OPERATIONAL RESEARCH DAY

FRIDAY 2ND JUNE 2017, BRUSSELS

MSF Operational Centre Brussels

MEDECINS SANS FRONTIERES

OPERATIONAL RESEARCH DAY
OCB MSF B GATHERING AGM

OR DAY 2017: SCIENTIFIC COMMITTEE

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Cover photo:
Syrian refugees are blocked at the Greek border with FYROM (Former Yugoslav Republic of Macedonia). © Alex Yallop/MSF

FOREWORD

Dear Friends,

It is my pleasure to welcome you to our sixth OCB Operational Research Day. The day looks very promising with a diverse agenda.

The work we will present today is related to feasibility of operational approaches on the field, piloting of new medicines and tools, advocacy and use of qualitative research to better understand the needs of our beneficiaries. We often work in very difficult situations and we need good data, analysis and publications to share what we do, for our accountability and for advocacy.

This year we will have four exciting slots with new ones being consequences of violence and trauma and how we manage them; reflecting on how to steer change on the ground and a specific panel discussion on qualitative research.

Today, the needs of the people are not only medical as humanitarian aid is being manipulated for political ends– we will need to stand against this and use all our available resources and abilities and operational research is an important tool.

Let us learn to the lessons learnt from our work of the past year. Let us use our results to influence others and continue to do better in using "science" and evidence in humanitarian aid and our social mission.

Bertrand Draguez
President MSF Operational Centre Brussels

AGENDA

MASTER OF CEREMONIES
Armand Sprecher

09.00 OPENING REMARKS
Bertrand Draguez

09.15 Slot 1: HIV/AIDS and Tuberculosis: Emerging opportunities and new challenges!
Chairs: Nathan Ford and Marc Biot

Gaps in the cascade of care in two high HIV prevalence settings in Zimbabwe and Malawi - Nolwenn Conan

"Throwing all we have"; combination of new drugs for the treatment of drug-resistant tuberculosis patients in Armenia, India and South Africa - Chinmay Laxmeshwar

"Even if she's sick at home, she will pretend that everything is fine"; Reasons patients delay seeking treatment for HIV in Kinshasa, Democratic Republic of Congo (DRC) - Emilie Venables

"Point-of-care tests can save lives"; screening patients with advanced HIV-disease in Conakry, Guinea - Ismael Adjaho

11.00 COFFEE BREAK

11.30 Slot 2: A paradigm of today? Consequences of violence and trauma in humanitarian settings
Chairs: Amine Dahmane and Stefano Argenziano

A crisis of protection and humane treatment: violence, physical trauma and deaths among migrants/refugees travelling along the Western Balkan corridor to Northern Europe - Jovana Arsenijević

Medical care, in Athens Greece, for migrants and refugees, who have suffered torture and other forms of ill-treatment - Manoli Kokkiniotis

Emergency department care for trauma patients in settings of active conflict versus urban violence: all of the same calibre? - Sophia Chérestal Woolley

Saving life and limb: limb salvage using external fixation, a multi-centre review of orthopaedic surgical activities in Médecins Sans Frontières - Marie-Jeanne Bertol

13.00 LUNCH

14.00 Slot 3: Influencing health care down-stream – how to steer change?
Chairs: Johan von Schreeb and Catherine Van Overloop

Efficacy and effectiveness of an rVSV-vectored vaccine in preventing Ebola virus disease: final results from the Guinea ring vaccination, open-label, cluster-randomised trial (Ebola Ça Suffit!) - Rebecca Grais

Unregulated usage of labour-inducing medication in a region of Pakistan with poor drug regulatory control: characteristics and risk patterns - Séverine Caluwaerts

Borehole diagnosis and rehabilitation as alternative to new borehole drilling – the Médecins Sans Frontières approach in rural Niger - Jean-Yves Nuttinck

Late breaker: Outbreak of multi-resistant Klebsiella pneumoniae in a MSF-supported maternity in Central African Republic - Julita Gil

15.30 TEA/COFFEE

15.40 Slot 4: Panel discussion: Qualitative research and the Community: what role in MSF Operations?
Chairs: Leen Verhenne and Tom Ellman

Presentations
"Tell it to my mother-in-law" women's sexual and reproductive health, their perception of and access to maternal health care services in Khost province, Afghanistan - Doris Burtscher

From sexual violence to sexuality in violent environment: the case of Rustenburg (South Africa) - Jean-François Véran

Discussion
Panel: Bart Janssens, Tom Ellman, Leen Verhenne, Doris Burtscher, Jean-François Véran, Emilie Venables

17.20 CLOSING REMARKS
Sebastian Spencer

SLOT 1

HIV/AIDS AND TUBERCULOSIS: EMERGING OPPORTUNITIES AND NEW CHALLENGES!

Gaps in the cascade of care in two high HIV prevalence settings in Zimbabwe and Malawi

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Introduction

National population-based HIV surveys recently conducted in Zimbabwe and Malawi report that both countries are nearing the 90-90-90 target: by 2020, 90% of people living with HIV diagnosed; 90% of diagnosed enrolled on antiretroviral therapy (ART); and 90% of people in treatment with fully suppressed viral load. In people aged 15-64 years, Zimbabwe is at 74.2/86.8/86.5 while Malawi is at 72.7/88.6/90.8. We evaluated the cascade of care and HIV prevalence in two rural districts--Gutu in Zimbabwe (population≈203,533) and Nsanje in Malawi (population≈241,107)--where MSF has been working since 2011 using a "mentoring approach" by increasing access to quality HIV care through decentralisation of ART diagnosis and treatment from hospital to clinics.

Methods

Cross-sectional population surveys were implemented in Gutu District and Nsanje District between September and December, 2016. Using multistage cluster sampling, we recruited all individuals age ≥15 years living in 4843 selected households (2400 in Gutu and 2443 in Nsanje). Individuals who agreed to participate were interviewed and tested for HIV at home. All participants who tested positive also had their viral load measured, regardless of their ART status.

Results

Among 5442 adults >15 years in Gutu and 5322 in Nsanje, 88.9% and 87.8%, respectively, were included and tested. The overall prevalence was 13.6% (95%CI 12.6-14.5) in Gutu and 12.0 % (95%CI 11.1-13.0) in Nsanje, and was higher among women than men in both districts: 14.5% vs 12.3% in Gutu (p=0.03); 13.9% vs 9.5% in Nsanje (p<0.01). Overall progress toward the 90-90-90 target was: 86.0/94.1/85.5 in Gutu and 76.6/90.7/89.2 in Nsanje. In both settings, women achieved higher outcomes than men, except for the last 90 among women in Gutu: 90.8/95.7/85.4 vs 77.8/91.0/85.6 in Gutu; and 80.2/91.5/89.7 vs 69.6/88.7/88.3 in Nsanje, respectively. Viral load results are at a preliminary stage. Adults ages 15-24 were less likely to be diagnosed than older adults in both settings: 71.4% (95%CI 58.3-81.7) in Gutu and 64.3% (95%CI 51.0-75.7) in Nsanje.

Conclusion & operational Implications:

While Gutu District was closer to the 90-90-90 target than Zimbabwe as a whole, no significant difference was found between Nsanje District and the whole of Malawi. To the best of our knowledge, Gutu is the only MSF-supported site approaching the 90-90-90 target. In both sites, outcomes were better among women than men, and among older adults than younger adults, mostly because they were less likely to be diagnosed. Control strategies in both settings should emphasize detection of undiagnosed men and young adults.

"Throwing all we have"; combination of new drugs for the treatment of drug-resistant tuberculosis patients in Armenia, India and South Africa

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Background

For half a century no new drugs for tuberculosis (TB) have been developed. In the last years, two new medicines, Bedaquiline (BDQ) and Delamanid (DLM), were approved for treatment of drug-resistant TB (DR-TB). The number of patients in programmatic settings who have access to these new drugs is abysmal. High cost represents a major barrier to introduction and wider use. Evidence on the use of these drugs combined is extremely limited: few clinical trials are ongoing and not expected to provide data in the near future. Eastern Europe, South-East Asia and the Southern Africa region represent the most important DR-TB epidemic hotspots. MSF is present in all these settings, and has introduced these new drugs alone and in combination to provide a chance to cure to some of the most complex DR-TB patients in the world, including patients with HIV. The aim of this study was to describe early safety and efficacy of the combination of BDQ and DLM among complex DR-TB patients in Yerevan (Armenia), Mumbai (India) and Khayelitsha (South Africa).

Methods

This was an observational cohort of patients who received the combination of BDQ and DLM as part of their treatment regimen between January 2016 and August 2016. We looked at the safety of the drug combination (especially cardiotoxicity using electrocardiogram [ECG]) and at efficacy (assessed by culture conversion and/or sputum culture status, positive or negative, at 6 months).

Results

Overall, 28 patients were started on the combination of BDQ and DLM; seven respectively in Armenia and India and 14 in South Africa. Of them, 17 (61%) patients were males and median age at combination initiation was 32.5 (IQR 28.5-40.5). Eleven (39%) patients were HIV positive and the vast majority of patients had confirmed second-line resistance (n=26, 93%) and previous exposure to second-line drugs (n=21, 75%). As of February 2017, 24/28 (86%) patients were alive and still on DR-TB treatment. One (3.6%) patient had died and 3 (10.7%) were lost to follow-up. By month six, 16/23 (70%) patients were culture negative, 3/23 (13%) were still culture positive and culture status was unknown for another 4/23 (17%) patients at the time of the analysis. Mild QT prolongation on the ECG was relatively common but not clinically significant; no patient had to stop the treatment due to adverse events.

Conclusion

Despite its small size this is the largest global cohort of patients treated with the combination of these two new drugs under programmatic conditions. The early efficacy results of the combination of BDQ and DLM in 3 programmatic, primary care settings (one of them with high HIV prevalence) are extremely promising. The combination was safe in this cohort and the electrocardiography monitoring, even though demanding, was feasible under routine conditions. Access to BDQ and DLM alone and in combination is scandalously low even in clinical trials and should be urgently expanded to improve treatment options for DR-TB patients. More drugs and injectable-free and shorter DR-TB regimens are urgently needed.

"Even if she's sick at home, she will pretend that everything is fine"; Reasons patients delay seeking treatment for HIV in Kinshasa, Democratic Republic of Congo (DRC)

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Background
HIV prevalence in DRC is estimated to be 1.2%, and access to HIV testing and treatment remain low across the country. National ART coverage is among the lowest worldwide (23% in 2014). While 64% of the population lives below the poverty line, 43% of health expenditure is made by households. User fees severely limit health care access, and many people with HIV start ART late or interrupt treatment due to cost. At the Centre Hospitalier Kabinda (CHK) in Kinshasa, median CD4 count at admission was 74 cells/uL and in-patient mortality was 25%; 70% of patients were previously on ART and 50% had interrupted treatment for more than 6 months and 20% were treatment failures not managed accordingly. A qualitative study was conducted to explore why patients arriving at CHK delayed seeking treatment.

Methods
24 in-depth interviews were carried out with currently- and previously-hospitalised patients, relatives/caregivers of patients and health care workers in CHK. Patients included those who were ART-naïve and non-naïve. Participant observation was also conducted. Interviews were conducted in French and Lingala. All interviews were translated into English, entered into NVivo, coded and thematically analysed.

Results
Patients, caregivers and health care workers gave similar reasons for late arrival of patients including lack of training amongst health care workers on treatment failure management; religious leaders encouraging people not to take ART; poor patient understanding of diagnosis/treatment; stigma and lack of economic resources to pay for consultations. Stigma prevented patients from disclosing and seeking support from their relatives. Health care workers felt HIV testing was not offered early enough and that adherence support was insufficient. Clinics were described as "boutiques" where every intervention had an additional - often unaffordable - cost.

Conclusion
Cost, stigma, lack of patient and health care worker knowledge and misinformation by religious leaders prevent patients from seeking health care. These factors jeopardize the assumption that lifelong HIV treatment is feasible in a low-coverage setting, and contribute to explain ongoing persistence of advanced HIV disease. Access to free HIV testing, ART and treatment of opportunistic infections; health promotion; training of health care workers; support for caregivers and stigma reduction strategies with churches and community organizations are urgently needed.

Operational implications
This study highlighted the different factors contributing to patients delaying treatment for advanced HIV in Kinshasa. Results have been disseminated at several forums across Kinshasa and have led to increased engagement with church leaders as well as contributing to a wider debate on advanced HIV disease.

"Point-of-care tests can save lives"; screening patients with advanced HIV-disease in Conakry, Guinea

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Background
Guinea is a low HIV prevalence country (1.7%) with a high number of documented AIDS-related deaths in 2015. Routine hospital morbidity and mortality data from tertiary hospitals consistently highlight tuberculosis and cryptococcal meningitis to be commonly leading causes of mortality and frequently diagnosed among advanced HIV infected patients. Médecins sans Frontières (MSF) started systematic screening for tuberculosis and cryptococcus infection among advanced HIV infected patients using point-of-care technologies to foster early detection and treatment. The aim of this study was to document this screening strategy at an MSF HIV clinic in Conakry, Guinea.

Methods
Retrospective analysis of routine data collected in laboratory registers. TB-LAM tests and CrAg lateral flow assay were used to screen HIV infected patients >15 years presenting to care with CD4 count < 100 cells/ul, irrespective of antiretroviral treatment (ART) status, between 1st January 2015 to 30th June 2016. We measured screening uptake and the yield of TB and cryptococcal infection among patients screened.

Results
Among 616 HIV infected patients with CD4 count < 100 cells/ml, mean age was 37 years [Inter Quartile Range (IQR): 15-86], median CD4-count was 28 cells/ml (IQR: 1-100), female were 66%, and 15 (2%), 47(7%), 388 (62%), 74 (12%) were WHO stage I, II, III & IV respectively. Uptake of screening was: 174/616 (28 %) for TB-LAM and 366/616 (59%) for CRAG test. Respectively, 32 % of screened patients were TB-LAM positive and 4% of patients were CrAg positive.

Conclusion
Uptake of a screening strategy using point-of-care tests for TB and cryptococcal infection among patients with advanced HIV disease in Guinea was low, especially for TB. The yield was high for TB and low for cryptococcal disease. The implementation of a systematic screening strategy in settings with high advanced HIV disease burden is challenging but remains essential.

Operational implications
High positivity rate for TB LAM allows for same day life-saving TB treatment initiation for one in three screened patients. Cryptococcal infection screening showed lower rates but ensures early and appropriate treatment for the patients in need. Major concern is the low uptake of systematic screening, especially for TB that remains the most common cause of death among HIV patients, and requires further investigation.

SLOT 2

A PARADIGM OF TODAY? CONSEQUENCES OF VIOLENCE AND TRAUMA IN HUMANITARIAN SETTINGS

A crisis of protection and humane treatment: violence, physical trauma and deaths among migrants/ refugees travelling along the Western Balkan corridor to Northern Europe

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Introduction
Pushed by ongoing conflicts and pulled by the desire for a better life, over one million migrants/refugees transited Balkan countries and arrived in Europe during 2015 and early 2016. To curb this influx, European countries instituted restrictive migration policies characterized by building of razor-wire border fences and stringent border closures. Among migrants/refugees who received mental health care in Serbia while travelling through Balkan countries, we assessed a) the trend in violent events b) physical injuries caused by acts of violence, and c) the perpetrators of such violence. We also report on cumulative deaths among migrants and their reported causes.

Methods
A mixed methods study among migrants/refugees attending mobile mental health clinics run by Médecins sans Frontières (MSF) between Sept 2016 and February 2017, in Serbia – a main transit hub to Northern Europe. Mental health consultations were conducted according to MSF guidelines by experienced psychologists who were supported by cultural mediators.

Results
Of 551 migrants/refugees attending MSF mental health clinics in Serbia, the majority (72%) were from Afghanistan and Syria and included minors (26%) The most frequent mental health symptoms/signs were anxiety (32%), adjustment reactions (25%) depression (16%). 312 (57%) had experienced violent events during their journey with 238(43%) showing signs of physical trauma/injuries due to violence. Of those with physical injuries (n-238), the great majority (222, 86%) were perpetrated by State authorities in Europe; almost all (93%) occurred within EU member states (namely Bulgaria, Hungary and Croatia). State authorities allegedly perpetrated physical injuries also on minors (<18years, 27%) and children (8%). There were a total of 72 reported deaths (including 8 children) during the last winter. The causes included hypothermia due to exposure to cold, inhaling fumes from fires used for heating, drowning in rivers while trying to cross over, electrocution by train lines, denial of access to medical care, and suicide. Qualitative evidence corroborated with quantitative findings.

Conclusion
Over half of the migrants/refugees seen in MSF clinics experienced violent events including physical trauma. State authorities within the EU member states were the perpetrators in the majority of such events. Deaths could be attributed to individuals taking more dangerous and risky routes to travel and/or the predicament of inhumane living conditions. There is "a crisis of protection and the lack of humane treatment" which needs to change towards one of respect for the principles of international human rights and refugee law.

Operational Implications
The high prevalence of violence including physical trauma among migrants justifies offering mental health care as an integral package of basic medical services at both transit stations and at the destination countries of migrants/refugees. MSF's current mental health package is restricted to providing psychological first aid and fostering coping mechanisms. Due to more complex mental health disorders and psycho pathology being evident, MSF needs to consider ways of expanding the mental health package. Importantly, sustained and high level of violence perpetrated by State authorities (including physical trauma inflicted on vulnerable individuals) demands strong advocacy for humane treatment and protection in line with international human rights and refugee laws. MSF also needs to consider medico-legal approaches to enhance protection of individual patients.

A PARADIGM OF TODAY? CONSEQUENCES OF VIOLENCE AND TRAUMA IN HUMANITARIAN SETTINGS

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Medical care in Athens Greece, for migrants and refugees, who have suffered torture and other forms of ill-treatment

Introduction
Greece is both a transit destination and home to a large population of migrants and refugees. Médecins Sans Frontières (MSF), in response to the need for medical services adapted to the rehabilitation requirements of victims of torture, initiated a project in late 2014 in Athens, to support migrants who suffered torture and other forms of ill-treatment. The aim of the medical care offered was to reduce suffering and when possible achieve rehabilitation for residuals linked to the violence suffered.

Methods
Medical support included: a) clinical examination and assessment of torture residuals; b) treatment plan focusing on the management and - if possible - rehabilitation of torture-related disabilities; c) physiotherapy and chronic pain management; d) psychiatric treatment (offered by BABEL Day Centre) and psychological care (including assessment, counselling, psychotherapy, psychological support) offered jointly by BABEL and MSF; e) referrals for diagnosis and specialist care; f) management of other chronic morbidities. Surgical rehabilitation procedures, prostheses, orthotic devices and accessories of daily living are also offered to beneficiaries in cooperation with a network of health professionals.

Results
Between October 2014 and September 2016, 316 beneficiaries from 38 countries were attended by MSF medical doctors, physiotherapist and psychologists. Psychological and psychiatric care was also offered to more than half of the beneficiaries by BABEL psychiatrists and psychologists. Most torture residuals affected the musculoskeletal (43%), neurological (20%), genitourinary (14%), and gastrointestinal (14%) systems. An additional 9% presented with oral cavity (dental) related residuals. Moreover, more than half of the beneficiaries sought mental health support to overcome different types of traumatic exposure (torture; detention; difficult journey to Europe, racist attacks) as well as current stressors such as uncertainty in relation to the outcome of the asylum process, practical difficulties to ensure a livelihood, and marginalization. Psychological symptoms included patterns of extreme anxiety, defences of somatization, impaired memory, intrusive thoughts, impaired concentration, insomnia and nightmares, denial or repression and dissociation, guilt, helplessness, depressive mood or symptoms of PTSD, emotional disturbances, fear of intimacy, and substance abuse.

Conclusions
Many beneficiaries presented with a multitude of residuals and requests related not only to the violence previously suffered but also to the dire conditions and stressors experienced by them as migrants in Greece. Medical, mental health, social and legal professionals have been working in close collaboration to address the complexity of beneficiary needs stemming from their status as torture survivors as well as migrants, in a context where little welfare, integration or other support is made available to victims of torture or migrants.

Operational implications
The study contributes to the overall goal of acquiring a better understanding of victims of torture, including a better identification of victims of torture in MSF projects. Additionally, the experience in Athens will contribute to the setup and resource planning of other projects for victims of torture in different settings.

A PARADIGM OF TODAY? CONSEQUENCES OF VIOLENCE AND TRAUMA IN HUMANITARIAN SETTINGS

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Emergency department care for trauma patients in settings of active conflict versus urban violence: all of the same calibre?

Background
Trauma is a leading cause of death and represents a major problem in developing countries where access to good quality emergency care is limited. Médecins Sans Frontières delivered a standard package of care in two trauma emergency departments (EDs) in different violence settings: Kunduz, Afghanistan, and Tabarre, Haiti. This study aims to assess whether this standard package resulted in similar performance in these very different contexts.

Methods
A cross-sectional study using routine programme data, comparing patient characteristics and outcomes in two EDs over the course of 2014.

Results
31 158 patients presented to the EDs: 22 076 in Kunduz and 9082 in Tabarre. Patient characteristics, such as delay in presentation (29.6% over 24 h in Kunduz, compared to 8.4% in Tabarre), triage score, and morbidity pattern differed significantly between settings. Nevertheless, both EDs showed an excellent performance, demonstrating low proportions of mortality (0.1% for both settings) and left without being seen (1.3% for both settings), and acceptable triage performance. Physicians' maximum working capacity was exceeded in both centres, and mainly during rush hours.

Conclusions
It seems plausible to use a standard ED package in different violent settings as this does not seem to affect performance. Keeping track of patient load at different times of the day is essential for planning human resources needs.

Operational implications
The study reinforced the notion that ED care for trauma centres can be standardised, regardless of the setting in which the care is provided.

A PARADIGM OF TODAY? CONSEQUENCES OF VIOLENCE AND TRAUMA IN HUMANITARIAN SETTINGS

Saving life and limb: limb salvage using external fixation, a multi-centre review of orthopaedic surgical activities in Médecins Sans Frontières.

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Introduction
While the orthopaedic management of open fractures has been well-documented in developed settings, limited evidence exists on the surgical outcomes of open fractures in terms of limb salvage in low- and middle-income countries. We therefore reviewed the Médecins Sans Frontières-Operational Centre Brussels (MSF-OCB) orthopaedic surgical activities in the aftermath of the 2010 Haiti earthquake and in three non-emergency projects, to assess the limb salvage rates in humanitarian contexts in relation to surgical staff skills.

Methods
A descriptive retrospective cohort study conducted in the MSF-OCB surgical programmes in the Democratic Republic of Congo (DRC), Afghanistan, and Haiti. Routine programme data on surgical procedures were aggregated and analysed through summary statistic.

Results
In the emergency post-earthquake response in Haiti, 81% open fracture cases were treated by amputation. In a non-emergency project in a conflict setting in DRC, relying on non-specialist surgeons receiving on-site supervision and training by experienced orthopaedic surgeons, amputation rates among open fractures decreased from 100% to 21% over seven years of operations. In two trauma centres in Afghanistan (national surgical staff supported from the outset by expatriate orthopaedic surgeons) and Haiti (national musculoskeletal surgeons trained in external fixation), amputation rates among long bone open fracture cases were stable at 20% and <10% respectively.

Conclusions
Introduction of and training on the proper use of external fixators reduced the amputation rate for open fractures, and consequently increased the limb salvage rates in humanitarian contexts where surgical care was provided.

Operational implications
The study showed that the protocols used in the different projects providing surgical trauma care were appropriate and had a positive impact on limb salvage. It reinforced the practice of external fixation, and fed into the training programmes for local surgical staff.

SLOT 3

INFLUENCING HEALTH CARE DOWN-STREAM – HOW TO STEER CHANGE?

Efficacy and effectiveness of an rVSV-vectored vaccine in preventing Ebola virus disease: final results from the Guinea ring vaccination, open-label, cluster-randomised trial (Ebola Ça Suffit!)

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Background
rVSV-ZEBOV is a recombinant, replication competent vesicular stomatitis virus-based candidate vaccine expressing a surface glycoprotein of Zaire Ebola virus. We tested the effect of rVSV-ZEBOV in preventing Ebola virus disease in contacts and contacts of contacts of recently confirmed cases in Guinea, west Africa.

Methods
We did an open-label, cluster-randomised ring vaccination trial (Ebola ca Suffit!) in the communities of Conakry and eight surrounding prefectures in the Basse-Guinee region of Guinea, and in Tomkolili and Bombali in Sierra Leone. We assessed the efficacy of a single intramuscular dose of rVSV-ZEBOV (2×10^7 plaque-forming units administered in the deltoid muscle) in the prevention of laboratory confirmed Ebola virus disease. After confirmation of a case of Ebola virus disease, we definitively enumerated on a list a ring (cluster) of all their contacts and contacts of contacts including named contacts and contacts of contacts who were absent at the time of the trial team visit. The list was archived, then we randomly assigned clusters (1:1) to either immediate vaccination or delayed vaccination (21 days later) of all eligible individuals (eg, those aged ≥18 years and not pregnant, breastfeeding, or severely ill). An independent statistician generated the assignment sequence using block randomisation with randomly varying blocks, stratified by location (urban vs rural) and size of rings (≤20 individuals vs >20 individuals). Ebola response teams and laboratory workers were unaware of assignments. After a recommendation by an independent data and safety monitoring board, randomisation was stopped and immediate vaccination was also offered to children aged 6–17 years and all identified rings. The prespecified primary outcome was a laboratory confirmed case of Ebola virus disease with onset 10 days or more from randomisation. The primary analysis compared the incidence of Ebola virus disease in eligible and vaccinated individuals assigned to immediate vaccination versus eligible contacts and contacts of contacts assigned to delayed vaccination. This trial is registered with the Pan African Clinical Trials Registry, number PACTR201503001057193.

INFLUENCING HEALTH CARE DOWN-STREAM – HOW TO STEER CHANGE?

Results

In the randomised part of the trial we identified 4539 contacts and contacts of contacts in 51 clusters randomly assigned to immediate vaccination (of whom 3232 were eligible, 2151 consented, and 2119 were immediately vaccinated) and 4557 contacts and contacts of contacts in 47 clusters randomly assigned to delayed vaccination (of whom 3096 were eligible, 2539 consented, and 2041 were vaccinated 21 days after randomisation). No cases of Ebola virus disease occurred 10 days or more after randomisation among randomly assigned contacts and contacts of contacts vaccinated in immediate clusters versus 16 cases (7 clusters affected) among all eligible individuals in delayed clusters. Vaccine efficacy was 100% (95% CI 68•9–100•0, p=0•0045), and the calculated intra-class correlation coefficient was 0•035. Additionally, we defined 19 non-randomised clusters in which we enumerated 2745 contacts and contacts of contacts, 2006 of whom were eligible and 1677 were immediately vaccinated, including 194 children. The evidence from all 117 clusters showed that no cases of Ebola virus disease occurred 10 days or more after randomisation among all immediately vaccinated contacts and contacts of contacts versus 23 cases (11 clusters affected) among all eligible contacts and contacts of contacts in delayed plus all eligible contacts and contacts of contacts never vaccinated in immediate clusters. The estimated vaccine efficacy here was 100% (95% CI 79•3–100•0, p=0•0033). 52% of contacts and contacts of contacts assigned to immediate vaccination and in non-randomised clusters received the vaccine immediately; vaccination protected both vaccinated and unvaccinated people in those clusters. 5837 individuals in total received the vaccine (5643 adults and 194 children), and all vaccines were followed up for 84 days. 3149 (53•9%) of 5837 individuals reported at least one adverse event in the 14 days after vaccination; these were typically mild (87•5% of all 7211 adverse events). Headache (1832 [25•4%]), fatigue (1361 [18•9%]), and muscle pain (942 [13•1%]) were the most commonly reported adverse events in this period across all age groups. 80 serious adverse events were identified, of which two were judged to be related to vaccination (one febrile reaction and one anaphylaxis) and one possibly related (influenza-like illness); all three recovered without sequelae.

Interpretation

The results add weight to the interim assessment that rVSV-ZEBOV offers substantial protection against Ebola virus disease, with no cases among vaccinated individuals from day 10 after vaccination in both randomised and non-randomised clusters.

INFLUENCING HEALTH CARE DOWN-STREAM – HOW TO STEER CHANGE?

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Unregulated usage of labour-inducing medication in a region of Pakistan with poor drug regulatory control: characteristics and risk patterns

Background
In developing countries such as Pakistan, poor training of mid-level cadres of health providers, combined with unregulated availability of labour-inducing medication can carry considerable risk for mother and child during labour. Here, we describe the exposure to labour-inducing medication and its possible risks in a vulnerable population in a conflict-affected region of Pakistan.

Methods
A retrospective cohort study using programme data, compared the outcomes of obstetric risk groups of women treated with unregulated oxytocin, with those of women with regulated treatment.

Results
Of the 6379 women included in the study, 607 (9.5%) received labour-inducing medication prior to reaching the hospital; of these, 528 (87.0%) received unregulated medication. Out of 528 labour-inducing medication administrators, traditional birth attendants (also known as dai) 197 (37.3%) and lady health workers 157 (29.7%) provided unregulated treatment most frequently. Women given unregulated medication who were diagnosed with obstructed/prolonged labour were at risk for uterine rupture (RR 4.1, 95% CI 1.7–9.9) and severe birth asphyxia (RR 3.9, 95% CI 2.5–6.1), and those with antepartum haemorrhage were at risk for stillbirth (RR 1.8, 95% CI 1.0–3.1).

Conclusions
In a conflict-affected region of Pakistan, exposure to unregulated treatment with labour-inducing medication is common, and carries great risk for mother and child. Tighter regulatory control of labour-inducing drugs is needed, and enhanced training of the mid-level cadres of healthcare workers is required.

Operational implications
The study flagged the concerning rates of unregulated usage of labour-inducing medication, and its adverse consequences for mothers and children in the region. The study is being followed by a wide advocacy campaign, directed both towards the health authorities in terms of clarifying the different regulations concerning labour-inducing medication and the training of different cadres of health staff on its use, and towards the communities in terms of awareness of the risks of inappropriate usage of labour-inducing medication.

INFLUENCING HEALTH CARE DOWN-STREAM – HOW TO STEER CHANGE?

Borehole diagnosis and rehabilitation as alternative to new borehole drilling – the Médecins Sans Frontières approach in rural Niger

Presenter: Jean-Yves Nuttinck
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Background
Water supplies are under pressure in many regions around the world, in particular in low- and middle-income countries (LMIC). When faced with dysfunctional boreholes and thus failing provision of water, a common approach is to drill a new borehole, which can improve the water availability and quality but is expensive, time-consuming, and not always successful. We implemented an innovative mobile workshop for the diagnosis and rehabilitation of dysfunctional boreholes in the Guidan Roumdji district of Niger.

Results
Over a period of 109 weeks, 50 boreholes in the district were diagnosed. The most common diagnoses were chemical and/or coliform contamination. Six (12%) did not require any rehabilitation, for 10 (20%) the identified problems were too slight, and for 3 (6%) the necessary skills and material for rehabilitation were not available. The remaining 31 boreholes (62%) were rehabilitated successfully: for 7 (23%) minor problems persisted, but all provided sufficient quantities of potable water post-intervention. In the specific case of fluoride contamination in a subset of boreholes in the region, a proof-of-concept of sealing off the fluoride-holding layer in one borehole was performed successfully. For the 31 rehabilitated boreholes, the total cost (diagnosis + rehabilitation) was 130,200 USD, amounting to 2 USD per capita.

Discussion
This study showed the feasibility and added value of diagnosing and rehabilitating boreholes in LMIC. Interestingly, the mobile workshop allowed a refined diagnosis of the hydrogeology around the borehole, on the one hand allowing for specifically tailored interventions (such as patching of the contaminated layer, as illustrated in the case study), and on the other hand providing a better understanding of the hydrogeological complications in the area, guiding future drilling initiatives. We encourage other actors working on provision of water in LMIC to develop similar approaches, or to build collaborations with partners capable of offering diagnostic and rehabilitation services.

Operational implications
Borehole rehabilitation can now be considered as a viable option in the provision of access to groundwater, in addition to more conventional approaches such as manual- or rig-based drilling of new boreholes. The WatSan unit has added an operational capacity – the Groundwater Oriented project (Go pro) – to meet this need in the different projects of MSF-OCB.

INFLUENCING HEALTH CARE DOWN-STREAM – HOW TO STEER CHANGE?

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Late breaker: Outbreak of multi-resistant Klebsiella pneumoniae in a MSF-supported maternity in Central African Republic

Background
On 14 March 2017, the neonatal unit of the Médecins Sans Frontières Operational Centre Brussels (MSF) supported maternity in Bangui, Central African Republic, reported two cases of Klebsiella pneumoniae Extended-Spectrum Beta Lactamase (ESBL) resistant to Ampicillin and Gentamicine. An investigation was conducted to confirm whether an outbreak was on-going and to identify and control the potential source. A comprehensive outbreak response was put in place.

Methods
We defined Klebsiella pneumoniae ESBL suspected cases as neonates born in the MSF supported maternity with persistent fever and jaundice after 14 March. Hemocultures were undertaken for all suspected neonates admitted to the neonatal unit with their related antimicrobial susceptibility pattern.

Results
By 14 April, 20 confirmed cases of ESBL Klebsiella pneumoniae had been reported with a 20 percent case fatality rate (n=4 cases). Fifty percent of the confirmed cases (n=10) had an onset of symptoms in the first 72 hours of life, while 80 percent (n=16) had undergone resuscitation immediately after delivery. A case of Klebsiella Oxytoca was also isolated during this period.

This presentation will discuss the characteristics of the outbreak, the infection prevention and control measures, the lessons learnt and their operational implications.

SLOT 4

PANEL DISCUSSION – QUALITATIVE RESEARCH AND THE COMMUNITY: WHAT ROLE IN MSF OPERATIONS?

"Tell it to my mother-in-law". Women's sexual and reproductive health, their perception of and access to maternal health care services in Khost province, Afghanistan

Introduction

In the Khost maternity project MSF-OCB is focusing on women with direct obstetric complications (DOCs) to achieve a reduction in sexual and reproductive health related mortality and morbidity among the population of Khost province. In 2014, 46% of the expected DOCs were not attended by skilled medical personnel. Therefore, in 2016, the medical strategy focused on reducing the number of normal deliveries carried out in the hospital and increasing the number of DOCs treated in the hospital. Patients' and caretakers' perceptions of MSF Khost maternity were analysed as well as the community's perception of the maternal health care services provided by Khost provincial hospital, comprehensive health centres, basic health centres, private clinics, MSF and other informal "services".

Methods

Data was collected using non-participant observation, field notes, in-depth individual interviews (50) and group discussions (9). Respondents were purposively selected with the help of MSF team members. All interviews except two were recorded. Transcriptions were screened for relevant information, manually coded and analysed, inspired by a qualitative content analysis. An extended literature review prior and after the field stay, as well as discussions with the field team in Khost, the coordination and HQ in Brussels further helped to validate the findings and to give recommendations.

Results

Most maternal deaths are preventable in resource-poor countries, if women suffering from complications during pregnancy and childbirth receive emergency obstetric care in a timely manner. In Afghanistan most of the health care institutions are only located in bigger towns, which leaves women in the provinces without proper access to obstetric care. The conflict in the country together with continuing insecurity additionally exacerbate access to health care. Socio-cultural dynamics (pasthunwali) as well as financial and economic factors also negatively influence women's health-seeking behaviour. In consequence, maternal mortality remains high. In an unpredictable environment giving birth in a "safe place" – at the MSF maternity – is a question of survival and a moment of reassurance; not only for the mother and the child but also for the whole family.

Conclusions

The majority of the general population consulting MSF Khost maternity hospital does not know of, understand or recognise danger signs and risks of delivering at home or in private clinics with unskilled staff. These and other factors influencing the health-seeking behaviour of the Pashtun people need to provide the basis of awareness raising. Since early 2017, MSF supports selected comprehensive health care centres in districts, provides support to Khost provincial hospital and further increased the mobility of the health promotion team to reach the communities in order to be able to impact on people's access to health care.

Operational Implications

Since early 2017, MSF supports selected comprehensive health care centres in districts, provides support to Khost provincial hospital and further increased the mobility of the health promotion team to reach the communities in order to be able to impact on people's access to health care.

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PANEL DISCUSSION – QUALITATIVE RESEARCH AND THE COMMUNITY: WHAT ROLE IN MSF OPERATIONS?

From sexual violence to sexuality in violent environment: the case of Rustenburg (South Africa)

Understand the specific configuration of sexual violence and trigger-elements for health seeking behaviour in a given setting implies having first a good comprehension of what are in this setting "normal" sexuality and gender relations.

A first hypothesis here is that sexual violence is not a self-explicit concept; it is cultural and context-related. A deductible second hypothesis is that a top-down approach focusing on "promoting" what indeed is sexual violence makes it a lot more difficult to understand the many configurations people actually engage in sexual relations, and the many assistance gaps that could be filled with that broader understanding. It is not about "relativizing" sexual violence, but about not "losing intellectual resources" (Marilyn Strathern) to design a narrow-tailored community engagement strategy. This is what the anthropology assessment conducted in Rustenburg in November 2016 was about.

The methodology used was a mix of traditional qualitative study and a new tool designed by BRAMU (Brazilian Medical Unit): the social cartography. It is a participatory mapping activity that fills the gaps of traditional mapping by locating actual community health practices, access barriers, conflicts, hotspots, violence exposition, projects and organization networks.

Findings were that unlike many culturalist studies and fatalistic comments, violence is not "embedded in culture" and "routinized" in the sense that people don't get used to it, people would rather it didn't happen, and it has a heavy burden both at collective and individual level. However, violence has over time been integrated as a steady social reality a group needs to deal with, and this is what people have done: develop coping mechanisms and internal modes of resolution that are not necessarily congruent with MSF´s vision and priorities.

Given the great complexity of engagements in sexuality in the Rustenburg poor areas, the study advocates that in such a highly violent and vulnerable context, the border of "consent" have many grey zones that makes it impossible to apply a clear-cut definition of what is and what is not sexual violence. It raises the ethical challenge to keep MSF-defined violence cases only as inclusion criteria while many vulnerable girls who were exposed but not raped have the same need for PEP. Besides and not instead of sexual violence, the broader criteria of "sexual exposure in violent context" should be defined and applied to redesign projects dealing with the medical and mental health consequences of the population. This broader approach would finally positively impact the capacity of a project to reach rape victims under 72h.

Presenter: Jean-François Véran
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Jean-François Véran

CHAIRS AND SPEAKERS

Ismael Adjaho is a general practitioner from Benin who joined MSF in 2012, as a mobile clinic MD in east of Democratic Republic of Congo. Since then, he has worked in different contexts (Mauritania, South Sudan, Afghanistan and Kenya) as a flying medical doctor, an emergency pool flying medical doctor, and a project medical referent. His expertise goes from general medicine (including chronic diseases such as HIV, TB, HTA, diabetes and cancers) to nutrition and public health. Since October 2016, he is appointed in Guinea as medical coordinator.

Stefano Argenziano is currently the Coordinator of Operations for the OCB Cell-2. He had his first assignment with MSF in 2003 as a National Staff in the migration-focused Italian Mission and since then he has been continuously in the field with OCB, OCA and OCP in several contexts. He holds a master degree in International Relations from the Rome University.

Jovana Arsenijević holds a degree in Social Pedagogy, Masters in Public health and is a PhD candidate in Public Health (Belgrade). Since 2009 she had been working in HIV project and National TB program management in Serbia. She joined MSF in 2015 as a Liaison Officer in Northern Balkan migration mission. Currently, she is the Head of Mission Assistant in Serbia, but also engaged with LuxOR on several operational research studies related to migration on the Balkan route.

Marc Biot first worked with MSF in 1989 in Afghanistan, followed by the Philippines. In 1992, he came back to Afghanistan before joining the Operations Department in 1994, where he concentrated his focus on the Horn of Africa and Central Asia. After a Master in Public Health (1998), he was appointed as first HIV/Aids focal person in the Medical Department, to provide support for starting HIV care & treatment program in Africa, Asia and the Americas. Rich with this experience, he left to Mozambique in 2002, where he supported the beginning HIV treatment programs till 2009. After a short stay with ICAP (2009/10) in Maputo, he returned to the Operations Department at the end of 2010 to focus on the large HIV & TB treatment programs in Southern Africa & India as Operational Coordinator. A position he is still holding up to today. Since 2015 he is also engaged in the operational presence of OCB in Latin America.

Doris Burtscher holds a PhD in Medical Anthropology and works at the Vienna Evaluation Unit. Since 2001 she has worked as a medical anthropologist with MSF, and has undertaken fieldwork within MSF and other NGOs in Mauritania, Kenya, Sierra Leone, Zimbabwe, Liberia, Niger, Swaziland, Lebanon, India, Chad, Iraq, Kyrgyzstan, Afghanistan, Uganda, Senegal, and Albania. Her main fields of interest are how people deal with health and illness in different contexts (HIV/AIDS, MDR TB, malnutrition, sexual and reproductive health, sexual violence etc.) and health seeking behaviour.

Séverine Caluwaerts is an obstetrician-gynaecologist from Belgium who has been working with MSF since 2008 in different contexts (Sierra Leone, Burundi, DRC, Afghanistan, Pakistan, Niger, Central African Republic). Since 2011 she is the gynaecology referent for OCB. Her special interests include pregnancy and infectious diseases (HIV, Ebola) and cervical cancer screening and treatment in low-resource settings. She also continues to work as a clinician at the Institute of Tropical Medicine (ITM) in Antwerp, Belgium. She acquired a diploma in Tropical Medicine from ITM, Antwerp and a Master's in Public Health from Liverpool University.

Amine Dahmane, MD, graduated in Tropical Medicine and emergency medicine in Belgium. He completed a master in family medicine in 2014.He worked as a physician in Belgium and joined MSF in 2003. Up to 2010, he worked as a doctor, medical coordinator and head of mission in several countries including Cambodia, Burkina Faso, China and Ukraine. From 2011 to 2013, he was part of LuxOR, the OCB Operational Research Unit, as Program Officer. He was also enrolled in the MSF – Union OR course in Kenya. Actually he is working as family physician and as a consultant in the Infectious Disease Department of the CHU Saint-Pierre Brussels (S. clinic). He is a board member of MSF Belgium in Brussels.

Sophia Chérestal Woolley was born in Haiti on November 5th, 1975. After graduating in 2004 from the School of Medicine of Notre Dame University in Haiti, she began her specialization in pneumology (interrupted in 2005). In 2017 she resumed her studies and started training in epidemiology (Field Epidemiology Training Program) since February. Work experience – Deputy Medical Coordinator with Médecins sans Frontières (MSF) Belgium in Haiti since 2013, supporting projects for data monitoring, reinforcing connections between MSF and the local "ministère de la Santé Publique et de la Population", being the MSF focal point for operational research in Haiti. From 2011 to 2012, she coordinated the project Baby Tent (childhood nutritional care) with Concern Worldwide. From 2006 to 2011, she worked as general practitioner in Port-au-Prince (community projects). From 2005 to 2006, she was a general practitioner with the "Fondation pour le développement et l'encadrement de la famille haïtienne".

Nolwenn Conan is a French Epidemiologist with a nursing background working with Epicentre. She is based in Cape Town (South Africa) at the SAMU unit. She started working with MSF in 2004 in different contexts (Sudan, Ivory Coast, Haiti, DRC North Kivu, South Sudan, Mali, etc). She completed a MSc. of Public Health in Developing Countries at the LSHTM in London in 2011. She joined Epicentre in March 2016 to coordinate HIV population surveys in Southern African countries.

Bertrand Draguez first worked for MSF in 2000, as a general practitioner in East Timor. Since then, he has worked as a doctor in Angola and South Sudan, as a field coordinator in Afghanistan, and as a medical coordinator in Democratic Republic of Congo and Côte d'Ivoire. From 2005 to 2008, Bertrand held the post of medical officer of the MSF unit in Brussels covering the Great Lakes region of Africa. In 2008, he was appointed as Medical Director of MSF's operational directorate in Brussels. Bertrand was elected president of MSF Belgium in 2016.

Nathan Ford works for the Dept HIV and Global Hepatitis Programme at the World Health Organization, Geneva, and is the chair of the WHO Guidelines Review Committee. Prior to that he worked with MSF from 1998 to 2012. He holds a degree in Microbiology and Virology, a Master in Public Health and Epidemiology, and a PhD in Clinical and Public Health epidemiology. He serves on various editorial boards, including the Journal of the International AIDS Society and Conflict and Health. Areas of concern include evidence based humanitarian action, simplification and adaptation of HIV/AIDS care in resource limited settings, and the uses and limits of evidence to inform policy.

Manoli Kokkiniotis holds a degree in Physiotherapy and has postgraduate studies in Disaster Management and a Master's Degree in Management of Crisis in Health Sector. He has worked at the Greek NHS from where he resigned in 1998 to work abroad on the humanitarian sector. From 1998 to 2015 he had been continuously in the field, with several missions as a physiotherapist, manager and hospital administrator with the MSF and the ICRC in South Sudan, Iraq, Nigeria, Bulgaria, Afghanistan, Haiti, Pakistan, Sri Lanka, Palestine, Nepal, Liberia and Eritrea. Since June 2015 he started to work as a physiotherapist at the Project for Rehabilitation of Migrant Survivors of Torture in Athens, Greece.
Currently (since November 2016) he is the Project Medical Referent of the project for the Rehabilitation of Migrant Survivors of Torture project in Athens, Greece and a PhD candidate writing a thesis on Field Hospitals' deployments.

Chinmay Laxmeshwar currently works as an Epidemiologist at Mumbai project. He has been with MSF since 2015. He has previously worked with different offices of the Ministry of Health and Family Welfare, Government of India in different capacities. He holds a Master in Public Health focusing on Social Epidemiology from Tata Institute of Social Sciences, Mumbai.

Jean-Yves Nuttinck is a mining engineer. Since 1994, he has been involved in emergency humanitarian interventions and long-term development aid projects. Specialized in groundwater, he has alternated missions for more than 20 years with Médecins Sans Frontières and international consultancy firms. Since 2010 he performs as Water, Hygiene and Sanitation Referent within the MSF-Belgium Operational Center. He recently created INTERFACE-EAU.be, a hydrogeological consultancy firm specialized in boreholes and groundwater catchment headworks in support to humanitarian contexts.

Catherine Van Overloop is a medical doctor with a degree in Public Health. She started with MSF in 1996 in Sudan and has since worked in Burundi, Chad, Liberia and DRC. She was between 2012 and 2017 the medical responsible in the Operational Department in Brussels for the OCB missions in Afghanistan, Pakistan, Ukraine and CAR. Now, she is Deputy Medical Director at the Operational Centre of Brussels.

Emilie Venables is a PhD anthropologist, and has been working for MSF since 2012. She is the Qualitative Research MIO for LuxOR and SAMU, and is based in Johannesburg, South Africa. Emilie has worked in sub-Saharan Africa for over a decade, and has conducted research for MSF in countries including Italy, Liberia, Kenya, Mozambique and Lebanon. Her research interests include HIV/AIDS, sex-work, Ebola and migration and she is particularly interested in capacity building in qualitative research.

Jean-François Véran has a Doctoral Degree in Anthropology from the École des Hautes Études en Sciences Sociales (Paris). He joined MSF in 2010 as Health Promoter in Haiti, Guatemala and Honduras, and then as Anthropology Advisor in the Brazilian Medical Unit (BRAMU) of MSF-Brazil since 2013. Using both qualitative (Social Cartography, ethnography) and quantitative (Population Assessment Tool) methodologies, he has or his supporting projects with thematic of epidemic response (Kenya, Haiti), sexual violence (India, Guatemala, South Africa, Colombia), situations of violence (Honduras, El Salvador, Mexico, Kenya, Colombia and Venezuela) and migration (Europe, Mexico, Brazil). He is also Associate Professor at the Federal University of Rio de Janeiro.

Leen Verhenne, medical doctor, started with MSF in 2002 in Angola and since 2005 has combined MSF work with General Medicine in Belgium. She has been in various missions as doctor or medical coordinator. She started in 2014 in De Kaai, a public primary health care clinic in Gent and joined the Belgium board. Every year she enjoys 2 months of "humanitarian leave" when rejoining msf in the field. In 2017 she was interim deputy CO for cell 4 (Afghanistan, Pakistan, Ukraine and Russian Federation) for 2 months.

Johan von Schreeb, MD, PhD is a general surgeon that for 25 years regularly has worked in humanitarian settings, mainly with MSF, most recently on the Philippines in 2013. In 1992 he co-founded MSF Sweden section. His PhD thesis was titled "Needs assessments for humanitarian health assistance in disasters". As an associate professor he leads the centre for research on health care in disaster at Karolinska Institutet in Stockholm. In 2013 he co-authored " Classification and standards for foreign medical teams in sudden onset disaster" for WHO and has since been involved in improving the response of international emergency medical teams in disasters, most recently this year in northern Iraq seconded to WHO to improve trauma care of injured from Mosul.

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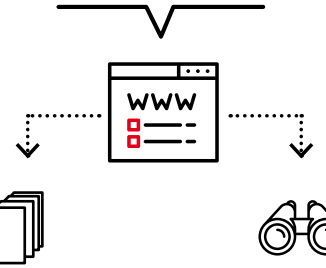

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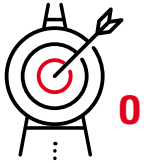

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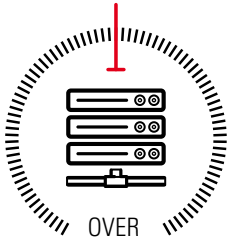

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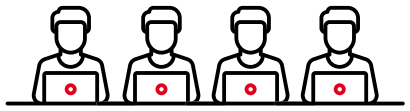

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XDR-TB patient Nischaya,
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with her TB medication

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