Lowering Australia's defence against infectious diseases

Robert M Douglas, Fiona J Stanley, A Rob Moodie, Anthony I Adams and John M Kaldor

We need to maintain a national field-based postgraduate epidemiology program

The Australian Government's recent decision not to renew federal funding for the Master of Applied Epidemiology (MAE) program at the Australian National University (ANU) puts the nation's public health response capacity at serious risk. This program has provided the investigative backbone to the Communicable Diseases Network Australia for nearly 20 years.

A charitable view is that its disestablishment came about as an administrative accident — collateral damage when Cabinet decided to terminate the much larger Public Health Education and Research Program (PHERP) after a 20-year funding cycle had reached its promised end. Funding for the MAE was rolled into the PHERP quite recently as an administrative convenience, after being supported through a distinct funding stream for most of its life, but the two are in fact very different types of public health activity.

Although other PHERP-funded courses are traditional campus-based degree programs, the MAE puts its intake of outstanding health professionals through intensive field apprenticeships as disease detectives. Over 2 years, trainees undertake brief campus-based training blocks, but, for most of their time, they are placed at health agencies around the nation where they are immersed in disease surveillance and outbreak investigations. They serve as a flying squad to respond at short notice to unusual infectious disease events that present potential threats to the population's health.[1]

The program has been a bargain for the government, with a budget under $2 million per year (the cost of about six tertiary hospital beds), which meets trainees' stipends and supports a small team of academic supervisors. Over two decades, 160 MAE trainees have played central roles in stemming the spread of about 200 epidemics, including severe acute respiratory syndrome (SARS), pandemic (H1N1) 2009 influenza, Hendra virus, food-borne infections, and many others. Their work has generated over 500 academic publications, often of national and global public health significance.[2-4] The program was originally modelled on the world-renowned Epidemic Intelligence Service at the Centers for Disease Control and Prevention (CDC) in the United States. The Australian MAE has helped spawn equivalent programs in China, India, Indonesia and Malaysia.

In addition to serving as a standing national response team during their 2-year apprenticeship, graduates of the MAE program have gone on to become national, and in some cases international, leaders in public health. The employment distribution of 104 non-Indigenous graduates who completed a survey recently is shown in the Box.

See also page 623.

Non-Indigenous Master of Applied Epidemiology graduates by current employer and type of work, 1991–2010

	Employment classification							
Institution	Epidemiologist	Other public health	Policy advisor	Academic	Other research	Clinician	Laboratory	Total
Federal government	6	—	—	—	—	—	—	6
State government	22	9	2	—	1	—	1	35
Research institute	11	—	—	3	2	—	—	16*
International health organisation	7	2	2	—	1	—	1	13†
Non-government organisation	2	—	2	—	—	—	—	4
Private enterprise	—	1	1	—	—	2	—	4
Hospital	1	—	—	—	—	5	—	6
University	4	—	—	16	—	—	—	20
Total	**53**	**12**	**7**	**19**	**4**	**7**	**2**	104‡

— = zero or not applicable. * Eight of the current jobs are at research institutes that provide services to government in communicable disease surveillance. † Ten of the current jobs are with the World Health Organization. ‡ Twenty-nine students did not complete the survey. ◆

The MAE has a particular emphasis on supporting Aboriginal and Torres Strait Islander trainees, recognising that the burden of infectious diseases in Australia falls disproportionately on the Indigenous population. Placements have been made in settings that have allowed Aboriginal trainees to work closely with Aboriginal communities. Twenty-seven Aboriginal MAE graduates have gone on to make a unique contribution to several areas of Aboriginal health and have become role models for Aboriginal health research in Australia.[5] Thirteen of these have used their training in this program as a portal of entry to PhD candidacy.

A review of the program commissioned jointly by the Australian Government and ANU in February 2010 was unequivocal in recommending that it should continue as a key element of Australia's disease control activity.[6]

The MAE program was born as a response to the urgent need, recognised during the early years of the HIV epidemic, for Australia to upgrade its national disease intelligence capacity. It was initiated with assistance from the US CDC, and its first Australian Director was the late Professor Aileen Plant, who would be appalled at its disappearance with no apparent replacement in sight. This will leave Australia vulnerable at a time when increasing population movements, changing climate and other pressures increase the likelihood that we will face new pandemics and the re-emergence of old ones.[7]

Although Australia is now one of few industrialised nations that has no national centre for disease control, the MAE program at least represented one of the essential elements that such a national organisation would provide.[1] Infections respect neither state nor national boundaries, and under Australia's political structure their control can only be achieved through a consistent, coordinated effort by the federal and jurisdictional governments. The ongoing human resource represented by the MAE trainees is a highly cost-effective insurance policy that we cannot risk losing in the challenging times ahead.

Competing interests

Fiona Stanley received an Indigenous Capacity Building Grant from the National Health and Medical Research Council (NHMRC). Rob Moodie is the chair of the National Preventative Health Taskforce, funded by the Australian Government Department of Health and Ageing.

Author details

Robert M Douglas, MD, FRACP, FAFPHM, Visiting Fellow[1]
Fiona J Stanley, MD, MSc, FAFPHM, Director[2]
A Rob Moodie, MB BS, MPH, FAFPHM, Professor[3]
Anthony I Adams, MB BS, MPH, FAFPHM, Chair[4]
John M Kaldor, PhD, Professor of Epidemiology and NHMRC Senior Principal Research Fellow[5]

1 National Centre for Epidemiology and Population Health, Australian National University, Canberra, ACT.
2 Telethon Institute for Child Health Research, Centre for Child Health Research, University of Western Australia, Perth, WA.
3 Nossal Institute for Global Health, University of Melbourne, Melbourne, VIC.
4 Global Commission for Certification of Poliomyelitis Eradication, World Health Organization, Geneva, Switzerland.
5 National Centre in HIV Epidemiology and Clinical Research, University of New South Wales, Sydney, NSW.

Correspondence: bobdouglas@netspeed.com.au

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