Welcome to the 2012 MSF Scientific Day. This year marks a change for the conference as for the first time it is being streamed live online. We hope that we will be joined by an audience around the world in MSF field projects, in universities, research institutions, Ministries of Health, and other organisations that we work with, and by anyone with access to an internet connection or smart phone who has an interest in improving the quality of medical humanitarian programmes. The online audience will have a chance to ask questions during the discussion sections as well as commenting on the issues raised in each session.

In keeping with this new approach, our keynote speech is on ‘Digital humanitarianism’. Paul Conneally (ex International Federation of the Red Cross, now at the International Telecommunication Union) will talk about the potential of digital technology in the humanitarian response, whether the evidence on the ground justifies the hype about these new technologies, and what the future might hold. In the same session, MSF researchers will present work on using digital mapping systems to estimate population size and remote diagnosis of tuberculosis via teleradiology. Should MSF invest heavily in these new technologies? Do you think that this is the future of humanitarian aid? Let us know in the discussion at the end of the session.

Equally innovative are approaches described by Helen Bygrave for improving adherence to HIV treatment in a population of migrant farm workers who regularly cross borders; their disease doesn’t stop at the border but their treatment all too often does. In the same session, pioneering treatment for a stigmatising complication of kala azar and a new tool for screening for psychological issues in very young children continue the theme of treatment for often neglected populations.

While there is a desperate need for new HIV drugs, the lack of options means that available drugs must be safeguarded. The first session of the day highlights what happens when adherence to treatment is poor and the reasons that patients have difficulty adhering, how patients failing second-line treatment can be helped to adhere to treatment, and the risks for drug resistance from a planned phasing out of a widely used HIV drug. Also in that session, a large survey across 13 MSF projects looks at the risk factors for death in a group of patients neglected in international policy—children with tuberculosis.

And in Session 2, ‘How far should we go?’, MSF programmes that treat patients often neglected in humanitarian aid where treatment is deemed too expensive or complex are presented. How should MSF balance the equation of trying to help as many people as possible with pioneering treatment for neglected groups? Where do MSF’s responsibilities end?

The final session of the day looks at what happens next with MSF research. So the research is presented and published—but does it change the lives of the people that MSF assists? In a survey of past Scientific Day presenters (see poster gallery), over 80% of research presented was reported to have had an effect on MSF operations; about 50% had an effect on internal MSF policies and about 50% influenced external policies. Nathan Ford, the Medical Coordinator at the MSF Access Campaign, will present on how research data are used in advocacy, what is done with the results of MSF research, and what the future might hold in the digital age. To end the day, Jonathan Smith, from Yale University, will screen clips from a heartbreaking and inspiring film that he is making about the lives and deaths of miners in South Africa. An epidemiologist, he decided that publishing research was not enough, and that to effect change he had to try a radically different approach, which he will talk about here.

We hope that you will join in the debate and discussions, talk to poster authors in the breaks and at lunch, and help MSF to continue to improve the quality of analysis of its research and ultimately the quality of the assistance that it provides to those in need.

Regards

Philipp du Cros¹, Sarah Venis², Stephanie Bartlett³, Rebecca Roby⁴, Sana Sultan⁵

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Morning agenda

8.30–9.30  Registration and coffee

9.30–9.40  Welcome: Marc DuBois, Executive Director, MSF UK

9.40–11.05  Session 1: HIV and tuberculosis

Chair: Graham Cooke, Clinical Senior Lecturer in Infectious Diseases, Imperial College London

• Risks and predictors of viral load failure during antiretroviral therapy in patients with and without prior antiretroviral use: a retrospective cross-sectional study
  Jane Greig, MSF

• Scaling up of triggered viral load testing in rural Zimbabwe: implications for phasing out of d4T
  Steven Van Den Broucke, MSF

• Paediatric tuberculosis: risk factors for death in 13 projects
  Georgina Russell, London School of Hygiene and Tropical Medicine

• High rate of virological re-suppression among patients failing second-line ART: a model of care to address adherence in a resource-limited setting in South Africa
  Daniela Garone, MSF

11.05–11.30  Break and poster session

11.30–13.00  Session 2: How far should we go? Balancing competing priorities and responsibilities

Chair: Francesco Checchi, Epidemiologist and Lecturer, London School of Hygiene and Tropical Medicine

• Prevalence and incidence of human papillomavirus infection, cervical abnormalities, and cancer in a cohort of HIV-infected women in Mumbai, India: a 12-month follow-up
  Petros Isaakidis, MSF

• Use of nasal continuous positive airway pressure in neonatal care in MSF settings: our experience
  Miroslav Stavel, MSF

• Long-term outcomes in children with severe acute malnutrition in a community-based management programme in Bihar, India
  Sakib Burza, MSF

• Sexual and reproductive health, violence, mental health, and access to care in two districts of Guatemala City
  Javier Rio Navarro, MSF

13.00–13.55  Lunch and poster session (authors will be available)
Afternoon agenda

13.55–15.10  **Session 3: Technology for improving health care delivery**

*Chair: Ginny Barbour, Chief Editor, PLoS Medicine*

**Keynote speech: Digital humanitarianism**

Paul Conneally, Head of Communications & Partnership Promotion Division at the International Telecommunication Union: the UN agency for information and communication technologies; previously Public Communications Manager for The International Federation of Red Cross and Red Crescent Societies

- Validation of satellite imagery methods to estimate population size
  *Chris Grundy, London School of Hygiene and Tropical Medicine*

- Teleradiology for diagnosis of tuberculosis in Thyolo District Hospital, Malawi
  *Isabella Panunzi, MSF*

15.10–15.30  **Break and poster session**

15.30–16.30  **Session 4: Finding and treating hidden and neglected populations**

*Chair: Paul Fine, Professor of Communicable Disease Epidemiology, London School of Hygiene and Tropical Medicine*

- Post-kala azar dermal leishmaniasis in Bangladesh: outcomes of a short-course AmBisome regimen
  *Margriet den Boer, MSF*

- A rapid screening tool for psychological difficulties in children aged 3–6 years: results of primary and secondary validations
  *Caroline Marquer, Epicentre*

- Targeted adherence strategies for provision of cross-border antiretroviral therapy to migrant farm workers in Musina, South Africa
  *Helen Bygrave, MSF*

16.30–17.20  **Session 5: Using research data in the digital age**

*Chair: Philipp du Cros, Head of the Manson Unit, MSF UK*

- What happens next? How MSF uses research data
  *Nathan Ford, MSF Access Campaign*

- ‘They Go To Die’—Screening of short film and talk by the Director
  *Jonathan Smith, Yale School of Public Health*

  Jonathan is currently working on a documentary investigating the life of four former migrant gold mine workers in South Africa and Swaziland who contracted drug-resistant tuberculosis and HIV while working in the mine

17.20–17.30  **Closing remarks: Philipp du Cros, Head of Manson Unit, MSF UK**

17.30–20.00  **Evening drinks**
Background
In sub-Saharan Africa, retention in antiretroviral treatment (ART) programmes can be poor. Financial constraints are linked with poor adherence, whereas provision of free ART is associated with improved survival. In 2003 in Lagos, Nigeria, MSF and the Lagos State Ministry of Health commenced free antiretroviral (ART) in an urban hospital-based clinic. We did a retrospective cross-sectional study to compare the risk of virological failure between patients with (“experienced”) and without (“naïve”) previous ARV exposure at commencement of ART, and examined the factors influencing adherence in experienced patients.

Methods
We included adult patients receiving ART from MSF who answered all relevant questions in a standardised questionnaire about use of ART before enrolling for treatment. A multivariate logistic regression model with robust standard errors was used to estimate odds ratios (OR) for viral load (VL) failure (≥1000 copies/mL) at any time ≥6 months of current ART, adjusting for potential confounders.

Results
1246 (96%) of 1297 adult patients on ART answered the questionnaire: 1075 (86%) reported no and 171 (14%) some, prior ARV exposure. 1027 (83% of naïve and 78% of experienced) patients had a VL test after ≥6 months of current ART. Proportionately fewer experienced than naïve patients achieved VL suppression (80% vs 91%; p<0.001). Virological failure was predicted by prior ARV experience (adjusted OR 3.74; p<0.001) and complete (3.71; p<0.001) or partial interruption of current ART (2.34; p=0.045). Failure was more likely in those with treatment interruption prior to MSF (OR 3.24; p<0.001), and specifically in those with interruptions because they could not afford ARVs (OR 3.37; p<0.001), could not get them due to stock issues (OR 2.81; p=0.01), were not sure when and how to take them (OR 6.19; p<0.001), or had been away from home (OR 3.94; p=0.01).

Conclusions
Patients previously exposed to ARVs were at increased risk of VL failure. The cost and availability of ARVs and inadequate patient knowledge increased the likelihood of treatment interruptions, which increased the risk of VL failure. Increased access to free ART, thorough preparation prior to commencing ART and reducing barriers to adherence are important in addressing these issues.

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Scaling up of triggered viral load testing in rural Zimbabwe: implications for phasing out of d4T

Steven Van Den Broucke¹, Sandra Simons¹, Katharina Kranzer², Dhodho Munyaradzi¹, Carol Metcalf³, Kwenzakwenkosi Ncube⁴, Helen Bygrave⁵

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Background
Viral load testing for HIV is limited in resource-poor settings because of feasibility and cost. In 2011, MSF, in collaboration with the Zimbabwean Ministry of Health, scaled up access to viral load testing in the rural district of Buhera using dried blood spots to allow for sample transport. Viral load testing was done for patients with clinical or immunological failure (CD4 drop of more than 30%) and for those eligible to be switched from stavudine (d4T) to tenofovir (TDF) in accordance with both WHO and Zimbabwean national guidelines. This study aimed to identify the proportion of patients in the above categories who would have been wrongly switched to second-line drugs or switched to TDF with otherwise undetected virological failure.

Methods
We analysed data (age, sex, CD4, viral load, time on antiretroviral treatment [ART]) abstracted from clinical and laboratory records for patients who underwent viral load testing from May to October 2011. Generalised linear models were used to estimate risk ratios to identify factors associated with viraemia among ART patients having viral load testing.

Results
621 patients were included in the analysis. Median age was 44 (interquartile range [IQR] 36–52) years, median time on ART was 3.2 years (IQR 1.9–4.3), and 412 (66%) were women. Viral load was undetectable in 407 (65.5%) patients, and was detectable in 33% (95% CI 13–53%) of patients with clinical failure, 42% (95% CI 36–48%) of patients with immunological failure, and 30% (95% CI 24–34%) of patients with d4T side-effects. Multivariate analyses found that having a detectable viral load was significantly associated with taking ART for 4 years or more (risk ratio 1.37; 95% CI 1.02–1.81; p=0.03).

Conclusions
These findings confirm the importance of measuring viral load in patients with clinical or immunological signs of treatment failure before a switch is made. A significant proportion of patients eligible for switching to TDF had undiagnosed viraemia, indicating either poor adherence or resistance. The consequences of switching to TDF in such cases are unclear but might cause early resistance to TDF or compromise future second-line regimens. The MSF HIV working group will continue to recommended the use of viral load testing for all patients being switched from d4T to TDF and where countries may consider this switch without viral load testing, these risks should be considered.

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NOT FOR CITATION OR PUBLICATION
Paediatric tuberculosis: risk factors for death in 13 projects

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Background

WHO estimates that there were 8.8 million cases of tuberculosis (TB) in 2010; however, data on the burden borne by children (with or without HIV) and their TB outcomes are limited. We aimed to analyse factors affecting paediatric TB treatment outcomes under routine programme conditions.

Methods

Children under 15 years old receiving TB treatment between January 2007 and June 2010 in 13 MSF projects over two continents where integrated HIV care is available were recorded in a standardised TB register. The use of the standardised WHO algorithm in conjunction with clinical acumen, sputum smear, lymph node smear and, rarely, chest radiograph (50 children) was used to make a diagnosis of TB in all programmes. Data were analysed using descriptive statistics and a logistic regression model.

Results

2451 children with a mean age of 5.2 years (SD 3.9) were included, of whom 51.2% were male. 1250 (51.0%) children lived in Asia, the rest in sub-Saharan Africa. 61.6% of children had pulmonary TB, 158 (6.4%) were smear positive. 5.7% of children had previously been treated for TB. 938 (38.3%) children were HIV-positive (38.4% of the total). Antiretroviral treatment (ART) status was documented in 60% of HIV-positive children (552), with 137 receiving ART at the time of TB treatment initiation. Treatment was completed in 73.3% of children and 211 (8.6%) died. In multivariate analysis, the odds of death were higher in HIV-positive children (OR 2.57 95% CI 1.56–4.23) than in HIV-negative children, children under 4 years, TB meningitis cases, and in re-treatment compared to new cases, with OR 1.7 (95% CI 1.18–2.45), 2.18 (95% CI 1.04–4.59), and 1.66 (95% CI 0.94–2.93) respectively. Children with unknown HIV status in Africa had higher risk of death on TB treatment than children confirmed HIV-negative (OR 1.87; 95% CI 1.07–3.28, p=0.008), but there was no difference in Asia.

Conclusions

Risk factors for death were HIV, TB meningitis, and previous TB treatment. The higher rate of death in retreatment children probably represents the excess mortality from MDR-TB and highlights the need for a high index of suspicion of resistant TB in retreated children, an appropriate diagnostic tool and available treatment. Given that the diagnosis of TB was predominantly clinical, it is possible that the increased deaths in HIV-positive children reflect misdiagnosis of TB (and therefore inadequate treatment of an alternative condition), which is more likely in an HIV-positive child. This demonstrates the pressing need for tools to better diagnose TB in children, particularly those who are HIV-positive. In high HIV prevalence settings, children unaware of their HIV status had worse outcomes. Efforts should be made within programmes to identify barriers to testing (clinician or parental reluctance) and a policy shift to test children under 2 years using PCR should be strengthened.
Background
In resource-limited settings, the rapid scale-up of antiretroviral treatment (ART) coverage in the past decade has improved access to treatment; however, it has also coincided with an increasing number of patients failing treatment. Patients failing their second-line regimens have few further treatment options, due to costly third-line drugs. Previous research conducted in Khayelitsha, a township in Cape Town, South Africa, found that only a small proportion of second-line patients with virological failure had major protease inhibitor mutations (2 of 37), indicating poor adherence to treatment. An action research study examined factors affecting adherence to second-line ART and assessed healthcare providers’ knowledge, attitudes and practices with respect to these patients in a sub-group of patients and clinic staff.

Methods
Khayelitsha has one of the highest burdens of HIV in South Africa, with more than 20,000 patients receiving ART. An adherence-support intervention was implemented in Ubuntu clinic, focusing on patients failing second-line ART. All patients were removed temporarily from the normal flow of the clinic for the duration of the programme and offered a comprehensive package of medical and counselling support. Patients enrolled in the programme were treated by the same doctor and counsellors trained in managing patients on second line treatment and on cognitive behavioural therapy. The program visits were initially organized every 2 weeks and followed by monthly consultations. During each visit, patients underwent a medical check-up, an individual counselling session and a group support activity. Patients were screened for substance abuse and depression at the enrolment visit. After every 3 months of enhanced adherence support, a viral load measurement was repeated. The action research study combined multiple qualitative methodologies including: key informant interviews with staff (n=11), in-depth interviews with patients (n=10) and a Photovoice workshop where participants took photographs reflecting chosen themes and presented and discussed them in groups.

Results
Since January 2011, 69 patients have been enrolled in the programme. 22 patients were excluded from the analysis, mainly due to having less than 3 months of follow-up. In the total study period, 24 patients (51%) resuppressed; five patients (11%) were diagnosed as having a resistant virus; three patients with resistant virus started third-line and subsequently resuppressed; two patients with resistant virus were still experiencing adherence problems at the time of analysis and were not changed to third-line; and 14 patients (29.7%) did not resuppress at any time during the observation period. Of the remaining four patients, two were transferred out, one was lost to follow-up, and one died. Among those resuppressed (n=24) 75% achieved a viral load of less than 400 copies/mL in the first 3 months in the programme. Among those with drug-resistant virus, 80% switched to third-line ART. About half the patients screened positive for depression and/or substance abuse. Staff identified drinking, non-disclosure, and pill fatigue as barriers to adherence, whilst patients identified staff attitudes, side-effects and lack of understanding around medication timing as the main treatment adherence barriers.

Conclusions
Poor adherence was the primary reason for virological failure among patients failing second-line ART. Identification of virological failure followed by simple, targeted adherence support interventions resulted in re-suppression in over 50% of patients, predominantly within 3 months in the programme. Reasons identified for treatment failure and areas needing improvement often differed significantly between patients and staff. Access to viral load testing and targeted adherence support can reduce treatment failure, improve treatment outcomes and decrease the need for costly and inaccessible third-line ART.

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Background
HIV-infected women are at a higher risk of cervical intraepithelial neoplasia (CIN) and cervical cancer than women in the general population, partly due to a high prevalence of persistent human papillomavirus (HPV) infection. Generally, little attention is given to screening HIV-infected women for HPV infection and cervical lesions in resource-constrained settings. We describe the outcomes of a programme to detect and treat HPV infection, cervical lesions, and cancer in a cohort of HIV-infected women attending an antiretroviral treatment (ART) clinic in Mumbai, India.

Methods
In 2010, MSF and the Tata Memorial Hospital, Mumbai, introduced routine annual pap smears and HPV-DNA testing of women attending an ART clinic. Women with abnormal test results were offered cervical biopsy and treatment, including treatment for sexually-transmitted infections (STIs), if indicated. Patients were excluded if they were pregnant, or had a critical general condition. Sputum-positive TB patients were screened after sputum/culture conversion. All patients with CIN received cryotherapy or loop electrosurgical excision procedure (LEEP) and were followed up after 1 month. Patients with carcinoma were offered radiotherapy followed by chemotherapy, and were followed up monthly.

Results
94 HIV-infected women were screened. They had a median age of 38 years (Standard Deviation; 7.6); median CD4-count of 143 cells/µL [interquartile range (IQR) 79–270]; and median time on ART of 1.9 years (IQR 0.9–3.5). HPV-DNA was detected in 27 of 92 women (29.3%), and 16 of 94 (17%) had either low-grade or high-grade squamous intraepithelial lesions (LSIL or HSIL) on pap smear. Overall, more than half the women had cervical inflammatory reactions, including STIs. Of 42 women who had a cervical biopsy, four (9.5%) had CIN-1, five (12%) CIN-2, and two (5%) had carcinoma-in-situ. All but one of these women had HPV-DNA detected (relative risk 39.8, 95% CI 5.27–132.85). Five patients received cryotherapy and four patients underwent LEEP. One patient diagnosed with cancer received radiotherapy and chemotherapy, and one patient diagnosed with cancer died before treatment initiation. 10 of 11 patients successfully completed treatment. By the end of 2011, 55 women had completed at least 12 months of follow-up and had been rescreened. No new cases of HPV-infection, LSIL, or HSIL were detected on rescreening. The programme was nurse-led and screening cost per patient was 450 INR (approximately EUR 7). Treatment costs are currently being determined.

Conclusions
The high prevalence of HPV infection, STIs, and cervical lesions detected among women attending an ART clinic demonstrates a need for routine screening of all HIV-infected women. Screening costs and resources were not high however treatment costs have not been determined. Large cohort studies are needed to determine the optimal screening interval, especially when resources are limited.
Use of nasal continuous positive airway pressure in neonatal care in MSF settings: our experience

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Background
Respiratory diseases account for approximately 20% of neonatal morbidity. Nearly all infants in need of respiratory support will die if this intervention is not provided quickly. Bubble nasal continuous positive airway pressure (nCPAP) is a low-cost yet efficient mode of respiratory support that has been used in neonatal care in developed settings for decades. However, it has not been used widely in MSF projects. We describe our experience and early results from introduction of this intervention.

Description
A 50-bed paediatric hospital was opened in May, 2011 in Quetta, Balochistan province, Pakistan. Newborns accounted for more than half the patients admitted, many of them premature. We soon realised that the active management of respiratory distress was an area where we could improve outcomes with new strategies. We introduced bubble nCPAP as a treatment modality in September. Severity of respiratory compromise was assessed clinically, using general condition, breathing effort, respiratory rate, apnoeas, oxygen requirement, and oxygen saturations. Importance was given to identifying the need as soon as possible, allowing for early intervention.

Lessons learned
From September, 2011, to February, 2012, we had 331 exiting neonatal patients. 105 infants (32%) presented with respiratory difficulties requiring respiratory support and were started on bubble nCPAP. Of these patients, 41 (39%) were born at less than 32 weeks, 38 (36%) at 32–36 weeks, and 26 (25%) at term. 35 infants (33%) survived to discharge. Average length of nCPAP treatment was 6.4 (<1–41) days for all and 11.1 (1–41) days for surviving infants. Introduction of bubble nCPAP has presented its own challenges since, apart from the expat doctor, nobody had previous experience with neonatal indications for nCPAP and most of the national staff had no previous experience with neonatal care. Despite this, staff did very well and continued improving with increasing experience. Further, as this is not a standard of delivered care, there were and continue to be logistical challenges. Our intention was to follow up infants to at least 6 months of age if they were sick or premature. We are currently collecting these follow-up data for future analysis.

Recommendations
It is possible to use bubble nCPAP in neonatal care in MSF settings. Further challenges lie with the identification of appropriate equipment and development of a training package to allow wider use across MSF projects and adaptation for rural settings.
Long-term outcomes in children with severe acute malnutrition in a community-based management programme in Bihar, India

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Background
MSF has been managing a programme for community-based management of acute malnutrition (CMAM) in Darbhanga district, Bihar, India, since 2009. Initial surveys showed a prevalence of 4.8% for severe acute malnutrition (SAM) by WHO criteria (a mid-upper arm circumference [MUAC] of less than 115 mm), global stunting of 61%, with an under-5 mortality rate of 0.53/10 000 per day. Although more than 5000 children have been cured, the project has struggled with an overall defaulter rate of 35%; however, mortality has been consistently below 1%. There are currently little data on long-term outcomes of CMAM programmes, and none from India. To establish the long-term outcomes of both cured and defaulting children, and to recover those children still with SAM into the programme, three follow-up assessments were done with the intention of establishing how many of those exiting the programme either relapsed, self-recovered, died, or remained with SAM over different seasons and time periods. A MUAC of less than 115 mm and/or bipedal oedema are currently the only admission criteria for the programme. Over 95% of children who did not default from the programme were discharged as cured.

Methods
Follow-up of all children discharged as cured and children who defaulted with a MUAC below 115 mm from three assessment reference dates was planned—one at the end of the food insecure period, the second after 2 months of food security, and the third after 4 months of food security. Children exiting at 3, 6, 9, 12, and 18 months (±10 days) prior to the three reference dates were traced by trained mobile teams who took anthropometric measurements and administered a qualitative questionnaire after attaining verbal consent from the parents. Verbal autopsies were performed by doctors where necessary. Caretakers of children identified as SAM were counselled to return to the programme. Bivariate and logistic regression analysis was also performed to predict risk factors for relapse or non-recovery and mortality among cured and defaulter groups.

Results
In all three assessments combined, 75% (n=1999) of overall children were traced—73% (n=663) of defaulters, and 76% (n=1336) of all those discharged as cured. The cumulative rate of non-recovery in children who defaulted while still with a MUAC below 115 mm was 38% at 3 months, 28% at 6 months, 10% at 9 months, 6% at 12 months, and 3% at 18 months. The cumulative relapse rate among cured cases was 10% at 3 months, 3% at 6 months, 2% at 9 months, 3% at 12 months, and 0.4% at 18 months. When stratified by survey time, proportions of SAM and global acute malnutrition (GAM) progressively increased during greater food insecure periods. The relative risk of death for defaulters with SAM was 6.6 (95% CI 3.4–12.9) compared with those discharged as cured, with most deaths (72%, n=26) occurring within 3 months after defaulting. In the cured group, discharge MUAC below 115 mm, a height-for-weight z-score of less than -3, not using child development services, low or medium Standard of Living scores, and longer lengths of in-programme stay were all significant risk factors for SAM at long-term follow-up, although none of these variables were significantly associated with mortality. In the defaulter group, discharge MUAC below 110 mm, more than two children in the family younger than 5 years, not using child development services, and hospitalisation post-discharge were significant risk factors for SAM at long-term follow-up. Discharge MUAC below 100 mm, discharge MUAC below 110 mm, and shorter length in the programme were associated with mortality in the defaulter group.

Conclusions
Our assessments show that although absolute mortality is lower than could be expected in this context, the relative risk of death remains much higher for children defaulting with a MUAC below 115 mm. Although a surprising number of children seem to self-recover from SAM, the seasonal effect of food security played an important part in longer term nutritional status, and rates of relapse and non-recovery from SAM are much higher during food-insecure periods. Successful completion of a CMAM programme has a small effect on the prevalence of stunting, while mortality seems to be highest in those children defaulting with a MUAC below 100 mm (27%) compared with 6.6% in those defaulting with MUAC 100–110 mm and 0.8% in those defaulting with MUAC 110–115 mm. This study was limited by the 75% follow-up rate which, although consistent over the three surveys, could have resulted in bias. Children exiting the programme were also not followed up prospectively over the 18-month period, which would have allowed a more accurate analysis of the outcomes. Finally, the validity of the long-term outcomes of the defaulters with SAM may not be the same as children with SAM who are unexposed to the programme, even though length of stay before default seemed to have no impact on self-recovery.
Background
In Guatemala City, data for sexual and reproductive health and exposure to violence are underestimated, as they only include information from legal and medical services or police records. Thus, the number of people with unmet sexual and reproductive health needs or suffering consequences of violence is unclear. Treatment-seeking behaviour barriers among this population are unknown and not integrated into service delivery plans. MSF has provided direct medical and psychological services to survivors of sexual violence in Guatemala City since 2008. This study aimed to estimate 1-year prevalence of sexual violence and treatment-seeking behaviour among the general population in two zones of Guatemala City, to increase national authorities' awareness on the extent and consequences of sexual violence and on access and barriers to use.

Methods
From November until December, we did a cross-sectional study in zones 7 and 18 of Guatemala City. The city of Guatemala accounted for 52% of the homicides in the central district in 2010 (latest publicly available data). Together, Zone 7 and Zone 18 alone saw more than 25% of those homicides happen. As for the cases of sexual abuse, 21% of the cases reported in 2011 happened in the city of Guatemala; close to 20% of all the sexual violence cases taken care off by MSF’s project, happened among people from Zone 7 or Zone 18. Multistage random sampling allowed for the random selection of participants in the survey. Initially, census sectors were randomly selected from the sample frame. The random selection of households within selected sectors followed, through systematic sampling and a skip interval of five consecutive houses. Finally, one eligible participant was invited to participate in the survey. Men and women between the ages of 14 and 54, capable of providing informed consent were eligible to participate in the study. A questionnaire was used in structured face-to-face interviews. Univariate and multivariate analyses were performed.

Results
We had a final sample size of 1260 participants, with 1226 observations included in the final analysis: 757 (62%) women and 469 (38%) men. Of this population, 37 women (5%; 95% CI 3–6%) and six men (1%; 95% CI 0–2%) reported having suffered sexual violence at hands of someone from their own family. Sexual abuse at hands of external people was more common: 112 women (15%; 95% CI 12–17%) and 28 men (6%; 95% CI 4–8%) reported having suffered it within the previous year. Overall, sexual violence was significantly higher in women (adjusted odds ratio 2.3; 95% CI 1.6–3.3), but similar between zones (adjusted odds ratio 1.1; 95% CI 0.8–1.5). 109 women (46%; 95% CI 47–60%) suffered health consequences, but only 44 (40%; 95% CI 31–50%) sought medical or psychological care. 158 women (21%; 95% CI 18–24%) reported suicidal thoughts in the previous 4 weeks. Use of modern contraception (the pill, intrauterine device, condoms, implants, injections, emergency contraception, tubal ligation, or vasectomy) was low (134 people [38%]; 95% CI 33–43%), and 40 people (18% of the final sample; 95% CI 13–23%) reported mostly fertility-related barriers to their use. Only 14 people, 27% of those reporting symptoms of sexually transmitted infections, sought medical treatment.

Conclusions
This study shows that treatment-seeking behaviour surveys among violence survivors are feasible in volatile, insecure urban contexts. This study illustrates the barriers faced by survivors to use medical and psychological services even when available. This information is key in order to tailor health promotion and operational strategies towards increasing service coverage, but also to be able to build our advocacy on a better definition of the medical-humanitarian issue.

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Validation of satellite imagery methods to estimate population size

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Background
MSF requires population estimates to understand the magnitude of a medical emergency, plan the size of the response, and assess the impact of its interventions. Yet census data is often too old and population surveys can be costly and difficult to perform. The London School of Hygiene and Tropical medicine (LSHTM) and the Centre for Geoinformatics (Z_GIS) at Salzburg University are exploring the use of satellite imagery for estimating population sizes in a variety of settings. Two such methods were assessed in Am Timan city, Chad.

Methods
A very high resolution satellite image was taken of Am Timan in December 2011. A manual count and an automated count of three structure types (traditional hut, small building, and large or commercial building) were carried out. The automated count relied on object-based image analysis with rule-based classifiers followed by manual refinement. The manual structure count was done by two different people to assess replicability. Population estimates were computed by multiplying the total structure count by the mean structure occupancy, estimated through a ground survey of 348 structures. Estimates were compared with a standard population survey (quadrat method) carried out at the same time (January 2012), and involving 1160 structure visits.

Results
The mean total structure count for the manual method was 2% higher than the automated method (12,050 vs 12,262). The count difference was similar for huts and small buildings but the automated count was almost three times higher for large buildings (266 vs 771). The difference between the duplicate total manual counts (replicability) was 9% (3%–29% for the different structure types). Again the main inconsistency was for large buildings. Estimated population was 49,722 (95% CI 29,431–84,003) for the quadrat method, 46,625 (41,817–51,987) for the manual count, and 45,400 (40,718–50,620) for the automated count.

Conclusions
A validated satellite imagery method would be useful for population estimation particularly in inaccessible, insecure, and rapidly-evolving contexts. The methods do have limitations such as the need for current very high-resolution imagery and difficulties delineating complex structures. The less complex manual method could be used by any organisation, while the automated method may be more useful for large-scale monitoring and time series analysis of populations.
Teleradiology for diagnosis of tuberculosis in Thyolo District Hospital, Malawi

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Introduction
Malawi has one of the highest national HIV prevalence rates in the world. In the rural southern district of Thyolo, with a population of around 600 000 people, HIV prevalence is 14.5%, more than double other regions in the country. Estimated HIV-tuberculosis (TB) co-infection is also higher (75.0% vs 63.0%). However, detection rates for sputum smear-negative pulmonary TB and extrapulmonary TB fall below expected WHO estimates. Malawi has no radiologists in public service, and most health facilities lack capacity for x-ray interpretation, delaying and hindering TB diagnosis. Furthermore, Malawian guidelines stipulate confirmation of a suspected TB diagnosis with chest x-ray before treatment initiation. To improve TB diagnostics, MSF initiated teleradiology—the electronic transmission of radiographic images to an off-site radiologist.

Methods
At the public hospital in Thyolo, MSF and the Malawi Ministry of Health implemented teleradiology in September, 2010, in patients undergoing x-ray. Using a Sony 10.1 megapixel digital camera fixed to a tripod, x-rays on a medical light box were photographed and downloaded to a computer as a 100–200 kB JPEG. The JPEGs and patient histories were emailed to a radiologist in the USA, who optimised the images using Adobe Photoshop CS4. The radiologist returned his findings, free-of-charge, to the Thyolo team. Information was exchanged initially via email and later using a web-based telemedicine service which allowed data uploading and downloading directly to a website with email notification of postings. To assess the effectiveness of teleradiology, we retrospectively analysed—using Microsoft Excel 2003—data from September 2010 to August 2011 extracted from the teleradiology register and database. We assessed delays between x-rays and teleradiology referrals, and between referrals and readings. If the radiologist reported at least one diagnosis also proposed by clinical staff, it was classified as matching. Final treatment decisions were categorised as according to the teleradiologist (ie, clinical staff agreed with the teleradiologist) or according to clinical staff (ie, clinical staff reached a different diagnosis than the teleradiologist). Clinical patient outcomes, assessed during the period of admission after a minimum of 48 h, were defined as: “improved” or “unchanged” after initiating treatment; “died”; and “transferred-out” if the patient was sent for further investigation at Queen Elizabeth Central Hospital.

Results
142 images from 141 patients were reviewed by teleradiology (one patient presented with two distinct medical conditions on hospital admissions five months apart). The median time between x-ray and teleradiology request was 2 days (interquartile range [IQR] 1–5 days). The median time between teleradiology request and reading was 0 days (IQR 0–1 day). Patient management was changed due to teleradiology in 34 (23.9%) cases. Of these, two cases (1.4%) were diagnosed with pulmonary TB by the radiologist; both were initiated on TB treatment. The radiologist also corrected misdiagnosis of TB in 16 (11.3%) cases. Overall, 85 (59.9%) patients improved with treatment, 22 (15.5%) died, 28 (19.7%) were transferred-out, and 7 (4.9%) had an unknown outcome.

Conclusions
Teleradiology reduced delayed and missed diagnosis of TB, likely decreasing patient morbidity and mortality. A limitation of our evaluation is that most diagnoses were presumptive, due to lack of capacity for confirmatory TB culture or biopsy; however, most patients improved with treatment, suggesting the accuracy of the presumptive diagnoses. Our findings support the feasibility and utility of teleradiology for TB diagnosis in rural Africa and suggest that if implemented judiciously, other resource-limited settings with a high HIV-TB co-infected population might also benefit from this service.

Post-kala azar dermal leishmaniasis (PKDL) is an immunological reaction that occurs in an estimated 10–15% of patients in Bangladesh after an apparently successful cure of visceral leishmaniasis (VL, also known as kala azar), and presents mainly as harmless, but often highly stigmatising, macular skin lesions in otherwise healthy people. Although it is assumed to be a reservoir of infection, there is no known effective treatment. The national VL programme of Bangladesh is based on first-line treatment with miltefosine, and sodium stibogluconate for PKDL. This regimen, consisting of 120 injections over 6 months, requires extended periods of hospitalisation, and is costly, painful, potentially highly toxic, and is therefore unfeasible for patients as well as health systems. In practice, the course is rarely completed. Moreover, this regimen is not evidence-based. No successful treatments for PKDL have been identified in clinical trials, and the condition has never been treated on a large scale. MSF’s VL programme in Fulbaria subdistrict in Bangladesh started in May 2010 and aims to control the disease by active case finding and provision of free treatment for both VL and PKDL with short-course AmBisome (liposomal amphotericin B) regimen. Here we describe treatment outcomes at 12 months.

Methods
We decided to use an alternative treatment regimen to that of the national VL programme in order to minimise side-effects and the impact on patients’ lives. We gave six intravenous doses of 5 mg/kg AmBisome divided over 3 weeks (total dose 30 mg/kg) on an ambulatory basis. This compassionate regimen was based on limited published data from small patient cohorts. An objective method for treatment response evaluation was introduced, including regular severity scoring of lesions and medical photographs at baseline and during 12 months follow-up.

Results
There were a total of 1185 patients, 1053 (96%) of whom presented with hypopigmented macular lesions. Analysis of results after 12-month follow-up showed that of 406 patients, a reduction of lesions took place in 364 cases (89.7%; 95% CI 86.7%–92.7%). A substantial (70–100%) reduction of lesions was reached in 266 patients (65.5%; 95% CI 60.9–70.1%).

Conclusions
These results are promising. Successful short-course AmBisome regimens for PKDL could have major implications for the feasibility of interrupting VL transmission in south Asia and the success of the kala azar elimination programmes in Bangladesh, India, and Nepal which aims to reduce the annual incidence of VL below 1/10000 patients by 2020.
A rapid screening tool for psychological difficulties in children aged 3–6 years: results of primary and secondary validations

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Background
The mental health needs of young children in humanitarian contexts often remain unaddressed. Young children, between 3 and 6 years old, are in a vulnerable psychological period, which can have consequences on the quality of their emotional, cognitive, and physical capacities. The lack of a validated, rapid, and simple tool for screening, combined with few mental health professionals able to accurately diagnose and provide appropriate care, mean that young children often remain without treatment. Here, we present the results of the primary and two secondary validations of a general screening tool for young children.

Methods
The primary validation was conducted in Niger with secondary validations in Colombia and Kenya between October, 2009, and February, 2012, including more than 800 children. The Rapid Screening Tool (RST-22) is an indicative tool, not designed for diagnosis, but rather to determine a general level of psychological distress in children 3 to 6 years old. It is a 22-item questionnaire completed by the parent or caregiver through an interviewer. Unlike existing generalist tools, the RST-22 includes a psycho-traumatic component. Data collected through the RST-22 allows for the inferences of psychological difficulties and their main register of expression: depression, phobia, anxiety, regression, psychosomatic complaints, and post-traumatic stress disorder. Each interviewer read the questions and scored according to the response. At the end of administration, responses were summed to compute a score ranging from 0 to 44, with higher scores indicating greater distress. A standard cross-cultural validation was implemented using quantitative and qualitative methods. First, the scale was translated into local language, using corroboration of independent translations. Psychometrically, the tool was classically examined (Cronbach, reliability). Then, external validity was assessed comparing the RST-22 against a clinical interview as the gold standard.

Results
The tool demonstrated good concurrent validity, as scores correlated with the gold standard and the Clinical Global Impression Severity Scale [rho=0.41, p=8.4e-12], [rho=0.49, p=6.4e-08], [rho=0.41, p=3.5e-06], respectively for Niger, Colombia and Kenya validations. Total score were found higher in children who were detected during the individual interview. In our sample, 54 of 580 children in Niger, 8 of 109 in Colombia and 14 of 121 in Kenya required subsequent follow-up with a psychologist. The test-retest reliability was found to be high. Qualitative research using focus groups and individual interviews provided useful information to support the external validity of the scale.

Conclusions
The results of the validation confirm the RST-22 as a reliable and a valuable tool in screening for psychological distress in order to organize care. Screening tools provide an important means to facilitate addressing the mental health needs of children in emergencies and in routine MSF programs. Administration of the screening scale also provides additional awareness and understanding of the overall status of the population for MSF staff. In remote contexts, the tool could also be used to identify needs in difficult-to-reach children (due to either distance or isolation) and refer only those in need of additional evaluation to health structures.
Targeted adherence strategies for provision of cross-border antiretroviral therapy to migrant farm workers in Musina, South Africa

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Background
Among migrant workers, access to antiretroviral therapy (ART) is often denied because of concerns about adherence and continuity of care. Many of the farm workers in Musina District, South Africa, migrate seasonally between South Africa and Zimbabwe. A survey conducted at these farms indicated that less than 50% of those in need of ART were able to access care. In 2010, MSF and the Limpopo Department of Health started a mobile HIV/TB service serving workers on six farms. We conducted a retrospective cohort analysis of the records of adults initiated on ART between Nov 1, 2010, and Oct 31, 2011, followed up to Jan 31, 2012, to assess programme outcomes.

Methods
Patients were provided with a patient-held record and asked about travel plans at each visit (monthly during the first year). Those planning to travel for 2 weeks or more were classified as a temporary transfer out and were given a 3-month supply of antiretroviral therapy (ART), a week of tail protection, and a transfer letter to an identified ART site. Specific counselling tools were developed to outline these steps and the potential regimen and formulation changes that may occur. We describe the early outcomes of this model.

Results
During this period, 269 patients started ART. They had a median age of 36 years (interquartile range [IQR] 30–42), median baseline CD4 of 181 cells/µL (IQR 109–249), and 157 (58%) were women. Of 91 patients eligible for viral load testing at 6 months, 83 (91.2%) were suppressed at <400 copies/mL. Of the 91 patients who had their viral load measured, 51 (56.0%) had an undetectable viral load, 36 (39.6%) had a detectable viral load <1000 copies/mL, and four (4.4%) had a viral load ≥1000 copies/mL. Of the six patients who had their viral load measured after a temporary transfer out, four (66.7%) had an undetectable viral load, one (16.7%) had a detectable viral load <1000 copies/mL, and one (16.7%) had a viral load ≥1000 copies/mL. Of 63 patients with a documented temporary transfer out, 41 (65%) returned by their due date, 10 (16%) returned less than 1 month late, 11 (17%) were less than 3 months late, and one (2%) was lost to follow up. Six of those who returned late stopped ART using tail protection and two accessed ART from a Zimbabwean clinic.

Conclusions
Our findings suggest that providing continuity of HIV care among highly mobile migrant workers moving across national borders is possible. Continuity of care among migrant workers in the region could be enhanced by countries adopting a standard first-line ART regimen in a fixed-dose combination, and adopting a standard patient-held health record. Applying aspects of this model to address the challenge of patient mobility in all ART programmes could reduce loss to follow-up.
Keynote Speech: Digital humanitarianism

Paul Conneally, UN Agency for Information and Communication Technologies, Geneva, Switzerland

Paul Conneally will use case studies of digital humanitarianism to discuss the potential as well as the limits of these new technologies – have their benefits and risks been properly assessed? Are they currently able to make a real difference on the ground? He will also discuss whether aid organisations have been slow to engage with these new approaches or whether they are in fact innovators, and will finish with his dream of where digital technology could take the humanitarian world in the next few years.

Using research data in the digital age

Nathan Ford, MSF, Geneva, Switzerland

What happens next? How MSF uses research data

MSF’s engagement in data collection, analysis, and publication has grown rapidly in recent years. As part of its medical advocacy role, MSF tries to use its data to influence policy and promote best practice. The publication of research data is often an important part of the advocacy process, but it is not the end of the process. This presentation will draw on several case studies to highlight the uses and limits of research data, and discuss some potential future directions.

Jonathan Smith, Yale School of Public Health, Connecticut, USA

“They Go To Die”

Gold miners in South Africa face the highest burden of TB in the world; the incidence of TB in these workers is 28 times higher than the rate that WHO declares to be a TB emergency and three times higher than that of the highest burdened country. Referred to as a “river of disease flowing back to the homelands,” over 90% of the men are migrant workers, who travel back to their distant home often highly ill and highly infectious. This cycle has garnered the colloquial term “sending men home to die” by leading global health officials. They Go to Die is a documentary-in-progress that investigates the enormity of this epidemic through the lives and families of four former gold miners affected by this process. Jonathan will discuss the importance of the voices of those affected by disease, and the need to add an emotional component to epidemiological data in order to create change in global health.
A decentralised community-based DR-TB model of care in northern Uganda
M Shoaib¹, K Velivela¹, S Sharma², P Seshadri², S Kasozi², E C Casas³, M Verputten³
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Adherence to HIV post-exposure prophylaxis in victims of sexual assault: a systematic review and meta-analysis
Liza Chacko¹, Nathan Ford², Mariam Staiti², Ruby Siddiqui²
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Adverse events among HIV/MDR-TB co-infected patients receiving antiretroviral and second line anti-TB treatment in Mumbai, India
Petros Isaakidis¹, Bhunumati Varghese¹, Homa Mansoor¹, Helen S Cox², Joannna Ladomirska³, Peter Saranchuk³, Samsuddin Khan¹, Esdras Da Silva¹, Zarir Udwaadia¹, Giovanni Solgiu¹, Chiara Montaldo¹, Tony Reid³
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A descriptive study of the psychological symptomatology of Palestinian children exposed to military home incursions and treated by Médecins Sans Frontiéres-Spain in 2010–2011
Malcolm Hugo
MSF, Spain

A holistic approach to managing a neglected disease: the Medecins Sans Frontieres experience on Obstetric Fistulae from Burundi
Katie Tayler-Smith¹, Rony Zachariah¹, Marcel Manzi¹, Wilma van den Boogaard³, Anne Vandeborne³, Aristite Bishinga¹, Christaens B¹, Tamaleel Sinabatte¹, Ruben Potter¹, Tony Reid¹, Eva De Plecker³, Vincent Lambert³, Luis Echinas³, Stephan Goetghhebuer³, Anthony Harries⁵
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Antiretroviral Care in a Conflict setting: the experience of Médecins Sans Frontières in Central African Republic
Cecilia Ferreyra, Jeff Mutombo Madika, Yves Dakiche Lawoe, Gisa Kholer
MSF, Spain

A randomised study to compare a fixed-dose combination of artesunate plus amodiaquine versus a fixed dose combination of artemether plus lumefantrine in treatment of repeated uncomplicated Plasmodium falciparum malaria attacks occurring during 2 years in children in Uganda
Adoke Yeka¹, Moses R Kamya², Valére Lameyre MD³, Ambrose O Talisuna¹⁴
¹Uganda Malaria Surveillance Project, Kampala, Uganda; ²Makerere College of Health Sciences, Kampala, Uganda; ³Access to Medicines sanofi, Paris, France; ⁴Infectious Disease Research Collaboration, Uganda

Can BMI change be used to identify TB patients at high risk of mortality? Analysis of smear-negative and extrapulmonary TB patients with HIV in Myanmar and Zimbabwe
Lenka Benova¹, Katherine Fielding¹, Jane Greig¹, Bern-Thomas Nyang’wa², Esther Carrillo Casas³, Marcio Silveira da Fonseca¹, Philipp du Cros³
¹London School of Hygiene and Tropical Medicine, London, UK; ²MSF, London, UK; ³MSF, Amsterdam, Netherlands

Challenges faced in the implementation of patient tracing in Thyolo, Malawi: descriptive study
Katharina Hermann¹, Isabella Panunzi¹, Winnie Gomani¹, Rebecca M Coulborn¹
¹MSF, Thyolo, Malawi

Cholera in Haiti: New sanitation solutions to disease transmission from treatment centres
Emanuele Sozzi, Jeff Fesselet, Huw Taylor
MSF, Amsterdam, Netherlands

Deaths and delays in the pre ART period: lessons from Zimbabwe
Shroufi A, Dixon M, Saint-Sauveur JF, Taziwa F, Ferreyra C, Cassademont C
MSF, Barcelona, Spain

Decentralised treatment for drug-resistant TB in Khayelitsha: improved case detection and community impact
Jennifer Hughes¹, Helen Cox¹², Cheryl McDermid¹, Virginia Azevedo¹, Johnny Daniels¹, Daniela Garone¹, Gilles van Cutsem¹²
¹MSF, Khayelitsha, South Africa; ²University of Cape Town, South Africa; ³City of Cape town health department Khayelitsha, South Africa

Decentralised ART: A comparison of outcomes from a mixed rural-urban cohort in Zimbabwe
Shroufi A, Saint-Sauveur JF, Taziwa F, Ferreyra C, Cassademont C
MSF, Barcelona, Spain
Evaluation of a novel concentration method for the microscopic detection of *Mycobacterium tuberculosis* from induced sputum

Pamela Hepple¹, Philipp du Cros¹, Jane Greig⁵, Soroosh Sereshki³, Reggie Mutetwa⁴, Leslie Shanks¹, Christian Bottomley², Ruth Nchezemey²

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Follow-up evaluation of the MSF Intersectional Sexual and Reproductive Health Workshop 2006-2010

Debbie Cunningham

MSF, Amsterdam, Netherlands

"Home is where the patient is": a patient-centred model of care for MDR-TB.

Shona Horter¹, Philipp Du Cros², Beverley Collin², Lucy Reynolds¹, Muhammad Shaib¹, Samuel Kasozi¹, Esther Casas¹, Meggy Verputten⁴

¹London School of Hygiene and Tropical Medicine, London, UK; ²MSF, London, UK; ³National TB and Leprosy Programme, Ministry of Health, Uganda; ⁴MSF, Amsterdam, Netherlands

Identifying and overcoming barriers to TB/HIV service integration at primary care in Khayelitsha, South Africa

Rebecca Welfare¹, Gabriela Patten¹, Peter Saranchuk¹, Virginia de Azevedo¹, David Coetzee², Nompumelelo Mantangana³, Gilles van Cutsem², Daniela Garone¹

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Impact of hepatitis C virus infection on the outcomes of HIV infected patients starting antiretroviral therapy in a Médecins Sans Frontières programme in Manipur, India

M Silveira da Fonseca¹, P Du Cros², E Carrillo Casas¹, L Shanks¹, P Almeida², C Gomez Restrepo⁴

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Implementation and utilisation of community-based mortality surveillance: a case study from Chad

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Is mid-upper arm circumference sufficient for case-finding and admission of children with severe acute malnutrition into nutritional support programmes in an urban slum in Dhaka, Bangladesh?

Engy Ali¹, Rony Zachariah¹, Zubair Shams³, Tajmary Akter², Marcel Manzi¹, Lieven Vernaeve³, Petra Alders¹, Jenny Soderberg², Flavio Salio¹, Malik Allouana¹, Bertrand Drugeau³, Pascal Delchelvarie¹, Anthony D Harries¹,²,⁴

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Monitoring camp evolution of the refugee camp Dagahaley, Kenya, using satellite imagery

Petra Füreder¹, Stefan Lang¹, Daniel Hölbling¹, Dirk Tiede¹, Edith Rogenhofer²

¹Centre for Geoinformatics, University of Salzburg; ²MSF, Vienna, Austria

Mortality surveillance system in Liben refugee camps

Naomi Sorkin¹, Andrea Bernasconi⁴

¹MSF, Amsterdam, Netherlands; ²Epicentre, Paris, France

MSF involvement in pharmacovigilance activities: lessons from Neglected Tropical Diseases (NTD) control programs

Emilie Alirol¹, Annick Antierens¹, Eric Comte¹, Manica Balasegaram¹, François Chappuis¹

¹MSF, Geneva, Switzerland; ²Drugs for Neglected Diseases initiative, Geneva, Switzerland

MSF Scientific Day research: what happened next?

Amrit Todd, Sarah Venis

MSF, London, UK

Preliminary findings: the needs assessment for systematic reviews and other research evidence in disaster settings and related areas

Bonnix Kayabu¹, Mike Clarke², Claire Allen¹

¹Centre for Global Health, Trinity College Dublin, Ireland; ²All Ireland Hub for Trials Methodology Research, Queen's University Belfast, Northern Ireland; ³Evidence Aid, The Cochrane Collaboration, Oxford, UK
Plumpy’nut: how acceptable is it for community based nutritional rehabilitation of pregnant and lactating women in a slum setting in Bangladesh?

Engy Ali1, Rony Zachariah1, Zubair Shams2, Tajmary Akter2, Marcel Manzi1, Lieven Vernaeve2, Petra Alders1, Jenny Soderberg1, Flavio Salio2, Malik Allaouna1, Bertrand Draguez1, Pascal Delchelvarie1, Anthony D Harries1,2

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Randomized outreach site based trial on the effectiveness of PUDE, a Sexual Violence Screening tool. Tegucigalpa, Honduras

Javier Río Navarro, Eva Rocillo Arechaga, MSF Honduras team

MSF, Geneva, Switzerland

Severe acute malnutrition in infants <6 months: an observational study from an MSF project in Magaria, Niger

Sabine Vygen1, Dominique Roberfroid2, Valérie Capterie2, Patrick Kolsteren1

1MSF, Geneva, Switzerland; 2Institute of Tropical Medicine, Antwerp, Belgium

Similar ART outcomes of adolescents, children and adults: a cohort study from 9 African countries

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Spreadsheet to map? Just ask Joe

Ivan Gayton1, Pablo Mayrgundter2, Ludovic Dupuis3, Ruby Siddiqui3

1MSF, Nigeria; 2Google; 3MSF, London, UK

Stability of CD4 levels in blood specimens stored in BD Vacutainer CD4 stabilization tubes in Buhera District, Zimbabwe

Elton Mbofana1, Emmanuel Fajardo2, Steven van den Broucke2, Sandra Simons3, Charlotte van Vyve1, Carol Metcalf2, Helen Bygrave2, Misheck Kuhudzayi4

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Subcutaneous emphysema, usually a rare complication of measles: report of alarmingly high incidence in Somali refugee children

Peter Moons, Monica Thallinger

MSF, Amsterdam, Netherlands

Supporting MSF’s cholera treatment centres through improving our understanding of outcome risk factors. A provisional analysis of MSF-OCA’s linelist data for elderly patients (>60 years of age)

Swarthout TD1, Kwok J2, Fritsch P3, Shanks L1, Al Jawad M1, Newport MJ1

1MSF, Amsterdam, Netherlands; 2BSMS; 3Help Age International

The impact of the Colombian armed conflict on the mental health of civilians living in active conflict zones

Vaughan Bell1, Fernanda Méndez1, Carmen Martínez2, Pedro Pablo Palma2, Marc Bosch1

1MSF, Colombia; 2MSF, Barcelona, Spain

The use of SQUEAC methodology to assess CMAM for Severe Acute Malnutrition (SAM) programme coverage in Bihar, India

S Burza, R Mahajan, E Marino, N Salse, C Casademont

MSF, India / Operational Centre Barcelona-Athens - MSF, Barcelona, Spain

Treatment outcomes for children with multidrug-resistant tuberculosis: a systematic review and meta-analysis

Dena Ettehad1,2, H Simon Schaaf1,4, James Seddon1,2, Graham Cooke1,4, Nathan Ford1,4

1Imperial College London, UK; 2Kings College, London, UK; 3Desmond Tutu Tuberculosis Centre, Stellenbosch University, South Africa; 4Tygerberg Children’s Hospital, South Africa; 5London School of Hygiene and Tropical Medicine, London, UK; 6Africa Centre for Health and Population Studies, University of KwaZulu-Natal, South Africa; 7MSF, Geneva, Switzerland; 8Centre for Infectious Disease Epidemiology and Research, University of Cape Town, South Africa.

Using mortality surveys to define humanitarian “crisis”: a case study from the Central African Republic

Sean Healy

MSF, Amsterdam, Netherlands

“You see it, you know it, but you don’t say it.” Community based perception of HIV and AIDS, testing, counselling, and ARV treatment. Shiselweni region, Swaziland

Doris Burtscher1, Velibanti Dlamini2, Roger Teck2

1MSF Evaluation unit, Vienna, Austria; 2MSF, Swaziland; 3MSF, Geneva, Switzerland
**Biographies**

**Keynote Speaker:**

**Paul Conneally**
Paul is the Head of Communications and Partnership Promotion at the UN’s International Telecommunication Union. He has worked as a journalist since 1988 in the print and broadcast media, primarily in news reportage and documentaries that focus on socioeconomic development and international politics. He worked with the International Committee of the Red Cross (ICRC) for 11 years in communications, cooperation, and operations in regions from North Caucasus and Central Asia to the Balkans, Afghanistan, Somalia, Eritrea, Ethiopia, Sudan, and Israel and the Occupied Territories. He also spent two and a half years as head of ICRC’s donor reporting unit in Geneva. Paul oversaw all aspects of public communication including audio visual production, advocacy initiatives, and online and social media for the International Federation of the Red Cross and Red Crescent Societies.

**Chairs:**

**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 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 statement, and the development of the PRISMA statement. Her interests in evidence-based approach to the priorities of global health.

**Francesco Checchi**
Francesco is a Senior Lecturer at the London School of Hygiene and Tropical Medicine (LSHTM). He has previously worked for MSF, Epicentre, and WHO, and consulted for a number of other agencies. His general area of work is infectious disease surveillance and control in crisis-affected populations, and in the past he has focused specifically on malaria, African sleeping sickness, tuberculosis, pneumonia, cholera, and malnutrition. He also does research on mortality estimation in emergencies, and on survey and surveillance methods in difficult settings. He contributes to several WHO advisory groups.

**Graham Cooke**
Graham is a Clinical Senior Lecturer in Infectious Diseases based at St Mary’s Campus of Imperial College, London. His main interests are HIV co-infection (including MDR-TB) and diagnostics, with a particular emphasis on issues relevant to resource-poor settings. He is an investigator in the PROLIFICA study investigating the deployment of hepatitis B treatment in West Africa and collaborates with MSF on different aspects of care, research, and teaching.

**Paul Fine**
Paul is Professor of Communicable Disease Epidemiology at LSHTM. His major methodological interests have been in infection dynamics, family studies, genetics, and the evaluation of vaccines (efficacy, adverse reactions, and impact), applied to a variety of infections. Much of his earlier work concentrated on vertical (from parent to progeny) transmission of infections and on measles and pertussis in the UK. He directed a large epidemiological research programme in Malawi from 1978–2006, concentrating at first upon leprosy, then tuberculosis, and ultimately HIV, and including demographic surveillance, vaccine evaluation, and studies of other infections in a rural population in northern Malawi. Since 1997 he has worked on a wide variety of vaccine issues, including the evaluation of non-specific effects of vaccines, methods for field evaluation of veterinary vaccines, the implications of the transmissibility of oral polio vaccine viruses for the polio eradication initiative, and methods for optimising vaccination schedules.

**Philipp du Cros**
Originally from Perth, Australia, Philipp is an infectious diseases specialist with a Masters 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 field implementation and implementation research support.

**Presenters:**

**Sakib Burza**
Sakib has been involved with MSF since 2003. Originally trained as an anaesthetist, he now works in public health and community medicine. He has previously worked in Sudan, Palestine, Uzbekistan, and Afghanistan. He is currently Medical Coordinator of MSF in Delhi, where he manages MSF’s programmes in Bihar. His interests lie in neglected tropical diseases and health economics.

**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 currently works in MSF’s South African medical unit, based in Cape Town, providing technical support to HIV and TB projects in the region.

**Margriet den Boer**
After receiving a PharmD at the University of Utrecht in the Netherlands, Margriet joined MSF to work as a pharmacist. After a few years she became involved in MSF’s Campaign for Access to Essential Medicines, where she focused on access to drugs for malaria and visceral leishmaniasis. Three years ago she obtained a Masters in Public Health at LSHTM, and since then has been working as a consultant to the Leishmaniasis Program of the Neglected Tropical Diseases Department of the World Health Organization and to MSF to provide support to its visceral leishmaniasis programme in Bangladesh.

**Nathan Ford**
Nathan Ford has worked with MSF since 1998, and is currently the Medical Coordinator of MSF’s Campaign for Access to Essential Medicines. He holds a degree in Microbiology and Virology, a Masters in Public Health and Epidemiology, and a PhD in Clinical Epidemiology. Areas of concern include evidence-based
humanitarian action, and simplification and adaptation of medical care in resource-limited settings, with a particular focus on HIV/AIDS. He sits on the editorial board of numerous medical journals and has published over 200 articles.

Daniela Belen Garone
Daniela is an Argentinian medical doctor specialising in internal medicine, infectious diseases, and clinical research. She has been working in the field of HIV/TB for almost 18 years since her initial activities in Buenos Aires. In 2008 she joined MSF, which provided her with the opportunity to work in HIV projects in Zimbabwe, South Sudan, and South Africa. Since 2010 she has been acting as the deputy Project Coordinator of the MSF Khayelitsha project in South Africa.

Jane Greig
Jane is an operational epidemiologist in the Manson Unit of MSF UK. She provides support to surveillance, outbreak response, and research activities across a wide range of projects. She has spent extended time with MSF in Nigeria (operational researcher in a HIV project), and has also worked in Tajikistan and Malaysia.

Chris Grundy
Chris is a Lecturer in Geographical Information Systems (GIS) at LSHTM. His work looks at how GIS can be used in public health and has covered most aspects of public health in both developed and developing countries. For the past few years he has been working with non-governmental organisations looking at how GIS can be used in their work and looking at use of satellite imagery for population estimation.

Petros Isaakidis
Petros has worked as a clinician for the National Health System in Greece and as an epidemiologist for the Hellenic Center for Diseases Control and Prevention, Ministry of Health in Athens. He was a biological disasters planner during the Athens Olympic Games in 2004, and in charge of infectious diseases surveillance and outbreak investigations. He has been volunteering and working for humanitarian organisations, mainly MSF in Zimbabwe, Gaza Strip and West Bank, Kenya, Cambodia, Thailand, Lesotho, and India. During this period he coordinated medical projects, especially large-scale HIV and TB projects and supported evidence generation through field-based operational research projects.

Caroline Marquer
Caroline, a clinical psychologist, joined Epicentre in 2009. She previously worked in the field for MSF and also in a psychiatric ward in France. She is particularly interested in trans-cultural psychology and the development of operational tools to improve mental health care in humanitarian contexts.

Javier Rio Navarro
Javier is a clinical psychologist specialising in epidemiology and public health in developing countries. Prior to his current commitment to MSF, as Regional Operations Advisor for Central America, he gained experience in the field with organisations such as Centers for Disease Control and Prevention, WHO, Médecins du Monde, European ESTHER Alliance, and the Agencia Española de Cooperación Internacional para el Desarrollo (AECID) Spanish development organisation. His field research activities have focused on operational research, programme monitoring and evaluation and surveillance; mainly on issues related to urban health, infectious diseases epidemiology, violence, and mental health.

Isabella Panunzi
Isabella specialised in infectious diseases at the University of Florence in Italy 2006. Following this she obtained her Masters in International Health and Tropical Medicine at the University of Barcelona. Since 2007 Isabella has been working with MSF firstly in Italy where her duties involved offering care to migrants and then in Mozambique and the Democratic Republic of Congo. Since 2010 she has been working in Malawi firstly as MD HIV-TB referent at Thyolo district hospital and then as a Project Medical referent.

Georgina Russell
Georgie trained as a medical doctor in London and worked in London and Lilongwe before a mission with MSF in Myanmar in 2007. Since then she has been doing specialty training in Respiratory Medicine in London with a specific interest in TB. She has recently been awarded a Masters in Epidemiology by LSHTM; the work presented today forms part of that degree.

Jonathan Smith
Jonathan is a lecturer in Global Health and Epidemiology of Microbial Diseases at Yale University and an affiliate of the Yale Global Health Leadership Institute, where he researches epidemiology of TB and HIV in the context of migrant populations. He began his global health work in South America, where he developed hepatitis B vaccination strategies for rural communities. He is currently spearheading the Visual Epidemiology Project at Yale, an effort to combine data-driven academic dialogue with an individual, story-driven component.

Miroslav Stavel
Miroslav graduated in 2001 from Jessenius Medical Faculty, Comenius University in Martin Slovakia. He completed his PhD in Neonatology from the same university in 2005. He has been working as a trainee paediatrician in UK since (Redhill, St. George's Hospital and UCH London, Watford General Hospital, Cambridge University Hospital, Luton and Dunstable Hospital), and he squeezed three missions with MSF (Niger, Guinea, Pakistan) in between as Out of Program Training.

Steven Van Den Broucke
Steven trained in internal medicine in Leuven, Belgium. His first mission with MSF was in Buhera, Zimbabwe where he coordinated the HIV/TB activities in the programme from 2010 to 2012. Along with coordinating the medical activities, he has been actively involved with the operational research agenda for the project working in collaboration with the South Africa Medical Unit.
Please take a few moments to complete this form; your feedback will be used to help us improve next year’s event. Evaluation forms may be returned to the registration desk or handed to one of our volunteers.

Thank you for taking the time to provide your opinions.

Information about you

Your name (Note: This is required to avoid further reminders to complete the evaluation form and all data will be completely confidential):

Your organisation and job title:

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<th>If you are not currently working for MSF, have you ever worked for MSF?</th>
<th>YES</th>
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General organisation of Scientific Day

How did you hear about Scientific Day? (Please circle an answer)

- Personal email
- Word of mouth
- Through a university/organisation mailing list
- MSF UK website
- Other (please describe, eg Twitter, Facebook, other website)

Please select for the following:

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<th>Do you feel you were given sufficient notice of the event?</th>
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<th>Audiovisual equipment - could you hear clearly?</th>
<th>YES</th>
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<th>Visibility and accessibility of poster presentations</th>
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Please put a cross in the relevant column. Note: additional comments here:
Please give us your thoughts on each session as a whole or specify which presentation you are referring to

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How many times have you attended the Scientific Day in the past? 0 1 2 3 4 5 6 7 8 (please circle)

Based on your experience today, would you attend the Scientific Day again? If not, what could be changed to influence your opinion of the day?

Are there any topics that you would like to see presented in future?

Were the poster presentations worthwhile? Did you have time to view them?

We would appreciate any further comments/recommendations (also verbally or by email to scientificday@london.msf.org).
Note: Abstracts and presentations will be available on the MSF UK website for three months following Scientific Day:

www.msf.org.uk\scientific_day