

The Australia and New Zealand Horizon Scanning Network

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UP UNTIL 1982, new health technologies, procedures or services were introduced into the health system in an uncontrolled, unregulated manner. This had the potential for wide-ranging impact on the public health care system including ballooning costs, a lack of preparedness by training and accreditation organisations, and consequent patient safety concerns. Health technology assessment was introduced into Australia in 1982 when the National Health Technology Assessment Panel was formed. This original panel has undergone numerous name changes and evolved into the Australian Government-funded Medical Services Advisory Committee (MSAC).¹ The primary role of the MSAC is to inform the Federal Minister for Health and Ageing on the safety, effectiveness and cost-effectiveness of new medical technologies and procedures using the available evidence.² Assessments of the safety, effectiveness and cost-effectiveness of these technologies may occur only *after* the technology has diffused and is practised widely.³ Early identification of such technologies may avoid the detrimental consequences of their indiscriminate

introduction and could result in the adoption of beneficial and cost-effective technologies and the elimination of technologies that are unsafe or for which there is no evidence of cost-effectiveness.⁴

Establishing the Horizon Scanning Network

In November 2003, the Australia and New Zealand Horizon Scanning Network (ANZHSN) was established under the auspices of the Australian Government Department of Health and Ageing, the Australian Health Ministers' Advisory Council (AHMAC) and the MSAC. The ANZHSN's role is to provide "early warning" to Australian and New Zealand policy makers of the consequences (positive or negative) of new and emerging health technologies. The Health Policy Advisory Committee on Technology (HealthPACT) oversees the activities of the ANZHSN; this relationship provides a close link between policy makers and evaluations of new and emerging technologies. This committee comprises nominees from the Australian Government and each of its states and territories, the MSAC, the Australian Safety and Efficacy Register of New and Interventional Procedures – Surgical (ASERNIP-S), and the New Zealand Health Ministry. HealthPACT reports to and advises the AHMAC and the MSAC, which disseminate information to health providers, thus sharing information among jurisdictions and limiting duplication of effort. Australia is one of about ten countries with established early-warning or horizon-scanning centres. These centres are members of the international horizon scanning network EuroScan (<http://www.public-health.bham.ac.uk/euroscan/>), which exchanges and disseminates information and evaluations of new health technologies internationally.⁴

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The ANZHSN consists of two main evaluator groups: the National Horizon Scanning Unit (NHSU) from Adelaide Health Technology Assessment; and the New and Emerging Techniques—Surgical (NET-S) group from ASERNIP-S, with assistance from New Zealand Health Technology Assessment to deal with the overflow of work. The NHSU provides evaluations on:

- *Devices*: non-diagnostic equipment; drug delivery systems; monitoring systems; therapeutic inserts; prostheses, tissue regeneration and bio-engineered products used on the surface of the body; non-diagnostic imaging; and biomaterials.
- *Diagnostics*: imaging methods and equipment; testing methods; implants; interventional diagnostic procedures (eg, new biopsy techniques); gene-based diagnostics; genetic markers; tumour markers; and screening tests.
- *Programs*: population-based health promotion and public health activities (eg, immunisation and screening programs); novel health service delivery or information management programs; or programs aimed at individuals (eg, rehabilitation, physiotherapy, psychotherapy, radiotherapy).

NET-S provides evaluations of new surgical techniques and technologies. Pharmaceuticals, vaccines and blood products are currently not assessed by the ANZHSN.

How does horizon scanning work?

A number of sources are searched daily, weekly, fortnightly or monthly for new and emerging health technologies. These sources include high impact, peer-reviewed journals, for example *The Lancet* and the *British Medical Journal*, Internet health news alerts including Reuters Health and Medscape, and databases, such as the United States Food and Drug Administration pre-market approval database. Technologies that have been identified as new and emerging are then classified, with a focus on their relevance to the health systems of Australia and New Zealand. The classification list below is designed to provide information on the stage of the technology's development within Australia.

- *Not yet emerged*: Technologies that are not in use in Australasia.

- *Experimental*: Technologies that are used in scientific studies with small numbers of patients; devices in proof-of-concept or safety trials; and surgical procedures limited to use in clinical trials in research centres.
- *Investigational*: Devices that are in efficacy trials and surgical procedures that are limited to use in a few specialist centres; usually conducted in single or small centres.
- *Nearly established*: Surgical procedures and medical devices that are used outside clinical trials but with unresolved issues or controversy concerning clinical benefit and diffusion.
- *Established*: Technology that is licensed or available for marketing and in general use outside clinical trials; multicentre use; or technology is readily accessible.
- *Established but changed indication or modification of technique*: A well-established technology that is being used for a changed indication or has been modified.
- *Should be taken out of use*: The procedure or technology is unsafe or an alternative procedure or technology is more effective on the basis of evidence-based assessment.

Once classified, new health technologies are examined to determine whether they meet a “prioritising threshold”, in that the technology is likely to emerge in the Australasian health scene within 3 years and satisfies at least one of the following criteria:

- The technology has obvious safety or ethical issues or controversies (eg, the implantation of left ventricular assist devices for patients not eligible for cardiac transplantation);
- The technology has not been assessed and is rapidly diffusing throughout the Australian or New Zealand health system (eg, combined positron emission tomography-computed tomography scanners);
- The technology is applicable to a large proportion of the Australian or New Zealand population and may have considerable clinical or cost impact (eg, a rapid point-of-contact diagnostic test for heart failure); or
- The technology is applicable to a small proportion of the population but has obvious and far-

reaching benefits (eg, magnetic resonance imaging for women at high risk of breast cancer).

Technologies that do not satisfy any of these criteria may be reviewed periodically or archived. However, if new technologies do reach the priority threshold a preliminary assessment (consisting of about two to three pages detailing background information, clinical burden of disease, diffusion, current comparators or treatment alternatives, safety, effectiveness and cost data, and ethical considerations) is written. ANZHSN recommendations are formulated on the evidence base and are forwarded quarterly, along with the preliminary assessment, to HealthPACT. A decision is taken by HealthPACT to:

- Archive the technology;
- Monitor the technology in 6–12 months time for further evidence;
- Request a horizon scanning report from the ANZHSN;
- Refer the technology to relevant specialist organisations or bodies; or
- Refer the technology to the MSAC for a full health technology assessment.

A horizon scanning report is a “state-of-play” assessment that presents a trade-off between the value of early, uncertain information versus the value of certain, but late, information that may be of limited relevance to policy and decision makers. Information presented in a horizon scanning report is an expanded version of the preliminary assessment following a more extensive search of the current literature. Due to the rapid nature of horizon scanning, these reports are not exhaustive and are often based on low-level evidence. They are not definitive assessments of the safety, effectiveness, ethical considerations and cost effectiveness of a technology but are aimed at informing policy and decision makers.

The ANZHSN has been operational for 11 months. During this time, the NHSU and NET-S have identified and registered 256 new technologies. Identified technologies are diverse, ranging from population screening programs for haemochromatosis using magnetic resonance imaging, and devices such as the GlucoWatch® for the non-invasive monitoring of glucose levels, to

various forms of artificial skin for burns and wounds, and diagnostic tests such as the Elecsys® heart failure kit. From these identified technologies and procedures, the NHSU and NET-S have submitted 89 preliminary assessments to HealthPACT. Of these preliminary assessments, 16 horizon scanning reports have been produced or are under way, eight have been referred for a full health technology assessment, and two have been submitted to specialists’ bodies for their attention. All horizon scanning reports considered by HealthPACT will be available on a dedicated website (<http://www.horizonscanning.gov.au/>), and impact summaries based on the horizon scanning reports will be submitted to the Euro-Scan database.

The Horizon Scanning Network facilitates close links between the evaluation of emerging technologies and health policy makers. The early identification of health technologies provides a valuable service. It is hoped that in the future the Horizon Scanning Network will initiate primary research into tracking the development and diffusion of technologies in Australia and New Zealand and assess the impact of horizon scanning on the decision-making process.

Competing interests

The Australian Government contracts Adelaide University to provide horizon scanning services through Adelaide Health Technology Assessment.

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(Received 7 Feb 2005, accepted 25 Aug 2005)

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