



Women selling poultry, Hanoi, Vietnam 2005 (Lorrie Graham/DFAT photolibrary)

Evaluating a decade of Australia's efforts to combat pandemics in Asia and the Pacific: are health systems stronger?

By Gill Schierhout, Laurence Gleeson, Adam Craig and Irene Wettenhall

DFAT's Office of Development (ODE) has completed an [evaluation](#) of Australia's assistance to combat pandemics and emerging infectious diseases (EIDs) in Asia

and the Pacific from 2006 to 2015. In the aftermath of the SARS and avian influenza outbreaks of 2003 and 2004, the Australian Government invested around \$194 million over this period to help countries in Asia and the Pacific combat EIDs such as avian influenza and swine flu.

The majority of EIDs are zoonoses—animal diseases that can infect humans—some of which have potential to mutate to allow transmission between people. The threat of a new pandemic remains a key global risk. ODE commissioned the evaluation to identify lessons from this past assistance to inform decision-making about future DFAT investments and policy engagement on regional health security.

The evaluation focussed on investments which were guided by two AusAID pandemics and EID strategies that aimed to strengthen human and animal health systems through technical assistance and capacity building. Applying a health systems lens, the evaluation examined the implementation characteristics, effectiveness and efficiency of these investments in strengthening the animal and human health systems involved in the EID response. It also examined progress in adopting a One Health approach (coordinated action by the human and animal health sectors to address zoonotic disease transmission), and the approaches to community engagement and gender taken in Australia's investments. Finally, it considered the quality of DFAT's monitoring and evaluation of EID investments and the extent to which EID research supported by DFAT has been used in evidence-based policy and programming.

Findings

We found that in human health, Australia's investments have contributed to substantial improvements in surveillance and in the availability, timeliness and sharing of EID data across the region. These outcomes came from efforts on a number of fronts—support for field epidemiology training programs, surveillance systems and laboratory networks; improved preparedness and response planning

by ministries of health; and greater political commitment to EID work in South-East Asia. As a result, compared to a decade ago, there is now greater awareness of EIDs at community and government levels. However, capacity to use this surveillance data for policy, planning and response has not kept pace with its increased availability.

The outcomes achieved in animal health were more modest, but veterinary health systems in Asia and the Pacific are less developed than human health systems so investments started from a lower base. The primary drivers for countries to invest in animal health services are livestock production and trade—and these drivers are stronger in South-East Asia than in the Pacific. Thus, Australia's investments in South-East Asia were able to build on existing (although still underdeveloped) capacity and laid a modest platform for future disease outbreak responses. The strongest outcome was the establishment of a regional disease control model for foot and mouth disease (FMD). This has provided a foundation for strengthening veterinary services and the control of zoonotic diseases such as avian influenza and rabies. There was also some strengthening of animal health surveillance, most notably in Indonesia. In contrast, in the Pacific there was very little for Australia's investments to build upon.

We found that although the rationale for a One Health approach is sound, the different capacities and jurisdictions of the human and animal health sectors make it difficult to operationalise, especially outside of emergency periods. The best prospects for One Health approaches are in areas of common ground that threaten public health—such as avian influenza, rabies and antimicrobial resistance.

Communities have a crucial role in prevention, detection and response to disease. We identified a number of promising approaches to community engagement in DFAT's past EID investments. These included support for village surveillance teams, biosecure farming techniques, improved biosafety practices in markets

and behaviour change communications. However, while these had some success in emergency periods, it was a struggle to get them institutionalised.

The roles of women in small-scale animal production and food preparation, and in protecting the health of their families, mean that gender is a significant factor in EID exposure and vulnerability. We found good examples of gender analysis and research, but limited evidence of implementation or results. Variable capacity and commitment of implementing partners and country governments to addressing gender remains a challenge.

The quality of DFAT's monitoring and evaluation improved over the evaluation period, but consideration of how investments contributed to systems strengthening was mostly lacking. This ODE evaluation helps to fill this gap. Research commissioned through DFAT's past EID investments was mostly in animal health. We found some good examples of demand-driven research that contributed to evidence-based programming, but also examples where there was little evidence of research use.

Recommendations

Looking ahead, the evaluation underlines the need for a differentiated approach that takes into account the differences between human and animal health systems, and between South-East Asia and the Pacific. In the Pacific, where DFAT still has significant bilateral human health programs, there is a need to better integrate EID work with the broader health systems strengthening agenda of DFAT's bilateral health programs. In South-East Asia, where Australia has reduced bilateral health engagement, DFAT will need to work with reputable partners who have expertise and influence at the country level to ensure Australia's regional health security investments strengthen country level human health systems. A key test for future investments will be whether they can move beyond narrow technical areas to address the systemic constraints to EID preparedness and response capacity.

In animal health, we note that future Australian support should be highly focused. Continued support for FMD control would serve a dual purpose of promoting trade and strengthening animal health systems for broader zoonoses control. We also argue for targeted support for animal health surveillance in South-East Asia, to support regional cooperation in EID reporting, better use of data to improve planning and response, and sharing of data on priority zoonoses with the human health sector. This should build off existing capacity and systems, not attempt to create systems and capacity from the bottom up. In the Pacific, where the greater risk is from imported animal diseases, the evaluation recommends that support for animal health be limited to biosecurity and quarantine.

DFAT's future investments in regional health security will need to make programs more accountable for addressing gender differences and their effects. Gender outcomes and monitoring indicators should be required in monitoring and evaluation frameworks for new investments.

Notwithstanding the need to work with reputable partners at country level, a key challenge for DFAT will be to identify the level of representation and skills needed by its own staff to engage in effective health diplomacy and progress a health security agenda.

Finally, there is a need to improve the capacity of investment-level monitoring and evaluation systems to assess the outcomes of DFAT's investments and their contribution to health systems strengthening. Future EID research should include a focus on health systems research on the human health side and provide scope for researchers to have a broad infectious disease/health security remit. And, to improve outcomes from research, DFAT should require consideration of research governance arrangements and strategies for promoting research uptake by intended users.

In its management response, DFAT has agreed to all recommendations, but noted that future support for FMD control in South-East Asia and limiting future

assistance for animal health in the Pacific to biosecurity and quarantine, will be considered against the context and funding priorities of Australia and partner governments at the time.

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The full report, including DFAT's management response, can be found [here](#). This report was also recently presented at an Aid Evaluation Forum at ANU - view the presentations [here](#), and listen to the podcast of the session [here](#).

About the author/s

Gill Schierhout

Gill Schierhout is a PhD qualified epidemiologist, health systems researcher and evaluation specialist with over 15 years of experience in international health and development. She leads and conducts independent evaluations of large-scale programs and provides evidence-based advice and analysis to global and national health agencies. She has conducted this work for bilateral development agencies, private foundations, major NGOs, government departments and ministries of health in multiple countries in Africa and Australasia, assisting stakeholders at all levels to identify and use robust evidence to improve health outcomes. Gill has an academic appointment with the Kirby Institute for Infection and Immunity in Society, University of New South Wales.

Laurence Gleeson

Laurence Gleeson is a veterinary graduate from Melbourne University, with a PhD in veterinary virology from Cornell. His career has included 16 years with the

CSIRO Australian Animal Health Laboratory (AAHL) where for a period he managed the AAHL diagnostic service and was part of the teams that identified the Hendra virus (winning a CSIRO gold medal), and the Australian bat lyssavirus. He was foundation manager for both the OIE South-East Asian FMD program and the FAO Emergency Centre for Transboundary Animal Diseases for Asia and the Pacific. More recently, he has undertaken consultancy work in South-East Asia with an emphasis on emerging diseases and One Health. In 2010, he was awarded the Australian Veterinary Association Kesteven Medal for contributions to international veterinary science.

Adam Craig

Adam Craig is a public health specialist and epidemiologist with 19 years' experience in the Asia and Pacific regions. He has worked with a number of national governments, development agencies, donors and private corporations to address emerging infectious disease threats. Adam has a research interest in how resource constrained small island developing states can best arrange their health systems to plan for, detect and respond to emerging infectious diseases.

Irene Wettenhall

Irene Wettenhall is a former AusAID officer with 30 years' experience working in policy and program areas of the Australian aid program, including postings in Nairobi, Harare, Beijing and Port Moresby. After completing a Master of Evaluation from the University of Melbourne in 2015, Irene joined the Office of Development Effectiveness in DFAT where she is managing and participating in aid program evaluations.