

# Yoel Lubell

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## Scientific career

I lead the Economics and Translational Research Group (ETRG) at the Mahidol Oxford Tropical Medicine Research Unit in Bangkok, Thailand. ETRG focuses on the evaluation of diagnostics, treatments and vaccines for malaria and other infectious diseases. These evaluations are pursued using a variety of approaches ranging from economic and epidemiological modelling through laboratory investigations to clinical trials and qualitative research. Our ultimate aim is to provide policy makers with pragmatic and context specific assessments of the impact of new interventions if implemented in routine care. Where relevant we strive to take a broader view of the costs and benefits of new interventions accounting for factors such as their indirect impact on disease transmission and antimicrobial resistance as well as how such interventions' cost-effectiveness varies in different epidemiological and socio-economic contexts or due to factors such as patents and health workers' acceptance.

## Work Experience

**Associate Professor, University of Oxford**

**2009 - Present**

**Centre for Tropical Medicine and Global Health, Nuffield Department of Medicine**

- Leading the Economics and Translational Research Group (ETRG) at the Mahidol-Oxford Tropical Medicine Research Unit (MORU) in Bangkok Thailand
- Coordinating the economic evaluation of multi-centre clinical trials in Asia and Sub-Saharan Africa, including the largest ever studies on management of severe malaria and treatment of vivax malaria
- Leading economic modelling projects on a range of topics including diagnosis, treatment and vaccines for infectious diseases; ICU training and care; containment of antimicrobial resistance
- Supervising graduate and postgraduate students in health economics
- Engaging in capacity-building and training in economic evaluation for policy makers from low and middle income countries
- Member of the MORU Management Committee
- Member of organizing committee and lecturer on the Graduate (MSc) course in International Health and Tropical Medicine at the University of Oxford

**Consultant, Health Intervention & Technology Assessment Program, Thailand**

**2008 - 2012**

- Supported the design and publication of health intervention assessment models and analyses to inform the Thai Ministry of Public Health on the adoption of new technologies in the Universal Coverage insurance scheme

**Researcher, London School of Hygiene and Tropical Medicine, the United Kingdom**

**2005 - 2008**

- Costed and evaluated clinical trials in Uganda and Tanzania on the use of malaria diagnostic tests
- Conducted research on health care systems (low-income countries) and malaria

## Education

Doctorate (PhD) in Health Economics, *London School of Hygiene and Tropical Medicine* 2005 – 2009  
University of London, the United Kingdom

- Doctoral training in Health Economics, under the supervision of Professor Anne Mills CBE
- Recipient of Doctoral Training Award from the Medical Research Council (2005)
- Thesis title: *Enhanced decision modelling for the management of malaria-suspected patients in the age of ACT*

Masters of Science (MSc) in Public Health 2004 – 2005  
*London School of Hygiene and Tropical Medicine, University of London, the United Kingdom*

- Recipient of the Richard Staples Award and the F. Beck Educational Award
- Dissertation: *Decision Analysis and Rapid Diagnostic Tests in Tanzania's Malaria-Control Policy*

BA in Development Studies and French, *University of East Anglia* 2000 – 2003  
Norwich, the United Kingdom

Dissertation: *Links between Tobacco, Poverty and Health in the Developing World*

## Academic Editor/reviewer roles:

- Member of the PLOS One editorial board (2014 – present)
- Reviewer and commentator for high impact journals including *The Lancet* and *The Lancet Global Health*

## Grants and awards

### *As Principal Investigator:*

2016 - "Antibiotic Prescription Practices for Febrile Patients In Primary Care In Low-Middle Income Countries", **The Foundation for Innovative New Diagnostics**, US\$147,000

2015 - "The Impact of C-Reactive Protein Quantitative Tests on Antibiotic Prescription in Health Facilities in Africa and Asia", **The Wellcome Trust Institutional Strategic Support Fund**, £49,500

2013 - "MARCMOD – Modelling the Containment of Artemisinin Resistance in Myanmar", **3MDG**, \$USD700,000

2013 - "Stars in Global Health – Round 5 Phase I: Would combined procalcitonin and malaria rapid tests optimize management of fever in the tropics?" **Grand Challenges Canada**, CAD\$113,000

2012 - "The impact of 3rd generation cephalosporin and carbapenem resistance in bloodstream infections on mortality and length of stay in a Cambodian paediatric hospital", **The Li Ka Shing Foundation**, £4700

### *As Co-Investigator:*

2017 - "FIEBRE - Febrile illness etiologies in a broad range of endemicities", **Department for International Development (DFID)** ~£8M

2014 - "MEEM – Malaria Economic-Epidemiological Modelling", **Bill and Melinda Gates Foundation**, US\$2.4M

2012 - "IMPROV Vivax Studies", **Department for International Development (DFID), Medical Research Council (MRC), Wellcome Trust Joint Trials Group**, £3.5M

2012 - "OPRA vivax Studies", **Bill and Melinda Gates Foundation**, US\$5M

**Publication list (first/senior author papers in bold):**

1. **Lubell Y and Althaus, T, "Biomarker Tests for Bacterial Infection – A Costly Wait for the Holy Grail". The Lancet Infectious Diseases, (In Press).**
2. Schultz, M.J. et al. "Current Challenges in the Management of Sepsis in Resource-limited Settings and a Roadmap for the Future." Intensive Care Medicine, (In Press).
3. **Crump, J.A., et al. "Febrile Illness in Adolescents and Adults." Chapter 13, vol 6, Disease Control Priorities 3<sup>rd</sup> Edition, edited by K. Holmes, S. Bertozzi, P. Jha, B. Bloom and R. Nugent, University of Washington, (In Press).**
4. Haniffa, R., et al. "Impact of a Structured ICU Training Programme in Resource-Limited Settings in Asia." PLoS One, (In Press).
5. **Drake, T. L. and Y. Lubell. "Malaria and Economic Evaluation Methods: Challenges and Opportunities." Applied Health Economics and Health Policy, (2017): doi:10.1007/s40258-016-0304-8.**
6. Drake, T. L., et al. "Geographic Resource Allocation Based on Cost Effectiveness: An Application to Malaria Policy." Applied Health Economics and Health Policy, DOI 10.1007/s40258-017-0305-2 (2017).
7. Hearn, P. et al. "Prospective Surveillance of Healthcare Associated Infections in a Cambodian Pediatric Hospital." Antimicrobial Resistance and Infection Control 6, no. 16 (2017).
8. **Drake, T. et al. "Dynamic Transmission Economic Evaluation of Infectious Disease Interventions in Low- and Middle-Income Countries: A Systematic Literature Review." Health Economics 25 Suppl 1, (2016): 124-139.**
9. Dittrich, S. et al. "Target Product Profile for a Diagnostic Assay to Differentiate between Bacterial and Non-Bacterial Infections and Reduce Antimicrobial Overuse in Resource-Limited Settings: An Expert Consensus." PLoS One 11, no. 8 (2016): e0161721.
10. Do, N. T. et al. "Point-of-Care C-Reactive Protein Testing to Reduce Inappropriate Use of Antibiotics for Non-Severe Acute Respiratory Infections in Vietnamese Primary Health Care: A Randomised Controlled Trial." The Lancet Global Health 4, no. 9 (2016): e633-e641.
11. **Kyaw, S. S. et al. "Malaria Community Health Workers in Myanmar: A Cost Analysis." Malaria Journal 15, (2016): 41.**
12. **Lubell, Y. et al. "Modelling the Impact and Cost-Effectiveness of Biomarker Tests as Compared with Pathogen-Specific Diagnostics in the Management of Undifferentiated Fever in Remote Tropical Settings." PLoS One 11, no. 3 (2016): e0152420.**
13. **Peto, T.J. et al. "History of Malaria Treatment as a Predictor of Subsequent Subclinical Parasitaemia: A Cross-Sectional Survey and Malaria Case Records from Three Villages in Pailin, Western Cambodia." Malaria Journal 15, (2016): 240.**
14. Phommason, K. et al. "Accuracy of Commercially Available C-Reactive Protein Rapid Tests in the Context of Undifferentiated Fevers in Rural Laos." BMC Infectious Diseases 16, (2016): 61.
15. **Peto, T. J. et al. "Association between Subclinical Malaria Infection and Inflammatory Host Response in a Pre-Elimination Setting." PLoS One 11, no. 7 (2016): e0158656.**
16. Abreha, T. et al. "Improving the Radical Cure of Vivax Malaria (IMPROV): A Study Protocol for a Multicentre Randomised, Placebo-Controlled Comparison of Short and Long Course Primaquine Regimens." BMC Infectious Diseases 15, no. ARTN 558 (2015).
17. de Haan, F. et al. "Exploring Health Practitioners' Acceptability of a Prospective Semi-Quantitative Pfhrp2 Device to Define Severe Malaria in the Democratic Republic of Congo." Malaria Journal 14, (2015): 503.
18. **Drake, T. L. et al. "Cost Effectiveness and Resource Allocation of Plasmodium Falciparum Malaria Control in Myanmar: A Modelling Analysis of Bed Nets and Community Health Workers." Malaria Journal 14, (2015): 376.**
19. **Hantrakun, V. et al. "Cost-Effectiveness Analysis of Parenteral Antimicrobials for Acute Melioidosis in Thailand." Transactions of the Royal Society of Tropical Medicine and Hygiene 109, no. 6 (2015): 416-418.**

20. Imwong, M. et al. "The Epidemiology of Subclinical Malaria infections in South-East Asia: Findings from Cross-Sectional Surveys in Thailand-Myanmar Border Areas, Cambodia, and Vietnam." *Malaria Journal* 14, (2015): 381.
21. Ley, B. et al. "The Challenges of Introducing Routine G6pd Testing into Radical Cure: A Workshop Report." *Malaria Journal* 14, (2015): 377.
22. Luangasanatip, N. et al. "Comparative Efficacy of Interventions to Promote Hand Hygiene in Hospital: Systematic Review and Network Meta-Analysis." *BMJ* 351, (2015): h3728.
23. **Lubell, Y. et al. "Performance of C-Reactive Protein and Procalcitonin to Distinguish Viral from Bacterial and Malarial Causes of Fever in Southeast Asia." *BMC Infectious Diseases* 15, (2015): 511.**
24. White, L. J. et al. "Defining the in Vivo Phenotype of Artemisinin-Resistant Falciparum Malaria: A Modelling Approach." *PLoS Medicine* 12, no. 4 (2015): e1001823.
25. **Kyaw, S. S. et al. "Cost of Treating Inpatient Falciparum Malaria on the Thai-Myanmar Border." *Malaria Journal* 13, (2014): 416.**
26. Luangasanatip, N. et al. "Effectiveness of Hand Hygiene Promotion in Relation to Level of Investment: A Systematic Review." *Value in health* 17, no. 7 (2014): A803.
27. **Lubell, Y. "Investment in Malaria Elimination: A Leap of Faith in Need of Direction." *The Lancet Global Health* 2, no. 2 (2014).**
28. **Lubell, Y. et al. "Artemisinin Resistance--Modelling the Potential Human and Economic Costs." *Malaria Journal* 13, (2014): 452.**
29. Yadav, R. P. et al. "Cost-Effectiveness of a Tuberculosis Active Case Finding Program Targeting Household and Neighborhood Contacts in Cambodia." *The American Journal of Tropical Medicine and Hygiene* 90, no. 5 (2014): 866-872.
30. **Lubell, Y. et al. "Ethics, Economics, and the Use of Primaquine to Reduce Falciparum Malaria Transmission in Asymptomatic Populations." *PLoS Medicine* 11, no. 8 (2014): e1001704.**
31. Choosakulchart, P. et al. "Cost-Utility Evaluation of Influenza Vaccination in Patients with Existing Coronary Heart Diseases in Thailand." *Asian Biomedicine* 7, no. 3 (2013): 425-435.
32. **Deen, J., N. J. White and Y. Lubell. "Bloodstream Infections in South and Southeast Asia - Authors' Reply." *Lancet Infectious Diseases* 13, no. 1 (2013): 15.**
33. Kulpeng, W. et al. "Variation of Health-Related Quality of Life Assessed by Caregivers and Patients Affected by Severe Childhood Infections." *BMC Paediatrics* 13, (2013): 122.
34. Luangasanatip, N., M. et al. "Long-Term Survival after Intensive Care Unit Discharge in Thailand: A Retrospective Study." *Critical Care* 17, no. 5 (2013).
35. Pan-ngum, W. et al. "Estimating the True Accuracy of Diagnostic Tests for Dengue Infection Using Bayesian Latent Class Models." *PLoS One* 8, no. 1 (2013): e50765.
36. Smithuis, F. M. et al. "The Effect of Insecticide-Treated Bed Nets on the Incidence and Prevalence of Malaria in Children in an Area of Unstable Seasonal Transmission in Western Myanmar." *Malar Journal* 12, (2013): 363.
37. Smithuis, F. M. et al. "Entomological Determinants of Insecticide-Treated Bed Net Effectiveness in Western Myanmar." *Malaria Journal* 12, (2013): 364.
38. **Deen, J. et al. "Community-Acquired Bacterial Bloodstream Infections in Developing Countries in South and Southeast Asia: A Systematic Review." *Lancet Infectious Diseases* 12, no. 6 (2012): 480-487.**
39. Luangasanatip, N. et al. "Excess Length of Stay Due to Hospital-Associated Infections in Thailand: 8 Years Retrospective Data." *International Journal of Infectious Diseases* 16, (2012): E378-E379.
40. Peacock, S. J. et al. "Melioidosis Vaccines: A Systematic Review and Appraisal of the Potential to Exploit Biodefense

Vaccines for Public Health Purposes." PLoS Neglected Tropical Diseases 6, no. 1 (2012): e1488.

41. Ashley, E. A. et al. "Antimicrobial Susceptibility of Bacterial Isolates from Community Acquired Infections in Sub-Saharan Africa and Asian Low and Middle Income Countries." *Tropical Medicine International Health* 16, no. 9 (2011): 1167-79.
42. Lubell, Y. et al. "Susceptibility of Community-Acquired Pathogens to Antibiotics in Africa and Asia in Neonates - an Alarming Short Review." *Tropical Medicine International Health* 16, 2 (2011): 145-151.
43. Lubell, Y. et al. "Cost-Effectiveness of Parenteral Artesunate for Treating Children with Severe Malaria in Sub-Saharan Africa." *Bulletin of the World Health Organization* 89, 7 (2011): 504-512.
44. Lubell, Y. et al. "Likely Health Outcomes for Untreated Acute Febrile Illness in the Tropics in Decision and Economic Models; a Delphi Survey." *PLoS One* 6, no. 2 (2011): e17439.
45. Lubell, Y. et al. "Susceptibility of Bacterial Isolates from Community-Acquired Infections in Sub-Saharan Africa and Asia to Macrolide Antibiotics." *Tropical Medicine and International Health* 16, no. 10 (2011): 1192-1205.
46. Leelahavarong, P. et al. "A Cost-Utility and Budget Impact Analysis of Allogeneic Hematopoietic Stem Cell Transplantation for Severe Thalassaemic Patients in Thailand." *BMC Health Services Research* 10, (2010): 209.
47. Lubell, Y. "Cost-Effective Use of Prereferral Treatment for Severe Malaria." *The Lancet* 376, no. 9756 (2010): 1880-1881.
48. Lubell, Y. et al. "An Economic Evaluation of Home Management of Malaria in Uganda: An Interactive Markov Model." *PLoS One* 5, no. 8 (2010): e12439.
49. Maude, R. J. et al. "The Role of Mathematical Modelling in Guiding the Science and Economics of Malaria Elimination." *International Health*, (2010).
50. Suputtamongkol, Y. et al. "Strategies for Diagnosis and Treatment of Suspected Leptospirosis: A Cost-Benefit Analysis." *PLoS Neglected Tropical Diseases* 4, no. 2 (2010): e610.
51. Lubell, Y. et al. "Cost-Effectiveness of Artesunate for the Treatment of Severe Malaria." *Tropical Medicine International Health* 14, no. 3 (2009): 332-337.
52. Lubell, Y. et al. "An Interactive Model for the Assessment of the Economic Costs and Benefits of Different Rapid Diagnostic Tests for Malaria." *Malaria Journal* 7, (2008): 21.
53. Lubell, Y. et al. "The Impact of Response to the Results of Diagnostic Tests for Malaria: Cost-Benefit Analysis." *BMJ* 336, no. 7637 (2008): 202-205.
54. Mills, A., Y. Lubell and K. Hanson. "Malaria Eradication: The Economic, Financial and Institutional Challenge." *Malaria Journal* 7 Suppl 1, (2008): S11.
55. Lubell, Y. et al. "The Cost-Effectiveness of Parasitologic Diagnosis for Malaria-Suspected Patients in an Era of Combination Therapy." *American Journal Tropical Medicine Hygiene* 77, no. 6 Suppl (2007): 128-132.
56. Devine, A. et al. "Using G6PD Tests to Enable the Safe Treatment of *Plasmodium vivax* Infections with Primaquine on the Thailand-Myanmar Border: A Cost-Effectiveness Analysis." *PLoS Neglected Tropical Diseases*, (Under Review).
57. Bonell, A., et al., "Estimating the Burden of Scrub Typhus". *PLoS Neglected Tropical Diseases*, (Under Review).
58. Lubell, Y. et al. "Economic Implications of C-Reactive Protein Point of Care Testing in the Management of Acute Respiratory Infections in the Vietnamese Primary Health Care Setting." *The Bulletin of the World Health Organization*, (Under Review).
59. Mer, M., et al. "What's New in Intensive Care – Core Elements of General Support for Patients with Sepsis and Septic Shock in Resource-limited Settings". *Intensive Care Medicine*, (Under Review).
60. Aguas, R., et al. "Modelling the prospects for malaria elimination: are mass malaria interventions getting enough coverage?" *PLoS Computational Biology*, (Under Review).