre. © Carl Theunis/MSF



# LASSA FEVER

15

**464**(para)medical  
staff trainedNo Lassa fever  
infections among staff

## HIGHLIGHTS OF 2018

- There was an outbreak of Lassa fever in Nigeria, with 3498 suspected cases and 633 confirmed cases
- The Emergency Pool conducted a Lassa fever outbreak intervention (March-May 2018).
- The Lassa fever project was launched in Abakaliki, Ebonyi State, Nigeria (October 2018).
- MSF's investment in Water, Sanitation, and Hygiene (WASH) and Infection Prevention and Control (IPC) measures, detection of Lassa fever cases, improved patient flow, and general awareness among staff led to better staff safety in the Federal Teaching Hospital Abakaliki (FETHA).
- Together with Nigerian counterparts, MSF defined common goals concerning Lassa fever management, and began preparing a Memorandum of Understanding (MoU) with FETHA and Ebonyi state.

## 1. OVERVIEW

Following a Lassa fever outbreak and subsequent intervention by MSF's Emergency Pool from February to May 2018, a COPRO was proposed and approved in July 2018 to launch a catalyst project, based in Abakaliki, Ebonyi State, Nigeria, focusing on the integrated management of Lassa fever care in the 700-bed Federal Teaching Hospital Abakaliki (FETHA). Subsequent ARO discussions resulted in a request to put together a 4-year strategy in 2019. The arrival of the Field Coordinator in October 2018 allowed for formal engagement to begin with FETHA management and Ebonyi's State Department of Health. Drafting of Memorandums of Understanding (MoU) with both parties is underway.

In 2018, MSF's main focus was to increase staff and caretakers' safety (through the reinforcement of general IPC and WASH measures, better awareness and detection, and more rapid isolation of suspected cases). In addition, great efforts were put into the design of the project, including defining common goals, understanding what the management of Lassa Fever consists of, and defining priority interventions with the (para)medical staff and management of FETHA and the State Department of Health of Ebonyi. The basis for improved Lassa fever detection and improved quality of care for Lassa fever patients, including increased Lassa fever awareness, improved Lassa fever clinical and laboratory detection tools (ongoing), and introduction of systematic clinical tools (ongoing) was laid out.

## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. BIO-SAFETY – INFECTION PREVENTION AND CONTROL; WATER AND SANITATION ACTIVITIES; PATIENT FLOW

Since the launch of the emergency intervention in February 2018, MSF has put a lot of effort in reinforcing IPC measures, installing good water and sanitation infrastructure (such as construction of a waste zone, a water tower, and a water circuit with chlorinated water at the Virology Unit (VU)), and improving patient flow (directing patients from entry points or wards via Holding Areas to the VU). Those efforts continued under the regular team. Protocols and Standard Operating Procedures (SOPs) for IPC, WASH, and patient flow will be finalised in 2019.

Sensitisation and awareness sessions as well as training sessions were provided by MSF to FETHA staff (medical and paramedical staff, including mortuary workers and hygienists). More information is provided below.

At the VU and holding areas, patient caretakers received awareness sessions on topics including Lassa fever hygiene, respect for patients, and Personal Protective Equipment (PPE) along with an explanation on how to use it. A stricter visitor/caretaker policy was recommended and partially followed. The construction of a permanent caregiver area is planned for 2019.

Since the launch of the MSF project in October 2018, no Lassa fever cases have been reported among FETHA staff, or among caretakers of Lassa fever cases admitted to the VU (compared to the early months of 2018, which saw 16 infections among healthcare workers and 8 deaths). However, for the above mentioned period, the number of Lassa fever cases was low.

### 2.2. CASE DETECTION

Even if, to date, a full analysis of patients files is lacking, anecdotal reports of the clinical presentation of Lassa fever patients admitted to the VU and their high case fatality rate (CFR) suggest that only the most severe cases of Lassa fever are being detected, mostly once admitted to a ward.

In March 2018, MSF started to support FETHA in improving screening procedures at the four entry points, and, to a lesser extent, in the general wards of the hospital. Awareness sessions and trainings meant to increase staff's ability to recognise Lassa fever cases were organised.

### 2.3. RAPID ISOLATION

As the VU of the Federal Teaching Hospital Abakaliki has a maximum capacity of 20 beds when IPC standards are respected, it was decided that a new space needed to be created to host suspected Lassa fever patients before moving them to the VU (which happens after confirmation of Lassa fever or when there is a strong suspicion of Lassa fever). MSF set up a tent as a temporary holding area next to the Emergency Room (ER) of FETHA and rehabilitated a temporary isolation room next to the Gynaecology/Obstetrics (Gyn/Obs) and Paediatric entry points. In 2019, two new holding areas, one next to the Gyn/Obs and Paediatrics entry points and the other next to the adult ER will be finalised (the latter will replace the tent at ER).

### 2.4. LABORATORY

An MSF laboratory expert visited the FETHA Lassa fever diagnostic laboratory and gave recommendations on how MSF could support FETHA in improving Lassa fever diagnostics and clinical diagnostics for Lassa fever patients.

### 2.5. MEDICAL CARE FOR LASSA FEVER PATIENTS

During the 2017-2018 outbreak, a total of 109 patients were admitted to the Virology Unit (VU) of the Federal Teaching Hospital Abakaliki (FETHA), Ebonyi State, Nigeria, which MSF has supported since February 2018.

Of those 109 patients, 60% turned out to be either confirmed or probable cases of Lassa fever (59 confirmed, 6 probable). 21 of them died, and the CFR was 32%, compared to a CFR of 27% for all of Nigeria during the 2017-2018 outbreak).

MSF will try to improve the access to care for confirmed and probable cases of Lassa fever by decreasing the financial burden for patients by covering the cost of treatment, hospitalization, and food (the latter for both patients and their caretakers).

Medical follow-up of patients was improved by introducing new patient files and medication and monitoring sheets; these efforts will continue in 2019.

## **2.6. TRAININGS**

Starting from the emergency intervention, a lot of energy was invested in training FETHA staff. 464 staff members, including medical doctors (MDs), nurses, and hygienists were trained from March to May 2018.

From September 2018 on, with the arrival of the regular team, trainings and awareness sessions were re-launched: medical staff (nurses, doctors) of the different entry points and medical wards (emergency, paediatrics, Gyn/Obs, internal medicine) of FETHA received general training on Lassa fever.

More specific and practical trainings on the screening and triage of patients, Lassa fever case definitions, flow of suspected Lassa fever cases, and management of Lassa fever patients were given to the medical staff of the emergency, internal medicine, and VU wards. On-site training for medical staff of the holding areas, the VU, and different medical wards as well as bedside training of MDs at the VU (including the use of new patient files) has been started and is ongoing. Staff of the emergency unit and VU is supervised on a daily basis.

## **2.7. AWARENESS & COMMUNITY ENGAGEMENT**

From the emergency intervention on, health promotion (HP) activities, consisting of sensitisation of traditional rulers of the most affected local government areas (LGAs), MSF and FETHA staff, as well as patients and their caretakers, were launched. Patient support was given to Lassa fever patients in the VU, who also received help in reintegrating into their communities.

Awareness sessions were relaunched with the arrival of the health promoter for the regular project. In FETHA, main activities included the (psychosocial) support of patients and their family members and caretakers in the VU and at the main entry point, the emergency unit. People were sensitised on admission regarding discharge, safety rules, and support if a patient were to succumb. Discharged patients were followed up via phone.

General Lassa awareness sessions tackling topics such as modes of transmission and prevention, hygiene promotion, and personal protection were given to both expatriate and national staff in the VU, and at entry points and wards of FETHA, including the morgue. More specific IPC sessions were performed in the different wards of FETHA.

An assessment was performed investigating the perceptions, awareness, and practices related to Lassa fever and general health care behaviours in the most affected communities using discussion with patients, their caregivers, and medical staff.

The HP manager provided support in terms of an epidemiological description of a cluster of Lassa fever cases in October 2018.

## **3. OTHER ACTIVITIES**

### **3.1. RESEARCH AND DEVELOPMENT**

A research and development (R&D) agenda was discussed, first within MSF (on HQ and field level), and was proposed to FETHA and Nigeria's Centre for Disease Control (NCDC's) research coordinator in Abuja. R&D will not begin before 2019. Main research topics include: clinical and laboratory description of Lassa fever, feasibility

and performance of new testing tools (Rapid Diagnostic Testing), possible cooperation in Randomised Clinical Trials (Ribavirin), the latter led by the WHO (Lassa Blueprint).

## **3.2. COOPERATION WITH OTHER ACTORS**

Multiple meetings were held with FETHA management and the Ebonyi State Department of Health (the State Health Commissioner and State Epidemiologist). MSF's involvement in Lassa fever management was warmly welcomed.

After structure/staffing required for the VU and Holding Areas was agreed on, an MoU with FETHA was prepared. It includes an agreement on incentives for FETHA staff. MSF will collaborate in the domains of early case detection (suspicion-testing-diagnosis), improvement of patient flow, and monitoring of patient care, whereas FETHA will remain responsible for direct patient care and laboratory testing.

FETHA hosts a Lassa Fever Committee, including staff focal points for the VU, medical wards, environmental health and laboratory – meetings will soon resume.

An MoU with the State Department of Health has been drafted as well. The State organises the Emergency Operational Centre (EOC), which holds monthly meetings,, depending on the number of Lassa fever cases. MSF received a formal invitation to attend those meetings from November 2018 on. Attendance may permit MSF to get a clearer understanding of needs in terms of outreach (including surveillance, HP, burials, and patient follow-up), which may allow fine-tuning of our strategy and commitment to outreach activities.

Several meetings with other major stakeholders, such as the NCDC, WHO, Irrua Specialist Teaching Hospital, Bernhard Nocht Institute, Nagasaki University, Alliance for International Medical Action (ALIMA), the French National Institute of Health and Medical Research (Inserm), African Centre of Excellence for Genomics of Infectious Diseases, and the Coalition for Epidemic Preparedness Innovations (CEPI) took place.

As a former member of the foundational board of directors, MSF's Access Campaign took part in meetings with CEPI, which is the agency responsible for coordinating and financing the development of a Lassa fever vaccine.

MSF was invited on different occasions to participate in workshops organised by the NCDC to write up new NCDC Lassa fever guidelines.

## **3.3. HUMAN RESOURCES**

The expatriate team was gradually built up between August and early October. The arrival of the Field Coordinator in October allowed for formal engagement to begin with FETHA management and the State Health Department. At the end of 2018, the team was composed of the Field Coordinator, Project Medical Referent, medical doctor, Nursing Activity Manager, HP manager, Logistics manager, supply manager, Admin/Fin, HR manager, and WASH manager.

## **4. LOOKING BACK AND AHEAD**

### **4.1. LESSONS LEARNED IN 2018**

- Despite the effort (mainly led by NCDC) to coordinate Lassa-related activities (including the ongoing update of guidelines, the harmonisation of laboratory testing, the coordination of Lassa-related R&D, the testing and management of Lassa fever patients, and community activities, such as surveillance, awareness, follow-up of patients, and safe burials), coordination between different partners remains challenging. Regular EOC meetings and good continuous communication between all actors involved is crucial and should be facilitated.
- Huge efforts were put into increasing safety measures in FETHA for staff and caretakers. It is noticed though that compliance to these newly-installed measures is, at times, still suboptimal for diverse

reasons, including the tendency to fall back into old habits and the difficulty of certain measures, such as PPE use. In order to guarantee the safety of both staff and caretakers, the efforts to make staff comply with guidelines should continue, taking into account the perceived bottlenecks. Measures need to be adapted to contexts, while maintaining basic IPC standards.

- Case detection and management tools including (medical) case definitions/screening tools, referral criteria, (standard) patient files, registers, admission and discharge criteria, Ribavirin- and supportive care-protocols are not yet fully in place and/or not yet applied at all times. The revised NCDC Lassa fever guidelines may partially help to install more systematic ways of working; in addition, MSF is supporting FETHA in the development of certain case management tools, including patient files and monitoring sheets, and SOPs, which are expected to be finalised in 2019.
- Regarding Lassa fever diagnosis, a few challenges remain, including the lack of adequate equipment for Biochemistry and Haematology testing, the regular shortage of primers, and a tendency to test in a way that saves primers, which provokes diagnostic delays. An adapted PCR commercial kit, which will be available soon, should be introduced. MSF is willing to support good laboratory practices.
- The decision of MSF and its counterparts to focus not only on Lassa fever clinical management, but also on activities increasing staff's safety and better detection of and awareness regarding Lassa fever in FETHA, as well as in peripheral structures, led to the launch of a multitude of activities despite a relatively small expatriate team. Prioritisation of activities and a clear demarcation of MSF's engagement in the community and in FETHA's wards are needed.

## 4.2. GOALS FOR 2019

- Clinical management tools will be finalised.
- MSF will participate in the First International Conference on Lassa fever organised by the NCDC, which will be held in Abuja on the 16th and 17th of January 2019.
- The MoUs between MSF and FETHA and between MSF and the State Department of Health should be finalised and signed, allowing official collaboration.
- The two new holding areas at FETHA will be finalised and staffed, providing a larger capacity to isolate suspected Lassa cases early on and to avoid overwhelming the VU.
- Once the MoU with the State Department of Health is signed, MSF will start its official cooperation in outreach activities related to Lassa fever (support of surveillance, ambulance and burial activities, Lassa awareness, and follow-up of Lassa fever patients).
- MSF will continue to prepare and, if accepted, launch the Lassa Fever Clinical Course and Prognostic Factors in Nigeria (LASCOPE) study, in cooperation with NCDC and their partners Alima and Inserm. LASCOPE is a prospective cohort study that will focus on the clinical and laboratory description of Lassa fever cases.
- Regarding Lassa fever management outside of Nigeria: Along with the opening of MSF's paediatric hospital in Kenema, Sierra Leone, an area where Lassa fever is endemic, MSF will open a second Lassa project. The set-up of this project will be rather different than the Nigerian one, providing a complementary experience for MSF. In Kenema, MSF will be fully responsible for a temporary Lassa isolation ward with ten beds, four of which will be ICU beds). This will be in a peripheral hospital which will not provide specific Lassa fever care, but only supportive care and treatment of concomitant conditions and differential diagnoses while awaiting results of Lassa diagnostic tests. The focus will be on safely running a general paediatric hospital in an area where Lassa fever is endemic.

# MALARIA

16



**909,422**  
patients tested  
for malaria



**497,411**  
confirmed malaria  
cases treated

## HIGHLIGHTS OF 2018

- In 2018, 497,411 confirmed malaria cases were treated in OCB projects, representing a 37% increase compared to 2017 and a doubling of cases compared to 2016.
- Large community-based projects that had started in 2017 were expanded in 2018 in DRC, Conakry (Guinea), and Venezuela.
- A large indoor residual spraying project drastically reduced malaria drastically in Burundi.
- Operational research projects were conducted in DRC on use of bednets, adherence to treatment, insecticide resistance, and validity of rapid tests.
- Operational research on elimination of malaria in a context of artemisinin resistance was conducted in Cambodia.

## 1. OVERVIEW

Malaria continues to be a leading cause of morbidity and mortality in MSF projects under Operational Centre Brussels (OCB). Particular malaria-related activities in OCB over the course of 2018 included:

- A validation study in DRC comparing pLDH and HRP2 rapid diagnostic tests (RDTs), quality microscopy, and PCR, which showed strong concordance of the pLDH tests and HRP2, possibly limiting the added value of pLDH in this context.
- Implementation and expansion of integrated community case management (iCCM) approaches in Kouroussa (Conakry, Guinea) and Bili (DRC).
- A malaria control project in Venezuela – an atypical setting for Médecins Sans Frontières (MSF), both for its geographic location and its high burden of *Plasmodium vivax* (80% of the malaria caseload) – was resumed after a long suspension.
- A large indoor residual spraying (IRS) intervention drastically reduced malaria incidence in Ryansoro health district, Gitega, Burundi.
- An operational research project in Cambodia addressing the emerging threat of artemisinin resistance was geographically expanded over the course of 2018, and will be coming to a close in 2019.

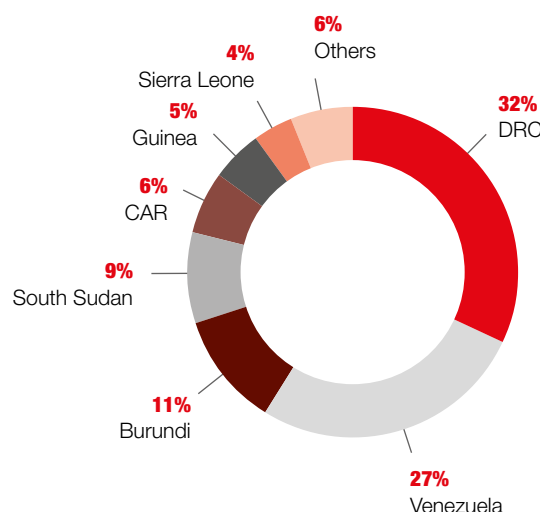
## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. OVERALL VOLUME OF CASES TESTED AND TREATED

In 2018, a total of 909,422 patients were tested for malaria in OCB projects, with a 53% positivity rate overall. Most tests were RDTs, with the exception of those performed in Venezuela, where the national programme still mainly used (low-quality) microscopy. These numbers do not include women tested in antenatal care, as these cases are reported on in the Sexual and Reproductive Health section.

A total of 497,411 confirmed malaria cases were treated in OCB projects, representing an increase of 37% compared to 2017 and a doubling of cases compared to 2016. This increase is mainly due to the expansion of the projects in Bolivar (Venezuela) and Bili (DRC) (Figure 1). Of note, in Venezuela 80% of cases was due to *P. vivax*.

**FIGURE 1** Distribution of confirmed malaria cases by country for all OCB projects, 2018



### 2.2 CASE MANAGEMENT AND OPERATIONAL STRATEGIES

The rollout of injectable artesunate in MSF projects as a first-line treatment for severe malaria was completed in 2017. However, introduction of this drug as a pre-referral treatment in health centres (in projects in Guinea and DRC, for example) has been problematic due to government restrictions, obliging us to use less-favoured options such as rectal artesunate or injectable arthemeter. Rectal artesunate itself, while one of the most effective and safest pre-referral treatments for severe malaria when injections cannot be used (e.g., at community level), remains under-used in MSF projects, despite its reliable supply and its inclusion in most governmental policies.

The project in Bolivar, Venezuela, continues to focus on malaria case management and vector control. Artisanal and illegal mining is the main economic activity in the area and the nature of this operation creates a range of breeding sites for the *Anopheles* mosquito. The mines also employ many internal migrant workers who come from non-malaria areas and who are thus susceptible to malaria. This setting is somewhat unique for MSF in view of the high proportion of *P. vivax* cases (80% of the malaria caseload), and because elimination of malaria in the area is, in principle, possible: malaria was eliminated in the 1960s, but re-emerged due to the absence of control activities and possibly as a consequence of migration.

Uncomplicated malaria presents as fever and cannot be addressed as a standalone problem in primary health care. A novel strategy in this regard is the development of integrated community case management (iCCM), defined as patient management for children between 2 months and 5 years at the community level provided by community health workers, and integrating diagnosis and treatment for the main acute killer diseases: malaria, pneumonia, and diarrhoea. Large-scale iCCM projects were set up in Kouroussa (Conakry, Guinea) and Bili (DRC). Challenges with such projects are ensuring the overall quality of care and introducing appropriate diagnosis of pneumonia, which is often missed among RDT-positive cases, and which is particularly challenged by the poor ability of community health workers to correctly count the respiratory rate.

### 2.3. PREVENTION

Long-lasting insecticidal nets (LLINs) remain the OCB mainstay in terms of malaria prevention. The new OCB malaria policy stipulates the use of LLINs containing piperonyl butoxide (PBO) and pyrethroid rather than pyrethroid-only, due to emerging resistance; this is a transitory measure until new LLINs become available.



In February 2018, MSF, in collaboration with the Burundian PNILP, commenced an indoor residual spraying (IRS) operation in Ryansoro health district, Gitega Province, to protect approximately 160,000 persons at risk of malaria in an unstable malaria transmission context. IRS was a key pillar of the multidisciplinary approach to malaria control. Two spraying rounds lasting 2-3 weeks using Ficam 80% WP-SB were conducted at the end of February and August. Operational teams consisted of approximately 350-400 people: in the first round, direct protection of 151,600 persons and treatment of 58,255 structures (95% of total sprayable structures found) was achieved. Following an evaluation of the first round, an emphasis was placed on the utilisation and integration of GIS in the planning and monitoring, increasing supervisory capacity, introducing electronic data collection tools, and ensuring real-time analysis of daily activities to improve quality of spraying and overall coverage. The second spray round achieved direct protection of 149,197 persons at risk and treatment of 69,458 sprayable structures (90% of total sprayable structures identified). In the post-spray interval, malaria incidence rate in Ryansoro receded well below epidemic alert levels, despite a continued trend of increasing transmission, often exceeding epidemic alert thresholds, across the country and in neighbouring districts. Moreover, reductions in mortality, RDT positivity rate in children <5 and pregnant women, referrals, and hospital admissions were observed.

In Doro, South Sudan, a partnership was formed between Mentor Initiative and MSF OCB to ensure high coverage of vector control for persons at risk. MSF and Mentor Initiative devised a plan to conduct a single spray round in May - June using Actellic 300CS in the Maban County host population and FICAM 80% WP-SB in the Doro Refugee Camp population. These activities were associated with a decrease in malaria incidence relative to epidemic years 2015-2016, but supplementary measures may be required to address residual transmission.

### 3. OPERATIONAL RESEARCH

OCB runs a research project on strategies to eliminate *P. falciparum* malaria in the Chey Saen district of Preah Vihear province (Cambodia), an area of well-documented multidrug resistant malaria. Four studies from this project were published over the course of 2018 (cf. Operational Research section). The strategy is based on intensified active and passive case detection and particularly on different strategies to actively screen forestgoers and plantation workers who are at risk of acquiring malaria. Additionally, the project has introduced an innovative, highly sensitive rapid diagnostic test as a screening tool. The project has been further expanded in 2018 to include neighbouring districts, from where transmission in the forest is possibly being sustained. The national Malaria Control Program in Cambodia has successfully replicated the MSF strategy in an additional district, with only limited support from MSF, and the mission is set to be handed over in 2019.

In Bili, a rural area of DRC where MSF has provided malaria treatment since 2017, sub-optimal household bednet usage and adherence to Artesunate-Amodiaquine Fixed-Dose Combination (ASAQ-FDC) have been observed. In October 2018, two parallel qualitative studies were conducted to explore these issues. The studies were designed to improve project understanding of community perceptions around malaria prevention and treatment, and to inform health promotion and clinical activities, and consisted of in-depth interviews and focus group discussions with caregivers, healthcare workers, community leaders, and community health promotion staff. Household bednet observations and observations of consultations were also performed. Malaria and ASAQ-FDC were well-known amongst all participants, but there was limited caregiver understanding of the modes of malaria transmission. Treatment was not always well explained to caregivers by health providers and information sharing during consultations was often unidirectional. Household observations identified insufficient bednets for all family members and visitors, many were in poor condition, and bednet maintenance was inconsistent across households.

Also in Bili, a validation study was conducted comparing pan-LDH-based RDT, HRP2-based RDT, quality microscopy, and PCR, among 1240 children under 5 with a presence or history of fever in the past 48 hours. The study was run in a blinded fashion, in collaboration with the national research institute in Kinshasa (INRB). Preliminary results show a high sensitivity for both RDTs, suggesting that initial concerns of false negative pLDH results may be unfounded, and high concordance between the pan-LDH-based and HRP2-based test, limiting the added value of pLDH in this setting.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

- Among patients with a positive RDT or thick blood film, other causes of fever (especially life-threatening conditions such as meningitis or pneumonia) must not be overlooked. This is especially important in holo-endemic (persistently high prevalence) contexts where coinfections are common, as fever is often due to a non-malaria cause even in the presence of a positive malaria test.
- For primary health care projects, an effective and efficient way to assure timely and adequate treatment for malaria, pneumonia, and diarrhoea is to provide support to health centres and to introduce community-based case management. These approaches are effective, but can be resource-intensive. Convincing OCB to invest sufficiently in first-line treatment rather than focussing on secondary and tertiary care facilities remains a challenge, which may explain why OCB treats less malaria cases than other MSF sections.
- Indoor residual spraying, when done with adequate planning, resources, and oversight, is a very effective tool to reduce incidence in certain epidemiological settings. Efforts need to be sustained for impact to last.

### 4.2. GOALS FOR 2019

- The validation study in Bili (DRC) will be completed, data will be analysed and the results, together with similar studies conducted in other settings, will be used to take a position on the appropriateness of the pan-LDH tests in holo-endemic areas.
- A new project will open in Burundi, with a focus on case management of malaria and IRS.
- Operational research in Guinea will focus on adherence to artemisinin-based combination therapy, including development of an intervention package to improve adherence and before-and-after surveys measuring adherence to assess the impact of the intervention.
- Mass distribution of long-lasting insecticidal hammocks (LLIHs) is planned in Venezuela, together with screening for fever and a test-and-treat approach for fever cases.
- The financial and epidemiological implications of using products for IRS possibly allowing a single spray round for the entire transmission season will be assessed in upcoming activities.
- An intervention for treating malaria at community level, health centres, and in paediatric wards, initiated in Kouroussa (Conakry, Guinea) will reach its full scope by the end of 2019.
- Bili, our largest paediatric treatment program in a hyperendemic area, will be closed, likely leading to a considerable reduction in numbers of people tested and patients treated.
- The research project on strategies to eliminate malaria in the Chey Saen district of Preah Vihear province in Cambodia will come to an end in May 2019; activities to document the experience and supporting replication by other partners will continue after the project closure.
- Surveys retrospectively assessing mortality, access to malaria treatment, and malaria prevalence are planned in Burundi, Guinea, and DRC over the course of 2019.

# MENTAL HEALTH & PSYCHOSOCIAL SUPPORT INTERVENTIONS


**55,102**

A total of 55,102 new and follow-up individual sessions were conducted


**23,464**

new patients benefited from an individual counselling session, an increase of 9.4% from 2017


**19,613**

In ongoing projects 19,613 new patients benefitted from an individual session


**2883**

individual new sessions were conducted with people younger than 18 years


**1603**

A total of 1603 patients received psychotropic medication


**79,212**

individual participants attended 9669 group sessions

## HIGHLIGHTS OF 2018

- There has been an improvement in the identification and referral of new patients to mental health services, indicating increased effectiveness of patient pathways through reinforcement of project level activities.
- Two new key indicators were introduced in order to better analyse, focus, and improve mental health interventions to specific populations. These comprise the number of adolescents and children engaged in mental health programmes, and the number of patients receiving psychiatric care.
- An increased focus on group interventions has been adopted where individual follow up is difficult due to conflict, cultural reasons, limited access, or security restrictions.
- More community based interventions and diversification of group sessions have been incorporated, such as psychoeducation, psychostimulation, group counselling, and psychotherapeutic groups.
- Single session is part of the clinical intervention and offers the opportunity to provide patients with additional resources to manage the presented problem(s).

## 1. OVERVIEW

In 2018 the portfolio of projects with a Mental Health Psychosocial Support (MHPSS) component decreased to 38 projects in 24 countries (compared to 47 projects in 22 countries in 2017), including a significant 50% decrease of new mental health activities initiated in new projects (six in 2018, compared to 12 in 2017). Four emergency or short-term interventions were implemented in 2018: Indonesia (earthquake in Palu); Nicaragua (emergency response in a protest context with violence); Greece (Winterisation of Lesbos-Moria Camp); and India (flooding in the Kerala Ernakulam and Pathnamthittat districts). Despite the decrease of new integrated activities, the number of individual sessions for new patients increased because of improvements to technical guidance and an increased the focus on mental health in existing projects. Specific examples

included projects attending to victims of violence (e.g., Kasai in DRC, Jamtoli in Bangladesh, and Lesvos and Athens in Greece), integration of mental health into all migration settings, and an increase of standalone mental health projects (Nauru, Wallonia in Belgium, Trapani in Italy, and Lesvos in Greece). The Mental Health Referents conducted eight field support visits in DRC, Egypt, Greece, Italy, Kenya, Nauru, Pakistan, and South Sudan. From October, the newly recruited Mental Health Mobile Implementation Officer (MIO), with a specific focus on improving quality of care, went to Nicaragua and Greece.

## **2. MAIN PROGRAMME ACTIVITIES**

To the extent that mental health and psychosocial interventions span all age groups and affected populations, they were integrated primarily into primary and secondary health care as well as at the community level. Different activities were implemented such as psychosocial support, psychological care, and psychiatric care. To meet specific needs, new techniques and tools were developed; the diversification of activities was a challenge requiring additional technical competencies and human resources.

### **2.1. EARLY INTERVENTION MODEL**

Earlier mental health interventions help to limit long-term consequences and mental health deterioration, and to strengthen individual and community coping resources. To address immediate needs in emergencies and conflict contexts (e.g., Yei Equatoria Paediatric and Primary Health Care (PHC) project, South Sudan and Kasai sexual violence project, DRC), early mental health interventions were implemented and found to be effective. In emergency settings (natural disasters or conflicts), mental health care was integrated into the initial response stage of the interventions, although in regular projects, the implementation of mental health care was sometimes delayed (e.g., haemorrhagic fever or nutrition projects). Better efforts were made to strengthen coping mechanisms for patients through cooperation with families and communities focusing on prevention and building resilience (e.g., during the Indonesia earthquake emergency).

### **2.2. GROUP ACTIVITIES**

In 2018, there was an increasing focus on implementing group interventions, including improving the quality of this approach. To achieve its intended goals and objectives, OCB initiated different group sessions, different methodological approaches, and technical practises such as psycho-education, therapeutic care, peer support, and recreational activities. A specific focus on relevant methodological approaches was incorporated into projects, such as psycho-therapeutic group sessions even in conflict zones. Therapeutic and non-therapeutic group sessions were implemented according beneficiaries' needs and socio-cultural specificities. 2018 saw an increase in the implementation of group activities in emergencies and conflict contexts (e.g., Yei Equatoria project intervention for Internally Displaced Persons (IDPs)); in camp settings (e.g., Doro, South Sudan and Jamtoli, Bangladesh); and in other contexts including migration (e.g., Akkar, Lebanon, Lesvos-Moria camp in Greece); in maternal and newborn projects (e.g., Timergara, Pakistan); and in Trauma projects (e.g., Arche Ortho/traumato in Bujumbura, Burundi).

### **2.3. CHILDREN AND ADOLESCENTS**

Children and adolescents are particularly vulnerable in situations of armed conflict, natural disasters, and forced displacement, requiring special attention to ensure their well-being and protection. To address the lack of services available in humanitarian disaster contexts, preventative and curative MHPSS interventions for young children, adolescents, and their caregivers were prioritised and implemented. Some examples include the Arche trauma centre project, Bujumbura, Burundi; Kasai sexual violence project, DRC; Timergara SRH, Pakistan; Yei, South Sudan; and for unaccompanied minors in Rome, Italy, Lesvos, Greece, and Serbia. New activities were implemented to facilitate healing for children suffering from trauma and to enhance resilience such as drawing, storytelling, dance, and music (e.g., Yei PHC and Paediatrics project in South Sudan, Kasai Sexual Violence project in DRC, Lesvos-Moria camp in Greece). Group sessions, such as mental health awareness, psychoeducation, parenting skills sessions for adolescents, families, communities, teachers, and professionals were organised that had an impact on prevention and detection of mental distress.

There is a need to prioritise MHPSS interventions for at-risk children and adolescents exposed to adversities such as violence, forced displacement, adolescent pregnancy, unaccompanied minors, child soldiers, adolescent parents, children, and adolescents with early signs and symptoms of mental health problems.

## **2.4. PSYCHIATRIC CARE**

The integration of psychiatric care within MHPSS packages continued to be developed through key personnel including psychiatrists (international or national), specifically trained general practitioners and clinical officers, or via referral to existing local mental health facilities. Psychiatric care was made available across all migration settings. Two contexts of containment on an island, Lesvos, Greece and Nauru, showed a concerning prevalence of mental disorders, especially severe traumas and depressive disorders, suicidal ideation/attempts, self-mutilation or severe trauma (which can include psychotic features). In both settings, specialised psychiatric care was provided alongside psychological support. Lesvos focused mainly on severe cases leading to develop a specialized multi-disciplinary approach including psychiatrists, psychologists, social workers, a psychiatric nurse, and medical doctors trained in diagnosis and management of severe mental disorders.

Analysis of data from projects that focused on victims of torture demonstrated that the availability of psychiatric care for patients was essential. It was common for individuals to have experienced several traumatic events and often presented with severe mental disorders which required psychiatric care or medication. Lastly, in other types of settings, such as the trauma centre in Burundi or the maternity department in Bangui, Central African Republic (CAR), psychotropic medication was provided to some patients in need.

## **2.5. SUBSTANCE USE DISORDERS (SUD)**

In some settings where beneficiaries presented with high psychological distress such as migrants or Drug-Resistant Tuberculosis (DRTB) patients, the prevalence of substance misuse could be high, being used to alleviate their psychological suffering. There is a strong interaction between substance use disorders (SUDs) with frequent comorbidity: pre-existing psychiatric disorders or psychiatric complications of addiction – during intoxication, withdrawal, or persisting complications.

Where a cohort of patients with high risk of substance SUDs disorders presented, some projects started to bring specific attention to the issue in 2018:

- Zithomir (Ukraine) focused on alcohol misuse. An assessment was done by an international psychiatrist, then a national psychiatrist was recruited to better detect and manage cases within our DRTB cohort, during the hospitalisation and ambulatory phase of treatment, linking with local facilities for addiction.
- In Khayelitsha (South Africa), the DRTB project in support of MoH. A systematic screening of risk of SUDs was implemented in one clinic, especially for alcohol and cannabis, followed by medical treatment, and a brief intervention based on a motivational interview and support groups.
- A Memorandum of Understanding was signed with Kimaru Department of Health (Kenya) in order to open a rehabilitation centre for drug abusers at the hospital.

## **3. OTHER ACTIVITIES**

Technical input was provided at a number of international forums, including the Inter-Agency Standing Committee (IASC) Task Force on inclusion of persons with disabilities and WHO's Mental Health Gap Action Programme (mhGap) Forum. Presentations were made at public conferences in Belgium on "a transversal view of mental health for asylum seekers," and in Cairo on "innovative approaches" and "provision of medical, medico-legal and mental health care for victims of sexual violence." Support was provided for the publication of six peer-reviewed journal articles and two scientific posters on European migration contexts. Additionally, a detailed publication on Nauru titled "Indefinite Despair" was released as part of advocacy efforts to raise awareness of chronic needs.

To support the development of guidance resources, the Mental Health Referents collaborated on the intersectional MHPSS Guidelines and Indicators, the MSF Guide to Medical Abortion Counselling, the WHO/ UNHCR Facilitator Guide for MhGAP-HIG and WHO MhGAP Operational Manual. Additionally, the team collaborated with the London School of Hygiene and Tropical Medicine (LSHTM) to develop training modules for health professionals on migrants' health. Four intersectional training programmes on Mental Health, psychiatric disorders and in HP training on community-based approaches, and seven OCB specific training sessions or workshops (topics included sexual violence, torture, trauma, asylum seekers, advocacy, and mental health) were provided throughout the year.

Recruitment procedures for mental health professionals were improved via the development of proactive, outward-facing communication materials and the review and update of internal assessment criteria. A big effort by HR was made to maintain an adequate ratio of first missions, which was facilitated by strengthening the international pool of mental health professionals. 2018 saw a total of 18 first missions (30% of expatriate departures) compared to 11 in 2017 (20% of expatriate departures), and a total of 60 departures (56 total departures in 2017). This included an increase to nine psychiatrists with the recruitment of child psychiatrists and the opening of long-term positions in Nauru and Lesvos.

## **4. LOOKING BACK AND AHEAD**

### **4.1. LESSONS LEARNED IN 2018**

- Important to continue implementation of Mental Health certificate, especially in sexual violence and migration fields and needs to provide more training for the field.
- More experienced and specific mental health professionals are needed to ensure quality of care in specific projects (e.g., substance use disorders).
- Need to develop more specific tools and approaches for particular populations in projects: Unaccompanied Minors (UAM), patients on palliative care, traumatised children.
- Need to improve interventions in pain management as an integrative approach Medical-Mental Health and Physiotherapy.
- Importance of targeting and prioritising interventions for children and adolescents in emergency settings through the implementation of peer group sessions as well as activities to strengthen the parenting skills of parents and families.
- Need to reinforce community-based interventions.
- Need to provide more guidance on minors' care regarding legal aspects (assent/consent according to age and situation).
- Maintained good technical collaboration, producing several intersectional documents and development of a focus on psychiatry.
- Increased focus on suicide risks/self-harm, which highlighted the need to develop detection capacity and case management skills.
- Identifying MHPSS needs requires proper analysis to ensure duration and allows continuity of care.
- Proactive communication was developed in 2018 and needs to be continued in order to strengthen the understanding of the specificities, needs, and results of MHPSS interventions and strengthen integration of psychological and psychiatric care into medical care.
- Positive development of qualitative research in mental health should be combined with quantitative research.



## 4.2. GOALS FOR 2019

- Ensure access to quality mental health interventions in all contexts where MSF intervenes.
- Enhance cooperation and exchanges with other departments, accessing transversal knowledge and skills as well as capitalising lessons learned across missions at all levels.
- Implement a new mental health database.
- Develop specific tools to measure improvement of mental health conditions of patients and analyse better mental health care outcomes and needs as well as develop tools to measure outcomes of group setting.
- Consolidate psychiatric care and increase the task shifting model that could be developed in contexts where there are no mental health specialists, supported by proper supervision.
- Ensure psychiatric care is offered and integrated into non-communicable disease (NCD) projects.
- Reinforce capitalisation of innovative approaches or specific projects and the development of models of care and intervention.
- Advocacy and research for improving access to anti-psychotic medications in countries where MSF works.
- Develop prospective research, elaborated at the beginning of a project to allow better analysis/stronger advocacy.
- Improve integration among mental health professionals working in HQ.



An MSF doctor talks with one young man currently held in a detention centre. © Sam Turner/MSF



# MIGRATION & HEALTH

18

**90,992**

outpatient  
consultations  
performed in dedicated  
migration projects

**31,618**

mental health  
consultations  
performed in dedicated  
migration projects

**69%**

of all dedicated  
migration projects  
offered mental health  
care

**56%**

of all dedicated  
migration projects  
offered social worker  
services

**69%**

of all dedicated  
migration projects  
offered intercultural  
mediation services

## HIGHLIGHTS OF 2018

- **Expansion of migration activities in OCB, represented in Europe, the Mediterranean region, sub-Saharan Africa, the Pacific region, and South America.**
- **Establishment of the Migration and Health circle, with technical referents and experts from the Medical Department, Operations Department, Analysis Unit, and the field; with as goal to provide multidisciplinary support to migration activities within OCB.**
- **Introduction of a new classification of migration projects according to their context and setting, for the better provision of contextualised and adapted packages of care and tools/guidelines.**
- **Introduction of a new management structure for intercultural mediation activities, which were increasingly recognised as an essential component of migration projects.**

## 1. OVERVIEW

The OCB migration activities saw a geographic diversification over the course of 2018, with projects providing care for populations of migrants/asylum seekers/refugees in the Mediterranean theatre and in destination countries in Europe, as well as in sub-Saharan Africa, the Pacific, and South America.

The support from the medical department to the OCB migration activities was strengthened and systematised through the creation of the Migration and Health circle, bringing together a multidisciplinary panel of experts from different departments and units to develop and disseminate new guidelines and tools, and to support the migration projects on request.

## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. ACTIVITIES AT MISSION AND PROJECT LEVEL

The Mediterranean migration theatre continued to be a focus area for OCB migration activities. The Search and Rescue intervention initially received a green light to re-deploy in 2018, but was subsequently cancelled when it became clear that sea crossings were reduced in number, likely due to expanded policies of border management externalisation and containment in Libya. On Lesbos, the project continued its transformation from a primarily emergency intervention to a more comprehensive project offering services ranging from primary healthcare to multidisciplinary supportive care for patients with severe mental health conditions and victims of torture and other forms of ill-treatment. Activities in the Serbian project expanded to Bosnia as well, in response to changes in migration routes in the region. Vaccination activities were successfully initiated in both the Lesbos and Serbia projects. A new incarnation of the project offering mental health and primary health care in Alexandria finally did not receive approval of the authorities, and will be reconfigured and reinitiated in 2019.

In the European destination countries mission, the Sweden project finalised its intervention and released a report and a handbook on the MSF model of psychosocial care for individuals in the asylum system. In Belgium, the project continued to provide psychosocial support in asylum centres in the Flemish and Wallonian regions of Belgium, aiming to provide a set of practical guidelines to Fedasil, the Belgian agency for asylum. The humanitarian hub project in Brussels was extended, and released a report on its activities, directed towards Belgian policy makers.

In the Pacific region, the OCB mental health intervention on Nauru (the island used by the Australian government for outsourcing of processing of migrants, refugees, and asylum seekers) was unexpectedly expelled by the Nauruan authorities. MSF expressed a strong concern that the health of both the Nauruan and the asylum seeker/refugee population would be compromised by this decision, and a report was later released documenting the mental health condition of patients on Nauru and the associations between detention measures and adverse mental health outcomes such as suicidal ideation. A new intervention providing mental health support through a telemedicine approach was developed, but was also blocked by the authorities in late 2018.

In the sub-Saharan Africa region, the projects for sex workers in Malawi and Mozambique continued to include care for migrant populations.

Migration activities were also initiated in South America, with the provision of care for displaced individuals in the Venezuelan/Brazilian border region. An initial focus was placed on vaccination, as well as mental health support, for Venezuelans crossing into Brazil.

### 2.2 INTERCULTURAL MEDIATION

Intercultural mediators play a particular role in migration contexts. They are particularly engaged in medical and mental health consultations, and also assist social work and advocacy activities, and provide basic orientation services. In the projects for Victims of Torture, intercultural mediators have slowly taken a supplementary role as a component of the multidisciplinary teams involved in the holistic approach for the patients. In some cases, intercultural mediators can autonomously provide information and orientation to the patients (Belgium, Italy) or can support health promotion activities (e.g., in vaccination campaigns in Serbia and in Lesbos) when health promotion resources are not available.

A new organisational structure was implemented in most MSF projects where intercultural mediators are involved. In the past, intercultural mediators were allocated to other departments (logistic, medical, health promotion, mental health, etc.), which had a negative impact on the coherence in the provision of the mediation services. In 2018, the intercultural mediation service became more structured within the projects, with a dedicated intercultural mediation supervisor heading the teams, usually under the responsibility of the medical department.

In comparison to the period of the “Balkan route crisis” (2015-2017), OCB increasingly relies on local intercultural mediator human resources in its projects. In 2018, there were approximately 70 national positions (with variations due to the evolutions of the projects) and 11 international positions. This represents a substantial decrease in the number of international human resources compared to previous years. Indeed, while the remaining projects intensified their activities and even increased the number of intercultural mediators, local resources were more available and therefore the need for international staff decreased.

## 2.3 MIGRATION AND HEALTH CIRCLE

A “Migration and Health” circle was established in the medical department, bringing together referents from the medical department, Advocacy Unit, Operations Department, and field positions to provide more comprehensive support for the OCB migration projects. The Migration and Health circle developed a framework for migration projects, in which projects are considered in the light of the *migration context* or mobility dynamics of the population (i.e., in transit, as destination country, or as return country), and in the light of the *migration setting* (either closed or open). The matrix is provided in figure 1.

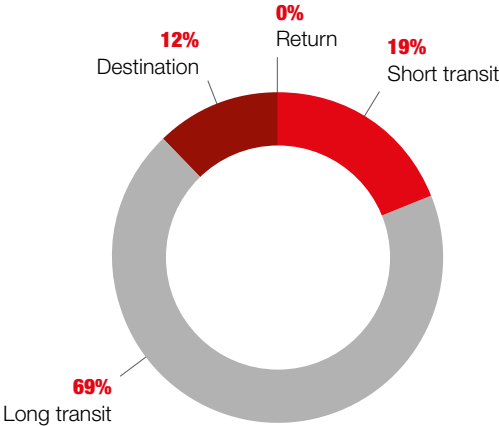
**FIGURE 1** Classification of migration context and migration setting of OCB projects

		Migration context			
		Transit		Destination	Return
		Short	Long		
Migration setting	Closed				
	Open		Formal		
			Informal		
			Integrated		

This matrix will be used for the development of packages of care, as well as the appropriate tools and guidelines adapted to each setting, as the care requirements and modalities of provision of care are likely to be very different between e.g., a short transit setting and a destination setting, or between a closed setting without mobility options or an informal, open setting. A first mapping of the migration projects in MSF offering medical activities over the course of 2018 suggested that in terms of the mobility dynamics, most projects were situated in settings of long transit; as yet, no projects are set in contexts of return (Figure 2).

The circle adopted a series of concrete objectives, including 1) in the short term, to complete a mapping of the different activities, protocols/guidelines, data tools, and lessons learned among the current migration portfolio; 2) in the mid-term, to address gaps in the current set of guidelines and tools by developing new ones where necessary (in particular for short-transit projects) and to develop a comprehensive operational research agenda; and 3) in the long term, to conceptualise and promote innovative approaches for the management of migration projects and activities in OCB.

**FIGURE 2** Distribution of MSF OCB migration projects with medical activities in 2018, in terms of their migration context



### 3. WORKSHOPS, TRAININGS, AND PUBLICATIONS

Different trainings and workshops in the context of migration included:

- A dedicated workshop on intercultural mediation, supported by the Learning & Development Unit, for 24 intercultural mediators from three different projects (two missions, Greece and Serbia).
- A workshop on care for victims of torture (cf. Torture and Other Forms of Ill-Treatment section) in Cairo, attended by field staff, Operations Department representatives, and various technical referents from the Medical Department.
- A workshop on “Patient care, trauma, and asylum – the role of MSF,” hosted by the Analysis Unit in Brussels.
- A workshop on “MSF in detention”, hosted by MSF Italy, linked to the detention report listed below.
- A thematic operational research training (MIGRATE IT), following the established SORT IT model, was initiated in Greece, and will be finalised over the course of 2019: this training hosted eight migration project staff members, and supported each of these in the design and implementation of a research study in the migration context.

Important publications over the course of 2018 in the context of migration included:

- “Life in limbo: MSF’s psychosocial support for asylum seekers in Sweden,” documenting the MSF model of psychosocial support for individuals in the asylum system in Sweden; the report was accompanied by a handbook for operationalisation of the MSF findings.
- “Infinite despair: The tragic mental health consequences of offshore processing on Nauru,” a comprehensive report following the expulsion of MSF OCB from Nauru, documenting the mental health conditions and consequences of involuntary containment of asylum seekers and refugees on Nauru.
- “Migration without end,” a report on the stories of migrants and asylum seekers in the humanitarian hub in Brussels, including a set of recommendations for policy makers.
- “MSF role in detention – challenges and dilemmas,” on the activities and challenges encountered by MSF in detention contexts. While not specifically dedicated to migration, a strong overlap exists between detention and migration contexts, in particular in view of the increasing use of detention as a deterrence and control mechanism for migration.
- Four peer-reviewed publications, on the vulnerabilities of male migrants on the Balkan route; the institutional abuse and its consequences on mental health on Lesbos; the identification of victims of torture in the Italian reception system; and the difficulties in providing rehabilitation care for victims of torture in unstable living conditions in Athens.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

- Multidisciplinary in migration projects is essential, given the strong negative impact of the combination of poor reception/containment conditions and the uncertainties surrounding the migration procedures. Integration of medical, mental, and social worker services should be aimed for as much as possible, supported by transversal intercultural mediation support activities.
- Trainings on legal and medico-legal issues are urgently needed for project staff in migration contexts, as such topics are highly complex and background in the topic is often lacking.

- Mental wellbeing of staff in migration projects needs to be particularly supported: offering care but not being able to “cure” the situation that continues to destroy the resilience of the MSF beneficiaries is highly demotivating, in particular in contexts where the freedom to speak out/conduct advocacy is limited.
- Tools for Explos and other rapid assessments in migration contexts are poorly known and/or unavailable, and need to be developed/validated/communicated to the field.
- Intercultural mediation became a component of the migration health “model of care,” and inclusion of the technical referent for intercultural mediation in the Migration and Health circle was considered essential.

## 4.2. GOALS FOR 2019

- A further diversification of projects with a migration component is anticipated in the sub-Saharan Africa context, including an emphasis on the recognition of migration components in existing projects.
- An intercultural mediation practical guideline and other reference documents (such as a Code of Conduct), based on the literature as well as on MSF experience, will be released.
- Trainings/workshops will be expanded to reach all intercultural mediation workers, a more specialised training offer will be developed.
- Synergies will be sought between intercultural mediation and other migration health components (mental health, social work, advocacy, etc.).
- The Migration and Health circle will finalise recommendations on a package of medical indicators, as well as on appropriate data collection methodologies, for use in migration contexts.
- A specific guideline for a package of care for short transit contexts will be developed (Migration and Health circle).
- A formal research agenda on migration topics will be developed.
- Tools for performing better assessments in migration contexts and for investigating migration histories and migration routes will be tested over the course of 2019.
- A briefing package for staff joining a migration mission will be developed.



Inside the CPSA (Centro di primo soccorso ed accoglienza – first reception centre) where MSF responds to the medical and humanitarian needs of migrants, refugees, and political asylum seekers.

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# NON-COMMUNICABLE DISEASES

19



**19,801**  
consultations  
for diabetes



**19,758**  
consultations  
for hypertension

## HIGHLIGHTS OF 2018

- Data on non-communicable disease (NCD) consultations are reported for the first time in the Medical Activity Report, but significantly underestimate the volume of activities.
- Insulin management package for low resource settings was developed.
- There is a need for development of protocols for simplified management of NCDs in integrated projects and for inpatient care.
- There is a need to develop a strong advocacy agenda to support sustainability of NCD projects.
- There is a need for a standard Monitoring & Evaluation (M&E) tool for NCD activities in OCB which is suitable for use in integrated and vertical NCD projects.

## 1. OVERVIEW

Data on non-communicable diseases (NCD) activities was reported for the first time in the Medical Activity report in 2018. This represents a start at evaluating NCD activities across the OCB portfolio, but as NCD consultations are not yet recorded in standard Monitoring & Evaluation (M&E) tools, the available data substantially underestimate the volume of activities. Key NCD projects in Kenya and Zimbabwe enabled the consolidation of protocols for management of core NCDs in primary care cohorts and for management of insulin in low-resource settings. Demand was raised for simplified adaptation of this package for use in integrated projects without a major NCD focus, and for the development of protocols for inpatient department (IPD) care in Internal Medicine and Surgical departments. Advocacy to support sustainability of NCD projects after MSF departure, with particular regard to strengthening of drug supply chains and integration of patient care into the local health care system, was identified as a major topic for development. Agreement was reached over the development of a standard M&E tool for NCDs with a standard M&E package comprising patient record, data collection points and indicators, suitable for use both in integrated and vertical NCD projects.

## 2. MAIN PROGRAMME ACTIVITIES

In 2018, projects were asked to report data on NCD activities for the Medical Activity Report for the first time. Two indicators were chosen: number of consultations for hypertension and number of consultations for diabetes, to correspond with the indicators proposed by the intersectional NCD Technical Working Group (TWG) for inclusion in the intersectional typology. However, reporting of NCD activities is not yet incorporated into the Medical Information Network for Operational Support (MINOS) or other standard M&E tools. Therefore, available data for 2018 depend upon what has been recorded in line with project interests and non-standard M&E tools. As such, some projects have been able to report aggregate data from non-standard tools; some projects have performed NCD consultations but did not record and so were unable to report numbers; some projects had invested in more specialised tools for NCD cohort monitoring (DHIS-2 in Kenya and Lebanon, EpiData in Zimbabwe). Unfortunately, technical difficulties with cohort monitoring tools meant that Lebanon (Shatila and Akkar) and Zimbabwe (Chipinge), which represent two of the three major centres for NCD activities, were unable to report data. This, together with the fact that many projects which are known to be treating ad hoc patients with NCDs lack the M&E tools to report accurate numbers of consultations, mean that the data shown here are not an accurate reflection of the actual volume of activities in the field. These data should therefore be considered as a first attempt at logging NCD activities in OCB and a work in progress to be improved in subsequent years.

### 2.1. VERTICAL NCD PROJECTS

Vertical NCD projects are defined as projects identifying NCD activities as primary or substantial component of programme, with cohort follow-up.

The Embu project (Kenya) completed its first year of activities in 2018, allowing consolidation of lessons learned from the mentorship approach employed, and of fine-tuning of the clinical care package for primary care management of hypertension, diabetes, asthma, and epilepsy. In Zimbabwe, a simplified package for insulin management in a lower-resource African setting was developed and introduced, which corresponds to a significant needs gap. In Lebanon, saturation of the NCD cohort emphasised the importance of managing cohort growth and of identifying the added value and specific role for MSF compared with other actors in a given context.

Some projects with significant NCD activities closed during 2018 (Ahmed Shah Baba, Afghanistan and Mbera, Mauritania). No new vertical NCD projects were opened during 2018.

### 2.2. NCD ACTIVITIES IN OTHER/INTEGRATED PROJECTS

These are defined as projects performing NCD consultations, but not identifying these activities as a major focus of the project and without cohort follow-up.

### 2.3. OUTPATIENT CONSULTATIONS

The data reported for 2018 are useful in highlighting “under the radar” NCD activities in projects which had not previously reported consultations or requested technical support for NCDs (South Sudan, CAR, Nigeria). This allows the identification of opportunities for sharing protocols, care packages, and training. Bangladesh (Jamtoli) has seen demand for diabetes and hypertension consultations among Rohingya refugees.

### 2.4. INPATIENT CONSULTATIONS

Inpatient care is not reflected in the data reported and remains difficult to quantify. Projects in CAR (Bangassou) and DRC (Massisi) are treating NCD patients in Internal Medicine wards and have identified the need for appropriate protocols and training materials to improve quality of care. In Pakistan (Timergara), assurance of quality standards in thrombolysis activities was challenged by inability to deliver supervision due to evacuation of the expatriate team.



### **3. LOOKING BACK AND AHEAD**

#### **3.1. LESSONS LEARNED IN 2018**

- Consolidation of the core clinical package for primary care/OPD management of NCD cohorts, using experience from the African projects (Kenya, Zimbabwe).
- Identification of the need for a lighter version of this package suitable for implementation in integrated projects with lesser interest/fewer resources for investment in training, patient education, and monitoring of cohorts. This should be in collaboration with the primary health circle and as part of the basic primary health package.
- Identification of the need for a corresponding package for IPD care, for use in Internal Medicine wards where NCDs are the primary presentation, as well as for management of underlying medical conditions or complications in surgical patients.
- Development of a package for insulin management in low-resource settings, including detailed and user-friendly protocol, training materials, patient education materials, and public health approach.
- Identification of the importance of sustainability in NCD programmes. This comprises the need to control cohort growth in order to match the size of cohorts to available resources and the need to develop strong advocacy strategies to strengthen drug supply chains and for integration of the NCD programme into the local health care system upon project closure.
- Need for standardisation of M&E for NCDs including development of a standard patient record, data entry points and indicators, and especially for a single common NCD M&E tool for OCB which is flexible enough to be used by both integrated and larger vertical projects.

#### **3.2. GOALS FOR 2019**

- Development and validation of a policy paper for NCDs in OCB.
- Consolidation of experience in insulin management and evaluation of the clinical package through experience in Zimbabwe and introduction of insulin management in Kenya in 2019.
- Development and finalisation of protocols for OPD and IPD care for NCDs.
- Development of an advocacy agenda for NCDs, specifically around the question of promoting sustainability of care.
- Development of a research agenda including: evaluation of the NCD programme in Mauritania; investigation of the prevalence of chronic kidney disease (CKD) in the Kenyan cohort and requirements for renal monitoring; documentation of the experience of the use of analogue insulins for children with diabetes in Lebanon; analysis of intersectional diabetes cohorts in the Middle East North Africa (MENA) region.
- Development of a standard M&E tool for NCDs in OCB, with the potential for use both in integrated and vertical projects.

# NURSING CARE

20

**181,815**

wound dressings performed



New wound care protocol is being deployed in all OCB projects



Revision project was started to provide nurses in the field with a complete, updated, and evidence-based “MSF Manual of Nursing Care Procedures.”



A new Nursing Care Assessment Tool (NCAT) was created

## HIGHLIGHTS OF 2018

- Finalised wound care protocol and started implementation
- Started revision of MSF Nursing Care Guidelines
- Provided direct field support: MIO nursing care
- New library of standard nursing care related tools
- Medical debate at OCB General Assembly (GA) on “Nursing Care: Who Cares?”

## 1. OVERVIEW

During 2018 in all OCB missions, more than two million general Out-Patient Department (OPD) consultations were performed, 257,000 patients attended an Emergency service with more than 220,000 triaged, and approximately 128,500 patients were admitted to an In-Patient Department (IPD). In addition, 19,520 surgical interventions, operations, and anaesthetics were performed.

Behind this massive number of patients seen and medical procedures performed, nursing care remains the front and the centre of patient care. It is present throughout the whole journey from first contact with the health system in the community, to a Primary Health Care (PHC) service or an Emergency Department, or being admitted into a health care facility to discharge and follow-up.

The most common nursing care activities include: admission evaluations (OPD assessment and triage), patient observations (critical care patients: monitoring, post-operative follow-up, and general IPD observations), supporting patient human functions (respiratory care, circulatory support and blood transfusion, nutrition and hydration, elimination, moving and positioning, and body hygiene), performing diagnostic processes (sample collection and execution of Point-Of-Care tests), and carrying out patient treatments (medication management including: Intravascular (IV) injection and infusion, perioperative care, management of vascular access devices, and wound care). Education of patients and families, advocacy, and support in self-management are also important aspects of nursing.

## **2. MAIN PROGRAMME ACTIVITIES**

### **2.1. WOUND CARE**

Wound care, one of the most frequently performed activities in all projects, has been identified as a priority in previous years.

During 2018, 27 projects reported performing 181,815 dressings in OPD, ED, and other locations – and this is still a small proportion of the overall wound care activities that took place (data were not complete and this is therefore an underestimate).

To address this, the revision of the MSF OCB Wound Care Protocol was finalised, and included several tools to facilitate field implementation (posters, training material, and supervision tools).

Field implementation of the protocol was started last year and the overall strategy includes direct project/mission support to facilitate the process. Several projects (Kunduz, Afghanistan, Mosul, Iraq, Occupied Palestinian Territories, Gaza, and Bar Elias, Lebanon) are already using it in their routine activities. Feedback from nursing teams and data collected show that standardisation of wound care practices using a new evidence-based, field-adapted protocol has had a strong impact on the quality of care provided.

### **2.2. MSF MANUAL OF NURSING CARE PROCEDURES**

MSF nurses in the field are performing a wide variety of nursing care procedures. Currently the only official document to support them with background and technical information is the intersectional “MSF Nursing Guidelines 2007,” updated by OCP in 2014. This document is partially out-of-date, incomplete, and not user-friendly for daily use during clinical nursing activities. Furthermore, it is not adapted for use as a training tool. It is, therefore, difficult to have consistent execution of nursing procedures between projects, perform effective supervision, and provide a functional training system.

In September 2018, a revision project was started to provide nurses in the field with a complete, updated, and evidence-based “MSF Manual of Nursing Care Procedures.” As the list of topics is large and resources are limited, a first priority list of procedures has been identified (basic, most performed, and/or dangerous nursing care procedures), and in a second phase, more specialised nursing care procedures will follow.

The manual can be used by nurses during their daily clinical activities, by supervisors and head nurses for assuring safe and good quality nursing care and effective clinical supervision, and by training nurses for organising and running specific training programmes. Nursing care referents and field medical coordination teams can use it for developing specific tools and the MSF Academy for Health Care and Learning & Development Unit (L&D) will use it for advising and supporting training.

### **2.3. NURSING CARE AUDIT TOOL**

A new Nursing Care Assessment Tool (NCAT) was created to assess the basic elements that impact the quality of nursing care provided by nurses or health care workers in health structures where which MSF (alone or with another entity) conducts clinical activities.

The checklist guides the assessment based on minimal standards for nursing care in health facilities and provides guidance on planning improvements. These standards are based on research, observations, empirical data, and MSF experience.

The objective of the tool is to have a better understanding of the quality of the nursing care provided to patients at unit level. This assessment is not comprehensive, but tries to address most relevant aspects regarding quality and safety of patient care.

The NCAT was developed to be used by HQ staff and Mobile Implementation Officers (MIO) during field visits and by field nursing teams to design more effective action plans to improve nursing care. It is a means to drive continuous improvements in quality, give continuity over time, and harmonise practices and tools among projects.

By end of 2019 it will be possible to have enough standard data from different projects to allow a first analysis of overall nursing quality among OCB health facilities.

## 2.4. TECHNICAL TOPICS

Technical support was provided for specific nursing care issues or other related medical requests received from the field and from operations. Answers and solutions were developed at the Medical Department level, in collaboration with other relevant technical referents or within the intersectional NCCG (Nursing Care Contact Group).

Patient documentation and standard nursing care paper tools have been developed within the “Patient Documentation Circle” and are available for the field with user guides. The two tools are the intersectional “Standard Vital Signs Chart” (with track and trigger system) and the new “OCB Medication Chart.”

A specific document with basic neonatal nursing care recommendations has been started to fill gaps on specific topics not tackled by MSF Neonatal Guidelines. Moreover, the Nursing Care MIO attended the Emergency Paediatric and Neonatal Training of Trainers (ToT) in order to be able to provide, in collaboration with the Paediatric Referent, trainings at HQ and field level during 2019.

Specific field support was provided for different technical topics, mostly related to wound care after the recent deployment of the new wound care protocol and in preparation of a future training. Other topics were linked to preparation for opening of new health structures (e.g., Kenema, Sierra Leone) or for specific nursing care techniques (e.g., tracheostomy care for Cox’s Bazar, Bangladesh during a diphtheria outbreak or Negative Pressure Wound Treatment for advanced wound care in Tabarre, Haiti).

In 2018, field support visits were undertaken by the Nursing Care Referent to Guinea (Donka and Matam, both HIV projects) and Palestinian Occupied Territories (Gaza surgical project), and by the Nursing Care MIO to Iraq (Mosul surgical project).

## 3. NURSING CARE IN MSF OCB

In 2018 the OCB Medical Direction supported nursing care as one of its main priorities.

The medical debate at the OCB General Assembly was on nursing care (“Nursing Care: Who Cares?”) and it was a very good occasion to present the MSF Nursing Care framework and to debate the provision of quality nursing care in MSF projects.

The discussions highlighted the need for better platforms to share expertise and professional updates and a stronger investment in capacity building for clinical nursing care. The scientific, evidence-based approach is a key element and more efforts are needed to include nursing care in the operational research agenda. Finally, nursing care has been recognised as being more than completing a list of tasks and more autonomy for nurses should be acknowledged and developed within the framework.

At the international level, the Nursing Care Contact Group, supported by the OCB Communication Department, promoted a specific campaign for International Nurses Day (May 12th) to celebrate the efforts of all nurses working in the field with MSF. This gave us the possibility to create a direct link with the International Council of Nurses, an institution engaged in ensuring quality nursing care for all, advancement of nursing knowledge, and promotion of a respected nursing profession and a competent nursing workforce.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

- Nursing care covers a huge number of very different health contexts and the complexity of some is a big challenge. External networks of specialists are very important to provide quality support to the field.
- The wound care strategy is challenging because there is not a standard method for all projects and the best solution must be based on the specificities of each context.
- New nursing care resources are available at HQ in the Medical Department (MSF Academy for Health Care) and in the Operations Department (Hospital Management Unit), but the coordination between them must be stronger and more clearly defined in order to have better results and stronger impact.
- Knowledge management is a challenge: reaching all relevant nursing care providers and project managers with standard information and tools is an issue.
- Field projects are more and more interested in having a visit by the Nursing Care MIO/referent and it is impossible to answer all the requests, including proper follow-up over time.
- Even if standard indicators for measuring nursing quality of care have been identified, it remains a challenge to have them implemented at project level and reported.
- The implementation of standard patient documentation tools, even if supported by strong needs and evidence-based decisions, is difficult mainly because of the resistance of management teams to change from previous ways of working or habits.

### 4.2. GOALS FOR 2019

- Wound care protocol:
  - Carry on with the deployment of the new protocol in all OCB projects.
  - Develop specialised wound-care related topics (diabetic foot, etc.).
  - Clinical case support by setting up a wound care telemedicine service in collaboration with MSF Canada.
  - Promote a “Wound-Care Community of Practice” in order to promote peer-to-peer support.
  - Complete translation of protocol and tools into French.
- “MSF Manual of Nursing Procedures” project:
  - Finalise the content of the procedures identified as priorities, complete final editing, and submit for validation to the International Office medical directors’ platform (DirMed).
  - Launch the development of related tools (training and clinical supervision) in collaboration with other MSF resources (MSF Academy, L&D, etc.).
- Direct field support
  - Planning field visits of the MIO and referent, taking into account operational priorities and project needs
  - Provide ad hoc support for specific topics
- Stronger collaboration with other nursing care related initiatives
  - “Hospital Management Unit” in setting up standard tools for nursing supervision and management.
  - “MSF Academy for Health Care” in identifying appropriate curricula for nurses, in providing technical contents for development of trainings, and in elaborating strategies and tools for continuous professional development.

- Hospital set-up recommendations
  - Develop evidence-based and context-adapted recommendations for design of nursing related parts of health facilities (nursing stations, medications preparations areas, procedure rooms, etc.).
- Briefing and debriefing tools – knowledge management
  - Regular use of a technical End of Mission survey for collecting standardised information.
  - Ensure standard briefing and debriefing of nurses and key filled positions.
  - Implement a specific newsletter for nurses in the field and between missions (Nursing Pool) for sharing basic technical updates and important information.
  - Use new tools for sharing information about nursing care technical topics such as webinars and external e-learning solutions.
- Nursing care audit tool and data collection
  - Promote the use of Nursing Care Assessment Tool for standard assessment of Levels of Care (LoC) and planning of improvement action plans.
  - Promote the use of a nursing care dashboard with relevant key indicators for each project to follow up basic processes (patient observation, medication administration, IV care, wound care, pressure ulcers).



An MSF nurse shows a new mother how to feed a premature baby in the neonatal ward of Castor Maternity Hospital in Bangui, CAR.  
© Borja Ruiz Rodriguez/MSF



# NUTRITION

21

**7095**

acutely  
malnourished  
children admitted in  
our ITFCs

**15,104**

acutely malnourished  
children admitted into  
our ATFCs

**471,735**

beneficiaries screened  
for acute malnutrition  
in our outpatient  
services



Mortality rates  
improved from 2017



Stabilisation rates  
improved from  
2017



Defaulter rates  
still high and well  
over acceptable  
level

## HIGHLIGHTS OF 2018

- **MSF OCB cared for acutely malnourished children in 10 Inpatient Therapeutic Feeding Centres (ITFCs) and 42 Ambulatory Therapeutic Feeding Centres (ATFCs) in nine different countries.**
- **29,294 beneficiaries were treated for acute malnutrition; 7095 in our ITFCs and 15,104 in our ATFCs.**
- **471,735 beneficiaries were screened for their nutritional status in our Outpatient and Emergency Departments and Antenatal Clinics.**
- **Although cure rates in our ATFCs improved this year, there were high defaulter rates, which need to be addressed with new and innovative strategies.**
- **Mortality rates in the ITFCs improved slightly, but more work needs to be done on management of shock and dehydration in Severe Acute Malnutrition (SAM).**

## 1. OVERVIEW

Although the bulk of MSF OCB nutritional care still remains focused on the inpatient (ITFC) and outpatient (ATFC) treatment of malnourished children, we are striving to increase awareness of the transversal nature of nutrition. Nutrition is not just for the malnourished: ALL of our patients and some caretakers, such as breastfeeding mothers, must have an adequate nutritional status assessment and appropriate nutritional support as part of their general care.

Increased awareness needs to be followed up with action and this is where we have continued to see gaps in providing tools and guidance from Headquarters (HQ); existing tools were not being used in the field or existing tools were not user-friendly. We also saw gaps in the knowledge and available training for nutrition. This is the big challenge for 2019.

We continue to push for nutrition to be seen as an integral part of a more holistic approach to child health in OCB including paediatric services, vaccinations, environmental health activities, and mental health support.

Reliable data continues to be a problem for nutrition. This is due to many factors including unclear monitoring systems, misunderstanding of indicators, lack of trained personnel for data collection and encoding, and data collection tools which are not always easy to use.



## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. SET-UP AND LOCATION OF NUTRITION SERVICES

**TABLE 1** MSF OCB nutrition services in 2018

Type of service	Countries and projects
<b>Vertical projects / emergencies</b> Nutrition is the main activity	Nigeria (Borno, Maiduguri) Democratic Republic of Congo (Kasaï)
<b>Integrated programmes</b> Nutrition is integrated into existing medical activities	Afghanistan (Kabul); Central African Republic (Bangassou); Democratic Republic of the Congo (Masisi, Bili, PUC); Guinea (Kouroussa); Malawi (prisons); Mauritania (Hodh El Chargui); Sierra Leone (Baama); South Sudan (Pibor, Doro, BNS)
<b>Targeted nutritional support</b> Nutrition support is targeted to patients with specific nutritional needs (e.g., patients with HIV, patients post- operatively, pregnant and lactating women); or food protection rations are provided in food insecure areas.	Burundi (Arche); Democratic Republic of the Congo (CHK, Kinshasa); Haiti (Tabarre); Iraq (Mosul); Lebanon (Bar Elias); South Sudan (Doro)

### 2.2. NUTRITION ACTIVITIES AND BENEFICIARIES TREATED

In 2018, 29,294 children received nutritional treatment for acute malnutrition, an increase of more than 7000 over 2017. This increase was mainly from more inpatients (5343 to 7095) and was likely due to projects scaling up in their activities such as Kasaï (DRC), Kouroussa (Guinea), and Maiduguri (Nigeria). Unfortunately, this increase could also have been due to a lack of outpatient services for nutrition leading to uncomplicated cases deteriorating and needing inpatient care, such as in Bili and Masisi (DRC).

All rates quoted below are very context and data-quality dependent; but it is worth examining our averages across OCB to compare year by year.

**ITFC:** The average ITFC death rate across all OCB projects was 6.2% (range: 0.5% to 18.8%). This average was just over the acceptable target of 5%. Apart from Bangassou at 18.8%, most projects were below 5%. Bangassou suffered from huge insecurities and very difficult working conditions, but reducing this figure will be a priority for support activities for 2019. These mortality figures may not provide a full picture of mortality among malnourished children in our projects since deaths in the Intensive Care Unit (ICU) and Paediatric Inpatient Department (IPD) were captured in other databases.

The average stabilisation rate (the proportion of patients transferred from ITFC to ATFC to complete their treatment) in ITFCs across all OCB projects was 77% (ranging from 45% to 90%). The OCB target for stabilisation is 80%. There has been improvement since last year with only four projects below this threshold, but attention needs to be devoted to improving these rates.

**TABLE 2** OCB nutrition activities in 2018

Type of activity	Number of centres	Number of beneficiaries
ITFC	10 (total) 9 (integrated paediatric or intensive care unit hospital services)	7095
ATFC	42	15,104
Supplementary Feeding Centre	0	0
Targeted nutritional support	5	ND
<b>Total</b>	<b>57</b>	<b>29,294</b>

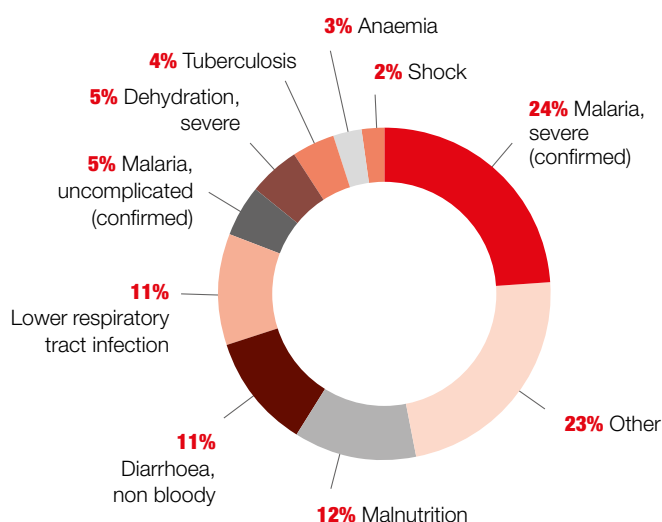
**ITFC:** inpatient therapeutic feeding centre; **ATFC:** ambulatory therapeutic feeding centre; **HC:** health centre; **SFC:** supplementary feeding centre; **PLW:** pregnant and lactating women; **SAM:** Severe acute malnutrition; **ND:** No data.

The 10 most common morbidities seen among ITFC admissions are shown in Figure 1. Severe malaria, diarrhoea, and pneumonia remain important morbidities, as expected in most of our contexts. “Malnutrition without comorbidity” is used for children failing the appetite test. We still need to work on this categorisation as there could well be underlying diagnoses we are missing. Although there is a slight improvement from last year on the percent of “other” reported (i.e., improved categorising or providing categories for morbidities), further work from both HQ and the field is required.

**ATFC:** The average cure rate in ATFCs across all OCB projects was 79%, ranging from 43% (Blue Nile State – very mobile population with frequent security problems) to 90% (Mauritania, well established camp setting). This average almost reached the OCB target of >80%, although it is obvious that specific projects need extra support to ensure targets are reached.

The average defaulter rate in ATFCs across OCB projects was 23% (range: 1.4% to 36%). This is well above the acceptable OCB target of <15%. In fact, only three projects out of 11 with full data were <15%. There is still an urgent need to evaluate services in order to prevent defaulting and to improve defaulter-tracing mechanisms.

**FIGURE 1** Top 10 most frequent morbidities reported in Intensive Therapeutic Feeding Centres (ITFC), OCB, 2018



## 2.3. NUTRITIONAL SCREENING

Although total numbers of beneficiaries screened increased substantially from 2017 to 2018 (377,360 to 417,735), Table 3 shows that we are only screening about half of children <5 years seen in our OPDs and Emergency Departments (EDs) and not meeting the target of 100%. Even more concerning, we should be screening 100% of the women in our ANC consultations and yet only one-quarter are actually being screened. It must be emphasised that these screening activities are not just to find malnutrition, but also to develop an understanding of our patients' nutritional status as part of a holistic assessment and for planning of their future treatment. Having new indicators for screening in ED, OPD, ANC, maternity, and PNC should help push this agenda forward, when combined with active support from HQ. SAM and Global Acute Malnutrition (GAM) rates for each project could not be calculated due to poor quality of the data and inconsistent Middle Upper Arm Circumference (MUAC) cut-offs used.

**TABLE 3** Nutritional screening, OCB, 2018

Service/Activity	Total beneficiaries screened for nutritional status	Total beneficiaries seen in the service	% of target beneficiaries screened
OPD/ED <5y	417,868	724,865	57.6
OPD/ED >5y	669		
ANC (pregnant women)	42,938	155,106	2.7
Vaccination campaigns	10,260		
<b>Total</b>	<b>471,735</b>		

## 2.4. TARGETED NUTRITIONAL SUPPORT SERVICES

OCB's targeted nutritional support activities continued to grow in 2018, but in a disorganised and erratic way. For example, most of the projects did not report any targeted nutritional support activities in their data even though they were known to order therapeutic foods and have asked for support on a number of cases (especially post-operatively) for nutritional support and treatment. The definition of these activities needs to be

made clearer by HQ and the tools and guidance for their implementation needs to be updated. One option would be to further break this down into hospital nutrition support and disease-related nutritional support.

## **2.5. FOOD SECURITY ASSESSMENTS**

These have been on an ad hoc basis and always part of a rapid nutritional assessment or nutritional survey (e.g., Chad expo, Pibor, Kasai). We continued to work at an intersectional level on the transition to the concept of nutritional security assessments and how to best equip our teams to analyse their context; this will be a priority for 2019.

## **3. OTHER ACTIVITIES**

OCB took over leadership of the intersectional Nutrition Working Group in February 2018. Although the majority of the year was spent without extra HR resources to accommodate this extra workload, this was still seen as a great opportunity for OCB to play a major role in the development of much needed intersectional protocols and tools and a transition from using the Nutrition Guidelines to a modular Nutrition Toolkit.

A whole new package of patient documentation was produced for nutrition and paediatric services, which should improve clinical follow-up, ease of entering data into monitoring systems and standardisation across the section. Thus, staff new to a project should find familiar forms and charts in all the wards and departments.

Alongside this, a full monitoring and surveillance package for nutrition was developed, from patient cards through to line lists and all with user guides and definition documents; this will be fully rolled out in 2019.

New guidance and user-friendly tools were developed for the management of dehydration and shock for severe acute malnutrition – this was the first time graphic design was utilised for nutrition in OCB.

OCB nutrition continued to contribute to training for the PSP, MSF London's Global Health and Humanitarian Medicine, Tropical Medicine and International health diploma at the ITM in Antwerp, and for OCB specific trainings such as SRH, HP, and PMR trainings.

Recruitment for the joint OCP-OCB-Epicentre kwashiorkor study started in mid-2018 and the first samples were sent for analysis at the end of 2018. Recruitment is ongoing.

## **4. LOOKING BACK AND AHEAD**

### **4.1. LESSONS LEARNED IN 2018**

- Although there was an improvement in cure rates for ATFC, defaulter rates still need a whole new strategy to reduce them – these should be context-adapted and will likely require “out-of-the-box” thinking.
- Mortality rates in ITFCs also improved slightly, apart from a few outliers.
- Although there was an improvement in our stabilisation rates from ITFC, this figure needs to be treated with caution: these children were only stabilised, not cured. In a number of projects (Masisi, Bili, Goroma Mende) there were often problems with the delivery of care and nutritional supplies to many outpatient centres (mostly run by other organisations/bodies), so that MSF's work was not actually completed and children were at a high risk of relapse.
- Nutritional assessment and care for patients in “non-nutritional” wards in our hospitals needs immediate improvement. Patients in very poor nutritional states were seen this year (CHK, Conakry). Guidance, tools and close support from HQ is needed along with willingness by the field to prioritise this issue and see it as part of a vital holistic approach to patient care.

- Tools for nutritional security assessments (whether directly or indirectly) need to be developed and our field staff trained in how to use them, either by online training or in-person visits.
- Our assessment and care of nutritionally at-risk (or malnourished) infants 1-6 months needs considerable input with respect to protocols, guidance, and new profiles of HR who can deliver the simple, vital, and very time-consuming support these infants and their mothers need.
- Our experience trying to roll out the new monitoring and surveillance system for nutrition in Kouroussa, Guinea, showed us the importance of working closely with the eHealth team and having frequent contact with the field (Skypes, calls, emails) over a significant period of time. In-person visits are now seen as the ideal for implementation, but may not be possible for every project.

## 4.2. GOALS FOR 2019

- Considerable efforts are needed to obtain buy-in from operations into the concept of the “Child Health approach” – making sure paediatrics, nutrition, vaccination, environmental health, and mental health services are integrated at the point of delivery of care; we need to treat the whole child and stop working in silos. Child Health Packages (CHPs) with minimum and optimum services will be developed and defined throughout the year with all the appropriate stakeholders. A CHP meeting will be planned (intersectionally) in the final quarter of the year.
- Extensive efforts will be put into rolling out the nutrition monitoring and surveillance (M&S) package with both distance (webinar planned) and in-person (field visits) support carefully planned with each mission/project according to their capacities. This includes making sure the new indicators for nutritional screening, already incorporated in the ED and full Sexual and Reproductive Health (SRH) monitoring system and for TB, HIV, and vaccination status are understood and fully implemented.
- OCB will be the focal point for the production of intersectional nutritional protocols for inpatient and outpatient care of children 6-59 months and infants 1-6 months – before the end of Q2.
- OCB will also be the joint focal point with OCBA to develop and implement hospital and disease-related nutritional tools and guidance to improve our targeted nutritional support services.
- Specific clinical topics such as the management of shock, dehydration, diagnosis of TB, and the nutritional treatment phases will be promoted through webinars, field visits, and other online training tools.
- Efforts will continue to support kwashiorkor research and new research on the evaluation and treatment of nutritionally at-risk infants may commence both with OCB and external stakeholders.



In Niger, trained community volunteers go door-to-door to meet mothers individually and hold awareness-raising and training sessions on how to use the MUAC (Mid-Upper Arm Circumference) tape. They also give nutritional guidance. Here, a mother is seen here using the MUAC tape for the first time. © Elise Mertens/MSF

# OPERATIONAL RESEARCH & DOCUMENTATION

22



Thematic operational research courses on WASH and migration run in 2018



73

participants in LuxOR-supported and LuxOR-facilitated operational research training courses



LuxOR team members conducted field visits in 14 countries

## HIGHLIGHTS OF 2018

- **Ninety-five OCB-supported studies were published, covering 13 thematic areas.**
- **Twelve LuxOR team members supported over 65 ongoing studies worldwide.**
- **A new thematic training on migration and forced displacement was run.**
- **Eight LuxOR-facilitated or LuxOR-supported operational research trainings were held, with a total of 73 participants.**
- **The LuxOR unit adopted a new thematic-focused structure, with LuxOR team members acting as focal points for specific medical themes.**

## 1. OVERVIEW

The Luxembourg Operational Research Unit (LuxOR) coordinates and conducts research projects in close collaboration with field teams, operational cells, and with international partners as part of the OCB Medical Department. LuxOR ensures that operational research (OR) improves the quality of MSF operations by:

- assessing the feasibility and effectiveness of new and existing models of care, strategies, and interventions;
- encouraging evidence-based decision-making to improve the quality of medical operational humanitarian assistance;
- promoting the translation of research evidence to policy and practice, and the eventual impact on programme performance; and
- gathering credible evidence to support advocacy activities.

This year saw the maturation of a new thematic-focused structure for the LuxOR team, in that team members began acting as focal points for specific domains in order to improve collaboration between LuxOR, the Medical Department, and other units within OCB, and to improve the quality of research by building expertise related to research in specific domains. The qualitative research team was also expanded, contributing to greater transversal support to all domains.

During 2018, 95 studies were published covering 13 thematic areas, with the LuxOR team supporting over 65 ongoing studies worldwide. Eight LuxOR-facilitated or LuxOR-supported operational research trainings were held, with a total of 73 participants. Building on the success of the previously-trialled thematic approach to training (WASH IT, in 2017), a thematic course focused on migration and forced displacement was run (MIGRATE IT, in 2018).

## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. OPERATIONAL RESEARCH ACTIVITIES

There are two main units supporting OR for MSF's Operational Centre Brussels (OCB): the Southern African Medical Unit (SAMU), which is primarily responsible for research related to HIV/AIDS and TB, and LuxOR, which leads all other areas of research and related capacity building. This section outlines LuxOR's activities.

LuxOR, which is part of the OCB Medical Department, coordinates and conducts research projects in close collaboration with field teams, with the cells in headquarters, and with international partners. LuxOR ensures that operational research improves the quality of MSF operations by:

- assessing the feasibility and effectiveness of new and existing models of care, strategies, and interventions;
- encouraging evidence-based decision-making to improve the quality of medical operational humanitarian assistance;
- promoting the translation of research evidence to policy and practice, and the eventual impact on programme performance;
- gathering credible evidence to support advocacy activities.

2018 saw the establishment of a new thematic-focused model, where LuxOR team members act as focal points for specific medical themes, rather than offering broad polyvalent support. The purpose was to better manage the ever-increasing demand for OR support within OCB and help LuxOR offer more in-depth support. The model facilitates the diversification of OR activities to include new and emerging areas of major public health importance. It assigns OR Focal Points for specific research topics as seen in Figure 1, while transversal support is offered in qualitative research, policy and practice implications, medical editing, and medical data management. To date, the model has proved to be largely successful, and with further consolidation of this approach, we anticipate increased efficiency.

**FIGURE 1** Structure of the LuxOR thematic research domains

Environmental health, vector control, migration, victims of torture (VoT), mental health	Qualitative Research Policy & Practice Data & Documentation Coordination
Surgical care, critical care, anaesthesia, emergency care, neonatal & paediatrics health, nutrition	
Antimicrobial resistance, pharmacy, infection prevention and control (IPC), non-communicable diseases (NCDs)	
Outbreaks, vaccination & vaccine-preventable diseases, infectious diseases, malaria & vector-borne diseases, sexual and reproductive health (SRH), sexual violence (SV)	

To strengthen research capacities and medical data collection and analysis, team members regularly support missions and projects. In 2018, LuxOR's field visits included Bangladesh, Belgium, Cambodia, the Central African Republic, the Democratic Republic of the Congo, Egypt, Greece, Guinea, Lebanon, Malawi, Mauritania, Mozambique, South Africa, and Zimbabwe.

Operational research studies are published in peer-reviewed scientific journals, and the results remain openly available to researchers and the global humanitarian community. In 2018, 95 OCB-supported studies were published, covering 13 thematic areas such as HIV and tuberculosis, infectious diseases, mental health, and surgery and emergency care (Figure 2). The twelve LuxOR team members supported over 65 ongoing studies worldwide.



**FIGURE 2** MSF OCB-supported publications in 2018

Study findings reveal valuable evidence to improve programmes and close gaps in the access to care throughout MSF's projects. LuxOR is working to move its research back into action, sharing key findings with operations and partners, planning for uptake, and measuring impact. Several published studies and ongoing research projects received dedicated policy and practice support from LuxOR in 2018, using scientific evidence to improve programmes and change policies. Major policy and practice dossiers included trainings for health workers on the correct use of labour-inducing drugs in Pakistan, rolling-out an innovative environmental health toolkit in Zimbabwe, and improving rehabilitation for trauma patients in humanitarian settings.

In 2018, LuxOR also continued to support the recruitment of field epidemiologists for OCB by validating the profiles of 67 epidemiologists, then conducting briefings prior to their departure to a mission.

### 3. CAPACITY BUILDING - OR TRAININGS

The Structured Operational Research Training Initiative (SORT IT) is an output-oriented advanced training model for OR capacity building initiated by MSF and the International Union Against Tuberculosis and Lung Diseases (The Union) in 2009. The training is currently under the global leadership of the Special Programme for Research and Training in Tropical Diseases (TDR) hosted by the WHO.

The training combines mentorship by experienced researchers with a hands-on "learning-by-doing" approach and targets mainly MSF colleagues, staff of international organisations and their local implementing partners, as well as representatives of health authorities in low- and middle-income countries (LMIC). The focus is on building sustainable OR capacity.

Over the last eight years, 59 courses have been successfully completed with the enrolment of 630 participants from 90 countries. Ninety percent of participants completed the programme's milestones, and 85% of them published papers in peer-reviewed journals. Ninety-five percent of first authors were from a LMIC and 46% were women. Sixty-five percent of the published studies reported an impact on policy and or practice. Partnering with the World Health Organization Special Programme for Research and Training in Tropical Diseases

#### LuxOR-supported SORT IT courses in 2018

- Ethiopia, Neglected Tropical Diseases SORT IT
- Greece, MIGRATE IT
- India, Mixed Methods SORT IT
- Kenya, Africa SORT IT
- South Africa, Qualitative Research SORT IT
- Sri Lanka, SORT IT
- Uganda, WASH IT



(WHO/TDR) and The Union, LuxOR facilitated SORT IT courses in Greece, Kenya, South Africa, and Uganda, and supported additional OR trainings in Ethiopia, Lebanon, India, and Sri Lanka, for a total of 73 participants.

LuxOR initiated the first thematic training on migration and forced displacement (MIGRATE IT), finalised the first thematic training on research in water, sanitation, and hygiene (WASH IT), and organised an OR writing module for national staff in Lebanon. Additionally, the team supported the epidemiological module for the Populations in Precarious Situations training (PSP, Epicentre, Paris), and participated in giving trainings conducted by renowned universities and by partner organisations, including the Damien Foundation (Belgium), the Assessing Public Health in Emergency Situations (APHES) summer course, and the Karolinska Institutet Erasmus Mundus Master Course in Public Health in Disasters (EMMPHID) Master Course.

LuxOR also conducted two hands-on trainings on advanced data management and analysis in projects for victims of violence on the island of Lesbos and in Egypt.

## **4. HUMAN RESOURCES**

The team at headquarters is currently composed of an OCB OR Coordinator/LuxOR Director (vacant at the time of writing), one Programme Officer, one Qualitative Researcher acting as focal point and one Qualitative Mobile Implementation Officer (MIO), four senior researchers, one Policy, Practice, and Communications Advisor, one Medical Editor, one Medical Data Manager and other ad hoc positions, all of which have programme, research, and publication skills. The effort to design the most appropriate way of building a more field-oriented network of research fellows in OCB and establishing a diverse pool of researchers is ongoing.

## **5. LOOKING BACK AND AHEAD**

### **5.1. LESSONS LEARNED**

- The introduction of the interaction model and research domains assigned to focal persons helped to streamline the workload and improve internal and external communication.
- OR has become increasingly integral to MSF activities, offering findings with substantial impact on global health policy and benefits to populations we serve. The demand for scientifically rigorous evidence to support operations and advocacy is ever growing, and during 2018, the need to establish a wide framework to conduct OR in OCB was recognised.
- Thematic SORT IT courses continued to be successful in providing field-based evidence and building research expertise in certain domains through training in the areas of water, hygiene and sanitation (WASH IT) and migration (MIGRATE IT).
- Challenges were faced in the uptake of the Research Impact Monitoring Tool (REMIT), an MSF-wide research management and impact tool.
- The recruitment of a second qualitative researcher has enabled more work to be done in the area of qualitative and mixed-methods research.
- There is need to develop a structured framework of support for MSF epidemiologists.

### **5.2. GOALS FOR 2019**

- A new framework (Operational Research System) for conducting OR in OCB is to be developed in 2019. It is anticipated that this OR framework will incorporate the minimum criteria to be met in advance of launching new research projects. It will also rationalise the prioritisation and decision-making process during OR implementation.

- Concurrently to working on an OR Framework, LuxOR plans to collaboratively explore the mechanisms and support structures required to establish an OCB research agenda derived from different medical and operational stakeholders.
- Continued measures will be made to move the evidence generated from OR into policy, practice, and/or advocacy.
- Efforts to develop new tools and methods for capacity building, as well as new types of trainings, will continue.
- Further development of the REMIT, introduced in OCB in late 2017, will be explored and further developed during 2019.
- A framework of support will be developed for supporting OR field positions, epidemiologists, and other personnel in the Medical Department.
- The LuxOR Program Officer will be temporarily replaced in early 2019.
- The recruitment of the OCB OR Coordinator will be concluded in 2019.



Health workers, hospital staff, and members of Pakistani health authorities participate in a pilot orientation session on the correct use of labour-inducing drugs. The training was developed based on operational research findings highlighting the severe health risks associated with misused oxytocin for mothers and newborns in Pakistan. © Caroline Hopkinson/MSF

# PAEDIATRIC CARE

23

**705,737**

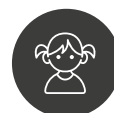
children (aged 0-15) excluding Ambulatory Therapeutic Feeding Centre (ATFC) consultations were seen in general outpatient departments by MSF OCB in 2018 (Number of children treated in OPD)

**28,202**

children exited our inpatient departments (excluding ITFC exits) in MSF OCB projects in 2018 (Number of children treated in IPD)

**7,620**

neonates exited our neonatal wards in MSF OCB projects in 2018 (Number of neonates treated)

**29%**

of patients that had surgical interventions in our surgical projects (Tabarre, Arche, Iraq) were < 15 years (as percentage of total surgical patients)



Children aged 5-15 years accounted for 24% of the patients seen in outpatient clinical consultations and 19% of the patients exiting our inpatient departments (% of patients aged 5-15 years in our projects)

## HIGHLIGHTS OF 2018

- A total of 19 paediatric inpatient departments in nine countries, and 29 projects with outpatient paediatric consultations in 20 countries were operational.
- Neonatal inpatient care was provided in 10 projects in six countries.
- Care for paediatric non-communicable diseases was offered in Mutare, Zimbabwe, Embu, Kenya, Shatila and Akkar, Lebanon.
- Adolescent health programmes were operational in Mbare, Zimbabwe and Banten, Indonesia.
- Where inpatient care occurred for children aged 0-15 in 2018:
  - Inpatient departments (IPD) accounted for 69% of care and 25% of mortalities.
  - Inpatient therapeutic feeding centres (ITFC) accounted for 13% of care and 23% of mortalities.
  - Neonatal wards accounted for 18% of care and 52% of mortalities.

## 1. OVERVIEW

In most MSF OCB projects, paediatric patients are those aged 0-15 years of age. In 2018, care to paediatric patients was provided in many different outpatient settings including general outpatient departments (OPDs), mobile clinics, targeted outpatient treatment programmes such as ambulatory therapeutic feeding centres, surgical, HIV, emergency interventions and malaria clinics. They were also cared for in inpatient settings such as neonatal wards, inpatient paediatric wards, inpatient therapeutic feeding centres, surgical wards, and Ebola and Lassa fever treatment centres.

Children interact with the MSF OCB activities in other ways such as in vaccination campaigns, malnutrition screenings, in non-food item (NFI) distributions, and in migrant health and mental health services.

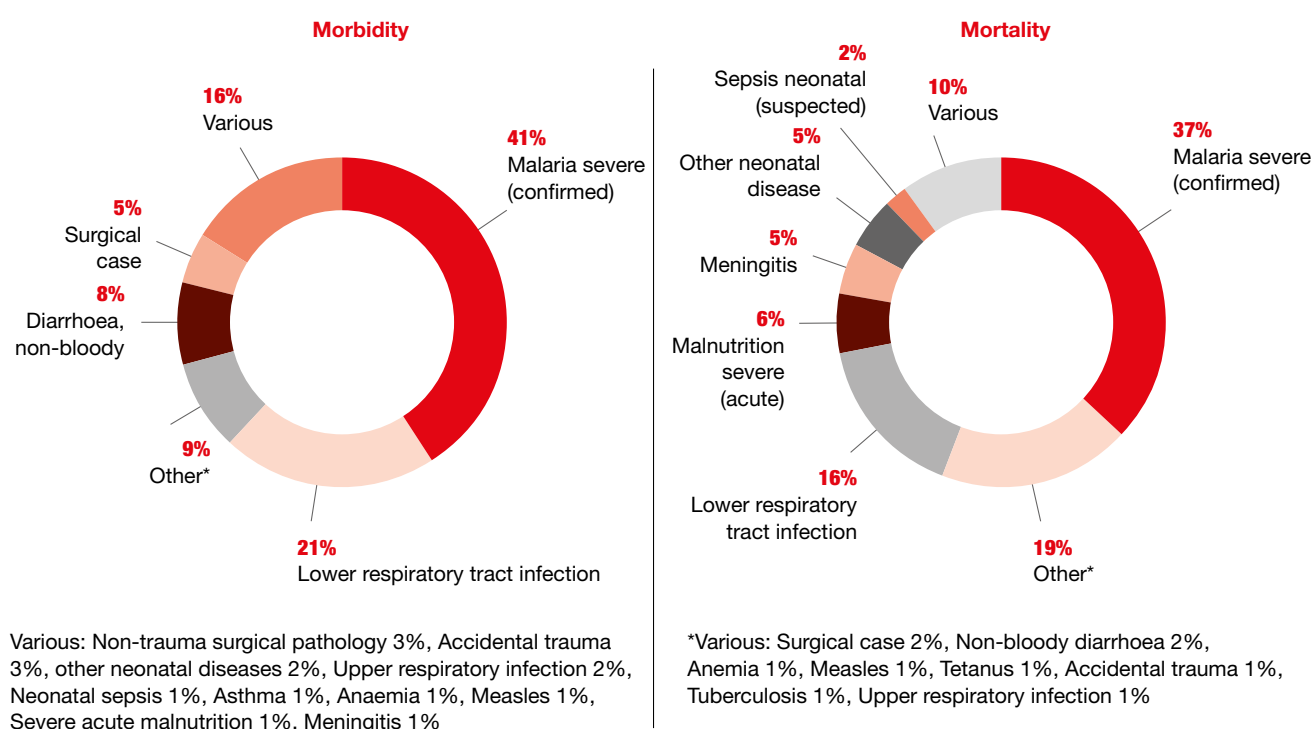
## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. INPATIENT PAEDIATRIC CARE

A total of 28,380 patients were admitted and 28,202 patients were recorded to have exited paediatric inpatient departments (IPD) in 2018 (excluding patients admitted to inpatient therapeutic feeding centres, ITFCs). However, this is an underestimation because eight of the 19 projects with paediatric IPD activities do not collect fully disaggregated data by age group and are unable to report on children aged 5 to <15 years. Of the projects that distinguished between patients who were <5 and those aged 5 to <15 years, 33% of the patients were 5 to <15 years. Paediatric IPDs in sub-Saharan Africa accounted for 69% of all IPD paediatric activity. Masisi and Nyabiondo projects (Democratic Republic of the Congo) had the largest volume IPD activities with 4227 exits accounting for 16% of all IPD activity. Several IPDs also admitted neonates; 658 were discharged from paediatric IPD wards.

The main paediatric morbidities accounting for 95% of the morbidity among patients who exited IPD are detailed in Figure 1. Severe malaria (39% of all diagnoses) was the leading reason for admission for children. In countries where malaria was not endemic, the primary morbidities were surgical conditions, traumatic and non-traumatic, (31%), lower respiratory tract infections (19%), non-bloody diarrhoea (13%), and accidental trauma and neonatal disease (6% each).

**FIGURE 1** Main Morbidities and Causes of Mortality in Paediatric Inpatient Departments, 2018



\* **Other:** Diseases either unspecified or not included in a project's standard morbidity list

There were 416 deaths reported from the 19 projects offering paediatric IPD services. The overall mortality rate in 2018 was 1.5%, virtually unchanged from 2017 (1.6%). The major causes of IPD mortality are shown in Figure 1. Severe malaria continued to be the primary cause of mortality in hospitalized paediatric patients, accounting for 36% of all deaths. Lower respiratory tract infections accounted for 16% while neonatal conditions (including neonatal sepsis) accounted for 8.9% and malnutrition accounted for 6% in IPDs (where there is no designated Inpatient Therapeutic feeding Centre - ITFC unit). Nineteen percent of mortality among hospitalised children was from diseases either unspecified or not included in the standard morbidity list and classified as "other."

Excluding HIV inpatient care, the only project where the mortality rate exceeded the <5% threshold was Kouroussa (Guinea) (5.3%). In this project there was no separate neonatal ward and neonatal diseases accounted for a significant proportion of the inpatient mortality (see Annex for mortality rate per project).

## **2.2. OUTPATIENT PAEDIATRIC CARE**

For outpatient care, children were seen in 29 projects in 20 countries, with a reported total of 705,737 consultations conducted in 2018. Again, due to the limited availability of fully disaggregated paediatric data by age, this was an underestimate of the number of paediatric consultations as total data for 5 to <15 years was not reported. In settings where 5 to <15 year old patients were captured, they accounted for 36% of OPD consultations. A number of clinics provided specific services, including those to paediatric and adolescent populations. Two specialised projects with a focus on adolescent care were operational in Mbare (Zimbabwe) and Banten (Indonesia). Both provided access to Sexual and Reproductive Health (SRH) care, with Indonesia providing additional general health consultations. Paediatric Non-Communicable Diseases (NCD) specialised projects existed in Akkar and Shatila (Lebanon) and Embu (Kenya). Paediatric patients with type 1 diabetes, asthma, epilepsy, hypothyroidism, and hypertension received care at these sites.

The main morbidities seen in OPD were malaria (35.4%), upper respiratory infections (18%), non-bloody diarrhoea (12.6%), lower respiratory tract infections (11.5%), and other diseases (8.9%) (i.e., the cause was not always specified or in the standard morbidity list for the project). In contexts without endemic malaria, similar morbidity patterns were seen with upper respiratory infections being the most common, accounting for 45.1% of consultations, and skin diseases being the fifth most common.

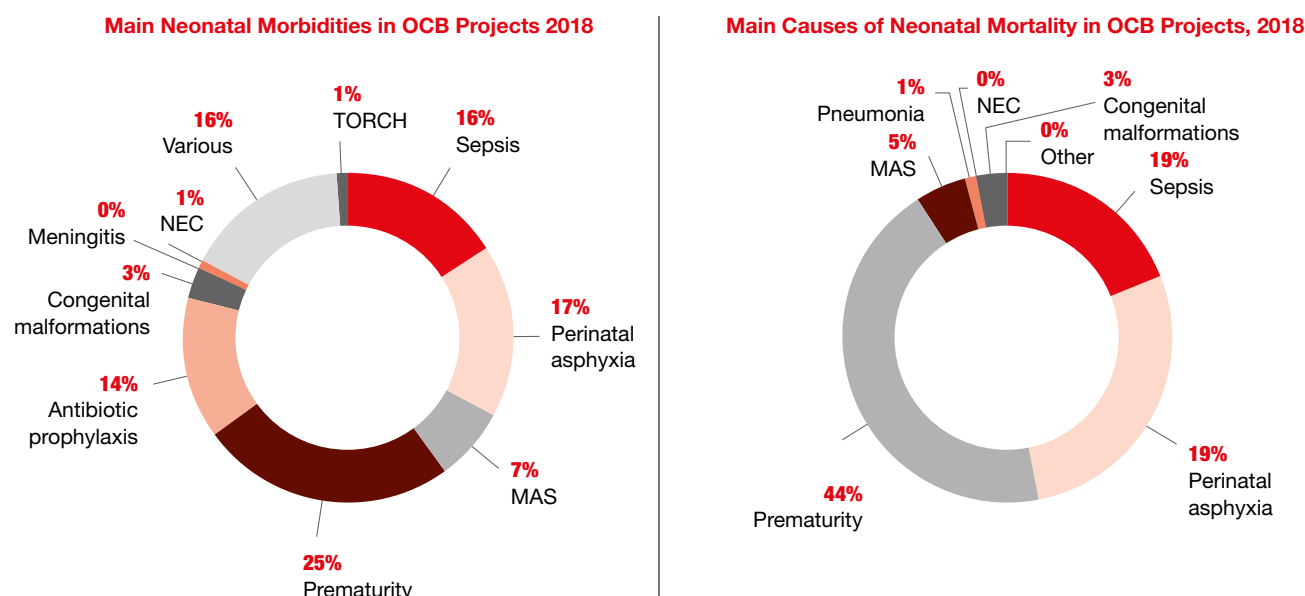
## **2.3. NEONATAL CARE**

During 2018 a total of 7620 neonates exited our newborn units in 10 projects in six countries. The three largest neonatal projects in Timergara (Pakistan) (25%), Khost (Afghanistan) (24%), and Bangui (Central African Republic) (18%) accounted for 67% of the neonatal inpatient care. In Comprehensive Emergency Obstetric and Newborn Centres (CEmONC), we expected that 10-20% of babies born would need special neonatal care. However, in a couple of projects this percentage was < 10%, as in Khost (8.2%) and Ahmat Shah Baba (3.6%), both in Afghanistan. This indicated that babies who needed special neonatal care were being missed or the profile of deliveries in those sites was more similar to that of a Basic Emergency Obstetric and Newborn Centre (BEmONC).

The main morbidities of newborns discharged from neonatal inpatient services are detailed in Figure 2. The main reasons for admission were prematurity (25%), perinatal asphyxia (17%), sepsis (16%), and other neonatal diseases (16%) where the disease was either unspecified or not on the standard morbidity list. Congenital malformations continue to account for a small but significant percentage cases in newborns in our care; our limited capacity means that we should plan for clear referral pathways and partnerships to facilitate the care for these babies in our projects.

Leaving against medical advice (LAMA) rates and referral out rates in 2018 were 5% and 6% respectively, relatively unchanged from 2017 (5% and 7% respectively). Mortality rates ranged from 0.8-18.6% and the overall mortality across all projects was 13% (see Annex for breakdown by country). Ahmat Shah Baba (Afghanistan) had low mortality rates primarily due to the fact that they referred all very low birth weight (VLBW) and sick neonates to another facility. Timergara (Pakistan), Bangassou (Central African Republic), and Pibor (South Sudan) had particularly high mortality rates which can be linked to HR limitations (remote control in the case of Timergara for over six months) in the project. Similar to previous years, prematurity (44%), perinatal asphyxia (28%), and sepsis (19%) were the primary causes of neonatal mortality. Main causes of mortality among neonatal patients are shown in Figure 2.

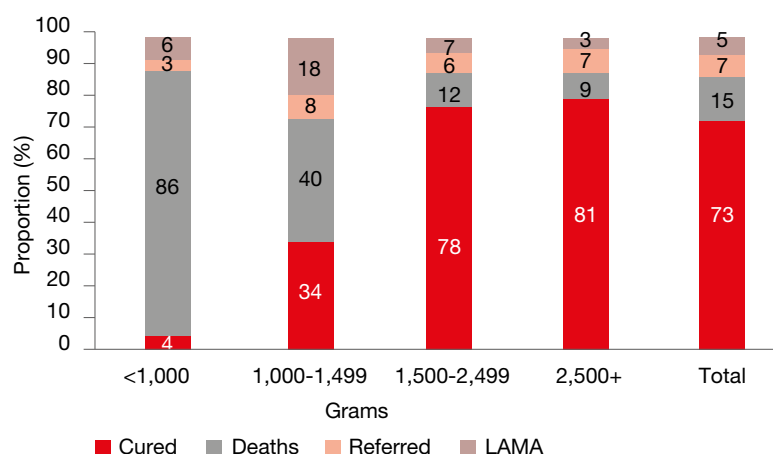


**FIGURE 2** Main Causes of Neonatal Morbidity and Mortality in OCB projects in 2018

\* **Other:** Diseases either unspecified or not included in a project's standard morbidity list

Three projects (Khost - Afghanistan, Timergara - Pakistan, Bangui - CAR) collected data in an individual neonatal database. This data represents 67% of all neonatal patients, and the following is generated from these databases with more information on outcomes stratified by weight and neonatal care provision:

- LAMA rates continued to be high (18%) among very low birth weight infants (VLBW) (1000-1499 g).
- Maximum bed occupancy rate was exceeded for 55% of the year. In Timergara (Pakistan), bed occupancy was > 80% for 11 of 12 months.
- The mortality rates for low birth weight (LBW) (1500 - 2499 g) and VLBW (1000- 1499 g) infants improved in the neonatal projects but increased in the extremely low birth weight (ELBW < 1000 g) babies. However ELBW account for 2.6% of neonates admitted, while babies weighing 1000-2499 g accounted for 38.8% of patients.
- Lower overall mortality rate was linked to higher percentages of favourable outcomes (discharged/referred) for patients with birthweights of 1000-1499 g and 1500-2499 g.
- Higher mortality rates were linked to a higher percentage of ELBW babies with a higher associated mortality.
- Services available in neonatal wards were targeted at improving morbidity and mortality for babies > 1000 g, further medical solutions targeted at ELBW babies e.g., surfactant, incubators, invasive ventilation, and total parenteral nutrition were not available in our projects.

**FIGURE 3** Neonatal outcomes by birthweight in Timergara (Pakistan), Khost (Afghanistan), and Bangui (CAR), 2018

### 3. OTHER ACTIVITIES

A number of paediatric clinical care improvements were made in 2018. Standardised documents for recording paediatric inpatient care were developed. CPAP was successfully piloted in the newborn unit in Khost, Afghanistan. Guidance on the management of common conditions including shock, toxic ingestion, and nutrition in a sick, non-malnourished child were finalised and distributed. A palliative care guidance document was produced and shared with one of our large neonatal projects (Bangui, CAR), and is currently awaiting implementation. Intersectional neonatal guidelines were published and disseminated, which incorporate important new recommendations on early feeding of VLBW infants and vitamin D supplementation. Finally, the complexities of paediatric care were recognised in several projects, and the necessary HR adjustments to meet these needs have been committed to and went into effect at the end of 2018.

A dedicated adolescent referent began working in MSF OCB in 2018 to focus on comprehensive care for adolescents and she has supported projects in Zimbabwe, Indonesia, and Venezuela to address adolescent health care needs.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

#### Neonatal care:

- “Leaving against medical advice” (LAMA) rates continued to be high for VLBW babies (target value < 5%). Better support to mothers in Kangaroo Mother Care (KMC) units and other models of care (e.g., decentralised) should be trialled to reduce these numbers.
- Mortality rates can be significantly improved in babies with LBW and VLBW by prioritising strengthening KMC care.
- Overall mortality rates can be reduced especially in babies >2500g by strengthening neonatal resuscitation in maternities to address deaths due to perinatal asphyxia.
- Stronger collaboration between maternity and neonatal units is needed to adequately anticipate complications of deliveries and identify at-risk and sick newborns.

#### Paediatric care:

- OPD:
  - The quantity of OPD consultations is not indicative of quality. To identify and address gaps in quality of care, indicators should be introduced, especially in larger paediatric OPDs.
  - Significant numbers of >5 to 15 year olds were seen in consultation. More guidance on care for this age group is needed.
  - Several projects reported low but concerning numbers of sexually transmitted infections (STIs) in children <5. Support is needed to appropriately diagnose and manage these cases to address the associated sexual violence and ensure child protection.
- IPD:
  - Improved prevention and better treatment for severe malaria would reduce our inpatient mortality significantly.
  - Neonatal patients admitted in IPD projects accounted for 3.3% of patients but 8.9% of the deaths. More specialised care needs to be provided for them and where possible, designated spaces allocated.
  - More specialised care is needed in projects where malnourished children are admitted to reduce higher mortality among these patients.



- Low numbers of tuberculosis and typhoid cases were reported in paediatric IPDs, which were likely underdiagnosed given localised epidemiologic patterns. Diagnostic and clinical algorithms need strengthening to adequately find and treat children with these diseases.

## 4.2. GOALS FOR 2019

### Overall direction:

- Introduction of the “Child Health Concept” and hub for child health (see Annex) – including defined packages of care for all levels of interventions in our projects.
- Integrate child health reporting to include nutrition and adolescent care (excluding SRH).
- Continue to install standard monitoring systems in all paediatric IPD and neonatal projects and produce quality monitoring tools for paediatric OPD consultations.

### Paediatric care:

- Expand and improve OPD services for all age groups (0-15 years): eCARE, integrated community case management (iCCM), adolescent, and NCD care.
- Neonatal care:
  - Improve monitoring and support for BEmONCs providing care for neonates.
  - KMC reinforcement in neonatal wards.
  - In our largest neonatal units, prioritise the optimisation of space and increase nurse-to-patient ratios to reduce morbidity and mortality.

### Training:

- Compile comprehensive briefing and training package for first-missioners using e-learning tools that exist (OCBA e-paediatrics course) and are in development (OCA VR).
- Paediatric emergency hospital care (PEHC) and neonatal hospital trainings; 1 in HQ – PEHC and 1-2 in the field.

### Innovation/new interventions:

- Expand continuous positive airway pressure (CPAP) use in paediatric units (e.g., Kenema) based on feasibility and field readiness.
- eCARE implementation with associated trainings (Pibor and Kouroussa).
- Use of biomarkers (C reactive protein, procalcitonin, sickle scan, and rapid streptococcal test) in OCB paediatric OPDs and IPDs; research and implementation.

### Special Populations

- Expand guidance on care of NCDs and support projects to expand paediatric NCD care: sickle cell disease, type 1 diabetes, and epilepsy.
- Implement better support for children in migration (through Migration circle) and children with disabilities (in partnership with Handicap International) and referral networks.
- Strengthen prevention of mother-to-child transmission (PMTCT) in collaboration with SRH and SAMU (Bangui and other projects with delivery activities).
- Develop adolescent care guidance document through the adolescent circle.

# PHARMACY UNIT

28.4M  
€Total medical  
expenditures

19

**19**  
field visits by the  
Pharmacy Unit  
in 2018New remote  
temperature control  
device for cold chain  
used in 15 missions**70.5 %**  
medical stocks  
are integrated  
under supply**79**  
full-time field  
pharmacy  
positions

## HIGHLIGHTS OF 2018

- **Support to medical and supply teams continued improving in 2018.**
- **A dynamic tool was developed by the Medical<sup>2</sup> Programme to provide support in creating, maintaining, and validating Medical Standard Lists.**
- **Collaborated closely with the Supply Chain and Logistic departments to maintain a holistic approach for quality assurance within transportation and storage of medical products.**
- **Unifield deployment and medical stock integration process under the Supply department were carried on in 2018.**
- **Good Pharmacy Practices implementation visits were conducted to 7 missions, and evaluations of local pharmaceutical markets were done intersectionally in 14 countries.**

## 1. OVERVIEW

2018 was marked by emergency responses to Democratic Republic of Congo (DRC -Ebola), Bangladesh, and Nicaragua, with good collaboration between the Pharma Unit and E-pool. Ongoing support on quality assurance of medical products was provided to all OCB Missions, with attention to the importation constraints seen in Nigeria, Pakistan, Bangladesh, Bolivia, and Ukraine. Support to the medical and supply teams on quality monitoring, **rational medical procurement**, and data quality continued improving in 2018.

In 2018, a dynamic tool was developed by the Medical<sup>2</sup> Programme to provide support in creating, maintaining, and validating Medical Standard Lists. It is one of the key elements of **strategic medicines management** resulting in the safe, efficient, rational (optimal), and cost-effective use of medicines and medical supplies, and thus quality of patient care. Related medically relevant processes and system incoherencies in the area of purchase ordering and stock management were concomitantly addressed to increase transparency and efficiency by streamlining the above.

The close collaboration with the Supply Chain and Logistic departments remained a fundamental feature in order to maintain a holistic approach for quality assurance within **transportation and**

**storage of medical products.** A contribution was provided for the design of the medical stocks of Freetown, Kenema, Bangui, and Kunduz. Unifield deployment and medical stock integration process under the Supply department were carried on in 2018.

This was also a year of forging ahead and making progress in terms of **implementing Good Pharmacy Practice (GPP)** at end-user pharmacy level in OCB projects, with implementation visits to seven countries, as well as a strong and continuing communication of the GPP message to the field through a variety of platforms including countless briefings, training sessions, and even an update newsletter.

## 2. MAIN PHARMACY ACTIVITIES

### 2.1. THE MSF QUALITY ASSURANCE SCHEME

#### 2.1.1. Identification and validation of drug sources

**TABLE 1** Number of drug dossiers approved (2011-2018)

Validation route	Drug dossiers approved						
	2012	2013	2014	2015	2016	2017	2018
MSF full product assessment *	15	11	14	9	11	6	14
Declaration of equivalence (DoE)	-	11	23	26	26	48	48
Medical Director Waiver**	2	4	1	1	3	4	4
WHO pre-qualification	48	62	53	35	41	53	48

\* In addition, 3 variations were assessed

\*\* Exceptional approval based on risk/benefit analysis. There have been no new approvals, and four have been extended.

- Nine product dossiers were monitored, as part of the MSF Quality Assurance Scheme
- Three spontaneous variations were submitted by the manufacturer and assessed
- MSF International conducted 11 GMP audits of manufacturers, for a wide range of medicines

#### 2.1.2. Alerts on quality and batch recalls

Reports on quality are followed by OCB Supply Centre, MSF Supply, and by the MSF International Office.

- Number of claims received by MSF Supply: 221 (0.9 % increase compared to 2017)
- No batch recalls in 2018

**TABLE 2** Number of quality-related communications issued by MSF Supply (2012-2018)

Quality related communications	Number of communications						
	2012	2013	2014	2015	2016	2017	2018
Quality alert	7	3	4	5	6	8	3
Batch recall	2	3	2	3	3	1	0
Total	9	6	6	8	9	9	3

**TABLE 3** Quality related problems reported by the MSF International Office (2013-2018)

Year	Total number of quality problems reported	International Procurement source	Local Procurement source
2013	27	20	7
2014	15	11	4
2015	18	14	4
2016	19	18	1

2017	14	8*	6
2018	15	10	5

## 2.2. MEDICAL PROCUREMENT

### 2.2.1. MSF expenditure

The total medical expenditure for OCB for medicines, vaccines, small medical supplies, medical equipment and kits in 2018 was 28.4M€, of which 23.4M€ were procured through MSF Supply. This amount represents approximately 4M€ less than in 2017 (Table 5).

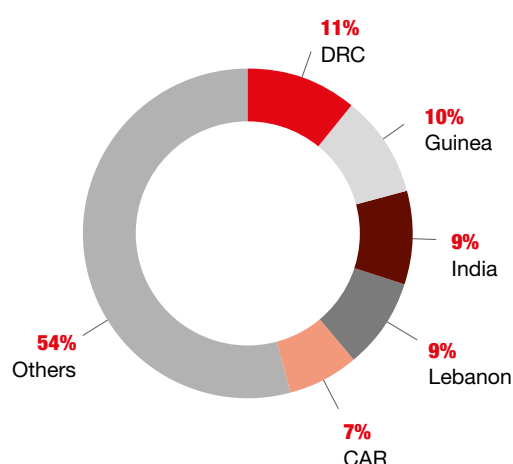
**TABLE 4** OCB Total Medical Expenditures 2013-2018

Medical items	OCB Total Medical Expenditure (M€)					
	2013	2014	2015	2016	2017	2018
Medicines	15.5	13.7	22.5	14.9	18.8	14.8
Vaccines	1.0	0.7	1.1	1.6	1.5	1.2
Therapeutic food	-	-	-	0.9	0.8	0.9
Small medical supplies	4.9	9.6	6.8	5.2	6.9	6.5
Medical equipment	2.3	2.4	3.3	2.6	3.9	4.2
Medical kits	1.8	2.2	1.3	1.1	0.9	0.8
Total	25.5	28.6	35.0	25.4	32.1	28.4

Expenditure on medicines: five missions out of 35 represent approximately 50% of the total value (Figure 1).

Twenty-three items on the medical procurement list were responsible for 20% of the total expenditure of MSF Supply OCB medical turnover (28 M€). Among others, these 23 items include eight anti-infective medicines (two antivirals, one cytotoxic antibacterial, two antimalarials, two antimycobacterials, and one antifungal), four diagnostic tests (malaria and TB), two immunoglobulins, and therapeutic food. Among the top 23 items there were alcohol-based hand rub solution; detergent/disinfectant; examination gloves; Personal Protective Equipment; biomedical equipment; chloroquine (still the first line treatment for P. Vivax malaria in most countries outside Africa; supplied to Venezuela, Pakistan, Afghanistan); and mifepristone (for termination of pregnancy).

**FIGURE 1** Top five missions in terms of medicine procurement expenditures in 2018



**TABLE 5** Top 23 items responsible for 20% of the 28M€ MSF Supply medical turnover in 2018

Description	Expenditure (€)	% of Tot turnover (28M€)
RUTF peanut paste, 92 g	621,969	2.22
Hydro-alcoholic solution, 500 ml, fl.	449,970.69	1.60
TDF 300 mg / 3TC 300 mg / EFV 600 mg, tab.	331,040.39	1.18
Human anti-D immunoglobulin, 300µg, syringe	327,132.94	1.17
GeneXpert MTB/RIF test, cartridge, CGXMTB/RIF-50	315,594.18	1.13

Human anti-tetanus immunoglobulin, 250 UI/ml, syringe	310,281.71	1.11
Delamanid, 50 mg, tab., blister	306,878.72	1.09
Artesunate 60 mg, powder, fl +NaHCO <sub>3</sub> 5% 1ml +NaCl 0.9% 5ml	244,290.87	0.87
LPV 200 mg / r 50 mg, tab.	219,921.75	0.78
Pegylated liposomal HCl Doxorubicin, 2 mg/ml, 10 ml fl.	213,637.53	0.76
HRP-2 malaria test (SD Bioline), whole blood, 1 test 05FK50	210,881.78	0.75
Surface detergent/disinfectant, 2 L container + dosing pump	203,708.01	0.73
Ortho traction system ORT5000C, for Surginox operating table	196,216.20	0.70
Malaria test HRP-2 P.f; pLDH P.v; (SD BIOLINE)05FK80, s.t,	193,245.10	0.69
Coveralls, without hood, XL (Tychem QC 125T)	189,052.18	0.67
Multi-parametric monitor (Procare B40)+ accessories, 230V	187,596.39	0.67
Mifepristone, 200 mg, tab.	183,638.64	0.65
Medium non-sterile latex exam gloves, u.u.	179,789.85	0.64
INH 300mg/ pyridoxine 25mg/ SMX 800mg / TMP 160mg,tab.	173,422.89	0.62
Chloroquine, 155 mg base, (250 mg phosphate), tab.	173,133.49	0.62
Ringer's lactate solution, 1 L, flexible pouch without PVC	166,958.47	0.60
Liposomal amphotericin B complex, 50 mg, powder, fl.	158,518.53	0.57
Malaria test pLDH -PAN, st, 1 test (CareStart RMNM-02571)	154,067.33	0.55

### 2.2.2. Local pharmaceutical markets

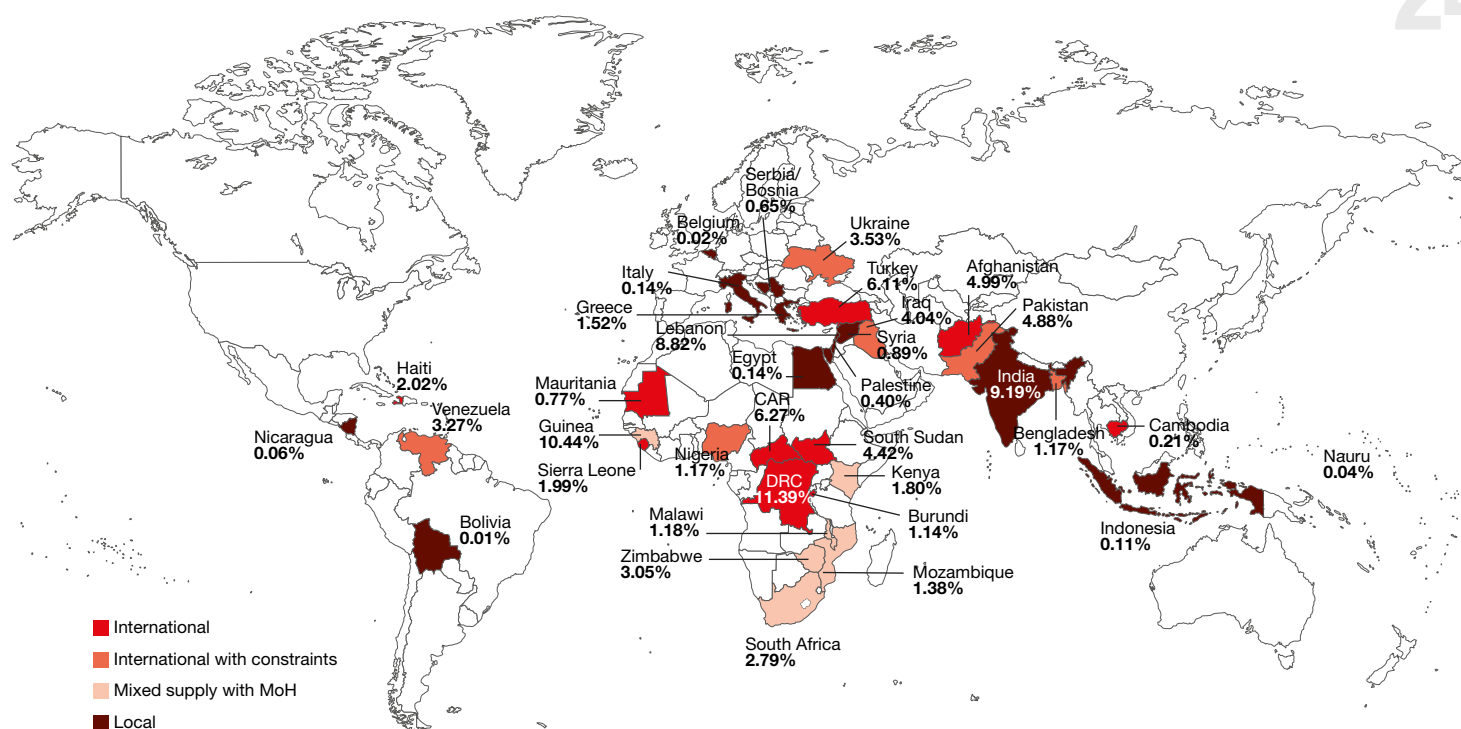
During 2018, evaluations of local pharmaceutical markets were conducted in 14 countries. Approval outcomes are shown in Table 6. Pharmaceutical market evaluations reflected the need for local procurement in countries where MSF either cannot import medicines or faces importation constraints. Levels of reporting for local procurement continued to increase, but remained sub-optimal in some countries. The risk/benefit evaluation of both local procurement and final approval often rely on scarce evidence and information.

**TABLE 6** Evaluation of local pharmaceutical markets (2010-2018)

Year	Number of manufacturers approved	Number of wholesalers approved	Number of countries evaluated
2010	5	28	14
2011	6	11	9
2012	14	69	12
2013	31	66	8
2014	9	55	9
2015	7	106	14
2016	13	115	20
2017	13	127	14
2018	9	119	14

Regarding medical procurement systems, 25 out of 35 missions did not 100% follow MSF's primary procurement option - importation from MSF Supply Centres. Thirteen missions relied solely on the local market for their medical procurement, six received part of their medicines from the public distribution flow and part from international procurement, while the remaining five faced difficult importation regulations, leading to sporadic local purchases (Figure 2).

**FIGURE 2** Medicine procurement typologies in OCB missions, 2018



% indicate the amount spent per country on medicines procurement as proportion of the total OCB expenditure in medicines

### 2.2.3. Country regulations and importation challenges

MSF is confronted with constant changes in country policies and regulations, which affect the operations, to different extents. The tightening up of individual country regulations regarding importation does not necessarily mean an increase in stringency of the National Drug Authority as it can be sometimes motivated by the economic pressure of local companies. Apart from the usual countries with importation challenges such as Pakistan, Ukraine, and Turkey (for Syria), Nigeria joined the list in 2018 and posed the main challenge for OCB.

Another increasing concern, this time at Supply Centre level, was the supplier constraints such as embargoes or linked to product registration in destination country, but also the need to respect the legal requirements for importation under humanitarian exemptions. Those challenges affected the timely response to the field.

## 2.3. GOOD DISTRIBUTION PRACTICES (GDP) AND COLD CHAIN

The compliance to good distribution practices is nowadays perceived by medical, supply chain, and logistic staff as a fundamental prerequisite for the quality of the therapies provided to patients. Main requisites are: training, field visits (Iraq for 2018), second-line support, research and development and interdepartmental communication.

Emergency support (first-line) has been provided for the Ebola intervention in DRC in Mbandaka for the management of the rVSV-ZEBOV vaccine and the ZMapp treatment in the clinical trial frame. Second-line support has been provided for the setup of measles campaign targeting 80,000 in Kouroussa (Guinea). Second-line support was also provided to finalise the layout of the medical warehouses for the new hospitals of Kenema and Kunduz.

The remote temperature control for cold chain (Blulog), specifically developed by OCB, is now a reality in about 15 missions and became a tool used by all the other OCs. Thanks to the device, several cold chain breakdowns have been prevented, avoiding critical ruptures.



A new tool to provide thermal insulation for inland transportation of pharmaceuticals has been successfully tested in Afghanistan and will likely become standard and available for the other missions, starting in 2019.

## 2.4. MEDICAL STOCK MANAGEMENT

- Six additional medical stocks were integrated within the year bringing to a total of 43 representing 70.5% coverage. In 2019, integration is planned for 15 stocks, leaving eight still under question. Unifield (UF) is the major management tool utilised (in 54 stocks) with a coverage of 74%. By the end of 2019, all medical stocks should operate with UF (19 more).
- The medical report template and working instructions in Unifield were revised to be more “user-friendly” and to optimise inventory analysis and decision-making on pre-rupture, soon-expiries, overstock, and sleeping stock.
- Rules put in Unifield to specify the follow-up of an article by batch number and expiry dates do not match the reality, with the consequence that several items cannot be followed by expiry date in the system. Correcting the item status is extremely difficult; a parallel follow-up in an Excel file is necessary.
- Two papers on “Good Medical Stock Management Practices” and “Medical Stock Management Policy” as well as the “Management package tool to start a stock management in an integrated way from the start” could not be completed.
- Due to serious bugs, version 4 of Isystock could not be deployed.

## 2.5. GOOD PHARMACY PRACTICES (GPP) IN END-USER PHARMACIES

2018 marked the first full year of concerted implementation of GPP at field level after the GPP MIO started midway through 2017. So far, we have been seeing that in the majority of cases, implementation continued to be followed up many months after field visits and goals continued to be worked on and achieved by multidisciplinary project teams led by project pharmacists. Thanks to the model put in place, we also had good visibility of countries that have been working on GPP and their progress so far. This year also saw the continuing development of what is now quite a comprehensive GPP toolbox to support field pharmacists in this area.

During 2018, GPP implementation visits were made to support seven missions: Turkey, Guinea, Malawi, Pakistan, Burundi, Nigeria, and Lebanon. In addition, a lengthy visit was made to DRC to make a full analysis of pharmacy management in the mission.

Thanks to strong collaboration with the Patient Documentation Circle during 2018, a new standardised format for the inpatient medication chart and fluids chart was also developed, along with a user guide to assist with training field teams.

## 2.6. STRATEGIC MEDICINES MANAGEMENT

Strategic medicines management (influencing the availability and use of medicines at an organisational level) and operational medicines management (the prescription, use, and administration of medicines at an individual patient level) are imperative to guide the safe, efficient, rational (optimal), and cost-effective use of medicines and medical supplies, and thus quality of patient care.

Some of the key elements of strategic medicines management are entry of new medicines, medical standard lists, use of guidelines and treatment protocols, and monitoring and feedback on medicine use. These systems help ensure that medicines and medical supplies are used well and attempt to achieve both optimal health outcomes and rational use of resources.

In 2017, the Medical<sup>2</sup> Programme was initiated covering four projects concentrating on better management of medical products in the field. Early in 2018, the Medical Standard List project started to develop a dynamic tool to provide support in creating, maintaining and validating Medical Standard Lists, based on local clinical

needs and level of care. The tool was built as a module in Unidata (MSF Central Database) for all five Operational Centres, and will be accessible to staff in the field and in HQ from mid-2019 onwards. The Programme also proves to be a strong catalyser to tackle medically relevant system- and process incoherencies and inefficiencies in purchase ordering and stock management.

A process and tool was also developed to measure and express quantities of antibiotics used through use of a standardized measuring system: the Defined Daily Doses (DDD) Methodology. This methodology is useful for monitoring trends of antibiotic use over time, between locations, and after improvement interventions, thereby identifying areas for further investigation and quality improvement methods.

### 3. OTHER ACTIVITIES

#### 3.1. PHARMA UNIT

All referents and MIO positions in the Pharma Unit were maintained for 2019. In 2018, a Pharma MIO joined the Operations Department, under the Hospital Management Unit, focusing on the vertical implementation of pharmacy management practices in selected OCB Hospitals.

#### 3.2. FIELD PHARMACY POSITIONS

During 2018, there were a total of 79 full time field pharmacy positions across OCB missions (8% more than 2017), of which 73 were held by qualified pharmacists (92%, or 2% higher than for 2017). These included two emergency positions to support the Rohingya crisis in Bangladesh, as well as three temporary support/coaching positions. The coverage of expatriate posts across all OCB missions in 2018 was 98% for Mission Pharmacy Managers and 93% for other pharmacy positions. During 2018 there were 36 expatriate departures to cover 30 positions (compared to 51 departures to cover 29 positions during 2017. This change reflects longer postings and fewer emergency positions). Of the expatriate departures in 2018, 25% were first mission.

#### 3.3. TRAINING

The annual pharmacy training sessions continued to be conducted in 2018 with a very strong following. They consisted of full intersectional training such as the *Pharmacy and Medical Stock Management (PMSM)* course and the more advanced *Pharmacy Training* (this year hosted by OCBA), as well as pharmacy modules included as a component of many more transversal trainings such as the *First Line Medical Training (FLMT)*, *Basic Logistics Course (BLoC)*, *Hospital Management Team Training (HMMT)*, *Supply Management Training (SMT)*, and the first mission *Preparation for Departure (PPD)* (supply and pharmacy profiles). Pharmacy modules were also included in new training such as the *Project Medical Management Training (PMMT)*.

### 4. LOOKING BACK AND AHEAD

#### 4.1. LESSONS LEARNED IN 2018

- There is a great amount of work to be done in terms of improving GPP at the end-user level, but awareness of the GPP policy and protocol is spreading more and more.
- 2018 continued the increasing trend of a strong uptake from the field in terms of following procedures for quality assurance of medical devices.
- Lack of compliance to pharmaceutical regulations might turn into a consistent operational constraint. The migration activities around the European Union present a pharmaceutical complexity never met before in other continents where MSF has worked.
- Individual country constraints on pharmaceutical importation have been coupled with increasing suppliers' constraints reported by the Supply Centres.

- The deployment of field pharmacists is not just a matter of quality assurance but also a method to guarantee the effective deployment of financial resources and avoid losses.
- A proper ordering and forecasting tool for medical products is still lacking. Financial resources to ensure strategic planning alignment with project objectives and required medicines are needed for the year ahead.
- A holistic approach is required, involving many different stakeholders to tackle medically relevant process and system incoherencies related to purchase ordering and stock management.

## 4.2. GOALS FOR 2019

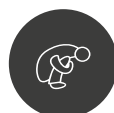
- Reinforce the interdepartmental (Medical, Supply Chain, and Logistic) collaboration and communication on pharmaceutical related issues.
- Continue collaboration with the international office and other sections on harmonisation of pharmacy related policies.
- Provide ongoing field support on local market assessments, with increasing attention to local manufacturers.
- As we continue to implement GPP in new locations, in 2019 we also plan some follow-up visits to projects where GPP has been previously implemented to assess the degree of sustainability and learn how we might improve this in the future.
- Plan a concerted focus on Good Dispensing Practices.
- Produce the first MSF guidelines for Good Distribution Practices.
- Continue integration process and Unifield deployment and promotion of new Unifield medical report use.
- Write a paper on “Good Medical Stock Management Practices” and “Medical Stock Management Policy” with completion of stock management package tool.
- Deploy four Isystock medical stocks not covered by the Supply.
- Problem-solve the batch number follow-up issue in Unifield as an alternative to the creation of a formal parallel follow-up tool.
- Start the Forecasting Support Project under the umbrella of the Med<sup>2</sup> Programme, aiming to improve forecast processes and performance for medical staff in the field, supporting more accurate quantification of medical needs.



Pharmacy of Tal Marak hospital in Zummar, north of Mosul, where MSF runs a maternity clinic, an emergency room and a paediatric inpatient department.  
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# SEXUAL & REPRODUCTIVE HEALTH

25

**90,154**deliveries  
performed**33%**increase in Family  
Planning consultations**6865**Sexual Violence  
victims treated**6473**women screened for  
cervical cancer in the  
Gutu project

## HIGHLIGHTS OF 2018

- 90,154 deliveries and 7,166 Caesarean sections (CS) performed.
- 33% increase in Family Planning (FP) consultations (n=92,627).
- 6590 abortions provided and 917 women referred, a total of 7507, representing a threefold increase from previous years.
  - 88% of the abortions were provided by MSF teams.
  - Medication abortion (MA) was first choice for all Terminations of Pregnancy (TOP).
  - Only 6% of TOP complications reported (n=259) in 12 projects.
  - FP provision post TOP: FP acceptance rates above 90% in four projects.
- 6865 Sexual Violence (SV) victims treated, representing a 33% increase.
- 6473 women screened for cervical cancer in the Gutu project in Zimbabwe with approximately 31% HIV positivity rate.
- Implementation and integration of Prevention of Mother-to-Child Transmission (PMTCT) across the cascade of care and prevention for women and exposed babies in projects with comprehensive Sexual and Reproductive Health (SRH) components was still lacking.
- Linkage to HIV care for HIV+ women in Antenatal Care (ANC) needs to be strengthened in certain projects.

## 1. OVERVIEW

The volume of SRH activities increased in 2018, despite the total number of projects providing Emergency Obstetric Care (EmOC) decreasing. The number of deliveries and Caesarean sections (CS) performed increased by 10% and 35% respectively, Post Natal Care consultations (PNC) by 10%, FP consultations by 33%; only Antenatal Care consultations (ANC) decreased by 20%. The total number of women requesting TOP increased threefold from 2017 (from 2,431 to 7,507). In total, MSF provided 6590 abortions and referred another 917 women for Safe Abortion Care (SAC). Services

which provided care to victims of Sexual Violence (SV) experienced a 33% increase with 6865 SV victims treated; the majority (96%) of these consultations took place in six projects. The Gutu project in Zimbabwe screened 6473 women for cervical cancer, representing a 38% increase compared to 2017, with a 31% HIV positivity rate, a similar trend compared to 2017. A total of nine projects reported doing PMTCT activities but only four of them reported PMTCT indicators. Currently, use of indicators is implemented mainly in HIV projects that have an integrated PMTCT component, and not in projects with a comprehensive SRH component that are testing for HIV. In Central African Republic (CAR), more than 50% of the HIV+ women delivered without being on ART, highlighting the limitations for access to HIV care in ANC for those women.

## **2. MAIN PROGRAMME ACTIVITIES**

### **2.1. ANTENATAL CARE**

Nineteen projects offered ANC in 2018 including two new projects: Jamtoli (Bangladesh) and the adolescent project in Banten (Indonesia); four ANC projects closed during the year. The total number of projects offering ANC decreased from 21 to 20 and the total ANC consultations decreased by 20% (166,089 in 2017 to 135,338 in 2018). Projects which saw an increase in ANC consultations included Shatila (Lebanon), Kabul (Afghanistan), Lesvos (Greece), Gora Mende (Sierra Leone), Port à Piment (Haiti), Doro and Yei (South Sudan).

#### **Malaria screening and treatment**

Twelve of the 19 ANC projects reported malaria screening data with a wide range of coverage (1-100%). Projects in Doro and Pibor (South Sudan), Chhattisgarh (Pakistan), Port à Piment (Haiti), and Bangassou (CAR) reported the highest screening coverages (>85%). As in previous years, malaria screening coverage in Masisi (DRC) continued to increase (56% in 2017 to 86% in 2018). Bangassou project reported the highest malaria positivity rate (39%), followed by Gorama Mende (31%), Yei (23%), Pibor (12%), Chhattisgarh (13%), and Masisi (11%).

#### **Syphilis screening**

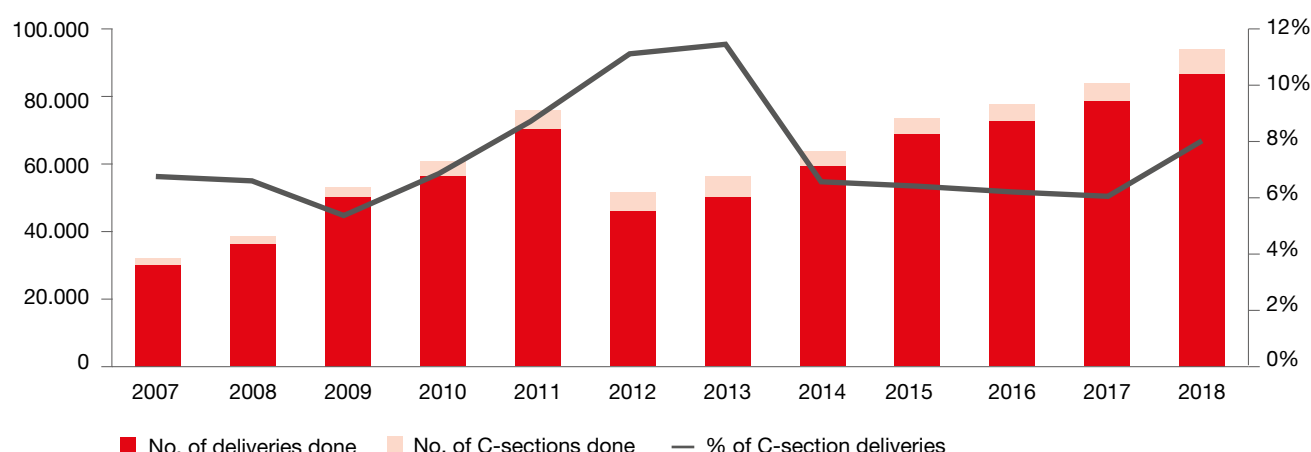
Of the 15 projects which reported syphilis screening data, the majority (n=6) reported high screening coverage (>90%). Syphilis positivity rates varied between projects (1 – 5%) with a small decrease compared to 2017. Projects which reported high positivity included Port à Piment (3%), Bassikounou (Mauritania), and Yei (South Sudan) (both 5%).

### **2.2. OBSTETRICS**

The number of projects performing deliveries decreased from 18 projects in 2017 to 16 in 2018. There were 90,154 deliveries performed in the 16 projects. Both Khost and ASB maternities in Afghanistan continued to have the largest volumes. Together with Timergara in Pakistan (up 35%), and Castor and Gbaya Dombia in CAR (>1000 deliveries), these five maternities were responsible for 75% of OCB delivery volume.

The overall volume of Caesarean sections (CS) increased by 43% from 5018 to 7166. Most CS were performed in Timergara (1954, +22%) and the three hospitals in Syria/Turkey (1170), followed by more than 900 CS in each project in SSR Bangui, Masisi, and Syria/Lebanon.

Projects which increased their volume of deliveries were: Port à Piment, Doro, Pibor, Qunaya, Salqin Bernas (Syria), and Gorama Mende Wandor. A decrease of activities was seen in the South Beirut project in Lebanon. There, delivery services moved from the urban slum location in Shatila to the Rafik Hariri University Hospital in Beirut. MSF implemented a midwifery-led birthing centre, which interested the Ministry of Health (MoH), given the high CS rates at country level (47%). MSF was challenged to illustrate that such a model can work in a highly medicalised obstetric health care system.

**FIGURE 1** Trend in number of deliveries and Caesarean sections performed, 2007-2018

### Maternal outcomes

In 2018, 51 maternal deaths were reported by 16 projects. The highest numbers per project came from those with the highest case volume (with the exception of ASB in Kabul). Castor's maternity was the highest with 32 maternal deaths; however, in 2018 there was a very large increase of women with severe complications from abortion. When a maternity facility demonstrates a high proportion of direct obstetrical complications (DOC) out of total deliveries, it indicates that patients are arriving with severe obstetrical morbidities. SSR Bangui (37%, from 30% last year) and Timergara (24%) had the highest DOC rates. In 2018, Masisi and Syria/Turkey support also reported high rates (18% and 32% respectively).

### Neonatal outcomes

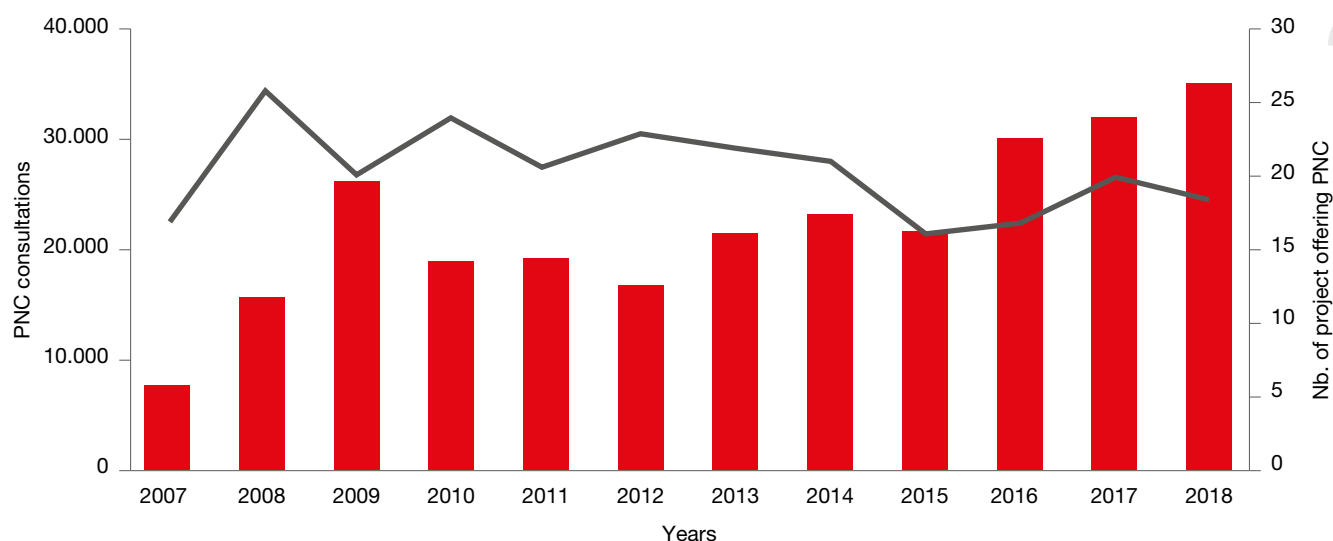
High stillborn rates were observed in Timergara (7%), Bangassou (6%), Khost (4%), and SSR Bangui (3%). All other projects reported between one and 2% stillbirths. Considering stillbirths with foetal heart rate positive on admission, the proportion was at 6% (Timergara), 3% (Khost), 2% (Bangui SSR), and 1.5% (Bangassou). This demonstrates that the vast majority (>93%) of stillbirths occur before women present to the maternity ward, due to "delays in deciding to seek care and delays in reaching care."

## 2.3. POSTNATAL CARE

Despite a small decrease in the number of projects offering PNC (from 20 in 2017 to 19 in 2018), the overall total of PNC consultations increased by 10% (Figure 2). In 2018, seven projects (Bassikounou, Kabul, Shatila, Doro, Gorama Mende, Port à Piment, and Masisi) had a yearly reporting >1000 PNC and were responsible for 90% (n=35,861) of the total volume of consultations.

Similar to 2017, the Masisi project reported the highest volume of PNC consultations. The Khayelitsha project in South Africa offered PNC at 10 weeks post-delivery for HIV-positive mothers and their babies. In 2018, 198 new mother-infant pairs were enrolled in the postnatal clubs. The Gorama Mende project presented a first full year of activities with an almost threefold increase (from 503 to 1521) in cases. Other projects that presented an increase of activities were: Syria support from Lebanon, Lesvos, Grand Bangui, Bangassou, Doro, and Port à Piment.



**FIGURE 2** Total number of postnatal care consultations and number of projects offering (2007-2018)

## 2.4. ABORTION CARE

In 2018, a total of 19 projects provided TOP or facilitated access through referral. With the exception of the Afghanistan, Pakistan, Syria, and Bangassou sites, all maternity projects provided TOP upon request. Projects without a maternity providing TOP were mainly focusing on Reproductive Health (RH) Outpatient Department (OPD) care in Beira, Tete, to Malawi corridor and Serbia projects, or SV activities combined with RH activities, Kananga, Maadi, Mbare, and Rustenburg.

In total, MSF provided 6590 abortions and referred another 917 women (total - 7507), representing a threefold increase. Women from all age categories demanded TOP, and in four of six projects the majority of demands were by adults. Only in Masisi and Maadi were the percentages of adolescents higher, at 67% and 62% respectively. Second trimester abortions represented only 5.3% of the overall total provided by MSF (compared to 14% last year). Similar to last year, MSF provided more TOP (88%) compared to those referred.

In 2018, OCB largely made the switch to Medication Abortion (MA) as first choice for all TOP. Since MSF provided TOP in countries with some legal restrictions, being able to provide MA offered more confidentiality and easier choices for women.

There were only 6% complications of TOP reported (n=259), with the most frequent being incomplete abortion and continuing pregnancy.

In 2018, MSF started providing Family Planning (FP) on the day of starting MA, instead of at the follow-up consultation. Fourteen out of the 19 projects reported FP activities post TOP. Four of them had FP acceptance rates above 90%; with the most challenged being Lesvos and Maadi, with 11% and 0% provision.

Overall, the SSR Bangui project had the highest case load, representing 59% of all TOP provided in MSF. The service was well known by the population and the demand was overwhelming and challenging to manage by the teams. From the documented 5057 demands, 3889 women (77%) were provided a safe abortion, an almost threefold increase from last year. Never before had an MSF project managed such a high case load and this represented impressive work and life-saving care provided by the teams.

The Malawi corridor project referred all first trimester pregnancies for TOP to a partner organisation. Additionally, the project offered second trimester MA, managed by an MSF expat midwife. At the end of 2018, the project started a training programme for community based provision of SAC for the peer educators. The start of the community based TOP is planned for early 2019.

The Rustenburg SV project presented a fourfold increase (from 542 in 2017 to 2109 in 2018) of TOP. MSF supported two MoH health centres for the provision of TOP, and second trimester clinical training was provided for doctors working in the target area. Implementation support for first and second trimester TOP was planned for seven health centres.

The South Beirut project referred 352 cases to a local partner, representing only 54% response to the documented demand. This situation is pushing our partner and MSF to re-think strategy towards a “lighter” approach.

### Post-abortion care

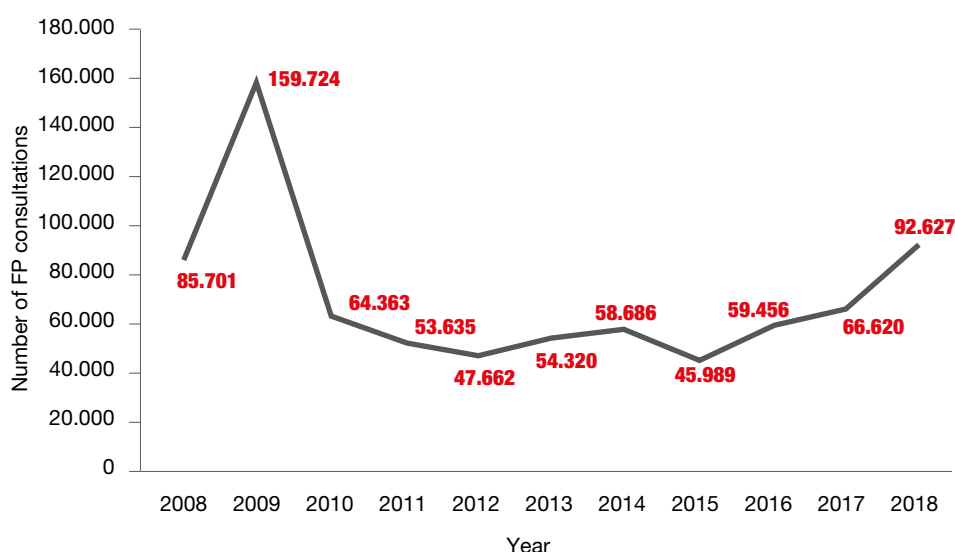
In 2018, a total of 15 projects provided post-abortion care (PAC) to a total of 7369 women and girls, a 10% decrease compared to last year. Projects which reduced the total of PAC consultations due to closure or suspension of activities were: Bassikounou (-66%) and Bangassou (-37%). Other important reductions were seen in Pibor (-83%) and SSR Bangui (-33%). Although the overall total PAC in Bangui was reduced by one-third, the total number of cases with severe complications increased by 80% (from 707 in 2017 to 1280 in 2018), representing 61% of the overall PAC cases. This was almost the reverse situation of last year where 22% of PAC cases had severe complications. In Masisi, on the contrary, the proportion of PAC cases with severe complications decreased from 26% (n=140) to 12% (n=71).

## 2.5. FAMILY PLANNING

There was an increase of 33% in the number of consultations in 2018 (Figure 3). As per 2017, the CAR mission impressively increased their family planning activities to 26,803, the highest number ever achieved in OCB for one country. The Khost project reported 12,487 FP consultations, the second highest reported in OCB and as in previous years, the Kabul mission presented

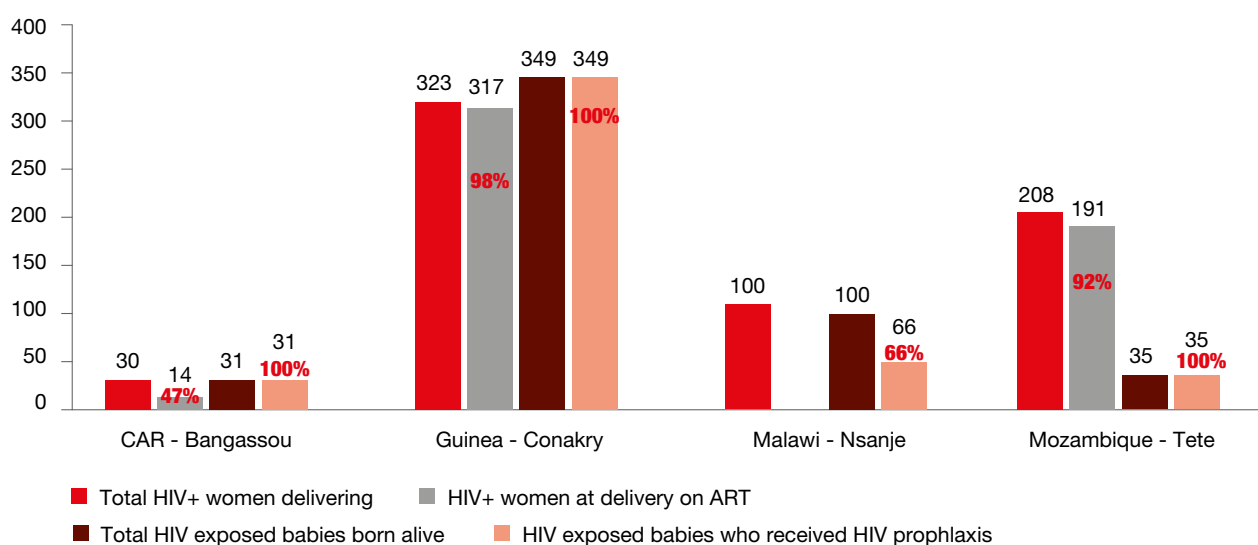
an increase of from 10,729 to 12,417 consultations. Missions that continued to increase their FP activities were: Mbare adolescent (Zimbabwe), Masisi, Doro, Yei, Pibor, and Bassikounou project.

**FIGURE 3** Trend of total family planning consultations (2008-2018)



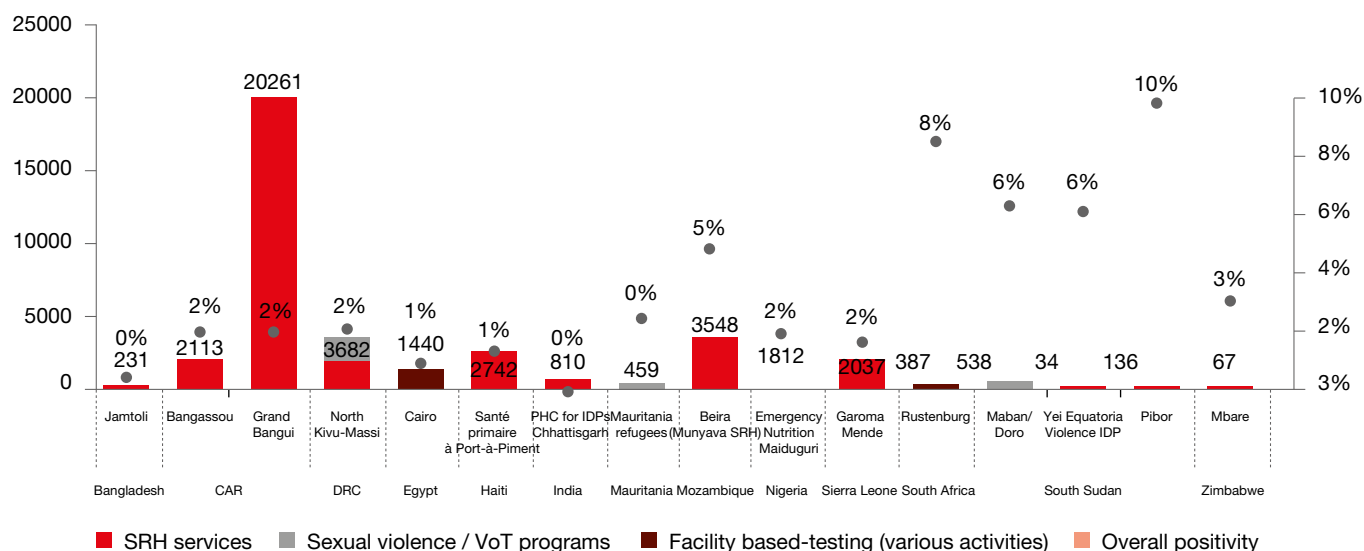
## 2.6. PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV (PMTCT)

A total of nine projects reported PMTCT activities but only four reported PMTCT indicators: Conakry (Guinea), Bangassou (CAR), Nsanje (Malawi), and Tete (Mozambique). This reflected that PMTCT was implemented mainly in HIV projects with an integrated PMTCT and SRH component, and was not yet in projects with a comprehensive SRH component that also perform HIV testing and care. Figure 4 illustrates a cross-sectional analysis of the main PMTCT indicators related to HIV+ women at moment of delivery in those projects, their ART situation, babies born exposed to HIV, and initiation of ART prophylaxis on those babies.

**FIGURE 4** PMTCT indicators in CAR (Bangassou), Guinea (Conakry), Malawi (Nsanje) and Mozambique (Tete)

In CAR, the SRH project in Bangui (Castor) offered HIV testing for women at the moment of admission, gave one month of ART supply in case of HIV+, and initiated enhanced post-exposure prophylaxis for babies born to HIV+ women. HIV-related data has not been reported. In Bangassou, more than 50% of the HIV+ women delivering reported not being on ART. This highlights limitations on access to general and HIV care in ANC for those women.

While HIV testing amongst women in SRH programs is being implemented in several other programmes, data collection did not allow differentiation between testing in ANC or in other SRH components of care such as SV, TOP, or FP. Figure 5 illustrates the number of women tested and identified as HIV+ in projects with those activities.

**FIGURE 5** Women tested for HIV in SRH-related projects and HIV positivity rate.

For 2019, MSF should prioritise documenting follow-up and linkage to care of HIV+ patients identified in those projects, whether they are referred, and the services they accessed for PMTCT.

## 2.7. CERVICAL CANCER

The OCB project in Gutu, Zimbabwe managed to screen 6473 women in 2018 with the VIAC method (Visual Inspection Acetic Acid and Cervicography). In 2018, an increase of 38% was observed (4691 women screened, 1983 were HIV positive). Additionally, 1024 women were screened for the second or third time since start of the project in 2015. The project offers screening currently in six of the 29 rural clinics where antiretroviral treatment is offered.

Screening activities were aimed at women between 25 and 50 years (62% of all women screened), of whom 316 were VIAC positive (4.9%); this was a lower percentage than during the first years of MSF screening. A possible explanation is that women were more likely to be already on ART (ART causes regression of precancerous lesions in some women) and some women were being screened for the second time. Of those screened, 54 patients had findings suspicious of cancer; they were referred for biopsy, surgery, or for radiotherapy.

From March 2018, the Gutu project (Zimbabwe) was offering Loop Electrosurgical Excision Procedure (LEEP) in one of its clinics when previously, women were referred to Harare (Newlands clinic). LEEP was performed for 27 patients and 211 women were treated for precancerous lesions with cryotherapy.

Achievements in 2018 and 2019 future plans:

- The teams managed to increase the number of women screened by 37% compared to 2018 without adding an additional clinic.
- MSF participated in the HPV vaccination campaign with the MoH in May 2018 for girls aged nine to 14 years.
- The GeneXpert HPV study was delayed due to unavailability of the Abbott PCR (the gold standard). Tests were imported from South Africa and the study is now planned to start in April 2019.
- One of the six MSF clinics in Zimbabwe is being handed over to the MoH.

## 2.8. SEXUAL VIOLENCE

Care for victims of Sexual Violence (SV) was offered to 6865 victims in 13 projects. The number of projects which reported SV data significantly decreased compared to last year (from 24 in 2017 to 13 in 2018), while the overall total of SV victims treated increased by 33% (4912 to 6865). The majority of these consultations (96%, 6616) took place in six projects: Kananga (DRC), Maadi (Egypt), Rustenburg (SA), Masisi (DRC), Mbare (Zimbabwe), and Bangui (CAR).

The changes of the past year and increase of SV activities can be summarised as follows:

- The top six projects (>100 SV cases consulted/year) continued to increase their numbers again in 2018.
- The Kananga project showed the largest increase with a fourfold increase of activities (from 648 cases (eight months data) in 2017 to 2671 SV victims).
- The Egypt project continued to increase their activities from 1064 consults in 2017 to 1367 in 2018.
- The Greek project, Moria camp on Lesbos, treated only 45 SV victims in 2018, a reduction of activities compared to 393 SV cases in 2017. As the project faced difficulties to manage all SV cases, the decision was taken to only offer care for SV emergency cases, meaning victims of SV presenting less than 120 hours (five days) after the assault. In 2018 during the SRH advisor visit, it was recommended to re-open the SV criteria up to six months after the assault, as the majority of migrants took a longer time to travel to the Moria camp to seek care. However, the mission decided to remain with the inclusion criteria for SV care of <5 days since other actors also offered SV care, although none offered the full medical package of care.

In the Masisi project, the majority of the victims attended for first (39%, 341), second (34%, 297), and third follow-up visits (27%, 231); none returned for the 4th or 5th follow-up visit. Similar trends were observed in the Mbare and Kananga projects. In order to prevent sexually transmitted infections (STIs) and HIV in pregnancy, it is important that survivors present <72 h after the assault; this occurred in 70% (352) of patients in Masisi, 43% (517) in Mbare, and only 11% (285) in Kananga. All projects presented good results regarding Postexposure Prophylaxis (PEP) initiation: in Masisi 96% (328), 83% (212) in Mbare, and 78% (216) in Kananga of PEP eligible patients started treatment.

## 2.9. FIELD VISITS

- The SRH advisors conducted field visits to Maadi (twice), Kanagna, Lesvos, Castor, Gbaya Ndombia, Kenema, Gorama Mende Wandor, South Beirut project, Akkar (Lebanon), and Port à Piment. The gynaecologist referent visited Khost (twice), Bolivia, Gutu and Mbare, and the OCG project in Mosul (Iraq).
- The Mobile Implementation Officer (MIO) midwife supported the Corridor (Malawi, twice), Beira, Rustenburg, Mbare, and the OCG Chiradzulu project in Malawi.

## 2.10. DEVELOPMENT AND INNOVATION

- The adolescent SRH care guidance was finalised.
- Data collection sheets, Medical Information Network for Operational Support (MINOS) indicators and reports were revised to be in line with the OCB SRH indicators list.

## 2.11. TRAINING

- The SRH course was run twice.
- The Advanced Life Support Obstetrics (ALSO) course was run twice in Denmark, and six times in four countries.
- The SRH OCB team organised two Exploring Values and Attitudes (EVA) Workshops for HQ staff and decentralised courses were organised in eight countries.

## 2.12. CONFERENCES AND PUBLICATIONS

- “Provision of medical, medico-legal and mental health care to victims of sexual violence – the MSF experience” at the Egypt Forensic Medicine Conference.
- “Moving from intention to reality, making safe abortion care available in humanitarian settings” at the FIGO conference in Brazil and at ICFP conference in Kigali.
- “Ebola and pregnancy: management and survival in the 2014-2016 Ebola epidemic” at the London and Swaziland Scientific Days.
- “Universal accessibility of anti-D globulin and sharing of MSF’s experiences” in WHO/FIGO meeting.

## 3. LOOKING BACK AND AHEAD

### 3.1. LESSONS LEARNED IN 2018

- Due to budget restrictions, some projects chose to have a MIO visit but no expat midwife; this could have reduced the impact of the MIO visit, moreover it misses a great opportunity to support the field midwives.

- The SRH OCB team conducted combined visits with the Task Force (TF) on SAC in order to gain experience on field implementation.

### 3.2. GOALS FOR 2019

Field visits planned:

- To core EmONC projects such as Khost, Castor, Masisi, Syria (Turkey), and Lebanon.
- Support to Maiduguri SRH project explo + proposal of new CEmONC project.
- Support to SAC TF in South Sudan missions.
- Zimbabwe to further develop cervical cancer screening and treatment activities
- MIO support visits to Shatila, Castor, Bangassou, Maadi, adolescent project (Indonesia), and Lesvos (Greece).

Training and presentations:

- Organise South African regional EVA workshop + TOP, ALSO Denmark, International SRH course, ALSO field support and SV field-based courses.

Research and data management:

- Access to pregnancy and delivery care and child mortality survey in Sierra Leone, Kenema district.
- Abortion-related Morbidity and Mortality in Conflict-affected settings Study (AMoCo) (Masisi and Castor).
- Understanding the Demand for Termination of Pregnancy in Bangui, Central African Republic: a Qualitative Study (Castor).
- Validation of GeneXpert HPV Testing and Self-Sample Collection for Cervical Cancer Screening in Gutu District, Zimbabwe.
- Implementation of Human Papillomavirus (HPV) Vaccination among HIV-Positive Adolescent Girls and Young Women Aged 15 to 26 years old, in Gutu District, Zimbabwe.
- Jointly with LuxOR, organise the SRH thematic SORT IT course in September.



Baby Alaa was just born at the MSF Birth centre in Rafik Hariri university hospital in Lebanon. Midwife Josianne and Nurse Nagham assisted his mother in the delivery, and both the mother and the baby are in good health. © Severine Sajous/MSF



# SURGICAL CARE

# 26


**12,269**

Total number of new cases<sup>1</sup> admitted and underwent surgery


**19,520**

Total number of surgical interventions<sup>2</sup>


**22,214**

Total number of surgical procedures<sup>3</sup>


**1345 (11%)**

Total number of cases resulting from violent trauma<sup>4</sup>


**5122 (42%)**

Total number of Caesarean sections<sup>5</sup>


**15**

Total number of surgical care projects<sup>6</sup>

## HIGHLIGHTS OF 2018

- **Violent trauma as the cause of surgical intervention remained stable at 11%.**
- **Accidental trauma represented 24% of all surgical interventions.**
- **The proportions of violence-related trauma (11%) and accident-related trauma (24%) requiring surgical intervention remained similar to 2017.**
- **Caesarean sections represented 42% of surgical interventions, an increase of 2% compared to 2017.**

## 1. OVERVIEW

By the end of 2018, there were 14 MSF projects offering surgical care: Kabul, Khost, Bujumbura, Bangassou, Castor, Kananga, Masisi, Nyabiondo, Tabarre, East Mosul, Bar Elias, Timergara, Al-Awda, and Pibor. Over the course of the year, one project offering surgical care was closed: Bassikounou. At the same time, following operational strategies, four projects were opened: Kananga, East Mosul, Bar Elias, and Al-Awda.

An outpatient wound care clinic (opened in 2017) in Kunduz, Afghanistan, continued its activities. A project that was screening<sup>7</sup> for cervical cancer in previous years in Gutu, Zimbabwe, began to perform excision<sup>8</sup> procedures (minor surgery). In both of these projects major surgical interventions were not performed, and therefore, they are not included in the recorded surgical interventions.

OCB continued supporting hospitals in Syria. In three health facilities where surgical care was offered, a total of 5837 interventions were reported. Of these, 1170 (20.2%) were Caesarean sections, 178

1 Number of new cases (primary) and treated patients

2 Number of admissions to the Operating Room, and number of anaesthetics.

3 Number of surgical procedures performed during an intervention. MSF data tools allow reporting of up to three procedures. However, in this report, only the first entry will be taken into consideration because not all the projects reported multiple procedures at one surgical intervention.

4 Violent trauma resulting in a surgical intervention (new cases)

5 Percentage of Caesarean sections using total number of new cases as denominator

6 Number of projects that were active during the year

7 VIAC: (Visual Inspection with Acetic Acid)

8 LEEP: (Loop Electrosurgical Excision Procedure).

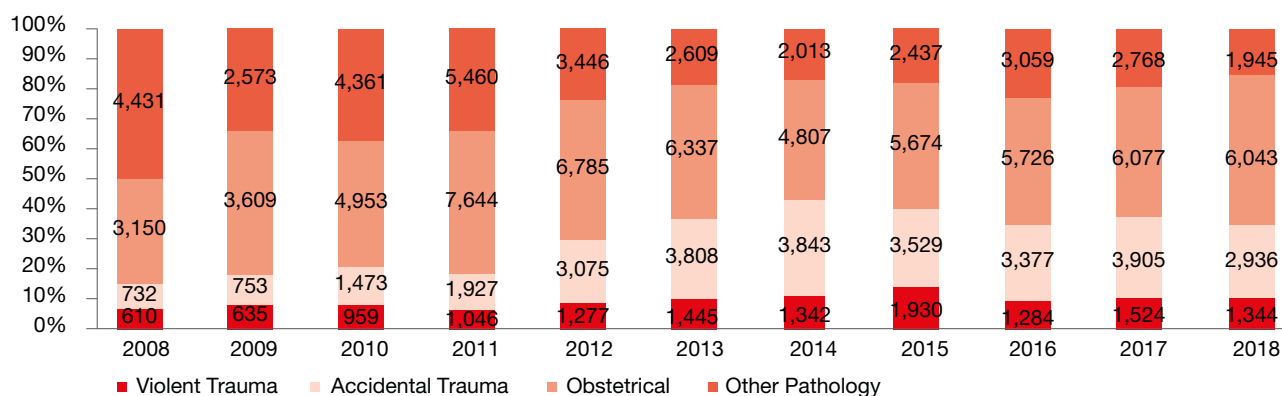
(3%) other gynaeco-obstetric operations, 1626 (27.9%) abdominal, 1774 (30.4%) orthopaedic, 889 (15.2%) specialised, and 191 (3.3%) minor/wound interventions.

## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. SURGICAL ACTIVITIES BY INDICATION, AGE, AND SEX

During 2018, there were 12,268 new cases, a decrease of approximately 10% in comparison to the previous year (n=14,274). Figure 1 shows the trend of cases over time.

**FIGURE 1** Indications for surgery, percentage in relative weights, 2008-2018



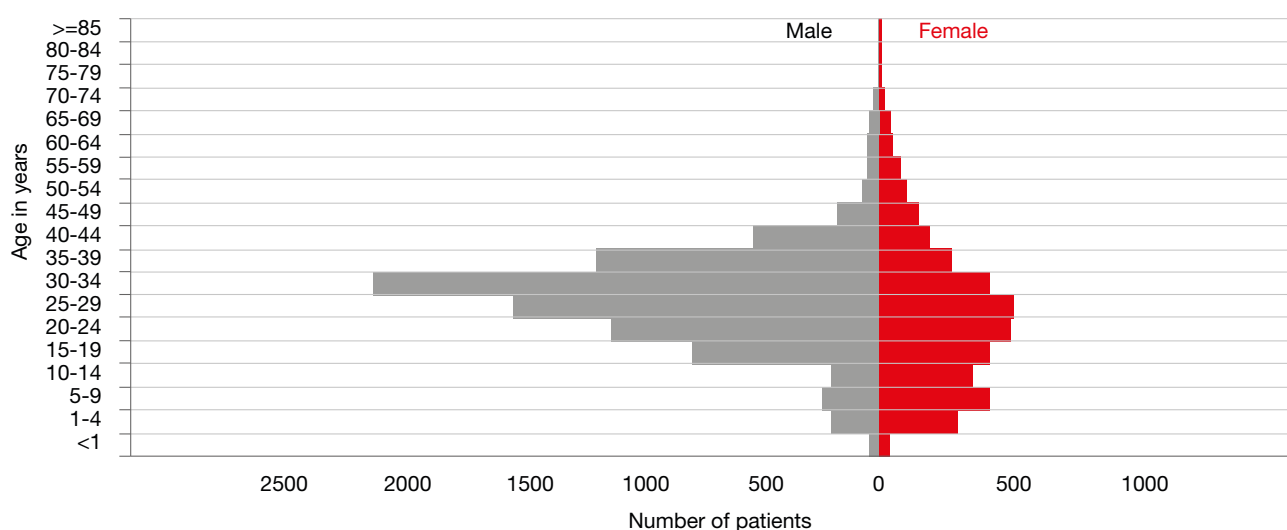
The trends of indication for surgery have changed during the last four years. Proportionally, violent trauma remained similar to 2017, while accidental trauma showed a slight decrease in new cases compared to the previous year, from 27% to 24%. A slight decrease in the proportion of new cases was also recorded in other pathologies, compared to the previous year: from 19% to 16%.

While the overall incidence of new cases decreased approximately 10%, obstetrical cases remained almost at the same level, accounting for almost half of all new cases (49%), the highest proportion since surgical care reports were released from 2008.

According to the age distribution of new patients, 4.9 % (600) were less than five years old, 10.1% (1246) were from five to 15 years, and 85% (10,423) were more than or equal to 15 years.

The following figure is a detailed age and gender distribution of patients in our surgical care projects.

**FIGURE 2** Age and gender distribution of patients in surgical projects, 2018

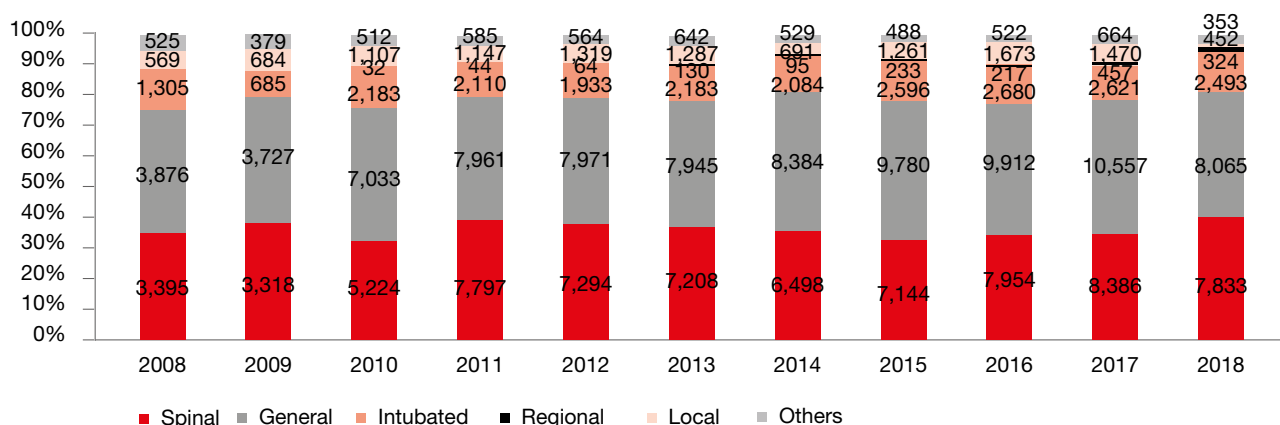


## 2.2. ANAESTHESIA

During 2018, OCB provided anaesthesia for 19,520 surgeries in 15 projects, a decrease of approximately 15% compared to the previous year (n=24,155). The total number of anaesthetics correlates with the total number of interventions/admissions to the Operating Departments (ODs), which is higher than the number of new cases as some were repeat cases.

Some differences in the anaesthesia procedures were observed in 2018 compared to previous years. While local and other types of anaesthetics decreased, spinal anaesthesia increased more than 5%. These differences can be linked to the decrease in trauma cases, mainly accident-related (2018, n=4280; 2017, n=5429) and the similar incidence of obstetrical cases (2018, n=6043; 2017, n=6077). Figure 3 shows the trends in types of anaesthesia over time.

**FIGURE 3** Types of anaesthesia, 2008-2018



The proportion of spinal procedures for Caesarean sections (CS) is a useful proxy quality indicator<sup>9</sup>, as spinal anaesthesia is widely recognised as the procedure of choice.<sup>10</sup> Therefore, it is good to compare the ratios of spinal procedures for CS; a proportion >75% spinals is regarded as good quality. All OCB projects performed 89% of CSs under spinal anaesthesia during 2018, similar to 2017 (90%).

According to the ASA score, of new cases (19,520) undergoing surgery in 2018, 52% (10,172) had an ASA score of 1, 43% (8452) ASA 2, 4.1 % (810) ASA 3, 0.4% (79) ASA 4, 0.03% (7) ASA 5, and 0 patients with ASA 6.

## 2.3. SURGICAL PROCEDURES BY TYPE

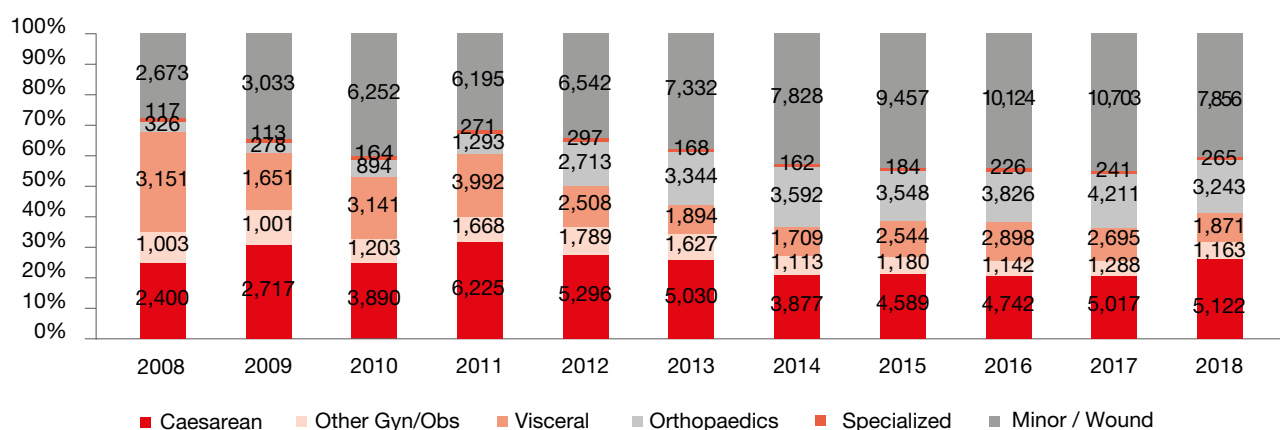
OCB projects performing surgical activities reported 22,214 surgical procedures in 2018. This number exceeded the number of entrances to the OD/anaesthetics because multiple surgical procedures could be performed under the same anaesthesia procedure. However, not all projects were able to record more than one procedure per intervention and only the primary ("type 1") procedures are reported here (n=19,520)<sup>11</sup>.

The proportions of surgical procedures remained similar to the previous years with the exception of Caesarean sections (CS) and minor/wound surgery. While overall all types of procedures decreased, the number of CSs slightly increased in absolute numbers and their proportion increased by more than 5%. On the other hand, the proportion of minor/wound surgeries decreased by around 4%. These are shown in Figure 4.

<sup>9</sup> Spinal anaesthesia for Caesarean section: The general goals are the safety of the mother, the safety of the baby, the comfort of the mother and the ability to perform the surgery. General anaesthesia is reserved for a true emergency; and there are some associated risks that can be avoided with spinal anaesthesia. The fact that the mother can remain awake, see, and interact with her baby as soon as it is born and that she does not require a breathing tube are all advantages. General anaesthesia does affect the newborn, another reason why spinal anaesthesia is preferred.

<sup>10</sup> Hawkins JL (Clin Obstet Gynecol. 2011 Jan; 117 (1):69-74) reported a risk ratio between spinal and general anaesthesia of 1.7 (2.5 vs. 16.8 deaths per million).

<sup>11</sup> For more in-depth analysis, please refer to the specific report done for each project.

**FIGURE 4** Surgical procedures ("type 1"), percentage in relative weights, 200-2018

## 2.4. ORTHOPAEDIC CARE

During 2018 OCB ran four projects where trauma care was the main activity. There were two long-running projects with a high volume of activities: Bujumbura, Burundi (n=4157) and Tabarre, Haiti (n=3238), and two low volume projects that opened in 2018: Al-Awda, Palestine (n=606) and East Mosul, Iraq (n=274). In Tabarre, Al-Awda, and East Mosul projects, specialized orthopaedic care was offered by local and expatriate orthopaedic specialists while in Bujumbura project, this care was assured exclusively by expatriate specialists.

The big differences of procedures among these four projects are linked to different operational strategies and different contexts where the projects are located. Due to several concerns, internal fixation procedures were offered exclusively in the Tabarre project. Figure 5 shows the orthopaedic procedures by project and proportion.

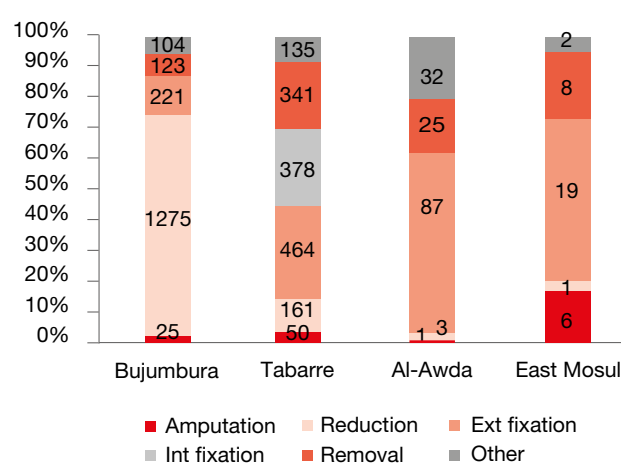
## 2.5. EMERGENCY SURGERY

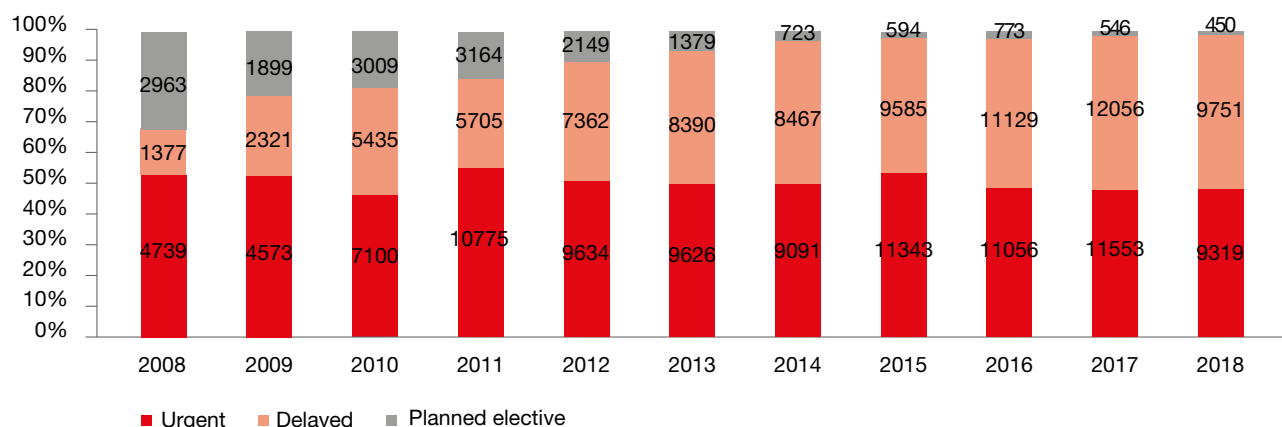
Emergency surgery is defined as urgent (life-saving and acute emergencies) or delayed (with a wait of no more than a few days without significant morbidity) cases, as opposed to elective surgery.

In 2018, 19,070 emergency cases were reported representing 98% of all surgeries and remained similar to that of the previous year (98%). It is important to look at the trends of emergency surgery through the last years. Urgent surgery has been accounting for around 50% of all interventions, with a slight but steady decrease in its proportion. In the other hand, the proportion of delayed surgery has been increasing, and since 2015 there are more of these cases in proportion than urgent surgery.

The high proportion of emergency surgery has been maintained during 2018 despite the decrease of trauma causes, and can be explained by the high incidence of obstetrical causes.

In Figure 6, the detailed information of emergency surgery within OCB activities can be seen.

**FIGURE 5** Orthopaedic procedures, by project, proportions, 2018

**FIGURE 6** Emergency surgery and planned surgery, percentage in relative weights, 2008-2018

## 2.6. INTRA-OPERATIVE MORTALITY

Out of the 19,520 admissions to the OD from the 15 projects providing direct surgical activities, 50 intra-operative deaths were reported. This represents an overall mortality rate of 0.3%, a slight increase compared to the previous year (0.2%). Intra-operative deaths are defined as any death occurring between the induction of anaesthesia and discharge from the recovery room. While mortality rates are reported per project, data should not be compared across programmes since intra-operative mortality is associated with patient condition, emergency status, indication for surgery, context, and project objectives as well as quality of care. Data can, however, be compared within projects over time to assess changes in their performance.

Table 6 (in annex) shows intra-operative mortality for 2018, and previous years, for comparison within specific projects.

## 3. OTHER ACTIVITIES

Field visit support was undertaken in the following projects: Bujumbura (Burundi), Bangassou (Central African Republic), Masisi and North Kivu (DRC), Mosul (Iraq), Nicaragua, Gaza (Palestine), Saint Petersburg (Russia), and Pibor (South Sudan). Presentations on surgical activities in MSF were given at international conferences in Manila (Philippines), Leuven (Belgium), Saint Petersburg and Novosibirsk (Russia), Valencia (Spain), Boston (Massachusetts, USA), Stanford University (California, USA), Kaohsiung (Taiwan), Beirut (Lebanon), Montreal (Canada), and Istanbul (Turkey).

Trainings were conducted with the HMTT, FLMT, Gynaecology-Anaesthesia-Surgery week Hong Kong, MSF Surgical workshop in Dusseldorf Germany, and MSF Coordination week. The first international interuniversity course of Master's in Humanitarian Surgery in Austere Environments with the Université catholique de Louvain (UCL) was conducted with 24 students. Several meetings were held with the Surgical Working Group and the Critical Care Working Group. Several research papers in peer-reviewed articles in scientific journals were published. Primary trauma care and POCUS (Point of care ultrasound) trainings were conducted in Iraq and Malawi.

## 4. LOOKING BACK AND AHEAD

### 4.1. LESSONS LEARNED IN 2018

- There was dissolution of the Surgery, Anaesthetics, Gynaecology, Emergency Medicine (SAGE) unit with each of the technical referents now concentrating individually on their own specialty.
- Not all projects were able to follow up surgical infections, but two infections were specifically followed in one project, Bujumbura hospital. Surgical site infections of the abdomen and after external fixation were found to be 6.6% and 10.7% respectively. This demonstrated the potential of following up on surgical infection rates and monitoring programme effectiveness.
- There is a growing disparity between the surgical skills of new specialists as opposed to the skills that they actually need in order to perform quality surgery in the humanitarian and conflict surgical field.
- Teaching and training in the field of the national staff needs to be adapted to the context, the level of knowledge and skills of the national staff, with appropriately trained expatriate staff who can impart the knowledge and skills.
- Data collection has evolved, and more quantitative indicators were introduced but more qualitative outcome indicators are needed.
- Briefing in headquarters is still needed with referents in order to properly prepare specialists for their actual work in the field.

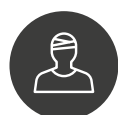
### 4.2. GOALS FOR 2019

- Develop curriculums in each specialty adapted to the context, knowledge, and skills of each project.
- Provide training to the national staff before opening trauma projects – Primary Trauma Care, Triage, Mass Casualty Incidents (MCI), POCUS, war surgery, damage control surgery.
- Monitor, assess, evaluate, and give feedback on quality of surgical projects following the Donabedian principles – structure, process, and outcome, to the field and to operations.
- Provide training to specialists to help them prepare for their actual role in the field through the GAS week and the Master's in Humanitarian Surgery in Austere Environments.
- Strengthen and disseminate knowledge of surgical protocols and guidelines through field visits, briefings and trainings.
- Improve quality of surgical care by continuous monitoring and feedback of surgical site infections through the post-operative site infection database.
- Continue to publish operational research studies in order to professionalise the work of MSF and help to improve surgical programmes within MSF.
- Strengthen the response for mass disaster through good coordination between all actors including, emergency medicine doctors, anaesthetists, orthopaedic surgeons, other surgeons, nurses, and logisticians.
- Continue to foster good collaboration within OCB and other sections, as well as with other external platforms.



# TORTURE & OTHER FORMS OF ILL-TREATMENT

27



**2219**  
new  
admissions



**4**  
projects with  
specific activities



**10%**  
joint  
consultations



**90%**  
of patients in  
multidisciplinary  
care



**319**  
certifications  
produced



**2**  
LuxOR  
publications

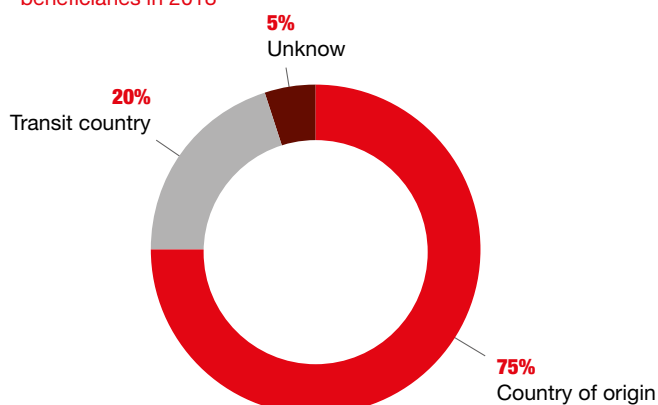
## HIGHLIGHTS OF 2018

- A dedicated position of Victims of Torture (VoT) technical referent was started within the OCB Medical Department.
- A list of indicators for VoT activities was finalised and shared within OCB operations.
- VoT vertical projects were reintegrated into the normal setup of their country missions, leading to changes in lines of communication and monitoring of activities.
- During the Annual Review of Operations 2018, the decision was taken to close one of the vertical VoT projects (Rome VoT, opened in 2015) by the end of 2019.
- The development of the first interdisciplinary protocol, focused on chronic pain management, was initiated.

## 1. OVERVIEW

Among the **2219** new victim of torture (VoT) patients admitted to Médecins Sans Frontières Operational Centre Brussels (OCB) services, **1783 (80%)** were received in the VoT clinics active along the migratory routes in the Mediterranean area. Patient backgrounds were diverse, representing many nationalities (94% African and 6% Asian). Of these, 75% had suffered torture in their home countries, 20% during transit, and for the remaining 5% of cases, information on place of torture was unknown (Figure 1).

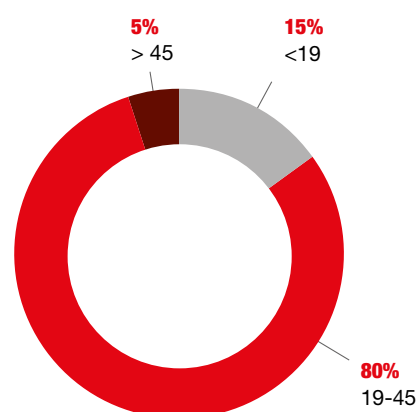
**FIGURE 1** Location of torture event among MSF OCB VoT clinic beneficiaries in 2018



The proportion of males (48%) and females (52%) was similar, and most individuals were between 19 and 45 years of age; 15% were under 18 years of age (Figure 2). A total of 27,343 consultations took place across the four disciplines that comprise the multidisciplinary package of care in OCB (medical care, mental health care, physiotherapy, and social support).

The remaining **436 new patients (20%)** were identified by services not providing specific VoT care (Bangladesh, Democratic Republic of the Congo, Haiti, Nauru, and Serbia).

**FIGURE 2** Proportion of MSF OCB VoT clinic beneficiaries by age in 2018



## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. VERTICAL VOT CENTRES

**Rehabilitation**, according to the UN Convention Against Torture (UNCAT) definition<sup>1</sup>, is the level of care that a VoT-specific service should offer everywhere. However, this objective is so strongly dependent on external and contextual factors that it is not always a realistic ambition in each setting. As such, rehabilitation is taken as the goal of care for VoT Centres that operate in contexts which allow inclusion and participation in social life, while in other settings, VoT projects set an objective of offering **functional recovery or stabilisation**. It should be emphasised that this does not imply a lower quality of the intervention in terms of the multidisciplinary care provided by MSF; rather, it reflects the operational ambitions in terms of outcomes.

The general ambition for VoT care in OCB is to reinforce the weight and role of the joint consultations by the professionals from the different disciplines, starting from patient intake, and to develop interdisciplinary protocols for care, the first of which will cover the management of chronic pain.

### 2.2. VOT INTEGRATED ACTIVITIES

The multidisciplinary approach is the cornerstone of MSF's VoT activities, both in the standalone/vertical VoT projects, and when VoT care is integrated into non-specific programmes. So far, the only OCB project with experience in such integration is Lesvos, where the **Mytilene clinic** offers care for patients with moderate and severe mental health conditions. As such, the Mytilene clinic offers care for a broad variety of patients, including VoT, and provides medical and social support coordinated with psychological and psychiatric care. The objective of the clinic is to activate the patient's resources in order to control the suffering (symptoms) of individuals contained for indefinite lengths of time on the island, and to provide the required documentation that can allow individuals in need to be transferred from the island "imprisonment" to settings where they can receive more appropriate and comprehensive care.

<sup>1</sup> "Rehabilitation (...) refers to the restoration of function or the acquisition of new skills required by the changed circumstances of a victim in the aftermath of torture or ill-treatment. It seeks to enable the maximum possible self-sufficiency and function for the individual concerned and may involve adjustments to the person's physical and social environment. Rehabilitation for victims should aim to restore, as far as possible, their independence, physical, mental, social and vocational ability; and full inclusion and participation in society."

## 2.3. VOT SUPPORT ACTIVITIES

- The position of VoT technical referent, created in 2017, was filled in 2018, to provide better support to both the vertical and integrated VoT projects.
- The referent performed **four field visits**, in Egypt, Greece, and Italy; and contributed to a scientific conference in Beirut, Lebanon.
- The 5<sup>th</sup> **Workshop on the thematic of Torture** was organised in Cairo in November. The intersectional workshop was attended by project staff members and key HQ staff from OCB, OCBA, and OCP, to share experiences and define common strategies and objectives.
- In collaboration with the E-health unit and LuxOR, a first **list of VoT medical indicators** was developed, and was disseminated to the different projects offering VoT care.
- In collaboration with LuxOR, **two scientific articles** were published in the “Torture Journal” (cf. Operational Research section): one on the challenges in identification and referral of VoT in the reception system in Rome, and one on the challenges of provision of care when faced with torture and forced migration as interrelated sources of trauma.
- Interactions with the **network** of the main reference Rehabilitation Centres for VoTs were reinforced, with in particular participation in the platform established in Copenhagen on a Franco-Danish university cooperation project.
- Problems were encountered regarding **expatriate human resources**, related to average duration of their stay in projects (in particular at project management level), which is often too short and fragmented compared to the needs required by the type of mid/long-term programmes.

## 3. LOOKING BACK AND AHEAD

### 3.1. LESSONS LEARNED IN 2018

- Compared to the previous phase of VoT care implementation (which was characterised by direct communication between the field and operational desk), vertical VoT programmes have lost somewhat in thrust and drive through changes in set-up, with mission coordination now being more involved in the line of monitoring and communication. The VoT projects stand to benefit from the announced field re-centralisation process.
- The decision to close the Rome VoT project was seen as too abrupt: handover times required for VoT vertical programmes are longer than those normally foreseen for MSF activities, due to the complexity of the case management and exceptional vulnerability of the patients. Decisions to suspend or continue activities should not be made per year, but need to be planned at least two years in advance.
- The experience with the Mytilene clinic in Lesvos suggests that the objectives of care (rehabilitation versus functional recovery/stabilisation) can indeed be fine-tuned according to the context, and that integration of VoT activities is possible with due planning and strategic consideration.

### 3.2. GOALS FOR 2019

- The multi/interdisciplinary model adopted at field level must be reflected by an adequate multi/interdisciplinary support offered at HQ level. For this reason, the **launch of the VoT Circle**, according to the general strategy adopted by the OCB Medical Department, is a priority.
- The production of a **pocket guide for VoT care**, originally planned for 2018, will be aimed at a providing a better understanding of the characteristics and limits of this type of intervention in the context of humanitarian medicine.

# TUBERCULOSIS

28

**7016**

TB patients total

**5559**Drug-Sensitive  
TB Cases**1457**Drug-Resistant  
TB CasesAverage success  
rate of DSTB  
treatment was 70%All-oral treatment  
regimen  
recommended by  
WHO

## HIGHLIGHTS OF 2018

- **South Africa leads the way in oral regimens for Drug-Resistant Tuberculosis**
- **Projects in Ukraine and Iraq started TB/Drug-Resistant TB (DRTB) activities**
- **Advocacy in India gives hope to patients with limited treatment options**
- **New prevention strategies for latent TB infection**
- **Ongoing efforts to reduce TB-related mortality in patients with advanced HIV**

## 1. OVERVIEW

Tuberculosis (TB) remains the main infectious disease killer worldwide. Despite the ambitious global target to end the TB epidemic by 2030, the decrease of TB incidence and mortality remains slow, and major challenges affect each step of the TB cascade, from case detection to linkage to treatment to prevention.

In 2018 OCB kept its commitment, declared at the intersectional TB strategic meeting held in 2017, to maintain a critical mass of TB activities through vertical TB/DRTB projects and integrated activities across most contexts, both in high and low HIV prevalence settings, while piloting and advocating for new solutions.

Growing attention has been given to interventions aiming to impact both transmission and mortality: innovative case finding and prevention strategies for latent TB infection; targeted projects or populations; and especially among the most vulnerable such as children, People Living with HIV (PLHIV), prisoners, migrants, and those in conflict areas.

Drug-resistant TB (DRTB) remained a key area of work; it is in this field that MSF has significantly contributed to policy change in treatment. Thanks to strong advocacy and evidence, to which MSF-led operational research contributed, oral regimens with new and more effective drugs are finally recommended by WHO, after decades of toxic regimens with injectable agents. Operational research on new and shorter treatments for DRTB remains a priority for MSF and for the international community.

## 2. MAIN PROGRAMME ACTIVITIES

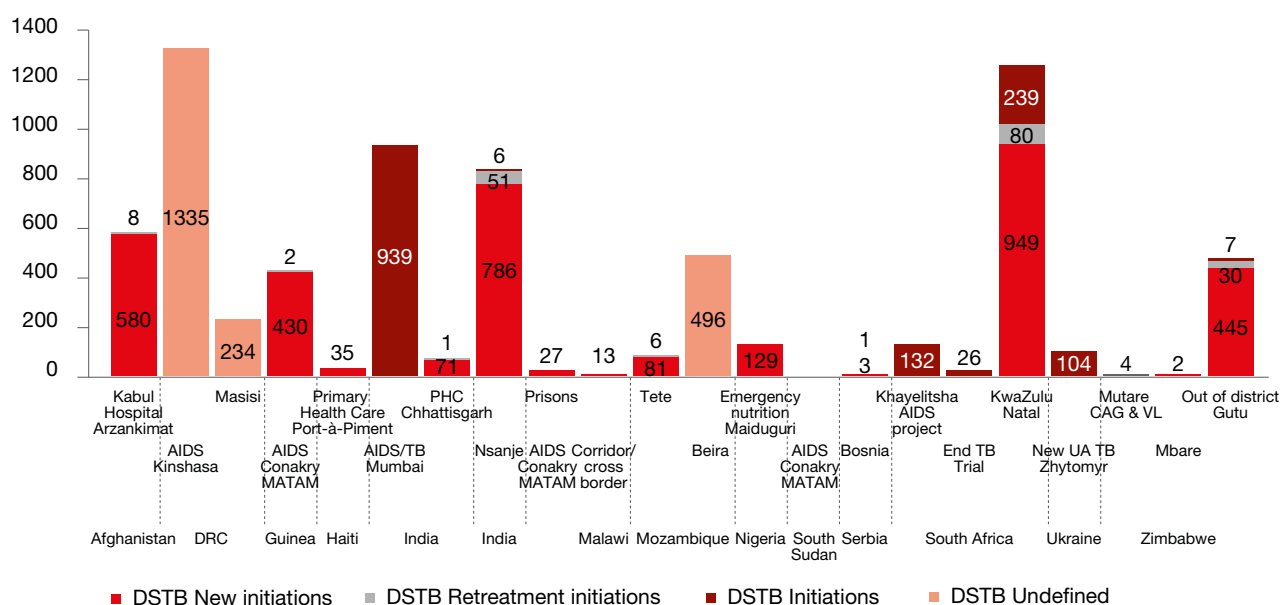
Vertical TB/DRTB and HIV/TB projects are run in India, Iraq, Mozambique, Malawi, South Africa (SA), Ukraine, Zimbabwe, Democratic Republic of the Congo (DRC), and Guinea, while integrated activities are implemented in transversal projects in India, South Sudan, DRC, Haiti, Nigeria, Afghanistan, and Syria.

The new DRTB projects in Zhytomyr, Ukraine, and Baghdad, Iraq, officially started in 2018, and both included an important component of operational research, aiming to build evidence around shorter courses and oral treatments for DRTB.

### 2.1. TB CASE DETECTION AND CASE FINDING STRATEGIES

In 2018, TB case detection data were reported from 24 OCB projects. A total of 7016 TB patients were detected and started on treatment during the year (Figure 1) in MSF-supported projects; out of these, 5559 were drug-sensitive Tuberculosis (DSTB) and 1457 were DRTB cases. The biggest cohorts were observed in Kinshasa, entirely represented by PLHIV often arriving to MSF care in poor condition, and in Mumbai, where MSF offered care to DRTB patients, the vast majority of whom lived in slums. New TB/DRTB diagnostic tools and redefined case finding strategies have represented a key area of intervention in MSF projects. Examples include the expanded use of TB LAM in patients with HIV across all main HIV projects in South Africa, Malawi, Guinea, DRC, and Mozambique, both at Outpatient Department (OPD) and Inpatient Department (IPD) level; use of chest X-ray as a screening and diagnostic tool in KwaZulu-Natal (KZN); implementation of comprehensive screening packages for inmates of prisons in Malawi; a decision to pilot genome sequencing in Mumbai and last, but not least, expanded efforts to improve diagnosis of TB in malnourished children, as in Masisi, DRC, and Nigeria.

**FIGURE 1** Tuberculosis case detection in OCB projects, 2018



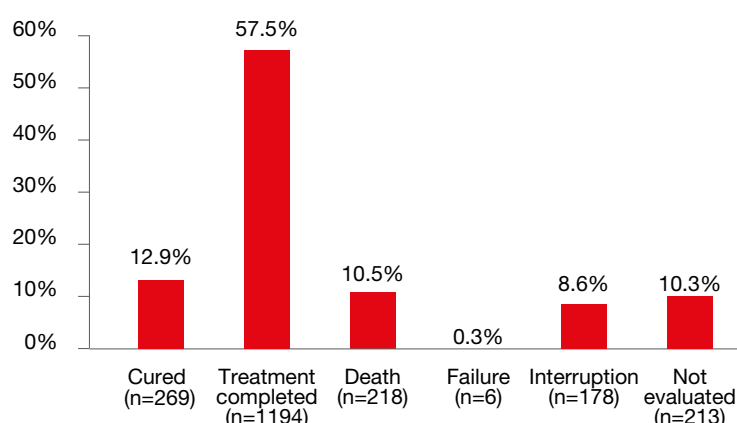
### 2.2. TB OUTCOMES

TB treatment outcomes for patients with DSTB were reported by only eight projects: 2078 new TB cases were detected and started on treatment in 2017. Average success rate of DSTB treatment was 70% (Figure 2), comparable to the previous year. Mortality rate remained quite high at 10.5%, mainly attributable to late access to treatment by patients with advanced HIV. This was a situation faced in many of our vertical HIV projects in Africa, where TB/HIV co-infected patients were often referred late and in severely ill conditions to MSF care. The most relevant case is Kinshasa, where the death rate reached 26%, despite the implementation of strengthened

clinical algorithms, aiming to diagnose and treat TB early among patients with advanced HIV at the Centre Hospitalier Kabinda (CHK).

Several projects did not report any outcomes, the main reason being that TB patients, once diagnosed, were referred to their respective National TB Programme (NTP) for management without any further MSF support or involvement.

**FIGURE 2** Outcomes for DSTB patients registered in 2017

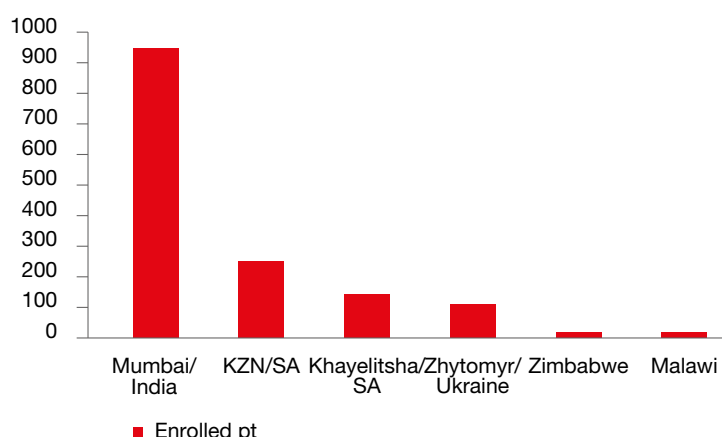


## 2.3. DRTB ENROLMENTS AND OUTCOMES

Addressing the challenges of drug-resistant TB remained a high priority for MSF OCB in 2018, with 1457 patients having rifampicin-resistant or multidrug-resistant tuberculosis (RR/MDR-TB) detected and enrolled on treatment in OCB projects (Figure 3).

The project in Mumbai, which included an MSF-run clinic for patients with very limited treatment options and massive activities run in the slum area of M East Ward (MEW) in collaboration with the Ministry of Health (MoH), was the biggest DRTB intervention. Major advocacy goals have been achieved through MSF work in India, such as access to combination of new drugs - Bedaquiline and Delamanid - at MoH level.

**FIGURE 3** DRTB enrolments in 2018



Big cohorts were also reported from the project of Eshowe in KwaZulu-Natal, South Africa, although the MSF contribution to DRTB case detection there was limited and data reflect mostly MoH efforts.

An unpredicted reduction of detected cases was observed in Khayelitsha, where 139 patients were reported as enrolled, compared to almost 200 in the previous year. Reasons for this were not well understood, although hope was that early case finding and treatment initiation, leading to reduced transmission, were contributing factors to this decrease.

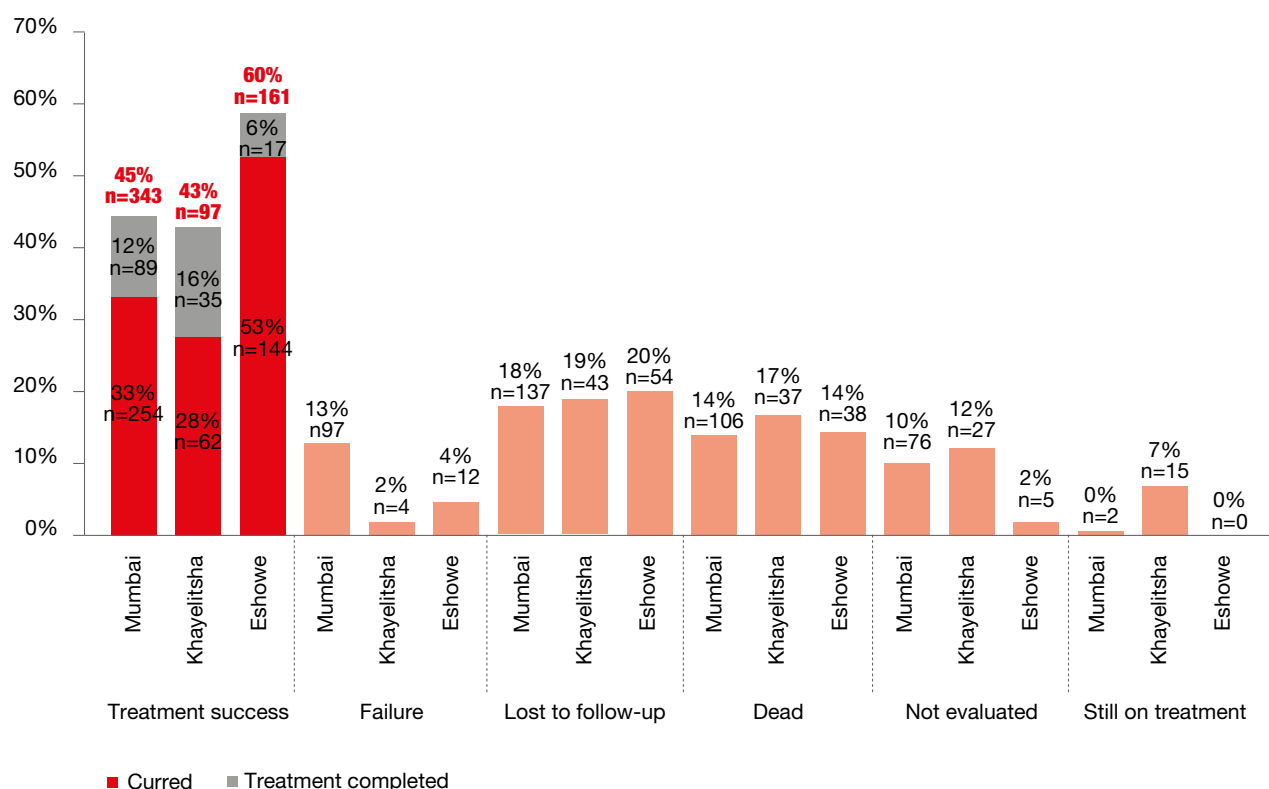
The new project of Zhytomyr, in Ukraine, successfully started enrolling patients, while in Baghdad, Iraq, effective activities only started toward the end of the year, due to initial challenges of collaboration with local authorities. Introduction of GeneXpert as first test in Sadr City was the first and important step achieved by the project in 2018. In both of these projects, operational research on shorter and oral regimens with new drugs represented a key activity, and were planned to start in 2019, after ethics approval.

Outcomes of DRTB treatment (Figure 4) were reported by Khayelitsha, Eshowe (KZN), and Mumbai. DRTB treatment outcomes (two years' treatment) refer to cohorts started on treatment in 2016. Treatment success rate in Khayelitsha remained relatively low at 44%, comparable to previous years, mainly due to the persistent high mortality rate (17%) linked to the high HIV coinfection rate. Other contributing factors were the mobile nature of the population and presence of comorbidities (including use of drugs and alcohol) leading to high rates of lost to follow-up (19%). Piloted interventions to address alcohol use and increased attention to integration of TB and HIV care were ongoing to address these challenges. In Mumbai, the success rate was lower (45%)



than last year (54%), as data now reflect the results of the collaboration with the MoH in MEW, started only in 2016. Improved outcomes are expected in the coming years, as a result of MSF support to care delivery and introduction of new drugs and regimens. A 60% treatment success rate was reported by the project in KZN, SA, where MSF also supported scale-up of new drugs and a decentralised model of care, although data refer mainly to patients treated by the MoH.

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**FIGURE 4** Outcomes of DRTB treatment

## 2.4. NEW DRUGS AND NEW REGIMENS

Advocacy and evidence created by MSF on use of new drugs brought major results in 2018, with a very important policy change to DRTB treatment: WHO finally recommended an all oral treatment regimen with new drugs as the preferred choice in patients with DRTB, replacing the previously recommended toxic injectable agents.

In all its DRTB projects during 2018, OCB continued to push for the use of the new drugs, Bedaquiline (BDQ) and Delamanid (DLM), although access to them remains challenging globally. In India, SA, Ukraine and Zimbabwe, the team supported treatment for more than 900 patients on BDQ, and more than 350 on DLM, including children and more than 200 patients on the combination of the two drugs; this represents one of the biggest cohorts globally (see Table 1).

After winning the battle of “dropping the injectable,” another is yet to be won: reducing the length of treatment. Operational research aiming to find not only oral but also shorter (six-nine months) regimens for DRTB is ongoing and remains a priority in all vertical DRTB projects in Mumbai, Baghdad, Zhytomyr, and Khayelitsha.

Among other key facts in 2018, the endTB trial started in Khayelitsha. This is a multicountry randomised clinical trial run by MSF together with partner organisations (PIH/IRD) and funded by Unitaid. In Khayelitsha, 26 patients were randomised by the end of the year.

**TABLE 1** Patients on new drugs across OCB projects

Country	India	South Africa		Ukraine	Zimbabwe
Project	Mumbai	Khayelitsha	KwaZulu-Natal	New UA TB Zhytomyr	Mutare
Total patients on BDQ	124	394	378	40	1
BDQ aged < 18 years old	15	14	10	0	0
BDQ on treatment > 24 weeks	63	170	280	0	1
Total patients started on DLM	166	153	7	23	3
DLM aged < 18 years old	21	10	0	0	0
DLM on treatment > 24 weeks	105	48	7	0	3
Total patients started on BDQ-DLM combination	110	76	7	23	0

### 3. LOOKING BACK AND AHEAD

#### 3.1. LESSONS LEARNED IN 2018

The most important lessons include:

- Late diagnosis remains a huge problem across all our settings, being the main cause of high mortality and transmission. There is need for comprehensive detection strategies for TB across all projects. In the absence of a perfect diagnostic tool for TB, teams on the ground have to use all the available, although imperfect, instruments, from TB LAM to Xpert, to CXR to clinical algorithms and keep innovating in the implementation of case finding strategies adapted to their contexts.
- Prevention strategies and Infection Control (IC) measures are often poorly implemented and wrongly not considered a priority. Increased efforts to ensure provision of preventive treatment, where recommended, and minimum IC standards, across all projects, are needed.
- There is a lot yet to be done in the field of DRTB, where the change in treatment policy is just one of the steps and not enough to provide the best treatment to patients. Political barriers, funding gaps and relatively limited evidence continue to represent challenges faced in our projects to implement best standards.

#### 3.2. GOALS FOR 2019

- The World TB conference will take place in 2019 in India, the country the most affected by TB in the world. It is a unique chance to make MSF's voice heard, based on our experience in the country, to speak out on the unacceptable gaps in the global TB response, and propose solutions that keep a patient-centred approach in all interventions.
- Pilot implementation of new and shorter treatments for latent TB infection (LTBI), as planned in Malawi prisons and Eshowe and also beyond the HIV context. Advocacy is needed for access to rifapentine.
- Renewed efforts to strengthen TB/DRTB diagnosis and treatment among the most vulnerable populations, such as PLHIV and children, especially among the malnourished, and in integrating TB in contexts with other operational priorities (i.e., South Sudan, Nigeria, CAR, DRC).
- Focus on adapted strategies for provision of TB/DRTB care in contexts with mobile populations.
- Introduction under routine and research conditions of shorter, oral, and less toxic regimens for DRTB in Iraq, Ukraine, South Africa, and India. Patient and community-led advocacy to be promoted across all projects.

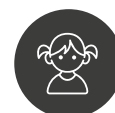
- Continue to work towards demonstrating models of care that aim to reduce TB incidence and transmission. This implies the need to comprehensively address each step of the TB/DRTB cascade: from case finding to treatment provision to prevention. Adapted patient support strategies and community strategies will play a key role. Potential development of an intersectional regional approach for TB/DRTB in the Middle East North Africa (MENA) region.



A nurse prepares medication for distribution to patients at the Zhytomyr Regional TB Dispensary. In 2018, MSF started providing treatment for drug-resistant tuberculosis (DR-TB) to patients in Zhytomyr Oblast, in partnership with the Zhytomyr Regional TB Dispensary. Zhytomyr region has one of the highest rates of TB in Ukraine. © Oksana Parafeniuk

# VACCINATION

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**1,133,000**doses of vaccines  
given**52%**of projects  
reported  
vaccination  
activities**20%**of doses used  
in preventive  
vaccination  
campaigns**95,000**measles doses  
given in response to  
outbreaks**13%**of <5 routine doses  
were given to  
children >1 year of  
age

## HIGHLIGHTS OF 2018

- Involvement in the management of a diphtheria outbreak in Bangladesh
- One of the four multi-antigen preventive vaccination campaigns organised in Europe
- Measles included in seven preventive and six reactive vaccination campaigns
- Oral cholera vaccine (OCV) used in one small reactive campaign in DRC and in a major campaign in Zimbabwe to which MSF gave technical support
- Involvement in the planning of the first campaign in Africa to use a new typhoid conjugate vaccine (TCV) in Zimbabwe

## 1. OVERVIEW

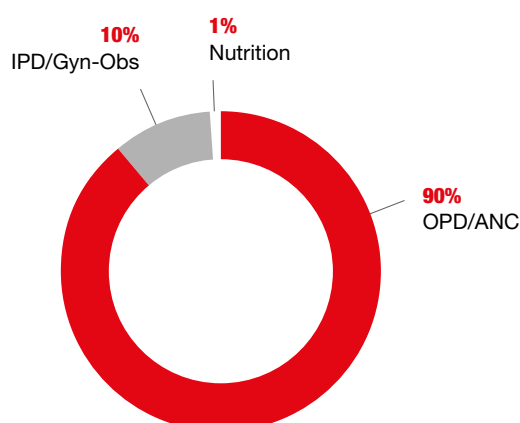
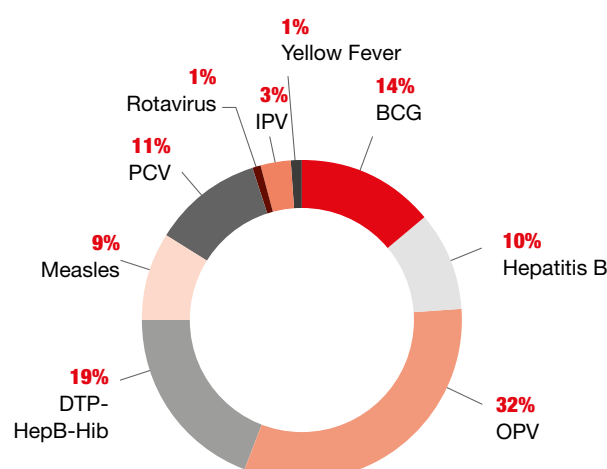
During 2018, 1,133,000 doses of vaccines were provided to beneficiaries with the direct support of Médecins Sans Frontières Operational Centre Brussels (MSF OCB). This represents a sharp decrease compared to 2017 (2,443,418 doses). Furthermore, MSF OCB provided technical, logistic and/or financial support to the provision of another 1,336,000 doses in response to outbreaks managed by the Ministry of Health (MoH) in Zimbabwe and Iraq. These doses are reported separately.

Two thirds (63%) of the vaccine doses were given through routine vaccination activities, while 20% were given in preventive multi-antigen catch-up campaigns. Mass vaccination campaigns in response to cholera, measles, and diphtheria outbreaks accounted for 11% of the doses and the remaining 6% were used for post-exposure prophylaxis.

## 2. MAIN PROGRAMME ACTIVITIES

### 2.1. ROUTINE VACCINATION

A total of 711,055 routine vaccinations were administered in OCB projects over the course of 2018 (Figure 1), representing a 5% increase compared to 2017 (n=675,146 doses). The vast majority (89.6%) of the doses were reportedly given in the Outpatient Department (OPD) (n=636,948), while another 10% were reported in Antenatal Care (ANC) (n=69,349).

**FIGURE 1** Distribution of routine vaccinations in OCB, 2018 (n=711,055)**FIGURE 2** Distribution of antigens administered to children <5 years old during routine vaccination activities in OCB programmes, 2018 (n= 641,706)

More than 90% of the doses routinely administered were given to children less than five years of age (641,706 doses); among them, 13% were given to children older than one year (compared to 10% in 2017). This demonstrated that implementation of catch-up vaccination activities for children who missed vaccinations through the Expanded Programme of Immunisation (EPI) was being reinforced in MSF-supported projects. However, catch-up needs to be pushed further, as it represents one of the strongest added values of MSF in routine vaccination.

The proportions of different vaccines have been extremely stable over time. Over the last five years including 2018, oral polio vaccine (OPV) has represented a third (32%) of the doses administered routinely to children under five (Figure 2). Pentavalent vaccine, combining Diphtheria, Tetanus, Pertussis, Hepatitis B, and *Haemophilus influenzae b* (DTP-HepB-Hib), represented about one fifth (19%) of doses given, while Bacille Calmette-Guérin (BCG) accounted for another 14%. Measles-containing vaccines and single Hepatitis B vaccines represented 9% and 10% respectively. The newly introduced vaccines, Pneumococcal Conjugate Vaccine (PCV), Inactivated Polio Vaccine (IPV), and rotavirus represented 11.5%, 2.7% and 0.6% respectively.

As in 2017, newborn vaccination (OPV0 and HepB0) in 2018 reached 22% of the doses administered routinely to children <5 years of age. According to the reporting, 88,742 children were born in MSF OCB-supported structures in 2018. A total of 58,439 doses of Hepatitis B0 (0.7 dose/newborn) and 82,213 OPV0 (0.9 dose/newborn) were recorded over the same period. Both vaccines can be given during the first few weeks of life (up to two weeks of age for OPV0 and up to the first day of Hepatitis B-containing vaccine for HepB0), but they are not always available outside maternities. In countries where HepB0 has not been introduced into the national vaccination schedule, specific authorisations were systematically sought by the teams to implement this WHO recommendation in projects performing deliveries, and this issue should be set as an advocacy priority.

In 2018, 66% of the 69,349 doses of tetanus vaccines delivered to women of reproductive age were administered to pregnant women. Of these doses, 33% were recorded as a first dose, and 7.4% were recorded as the fifth (and last) dose.

## 2.2. POST-EXPOSURE PROPHYLAXIS

Over the year, 68,142 doses of vaccines and vaccine products were used for Post-Exposure Prophylaxis (PEP) in MSF OCB projects (Table 1), representing a 30% increase compared to 2017 (65,694 doses). This increase was seen in all vaccine products with the exception of tetanus for treatment of wounds, and was probably due to a better reporting than to a change in use of the products in the missions.

All doses of rabies immunoglobulins and 99% of rabies vaccine doses were given in Pakistan and Afghanistan. The proper management of animal bites at risk of rabies remains a concern for other projects. Likewise, 60% of the tetanus immunoglobulins were reported in Haiti alone, while the rest of the doses were used in DRC and Burundi, all in emergency programmes. In these countries specifically, efforts to reinforce routine vaccination with tetanus vaccines would be extremely cost-effective and should be considered a priority.

**TABLE 1** Post-exposure prophylaxis vaccines in OCB projects, 2018 (n=68,142)

Type of victims	Vaccine product	Doses	%
Wounded	Tetanus	35956	53.4%
	Tetanus Ig	18115	26.9%
SGBV	Tetanus	4125	6.1%
	Hepatitis B	3511	5.2%
Suspected bites	Rabies	4710	7.0%
	Rabies Ig	924	1.4%

## 2.3. MASS VACCINATION CAMPAIGNS

In 2018, OCB organized four catch-up, preventive, multi-antigen mass vaccination campaigns in Mauritania (Mberra camp and Bassiknou before the closure of the project), South Sudan (two in Blue Nile State - BNS) and in Greece (Lesvos). Other preventive mass vaccination campaigns or catch-up vaccination activities were organised in Zimbabwe (HPV in school-age girls in Gutu); in Lebanon (Sabra/Shatila) with OPV and IPV as an add-on to a reactive measles vaccination campaign; measles in DRC (Kamako); in Serbia for the migrant populations; and measles in Guinea (Kouroussa) to improve vaccination coverage in the prefecture. A total of 226,768 vaccine doses were given preventively, which is 2.5 times more than in 2017.

OCB also became involved in the organisation of five small reactive measles vaccination campaigns in DRC (Lubunga), Greece (Lesvos), Serbia, Lebanon (Sabra/Shatila), and Guinea (Kouroussa). A total of 95,139 doses of measles vaccine were used during these campaigns. A one-dose cholera vaccination campaign was organised in DRC (Yumbi) and reached 25,467 persons on the “Terre ferme” and 4566 persons in the islands (total 30,033 people). During the diphtheria epidemic in Bangladesh, a total of 1862 doses of diphtheria vaccine were distributed by the MSF OCB team for vaccination of contacts of confirmed cases. A total of 127,034 doses were given in response to outbreaks, which represents only 7.7% of the total doses given in 2017 (1,650,056 doses).

In Zimbabwe, MSF supported the MoH in planning, training, and coordinating the cholera vaccination activities in Harare (total 1,297,890 doses distributed). The team based in Iraq provided logistic support to the measles reactive campaign organised by the MoH in Mosul, where 38,179 children 9-59 months were reached.

## 2.4. EVALUATIONS AND SURVEYS

To our knowledge, missed vaccination opportunities were only evaluated in Lebanon in 2018, but because of methodological problems, no result is available.

Vaccination coverage surveys were performed by MSF in DRC (post-measles campaign in Lubunga); in Serbia (baseline and post-measles campaign); and in Mauritania (pre- and post-multi-Ag vaccination campaign, before closure of the programme); and by Epicentre in Haïti (OCV 2nd dose in Port-à-Piment). Results are presented in the Annex.

## 3. FIELD VISITS, DEVELOPMENTS AND INNOVATION, TRAININGS, CONFERENCES, AND MEETINGS

Field support visits were undertaken by the Vaccination Referents to Bangladesh (response to the diphtheria outbreak), Zimbabwe (HPV and TCV vaccination feasibility), Turkey (support to routine immunisation activities in Syria), and Greece (multi-Ag campaign in Lesvos). Two visits were also paid to Kinshasa, DRC to participate in the validation of the national plan for cholera control and to facilitate a training session for the Pool d'Urgence (PUC). The Mobile Implementation Officer visited Haïti (Port-à-Piment), South Sudan (BNS), and



Guinea (Kouroussa) for the support to routine immunisation, and in DRC for the implementation of the cholera vaccination (Yumbi).

In 2018, the vaccination team facilitated sessions in three First Line Medical Trainings (FLMT), one Response to Epidemics, one Population in Precarious situation (PSP) and in one Health Promotion (HP) training. The advisors also actively participated in three Vaccination Working Group meetings, the Outbreak Preparedness Day, and the Medical Coordination Week.

A poster on coverage of a pneumococcal conjugate vaccine campaign in South Sudan and trends in inpatient lower respiratory tract infections over time was presented at the Scientific Day in London. Another poster on evaluation of the stability of measles vaccine for use in Extended Controlled Temperature Conditions (ECTC) was presented at Epicentre Scientific Day.

A qualitative study was launched by LuxOR in Guinea to understand the reasons for sub-optimal vaccination coverage in an urban setting after mass vaccination campaigns. Results are expected in early 2019.

A study on cholera vaccine effectiveness in Haïti had to be stopped because of the lack of cases over a two-year follow-up period. A second study on the appropriate interval between two doses of OCV, also planned for Haïti, has been redirected to Guinea in 2019.

The study on implementation of Human Papillomavirus (HPV) Vaccination among HIV-Positive Adolescent Girls and Young Women in Gutu, Zimbabwe was approved and will be conducted in 2019.

The protocol to study the effectiveness of conjugated typhoid fever vaccine (TCV) in Harare, Zimbabwe, was developed in collaboration with Epicentre and was submitted to MSF Ethics Review Board (ERB) for approval.

## **4. LOOKING BACK AND AHEAD**

### **4.1. LESSONS LEARNED IN 2018**

- Due to unforeseen absences in the team, maintaining stable support to the field was a real challenge this year, and support was assisted thanks to the integration of two nurses on short term contracts into the team.
- The position of International Vaccination Focal Point in DRC was filled in February and kept under OCB technical supervision until June, then handed over to OCP.
- Recommendations for pre-and post-exposure prophylaxis of staff during a diphtheria outbreak were developed, and recommendations for vaccination of HIV+ individuals, of patients with functional and anatomic asplenia, and of staff were updated.
- A capitalisation report about measles in DRC was written; conclusions still need to be disseminated.
- Despite efforts from all MSF vaccination advisors to avoid wastage, an outstanding stock of 297,000 doses of soon-to-expire measles vaccines had to be destroyed at MSF-Supply in August 2018. An internal investigation came to the conclusion that this situation was due to a lot of bad luck and a bit of mismanagement. Following this incident, mechanisms were put in place to reduce the risk of wastage. They still need to be reinforced at all levels.
- A lack of measles vaccines in DRC impaired the response to several epidemics in DRC, but allowed us to negotiate importation of an intersection stock of around 750,000 doses of vaccines dedicated to outbreak response in DRC.
- Several articles were submitted to journals for publication (Coup de Poing in DRC, stability of measles vaccine out of the cold chain under Extended Controlled Temperature Conditions, and vaccination coverage in Haïti) and are under revision.



- The documentation of the use of diphtheria antitoxin (DAT) during the Bangladesh outbreak was undertaken and results will be disseminated in 2019.

## 4.2. GOALS FOR 2019

- Continue to provide close support to the field through a Mobile Implementation Officer (MIO) position and regular field visits from the advisors.
- Work on integration of routine catch-up vaccination up to five years by default in all projects reaching children <5 years of age.
- Keep promoting the use of the MSF guidance document for preventive vaccinations in emergencies in order to consider adding other vaccine-preventable diseases to measles in preventive campaigns.
- Lobby internally for the integration of cholera vaccine “by default” in response to epidemics or in preventive vaccinations during emergencies and document the experience.
- Switch from tetanus vaccination to a diphtheria-containing tetanus vaccine for vaccination of wounded and women of childbearing age, and increase uptake of tetanus vaccination for eligible women at delivery.
- Further explore the opportunity to integrate HPV vaccination into clinical follow-up of HIV+ women in HIV projects.
- Explore opportunities to document the use and uptake of HBV vaccine in vulnerable populations (HIV+, MSM, sex workers, and migrants).
- Follow-up several studies on vaccination: OCV in Guinea, HP, and TCV in Zimbabwe.



Young boy receiving oral vaccine against poliomyelitis in CAR.  
© Pierre-Yves Bernard/MSF

# OCB MEDICAL ACTIVITY ANNEX OF TABLES AND DATA

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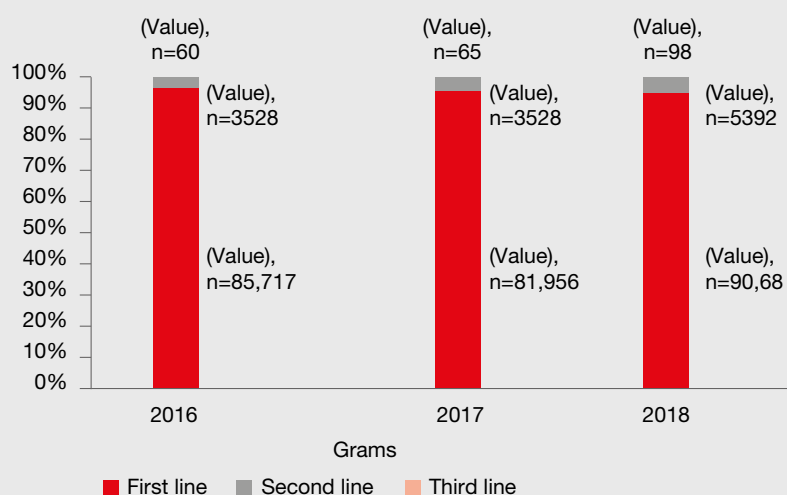
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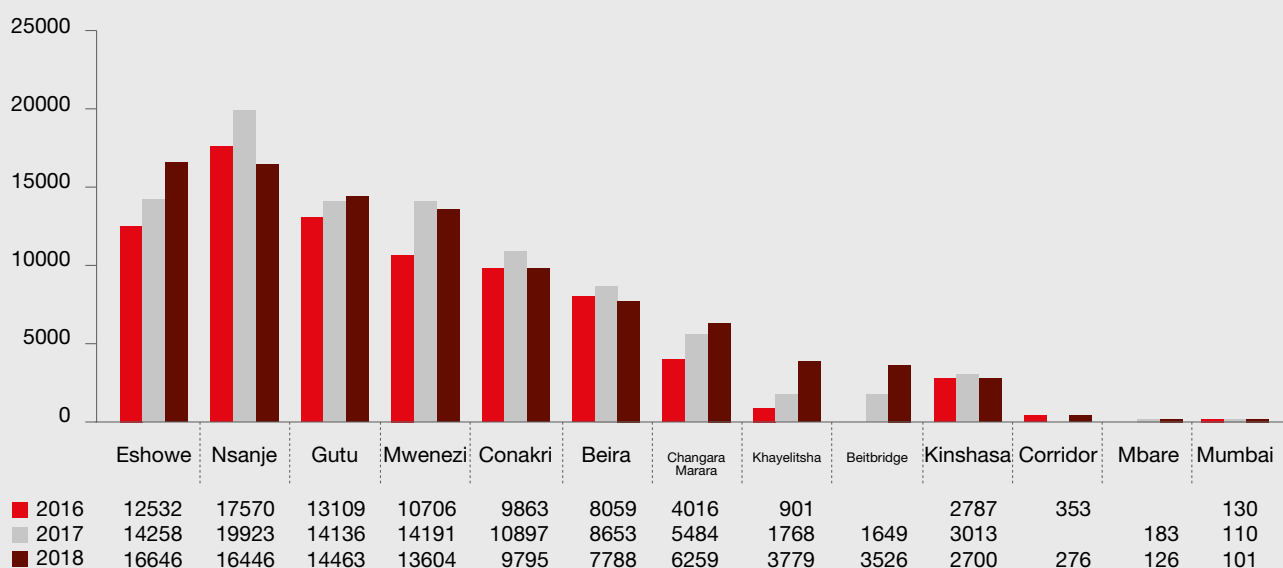
# HIV

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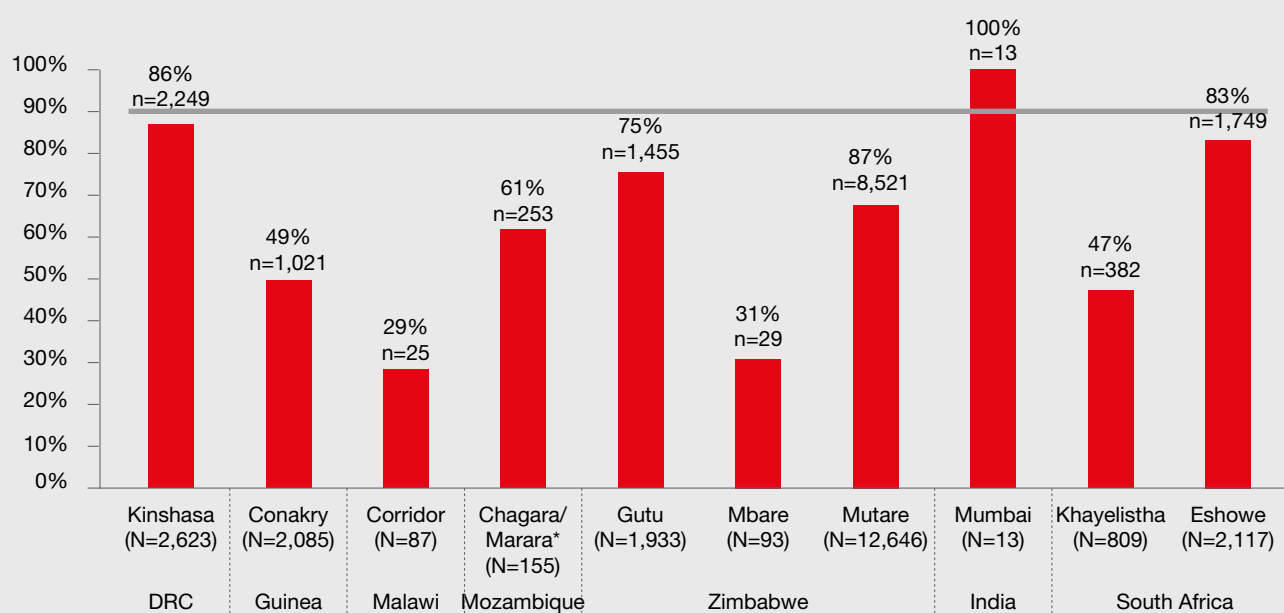
**FIGURE 7** Proportion of active cohort on first-, second-, and third-line regimes, among those active in care and for whom information is available (as of December 31, by year)



**FIGURE 8** Total number of HIV patients active in care in MSF-supported facilities as of December 31, by year



**FIGURE 9** Proportion of patients with a VL completed 12 months after ART initiation (9-15 months), among those who were initiated on ART between October 1, 2016 and September 30, 2017 and who were retained in care



\*Among those initiated in Q3 2016

# LABORATORY SERVICES

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**TABLE 1** OCB Laboratory Activities, 2018

Country	Project	Number of Laboratories	Project status			
			HIV & TB	Transfusions (only)	Hospital (transfusions included)	Other
Democratic Republic of Congo	Bili	1		1		Malaria
	Kinshasa	1	1			
	Masisi	1			1	
	Kananga	1		1		Surgery
Burundi	Bujumbura	1			1	Trauma care
	Gitega	1		1		Malaria
Mauritania	Bassikounou	1			1	
Central African Republic	Bangassou	1			1	
	Bangui	1		1		Maternity
Kenya	Embu	1				NCD
Guinea	Conakry	1	1			
	Kouroussa	1		1		Malaria
South Sudan	Pibor	1			1	
	Doro	1		1		
Nigeria	Maiduguri	1			1	Nutrition
Haiti	Port-au-Prince	1			1	Trauma care
Ukraine	Dnepropetrovsk	1	1 ( +MDR-TB)			
Zimbabwe	Mwenezi	1	1			
	Harare / NMRL	1	1			
	Beit-Bridge	1	1			
Malawi	Nsanje	1	1			
Mozambique	Beira	1	1			
Afghanistan	Kabul	1			1	
	Khost	1			1	Maternity
Pakistan	Timurgara	1		1		Maternity
	Karachi	1				Hepatitis C
India	Mumbai	1	1			
Lebanon	Bar Elias	1			1	
	Akkar	1				NCD
Iraq	Baghdad	1	1 (TB)			
	Mosul	1			1	Trauma care
Gaza	Gaza	1			1	Trauma care
Total Active Laboratories		32	10	7	12	

# NUTRITION

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**TABLE 1** OCB Nutritional Services by Project, 2018

Country	Project	ATFC				ITFC			Remarks (calculations are at exit)
		Total patients	% cured	% defaulted	% deteriorated (ATFC to ITFC)	Total patients	% stabilised (ITFC to ATFC)	% died	
Vertical Programmes / Emergencies									
DRC	Kasai	2076	73.2	19.9	3.8	434	90.1	5.4	
Nigeria	Borno (Maiduguri)	5824	70.3	20.8	5.2	2728	74.4	7.6	
Integrated Programmes									
Afghanistan	Kabul	340	80.8	15.5	0.7	156	84.5	0.5	
CAR	Bangassou					69	ND	18.8	Data for mortality comes from Paediatric data set
DRC	North Kivu (Masisi, Nyabiondo)	1789	89.8	10.2	5.4	1994	73.9	5.5	
	Bili	901	55.5	34.7	9.8	689	73.0	3.3	
	PUC	ND	ND	ND	ND	ND	ND	ND	
Guinea	Kouroussa	536	63	24.4	12.3	352	85.3	6.5	
Mauritania	Hodh El Chargui (Bassikounou, Mbera)	121	90.4	1.4	7.3	131	ND	ND	
Malawi	Prisons	60	17	ND	ND				
Sierra Leone	Goroma Mende Wandor	163	89.1	0	10.9				These are MoH OTPs being supported by MSF. Quality of this data may be questionable
South Sudan	Blue Nile State	404	42.5	28.6	ND				No ITFC activities.
	Pibor, Gumuruk, Lekongole	1473	61.2	35.6	0.1	126	45.0	3.2	ATFC numbers from Gumuruk and Lekongole, as ATFC in Pibor run by another actor
	Maban (Doro)	1075	75.8	13.4	0.9	436	87.6	4.7	
Targeted Nutritional Support									
Burundi	Arche					ND			Ad hoc nutritional support and therapeutic foods given
DRC	Kinshasa (HIV)					ND			Not an ITFC but treatment given on an inpatient ward
Haiti	Tabarre Hospital					ND			This figure is likely to be a huge underestimate, but data not available

**ATFC:** Ambulatory Therapeutic Feeding Centre; **CAR:** Central African Republic; **FFR:** Family food Ration; **DRC:** Democratic Republic of Congo; **ITFC:** Intensive Therapeutic Feeding Centre; **MoH:** Ministry of Health; **ND:** no data; **NA:** not applicable; **PUC:** Pool d'Urgence Congo



# OPERATIONAL RESEARCH & DOCUMENTATION

22

## OCB-RELATED SCIENTIFIC PUBLICATIONS, 2018

### OPERATIONAL RESEARCH

1. Decroo T, Van den Bergh R, Kumar AMV, Zachariah R, Schillberg E, Owiti P, et al. Blended SORT-IT for operational research capacity building: the model, its successes and challenges. *Global health action*. 2018; 11(1): 1469215.
2. D'Mello-Guyett L, Yates T, Bastable A, Dahab M, Deola C, Dorea C, et al. Setting priorities for humanitarian water, sanitation and hygiene research: a meeting report. *Confl Health*. 2018; 12: 22.
3. Harries AD, Khogali M, Kumar AMV, Satyanarayana S, Takarinda KC, Karpati A, et al. Building the capacity of public health programmes to become data rich, information rich and action rich. *Public Health Action*. 2018; 8(2): 34-6.
4. Sagili KD, Satyanarayana S, Chadha SS, Wilson NC, Kumar AMV, Moonan PK, et al. Operational research within a Global Fund supported tuberculosis project in India: why, how and its contribution towards change in policy and practice. *Global health action*. 2018; 11(1): 1445467.
5. Tripathy JP, Kumar AM, Guillermin N, Berger SD, Bissell K, Reid A, et al. Does the Structured Operational Research and Training Initiative (SORT IT) continue to influence health policy and/or practice? *Global health action*. 2018; 11(1): 1500762.

### HEALTH SYSTEMS & PROGRAMME MONITORING

6. Ahuja N, Kathiresan J, Anand T, Isaakidis P, Bajaj D. I have heard about it for the first time from you! Implementation of tobacco control law by police personnel in India. *Public Health Action*. 2018; 8(4): 194-201.
7. Gupte HA, Zachariah R, Sagili KD, Thawal V, Chaudhuri L, Verma H, et al. Integration of tobacco cessation and tuberculosis management by NGOs in urban India: a mixed-methods study. *Public Health Action*. 2018; 8(2): 50-8.
8. Harries AD, Lin Y, Kumar AMV, Satyanarayana S, Zachariah R, Dlodlo RA. How can integrated care and research assist in achieving the SDG targets for diabetes, tuberculosis and HIV/AIDS? *Int J Tuberc Lung Dis*. 2018; 22(10): 1117-26.
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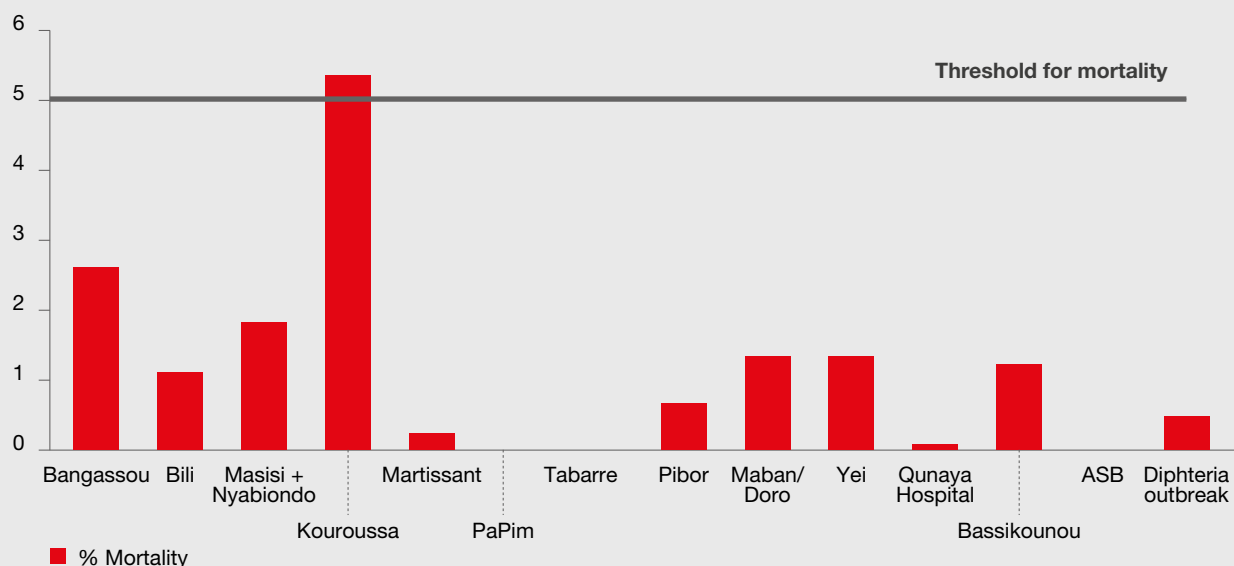
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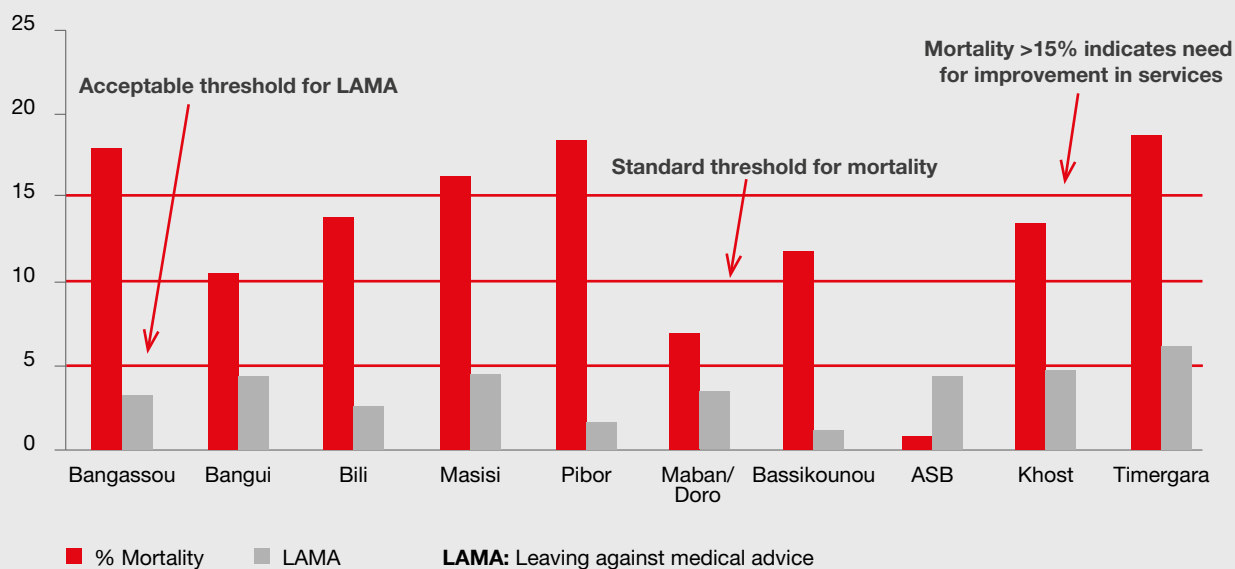
# PAEDIATRIC CARE

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**FIGURE 1** %Mortality in MSF Paediatric Inpatient Departments, 2018



**FIGURE 2** Rates of mortality and LAMA in MSF Neonatal Projects, 2018



## CHILD HEALTH CONCEPT

Child health is not just the curative care at a clinical encounter but involves evaluating and putting in interventions for all the other determinants of child health. The child health concept means integration of all programmatic parts involved in child health in our projects.

The goal is to provide more holistic care to children including preventative, curative and, when possible, psychosocial support while intervening in the other key determinants of their health:

- Preventive care
- Vaccinations
- Food security
- Mental health
- Geographical mapping and solution for patient populations
- Environmental health: Water and sanitation and vector control measures
- Child protection
- Maternal care where it intersects with the health of the child

The first step is providing child health packages that are comprehensive but realistic and adaptable for each level of care offered in our projects. Interdisciplinary collaboration will further expand on these packages to include support for other factors that touch on child health.

# SURGICAL CARE

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**TABLE 3** Summary of main indicators by project for 2018

Mission		AFG	AFG	BDI	CAF	CAF	COD	COD	COD	HTI	IRQ	LBN	MRT	PSE	PAK	SSD
Project		Kabul	Khost	Bujumbura	Bangassou	Castor	Kananga	Masisi	Nyabiondo	Tabarre	East Mosul	Bar Elias	Bassikounou	Al-Awda	Timergara	Pibor
Patients	number	1277	1011	1875	605	1273	84	1790	298	1046	134	30	183	276	2180	207
Cases	number	1287	1045	4157	1091	1377	323	3103	303	3238	274	30	184	606	2238	264
Procedures	number	1306	1212	4658	1097	1396	342	3240	304	4732	294	34	184	727	2420	268
Mean Age	years	25	33	23	27	25	33	25	23	29	30	34	24	25	32	22
Female	%	62.5	100,0	26.6	47.9	100	27.4	72.3	78.9	21.3	36.6	23.3	76.5	1.1	100	48.3
All trauma	%	1.0	0	100.0	32,4	0.1	94.0	25.4	19.5	100	97.0	0	19.1	100	0.4	53.6
Violent trauma	%	0.8	0	6.7	10,4	0.1	71.4	10.4	6.7	403	87.3	0	0	99.6	0	30.9
Caesarean section	%	33.4	54.6	0	18,7	77.5	0	45.8	50	0.1	0	0	46.4	0	89.7	16.4
Post-op infection	%	0.5	1.3	1.2	ND	1.7	ND	0.7	2.0	7.0	3.7	3,3	ND	ND	ND	ND
Primary interventions	%	99.2	96.7	45.1	55,5	92.4	26.0	57.7	98.3	32.3	48.9	100	99.5	45.5	97.4	78.4
Emergent cases	%	97.3	80.6	100	97,0	100	100	95.4	100	100	100	0	100	100	100	97.3
Minor/wound surgery	%	3.1	0.4	57.4	72,2	8.1	83.9	54.4	42.9	48.6	66.4	3.3	14.7	71.5	0.5	81.1
Spinal anaesthesia	%	83.2	84.1	18.2	18,8	75.2	9.6	32.8	42.6	20.1	18.2	86.7	57.1	8.3	80	14.4
Spinal procedure/C-section	%	97.2	91.5	NA	71,7	88.1	NA	93.0	83.2	NA	NA	NA	91.8	NA	87.5	88.2
Intra-operative mortality	%	0.2	0.6	0.2	0,2	0.2	0.3	0.2	0	0.5	0	0	0.5	0	0.1	0.4
Occupancy rate per OR	min/day/OR	293	90	347	84	126	63	254	41	315	98	53	33	113	347	37

**TABLE 6** Intra-operative mortality, by project, 2014-2018

Intra-operative mortality		Kabul	Khost	Bujumbura	Bangassou	Castor	Kananga	Masisi	Nyabiondo	Tabarre	East Mosul	Bar Elias	Bassikounou	Al-Awda	Timergara	Pibor
2014	No	2	1	---	4	3	---	5	---	17	---	---	0	---	3	---
	%	0.2	0.2	---	0.4	0.6	---	0.2	---	0.4	---	---	0	---	0.2	---
2015	No	2	4	5	1	1	---	2	---	21	---	---	0	---	6	---
	%	0.2	0.5	0.6	0.1	0.1	---	0.1	---	0.3	---	---	0	---	0.5	---
2016	No	1	1	4	3	4	---	1	---	24	---	---	0	---	7	0
	%	0.1	0.1	0.1	0.2	0.3	---	0.1	---	0.3	---	---	0	---	0.5	0
2017	No	1	4	9	5	3	1	6	0	10	---	---	0	---	5	0
	%	0.1	0.4	0.2	0.4	0.2	0.1	0.2	0,0	0.2	---	---	0	---	0.3	0
2018	No	2	6	9	2	3	1	7	0	15	0	0	1	0	3	1
	%	0.2	0.6	0.2	0.2	0.2	0.3	0.2	0	0.5	0	0	0.5	0	0.1	0

# VACCINATION

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**TABLE 2** Vaccination coverage surveys

Country/Project	Antigen	Date	Target pop (ex <5y)	Vaccinated	Coverage
DRC, Lubunga (Tshopo)	Measles	May	6m-<15y	65,381	94.5%
DRC, Yumbi (Mai Ndombe)	Cholera	June	>1y	30,033	95%
Guinea, Kouroussa	Measles and baseline M-Ag	Jan	6m-10y and 6m-7y	18,438	93%
Mauritania, Mberra	Multi-Ag	Dec	<5 and WCBA		BCG 84.7%, HepB0 80%, OPV3 ,Penta3, PCV3 74.4%, Rota2 78.3% and Measles 74.3%
Mauritania, Bassiknou	Multi-Ag	Dec	<5 and WCBA		BCG 86.3%, HepB0 70.7%, OPV3, Penta3, PCV3 82.4%, Rota2 86.4% and Measles 80.5%
Serbia	Measles	August	1-18y	610	67%