Health Technology Assessment in Queensland

Report 2009-2010

Report on the Health Technology Assessment Program in Queensland

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Acknowledgements

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1.0 Background

Advances in medical technology have brought large benefits to the health sector but have also been a major driver of increased health spending in recent years. Developments in health technology are occurring at a rapid pace which creates a challenge for health systems to operationalise these technologies according to evidence-based practice and other disciplines including health economics. Overall, advances in medical technology have provided value for money however the cost-effectiveness of individual technologies in practice varies widely and for some is unknown (Productivity Commission, 2005). Health technology and its management are therefore leading priorities for policy-makers, hospital managers and academic researchers.

Within the public health system, decisions are routinely taken about the adoption of new health technology and new procedures as more advanced and improved health technologies become available. While there are robust processes in place to assess technologies at a national level, there are limited processes for reviewing the clinical and cost effectiveness of new technology at a State or local level.

The procurement of new technology must be evaluated holistically to ensure the sustainability of the health system, across a range of factors, including clinical need, safety, clinical effectiveness, value for money, social and ethical values and organisational feasibility (including workforce considerations). A formal Health Technology Assessment (HTA) process can assist in maximising the health benefits from advances in medical technology. The rationale behind HTA is to use the available clinical and cost-effectiveness evidence to guide decision makers on how to adopt new technologies and to help in maximising health outcomes within budget constraints (Gallego and Kelleher 2009:135).

Until late 2005 there was a HTA Team located within the Division of the Chief Health Officer in Queensland Health. This team was dissolved as part of the wide-ranging health system reforms introduced in Queensland around this time. Queensland Health however has since developed a new statewide HTA process that was implemented in September 2009.

Queensland Health invests $5 million in new health technology in public hospitals annually through the New Technology Funding Evaluation Program which is overseen by the Queensland Policy and Advisory Committee on New Technology (QPACT). Queensland's HTA Program has been established utilising key disciplines of epidemiology, health economics, health policy, clinical expertise and stakeholder engagement. Hospital activity associated with funded new technologies will be monitored quarterly, with 24 months activity data to evaluate the technology. Following evaluation, a decision is made regarding whether or not to continue funding the technologies through mainstream funding mechanisms (e.g. casemix).

This investment covers the cost of implementing new health technology and collects outcome evidence in a 'safe to fail' environment. This means that if a technology does not live up to expectations and/or fails, it does so with minimal risk and the system can recover. In this scenario, the investment has been minimised and the evidence generated would support the current/standard practice and not the new technology. Depending on the outcomes of the evaluation, two options are available:

1. The current/standard practice is substituted (to some extent) by the new health technology
2. The current/standard practice remains the norm

Queensland Health also has the ability to commission full Health Technology Assessments through external consultants (resources permitting) or in-house by the central HTA Secretariat.

The Queensland HTA 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. This is particularly important given Queensland's geography and the differences between the rural/regional and metropolitan health facilities, as well as the gap in access to healthcare between Indigenous and non-Indigenous Queenslanders.

The Queensland HTA Program is in its early stages of development, but has established a proactive, robust and transparent process to date regarding its approach to assessing the evidence on technologies and its process in making decisions on the adoption and diffusion of new health technologies.

Queensland has had the opportunity to draw on the experience of the Victorian New Technology Program which has been established for almost 9 years. The Department of Health in Victoria has provided invaluable support and advice in developing the Queensland model, and the two states continue to share information and advice on new technologies. International HTA agencies were also utilised in the project development stage of the Queensland model.

The aim of this report is to document the process and progress of Queensland's HTA Program for 2009-2010 and the future direction of the program in ensuring the effective use of resources and the safe implementation of health technology in Queensland's public health system.

2.0 The Queensland Process

2.1 The scope of the Health Technology Assessment (HTA) Program

The scope of the Queensland HTA Program includes therapeutic interventions such as prostheses, implantable devices, medical and surgical procedures or other therapeutic interventions. The scope of the technology assessed by the process might also include some high cost equipment and other devices used in the treatment and care of patients (e.g. interventional radiology or new diagnostic equipment).

Technologies are evaluated on a statewide basis and have statewide application, where central planning is necessary. More narrowly applicable technologies will be examined at the District level.

The program also includes the coordination and management of statewide superspecialty services in Queensland, which are primarily low volume, high cost specialist services that are provided in no more than two facilities.

2.2 Structure of the HTA Program

The Queensland HTA Program is structured around a governing committee and three advisory committees:

- The Queensland Policy and Advisory Committee on New Technology (QPACT)
- The Metro North for Central Queensland Advisory Committee on New Technology (MNCQACT)
- The Northern Queensland Advisory Committee on New Technology (NQACT)
- The Southern Queensland Advisory Committee on New Technology (SQACT)

The centralised HTA Team is located in the Access Improvement Service (Centre for Healthcare Improvement) and provides secretarial support to these four committees. The team includes:

- Director
- Manager
- Principal Policy Officer – Health Economics
- Principal Policy Officer
- Senior Epidemiologist
- Senior Policy Officer
- QPACT Chairperson (0.2FTE)

The QPACT Chairperson is appointed on a two yearly basis to lead QPACT meetings and provide support to the HTA Secretariat in terms of reviewing applications for new technologies. The Chairperson is also responsible for fostering collaboration with jurisdictional, national and international HTA agencies.

Dr Jenny Whitty, Senior Lecturer in Health Economics at Griffith University has been granted a Smart Future Fellowship awarded by the Queensland Government Department of Employment, Economic Development and Innovation (DEEDI) as part of a co-sponsorship agreement between Griffith University and the Queensland Government through Queensland Health. The fellowship is entitled "Quantifying Community Preferences Surrounding Health Technologies to Inform Decision-Making in Queensland."

The fellowship presents an opportunity for Queensland Health to develop capacity in HTA, health economics and business, and community engagement processes in Queensland. The aim of the project is to develop a systematic process for incorporating consumer engagement processes into Queensland Health's HTA procedures.

Key bodies of work and objectives for the HTA Secretariat

- The implementation of safe and effective new health technologies in accordance with appropriate consultation, workforce training, credentialing and modifying systems in an organised and supportive manner. The New Technology Funding Evaluation Program is a process for undertaking field evaluations and piloting new health technologies in the public health system.
- The use of evidence-based decision-making to provide policy advice on the adoption, diffusion, implementation, evaluation and disinvestment of health technologies.
- Raising awareness of the value of HTA to foster organisational change through the use of District Advisory Committees for New Technology and engagement with key stakeholders.
- Forewarning and planning of new and emerging technologies to assist other Queensland Health units and divisions, including the Health Technology and Equipment Replacement Program.
- Working collaboratively with other States and Territories, the Commonwealth Department of Health and Ageing and international HTA agencies to enhance service capacity and avoid duplication of effort.
- Ensuring equitable access to Statewide Superspecialty Services through the development of a sustainable business model and governace structure, while promoting appropriate planning, specialist training, research and horizon scanning in this area.

Role of the HTA Team in the Access Improvement Service

The HTA Team has recently moved from the Policy, Strategy and Resourcing Division to the Access Improvement Service (AIS) in the Centre for Healthcare Improvement (CHI). The AIS is responsible for leading the patient flow agenda and surgical services strategy in Queensland, and also incorporates the portfolios of clinical ethics, end-of-life care and health technology. This also presents an opportunity for the HTA Team to build on its relationships with the Hospital Access and Analysis Team (HAAT) in terms of

data analysis and reporting, and the Statewide Surgical Services Strategy Team, particularly in fostering relationships with the Statewide Clinical Networks.

The Queensland Policy and Advisory Committee for New Technology (QPACT)

QPACT oversees the New Technology Funding Evaluation Program and provides advice to the Director-General on the adoption and diffusion of new technologies to Queensland.

QPACT members

- Dr Andrew Johnson (Chair), Executive Director of Medical Services, Townsville Health Service District.
- Ms Veronica Casey, District Director of Nursing, Metro South Health Service District.
- Mr Jason Currie, Director, Office of Health and Medical Research.
- Dr John Hill, Director, Clinical Cardiac Pacing and Electrophysiology, Princess Alexandra Hospital.
- Professor Michael Humphrey, Clinical Advisor, Office of Rural and Remote Health.
- Ms Colleen Jen, Director, Planning and Coordination Branch.
- A/Professor Julie McGaughran, Director, Genetics Health Queensland.
- Professor Keith McNeil, CEO Metro North Health Service District.
- Dr Daniel Mullany, Director Intensive Care Unit, The Prince Charles Hospital.
- Dr Julie Mundy, Director of Cardiothoracic Surgery, Princess Alexandra Hospital.
- A/Professor Peter Scally, Director of Radiology, Royal Brisbane and Women's Hospital.
- Dr Peter Schmidt, Consultant Paediatrician, Gold Coast Hospital.

QPACT role

QPACT provides recommendations to Queensland Health regarding the introduction of new technologies into Queensland that are in line with an agreed decision-making criteria including;

- Clinical need
- Clinical benefit (safety and effectiveness)
- Value for money
- Feasibility of adoption in the health system
- Consistency with expected societal and ethical values

QPACT will only consider new technologies that meet the following minimum requirements (inclusion criteria):

- A new technology to be adopted in Queensland's public health sector or a new technology to Australia.

- A new technology that is aligned with departmental and health service priorities.
- The new technology must be registered with the Therapeutic Goods Administration (TGA) for use in Australia.
- The new health technology must demonstrate improvement in clinical outcomes and/or reductions in long-term health costs.
- The new technology application must receive endorsement from the District Chief Executive Officer of the relevant Health Service District.
- A new technology will have a minimum value of $150,000.

QPACT will not undertake activities related to the following (exclusion criteria):

- Prostheses or medical devices not approved for use in Australia by TGA.
- Technologies being funded as part of clinical trials.
- Information technology, unless it is integral to the implementation of the new health technology.
- Pharmaceuticals.

<u>QPACT's key bodies of work</u>

- Overseeing the New Technology Funding Evaluation Program

- Commissioning field evaluations/pilots of technologies where there is potential clinical benefit but some clinical and cost-effectiveness questions remain

- Commissioning Health Technology Assessments (HTAs) (either in-house by the HTA Secretariat or by an external group with the appropriate HTA expertise)

- Policy and strategy – policy and planning for the introduction of new and emerging technologies into Queensland Health

- Horizon scanning for new and emerging technologies

- Providing advice on statewide superspecialty services including the designation of new services and reviewing currently designated services

There are four types of recommendations that QPACT will make. These include:

- To support the new health technology for adoption with a recommendation being made to fund with conditions. This will require Key Performance Indicators to be developed and agreed upon between the Secretariat and the Health Service District.

- To not fund the health technology on the basis that there is insufficient evidence or the current evidence does not currently support adoption.

- To undertake a full Health Technology Assessment on the technology which includes a systematic review and economic evaluation. It is expected that this process will take approximately 6-9 months from submission of this application to a decision. The outcome of the completed HTA will be communicated to the applicant and the Chief Executive Officer of the Health Service District and will form the basis of the advice provided to the Director-General regarding the technology and appropriate funding models.

- To refer a technology to the District Advisory Committees for New Technology if it is more appropriate to be reviewed at a District level. The three District Committees include:
    - The Metro North for Central Queensland Advisory Committee on New Technology (MNCQACT)
    - The Northern Queensland Advisory Committee on New Technology (NQACT)
    - The Southern Queensland Advisory Committee on New Technology (SQACT).

Process

The program is targeted at clinicians, business units and hospital executives to promote innovation and make informed decisions on the adoption and diffusion of new health technologies based on available evidence. The process for the New Technology Funding Evaluation Program includes the following:

- Clinicians/clinical departments and business units apply through an Expression of Interest process.
- Expressions of Interest (EOIs) are received by the HTA Secretariat who prepares a 'rapid review' of the literature available regarding the proposed technology and its comparator.
- QPACT short-lists successful EOIs to progress to a Full Submission.
- Secretariat undertakes due diligence on the Full Submissions which are presented and reviewed by QPACT.
- QPACT uses the agreed decision-making criteria to make a recommendation on which new health technologies to fund (with conditions), not fund, undertake a full HTA or refer to a District Advisory Committee for New Technology for evaluation.
- Applicants and relevant health facility executives/District Chief Executive Officers are then informed of the QPACT decision in the form of a letter from the QPACT Chair.
- Key Performance Indicators for the evaluation process are agreed to between the applicant and the HTA Secretariat.
- A memorandum of understanding is drawn up between the CEO of the Health Service District and the CEO of the Centre for Healthcare Improvement.
- The procurement process for the new technology is undertaken in consultation with the Health Service District and the Health Services Purchasing and Logistics Branch (HSPLB).

Decision-making process

Several studies have shown that a key determinant of a successful health technology assessment uptake is a transparent, fair and consistent decision-making process for the approval and introduction of health technologies (Gallego and Kelleher 2009: 134). A study by Gallego and Kelleher has suggested that more attention to the process of decision-making needs to be given to improve the uptake of HTA nationally and internationally.

QPACT's decision-making process provides the basis for resource allocation within the QPACT budget and is the basis for developing recommendations to Queensland Health concerning investment in, and uptake of, new health technologies in the Queensland public health care system.

Transparency of decisions and accountability to stakeholders are the core principles that underpin this process, which has been adapted from the Ontario Decision-Making Framework. A transparent decision-making process means that stakeholders will have a better understanding of how QPACT makes recommendations concerning new health technology investment, uptake and monitoring in Queensland public health services and ensure this process remains robust.

QPACT's decision-making criteria (Refer to Attachment 1)

- Clinical need
- Clinical benefit (safety and effectiveness)
- Value for money
- Feasibility of adoption in the health system (economic feasibility and organisational feasibility)
- Consistency with expected societal and ethical values (psychological/social considerations and ethical considerations)

Technologies that were short-listed for 2009-10 and 2010-2011 funding

New technologies	Health Facility	Recommendation
BioNESS L300 Foot Drop System for stroke patients with foot drop.	Royal Brisbane and Women's Hospital	Not to be funded under the program – funding threshold of $250,000 not met.
Combined Video Stroboscopy/Fibreoptic Endoscopic Evaluation of Swallowing System and Digital Swallowing Workstation for the assessment of swallowing and voice diagnostics.	Townsville Hospital and Rockhampton Hospital	Not to be funded under the program – not new technology to Queensland.
Greenlight Laser Therapy for Benign Prostatic Hyperplasia	QEII Hospital, Nambour Hospital, Townsville Hospital	To be funded under the New Technology Evaluation Program in 2009-2010.
Hansen Remote Navigation System for intracardiac ablation of complex heart rhythm disorders (arrhythmias) including atrial fibrillation.	Princess Alexandra Hospital, The Prince Charles Hospital	Not to be funded under the program – clinical and cost-effectiveness evidence still in early stages of development.
High End Magnetic Resonance Breast Imaging (MRI) Diagnostic Evaluation and Interventional System	Royal Brisbane and Women's Hospital	To be funded under the New Technology Evaluation Program in 2010-2011.
InReach Electromagnetic Navigation Bronchoscopy for lung cancer	The Prince Charles Hospital	To be funded under the New Technology Evaluation Program as a field evaluation in 2009-2010.
Microwave Tumour Ablation for patients with lung or liver cancer	Royal Brisbane and Women's Hospital	Not to be funded under the program – current human evidence does not support the adoption of this technology at this time.
Mirrijini Touch Screen Dispensing Kiosk for outpatients receiving medication with hand written labels.	Cape York Health Service District	To be funded as a field evaluation under the New Technology Evaluation Program in 2010-2011.
Pharmacy Automation within the dispensary, pharmacy storeroom and clinical wards	Princess Alexandra Hospital	To be funded under the New Technology Evaluation Program in 2009-2010 as a proof of concept. The HTA Secretariat will collaborate with Medication

		Service Queensland throughout this project.
Simbionix GI Mentor	Townsville Hospital	Not to be funded under the program – conflicting evidence on whether skills are acquired by this simulator based training.
Volumetric Modulated Arc Therapy (VMAT) – radiation therapy for cancer patients	Princess Alexandra Hospital	To be funded under the New Technology Evaluation Program as a field evaluation in 2010-2011
Wireless Digital Radiography	Logan Hospital	Not to be funded under the program – primarily Information Technology which is within QPACT's exclusion criteria
New services		
Extracorporeal Membrane Oxygenation (ECMO) Retrieval Service for patients with severe reversible cardiac or respiratory failure.	The Prince Charles Hospital, Mater Children's Hospital, Princess Alexandra Hospital	Not for funding of service but to be reviewed internally by the HTA Secretariat for a feasibility of adoption study, including an economic evaluation.
Comprehensive Epilepsy Program for patients with refractory epilepsy	Royal Brisbane and Women's Hospital	Not for funding of service but a full Health Technology Assessment to be undertaken internally by the Health Technology Assessment Secretariat.
High Risk Clinic for Breast and Ovarian Cancer	Royal Brisbane and Women's Hospital	Not for funding of service but further work to be undertaken internally by the HTA Secretariat.
Multidisciplinary Adult and Paediatric Obesity Service	Princess Alexandra Hospital, Royal Children's Hospital, Royal Brisbane and Women's Hospital	Not for funding of service but a full HTA will be undertaken by an external HTA group.

QPACT Policy on Credentialing

QPACT's policy on credentialing medical professionals when introducing a new health technology ensures that a formal pathway and consistent approach is adopted in terms of adequate training and credentialing for new procedures and in implementing new technologies.

Where it is deemed that significant new skills are required to introduce a new health technology, a referral from QPACT or the relevant District Advisory Committee will be made to the Credentialing and Scope of Clinical Practice Committee for advice.

The HTA Secretariat will maintain a register of these recommendations and the advice provided by the Credentialing and Scope of Clinical Practice Committee, which will be shared with the Director of Governance Assurance in Queensland Health.

Rationale for having a District process as well – District Advisory Committees on New Technology

While there is the requirement for a statewide, overarching process for the introduction of new technologies to Queensland, a localised process is essential in achieving a holistic approach to HTA throughout Queensland.

The role of the three District Advisory Committees for New Technology is to provide clinician driven expert advice to health facility executives and District Chief Executive Officers on new technologies to that particular District or area and to consider the evidence available as provided by the HTA Secretariat.

To date, referrals for new technologies to be reviewed locally (rapid review prepared by the HTA Secretariat) have come from clinicians and/or business units within a specific area; the Chair of the District Advisory Committee for New Technology or from QPACT.

For example, the following technologies (which are not new to Queensland to new to the particular area or Health Service District) have been reviewed at a local level for funding by the Health Service District:

Technology	**District Advisory Committee**	**Advice**
Neuroendocrine tumour treatment with Lu-177 octreotate for	Metro North for Central Queensland Advisory Committee on New Technology (MNCQACT)	Monitor
Laser Lead Extraction for the removal of embedded pacing wires	Metro North for Central Queensland Advisory Committee on New Technology (MNCQACT)	Progress to the 2011-2012 New Technology Funding Evaluation Program
Chronic indwelling catheter for pleural effusions	Metro North for Central Queensland Advisory Committee on New Technology (MNCQACT)	Do not progress – a large evidence base exists showing the effectiveness of this technology in a selective population

Penumbra Perfusion Catheter for stroke patients	Metro North for Central Queensland Advisory Committee on New Technology (MNCQACT)	More evidence required. A systematic support network and clinical care pathways need to be established before this technology can be introduced into the health system.
Y-Tec System for peritoneal dialysis	Northern Queensland Advisory Committee on New Technology (NQACT)	Technology supported in principle. Advice provided back to Health Service District for local funding consideration.
Transonic Flow QC System for Arteriovenus Fistulae (AVF)	Northern Queensland Advisory Committee on New Technology (NQACT)	Technology supported in principle. Advice provided back to Health Service District for local funding consideration.
Intraoperative MRI for neurosurgery	Northern Queensland Advisory Committee on New Technology (NQACT)	Monitor and liaise with the Health Policy and Advisory Committee for Technology (HealthPACT). Information and advice has been provided to the Capital Builds Program in Queensland Health.
Endoscopic Ultrasound for diagnosis and management of both benign and malignant diseases of the Gastro-Intestinal (GI) tract	Northern Queensland Advisory Committee on New Technology (NQACT)	Technology supported in principle. Advice provided back to Health Service District for local funding consideration.

It is anticipated that a ‘short form’ process will be developed for technologies to be reviewed outside of the normal funding round for the New Technology Funding Evaluation Program.

2.4 Methods of HTA (rapid reviews, due diligence)

Full Health Technology Assessments require substantial lengths of time to gather, analyse, interpret, review and publish findings. Queensland will undertake full HTAs where required and resources are available, but will primarily review new technology applications or referrals through a process called ‘rapid reviews’ or ‘due diligence’.

It should be acknowledged that while this concept of rapid review has been prominent in the discourse surrounding HTA for some time, the HTA community is yet to reach a consensus regarding their validity and the most appropriate methodology to use in their preparation (Watt et al. 2008: 134).

A study (Neumann et al. 2010) analysed whether key principles for improved HTA are supported and used by HTA organisations throughout the world and assessed whether the methods of HTA incorporated consideration of the following:

- Appropriate methods for assessing costs and benefits
- A full societal perspective
- A wide range of evidence and outcomes
- Uncertainty surrounding estimates
- Issues of generalisability and transferability
- Implementation of HTA findings needs to be monitored

These principles have been considered in the development and implementation of Queensland's model, in both the methods of undertaking HTA and in decision-making processes.

Rapid reviews

Rapid reviews on new technologies are undertaken in order for QPACT to short-list technologies for the New Technology Funding Evaluation Program. Rapid reviews are also produced for the District Advisory Committees for New Technology which are used as the basis for the advice that is provided to District Chief Executive Officers.

The methodology that is used when conducting 'rapid reviews' on technology applications is as follows:

1. The clinical research question is formulated for the technology being considered.
2. The study selection criteria is then determined (by considering the Population, Intervention, Comparator and Outcome).
3. A literature search is conducted from both HTA agencies and medical databases.
4. A critical appraisal of the literature is undertaken.

Other considerations that are made when undertaking a rapid review include experiences from other Health Service Districts in Queensland Health that use this technology and the feasibility of adoption into the particular health facility.

Resources that are utilised for this process include:

Agency or Medical Database	**Lead country**
Centre for Reviews and Dissemination (CRD)	United Kingdom
Medical Services Advisory Committee (MSAC)	Australia
The Australian Safety and Efficacy Register of New Interventional Procedures – Surgical (ASERNIP-S)	Australia
The Canadian Agency for Drugs and Technology in Health (CADTH)	Canada

The National Health Service (NHS) and the National Institute for Health and Clinical Excellence (NICE)	United Kingdom
The Ontario Health Technology Assessment Committee (OHTAC)	Canada
The International Health Technology Assessment Network (HTAi)	International HTA agency
Blue Cross Blue Shield Association	Belgium
The Cochrane Library	Medial database
PubMed Clinical Queries	Medical database
Health Policy and Advisory Committee for Technology (HealthPACT)	Australia
EuroScan	Europe

Due diligence

Due diligence on applications is undertaken by the HTA Secretariat and prepared in the form of an evidence report which aims to answer the clinical question(s), based on the PICO method (Population, Intervention, Comparator and Outcome), through the literature search and appraisal.

Due diligence is designed to validate the evidence surrounding the technology and extract any evidence that has not been identified in the proposal. Critical appraisal of the evidence is the process to determine if the research identified is valid, accurate, reliable and relevant to the patient population (Centre for Clinical Effectiveness, 2008). It is critical to determining the level or hierarchy of evidence, which indicates the degree to which bias has been eliminated by the design of study.

Levels of evidence provide a guide to determining the trustworthiness of results. The levels of evidence determined by the National Health and Medical Research Council (NHMRC) are used by the HTA Secretariat when preparing due diligence.

Levels of Evidence for interventional studies (NHMRC 2009)

Level	Study Design
I	A systematic review of level II studies
II	A randomised controlled trial
III-1	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)
III-2	A comparative study with concurrent trials: - Non-randomised experimental trial - Cohort study - Case-control study - Interrupted time series with a control group
III-3	A comparative study without concurrent controls: - Historical control study - Two or more single arm study - Interrupted time series without a parallel control group
IV	Case series with either post-test or pre-test/post-test outcomes

The due diligence process is also consistent with the QPACT decision-making criteria of determining clinical need, clinical benefit (safety and effectiveness),

value for money, feasibility of adoption in the health system, and consistency with expected societal and ethical values.

Systematic reviews

The HTA Secretariat has the capability to undertake full Health Technology Assessments (including a systematic review and economic evaluation) and if resources are not available internally to undertake this work, there is the option to contract out to external HTA groups/consultancies.

When utilising the various methods of HTA, the organisational feasibility of the technology must be carefully considered, particularly in terms of the capability of the hospital infrastructure (capital, operational, human resources, legislative and regulatory) to diffuse the new technology, as well as the net budget impact.

2.5 Processes for conducting HTA (stakeholder engagement, partnerships)

The HTA Program has developed a comprehensive communication plan to engage with stakeholders not only at the state level, but nationally and internationally.

Engagement at the State level

The Secretariat has ensured that broad consultation and marketing within Queensland Health has been undertaken in both developing, implementing and evaluating the HTA Program.

Key partners in the HTA Program include:

- Deputy Premier and Minister for Health
- Queensland Health Director-General
- Queensland Health Executive Management Team
- Chief Executive Officer, Centre for Healthcare Improvement
- Health Service District Chief Executive Officers
- The Executive Directors of Medical Services at health facilities
- Access Improvement Service
- Clinicians and business units throughout Queensland Health public hospitals
- Statewide and Area Clinical Networks
- Capital Building Program
- Health Services Purchasing and Logistics Branch
- Biotechnical Technology Services
- Health Technology and Equipment Replacement Program
- Office of Health and Medical Research
- Information Division
- Clinical and Statewide Services
- Universities

- Other government departments
- District Advisory Committees for New Technology

Engagement at the national level

The 'PACTs'

The Queensland HTA Team and QPACT work closely with the Victorian Policy and Advisory Committee for Technology (VPACT), which is the governing body for the introduction of new technologies and facilitating HTA in the Victorian health department.

The structure and process of Queensland's HTA model has been aligned with the Victorian model, with the two governing committees working collaboratively to coordinate HTA activities, including sharing information, evidence reports and technology evaluations.

QPACT also works and shares information with the Western Australian Policy and Advisory Committee for Technology (WAPACT), which while has a different structure and process, continues to be an important link in the Queensland HTA Program.

HealthPACT and the Nationally Funded Centres Reference Group

Queensland is a member of the Australian Health Policy and Advisory Committee on Technology (HealthPACT) which is the national horizon scanning agency in Australia. Horizon scanning provides short, rapidly completed, 'state of play' documents. These documents provide current information on technologies to alert planners and policy makers of their advent and potential impact in terms of safety and cost, before they are introduced into the health system (Trans Tasman Radiation Oncology Group 2010: 5). HealthPACT was established to provide advance notice of significant new and emerging technologies to health departments in Australia and New Zealand and to exchange information and evaluate the potential impact of emerging technologies on respective health systems.

HealthPACT reports ('Prioritising Summaries' prepared by the Adelaide Health Technology Assessment or ASERNIP-S) and outputs also inform Queensland Health decisions on health technology investment and in monitoring emerging technologies.

Another national process that Queensland is involved in is the Nationally Funded Centres (NFC) which have been established to provide Australians with equitable access to certain high cost, low demand, new and emerging medical technologies. NFCs are approved by the Australian Health Ministers' Advisory Council (AHMAC) and funded by the jurisdictions. Through Queensland Health's representation on the Nationally Funded Centres Reference Group, the HTA Team has access to the work and reports produced by the group. With QPACT's extended scope of managing Statewide Superspecialty Service, there is an opportunity to work closely with

and learn from the experiences of the NFCs and the processes that are in place at a national level.

Engagement at the international level

At an international level, Health Technology Assessment processes are well-developed, robust and transparent. While there are numerous HTA agencies throughout the world, Health Technology Assessment International (HTAi) coordinates and is a network for HTA agencies and governments to communicate and promote the development and use of HTA at an international level. HTAi resources are utilised by the Queensland HTA Secretariat in terms of policy papers, evidence reports and trends in HTA in other jurisdictions.

Queensland Health has been represented at two International Health Technology Assessment Conferences (HTAi) in order to develop closer relationships within the worldwide HTA network.

The 2009 HTAi Conference in Singapore was an opportunity for Queensland to present the proposed HTA model and the principles/processes in place to facilitate effective HTA. A poster was submitted to the conference entitled "Queensland Establishing a HTA Process from Scratch: Achievements and Challenges".

Queensland submitted an abstract to the 2010 HTAi Dublin conference in conjunction with Victoria and Western Australian entitled "A National Network to Coordinate HTA, Health Technology Uptake and Evaluation". The abstract focused on building a jurisdictional network beyond the realms of MSAC and PBAC's capabilities in HTA policy and funding decisions.

From the work that Victoria and Queensland are undertaking on HTA, advice was provided to New Zealand Department of Health regarding the resources required to establish a program (and the processes, methods involved).

2.6 Evaluation of the Program

An important part of the first year of this program has been evaluating the procedures and processes in place to support Committee members, clinicians and applicants to the New Technology Funding and Evaluation Program.

- The HTA Secretariat has surveyed the HTA Committees regarding the mechanisms supporting meetings and process.
- Applicants of 2010-2011 New Technology Funding Evaluation Program were also surveyed.

These results will assist the Secretariat in evaluating their processes and be used for internal purposes within the Program. It is anticipated this evaluation will occur quarterly.

In 2010, several key documents have been revised to reflect the changes in the program and feedback provided from clinicians:

- Review of the Expression of Interest (EOIs) process
- Review of the Rapid Review process for short-listing EOIs
- Review of the Full Application Form
- Review of QPACT's decision-making criteria

3.0 Communication Strategy and Training and Education

QPACT and the three District Advisory Committees for New Technology have received two training days since the establishment of the program.

These training days have focused on providing Committee members with a level of knowledge and understanding in undertaking literature reviews and appraising evidence; the basics of health economics and cost-effectiveness analyses and approaches to decision-making processes.

Speakers at the Annual HTA Training Days have included:

- Dr Claire Harris, Director, Centre for Clinical Effectiveness, Southern Health, Victoria – ***Levels of evidence and using evidence in decision-making***
- Dr Paul Fennessey, Manager, Genetics and Health Technology, Wellbeing, Integrated Care and Ageing Division, Department of Health Victoria – ***Victoria's Health Technology Program***
- Professor Kwun Fong, Senior Staff Specialist, Department of Thoracic Medicine, The Prince Charles Hospital – ***The Medical Services Advisory Committee (MSAC) and the National HTA Review***
- Ms Tracy Merlin, Manager, Adelaide Health Technology Assessment – ***Systematic Review and Selection of Evidence; Systematic Reviews – Levels of Evidence and Critical Appraisal***
- Professor Paul Scuffham, Chair in Health Economics, Griffith University – ***Cost-effectiveness in Health Technology Assessment***
- Dr Jenny Whitty, Lecturer in Health Economics, Griffith University – ***Decision-making in HTA***

<u>Industry Engagement Breakfast – "Matching Health Technologies and Medical Devices to Clinical Need"</u>

The HTA Team in conjunction with the Office of Health and Medical Research hosted a breakfast in April 2010 entitled "Matching Health Technologies and Medical Devices to Clinical Need" with the aim of highlighting the common interests that policy administrators, universities and industry share in assessing and introducing new technologies into the health system. This breakfast was a part of the HTA Team's communication strategy in engaging with the broader HTA and medical technology network.

Speakers at this breakfast included:

- Mandy Forster, Director, Access Improvement Service – ***The Health Technology Assessment Program in Queensland***
- Professor Andrew Wilson, Executive Dean, Faculty of Health, Queensland University of Technology – ***Matching Medical Devices and Health Technologies to Clinical Need***
- Dr Stuart Hazell, Managing Director and Principal Consultant, Fusidium Pty Ltd – ***Matching Medical Devices and Health Technologies to Clinical Need: An Industry Viewpoint.***

Conferences attended by the HTA Team:

- Disinvestment Workshop in Victoria 2009
- Medical Technology Association of Australia Conference 2009
- New and Emerging Cancer Therapies: From Hype to Reality 2010
- Australian Commission for Medical Devices Safety – National Forum
- Queensland Health meeting with Sg2 Healthcare Community
- Australian Research Council Linkage Project – Building Health Policy Capacity: Communities of Practice
- Nationally Funded Centres Clinician Meeting – Westmead Hospital, Victoria
- Healthcare Design ’09 – Orlando Florida
- Visit to Ontario Medical Advisory Secretariat, Toronto Society of Medical Decision Making – Europe 2010 Conference – Hall in Tyrol
- Health Technology Assessment International Conference Dublin
- National Cord Blood Working Group – Governance meeting (Jurisdictional representative, Mandy Forster)

4.0 Where to from here? Disinvestment and the 2010-2011 Work Plan

Internationally, HTA capacity is growing exponentially, with agencies throughout the world establishing formal links and collaborating to streamline HTA processes. While there is a trend in assessing technologies for not only their clinical but cost-effectiveness potential, there lacks a coordinated approach to disinvesting in technologies that are considered obsolete, ineffective, not cost-effective, clinically inappropriate or even harmful.

The phasing out of obsolete existing procedures and technology has proven challenging since some clinical practices may still be provided that some clinicians consider appropriate, particularly taking into consideration patient preferences.

Disinvestment relates to the processes of (partially or completely) withdrawing health resources from any existing health care practices, procedures, technologies or pharmaceuticals that are deemed to deliver little or no health gain for their cost and therefore do not represent efficient resource allocation.

The challenge in disinvesting in obsolete technologies in a transparent, equitable and consistent way has been recognised at a national level in Australia, with a project proposal currently being developed in order to establish a registry for disinvestment from health technologies and procedures.

While there are limited systems in place in Australia to support the disinvestment of obsolete technologies, a multidisciplinary team from Adelaide Health Technology Assessment (AHTA) has been awarded a Project Grant by Australia's National Health and Medical Research Council (NHMRC) to carry out a three year disinvestment project that commenced in January 2009. The project aims to design, implement and evaluate a model to identify the social, ethical, political, economic and epidemiological factors that perpetuate the use of ineffective health care practices, and to test if practices can be disinvested.

Victoria has also established the Sustainability in Healthcare by Allocating Resources Effectively (SHARE) project in Southern Health which aims to establish a rigorous evidence-based process for the introduction of safe, effective and cost-effective technologies, as well as cessation or limitation of harmful, ineffective or inefficient procedures at a local level.

However, in order to address the lack of a clear coordinating mechanism for disinvestment in Australia, a proposal has been put forward to develop a national registry/clearinghouse for the identification and prioritisation of disinvestment activities, entitled the Australasian Registry of Obsolete Health Technologies Evaluated for Disinvestment. The work involved in developing this registry would be a collaborative between the Australian jurisdictional representatives of HealthPACT led by Queensland.

This proposal will allow obsolete health technologies to be identified to inform potential resource reallocation and best practice in disinvestment methodologies throughout Australian health departments.

The project would be undertaken in research conditions and involve the following stages:

1. Consultation and external dissemination of a survey (for qualitative purposes) to determine what different stakeholder groups see as the major barriers to decisions on disinvestment from health technologies and procedures, as well as to nominate potentially obsolete technologies.

2. Identification of potential technologies to be disinvested. Data analysis (from stage 1) will be undertaken to determine whether there is convergence between the stakeholder consultation and the literature from HTA reports. Following this, a potential list of technologies for disinvestment may be developed, requiring feedback and consensus from the participants that were surveyed in stage one.

3. A systematic approach will be used to prioritise potential technologies and procedures for disinvestment by undertaking a systematic review/meta-analysis of existing data from health technology assessment processes internationally.

4. Creation of the Australasian Registry of Obsolete Health Technologies Evaluated for Disinvestment with regular updates overseen by HealthPACT.

Work Plan 2010-2011

Body of work	**Timeframe**
New Technology Funding Evaluation Program 2011-2012	Annually
Implementation and evaluation of new technologies funded in 2009-2010 and 2010-2011 Reports completed on Epilepsy Service, ECMO Retrieval Service, Obesity Service and High Risk Breast Clinic	Over the next twelve months
Marketing (newsletter, website, presentations)	Ongoing
Governance *Reporting to HIPEC, IPPEC and Resources Committee*	Quarterly
District process for reviewing new technologies (District Advisory Committees for New Technology)	Ongoing
Advisory Committee meetings	Monthly
Training and Education	Annually
HTA Evaluation/Reporting - Surveys - Revision of documentation (including QPACT Decision-making Criteria, Guide to Undertaking Rapid Reviews)	Quarterly
Communication/engagement with clinical networks, HTER program, capital builds program.	Ongoing
Disinvestment	Project plan in development

References

Gallego, G. and D Kelleher. 2009. 'Resource Allocation and Health Technology Assessment in Australia: Views from the Local Level', *International Journal of Technology Assessment in Health Care',* Vol 25(2): 134-140.

Neuman, P. et al. 2010. 'Are Key Principles for Improved Health Technology Assessment Supported and Used by Health Technology Assessment Organisations', *International Journal of Technology Assessment in Health Care*, Vol. 26(1): 71-78.

Productivity Commission, 2005. 'Impacts of Advances in Medical Technology in Australia', Research Report, Melbourne.

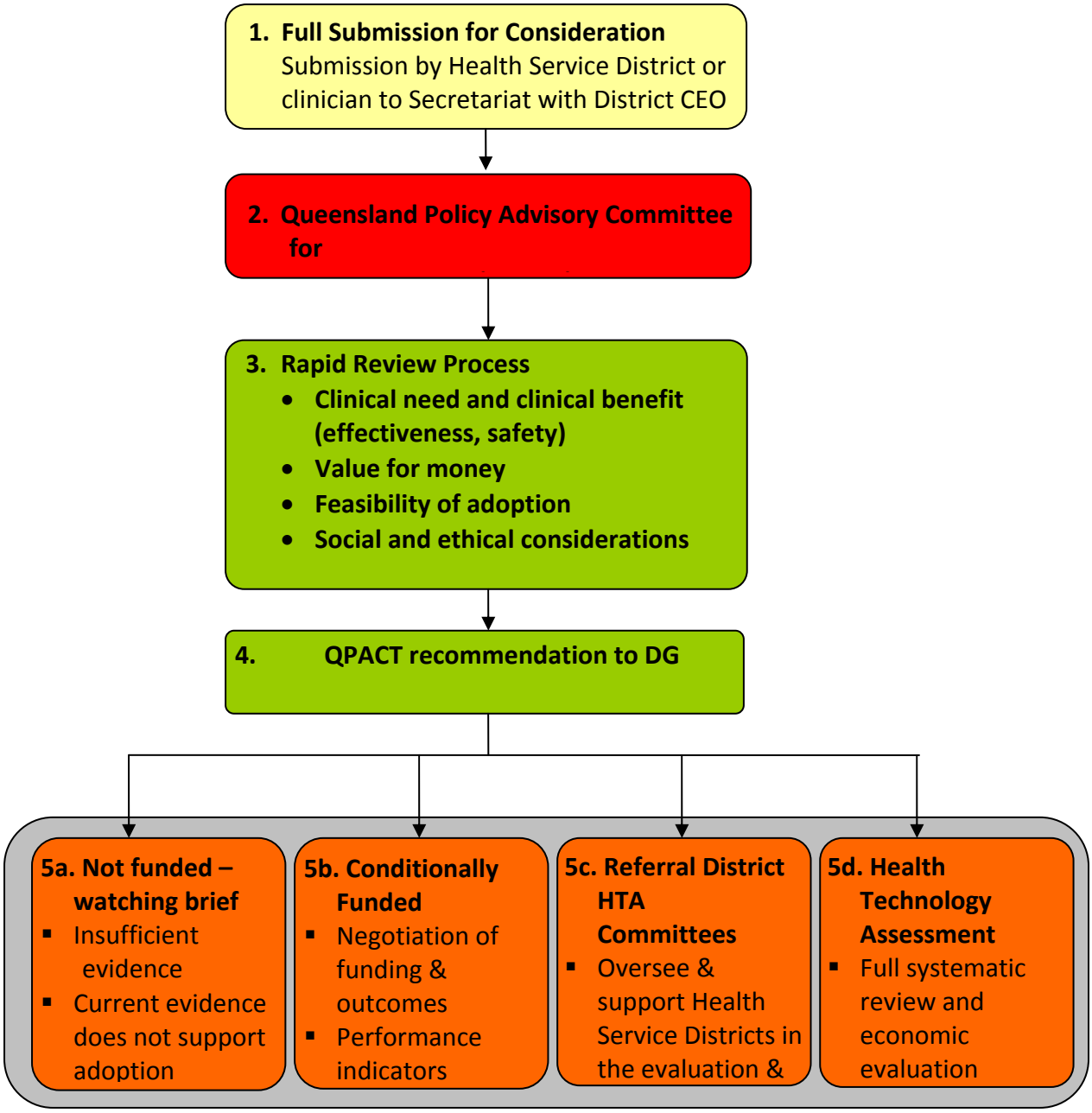
Watt, A. et al. 2008. 'Rapid Review Versus Full Systematic Reviews: An Inventory of Current Methods and Practice in Health Technology Assessment', *International Journal of Technology Assessment in Health Care*, Vol 24(2): 133-139.

Appendix 1

QPACT's decision-making criteria and subcriteria are detailed below:

Criteria	Subcriteria	Definition/Considerations	Comments
Clinical Need	**Burden of Illness**	- The burden of illness on society of the target condition to which the technology is applied (e.g. incidence, prevalence, Years of Life Lost, Years Live with Disability, Disability Adjusted Life Years)	
	Need	- The need for the technology compared to the availability of alternatives to manage the target condition	
Clinical Benefit	**Effectiveness**	- Effectiveness compared to available alternatives (measured in terms of relative risk, odds ratios; increased survival or progression-free survival; reduced mortality, morbidity or length of stay, etc). - The magnitude and direction of the technology's effect should be considered.	
	Safety	- Frequency and Severity of adverse events specific to the technology compared to available alternatives.	
Value for Money	**Value for Money**	- A measure of the net cost or efficiency of the technology compared to available alternatives (note that Queensland Health does not use a value-for-money threshold) - Can be assessed in many ways including additional cost per unit of outcome, - Experience from international/ other jurisdictions can be used.	
Feasibility of adoption	**Economic Feasibility**	- The net budget impact of the new technology - Costs for other system enablers (e.g. information technology, capital works, workforce remuneration/recruitment/training) - Funding implications (Statewide/Superspecialty status, etc)	
	Organisational feasibility	- The ease with which the health technology can be adopted by looking at other enablers and/or barriers to diffusion - Infrastructure/geography/clinical services capability framework/impact on other service streams (e.g. rehabilitation services)/workflow issues - building space or special requirements - ability of applicant to perform field evaluation (where relevant)	
Consistency with Expected Societal/ Ethical Values	**Psychological/ Social Considerations**	- Broadly shared values in society that bear on the appropriate use and impact of the technology	
	Ethical Considerations	- The potential ethical issues inherent in using or not using the technology - Please list any ethical issues identified.	

Recommendation (tick one box):		**Comments**	**Panel Chair Signature:** **Date:**
	Fund – conditional to Key Performance Indicators with Health Service Districts		
	Not fund – more evidence required		
	Not fund (already funded through other sources e.g. MBS)		
	Full Health Technology Assessment		


1. Full Submission for Consideration
Submission by Health Service District or clinician to Secretariat with District CEO
2. Queensland Policy Advisory Committee for
3. Rapid Review Process
• Clinical need and clinical benefit (effectiveness, safety)
• Value for money
• Feasibility of adoption
• Social and ethical considerations
4. QPACT recommendation to DG
5a. Not funded – watching brief
▪ Insufficient evidence
▪ Current evidence does not support adoption
5b. Conditionally Funded
▪ Negotiation of funding & outcomes
▪ Performance indicators
5c. Referral District HTA Committees
▪ Oversee & support Health Service Districts in the evaluation &
5d. Health Technology Assessment
▪ Full systematic review and economic evaluation