

# Controlling neglected tropical diseases: a biosocial approach

July 10<sup>th</sup> and July 11<sup>th</sup> 2013

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**Venue:** Royal Anthropological Institute (July 10<sup>th</sup>) and School of Social Sciences, Brunel University (July 11<sup>th</sup>)

## Objectives

1. To bring together scholars with research interests in neglected tropical diseases (NTDs) in order to discuss appropriate ways to integrate insights emerging from research grounded in the diverse disciplines of epidemiology, parasitology, mathematics, anthropology, international development and zoology. In so doing, current orthodoxies for the control of NTDs will be challenged and a new, biosocial approach developed.
2. To bring together policy makers and practitioners responsible for implementing strategies to control neglected tropical diseases and to explore the possibilities of accommodating a biosocial approach to NTD control.
3. To reflect on current strategies to control NTDs in the light of research undertaken on other infectious diseases such as malaria.
4. To publish papers from the workshop as a special issue in a journal that explicitly encourages inter-disciplinary research. Ideas under discussion include a special issue of *Social Science and Medicine* and/or an edited book published as part of the *Biosocial Society* series with Berghahan Press, Oxford.

## Rationale

Global aspirations to achieve the Millennium Development Goals by 'making poverty history' and alleviating the suffering of 'the bottom billion' has generated unprecedented attention on a range of predominantly parasitic infections endemic in large parts of sub-Saharan Africa. Some of these infections can cause significant morbidity, if not mortality, among politically and economically marginal populations. They are increasingly grouped together and referred to as 'neglected tropical diseases' (NTDs). Substantial funding and a range of medicines have become available from international agencies and pharmaceutical companies to support the design and implementation of national programmes seeking to control them. Most of these programmes involve the mass distribution of drugs, free of charge, to adults and children living in areas where the diseases are endemic.

A great deal of optimism surrounds mass drug administration programmes. Numerous publications emphasise their potential to alleviate sickness and suffering (see, for example, Brady et al 2006; Engels et al 2006; Fenwick et al 2005; 2006; Molyneux et al 2004; 2005; Manderson et al 2009; Hotez 2008; 2009), and the majority of reported results are presented in a positive light (see, for example, Kabatereine et al 2006; 2007; Knopp et al 2009; Standley et al 2009; Yu et al 2002.)

However, there is a growing body of research that highlights hazards associated with current modes of implementing NTD control strategies. These include the undermining of already fragile and overstretched health-care systems with the introduction of large, internationally funded, vertical programmes rolling out free drugs to adults and children, irrespective of their infective status (see, for example, Meheus et al 2012; Cavalli et al 2010; Marchal et al., 2011); difficulties with relying on volunteers to assist with the distribution of drugs in targeted communities (Katarwa et al 2000; Katarwa et al 2001; Amazigo 2002; Parker et al 2008; Parker 2012); limits in knowledge surrounding the safety and efficacy of combining drugs for some NTDs (Dansio-Appiah et al 2002; Lammie et al 2006; Fenwick 2006; Gryseels 2006); and a growing tendency for those promoting mass drug administration (MDA) programmes to overlook the fact that the evidence base for how effective they are is more limited than often suggested (Kolaczinski et al 2007). In addition, a substantial body of research undertaken by Parker et al (2008; 2010; 2012) and Allen and Parker (2011; 2012) has demonstrated that it is hazardous to assume that targeted populations will necessarily understand or agree with the rationale for MDA. Indeed, they may actively resist treatment. This can have negative ramifications, not only for the control of NTDs, but also for other (present and future) infectious disease control programmes.

The literature highlighting reservations about NTD programmes is not cohesive. Indeed, some of the authors cited above fundamentally disagree with each others' interpretations of the available evidence. Also, in spite of their doubts, most remain very committed to the idea of mass drug administration for NTD control. Nevertheless, taken together, the insights and arguments they present raise important questions about current approaches.

The proposed research seminar thus challenges current orthodoxies. Building on a call to develop a biosocial approach to neglected tropical disease control in *The Lancet* (Allen and Parker 2012), researchers and practitioners will address the following questions: How should policies seeking to control neglected tropical diseases be re-designed in the light of research undertaken by biological and social scientists demonstrating considerable difficulties with current strategies? What would a biosocial approach to NTD control involve? Is it feasible?

### **Confirmed speakers include the following:**

Professor Tim Allen, Department of International Development, LSE  
Professor Mutamid Amin, Afhad College, Khartoum and closely involved with designing a programme to control NTDs in Sudan  
Dr Marleen Boelaert, Institute of Tropical Medicine, Antwerp  
Dr Clare Chandler, London School of Hygiene and Tropical Medicine  
Professor John Gyapong, Pro-Vice Chancellor of University of Ghana and closely involved with NTD control programmes in Ghana  
Dr Julie Hastings, CRIMA, Brunel University  
Dr Susanna Hausmann-Muela, Pass International  
Dr Eleanor Hutchinson, WHO, Geneva  
Dr Steffi Knopp, Natural History Museum and Swiss Tropical Public Health  
Mr Warren Lancaster, The End Fund  
Professor Pascal Lutumba, Institute of Biomedical Research, Kinshasa, Democratic Republic Congo  
Professor Edwin Michael, Department of Epidemiology, Notre-Dame University, USA  
Dr Giuseppina Ortu, Schistosomiasis Control Initiative, Imperial College  
Dr Melissa Parker, CRIMA, Brunel University  
Dr Koen Peeters, Institute of Tropical Medicine, Antwerp  
Dr Bobbie Person, Department of Zoology, Natural History Museum, London

Dr Angela Pinot de Moira, Cambridge University  
Dr Katja Polman, Institute of Tropical Medicine, Antwerp  
Dr Maria Rebollo, Liverpool School of Tropical Medicine  
Dr Eugene Ruberanziza, Department of NTDs, Ministry of Health, Rwanda  
Professor Dave Rollinson, Department of Zoology, Natural History Museum  
Dr Johannes Sommerfeld, Tropical Disease Research, World Health Organisation  
Professor Russell Stothard, Liverpool School of Tropical Medicine

### **Confirmed discussants/participants**

Professor Moses Bockarie, Liverpool School of Tropical Medicine  
Professor Alan Fenwick, Imperial College  
Dr Fiona Fleming, SCI, Imperial College  
Dr Kate Hampshire, Department of Anthropology, Durham University  
Dr Isak Niehaus, Department of Anthropology, Brunel University  
Ms Séverine Thys, Institute of Tropical Medicine, Antwerp

### **Format**

The workshop will include presentations capturing both the need for a biosocial perspective and the intellectual and political challenges of achieving such a perspective. We shall end with an attempt to agree a set of working principles about how to develop a biosocial perspective.

Questions that speakers may like to address in their presentations as (partially) indicated above include the following: How strong is the existing evidence for social, political and economic processes influencing the impact of mass treatment on the ground? What type of relationship currently exists between evidence, policies and practice? How do the issues and dilemmas facing international NGOs and bilateral agencies shape the formation of policy and practice? What place can/should independent evaluation have in refining policies on NTD control? How can insights emerging from disciplines such as epidemiology, parasitology, anthropology and international development be constructively combined to develop a more holistic approach to prevention and control? How can the different perspectives (programme, health systems, community) be reconciled to achieve a sustainable impact of NTD control strategies? What epistemological and political issues need to be addressed? Is there any evidence suggesting that a biosocial approach can be successful in controlling NTDs? Are there good/less good examples indicating the success or failure of biosocial approaches from fields other than NTD control?

### **References**

Allen T and Parker M. Will increased funding for neglected tropical diseases really make poverty history? *The Lancet* 2012; 379 (9821): 1097-1098.

Allen T, Parker M. The “other diseases” of the Millennium Development Goals: rhetoric and reality of free drug distribution to cure the poor’s parasites. *Third World Q* 2011;**32**: 89–115.

Amazigo U. The challenges of community directed treatment with ivermectin (CDTI) within the African Programme for Onchocerciasis Control (APOC). *Ann Trop Med Parasitol* 2002; **96**: S41–58.

Brady MA, Hooper PJ, Ottesen EA: Projected benefits from integrating NTD programs in sub-Saharan Africa. *TRENDS in Parasitology* 2006, 22(7):285-291.

- Cavalli A, Bamba SI, Traore MN, et al. Interactions between global health initiatives and country health systems: the case of a neglected tropical diseases control program in Mali. *PLoS Neglect Trop Dis* 2010; **4**: e798.
- Coulibaly Y, Cavalli A, van Dormael M, Polman K, Kegels G: Programme activities: a major burden for district health systems? *Trop Med Int Health* 2008; **13**: 1430–32.
- Dansio-Appiah A, de Vlas SJ. Interpreting low praziquantel cure rates of *Schistosoma mansoni* infections in Senegal. *Trends Parasitol* 2002; **18**: 125–29.
- Engels D, Savioli L: Reconsidering the underestimated burden caused by neglected tropical diseases. *TRENDS in Parasitology* 2006, 22(8):363-366.
- Fenwick A, Molyneux D, Nantulya V: Achieving the Millennium Development Goals. *Lancet* 2005, 365:1029-1030
- Fenwick A. New initiatives against Africa's worms. *Trans R Soc Trop Med Hyg* 2006; 100: 200–07.
- Gryseels B, Polman K, Clerinx J, Kestens L. Human schistosomiasis. *Lancet* 2006; 368: 1106–18.
- Gryseels B. Mass treatment for worms is mistaken. *Financial Times* (London), Nov 13, 2006.
- Hotez PJ: Forgotten people, forgotten diseases: the neglected tropical diseases and their impact on global health and development. Washington: ASM Press; 2008.
- Hotez PJ, Fenwick A, Savioli L, Molyneux DH: Rescuing the bottom billion through the control of neglected tropical diseases. *The Lancet* 2009, 373:1570-75.
- Kabatereine NB, Fleming F, Nyandini U, Mwanza JCL, Blair L: The control of schistosomiasis and soil-transmitted helminths in East Africa. *TRENDS in Parasitology* 2006, 22(7):332-339.
- Kabatereine NB, Brooker S, Koukounari A, Kazibwe F, Tukahebwa EM, Fleming FM, Zhang Y, Webster JP, Stothard JR, Fenwick A: Impact of a National Helminth Control Programme on infection and morbidity in Ugandan schoolchildren. *Bulletin of the World Health Organization* 2007, 85:91-99.
- Katabarawa MN, Mutabazi D, Richards FO. Controlling onchocerciasis by community directed, ivermectin-treatment programmes in Uganda: why do some communities succeed and others fail? *Ann Trop Med Parasitol* 2000; **94**: 343–52.
- Katabarwa MN, Richards F. Community directed health (CDH) workers enhance the performance and sustainability of CDH programmes: experience from ivermectin distribution in Uganda. *Ann Trop Med Parasitol* 2001; **95**: 275–86.
- Knopp S, Mohammed KA, Rollinson D, Stothard RJ, Khamis SI, Utzinger J, Marti H: Changing patterns of soil-transmitted helminthiases in Zanzibar in the context of national helminth control programs. *The American journal of tropical medicine and hygiene* 2009, 81(6):1071-8.
- Kolaczinski JH, Kabatereine NB, Onapa AW, Ndyomugenyi R, Kakembo AS, Brooker S. Neglected tropical diseases in Uganda: the prospect and challenge of integrated control. *Trends Parasitol* 2007; **23**: 485–93.

Lammie PJ, Fenwick A, Utzinger J. A blueprint for success: integration of neglected tropical disease control programmes. *Trends Parasitol* 2006; 22: 313–21.

Manderson L, Aagaard-Hansen J, Allotey P, Gyapong M, Sommerfeld J: Social research on neglected diseases of poverty: continuing and emerging themes. *PLoS Neglected Tropical Diseases* 2009, 3(2)

Meheus, F., S. Rijal, P. Lutumba, D. Hendrickx and M. Boelaert. NTD control and health system strengthening. *Lancet* 2012; 379: 2149-2150.

Molyneux DH: 'Neglected diseases' but unrecognized successes - challenges and opportunities for infectious disease control. *Lancet* 2004, 364:380-383.

Molyneux DH, Hotez PJ, Fenwick A: Rapid-impact interventions: how a policy of integrated control for Africa's neglected tropical diseases could benefit the poor. *PLOS Med* 2005, 2(11):e.336.

Parker M, Allen T, Hastings J. Resisting control of neglected tropical diseases: dilemmas in the mass treatment of schistosomiasis and soil-transmitted helminths in north-west Uganda. *J Biosoc Sci* 2008; 40: 161–81

Parker M, Allen T. Does mass drug administration for the integrated treatment of neglected tropical diseases really work? Assessing evidence for the control of schistosomiasis and soil-transmitted helminths in Uganda. *Health Res Pol Syst* 2011; 9: 3.

Parker M, Allen T, Pearson G, Peach N, Flynn R and Rees N. Border Parasites: Schistosomiasis Control among Uganda's Fisherfolk. *Journal of Eastern African Studies* 2012; 6(1): 97-122

Parker, M. and T. Allen. Will mass drug administration eliminate lymphatic filariasis? Evidence from northern, coastal Tanzania. *Journal of Biosocial Science* 2013, 45: 517-545.

Standley CJ, Adriko M, Alinaitwe M, Kazibwe F, Kabatereine NB, Stothard RJ: Intestinal schistosomiasis and soil-transmitted helminthiasis in Ugandan schoolchildren: a rapid mapping assessment. *Geospatial health* 2009, 4(1):39-53.

Yu D: Cost-effectiveness analysis of the impacts on infection and morbidity attributable to three chemotherapy schemes against *Schistosoma Japonicum* in hypoendemic areas of the Dongting Lake region, China. *Southeast Asian Journal of Tropical Medicine and Public Health* 2002, 33:441-457.