



# ANZHSN Bulletin

'New health technologies identified through the Australia and New Zealand Horizon Scanning Network (ANZHSN)'

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## In Profile: Queensland's Health Technology Assessment Program

With new and emerging technologies developing more frequently through out the world, the Queensland HTA Team are endeavouring to ensure that Queenslanders are able to receive medical treatment which utilises only the best technology.

The Queensland Health Technology Assessment (HTA) Program, in a short time, has developed a proactive, robust and transparent process. With Queensland Health investing \$5 million annually, through the New Technology Funding Evaluation Program, the team coordinates new technology submissions and provides support to the Queensland Policy and Advisory Committee for Technology (QPACT) and the 3 district advisory committees for new technology.

### THE PROGRAM

The Queensland HTA program consists of 2 tiers, where assessments are carried out in the State and Districts. The model assesses and funds new technologies at a state level but also assists Health Service Districts by reviewing and providing advice on technologies that are not necessarily new to Queensland but are new to a particular geographical area and require a local assessment.

### THE TEAM

The dynamics of the Queensland HTA Team includes of a varying set of skills including epidemiology, health economics and policy officers, with each team member contributing to the ongoing and future, success of HTA within Queensland. We believe that these skills will build the capacity of the team to provide solid policy on health technology and actively perform HTAs. Queensland acknowledges the experience of the Victorian New Technology Program, which has been established for almost 9 years, and thanks them for their support and guidance.

In the past 12-months the Team has undergone 2 rounds of Expression's of Interest, involving an intense due diligence process where assessment of new technologies include a decision making framework. The Team is also proactive in becoming aware of the positives and negatives by viewing, first hand, the processes adopted behind the use of devices and procedures. Other functions of the program in Queensland is the identification of new and emerging health technologies, and help in planning for best practice across Queensland Health facilities.



### RECENT DEVELOPMENTS

Governments increasingly need to make decisions within tight resources. HTA bridges the gap between research and policy making and this as an opportunity to help build this resource for all decision makers in health care. The Queensland HTA Team are privileged to take over the HealthPACT Secretariat and hope to help shape the program to be a service for jurisdictions to help guide the adoption of technologies .

# Closed-loop insulin delivery system ('artificial pancreas') for management of hypoglycaemia in type 1 diabetics

Closed-loop insulin delivery is a system that acts as an 'artificial pancreas'. The system utilises the coupled technology of real-time continuous glucose monitoring and insulin pumps for improved glucose control among type 1 diabetes patients. These closed-loop devices mimic non-diabetic insulin delivery via real-time control algorithms, rather than by pre-programmed rates that govern insulin pumps alone.

## HOW IT WORKS

The algorithms used in these systems vary but primarily work by initialising an individual's insulin sensitivity from basal insulin requirements, then adapting the estimate in real-time on the basis of administered insulin and resulting sensor glucose concentrations (1). In short, the closed-loop system comprises a pump which continuously infuses rapid-acting insulin at a basal level, whilst at the same time the glucose sensor continuously monitors glucose levels, with the infused insulin dose being adjusted according to the glucose levels obtained. Figure 1, illustrates how the devices are worn.



Image: The Medtronic Paradigm Veo™ System (Medtronic Australasia 2010). Currently marketed to private patients in Australia

## THE EVIDENCE

Literature detailing the use of closed-loop insulin delivery is extensive and many small studies were identified. Therefore, this summary only considered larger studies and Australian research in determining whether closed-loop systems offer safe and improved management of hypoglycaemia, relative to the appropriate comparators.

An Australian RCT study (n=62, age 13-40) investigated whether type 1 diabetics can adapt to and employ real-time CGM to increase their own glycaemic control (2). The effect of patient-led closed-loop control was compared with standard

insulin pump therapy. Time spent in the target glycaemic range of 4.0 to 10mmol/L was the primary outcome. Secondly, differences in HbA1C, proportion of time spent in hypoglycaemia ( $\leq 3.9$ mmol/L) and hyperglycaemia ( $\geq 10.1$  mmol/L), and glycaemic variability were assessed. Participants in the intervention group received standard instruction on using CGM enabled pumps from the same instructor across all sites. Systems were calibrated using capillary blood glucose and alarm features were set to alert the user at sensor glucose levels less than 4.5 and greater than 12.0mmol/L. Subjects were finally instructed to perform confirmatory blood glucose measurements if real-time data suggested administration of therapeutic action (e.g. correction bolus of insulin).

Median time spent using the sensor component in the intervention group was 63% (range 18-94%) during the 3-month study period. Eleven out of 25 participants were compliant with the protocol requirement of  $\geq 70\%$  sensor use. Overall, HbA1C reduction was achieved by 16 out of 26 (64%) participants who used closed-loop management, compared with only 5 out of 29 (17%) participants who used standard pumps. No differences in time spent in hypoglycaemia were observed between the study groups, showing that although blood glucose was better overall due to closed-loop management, neither treatment was more effective in avoiding hypoglycaemia.

Results of the remaining studies can be accessed from the [Horizon Scanning web site](#).

## FUTURE STEPS

The modest levels of evidence demonstrate the potential for further development and accessibility of closed-loop insulin delivery. However, HealthPACT have concerns about the reliability of the sensor components and therefore wish to monitor the technology, which will be reviewed in 24 months time.

Written by Benjamin Ellery (AHTA)

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# Multielectrode Basket Catheter

Atrial fibrillation (AF) is a common heart rhythm abnormality (arrhythmia) affecting the upper chambers of the heart (atria) (1). Normal conduction of electrical discharge within the heart is highly synchronised. Abnormal electrical discharge within the heart results in disorganised and asynchronous muscle contraction, compromising heart function. The Constellation multielectrode basket catheter (MBC) (Boston Scientific, Boston, USA) is a diagnostic device which provides 3D mapping of abnormal electrical discharges within the atria of the heart in patients with AF. In addition, the MBC has a navigation function used to guide targeted ablation of tissue generating abnormal electrical discharge.

## HOW IT WORKS

Common locations of abnormal electrical discharge include the left atrium, pulmonary veins (PV) and pulmonary vein-left atrial junction. Curative ablative therapy aims to isolate the tissue generating the abnormal electrical discharge and in so doing eliminate the most commonly cited safety issue of catheter ablation is the risk of PV stenosis, which may occur in as many as 40% of cases (2). Accurate identification and mapping of the electrical conduction pathways from the left atrium into the PVs is important. Once these pathways are identified, accurate targeted ablations may be performed in order to achieve PV isolation.

A recent innovation for mapping electrical pathways is the complex fractionated atrial electrogram. The procedural approach appears to differ between studies; however, generally it aims to identify atrial sites which exhibit multi-phasic and rapid activation (3). A more established option is the electroanatomical mapping technology. An electroanatomic mapping system uses impedance sensing between an externally applied electric field and the electrodes of an inserted catheter to construct 3D geometry and map focal arrhythmias in real time (4). A variety of catheter types can be used in conjunction with an electroanatomic mapping system.

The MBC is a new type of catheter for use with an electroanatomic mapping system. It provides a 3D reconstruction of the PV activation from the ostium to deep inside the PV (2). The MBC can identify the location of the PV ostium and of discharging foci in the PV during a single beat (5).

## THE EVIDENCE

Early evidence for the MBC indicates the diagnostic device is feasible, safe and effective. Current literature reports successful deployment of the MBC to all right and left upper and all left inferior pulmonary veins (PVs), but difficulty was encountered when attempting to access right inferior PVs in three of the included studies. One study also reported that access to the atrium was unavailable in 3 patients. One study reported that overlapping or bunching of the MBC's splines occurred when mapping vessels smaller than 12mm, which resulted in artifacts on the electrograms.

Two studies reported that non-PV AF foci were identified using the MBC. This is significant, as the literature indicates that the other major catheters on the market are unable to identify non-PV AF foci. No issues regarding the accuracy of the 3D images delivered by the MBC via a navigation system were reported in any studies. Overall, where reported, the studies included reported a high success rate (99-100%) for minimally invasive PVI guided by the MBC.

Results may be accessed via the [Horizon scanning web site](#).

## FUTURE STEPS

Based on the evidence available to date, it is recommended that the MBC be monitored for 12 months due to its ability to identify breakthroughs, confirm the elimination of breakthroughs and identify non-PV AF loci. Additional research is necessary as it is unclear if the attached navigational system with MBC translates into better patient outcomes.

Written by Stefanie Gurgacz (ASERNIP-S)

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# Intra-operative MRI for neurosurgical procedures

Up until recently interventional or intra-operative MRI (ioMRI) scanners ranged in strength from 0.2 to 1.5 T (1), however larger units are now operational (3.0 T). The enhanced soft tissue contrast gained with MRI and the absence of ionising radiation makes it an ideal imaging modality, compared to CT and X-ray, when performing interventional procedures such as neurosurgery which require multiple images (2). Clinical indications for the use of ioMRI are primarily neurosurgical, however they may be used for interventional cardiology procedures and breast biopsy in the near future.

## HOW IT WORKS

The advantage of ioMRI compared to pre-operative imaging is that navigational accuracy is maintained throughout the procedure, allowing surgeons to take into account dynamic changes or normal brain shift that may occur during surgery and compensate accordingly. Brain shift may occur during surgery due to the removal of tumours, the development of brain oedema, loss of cerebrospinal fluid or simply the force of gravity, which may result in the shifting of navigational "landmarks" of up to a centimetre. The use of ioMRI allows the surgeon to compensate for these shifts in real-time (3). In addition, ioMRI has been proposed to improve surgical margins during the removal of tumours when compared to procedures which use pre-and post-operative imaging, which may decrease the repeat resection rate. Intra-operative imaging may identify complications of neurosurgery, including the formation of haematomas, before wound closure (4).

## THE EVIDENCE

In a comparative study ioMRI advanced navigation (real time imaging) was compared to ioMRI scan guidance using a 0.5-T Signa scanner (6). Of the 64 patients undergoing tumour resection, 41 resections were performed by advanced navigation and 23 were performed by scan guidance. Of the 31 patients undergoing biopsy, 18 biopsies were performed by advanced navigation and 13 by scan guidance. The procedures were conducted by 3 experienced surgeons and there was no significant difference between the 2 resection methods, the procedure time between the 2 resection methods or between the 2 biopsy methods. However, the difference in procedure time between the 2 biopsy methods was significant  $p < 0.05$ .

Only one study explicitly reported on the diagnostic accuracy of ioMRI (0.12-T) compared to 48-hour post-operative imaging with a higher field MRI scanner (1.5-T) in patients with



intracranial tumours. The sensitivity (74%) and specificity (97%) was good for the low field scanner which may be expected to produce an image of lower quality and resolution. An excellent positive predictive value of 97% per cent indicates that ioMRI correctly identified the majority of patients with residual tumour. As expected, all studies reported extra time for the incorporation of ioMRI during neurological procedures. The amount of extra time depended on size and the mobility of the MRI scanner.

Results of the remaining studies assessed may be accessed via the [Horizon Scanning web site](#).

## FUTURE STEPS

ioMRI allows clearer distinction of the surgical margins compared to the surgeon's judgement alone, however how this delineation of margins translates into improved survival and patient outcomes is not supported by the studies included in this assessment. Controlled studies assessing the impact of ioMRI on patient management and outcomes are required, as well as cost-effectiveness studies.

Written by Linda Mundy (AHTA)

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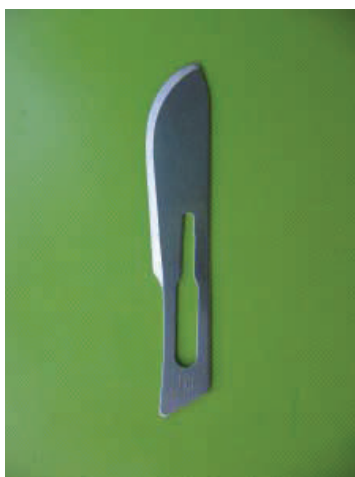
# Cryotherapy for Oesophageal Cancer

Barrett's oesophagus (BO) is the pre-malignant predecessor of oesophageal cancer, with 1-3% of patients with BO later being diagnosed with oesophageal cancer (1). Once oesophageal lesions are cancerous the level of invasion is the determining factor of treatment success and disease remission. Low pressure liquid nitrogen endoscopic cryotherapy is indicated for the eradication abnormal mucosa in patients with BO and oesophageal cancer. The use of cryotherapy in an outpatient setting provides an alternative therapeutic procedure for the treatment of BO.

## HOW IT WORKS

Cryotherapy is an endoscopic treatment modality which achieves targeted cell death via direct cell injury and vascular stasis (stagnation or cessation of blood flow). The structure and function of cells is disrupted when temperatures reach the hypothermic range, with cell metabolism progressively halting as the temperature rate falls. With time the cell is so adversely affected that cell death may result even though the cell is not exposed to freezing temperatures. The vascular stasis achieved by cryotherapy is similar to that observed in frostbite (3). The loss of circulation and lack of oxygen is considered the main mechanism of cell injury in cryotherapy. Notably, vascular stasis is also responsible for death of surrounding tissue following cryotherapy.

There are 2 different cryotherapy devices used in the GI tract. Some devices use a pressurised gas released at high velocity, whilst others use liquid nitrogen at ambient pressure and alternatively very low catheter tip pressure. The purported advantage of the ambient pressure system is that it uses liquid nitrogen at a temperature of  $-196^{\circ}\text{C}$  and the very low catheter tip pressure enables the entire cryoablation procedure to be



performed under direct endoscopic visualisation in a controlled fashion.

## THE EVIDENCE

Early peer reviewed evidence for low pressure liquid nitrogen suggests that this treatment modality is feasible, safe and effective. Reversal of disease at 12 months was experienced in 68-100% of all patients treated. Of the studies reporting major adverse events only one major complication (involving a pre-existent comorbidity) was encountered in a total of 87 patients included in this summary. Cryotherapy is also reported as an effective adjuvant therapy for multimodal treatment in conjunction with endoscopic mucosal resection, argon plasma coagulation and radiofrequency ablation achieves. Recurrence was reported in 2/9 (22%) of patients by Johnston et al (4) and 16/30 (36%) patients by Dumot et al (5). Greenwald et al (6) reported 19/49 (39%) patients who had persistent tumour which did not respond to cryotherapy.

For a full summary of studies included for assessment see the [Horizon Scanning web site](#).

## FUTURE STEPS

The current evidence for treatment of BO and oesophageal cancer with endoscopic cryotherapy is weak, limited by small patient cohorts and considerable follow-up losses. Two studies (5, 6) were confounded by concurrent treatments, including other endoscopic modalities and/or systemic chemotherapy or radiation therapy. Nevertheless, there is early indication that this treatment modality is feasible. This summary will be referred to the MSAC.

Written by Stefanie Gurgacz (ASERNIP-S)

## REFERENCES

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# Rapid molecular assays for the diagnosis of sepsis and identification of sepsis causing pathogens

Sepsis is a systemic response to a localised but serious infection which is usually bacterial in origin but may be fungal. While the incidence of sepsis appears to be increasing, mortality from sepsis is decreasing, however sepsis still remains a major cause of death in intensive care units (ICU's) (1, 2). Prompt intravenous administration of broad-spectrum antibiotics within 1-hour of diagnosis is recommended before confirmation of a positive result from blood culture. However, obtaining a sample for culture is essential prior to commencement of antibiotic therapy. Several companies market rapid molecular tests for the diagnosis of sepsis and the identification of sepsis causing pathogens.

## HOW IT WORKS

Novel molecular assays allow for the rapid detection and identification of infection-causing bacteria in a much shorter time-frame. The Prove-it™ sepsis assay, the first microarray-based assay, is capable of identifying up to 50 Gram-positive and Gram-negative species of bacteria which cause the majority of sepsis cases (>90%), as well as identifying *mecA*, the antibiotic resistance marker used to identify methicillin resistant *Staphylococcus aureus* (MRSA) (3, 4). Of the potential sepsis-causing pathogens not detected by the Prove-it™ assay, most account for less than one per cent of all positive blood cultures. However, several clinically relevant pathogens are not detected by the Prove-it™ assay including *Streptococcus viridians*, *Candida* spp and coagulase-negative staphylococci. (5). Blood samples are cultured using conventional techniques and when samples are confirmed to be positive for sepsis (24-48 hours), DNA is extracted from 0.5ml of the positive culture. The assay takes approximately 3 hours to complete. However, it should be noted that the Prove-it™ assay does not improve the *time to diagnosis* of sepsis but does improve on the *time to positively identify the organism* causing the infection (3hrs vs 324 for conventional blood culture), which may be important for the treatment and management of patients (3,4).

## THE EVIDENCE

A large cross-classification study conducted in Finland reported on the results of 3,318 blood samples obtained from patients with suspected sepsis. There were 2,107 (64%) positive results by culture, and of these 1,807 (86%) were found to be positive by the Prove-it™ assay, indicating that 14% of positive sepsis samples were caused by bacteria *unable*

to be classified by the Prove-it™ assay. Of those samples positive by blood culture, 664 were a Gram-positive and 1066 were a Gram-negative bacteria species covered by the pathogen panel of the Prove-it™ assay. The Prove-it™ assay detected 645 of the 664 Gram-negative samples, a concordance of 97% for those bacteria covered by the Prove-it™ panel. Similarly there was a concordance of 97 for the Gram-positive bacteria covered by the Prove-it™ panel. There were 52 false positives, with 18 of these considered true false positives and the remaining 34 attributed to contamination or sampling errors. These samples were removed from the final analysis to give a specificity of 99%, however if these samples were included in the analysis, the specificity still would be excellent at 97%. Sensitivity of the Prove-it™ assay was 95%. There were 94 false negatives (5.3%). Culture results identified 1,670 samples which were infected by bacteria that were covered by the Prove-it™ panel, 304 samples which were not covered and 133 samples which were infected by more than one bacteria covered by the panel. The Prove-it™ assay had difficulty resolving more than half of these polymicrobial samples, with 60 of these samples being noted as false negatives and 11 as false positives. Turnaround assay times were noted for a small subset of samples (n=39), with the median time difference between the Prove-it™ assay and conventional culture of 18 hours and 19 minutes. Being able to identify the bacterial species responsible for the sepsis-causing infection 18 hours earlier may be of clinical importance in the management of some patients.

## FUTURE STEPS

The Prove-it™ assay should not be used as a replacement for conventional blood culture, however it is a useful adjunct in the determination of sepsis-causing infections.

Written by Linda Mundy (AHTA)

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# Flexible sigmoidoscopy for colorectal cancer screening

Flexible sigmoidoscopy (FS) has widespread global use for investigation of the lower colon, often after bowel or rectal symptoms have already occurred. Utilisation of the technology as a screening tool has been the subject of continuing research and debate, but only now are the results of randomised trials becoming available. Interest in screening with sigmoidoscopy continues as more evidence for effectiveness over faecal occult blood testing (FOBT) methods emerges. FS has recently shown higher sensitivity for detection of early neoplastic lesions which provides the basis for re-consideration of its place in colorectal cancer (CRC) screening.

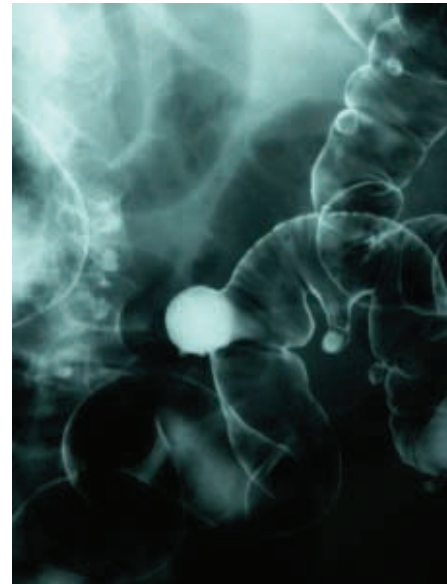
## HOW IT WORKS

A sigmoidoscope is used to examine the lower colon and rectum for early signs of cancer and the removal of pre-cancerous polyps, or to investigate alternative causes of rectal bleeding, changes in bowel habit, and other symptoms. Guaiac-based and immunochemical FOBT tests are the most common standards by which sigmoidoscopy should be compared.

## THE EVIDENCE

A large RCT (1) randomised 170,432 eligible men and women for invitation to FS screening, or to a usual care control group which was not contacted. The objective was to assess whether once-only FS between 55 and 64 years of age can substantially decrease CRC incidence and mortality. In the final analysis, there were 112,939 in the control group and 40,674 in the intervention group. In the intervention group, 2,131 (5%) were referred for colonoscopy after detection of high-risk polyps. From the 170,038 persons in the final analysis cohort, 2,674 CRCs were reported from 2,524 participants, 1,818 (control) and 706 (intervention). The majority of participants had one CRC (2,438), however 86 participants had two or more cancers, 34 of whom had both proximal and distal cancers. Distal cancers alone were diagnosed in 1,192 controls and 386 persons in the intervention group (126 screen detected). Proximal cancers were diagnosed in 628 controls and 311 persons in the intervention group (14 screen detected).

Data from the Office for National Statistics (UK) indicated that mortality from CRC was reduced by 31% in the intervention group, as per intention-to-treat analysis. The investigators calculated the number of people needed to be screened to prevent one CRC diagnosis and one CRC death to be 191 (95%



CI [145, 277]) and 489 (95% CI [343, 852]), respectively. Kaplan-Meier estimates of cumulative incidence for all colorectal and distal cancers in the per-protocol analysis were higher in the intervention than in the control group for the first four years of follow-up. This is due to the early detection of prevalent cancers. After 4-years, cumulative incidence rates for the control group began to climb above the rate observed for the intervention group. There was no between group difference observed at any follow-up time for proximal CRC.

Full details may be accessed via the [Horizon Scanning web site](#).

## FUTURE STEPS

If FS is to be promoted over FOBT, then determination of whether the level of invasiveness and adverse outcomes are acceptable for the level of benefit gained will be necessary. Based on the high level of evidence it would appear that FS is a screening method that confers significant reduction in incidence of and mortality from CRC when compared to a non-screened population, however resistance to the uptake of this technology is likely due to its invasive nature.

Written by Benjamin Ellery (AHTA)

## REFERENCES

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# Image-guided intensity-modulated radiotherapy: Executive Summary

Techniques in radiation therapy for the treatment of tumours are undergoing continual refinement. In conventional radiation therapy, a margin of extra tissue around the tumour is irradiated to therapeutic levels, to ensure that the target tumour receives the full dose of radiation. This leads to a higher volume of normal tissue being irradiated, which can cause increased toxicity and can limit the amount of radiation that can be safely delivered. Conversely, insufficient margins during radiation therapy may lead to areas of the tumour not receiving the full dose, due to organ motion or patient positioning errors.

Image guidance aims to improve the accuracy in targeting tumours, while minimising toxicity to surrounding normal tissues by using non-uniform radiation beam intensities to allow modulation of the dose distribution to the target tumour and adjacent normal tissue. Image guidance improves the accuracy and precision of intensity-modulated radiation therapy (as well as other radiotherapy techniques) by allowing clinicians to detect changes in the tumour position, shape, or size, as well as changes in patient anatomy, and organ movement prior to treatment, so that adjustments to the patient's position or treatment beam position can then be made. A variety of image-guidance systems may be employed.

The majority of studies available regarding the use of image-guided intensity-modulated radiation therapy were of

low level evidence and reported outcomes for the treatment of prostate tumours. Overall, image-guided intensity-modulated radiation therapy, regardless of the imaging technique applied, was not associated with major toxicity and in one study it was demonstrated that prescription dose was not associated with toxicity outcomes. Control of dose distribution to the tumour appeared to be achieved in many of the included studies and, symptom palliation and disease progression outcomes were found to be favourable. The comparison of different imaging techniques found megavoltage cone beam computer tomography and intra-prostatic seed markers provided better imaging accuracy than ultrasound-based approaches.

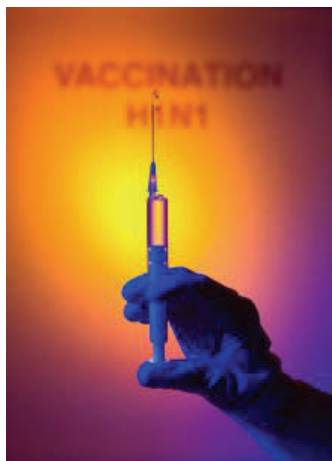
Further comparative evidence is required to establish the effectiveness of image-guided intensity-modulated radiation therapy. However, the current evidence available suggests that by reducing treatment related uncertainties, image-guided intensity-modulated radiation therapy may allow the reduction of treatment margins, thus reducing exposure to radiation of normal tissue surrounding the tumour and treatment-related toxicities. This may allow for safe additional dose escalation to the tumour, increasing the likelihood of tumour eradication.

Written by Luis Zamora (ASERNIP-S)



## NEWS FLASH

### Flu Patches - A new technology may replace needles for influenza vaccinations.



Skin patches that release vaccine into the skin through “microneedles” may be an option to replace needles for influenza vaccinations. The microneedles are constructed from a biocompatible polymer which penetrate the skin and release the vaccine and then dissolve in a few minutes. Studies in mice have shown that while both technologies are effective in fighting off an infection 30 days after vaccination, vaccination with skin patches were more efficient in lowering the level of the virus in the lungs. Prausnitz et al, have hypothesised that the skin may be better able to launch an immune response due to the number of immune response cells in the skin.

The advantages of the skin delivery method include painless vaccinations, it eliminates the need to dispose of needles and easier to administer for remote and developing populations. The disadvantage may be the cost of the skin patches.

# SHORT COURSE IN HEALTH TECHNOLOGY ASSESSMENT

- From Innovation to Disinvestment

DISCIPLINE OF  
PUBLIC HEALTH



## What is HTA?

Health technology assessment (HTA) is a multidisciplinary process that systematically assesses the medical, social, ethical, and economic implications of the development, diffusion and use of health technology. The overall aim of HTA is to systematically and objectively assess evidence to inform decision makers in their formulation of health policies and provide patients with equitable access to safe, effective, high quality health technologies that achieve best value.

## Course Structure

The short course in Health Technology Assessment will be taught as a mix of interactive teaching, hands-on activities and lectures. The first three days will cover the following core subject matter:

- What is HTA?
- Policy framework for HTA
- Developing policy relevant questions
- What constitutes evidence?
- Search for evidence
- What do you do with the evidence for questions about need, safety and effectiveness?
  - Assessing quality
  - Synthesising evidence
- Economic aspects of health technology assessment
- Ethical and, social aspects of HTA
- Challenges for the future

The last two days include modules covering:

- Horizon scanning for new and emerging health technologies
- Meta-analysis
- Applying global evidence to local decisions
- Deliberative methods for community engagement in HTA

Participants may enrol in the first 3 days only, the whole course and/or selected modules.

## Faculty



**Professor Janet Hiller**

Professor Hiller is a world leader in the field of HTA, having served on a number of national and international bodies.

**Ms Tracy Merlin**

Ms Merlin is an HTA practitioner, methodologist and clinical epidemiologist, experienced in conducting, supervising and teaching HTA.



**Associate Professor John Moss**

A/Prof Moss is a leader of the AHTA team providing commentaries to the Australian Government on pharmaceutical subsidies.

**Dr Jackie Street**

Dr Street has research experience in innovative methods of community engagement to inform HTA and health policy.



**Professor Annette Braunack-Mayer**

Professor Braunack-Mayer is a Professor of Ethics in the Discipline of Public Health and consultant ethicist to AHTA.

**Ms Linda Mundy**

Ms Mundy has extensive experience in HTA specialising in Horizon Scanning, in particular diagnostics and devices.



**Professor Jon Karmon**

Professor Karmon is a Professor of Health Economics, specialising in the economic evaluation of health care technologies.

For further information on the course, including fees and registration, please visit the below website:  
[http://health.adelaide.edu.au/publichealth/teaching/intensive\\_courses.html](http://health.adelaide.edu.au/publichealth/teaching/intensive_courses.html)



## News Flash

### Cancer vaccine delivers goods

The cervical cancer vaccine Gardasil can only protect women who are yet to be infected with the four main cancer-causing strains of the human papillomavirus, which means it is most effective when given to young girls or women who have yet to become sexually active. A study by the Victorian Cytology Service shows that since the vaccine was introduced in 2007, cases of high-grade cervical lesions, which are not yet cancerous but carry a high risk of becoming so, have fallen in females aged up to 20 years. This decrease was not noted for older women. The study found that the rate of high-grade cervical abnormalities in women aged 18-20 years was 1.2 per cent in 2006, however in 2009 this rate had fallen to 0.99 per cent. Among girls aged under 18 the drop was more pronounced, with rates falling from 0.85 per cent in 2006 to 0.22 per cent in 2009.

Australia was the first country in the world to roll out population-wide vaccination with Gardasil. The program in Australia provided Gardasil free to girls aged 12 to 13, with a catch-up program available for women aged 13 to 26. A second vaccine, Cervarix, has since also become available for private purchase.



Further information on the health technologies included in the Bulletin can be accessed on the following link:

<http://www.horizonscanning.gov.au>



Australia and New Zealand Horizon Scanning Network  
**ANZHSN**  
 AN INITIATIVE OF THE NATIONAL, STATE AND TERRITORY GOVERNMENTS OF AUSTRALIA AND THE GOVERNMENT OF NEW ZEALAND

## PRODUCTION NOTES

*The ANZHSN Bulletin* is published by Adelaide Health Technology Assessment (AHTA) on behalf of the Health Policy Advisory Committee on Technology (HealthPACT) and funded by the Australian Government Department of Health and Ageing.

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Contact us with medical or surgical technologies, procedures, or health programs that are new or emerging in Australia.

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