Cover and booklet photos
This year we launched a photo competition to choose the photo for the booklet cover. We asked MSF researchers to send in a photo that captures what MSF research means to them. We had a great response and the winning photo that graces our front cover was taken by Andrew Simeon. The photo shows Andrew's research team paddling in the canals of Lagos, Nigeria, in 2012 to collect data for a maternal and perinatal mortality survey. The runner-up was Roberto de la Tour and his photo is shown inside the booklet. Thank you to everyone who took part.

Reviewers
We are very grateful to our Scientific Day editorial reviewing team drawn from across MSF, Epicentre, Access Campaign, and the journals PLOS Medicine, and Conflict and Health.

Reviewing team:
Manica Balasegaram (MSF Access Campaign), Virginia Barbour (PLOS), Louise Bishop (MSF), Sakib Burza (MSF), Philipp du Cros (MSF), Rebecca Grais (Epicentre), Jane Greig (MSF), Pamela Hepple (MSF), Krzysztof Herboczek (MSF), Patricia Kahn (MSF), Kamalini Lokuge (MSF), Daniel O'Brien (MSF), Ruby Siddiqui (MSF), Charles Ssonko (MSF), Ruwan Ratnayake (Conflict and Health), Tony Reid (MSF), Emma Veitch (PLOS), Sarah Venis (MSF), Ian Woolley (MSF).

Sponsors
2013 marks the first year that the Scientific Day has received sponsorship outside of MSF. The sponsorship is helping to cover the extra costs of putting the event online. We would like to thank our sponsors:

PLOS Medicine is the leading open access general medical journal, providing an influential venue for outstanding research and commentary on the major challenges to human health worldwide.

With more than a decade of experience and a portfolio of 250 fully open access, online journals that span all areas of biology and medicine, BioMed Central, pioneer of the open access publishing model, is dedicated to the dissemination of health information.
Welcome to MSF Scientific Day 2013

Welcome to the 2013 MSF Scientific Day. We are delighted to be at the Royal Society of Medicine again with an even bigger programme than in previous years. The agenda is packed with presentations that reflect the diversity of MSF programmes and patients – from examining the experience of bloggers in the MSF TB&Me blog to the use of a cholera vaccine during an outbreak in Guinea to treating tuberculosis in the extremely insecure setting of Somalia. There are innovative tools and approaches, such as seasonal chemoprevention for malaria and cash transfer and supplementation to prevent malnutrition. Often neglected research topics such as maternal mortality are featured and the elderly are the focus of research examining whether they are neglected in the humanitarian response.

We are also delighted to be streaming the day live online again and hope that the online audience this year will again take part in the debates via Twitter and the online forum. Last year nearly 1000 people, based in 68 countries, watched the event on the day and we were thrilled to receive comments on the research during the day from the countries where many MSF projects are based.

This begs the question – does more people viewing the day mean that MSF’s research will have a greater benefit for the populations where we work? This year we are focusing on the impact of MSF’s research – what is impact, how do you measure it and how can you show that research leads to measurable improvements in programmes or outcomes for patients? To answer some of these questions we have introduced a panel discussion session with participants from within and outside MSF debating these issues.

Also on this theme, our keynote speaker Hans Rosling will be talking about the need for humanitarian research to be linked to strong advocacy – but also about some of the potential problems this raises for scientific objectivity.

The presentations and posters have been selected by a reviewing team drawn from across MSF as well as the MSF Access Campaign and the journals PLOS Medicine, and Conflict and Health. This broader selection panel has been invaluable in ensuring the quality of the presentations and posters and we are very grateful for their help. We received a huge number of abstracts and have a record number of poster presentations this year. To help the posters receive the attention they deserve we have introduced poster viewing sessions at the start and end of the day and introduced guided poster tours that will run during lunch. And, like last year, the posters are available to view in the online gallery attached to the Scientific Day website.

I hope that you enjoy the day and take part in the discussions. Please remember that you can also participate online via Twitter following @MSF_UK and using #MSFsci. And if you miss any of the talks, they will be available to view on the Scientific Day website on-demand from May 17th until the end of August. Finally, we hope you will round off the day by joining us for a drink and a chat and a last chance to view the posters.

Regards

Philipp du Cros1, Sarah Venis2, Becky Roby3, Kim West4, Katherine Waters5

1Head of Manson Unit; 2Medical Editor; 3Conference Organiser; 4Online Conference Organiser; 5Conference organiser assistant (volunteer), MSF, London, UK

**Please note: We are fully subscribed this year; to allow us to keep to time please take your seats promptly at the start of each session. We have an overflow room next to the main auditorium which will show the event live on a large screen. In fairness to the presenters, if you are late back to a session you will be directed to the overflow room.**
Morning agenda

08:30 - 9:00: **Registration & Poster Session**

09:05 - 09:15: **Welcome and Introduction: Paul McMaster, President of MSF UK**

09:15 – 11:00: **Session 1: HIV & Tuberculosis**  
*Chair: Nathan Ford, HIV/AIDS Department, World Health Organisation, Geneva*

- TB treatment in a chronic armed conflict setting: treatment outcomes and experiences in Somalia  
  *Karin Fischer Liddle, MSF*

- The role of social media and health: examining the views and experiences of multidrugresistant tuberculosis (MDR-TB) patient bloggers and TB programme staff on their interaction with blogging  
  *Shona Horter, MSF*

- Ocular inflammatory disease and ocular tuberculosis in a cohort of patients co-infected with HIV and multidrug-resistant tuberculosis (MDR-TB) in Mumbai, India  
  *Petros Isaakidis, MSF*

- Effectiveness of the WHO regimen for treatment of multidrug resistant tuberculosis (MDR-TB)  
  *Maryline Bonnet, Epicentre*

- Efficiency of HIV-1 pooled viral load testing to reduce the cost of monitoring antiretroviral treatment in a resource-limited setting in rural Malawi  
  *Pieter Pannus, MSF*

11:00 – 11:30: **Break, Poster Session & Online Videos**

11:30 – 13:00: **Session 2: Maternal and Child Health**  
*Chair: Kamalini Lokuge, Implementation Research Advisor (Consultant), MSF*

- Estimation of maternal and perinatal mortality in the urban slums of Badia and Riverine in Lagos, Nigeria through the sisterhood method and preceding births technique  
  *Olivia Hill, MSF*

- Preliminary findings of a routine PMTCT Option B + programme in a rural district in Malawi  
  *Daniela Garone, MSF*

- Acute severe lead poisoning outbreak in Zamfara, northern Nigeria: neurological features, blood lead levels and description of 3,120 courses of chelation with dimercaptosuccinic acid (DMSA) in children ≤ 5 years  
  *Jane Greig, MSF*

- Preventing acute malnutrition among children aged 6 to 23 months in Niger: effect of supplementation and cash transfer  
  *Céline Langendorf, MSF*

13:00 – 14:00: **Lunch, Poster Session & Online Videos**

**Poster Tours**

13:20 Laboratory testing, Outbreaks and vulnerable populations, Paediatric & adolescent health, Tuberculosis

13:30 HIV, Nutrition, Multisite implementation, Research impact, Surgery
Afternoon agenda

14:00 – 15:15: Session 3: Research Impact

Introduction: Marc DuBois, Executive Director, MSF UK

Keynote Speech: Potential Synergy & Conflict Between Research & Advocacy
Hans Rosling is Professor of International Health at Karolinska Institutet, Co-founder of the Gapminder Foundation, ‘edutainer’ and TED talks alumnus. He has been an adviser to WHO and UNICEF and co-founded MSF in Sweden.

Panel Discussion: Assessing and Improving the Impact of MSF’s Research
Chair: Philipp du Cros, Head of Manson Unit, MSF, UK
Panellists: Dermot Maher, International Portfolio Manager, Wellcome Trust
Manica Balasegaram, Executive Director of the Access Campaign, MSF
Virginia Barbour, Chief editor and Editorial Director of PLOS
Helen Bygrave, HIV/TB advisor, MSF

15.15 – 15.45: Break, Poster Session & Online Videos

15:45 – 16:45: Session 4: Challenges for MSF Programmes
Chair: Bern-Thomas Nyang’wa, Project Manager and Coordinating Principal Investigator, MSF, UK

- Is it time to stop being crude? Elderly mortality rates in a refugee camp in Maban County, South Sudan
  Philipp du Cros, MSF

- Implementation of a voluntary reporting system for medical errors in Médecins Sans Frontières: results, lessons learned and future directions
  Leslie Shanks, MSF

- The challenge of implementing innovation in MSF: the case study of parenteral artesunate as treatment for severe malaria
  Martin De Smet, MSF

16:45 – 17:45: Session 5: Outbreak Prevention and Response
Chair: Christopher Whitty, Chief Scientific Advisor and Director, Research & Evidence Division, UK Department for International Development (DFID)

- Mass vaccination with oral cholera vaccine in response to an outbreak in Guinea
  Iza Ciglenecki, MSF

- Seasonal malaria chemoprevention: a new player in the malaria control arena
  Estrella Lasry, MSF

- Epidemiological characteristics of a prolonged hepatitis E outbreak in three refugee camps in South Sudan
  Ruby Siddiqui, MSF

17.45 - 17.50: Closing Remarks: Philipp du Cros

17.50 - 19.00: Evening Drinks & Poster Session
Tuberculosis treatment in a chronic armed conflict setting: treatment outcomes and experiences in Somalia

Karin Fischer Liddle¹, Riekje Elema¹, Sein Sein Thi², Jane Greig³

¹Médecins Sans Frontières (MSF), Amsterdam, Netherlands; ²MSF, London, UK
Email: jane.greig@london.msf.org

Background
Healthcare in Somalia is extremely limited, and patient access is restricted by the unpredictable violence of the civil conflict. MSF provides tuberculosis (TB) treatment in the north and south of the clan-divided town of Galkayo in the Mudug region (total population 250,000) and in Marere in Lower Juba. North Galkayo is more prosperous than south Galkayo, with an airport, tarmac road to the main harbour and more employment opportunities with international organisations. Directly observed therapy is followed throughout the course for most patients, although self administered treatment is sometimes used, but defaulter tracing is not feasible for security reasons. MSF international supervisory staff were frequently evacuated from the programme and were withdrawn completely in 2008, but maintain daily communication with Somali staff. In a retrospective analysis, we aimed to determine whether a TB programme could achieve acceptable treatment outcomes in this conflict-affected context and to describe lessons learned in programme management.

Methods
We analysed routinely collected treatment data from 2005 until 2012 for treatment outcomes. In multivariate logistic regression analyses we assessed factors associated with a successful outcome (cure or complete, compared to failure, death and default; transfer out excluded), including the physical presence of international supervisory staff as a binary variable, with patients in treatment during the transition year (2008) excluded. Only patients in north and south Galkayo were included in regression as Marere only started activities in 2007. Informal interviews were conducted with Somali staff regarding programmatic factors affecting patient management and perceived reasons for default. This study met the standards set by the MSF Ethics Review Board for retrospective analyses of routinely collected programme data.

Results
During the study period, 6167 patients were admitted to the programme: 61% in north Galkayo, 25% in south Galkayo and 13% in Marere; 35% were female; and median age was 24.0 years (IQR 13.0-38.0). The proportion with a successful outcome ranged from 69% (south Galkayo) to 87% (Marere). The physical presence of international staff did not significantly influence achieving successful treatment outcomes in north and south Galkayo (adjusted odds ratio [aOR] 0.85, 95%CI 0.66-1.09, p=0.27). Lower odds of a successful outcome were seen among patients receiving treatment in south (aOR 0.50, 95%CI 0.39-0.64) rather than north Galkayo, among infants (0-<1 year aOR 0.28, 95%CI 0.20-0.40 compared to adults) and those being re-treated for TB (aOR 0.56, 95%CI 0.39-0.91, p=0.002). Provision of accommodation in a TB village, nutritional support, emergency drug packs, and the requirement to have a treatment guarantor were perceived as positive programmatic factors. Perceived reasons for default included factors related to distance or travel (being away from family, nomadic group, insecurity, travel cost, need to return to grazing land) or feeling better.

Conclusions
Despite an extremely difficult conflict-affected setting, the programme successfully treated a high percentage of patients, though results were variable with only one project nearing the WHO target of 90%. It was not adversely affected by the withdrawal of international supervisory staff, although other changes over time that we did not measure may have played a role. Insecurity often reduces mobility and may limit patients' ability to seek healthcare. Adherence may be supported by a broader network of healthcare providers with a common agreement to continue TB treatment for mobile patients, but this is a substantial challenge.
The role of social media and health: examining the views and experiences of MDR-TB patient bloggers and TB programme staff on their interaction with blogging

Shona Horter1, Beverley Collin1, Sarah Venis1, Leslie Shanks2, Philipp du Cros1

1Médecins Sans Frontières (MSF), London, UK; 2MSF, Amsterdam, Netherlands

Background
In the TB&Me blogging project, established by MSF in March 2011, multi-drug resistant tuberculosis (MDR-TB) patients around the world share their experience of living with the disease in an online journal. Over 50,000 visits were made to the TB&Me blog in the 8 months to September 2012. Social media is said to have great potential in the field of health, although this area is relatively uncharted. Due to the innovative nature of this blogging project it was decided to conduct an exploratory qualitative study examining patient and staff experiences of the blog and identifying whether patients perceived any benefits or risks from blogging.

Methods
Participants were selected purposively; all MDR-TB patient bloggers, related MSF project staff, MSF headquarters staff and WHO European Region TB Policy Advisors were invited to participate in a semi-structured interview, conducted via Skype. 20 interviews were conducted. In addition, an online survey (Survey Monkey) was distributed to MSF public health department staff, project staff previously involved with the blogging process or who worked directly with the TB bloggers and others identified via snowball techniques. 23 anonymous responses were received from this survey. Transcripts were analysed thematically to identify emergent themes, patterns and concepts, drawing upon the principles of grounded theory. Ethics approval was granted by the MSF Ethics Review Board.

Results
Blogging was viewed by patients and project staff as helping with adherence to MDR-TB treatment in three ways: through receiving supportive comments, by providing an audience of blog followers who patients did not want to disappoint and by patients wanting to provide an example for other patients. The blog was seen as providing support to patient bloggers and peer-support and hope to other patients. By allowing patients to share their experiences, feelings of solidarity and reduced isolation were evoked. It was also perceived as strengthening the staff-patient relationship by allowing staff to better understand patients and facilitating trust-building and feelings of closeness. Participants described the blog as an avenue by which they could express their feelings and experiences, with writing facilitating open expression and reducing fear of judgement compared with verbal expression.

Conclusions
Patients and staff perceived the blog as being associated with identified health benefits, including patient adherence support, emotional support, increased connectivity and enhanced staff-patient relationships. There were no reported incidences of harm subsequent to, or as a perceived result of, blogging. The STOP TB Partnership Global Plan to STOP TB 2011 to 2015 includes a component to empower people with TB and communities through communication and social mobilisation and this study highlights a potential role of social media in achieving this ambition.

Email: shona_horter@yahoo.co.uk
Ocular inflammatory disease and ocular tuberculosis in a cohort of patients co-infected with HIV and multidrug-resistant tuberculosis in Mumbai, India

Salil Mehta1, Homa Mansoor2, Samsuddin Khan2, Peter Saranchuk3, Petros Isaakidis2

1Ophthalmology Department, Lilavati Hospital and Research Centre, Mumbai, India; 2Médecins Sans Frontières (MSF), Mumbai, India; 3South African Medical Unit, MSF, Cape Town, South Africa

E-mail: msfocb-asia-epidemio@brussels.msf.org

Background
The prevalence and patterns of ocular inflammatory disease and ocular tuberculosis (TB) are largely undocumented among multidrug resistant TB (MDR-TB) patients co-infected with HIV who are receiving TB and antiretroviral therapy (ART). We did a cross-sectional ophthalmological evaluation to determine the prevalence of these diseases in a cohort of patients co-infected with HIV and MDR-TB in Mumbai, India.

Methods
Lilavati Hospital and Research Center and MSF organized a cross-sectional ophthalmological evaluation of all HIV/MDR-TB co-infected patients ever started on treatment in an MSF-run HIV-clinic in Mumbai, India. This included measuring visual acuity, and slit lamp and dilated fundus examinations. The study was approved by the Institutional Review Board of Lilavati Hospital & Research Center, Mumbai, India and by the MSF Ethics Review Board.

Results
Between February and April 2012, 47 patients (including three with extensively drug-resistant TB) were evaluated. No patients refused screening. 64% were male, mean age was 39 years (SD 8.7) and median (IQR) CD4 count at evaluation was 264 cells/μL (158-361). Median duration (IQR) of TB treatment and ART was 13 (4–21) and 17.5 (4–32) months, respectively. 13 patients (27%) had detectable levels of HIV viremia (>20 copies/mL). Overall, examination of the anterior segments was normal in 45/47 patients (96%). A dilated fundus examination revealed active ocular inflammatory disease in seven eyes of seven patients (15%, 95% CI 5-25). These included five eyes of five patients (11%) with choroidal tubercles, presumed tubercular chorioretinitis (one eye of one patient on treatment, 2%) and evidence of inactive cytomegalovirus retinitis (one eye of one patient on treatment, 2%). Presumed ocular tuberculosis was thus seen in six patients (13%, 95% CI 3-23). Two patients who had completed TB treatment had active ocular inflammatory disease, in the form of choroidal tubercles (two eyes of two patients). Inactive scars were seen in three eyes of three patients (6%). Patients with extrapulmonary TB and patients <39 years were at significantly higher risk of ocular TB (adjusted risk ratio 13.65 [95% CI 2.4-78.5] and 6.38 [1.05-38.8], respectively).

Conclusions
Ocular inflammatory disease, mainly ocular tuberculosis, was common in our cohort of HIV/MDR-TB patients. Ophthalmological examination should be routinely considered in HIV patients diagnosed with or suspected to have MDR-TB, especially in those with extrapulmonary TB. Since specialty ophthalmologic consultation is rarely available in resource-limited settings we suggest that HIV-clinicians perform dilated indirect ophthalmoscopy at the primary care level as part of routine HIV/ TB patient evaluation.

Funding
Part of the cost of the study was covered by Lilavati Hospital and Research Center.
Multi-drug resistant tuberculosis (MDR-TB) treatment has not been evaluated in randomized trials, hence observational cohorts are important to assess effectiveness. MSF is supporting the treatment of drug-resistant TB patients worldwide, with approximately 6800 MDR-TB patients started on treatment since 2001. We report the MDR-TB treatment outcomes and predictors of unfavourable outcomes using retrospective data from MSF-supported projects in five countries: Uzbekistan, Abkhazia, Armenia, Kenya and Swaziland.

Methods
Patients included in the analysis were enrolled in programmes until the end of 2010; treatment outcomes are presented for patients enrolled until the end of 2009. Patients received an average of 2 years treatment with monthly follow-up. Treatment regimens and outcome definitions were based on WHO guidelines. Unfavourable outcomes included death, failures and defaulters in “intention to treat” analysis and deaths and failures in “on treatment” analysis after exclusion of defaulters. This study met the criteria approved by the MSF Ethics Review Board for analysis of routinely collected programme data.

Results
Of 1977 patients, 1092 (55.2%) had resistance to first-line drugs only, 442 (22.4%) were pre-extensively drug resistant (pre-XDR) due to resistance to injectable agents, 47 (2.4%) were pre-XDR due to ofloxacin resistance, 44 (2.2%) were XDR and 352 (17.8%) had no results for second-line drugs. 20% of patients defaulted. Treatment success in “intention to treat” and “on treatment” analyses was 60% and 79% for patients without resistance to second-line drugs, and 27% and 37% for XDR patients. History of incarceration, past TB treatment history, body mass index <18.5 kg/m², high bacilli load, resistance to fluoroquinolones, amplification of resistance to injectable agents and/or to fluoroquinolones during treatment, prescription of capreomycin instead of kanamycin and treatment interruption due to side-effects were independent predictors of unfavourable outcomes.

Conclusions
Treatment outcomes were mainly dependent on the presence of baseline resistance to second-line drugs, disease progression and patient’s tolerability of treatment. Programmatically, MDR-TB patients with less resistance and less advanced disease are likely to benefit from a lighter regimen, and kanamycin should be the preferred injectable drug when possible.
Efficiency of HIV-1 Pooled Viral Load Testing to Reduce the Cost of Monitoring Antiretroviral Treatment in a Resource-limited Setting in Rural Malawi

Pieter Pannus¹, Emmanuel Fajardo¹, Carol Metcalf², Anthoney Tebulo², Daniela Garone², Rebecca M. Coulborn², Helen Bygrave¹, Tony Reid³, Tom Ellman¹, Michael Murowa⁴, Reuben Mwenda⁴

¹Médecins Sans Frontières (MSF), Southern Africa Medical Unit, Cape Town, South Africa; ²MSF, Thyolo, Malawi; ³MSF, Brussels, Belgium; ⁴Ministry of Health, District Health Office, Thyolo, Malawi; ⁵Ministry of Health, DDTSS, Lilongwe, Malawi

Email: msfocb-blantyre-opr@brussels.msf.org

Background
HIV-1 viral load testing is more sensitive than clinical or immunological monitoring at detecting antiretroviral therapy (ART) failure, but is unaffordable in many resource-limited settings. Specimen pooling can be used to reduce testing costs. We conducted a study to evaluate the feasibility, accuracy, efficiency, and cost-saving of testing viral load on pooled dried blood spot (DBS) samples compared to individual plasma samples in a rural district laboratory in Thyolo, Malawi.

Methods
350 patients ≥18 years, on first-line ART for ≥6 months participated in the study. HIV-1 viral load was measured in plasma and finger-prick DBS samples using the NucliSENS EasyQ v2.0 assay. Viral load was measured in minipools of five samples. A deconvolution algorithm required testing of all samples in the minipool if the pooled viral load exceeded 200 copies per millilitre (cps/mL) at a 1000 cps/mL threshold, or 1000 copies/mL at a 5000 cps/mL threshold. To minimise error, standard operating procedures were put in place. Collection and testing of samples was done by the same laboratory technicians under the same laboratory set-up. Minipools were identified and organised by the same laboratory technicians based on an internal viral load database. The research was approved by the Malawi National Health Science Research Committee and the MSF Ethics Review Board.

Results
Of the 350 plasma samples tested, 8.0% had viral load ≥1000 cps/mL and 6.6% ≥5000 cps/mL. Compared to individual plasma testing, minipooling fingerprick DBS samples reduced the number of tests required by 28.6% (95% CI 23.9-33.6) at a viral load threshold of 1000 cps/mL, and 51.4% (95% CI 46.1-56.8) at 5000 cps/mL. Assuming a unit price of $24 per test, this pooling strategy can therefore potentially save $6864 to $12,336 per 1000 viral load tests. Applying the minipooling algorithm to DBS samples yielded accurate results, with negative predictive values of 98.2% (95% CI 96.1-99.3; 1000 cps/mL cut-off) and 97.9% (95% CI 95.7-99.2; 5000 cps/mL cut-off).

Conclusions
Measuring viral load on pooled DBS specimens can increase accessibility and substantially reduce cost while maintaining accuracy, thereby enabling the scale-up of viral load testing in resource-limited settings. Pooling of DBS specimens is feasible in a rural laboratory setting. Further research is needed to assess the turn-around-time to results, in light of cost-savings of pooling compared to individual testing for laboratories with a high volume of samples.
Estimation of maternal and perinatal mortality in the urban slums of Badia and Riverine in Lagos, Nigeria through the sisterhood method and preceding births technique

Erin Anastasi¹, Andrea Bernasconi¹, Olivia Hill¹, Oluwakemi A. Adebayo², Ekanem E. Ekanem³

¹Médecins Sans Frontières (MSF), Barcelona, Spain; ²MSF, Lagos, Nigeria; ³Department of Community Health and Primary Care, College of Medicine, University of Lagos, Nigeria

Email: olivia.hill@barcelona.msf.org

Background
According to WHO estimates, maternal mortality in Nigeria is one of the highest in the world at 630 deaths per 100,000 live-births. MSF has provided maternal health services in Lagos since late 2010. We did a cross-sectional, household survey to estimate maternal and perinatal mortality in Riverine and Badia, two urban slums with marginalised populations, for which the maternal mortality ratio (MMR) was not known. We also conducted questionnaires and semi-structured interviews with the aim of understanding women’s perinatal health-seeking behaviour.

Methods
A systematic random sampling approach was used to select 4002 households within the study community. This sample was large enough to detect a MMR of 250-500 with an error margin of 20% and a confidence interval of 95%. We used the indirect sisterhood method to measure maternal mortality to minimize the sample size by querying respondents about the survival of all their sisters. We used the preceding birth technique to assess the outcome of previous deliveries for newborn and child mortality. In addition, female respondents were questioned about their health-seeking behaviour during the antenatal, intrapartum, and postnatal periods. Ethics approval was obtained from the MSF Ethics Review Board, Lagos State Ministry of Health, and Lagos University Teaching Hospital.

Results
3962 respondents provided data on 7018 sisters; the MMR was 1050/100,000 live-births (95% CI 894-1215) and the lifetime risk of maternal death 1:18. On the basis of 1967 deliveries reported in the past 2 years, neonatal mortality was 34/1000, infant mortality 57/1000 and under-5 mortality 103/1000. 50.2% (988) of the last pregnancies of female respondents were delivered in private health facilities. Proximity to home was a key influencing factor (39.4%, 775) for delivery at the health facility and 81.8% of the women were attended by skilled staff (doctors, nurses, midwives).

Conclusions
Our results demonstrate the importance of sub-regional, disaggregated data to identify and redress inequities that exist among poor, remote, vulnerable populations. The MMR in these populations was extremely high, almost double that estimated for Lagos state (545/100,000 live-births). The MSF programme has now been handed over to local health authorities and these results were used to advocate focusing on maternal mortality reduction. The Ministry of Health agreed to take over the MSF maternal health structure and related activities and review national, local policies and programmes related to reproductive health.
Preliminary findings of a routine PMTCT Option B+ programme in a rural district in Malawi

Rebecca M. Coulborn¹, Laura Trivino Duran¹, Carol Metcalf², Yvonne Namala⁴, Zengani Chirwa³, Michael Murowa⁴, Kingsley Mbewa⁴, Daniela Garone¹

¹Médecins Sans Frontières (MSF), Thyolo, Malawi; ²MSF, Southern Africa Medical Unit, Cape Town, South Africa; ³Ministry of Health, HIV Unit, Lilongwe, Malawi; ⁴Ministry of Health, District Health Office, Thyolo, Malawi

Email: msfocb-blantyre-opr@brussels.msf.org

Background
In July 2011, the Malawi government adopted PMTCT Option B+ as national policy to prevent mother-to-child HIV transmission (PMTCT). All HIV-infected pregnant or breastfeeding women are offered lifelong antiretroviral therapy (ART), regardless of CD4 count and WHO clinical stage. During the third quarter of 2012, 1 year after the introduction of Option B+, 10,663 pregnant or breastfeeding women were initiated on ART, a 748% increase from the 1257 initiated on ART during the second quarter of 2011, immediately prior to the introduction of Option B+. Information on programmatic outcomes of Option B+ in resource-limited settings is limited. MSF is conducting an ongoing evaluation of the PMTCT Option B+ programme in Thyolo District in southern Malawi in partnership with the Ministry of Health. This presentation focuses on programme uptake and outcomes during the first 12 months of the evaluation.

Methods
A prospective study is being conducted in six MSF-supported health facilities in Thyolo District. Linked electronic databases were created containing clinical and laboratory data on all women enrolling in the Option B+ programme and their infants. Women are followed-up from the date of ART initiation, and infants are eligible for follow-up from birth or from the mother’s ART initiation date if born prior to the mother’s enrolment. We analysed information on all mother and infant visits from April 2012 to March 2013. This research was approved by the Malawi Health Science Research Committee and MSF Ethics Review Board.

Results
During the 12 months, 911 women and 279 infants were enrolled. Of the women, 82.3% were pregnant at enrolment, and the remainder were breastfeeding. Of those with information on clinical stage and CD4 count at enrolment (n=310), 47.7% (95% CI 42.1-53.5) had CD4 <350 cells/µL or WHO stage 3 or 4 disease, and would have been eligible for ART even if not pregnant or breastfeeding. Women who started ART during pregnancy and subsequently gave birth (n=194) had been on ART for a median of 13 weeks (range 0-27) at the time of delivery. Loss to follow-up in the first 6 months on ART was 21.5% (95% CI 17.4-26.1), with 8.9% (95% CI 6.9-11.2) of women not returning for any follow-up. Of infants born subsequent to the mother’s enrolment (n=186), 96.2% (95% CI 92.4-98.5) received 6 weeks of nevirapine prophylaxis from birth, and 60.3% (95% CI 47.7-72.0) of those aged ≥6 weeks (n=68) had at least one PCR test as recommended in the national guidelines. Of 87 infants with an HIV test result, there were no confirmed HIV infections.

Conclusions
These preliminary findings have important implications for the success of the PMTCT programme. We found high rates of loss to follow-up, particularly after the first clinical visit, and poor compliance with national guidelines advocating infant PCR testing at 6 weeks. Addressing these programmatic challenges is essential in order to maximize the full potential of PMTCT B+ to reduce the risk of vertical and sexual transmission, antiretroviral resistance, morbidity, and mortality.
Background
In March 2010, MSF investigated reports of excessive deaths in young children in Zamfara State, northern Nigeria, leading to confirmation of acute severe lead poisoning in thousands of children. As part of a multi-agency response, MSF is providing blood lead screening and outpatient chelation therapy in the seven initially identified heavily contaminated villages. Dimercaptosuccinic acid (DMSA) chelation commenced in June 2010, initially on an inpatient basis, transitioning to outpatient with some doses directly observed. Here we describe factors associated with neurological features and programme outcomes.

Methods
All children aged ≤5 years, tested from June 2010 to end June 2011, with a first-ever venous blood lead level (VBLL) of ≥45µg/dL before chelation, and whose neurological status was recorded within 7 days of the first VBLL were included. Courses of 19 days of DMSA started according to MSF treatment protocols in this period were included if start and end course VBLL were available. Effectiveness of DMSA was demonstrated by change in VBLL during a course; variables potentially influencing VBLL were assessed through linear regression. This study met the standards set by the MSF Ethics Review Board for retrospective analyses of routinely collected programme data.

Results
Among 972 children with neurological status data, 885 (91.1%) had no neurological features, 34 (3.5%) had severe neurological features, 47 (4.8%) reported recent seizures (not witnessed by medical staff), and 6 (0.6%) had other neurological abnormalities. The geometric mean VBLL for all groups with neurological features was >100µg/dL versus 66µg/dL for those without neurological features. After adjustment, having neurological features was associated with increasing VBLL above initial VBLL of 80-99.9µg/dL (odds ratio [OR] 2.75, 95% CI 1.27-5.98, test for trend p<0.001), and age 1-<3 years versus 3-5 years (peak for 1-<2 year-olds OR 4.77, 95% CI 2.50-9.11). Abnormal neurological features were only seen at VBLL <105µg/dL if there was a concurrent positive malaria test; amongst 325 patients tested for malaria, both high VBLL and a positive malaria test were associated with having neurological features. In 3120 courses of 19 days, VBLL declined to a geometric mean of 77.2% (95%CI 70.5-80.3) of pre-course VBLL. Decrease in VBLL was significantly greater in older children, first-ever treatment courses and courses with a greater proportion of doses directly observed. Low haemoglobin at the start of course was associated with a smaller decrease in VBLL than with normal haemoglobin. Higher pre-course VBLL was also associated with a greater decrease at end of course. Severe neutropenia and moderately elevated alanine aminotransferase (ALT) were rare (1.6% and 1.0% at start of course).

Conclusions
A VBLL of 80µg/dL or above was strongly associated with abnormal neurological features in children. DMSA is a safe, effective oral chelator for children with severe lead poisoning. It is more effective at lowering VBLL in children who are chelation naïve, have a higher initial VBLL and are receiving chelation via fully observed therapy.

Natalie Thurtle1, Jane Greig2, Paul I Dargan1,3, Lauren Cooney1, Cono Ariti4

1Médecins Sans Frontières (MSF), Amsterdam, Netherlands; 2MSF, London, UK; 3Guys and St. Thomas' NHS Foundation Trust and King's College London, London, UK; 4London School of Hygiene and Tropical Medicine, London, UK

Email: Jane.Greig@london.msf.org
Preventing acute malnutrition among children aged 6 to 23 months in Niger: effect of supplementation and cash transfer

Céline Langendorf¹; Thomas Roederer¹; Saskia de Pee²; Denise Brown³, Stéphane Doyon⁴, Abdoul-Aziz Mamaty⁵, Lynda W.M. Toure⁵, Mamane L. Manzo⁶, Rebecca F. Grais¹

¹Epicentre, Paris, France; ²Policy and Strategy Division, World Food Programme, Rome, Italy; ³World Food Programme, Niamey, Niger; ⁴Médecins Sans Frontières (MSF), Paris, France; ⁵Epicentre, Niamey, Niger; ⁶Regional Department of the Ministry of Public Health, Maradi, Niger

Email: celine.langendorf@epicentre.msf.org

Background
Niger has the highest malnutrition burden in Africa and the fifth largest globally. MSF supports several large-scale nutritional programmes in Niger, and with the Ministry of Health and the World Food Programme is committed to finding the most effective strategy to prevent childhood acute malnutrition during the annual hunger gap. Although fortified-blended-flours and ready-to-use supplementary foods (RUSF) are effective options for large-scale preventive distributions, the effect of cash transfers requires further investigation. In a pragmatic trial, we compared preventive strategies on the incidence of acute malnutrition and mortality among children aged 6-23 months.

Methods
Exhaustive open observational cohorts of children 60-80 cm (n=1591), resident in 18 villages of Madarounfa, Niger were followed from August 2011 to October 2012. Three strategies of monthly distributions were assessed: RUSF (500 kcal/day during hunger gaps, 250 kcal/day in-between); Super Cereal Plus (SC+) (800 kcal/day during hunger gaps, 400 kcal/day in-between); and cash transfer to all households with a child in the target group (43€ per month) during the first hunger gap. Distributions and follow-up were carried out by a dedicated field research team. Anthropometric and clinical data were collected monthly. All children had access to the same primary health-care package. Endpoints included severe wasting (weight-for-length Z-score [WLZ]<-3) and mortality. Adjusted hazard ratios (HR) were estimated from a marginal Cox proportional hazards model using propensity scores and including sex, baseline length and nutritional status at baseline. Ethics approval was granted by the National Ethical Committee of Niger and the Comité de Protection des Personnes, Paris, France. This study is registered at clinicaltrials.gov as NCT01828814.

Results
Intervention groups were similar at baseline for median age and anthropometric data. At 5 months' follow-up: the incidence of severe wasting did not differ between cash transfer and RUSF (HR=1.27, 95%CI 0.89-1.81) or cash transfer and SC+ (HR=0.80 95%CI 0.55-1.16); and mortality did not differ between cash transfer and SC+ or RUSF. However, cash transfer cost approximately 4x that of SC+ or RUSF (even after including transport and programme costs). Over 15 months: incidence of severe wasting did not differ between RUSF and SC+ (HR=1.13, 95%CI 0.94-1.36); and mortality in RUSF (1.20 deaths/10,000 child-days) and SC+ (1.23 deaths/10,000 child-days) were not different (HR=1.04, 95%CI 0.63-1.72). The highest incidences of severe wasting occurred during the hunger gap (July-October) and highest mortality during the malaria peak (August-September).

Conclusions
No differences were found between SC+ and RUSF on prevention of severe wasting and mortality among young children after a 15-month supplementation. During the hunger gap, cash transfers had a similar protective effect on preventing wasting as did nutritious foods. However, as cash transfers may be costly, formal cost benefit analyses of these strategies should be performed.

Funding
The World Food Programme (WFP) co-funded this study with MSF.
Keynote speaker: Hans Rosling

Research on the management of diseases linked to or induced by poverty or armed actions involves specific dilemmas:

1. How should you balance the use of resources for measuring in order to yield new understanding against using resources for action?

2. How do you balance the need for rigorous research methodology against the many limitations set by poverty, conflict and politics?

3. How do you manage the conflict of interest between the need for powerful advocacy and the scientific demand for rigorous evidence-based communication?

In the absence of any clear answers to these questions, Hans Rosling will reflect on his personal experiences of research: (1) on konzo epidemics in the poorest rural parts of Africa; (2) on how to convince Fidel Castro about the need for innovative study design; and (3) on how to interpret contemporary reporting of ART “coverage” from the most HIV-affected low-income countries in Sub-Saharan Africa.

The image shows the beginning of the Lysis Concentration Fluorescent Microscopy study. The Zeiss fluorescent microscope was transported by motorbike along forest paths to this mobile clinic, a 2 hour ride from Dingila, Uélés, in the north-east of Democratic Republic of Congo, Sept 2012.

Photo credit © Roberto de la Tour, MSF, Geneva, Switzerland
How and why does MSF’s research have impact?

Louise Bishop, Sarah Venis (MSF, London, UK)

**Aim**
The aim of the questionnaire was to gather thoughts and opinion on the impact of MSF research. Impact was defined as “effects on practice in the field, on clinical or laboratory guidelines, or on national or international programmes or policies”.

**Findings**

<table>
<thead>
<tr>
<th>The most successful, high-impact MSF research:</th>
<th>Barriers to MSF research having impact include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is rooted in the resource limited settings in which MSF works and has (often unique) experience</td>
<td>A lack of understanding of the relevance of research to clinical care</td>
</tr>
<tr>
<td>Documents and facilitates change through innovation (new treatments or models of care) and implementation (e.g. in novel populations or locations)</td>
<td>Strategic and resource issues: lack of capacity, no sustained focus or planning for the longer term, problems with internal organisation and coordination, high staff turnover, skills gaps at both HQ and project level</td>
</tr>
<tr>
<td>Uses collaboration and partnerships in carrying out research and in communicating findings</td>
<td>Lack of engagement and collaboration with: policymakers and MoHs; research institutes, endemic country academics, and research networks; local people; internal MSF networks</td>
</tr>
<tr>
<td>Is integrated with advocacy</td>
<td>No link to advocacy; not having a plan/aim for how to achieve wider impact after publication</td>
</tr>
<tr>
<td>Recognises that quality (e.g. clinical trials, systematic reviews) is important, but also timeliness is essential</td>
<td>Insufficient quality in study design and execution (lack of rigour, ethics review, randomisation, or controls; poor protocols/methodology or reproducibility)</td>
</tr>
<tr>
<td>Has a well-defined research question that addresses a perceived need</td>
<td>A tendency to document what was done, rather than asking a specific question</td>
</tr>
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</table>

**MSF studies mentioned most commonly as having impact**
- NECT trial – development of new drug treatment for sleeping sickness
  
  - Lancet 2009, 374:56-64.

- Community based antiretroviral therapy (ART) support groups in Mozambique
  

- Malaria ACT (artemisinin combination therapy) trials
  

- Free ART for improving adherence in Kenya
  

- Cotrimoxazole preventative therapy in patients with TB and HIV
  
  - BMC Public Health 2011, 11:593

- Nurse management of ART in Lesotho
  

- TB diagnostics
  
  - Lancet 2011, 377(9776):1495-505

**How to improve the impact of MSF’s research**

<table>
<thead>
<tr>
<th>Strategic level</th>
<th>Individual research projects</th>
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<tbody>
<tr>
<td>A strong internal commitment to research (for example by disseminating research findings and implementing them in all relevant MSF projects, through regular monitoring and evaluation, and by documenting and learning from impact), as well as financially, and in increasing staff capacity through training, especially for project staff.</td>
<td>The impact of research needs to be considered at the planning stage, with a timeline that includes a post-publication plan for dissemination and advocacy.</td>
</tr>
<tr>
<td>A research strategy would be beneficial in identifying and prioritising gaps and needs; this would need an integrated overview of research across MSF, accessible to all.</td>
<td>Studies should be well-designed, and have a focused research question.</td>
</tr>
<tr>
<td>At an early stage, research should engage with external collaborators (policymakers, academic institutions, and national governments), as well as internally (both between projects and headquarters and across sections).</td>
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</tr>
</tbody>
</table>
Is it time to stop being crude? Elderly mortality rates in a refugee camp in Maban County, South Sudan

Philipp du Cros¹, Caitlin Meredith², Kerry Thomson², Sandra Downing², Lauren Cooney², M. Ruby Siddiqui¹, Vanessa Cramond²

¹Médecins Sans Frontières (MSF), London, UK; ²MSF, Amsterdam, Netherlands

Email: philipp.ducros@london.msf.org

Background
Mortality is a key indicator in defining and monitoring the scale and severity of a complex humanitarian emergency. While collection of age-disaggregated data is advised in guidelines such as the Sphere Handbook, in practice data are rarely disaggregated beyond the under-5s. Despite widespread use of prospective mortality surveillance systems in complex emergencies, there are few guidelines on their implementation and limited evidence of their value. In 2012, 68,000 refugees from Sudan settled in Maban County, South Sudan. MSF introduced a community based surveillance system in Jamam camp to monitor mortality and reported causes of death. Observation of a high proportion of deaths in older refugees led to the adaptation of the surveillance system to collect age-specific mortality data. Here we describe the implementation, outcomes and lessons learnt.

Methods
Data were collected weekly by exhaustive household survey by teams of trained outreach workers. Each team included two women, at least one English speaker and at least two refugees living in the camp who spoke the local languages. Household members were asked about number of occupants and any deaths. The following information was collected: number of structures, births, deaths and occupants in each structure aged <5, 5-49 and ≥50 years. For each death, information about age, sex, place of death and likely cause/major symptoms before death were obtained. Supervision included spot checks during data collection. Reported deaths were cross-checked with grave counts, interviews with village leaders and hospital data. Forms were reviewed daily for inconsistencies and results tallied by an epidemiologist. Data were entered into a database (Microsoft Excel 2007) and crude and age-disaggregated mortality rates calculated. This study met the criteria approved by the MSF Ethics Review Board for analysis of routinely collected programme data.

Results
On 15th July 2012, the population was 22,467 and the baseline crude mortality rate was 1.76/10,000 population/day, above the threshold considered for an emergency (1 per 10,000 per day). In the 6 weeks from 23rd July 2012 to 2nd September 2012 there were 79 deaths: 27 in <5, 26 in 5-49 and 26 in ≥50 year old groups. Mortality rates for these groups over the 6 weeks were 1.26/10,000 children/day (95% CI 0.83-1.83), 0.61/10,000 people/day (95% CI 0.40-0.89) and 3.45/10,000 people ≥50/day (95%CI 2.26-5.04), respectively. While mortality rates fluctuated on a weekly basis, the ≥50 rate was consistently higher than the <5 rate. The major cause of death reported in the ≥50 group was diarrhoea (52.4%). Limitations with the data and methodology will be discussed.

Conclusions
Mortality rates for refugees ≥50 years were significantly higher than for children <5 years. Information on the most vulnerable groups in complex emergencies should be collected to help guide programme response and monitor trends following programmatic changes. Our analysis raises the question of whether MSF is collecting the right mortality data and whether programmatic responses to those ≥50 years are adequate.
Implementation of a voluntary reporting system for medical errors in Médecins Sans Frontières: results, lessons learned and future directions

Leslie Shanks

Médecins Sans Frontières (MSF), Amsterdam, Netherlands

Email: Leslie.SHANKS@amsterdam.msf.org

Background
In 2010, Médecins sans Frontières (MSF) implemented a medical error reporting system. There were two main motivations for this action. One was to bring the science of patient safety into the organization as part of efforts to improve the quality of care delivered. The second was to improve accountability to patients. This paper presents a retrospective analysis of almost 3 years of medical error reports with the aim of determining patterns, lessons learned and the feasibility of instituting such a system. To our knowledge it is the first report of a voluntary reporting system in a humanitarian context.

Methods
MSF project teams were asked to report all medical errors and near-miss events using a standardized format. All error reports were entered anonymously into a database. Errors were classified according to Institute of Medicine categories. A category for medical supply was added that includes any breakdown in the supply chain that could affect patients. The impact of errors on patients was coded using the National Coordinating Council classification. This study meets the standards set by the MSF Ethics Review Board for retrospective analysis of routinely collected programmatic data.

Results
There were 138 errors reported between June 2010 and December 2012 from 32 projects in 17 countries. Reporting increased from 16 reports in the first 6 months to 32 in the final 6 months. Errors occurred in hospitals (n=36, 26.1%), maternity wards (30, 21.7%), out-patient departments (18, 13.0%), operating theatres (12, 8.7%) and other settings (42, 30.5%). The most common types were medication errors (51, 38.1%), error or delay in diagnosis (15, 11.2%) and failure of communication (13, 9.7%). Errors resulted in no harm (50, 37.0%), harm (46, 34.1%) or death (36, 26.7%). 62 (44.9%) reports included information on disclosure to the patient; this occurred in only 19 (30.1%) cases. Demonstrating system change was key to successful uptake of the system. Reporting resulted in improvements ranging from increased staffing, communication protocols, use of the WHO Safe Surgery Checklist and revisions of organizational guidelines. Key challenges included creating a culture of learning from mistakes, de-linking disciplinary actions from reporting, and improving staff skills in root-cause analysis.

Conclusions
Reporting rates improved over time, but remained low. No baseline error rates exist for our settings; however WHO estimates that one in ten hospitalizations results in a patient being harmed. Given our low reporting rate, these figures cannot be seen as representative of the totality of errors that occur. Disclosure to patients was low; however a number of positive examples were captured which suggest disclosure is possible even in insecure settings. Continued efforts to change organizational culture are needed to improve reporting rates and increase organizational learning and accountability.
The challenge of implementing innovation in MSF: the case study of parenteral artesunate as treatment for severe malaria

Martin De Smet¹, Angeles Lima², Esther Sterk³, Estrella Laary⁴, Marit de Wit⁵, Jorgen Stassijns⁶

¹MSF, Brussels, Belgium; ²MSF, Barcelona, Spain; ³MSF, Geneva, Switzerland; ⁴MSF, New York, NY, USA; ⁵MSF, Amsterdam, Netherlands; ⁶MSF, Brussels, Belgium

Email: martin.de.smet@brussels.msf.org

Background
Parenteral artesunate has been the recommended WHO treatment for severe malaria in adults since 2006 and in African children since 2011 following the results of a multicentre study showing a relative mortality reduction of 22.5% against quinine. In February 2011, the MSF treatment policy for severe malaria was updated to recommend that, whenever possible, patients should be treated with parenteral artesunate. This change was heavily communicated to relevant staff in MSF. A validated parenteral artesunate product has been available in MSF since December 2010. We reviewed the level of implementation of this MSF policy and analysed reasons for delays. We aimed to draw lessons for improving implementation of new technologies and policies across MSF.

Methods
We reviewed information on implementation of the policy change in all projects in Africa that treated severe malaria. Every 6 months, headquarters staff compiled information on the level of implementation from project reports when available and directly contacted project teams in case information was missing from the reports. Reasons for possible non-utilization were also recorded. This study meets the standards set by the MSF Ethics Review Board for retrospective analysis of routinely collected programmatic data.

Results
By November 2012, about 18 months after the communicated policy change, 27 of the 47 projects in African countries in which severe malaria cases are treated had started implementation of injectable artesunate. A further nine projects had ordered the drug but were not yet using it. The bottlenecks for implementation included refusal by the central and/or local authorities, decision by the MSF teams to use existing stocks of alternative drugs, and fear by the MSF teams that the introduction of artesunate may be too complex in emergency situations. Monitoring of the outcome in 1421 patients, both adults and children with severe malaria treated with parenteral artesunate in nine countries, showed a cure rate of 93.7%.

Conclusions
Despite a well-communicated policy change, implementation of parenteral artesunate has been a slow and uneven process, which can be expected to have led to avoidable loss of lives. Stronger mechanisms to follow-up and ensure implementation of innovative medical policies and tools is needed, especially for life-saving medications.
Mass vaccination with oral cholera vaccine in response to an outbreak in Guinea

Iza Ciglenecki¹, Francisco J. Luquero², Keita Sakoba³, Melat Heile⁴, Rebecca F. Grais², Francois Verhoustraeten¹, Dominique Legros¹

¹Médecins Sans Frontières (MSF), Geneva, Switzerland; ²Epicentre, Paris, France; ³Ministry of Health, Conakry, Guinea; ⁴MSF, Conakry, Guinea

Email: Iza.Ciglenecki@geneva.msf.org

Background
The numbers of reported cholera cases worldwide and the frequency and scale of cholera epidemics are increasing. Although WHO now recommends the use of oral cholera vaccines (OCV) as an additional control tool, their use has been hampered by debates about feasibility, cost, timeliness and acceptability. In 2012, in Guinea, a country regularly affected by large cholera epidemics, an outbreak started well before the usual epidemic peak during rainy season. In response the Ministry of Health and MSF organised a mass vaccination campaign with OCV, targeting two high-risk coastal sub-districts. Here we report on the first-ever large-scale use of OCV during a cholera outbreak, and the first use of OCV-Shanchol® in Africa. We describe the feasibility of conducting the campaign and results of vaccination coverage and vaccine effectiveness studies.

Methods
We offered 2-dose OCV Shanchol®, with 2-3 weeks between doses, to all persons older than 1 year living in targeted districts. Vaccines were stored in the cold chain, but used at ambient temperature on the day of vaccination, therefore no passive cold chain was used. Adverse events were monitored at vaccination sites and health structures in the targeted area through a structured questionnaire. Vaccination coverage was assessed by a cross-sectional cluster survey. We assessed vaccine protection in a case-control study, conducted in the 6 months following vaccination. Vaccination rates were compared between patients who sought treatment in health facilities and had rapid-test-confirmed cholera, and age- and sex-matched neighbourhood controls without diarrhoea. The study protocol for the vaccination coverage survey and vaccine effectiveness study was reviewed and approved by the Ethics Review Boards of Guinea and MSF.

Results
During the 6 vaccination days per vaccination round, 43 vaccination teams of 5-20 people working at 287 vaccination sites administered 172,544 (first round), and 143,706 doses (second round). 46 minor adverse events were reported through the surveillance system. Vaccination coverage with two doses was 76% (95% CI 70-80) and 94% (95% CI 91-96) with at least one dose. The drop-out rate between the two rounds was around 15% (95% CI 10-18). Vaccine effectiveness with two doses was 84% (95% CI 60-94; p<0.001).

Conclusions
The oral vaccine used in the temperature-controlled cold chain during the day of vaccination was easy to deliver and was well-accepted by the population despite the 2-dose schedule. The high vaccine effectiveness against clinical cholera in our setting is consistent with other studies looking at short-term effectiveness of OCV. Reactive OCV campaigns are a feasible and promising strategy to complement a standard cholera control package.
Seasonal malaria chemoprevention: a new player in the malaria control arena

Estrella Lasry1, Chibuzo Okonta2, Norbert Ebenga-Zula2, Soma Bahonan3, Primitive Gakima4, Issaka Sagar4, Michelo Lacharite2

1Médecins Sans Frontières (MSF), New York, NY, USA; 2MSF, Paris, France; 3MSF, Bamako, Mali; 4MSF, N’Djamena, Chad; 5Malaria Research Training Center (MRTC), Bamako, Malii

Email: estrella.lasry@newyork.msf.org

Background

In seasonal malaria chemoprevention (SMC), a complete treatment course of antimalarial drugs is given to children monthly in areas of seasonal transmission during the highest-risk period. Pilot studies in West Africa showed 80% and >70% reductions in simple and severe malaria, respectively. In 2012, WHO recommended SMC in areas where >60% of the annual burden occurs within 4 consecutive months, using sulphadoxine-pyrimethamine (SP) and amodiaquine (AQ). Some regions of Mali and Chad have a malaria incidence of 2-3 episodes/year, mainly during the rainy season, in children <5 years. In Mali, MSF supports the paediatric ward of the Koutiala district hospital, five district health centres, and a network of community health workers (CHW). In Chad, MSF supports the malaria unit in the district hospital of Moïssala, eight health centres, and a network of CHW. In July-August 2012, MSF carried out SMC interventions in Mali and Chad, with the objective of reducing incidence of simple and severe malaria, in-hospital mortality and all-cause anaemia to levels approaching those of pilot studies. We did a retrospective analysis of data routinely collected in MSF facilities throughout the 2012 malaria season to see whether these objectives were attained.

Methods

SP-AQ was given prophylactically to an average of 159,317 children/month (one cycle) for 3 months (three cycles) in Koutiala District in Mali and to 10,831 children/month over 4 months in two areas of Moïssala District in Chad at fixed sites and door-to-door. Since SMC was started several weeks after the malaria season began, the percentage of cases averted was calculated by comparing confirmed case numbers in MSF clinics during the intervention (12 weeks in Mali and 16 in Chad) to those in the preceding 4 weeks. Coverage data were collected in Mali through a household survey done by the Malaria Research Training Center and assessed as administrative coverage in Chad. Ethics approval was received from the Faculté de Pharmacie et Médecine in Mali and the Ministry of Health in Chad.

Results

In Mali, simple malaria cases seen in MSF health centres/by CHW fell from 2425 to 801/week (70% reduction) and severe malaria cases in the district hospital fell from 248 to 77 (69% reduction). All cause transfusions fell from 130 to 33/week (75% reduction) in the paediatric ward; this reduction was sustained post-intervention. The case fatality rate for severe malaria remained stable (5.8 to 5.2%), although in-hospital mortality attributed to malaria fell from 14.5 to 4/week. Coverage in Mali fell from 91.2% in the first cycle to 86.4% in the third. In Chad, the reduction of simple malaria cases varied significantly between areas (49.5 vs 80.7%), but in both the number of cases averted increased with each cycle. Coverage in Chad increased from 81.0% in the first cycle to 97.2% in the fourth.

Conclusions

The SMC intervention led to substantial reductions of both simple and severe malaria case numbers comparable in three of four intervention settings to those of pilot studies. SMC appears to be an effective tool for malaria control. However, we can assess impact only in terms of patients seen in our medical facilities, since we did not conduct active case finding in the community. Given SMC’s potential impact we recommend implementation in areas with similar malaria epidemiology, although development of drug alternatives is urgently needed.
Epidemiological characteristics of a prolonged hepatitis E outbreak in three refugee camps in South Sudan

Kerry Thomson1, José Dvorzak1, Lisbeth List1, Eve MacKinnon1, S. Imran Ali1, Louise Bishop2, Caitlin Meredith1, Estelle McLean1, Ian Woolley2, Jan Hajek1, Willem van Burgsteden1, Norman Sitali1, Ahmad Bilal1, Biserka Pop-Stefanija1, Jean-Francois Fesselet1, Erwan Piriou1, Marcio Silveira da Fonseca1, Philipp du Cros2, Silvia de Weerdt1, Vanessa Cramond1, M. Ruby Siddiqui2

Background
MSF suspected a hepatitis E outbreak in Jamam camp, Maban County, South Sudan, in early July 2012 after reports from routine household surveillance that two pregnant women and one child had died from “yellow eyes”. In subsequent weeks, cases were detected in the newly-settled neighbouring Batil and Gendrassa camps. Laboratory confirmation of hepatitis E virus genotype 1 came in August 2012. Here we describe MSF’s response, the epidemiological characteristics of the outbreak and the impact of water, sanitation and hygiene (WASH) interventions in controlling the epidemic. This study met the criteria approved by the MSF Ethics Review Board for analysis of routinely collected programme data.

Project
The case definition was scleral icterus (jaundice) and all suspected hepatitis E cases were referred to MSF facilities. MSF’s response was mainly clinical case management (supportive care - there is no treatment for hepatitis E), active case-finding using outreach teams and targeted screening of pregnant women. Partner agencies were responsible for WASH activities to control faecal-oral transmission. MSF gap-filled these activities with additional water purification, latrine construction, hand-washing equipment, soap distribution and health education.

Epidemiological characteristics and outcomes
The first peaks were observed in early September 2012 but larger second peaks emerged in January 2013. By the end of January 2013, 5370 cases, including 272 (5.1%) pregnant/post-partum women, had been recorded. Of these, 610 (11.4%) were admitted to hospital due to severe complications such as hepatic failure and coma and 115 died (2.1%) – i.e. a clinical attack rate of 7.7% and a case fatality rate of 2.1%. The case fatality rate among pregnant/post-partum women was more than 5x higher at 11.4%. Females predominated slightly (52.5%) and most symptomatic cases were young adults (15-49 years). 65% of all cases were recorded in the newer, larger Batil camp and hepatitis E appears to have spread to all villages within the camps. Potential reasons for the second epidemic peaks have been explored. There was a different spatial distribution between the first and second peaks but this could be explained by population movement. A variable WASH response and significant person-to-person transmission may have played a role in the second peak whereas a non-hepatitis E infectious agent and an influx of new susceptible refugees probably did not.

Conclusions
Prospective community surveillance was critical for the early detection of this outbreak and for continued active case-finding and health education. Community engagement was key for prevention activities and acceptance of medical interventions. However, the failure to control this outbreak was likely due to a late and inadequate WASH response, as in previous hepatitis E outbreaks. If timely and effective WASH responses are unfeasible then new hepatitis E vaccines should be explored for refugee settings.

1Médecins Sans Frontières (MSF), Amsterdam, Netherlands; 2MSF, London, UK

Email: ruby.siddiqui@london.msf.org
**Laboratory testing**

Tour leader: Pamela Hepple, MSF, UK

Variation in specificity of HIV rapid diagnosis tests over place and time

Derryck Klarkowski¹, Kathryn Glass², Daniel O’Brien¹,², Kamalini Lokuge¹,², Erwan Piriou¹, Leslie Shanks¹

¹Médecins Sans Frontières (MSF), Amsterdam, Netherlands; ²Australian National University, Canberra, Australia; ³Department of Medicine and Infectious Diseases, Royal Melbourne Hospital, University of Melbourne, Melbourne, Australia

Field evaluation of performance of dried blood spots (DBS) from finger-prick for the determination of viral load in a resource-constrained setting in urban and rural Zimbabwe

Sekesai Mtapuri-Zinyowera¹, Fabian Taziwa², Carol Metcalf³, Elton Mbofana⁴, Silvia De Weerdt⁵, Laurence Flevaud⁶, Sandra Simons², Jean-François Saint-Sauveur⁵, Helen Bygrave⁶, Emmanuel Fajardo⁴

¹National Microbiology Reference Laboratory, Harare, Zimbabwe; ²Médecins Sans Frontières (MSF), Harare, Zimbabwe; ³MSF, Cape Town, South Africa; ⁴MSF, Buhera District, Zimbabwe; ⁵MSF, Barcelona, Spain

Decentralization of Laboratory Services for HIV Patients’ Care in Rural Clinics in Shiselweni, Swaziland

Maryvonne Lassovski¹, Laban Kyembe¹, Gugu Maphalala², Roberto De La Tour², Francesca Faraglia³, Guillaume Jouquet³, Lucy Anne Parker¹, Bernhard Kerschberger³

¹Médecins Sans Frontières (MSF), Swaziland; ²Ministry of Health, Swaziland; ³MSF, Geneva, Switzerland

**Outbreaks and vulnerable populations**

Tour leader: Louise Bishop, MSF, UK

Prevalence of yaws among the Aka of the Republic of Congo

Matthew Coldiron¹, Damas Obvala², Isabelle Mouniaman-Narac³, Jade Pena³, Caroline Blondel², Klaudia Porten¹

¹Epicentre, Paris, France; ²Ministry of Public Health and Population, Brazzaville, Congo; ³MSF, Paris, France

Mortality alarmingly high in a post-emergency situation in the northwest part of the Central African Republic

Sibylle Gerstl¹, Klaus Lehr², Till Kinkel³, Philipp du Cros¹

¹Médecins Sans Frontières (MSF), London, UK; ²MSF, Boguila, Central African Republic; ³MSF, Berlin, Germany

Operation ‘Yellow Mama’: A model intervention of targeted pregnancy screening and home-hygiene item distribution in response to a hepatitis E outbreak in South Sudan

Jan Hajek¹, Caitlin Meredith², Patricia Günther², Ian Woolley³, Silvia de Weerdt³, Vanessa Cramond³, Louise Bishop³, Ruby Siddiqui³

¹University of British Columbia, Vancouver, BC, Canada; ²Médecins Sans Frontières (MSF), Amsterdam, Netherlands; ³MSF, London, UK
Oral cholera vaccine mass vaccination campaign in a closed setting, Maban County refugee camps, South Sudan, December-February 2013

Nolwenn Conan¹, Renate Sinke¹, Annick Lenglet¹, Florien Oudenaarden¹, Mary Jo Frawley¹, Tammam Aloudat¹, Begench Djumageldyev¹, Silvia de Weerdt¹

¹Médecins Sans Frontières (MSF), Amsterdam, Netherlands

Addressing the challenge of Chagas disease in a non endemic country: experience in Bergamo province (Northern Italy)

Ernestina Carla Repetto¹, Ada Maristella Egidi¹, Andrea Angheben²,³, Mariella Anselmi²,³, Ahmad Al Rousan¹, Gabriel Ledezma¹, Rosita Ruiz¹, Carlota Torrico¹, Mariachiara Buoninsegna⁴, Fabio Andreoni⁵, Barbara Maccagno⁵, Gianfranco De Maio¹, Silvia Garelli⁶

¹Médecins Sans Frontières (MSF), Rome, Italy; ²Center of Tropical Medicine of Sacro Cuore Hospital, Negrar (Verona), Italy; ³Centro de Epidemiología Comunitaria y Medicina Tropical (CECOMET), Esmeraldas, Ecuador; ⁴OIKOS Onlus, Bergamo, Italy; ⁵COHEMI Project; ⁶University of Brescia, Brescia, Italy

Paediatric and adolescent health

Tour leader: Tejshri Shah, NHS, London

Disclosure of HIV status to HIV-positive children and young adolescents attending a rural health centre in Malawi

Esther Mgoli¹, Rebecca M. Coulborn¹, Carol Metcalf¹, Saar Baert¹, Laura Triviño Duran¹, Takondwa Kachola¹, Dickson Kamwendo¹, Lington Bwanaisa³

¹Médecins Sans Frontières (MSF), Thyolo, Malawi; ²Southern African Medical Unit (SAMU), MSF, Cape Town, South Africa; ³SAMU, MSF, Brussels, Belgium; ⁴MSF, Limbe, Malawi; ⁵Ministry of Health, Thekerani Rural Hospital, Malawi

Non-adherence to standard treatment guidelines in a rural paediatric hospital in Sierra Leone

Marjolein De Bruycker¹, Rafael Van den Bergh¹, Amine Dahmane⁶, Mohammed Khogali⁶, Benedetta Schiavetti⁴, Yvonne Nzomukunda¹, Petra Alders¹, Malik Allauona¹, Catherine Cloquet¹, Don A. Enarson¹, Srinath Satyarayanan³, Edward Magbity⁴, Rony Zachariah¹

¹Médecins Sans Frontières (MSF), Luxembourg and Brussels, Belgium; ²International Union against Tuberculosis and Lung Diseases (The Union), Paris, France; ³The Union, South East Asia Regional Office, New Delhi, India; ⁴Ministry of Health, Freetown, Sierra Leone

Emergency paediatrics trainings in the field: successful, but continuous training needed

Peter Moons¹, Harriet Roggeveen¹

¹Médecins Sans Frontières (MSF), Geneva, Switzerland

Paediatric telemedicine support in MSF-OCA

Peter Moons¹, Harriet Roggeveen¹

¹Médecins Sans Frontières (MSF), Geneva, Switzerland

Does point-of-care (POC) CD4 testing reduce losses from care between HIV diagnosis, assessment for ART eligibility and ART initiation among HIV positive youth in Khayelitsha, South Africa?

Gabriela E Patten¹, Lynne Wilkinson¹, Karien Conradie¹, Petros Isaakidis⁵, Anthony D Harries⁴, Mary E Edginton⁴, Virginia De Azevedo⁶, Gilles van Cutsem⁷

¹Médecins Sans Frontières (MSF), Khayelitsha, South Africa; ²MSF, Mumbai, India; ³London School of Hygiene and Tropical Medicine, London, UK; ⁴International Union Against Tuberculosis and Lung Disease, Paris, France; ⁵City of Cape Town, South Africa; ⁶MSF, Cape Town, South Africa; ⁷University of Cape Town, Cape Town, South Africa
Youth groups: Linkage to and retention in ART care strategy piloted in a youth specific primary care clinic in Khayelitsha, Cape Town

Lynne Wilkinson¹, Ruth Henwood², Nikiwe Mkhosana¹, Shariefa Abrahams², Zukiswa Shuba² Gabriela Patten¹
¹Médecins Sans Frontières (MSF), Khayelitsha, South Africa; ²City of Cape Town Health Services, Cape Town, South Africa

Reasons for delay in antiretroviral treatment initiation after nurse midwife HIV/antenatal care (ANC) integration in Khayelitsha, South Africa: implications for option B

Vivian Cox¹, Mary Ibeto¹, Janet Giddy,² Kathryn Stinson³
¹Médecins Sans Frontières (MSF), Khayelitsha, Cape Town, South Africa; ²Provincial Government of Western Cape, Khayelitsha, South Africa; ³Centre for Infectious Disease Epidemiology and Research, Cape Town, South Africa

Predictors of mortality among tuberculous meningitis patients: a retrospective review of 21 TB programmes

Ahmed Abdelrahman¹, Philipp du Cros², Sarah Bernays¹, Lucy Platt³
¹Médecins Sans Frontières (MSF)/London School of Hygiene and Tropical Medicine, London, UK; ²MSF, London, UK; ³London School of Hygiene and Tropical Medicine, London, UK

Use of linezolid for complicated drug-resistant TB: experience in HIV infected and uninfected patients in Khayelitsha, Cape Town

Jennifer Hughes¹, Helen Cox¹, Johnny Daniels¹, Vivian Cox¹
¹Médecins Sans Frontières (MSF), Cape Town, South Africa; ²University of Cape Town, Cape Town, South Africa

Poor outcomes in a cohort of HIV-Infected adolescents undergoing treatment for multidrug-resistant Tuberculosis in Mumbai, India

Petros Isaakidis¹, Roma Paryani¹, Samsuddin Khan¹, Homa Mansoor¹, Manta Manglani², Asmaa Vallyakath¹, Peter Saranchuk², Jennifer Furin³
¹Médecins Sans Frontières (MSF), Mumbai, India; ²Regional Pediatric ART Centre, L.T.M. Medical College, Sion, Mumbai, India; ³Southern African Medical Unit (SAMU), MSF, Cape Town, South Africa; ⁴Tuberculosis Research Unit, Case Western Reserve University, Cleveland, Ohio, USA

“I cry every day”: experiences of patients co-infected with HIV and multidrug-resistant tuberculosis. A qualitative study

Petros Isaakidis¹, Sheela Rangan¹, Anagha Pradhan¹, Joanna Ladomirski¹, Tony Reid⁴, Karina Kielmann⁵
¹Médecins Sans Frontières (MSF), Mumbai, India; ²The Maharashtra Association of Anthropological Sciences - Centre for Health Research and Development (MAAS-CHRD), Pune, India; ³Independent researcher; ⁴MSF, Luxemburg; ⁵Institute of International Health & Development, Queen Margaret University, Edinburgh, UK

Gradual increase in ART initiations following the implementation of new WHO guidelines, in Khayelitsha, South Africa

Gabriela Patten¹, Vivian Cox¹, Kathryn Stinson¹,² Andrew Boullé³, Lynne Wilkinson¹
¹Médecins Sans Frontières (MSF), Khayelitsha, South Africa; ²University of Cape Town, Cape Town, South Africa
A patient-centred, fast tracking, TB-integrated approach to ART preparation and initiation counseling in a primary care clinic in Khayelitsha, South Africa

Suhair Solomon1, Gabriela Patten1, Shariefa Abrahams2, Saar Baert3, Lena Anderson4, Lynne Wilkinson1

1Médecins Sans Frontières (MSF), Khayelitsha, South Africa; 2Ministry of Health, City of Cape Town, South Africa; 3MSF, Brussels, Belgium; 4University of Cape Town, Cape Town, South Africa

Towards a male-centered model of care: understanding male preferences and barriers to HIV care in Khayelitsha, South Africa

Vivian Cox1, Alisdair Campbell2, Nombulelo Raphahlelo1, James McIntyre2, Kevin Rebe3

1Médecins Sans Frontières (MSF), Khayelitsha, South Africa; 2Anova Health Institute, Cape Town, South Africa

Clinical mentorship of nurse-initiated antiretroviral therapy (ART) in Khayelitsha, South Africa: a quality of care assessment

Ann Green1, Virginia de Azevedo2, Gabriela Patten2, Mary-Ann Davies3, Mary Ibeto3, Vivian Cox1

1School of Family Medicine and Public Health, University of Cape Town, Cape Town, South Africa; 2City of Cape Town Department of Health, Khayelitsha, South Africa; 3Médecins Sans Frontières (MSF), Khayelitsha, South Africa; 4Centre for Infectious Disease Epidemiology and Research, Cape Town, South Africa

Second-line failure and first experiences with third-line antiretroviral therapy in Mumbai, India

Samsuddin Khan1, Petros Isaakidis1, Aristomo Andries1, Asmaa Vallyakhath1, Homa Mansoor1, Reena Verma1, Dolorosa Fernandez1, Alaka Deshpande2, Peter Saranchuk3

1Médecins Sans Frontières (MSF), Mumbai, India; 2Infectious Diseases Department, Mahatma Gandhi Medical College, Mumbai, India; 3Southern African Medical Unit (SAMU), MSF, Cape Town, South Africa

Use of viral load (VL) monitoring to enable better targeting of adherence support for antiretroviral therapy (ART) compliance in Swaziland

Lucy Anne Parker1, Kiran Jobanputra1, Charles Azih7

1Médecins Sans Frontières (MSF), Nhlangano, Swaziland; 2National AIDS Program, Swaziland

Impact of decentralisation on retention in HIV care: A rapid analysis using routine data

Lucy Anne Parker2, Kiran Jobanputra1, Charles Azih2, Elias Pavlopoulos5

1Médecins Sans Frontières (MSF), Nhlangano, Swaziland; 2National AIDS Program, Swaziland

Perceptions of the role of NGOs in direct service delivery of ART

Rosie Soffair

University of Leeds, Leeds, UK

Nutrition

Tour Leader: Sakib Burza, MSF, India

Android based data collection in a nutritional survey: a feasibility study in Chad

France Broillet1, Ludovic Rosse1

1Médecins Sans Frontières (MSF), Geneva, Switzerland
MUAC >120mm as simple, safe and effective discharge criteria for severe acute malnutrition in Bihar, India

Sakib Burza¹, Raman Mahajan¹, Nuria Salse², Cristian Casademont², Elisa Marino¹
¹Médecins Sans Frontières (MSF), New Delhi, India; ²MSF, Barcelona, Spain

Underweight and acute malnutrition are associated with adverse outcomes among young HIV-infected children in Maputo, Mozambique

Jan Walter¹, Verena Moreno¹, Celeste Gracia Edwards¹, Johnny Lujan², Annick Antierens³, Lucas Mollino¹, Angels Prieto¹, Mafalda Chissano¹, Micaela Serafini²
¹Médecins Sans Frontières (MSF), Maputo, Mozambique; ²MSF, Geneva, Switzerland

Multisite implementation
Tour leader: Grazia Caleo, MSF, UK

R-AS as pre-referral treatment for severe malaria: implementation and bottlenecks for use in MSF - A report on two qualitative surveys of 72 MSF missions

Kimberly Bonner¹, Angeles Lima², Estrella Lasny³, Jorgen Stassijns⁴, Esther Sterk¹, Marit de Wit⁵, Martin De Smet⁶
¹Médecins Sans Frontières (MSF), Access campaign, Geneva, Switzerland; ²MSF, Barcelona, Spain; ³MSF, New York, USA; ⁴MSF, Brussels, Belgium; ⁵MSF, Amsterdam, Netherlands

Implementation of sexual & reproductive health care activities in MSF projects

Catrin Schulte-Hillen¹, Michiel Lekkerkerker², Eva de Plecker³, Olivia Hill³, Nelly Staderini⁵, Carlos Menichetti⁶
¹Médecins Sans Frontières (MSF), International Office, Geneva, Switzerland; ²MSF, Amsterdam, Netherland; ³MSF, Brussels, Belgium; ⁴MSF, Barcelona, Spain; ⁵MSF, Geneva, Switzerland; ⁶MSF, Paris, France

Does one size fit all? A retrospective analysis of 18 individual-focused non-specialised counselling programmes in humanitarian contexts

Leslie Shanks¹, Cono Ariti², Ruby Siddiqui³, Giovanni Pintaldi³, Sarah Venis³, Kaz de Jong⁴, Marise Denault⁴
¹Médecins Sans Frontières (MSF), Amsterdam, Netherlands; ²London School of Hygiene and Tropical Medicine, London, UK; ³MSF, London, UK

Research impact
Tour leader: Sarah Venis, MSF, UK

From outsider to policy game changer? An example of partnership, research and beneficiary-orientated outcome success in India

Sakib Burza¹, Maria Angeles Lima², Sally Ellis³, Manica Balsagaram², Johanna Vanpeteghem²
¹Médecins Sans Frontières (MSF), New Delhi, India; ²MSF, Barcelona, Spain; ³Campaign for Access to Essential Medicines, Geneva, Switzerland

Trends in MSF research publications

Louise Bishop¹, David Bridgeman-Packer³, Patricia Kahn³, Sarah Venis³
¹Médecins Sans Frontières (MSF), London, UK; ³MSF, New York, USA
Mapping the impact of MSF research: an evaluation framework and pilot results

Adam Kamenetzky¹, Louise Bishop¹, Sarah Venis¹, Rafael Van den Bergh²
¹Médecins Sans Frontières (MSF), London, UK; ²MSF, Brussels, Belgium

Using altmetrics and citation counts to assess the social and academic impact of Médecins Sans Frontières publications

Jean Liu¹, Euan Adie¹, Louise Bishop², Sarah Venis²
¹Altmetric LLP, London, UK; ²Médecins Sans Frontières (MSF), London, UK

Surgery

Tour leader: Carrie Teicher, Epicentre, New York

Fasciotomy versus conservative treatment of compartment syndrome of the forearm caused by earthquake trauma: a systematic review

Andreas Älgå¹, Martin Gerdin¹, Aron Lindqvist¹, Louis Ridsde², Max Petzold³, Johan von Schreeb¹,²
¹Department of Public Health Sciences, Karolinska Institutet, Sweden; ²Médecins Sans Frontières (MSF), Stockholm, Sweden; ³Centre for Applied Biostatistics, Sahlgrenska Academy at University of Gothenburg, Sweden

High loss to follow-up following obstetric fistula repair surgery in rural Burundi: Is there a way forward?

Bishinga Aristide¹, Rony Zacharia³, Sven Hinderaker⁴, Katie Tayler-Smith⁵, Mohammed Khogali⁶, Johan van Grevinser⁷, Wilma Van den Boogaard⁸, Tamura Misato⁹, Bayo Christiaens⁸, Gamaliel Sinabajije⁶
¹Médecins Sans Frontières (MSF), Burundi-Gitega, Burundi; ²MSF, Luxembourg and Brussels, Belgium; ³University of Bergen, Bergen, Norway; ⁴Institute of Tropical Medicine, Anvers, Belgium; ⁵MSF, Bujumbura, Burundi; ⁶Ministry of Health, Bujumbura, Burundi

Conservative treatment of fresh obstetric fistula by early bladder catheterization in Burundi: Where are the patients?

Wilma van den Boogaard⁶, Aristide Bishinga¹, Geert Morren¹
¹Médecins Sans Frontières (MSF), Burundi-Gitega, Burundi

The Short Musculoskeletal Functional Assessment (SMFA) score and surgical outcomes in reconstructing lower limb injuries in war wounded civilians in Amman, Jordan

Rasheed M. Fakhri¹, Nancy Foote¹, Carrie Teicher²
¹Médecins Sans Frontières (MSF), Amman, Jordan; ²Epicentre, New York, USA
**Keynote speaker**

**Hans Rosling**
Hans is a Swedish medical doctor, academic, statistician and public speaker. He is Professor of International Health at Karolinska Institutet, Co-founder of the Gapminder Foundation, ‘edutainer’ and TED talks alumnus. In his presentations he uses animated statistics to explain global health trends. He has been an adviser to WHO and UNICEF and co-founded MSF in Sweden. In 2012, he was listed by *Time Magazine* as one of the world’s 100 most influential people.

**Chris Whitty**
Chris is Chief Scientific Advisor at the UK Department for International Development (DFID), Professor of International Health at the London School of Hygiene & Tropical Medicine (LSHTM), a consultant physician at the Hospital for Tropical Diseases and University College London Hospitals, and a consultant epidemiologist for the Malaria Reference Laboratory of the Health Protection Agency. He trained in medicine and physiological science in Oxford, and worked as a clinician in Oxford, Edinburgh, London, Malawi and Thailand and in public-health research in Africa, Asia and the UK. His postgraduate training was in epidemiology, economics and law. Prior to his post with DFID, he was Director of the LSHTM Malaria Centre, trustee of Merlin, chair of the Department of Health National Expert Panel on New and Emerging Infections (NEPNEI) and director of the ACT Consortium.

**Chairs**

**Nathan Ford**
Nathan works for the Treatment and Care team of the HIV/AIDS Department, WHO, Geneva. Prior to that, he worked with MSF for 14 years in various positions, including supporting operational research in HIV/AIDS programmes in Southeast Asia and southern Africa.

**Kamalini Lokuge**
Kamalini works as a doctor and medical epidemiologist for the Manson Unit of MSF as well as for WHO and the International Committee of the Red Cross. She is a Fellow of the Australian National University. She was awarded a Medal of the Order of Australia for her work in 2010. From 2010 to 2012, she was a member of the MSF-Australia Board of Directors. Kamalini focuses on conducting implementation research in complex settings in partnership with local communities and health workers. She aims to improve the health outcomes of vulnerable populations, including those affected by conflict, communicable diseases and natural disasters, through practice-driven research and local capacity building. She has field experience in public health programme delivery and evaluation in a range of crisis situations, including Afghanistan, Darfur, Uganda, Nigeria, Myanmar, South Sudan, Zambia, Congo Brazzaville, the Democratic Republic of Congo, Papua New Guinea and Indonesia.

**Panellists**

**Ginny Barbour**
Ginny was one of the founding co-editors of *PLOS Medicine*, and was appointed the journal’s first Chief Editor in 2008. She is also Editorial Director of Medicine Publishing at PLOS. She studied Natural Sciences at Cambridge University, and then medicine at University College London and Middlesex Hospital School of Medicine, London. Her specialist clinical medical training was in haematology, and she was awarded a DPhil from Oxford University in 1997 for research into globin gene regulation. She is the Chair of the Committee on Publication Ethics, and is a member of the Ethics Committee and a Director of the World Association of Medical Editors. She has participated in discussions on a number of guidelines in publishing, including revisions to the CONSORT statement, and the development of the PRISMA statement. Her interests in publishing include not only open-access, but also the more rigorous reporting of research and the importance of taking an evidence-based approach to the priorities of global health.

**Manica Balasegaram**
Manica is a medical doctor who trained in the UK and Australia. He joined MSF in 2001, working as a doctor in several countries in sub-Saharan Africa and Southern Asia. After gaining significant operational research experience, Manica became Head of the Manson Unit of MSF before moving to the Drugs for Neglected Diseases initiative (DNDi). In 2012 he joined the MSF Access Campaign as the Executive Director.

**Dermot Maher**
Dermot joined the Wellcome Trust as International Portfolio Manager in 2012. His international experience includes work as a specialist physician in Malawi (1992-1995), a TB medical officer with WHO in Geneva (1995-2007), head of a rural programme of HIV research in Uganda (2007-2011), and Senior TB Advisor with the Global Fund to Fight AIDS, Tuberculosis and Malaria in Geneva (2011-2012). His research interests (particularly in tuberculosis, HIV and non-communicable diseases) have covered clinical research in developing countries; operational research; epidemiology; policies for management of non-communicable diseases in primary care; research methodology; and the links between research and policy.

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**Biographies**

**Bern-Thomas Nyang’wa**
Bern is a Malawian medical doctor with 9 years experience working with MSF. He obtained his MBBS from the University of Malawi’s College of Medicine and MPH(Int) from the Nuffield Centre for International Health and Development (NCIHD) of the University of Leeds. He has worked with MSF in different positions including Project coordinator and Medical coordinator in Malawi, Nigeria, Chad and Central African Republic (CAR). Since 2009, he has worked in the Manson Unit of MSF, providing support to MSF projects to improve or implement multi-drug resistant tuberculosis (MDR-TB) programmes in Georgia, Uzbekistan, Tajikistan, Colombia, Ethiopia, CAR, Zimbabwe and South Sudan. He has extensive MDR-TB clinical and programmatic management experience and has consulted for WHO in developing the Sierra Leone National MDR-TB programme, reviewing the Cambodia MDR-TB programme and evaluation of TB-REACH projects. He guest lectures at the London School of Hygiene & Tropical Medicine and NCIHD. Bern is currently the Project Manager and Coordinating Principal Investigator of a planned MSF large phase II-III multi-centric clinical trial.

**Hans Rosling**
Hans is a Swedish medical doctor, academic, statistician and public speaker. He is Professor of International Health at Karolinska Institutet, Co-founder of the Gapminder Foundation, ‘edutainer’ and TED talks alumnus. In his presentations he uses animated statistics to explain global health trends. He has been an adviser to WHO and UNICEF and co-founded MSF in Sweden. In 2012, he was listed by *Time Magazine* as one of the world’s 100 most influential people.

**Kamalini Lokuge**
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**Manica Balasegaram**
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Helen Bygrave
After qualifying from Cambridge and University College London in 1995, Helen worked as a general practitioner and tutor for University College London until 2005. Since then, she has worked with MSF in Nigeria, Myanmar, and Lesotho, focusing on HIV and tuberculosis. She is now based in London and currently works for MSF’s Southern African Medical Unit providing technical support to HIV and TB projects across Africa.

Presenters

Karin Fischer Liddle
Karin has worked with MSF since 1995; initially in Chechnya, 1995, during the war. Since then she has worked as a Medical Coordinator in Uzbekistan and Somalia and later became Country Director in Somalia. She is enrolled at the London School of Hygiene & Tropical Medicine for a Master’s degree in Public Health, and has a Bachelor degree in International Health and Infectious Diseases.

Shona Horter
Until recently, Shona was working as a Qualitative Research Officer with MSF, conducting qualitative research studies on topics relating to multi-drug resistant tuberculosis. This included examining the MSF TB&Me blogging project, assessing the home-based treatment and care of MDR-TB patients in northern Uganda and planning research in Uzbekistan examining adherence to MDR-TB treatment and potential barriers. Shona has an MSc in Control of Infectious Diseases from the London School of Hygiene & Tropical Medicine and her previous research includes examining HIV in South West London, HIV and the law in Malawi and HIV prevention in Sierra Leone.

Petros Isaakidis
Petros has worked as a clinician and an epidemiologist for the Center for Diseases Control and Prevention in Greece; he was in charge of infectious disease surveillance, outbreak investigations and planning for biological disasters during the Athens Olympic Games. He has volunteered and worked for MSF and other humanitarian organisations in Zimbabwe, Gaza Strip & West Bank, Kenya, Cambodia, Thailand, and India where he coordinated medical projects, in particular large-scale HIV and tuberculosis/ multi-drug resistant tuberculosis projects and supported evidence generation through field-based operational research.

Maryline Bonnet
Maryline is a pneumonologist and epidemiologist. She worked for MSF between 1998 and 2002 in former Soviet Union countries (Caucasus and Russia) on tuberculosis (TB) as a doctor, medical coordinator and regional advisor. Since 2003, she has been in charge of clinical research on TB in Epicentre, based in Geneva. Her research activities focus on the improvement of diagnosis of TB at the peripheral health-care level for high TB and HIV prevalence countries; treatment of HIV-TB co-infected patients and treatment of patients with drug-resistant TB.

Pieter Pannus
Pieter was born in Belgium and obtained a Master’s degree in Bio-Engineering with a specialization in parasitology from the Free University of Brussels and is currently undertaking a Master’s degree in International Health at the Swiss Tropical and Public Health Institute in Basel. He joined MSF in 2011 and worked primarily in HIV/AIDS projects in the South African region. He currently works in a multi-country MSF project aiming at expanding access to CD4 and viral load services for people living with HIV.

Olivia Hill
Olivia is currently working as a Reproductive and Sexual Health Referent in the Medical Department of MSF in the Barcelona office. She is a nurse and midwife by training with a specialisation in tropical diseases and has a Master’s degree in Sexual and Reproductive Health (SRH) Research from the London School of Hygiene & Tropical Medicine. Olivia started her humanitarian adventures in 1998 with Action Against Hunger (Afghanistan, Sudan and Cambodia) and joined MSF in 2000 where she supported SRH activities (Eritrea, Sierra Leone, Somalia and Colombia). Her previous research has included evaluations of rapid diagnostic tests for malaria in Colombia, investigating the gap between use of antenatal and delivery services in northern Uganda and capitalising on the SRH consequences for victims of trafficking in Morocco. She represents MSF as an active member of the Interagency Working group (IAWG) on Reproductive Health in Crisis and was a contributing author to the Inter-Agency Field Manual 2010.

Daniela Garone
Daniela is a medical doctor specialising in internal medicine, infectious diseases and clinical and pharmacological research. She has worked in HIV and tuberculosis (TB) since 1994. Since joining MSF in 2008, she has worked in HIV/TB programmes in Zimbabwe, South Sudan, South Africa and Malawi.

Jane Greig
Jane is an operational epidemiologist in the Manson Unit of MSF. She provides support to surveillance, outbreak response and research activities across a wide range of MSF projects. She has spent extended time with MSF in Nigeria (as an operational researcher in a HIV project and for outbreak response including lead poisoning) and has worked for other non-governmental organisations including projects in Tajikistan and Malaysia.

Céline Langendorf
Céline graduated as a pharmaceutical doctor specialising in Medical Lab Sciences at the University in Lyon, France. She completed a Master’s degree in International Public Health and Tropical Diseases and a degree in Statistics Applied to Medicine and Epidemiology. She worked as laboratory head and field coordinator at the Epicentre research centre in Niger for 18 months then joined Epicentre as an epidemiologist in February 2011. Her work focuses on the design and implementation of Epicentre’s research studies related to the biological diagnosis of infectious diseases and management of malnutrition.
Philipp du Cros
Originally from Perth, Australia, Philipp is an infectious diseases specialist with a Master’s degree in Clinical Epidemiology. First working with MSF in 1999 in Burmese refugee camps in Thailand, he has since worked in Tajikistan, Uzbekistan, Malaysia, India, Nigeria, Myanmar, Uganda, Swaziland and Zimbabwe on HIV and tuberculosis programmes. He is the head of the Manson Unit, a specialist medical unit focused on improving the quality of MSF programmes through implementation and implementation research support.

Leslie Shanks
Leslie is the former Medical Director of MSF-Operational Centre Amsterdam. A family physician, she joined MSF in 1994 and has worked in a number of countries with MSF since then. She joined the board of MSF-Canada in 1998, and was elected president from 2001-2004. She completed her Master’s degree in Public Health at Johns Hopkins University in Baltimore. She worked in the Public Health Department in MSF in Amsterdam from 2007-13, and is currently on a prolonged holiday.

Martin De Smet
Martin is currently the coordinator of the Malaria Working Group of MSF, based in Brussels. He joined MSF in 1991, working mainly in conflict settings and natural disasters in many countries. Since 2001 he has worked as a malaria advisor for MSF, focusing mainly on supporting the introduction of innovative tools and strategies such as the implementation of artemisinin-based combination therapies (ACTs), the use of rapid diagnostic tests, the use of injectable artemisinin derivates for severe malaria, as well as on adapted service-delivery models.

Iza Ciglenecki
Iza studied medicine in Ljubljana, Slovenia, and did additional training in tropical medicine and epidemiology at the London School of Hygiene & Tropical Medicine. She has been working with MSF since 2001 as a doctor and medical and emergency coordinator based mainly in sub-Saharan Africa, a medical advisor for outbreak response and epidemiology based in Geneva and recently as manager of emergency programmes. Iza is currently working at the Initiative for Innovation at MSF as a project manager for diarrheal diseases.

Estrella Larsy
Originally from Spain, Estrella studied Medicine at the University of Barcelona, trained as a family doctor in Spain and then worked in emergency medicine. Estrella has a Master’s degree in Tropical Medicine and Hygiene from the London School of Hygiene & Tropical Medicine and has worked with MSF since 2009 as a doctor and medical team leader (in the Democratic Republic of Congo, Haiti and Zambia). She has worked as a Tropical Medicine Advisor for MSF since November 2011.

Ruby Siddiqui
Ruby is an Operational Epidemiologist with the Manson Unit of MSF and supports MSF projects with medical surveillance and monitoring, outbreak investigation and evidence-based decision-making (including routine data analysis, surveys and operational research activities). Her focus is neglected tropical diseases, vaccine-preventable diseases, mental health, sexual and gender-based violence and humanitarian affairs. In addition she has represented MSF in a number of lectures, publications and blogs. Her previous medical research studies have included leprosy in India and Ethiopia, HIV in South Africa, visceral leishmaniasis in Brazil and polio in Ghana. Ruby obtained a Bachelor’s degree in Immunology from King’s College London, a Master’s degree in Public Health in Developing Countries and a PhD on asymptomatic visceral leishmaniasis from the London School of Hygiene & Tropical Medicine.

Scientific Day 2013 Acronyms

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<td>ALT</td>
<td>Alanine Transaminase</td>
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<tr>
<td>AQ</td>
<td>Amodiaquine</td>
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<td>aOR</td>
<td>adjusted Odds Ratio</td>
</tr>
<tr>
<td>ART</td>
<td>Antiretroviral Therapy</td>
</tr>
<tr>
<td>DBS</td>
<td>Dried Blot Spot</td>
</tr>
<tr>
<td>DMSA</td>
<td>Dimercaptosuccinic Acid</td>
</tr>
<tr>
<td>DOT</td>
<td>Directly Observed Therapy</td>
</tr>
<tr>
<td>HR</td>
<td>Hazard Ratios</td>
</tr>
<tr>
<td>IOM</td>
<td>Institute of Medicine</td>
</tr>
<tr>
<td>MM</td>
<td>Maternal Mortality</td>
</tr>
<tr>
<td>MMR</td>
<td>Maternal Mortality Ratio</td>
</tr>
<tr>
<td>NCC</td>
<td>National Coordinating Council (for Medication Error Reporting &amp; Prevention)</td>
</tr>
<tr>
<td>NPV</td>
<td>Negative Predictive Value</td>
</tr>
<tr>
<td>OCV</td>
<td>Oral Cholera Vaccines</td>
</tr>
<tr>
<td>OR</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>RUSF</td>
<td>Ready-to-Use Supplementary Foods</td>
</tr>
<tr>
<td>SAM</td>
<td>Severe Acute Malnutrition</td>
</tr>
<tr>
<td>SAT</td>
<td>Self Administreated Treatment</td>
</tr>
<tr>
<td>SC+</td>
<td>Super Cereal Plus</td>
</tr>
<tr>
<td>SMC</td>
<td>Seasonal Malaria Chemoprevention</td>
</tr>
<tr>
<td>SP</td>
<td>Sulphadoxine-Pyrimethamine</td>
</tr>
<tr>
<td>V BLL</td>
<td>Venous Blood Lead Level</td>
</tr>
<tr>
<td>WASH</td>
<td>Water, Sanitation and Hygiene</td>
</tr>
<tr>
<td>WFP</td>
<td>World Food Programme</td>
</tr>
<tr>
<td>WLZ</td>
<td>Weight-for-Length Z scores</td>
</tr>
<tr>
<td>XDR</td>
<td>Extensively Drug Resistant</td>
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</tbody>
</table>
Note: Abstracts and presentations will be available on the MSF UK website for three months following Scientific Day:

http://www.msf.org.uk/msf-scientific-day