

Institution: University of the West of England, Bristol		
Unit of Assessment: 17		
Title of case study: Eliminating malaria by strengthening health programme management in Southeast Asia and Southern Africa		
Period when the underpinning research was undertaken: 2013 – 2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): Peter Case	Role(s) (e.g. job title): Professor of Organization Studies	Period(s) employed by submitting HEI: September 2005 – present
Period when the claimed impact occurred: August 2013 – July 2020		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact		
<p>Professor Peter Case, University of the West of England (UWE), has conducted research on how organisational systems in malaria zones can more effectively manage transitions from malaria control to elimination. The research has culminated in the Organization Development for Malaria Elimination tool that uses a new participatory approach for tackling malaria. The tool has been implemented in Vietnam, Zimbabwe, Eswatini and Namibia, leading to significant improvements in elements of programme delivery, including data quality and communication, as well as fewer drug stockout events (situations where a drug is out of stock). These programme delivery improvements have subsequently led to improved detection, testing and treatment of more than 3 million people with malaria in Zimbabwe alone. Additional benefits have also accrued, such as capacity building of healthcare professionals and development of accredited training of National Malaria Control Programme staff, creating sustainable impacts in these regions.</p>		
2. Underpinning research		
<p>Every year some half a million people die from malaria, a disease which exists in nearly 100 countries. Focus for enhanced malaria programme performance is often placed on the technical challenges, while human and organizational factors are often overlooked. Research conducted by Peter Case, Professor of Organization Studies, has focused on improving programme management and service delivery at the operational level of malaria healthcare.</p>		
Best practices in programme management for malaria elimination		
<p>In August 2013, Professor Case was invited to join a team of researchers based at the University of California, San Francisco (UCSF) to research and prepare a background paper on best practices in programme management for malaria elimination for the Bill & Melinda Gates Foundation (BMGF). This was on the basis of his previous research and wider contributions in the fields of international development, and use of Participatory Action Research methods. The resulting report made a series of recommendations on how National Malaria Control Programmes (NMCPs) can most effectively manage transitions from malaria control to malaria elimination (as defined by the World Health Organization). The research underpinning the report had significant normative implications for the way in which malaria healthcare services should be delivered on the ground. Improving programme management entailed building capacity and optimizing a country's ability to advance toward elimination. Prioritizing and facilitating teamwork (e.g. bringing together health professionals and community stakeholders), coordination, and communication were seen as key components by successful ministries of health in achieving programmatic outcomes and impact. The results were published in Global Health Group (R1) and Gosling et al. (R2).</p>		

Professor Case was invited to present his research findings (R1) to the Strategy Advisory Committee of the Gates Foundation in November 2015. Subsequently, he was asked to advise a medical research team working in Vietnam, initially funded by the US Navy Malaria Research Centre (NMRC) and later by the BMGF. Working with the NMRC team and Vietnam's National Institute for Malaria, Parasitology and Epidemiology, from 2014-2016, Professor Case was afforded the opportunity to apply the findings documented in the Background Paper and *AJTMH* article (R1, R2) to address practical challenges faced in transitioning to malaria elimination and improving healthcare services. Key findings included the need to work in a granular way at local level with healthcare professionals and intended beneficiaries to tackle elimination challenges. The application of tools needed to help malaria programmes understand the drivers of transmission in target areas were also recommended.

Participatory Action Research methods

Conducting fieldwork in the Central Highlands of Vietnam (2014-2016), Professor Case introduced Participatory Action Research (PAR) methods used previously in Laos (R3, R4, R5) to identify, analyse, and resolve context-specific *operational challenges* in resource-poor environments. Through a series of workshops, healthcare staff and volunteers (from the most junior front-line staff to the most senior medics and administrators) were able to meet in the same space and communicate the challenges they faced when tackling malaria. Careful facilitation permitted junior staff to speak their minds and be heard by senior clinicians and administrators at district, provincial and national levels of the health care system. These techniques were experimental at this stage of the research, but results were encouraging. Post-workshop multi-disciplinary Task Forces were constituted, charged with collectively refining and implementing agreed solutions to challenges.

Subsequent work in southern Africa (2016-2020), supported by the BMGF-funded Malaria Elimination Initiative (MEI), enabled Professor Case to expand his research team where they developed a structured process intervention tool known as Organization Development for Malaria Elimination (ODME) (R6). Between 2016 and 2018, the ODME intervention tool was trialled and up-scaled in three countries in southern Africa. In the 2016-17 malaria season, the tool was introduced in Eswatini and Matabeleland South province in Zimbabwe. The project expanded during the 2017-18 malaria season to Matabeleland North and Midlands provinces, making it operational in over half of Zimbabwe. Professor Case's approach is unique in malaria elimination: it involves all levels of the system (national, provincial, district, community); facilitates communication between these levels; allows the participants to identify the operational challenges they plan to tackle; and provides coaching and a structured process for co-designing interventions and facilitating and monitoring change.

3. References to the research

- R1** Global Health Group (2013) Program management issues in implementation of elimination strategies. Background paper for the Bill & Melinda Gates Foundation. San Francisco, CA: UCSF (31 pages). http://mesamalaria.org/sites/default/files/2018-12/GHG_Program%20management%20issues%20in%20implementation%20of%20elimination%20strategies.pdf
- R2** Gosling, J., Case, P., Tulloch, J., Chandramohan, D., Wegbreit, J., Newby, G., Smith Gueye, C., Koita, K., and Gosling, R. (2015) Effective program management: A cornerstone of malaria elimination. *American Journal of Tropical Medicine & Hygiene*, 93(1): 135-138. <http://www.ajtmh.org/content/journals/10.4269/ajtmh.14-0255>
- R3** Case, P., Connell, J. and Jones, M. (2017) The language of leadership in Laos. *Leadership*, 13 (2). pp. 173-193. <https://journals.sagepub.com/doi/10.1177/1742715016658214>
- R4** Alexander, K., Case, P., Jones, M. and Connell, J. (2017) Commercialising smallholder agricultural production in Lao People's Democratic Republic. *Development in Practice*, 27 (7):

pp. 965-980.

<https://www.tandfonline.com/doi/abs/10.1080/09614524.2017.1353064?journalCode=cdip20>

R5 Case, P., Evans, L., Fabinyi, M., Cohen, P., Hicks, C., Prideaux, M. and Mills, D. (2015) Rethinking environmental leadership: The social construction of leaders and leadership in discourses of ecological crisis, development and conservation. *Leadership*, 11 (4). pp. 396-423.

<https://journals.sagepub.com/doi/10.1177/1742715015577887>

R6 Marr Chung, A., Case, P., Gosling, J., Gosling, R., et al. (2020) Scaling up Malaria Elimination Management and Leadership: A pilot in three provinces in Zimbabwe, 2016 -2018. *Malaria Journal*

<https://malariajournal.biomedcentral.com/articles/10.1186/s12936-020-03255-z>

Evidence of the quality of the underpinning research

G1 Case, P. *Restratification of epidemiology and development of interventions for more effective control and elimination of malaria in Vietnam*. USA Navy Malaria Research Centre, 2014-2015, £26,706

G2 Case, P. *Malaria elimination leadership and organization development in southern Africa*. Bill & Melinda Gates Foundation, 2016-2017, £84,471

G3 Case, P. *Leadership and Organization Development for Improved Malaria Elimination Programs in Southern Africa*. *Malaria Elimination Initiative (UCSF) – University of California, San Francisco*, 2017-2018, £136,073

G4 Case, P. *Leadership and Organization Development for Improved Malaria Elimination Programs in Southern Africa (2018-20 Season)*. Bill & Melinda Gates Foundation, 2018-2020, £72,351

4. Details of the impact

Over 3 million people in Zimbabwe benefit from improved malaria programme delivery

Better delivery of malaria programmes, underpinned by the implementation of the ODME tool (**R6**), resulted in improved malaria case detection, testing and treatment for 23% of the population of Zimbabwe (3.3 million people) between 2016 and 2018 (**S1**). The most significant quantitative improvements to malaria healthcare indicators were: (i) A 35% increase in case investigation rates within 3 days (from 65% to 100%) (**S2, R6**); (ii) An 11% increase in the treatment of confirmed cases with Artemisinin-based combination therapies (from 89% to 100%) (**S3, R6**).

Improvements in malaria programme delivery in Eswatini and Zimbabwe

Implementation of the ODME tool across Eswatini led to improvements in the reporting of malaria cases by health facilities and increased collaboration between the malaria programme, schools and community organisations (**S4**). It has also led to improved communication between leaders within the National Malaria Control Programmes (NMCP) in the form of better meeting structures and more efficient information flows. In Zimbabwe's Matabeleland South province, Professor Case's system of structured organisational development led to an improvement in the availability and use of malaria registers by health facilities and an increase in malaria case investigation rates within three days. There was also a 16% reduction in Artemisinin Combined Therapy [key antimalarial drug] stockouts (from 22% to 6%) (**S4, R6**).

The interventions introduced in Matabeleland North led to: increased collaboration with partners involved in malaria activities; reductions in stockouts of drugs and diagnostics; and improvements in staff motivation and accountability. In Midlands: data quality, completeness, and timeliness improved; community engagement activities increased; improved communication, ownership, and teamwork (**S2, S3**).

Programme staff benefit through participation, shifting culture to one of empowerment

Participants from all provinces reported having a better appreciation of the value of communication, teamwork, planning, continuous monitoring of data and adjustment of work plans, as well as gaining skills in listening, communicating and facilitating discussions.

Participation in the intervention changed the mindset of malaria programme staff. It increased ownership and accountability, empowering them to identify and solve problems, make decisions and act within their sphere of influence, finding efficiencies in the system that could not be found using the traditional top-down approach. This improved motivation and communication between different cadres of health workers (**S2, S3, R6**).

Staff in Zimbabwe, acting independently, secured their own external funding to apply Professor Case's ODME framework to new regions in Zimbabwe during the 2018-19 malaria season, as well as using ODME to address new issues. A direct impact from this intervention in Matobo district, for example, was a very large increase in usage of Long Lasting Insecticide Nets (which help prevent transmission) from 37% of 39,285 nets to 98%, brought about by involvement and training of community leaders (**S5**). Other quantitative impacts included: 21% improvement to malaria case investigation rates and significant improvements to the stock status of a key medicines (e.g. availability of a key drug treatment for severe malaria – Atesunate – up by 68%) (**S5**).

According to the Provincial Medical Director for Matabeleland South, and responsible for also developing strategies to implement national health policy:

'projects led by Professor Case in southern Africa have impacted positively and significantly on malaria healthcare delivery in the region' (S6).

Global health organisations adopt ODME tool, extending reach of impact in Africa and Asia

In 2018, the BMGF-funded Asia Pacific Malaria Elimination Network (APMEN) adopted:

'the malaria change management approach [ODME] that Professor Case designed as one of a range of 'Program Management Quality Improvement' tools available to national malaria control programs in the region' (S1).

2019-20 saw the approach applied in Namibia under the auspices of a BMGF-funded Improvement Collaborative for Malaria Elimination (ICME) project led by Professor Case. The ICME was initiated with the aim of advancing service delivery for malaria elimination across two districts: Rundu in Kavango East and Nankudu in Kavango West. Impacts deriving from this project (**S6**) during the 2019-20 malaria season included but were not limited to: **(i)** in-service training in case management and surveillance in the Nankudu district increased from a baseline of 89% to 99.8%; **(ii)** Case reporting and complete reports from facilities improved from a baseline of 60% to 100% in Nankudu district and from 60% to 100% in Rundu district; **(iii)** Cross border collaboration to reduce imported cases of malaria in Nankudu district: non-local cases shared with Angolan colleagues improved from a baseline of 49% to 100%, with subsequent tracing reaching a 79% level.

Health professionals in Zimbabwe and Namibia benefit from enhanced understanding of change leadership through UWE accredited training programmes for malaria elimination

Professor Case has established an ODME training programme for six recruits (senior medics and administrators) in Zimbabwe with UWE accreditation via a Postgraduate Certificate in Professional Practice in Change Leadership. The first cohort graduated in 2019 and graduates have applied the approach in other Zimbabwean provinces, districts and countries, leading to regional capacity building, skills development and the potential for sustainable ODME impacts and up-scaling (**R6**). Three graduates are also being employed in Namibia to facilitate workshops and develop ODME Work Plans for two districts in Kavango province (2019-20). A new cohort of 12 Namibian health professionals are currently registered on the UWE programme (2019-20).

UWE research informs and influences the work of global health organisations

The Clinton Health Access Initiative (CHAI), which provides embedded support to national malaria programmes pursuing elimination in over 15 countries, has adopted the background paper (R1) developed for the Bill and Melinda Gates Foundation as an educational tool for training all new malaria staff (S7). CHAI's Malaria Regional Manager for SE Asia also noted that teams working in the Greater Mekong Subregion used this document: *"to develop national strategies and operational plans to support understanding and increase buy-in for elimination activities"* (S7).

Professor Case's research was also pivotal to the success of the US Navy Malaria project in Vietnam (2014-2016). The Chief of the Epidemiology Department, National Institute of Malariology, Parasitology and Entomology, said Case's: *'program management and best practices contributed significantly to the success of...the US Navy Malaria project'* (S8). Similarly, the Principal Investigator of the US Navy Malaria Research Centre (NMRC) funded medical team acknowledged Professor Case's contribution in:

'Helping us understand and work through challenges with Vietnamese government officials/organizations'. As well as the "Identification of the need for Malaria Elimination Task Force Managers. These are now in place and are an affordable, sustainable long-term solution...' (S9).

The Associate Director of the BMFG funded Malaria Elimination Initiative summed up Professor Case's work, noting that:

'Professor Peter Case's unique contributions to the UCSF/MEI projects during 2014-2020 [in South East Asia and southern Africa] have made an enormous impact on malaria elimination' (S1).

Professor Case's contribution in the field of malaria elimination has been significant and far-reaching and acknowledged in *The Lancet's* 2019 Commission Report: Malaria Eradication Within a Generation. It concludes that:

'Effective management and implementation of malaria programmes are the most important requirements of national and regional elimination and eventual global eradication' (S10, cites R2).

5. Sources to corroborate the impact

S1 Testimonial from Associate Director, Malaria Elimination Initiative.

S2 Eliminating Malaria in Zimbabwe Post-season Report 2016-17.

S3 Midlands Post Season Report 2017-2018.

S4 Southern Africa Malaria Project final report to Bill & Melinda Gates Foundation - 2016-17.

S5 Eliminating Malaria in Mat. South (Matobo District) Zimbabwe - final report 2019.

S6 Testimonial from Provincial Medical Director, Matabeleland South, Zimbabwe.

S7 Testimonial from Malaria Regional Manager, Southeast Asia, Clinton Health Access Initiative.

S8 Testimonial from Chief of Epidemiology Department, National Institute of Malariology, Parasitology and Entomology.

S9 Testimonial from Principal Investigator, 'Restratification of epidemiology and development of interventions for more effective control and elimination of malaria in Vietnam', USA Navy Malaria Research Centre.

S10 The Lancet: [Malaria Eradication Within a Generation](#), 8th September 2019, pp.12-13.