First **Words**

This issue of *Microbiology Australia* focuses on the 2004 Boxing Day tsunami and the experiences of those directly involved in the initial response and in the assessment, clinical care, laboratory support and public health responses. The contributions reflect the experiences of professionals from different disciplines who describe their role in this event. The varied perspectives provide a context for the laboratory contribution.

The importance of forward planning and building on past experience is evident from the rapid and ongoing Australian response described by Moira McKinnon. The practical benefits of this preparedness are underscored by David Cooper, who explains how important pre-existing funded initiatives and building on past experiences can be. The need for a whole of government response (intra and cross jurisdictional) is highlighted; also covered are the cross disciplinary approach and how needs change with the stage of the response.

Bill Griggs highlights the difficulties of initial assessment of a disaster covering such a wide area when infrastructure was lost and prior access has been limited.

A recurrent theme in these reflections is the success of combining military and civilian skills in such a humanitarian response. This is seen not only with the microbiology *per se* but in the infrastructure to accommodate microbiologists, allowing them to be housed, fed and watered.

WHO have a key role in responding to public health emergencies and Tony Stewart, wearing his WHO hat, describes the immediate public health needs and the importance of establishing surveillance. Laboratory support for these surveillance activities can be critical in confirming diagnoses. Immediate remedial action can then be taken, such as mosquito control where dengue occurs, measles immunisation as soon as a case is identified, and other measures targeted to specific diseases he has listed.

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The predominant early needs are clinical, with the need for laboratory support following close behind. Prominent amongst the problems with infection were tetanus, as described by Brett Ritchie, tsunami lung, as described by Ivan Bastian, and the high prevalence of multi-resistant organisms, as generally experienced. Each of these has important elements relating to conditions before the event. The large number of cases of the vaccine preventable disease tetanus, reflects the pre-existing susceptibility of the population. Isolations of *Burkholderia pseudomallei* during this period outnumbered those previously recorded in the region (although they must have occurred and gone undetected). In addition, the high levels of antimicrobial resistance may be a consequence of lack of access to diagnostic labatory services which would have allowed more targeted treatment rather than widespread empirical use in the absence of any usage guidelines.

Only time will tell if the matters highlighted during the crisis inform future policy and planning, for example with respect to vaccine programmes and disease prevention and in provision of targeted laboratory based surveillance to monitor causes of disease and levels of antimicrobial resistance. Findings were on a background of the ever present tuberculosis, the most common diagnosis made by the laboratories.

Laboratory responses are seen to be important from a number of perspectives. The general laboratory response from the military, described by Dennis Mok, needed procedures which were robust and relied heavily on kit technology. The provision of services 24/7 from two staff members under the trying conditions speaks volumes for the achievements of these laboratory personnel.

In addition, microbiological services received a major boost with the early and efficient establishment of the laboratory in Fakinah hospital, as described by Bruce Winter *et al.* The challenges to be met could not be entirely predicted, as seen by the relative paucity of enteric diseases. Furthermore, the prominence of complex respiratory cultures and antimicrobial resistance was not unexpected, but the latter remains of concern.

Cooperation between Australian and local scientists.

Helping re-establish laboratory services in the hospital, as described by Norbert Ryan, first involved finding the laboratory, then the local staff, and then working with them to establish their needs. This phase had its own challenges – there was not only a need to re-establish a service for the long haul but also to cater to the needs of practitioners from around the world. Some of these required immediate results for ambulatory patients, such as in the Chinese outpatient clinic, others had a different need, such as the Singaporean intensivists.

All the time, the underlying objective of preparing the services for the long term, as described by Kay Withnall, was kept in mind. Not everything made available in the acute phase could be sustained and it was important to ensure that systems left in place fitted the local needs, practices, funding and skill base. Still, lessons learned about what is possible were reported as valuable by the local staff who were exposed to the various phases of service provision. The insights from Kay Withnall on the importance of language skills and provision of materials in local language are emphasised, as is her plea to not forget training of the next generation of laboratory staff who will be providing these services.

The teamwork required and the value of utilising existing strengths and international collaborations is well described by Edith Lederman and Agus Suwandono. The important role played by the US Naval Medical Research Unit No.2 (NAMRU-2) in working with the existing Indonesian National Institute of Health Research and Development (NIHRD) in supporting the provincial health laboratory – first in a broad sense and then with subsequent skill transfer and eventual return to local control – is an excellent model of relief provision.

These laboratory efforts provided support for those responsible for the public health action which faced major challenges following loss of infrastructure and expert personnel. The problems of meeting the sanitary and other needs of such large numbers of displaced persons is highlighted by Bob Handbury. Active discussion continues on how best to meet these challenges.

Being ready to respond to emergencies events at home and abroad is clearly a permanent fixture on the health agenda, and laboratory services will clearly continue play an important role.

Clean up.