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Executive Summary

A national workshop was hosted by the Health Policy Advisory Committee on Technology (HealthPACT) and facilitated by South Australia's Chief Medical Officer, Professor Paddy Phillips, in Brisbane on 17 May 2013. The workshop, titled ‘Disinvestment is not a dirty word’, focused on national and local disinvestment activities and the challenges they present for clinicians, policy makers and funders. The attendance was broad and included clinicians, health policy makers, industry representatives, academia and professional college representatives.

In choosing the title ‘Disinvestment is not a dirty word’, HealthPACT wished to establish that in a resource-limited environment where health technologies continue to drive healthcare costs significantly, governments cannot continue to invest in health innovations without a concurrent process for disinvesting in outmoded, unsafe or ineffective healthcare services.

Presentations from Dr Richard Bartlett, Mr Jason Currie, Dr Paul Fennessy, Professor Marion Haas, Professor Jane Hall, Professor Janet Hiller, Associate Professor Richard King, Professor Guy Maddern, Professor Stephen Munn, Dr Mark O’Carroll and Associate Professor Ian Scott are briefly summarised in this report.

This paper is divided into the following sections:

- Part One: Disinvestment Fundamentals – a guide for health services around developing a disinvestment approach
- Part Two: Disinvestment Strategies in the Australian and New Zealand Healthcare Systems – a summary of workshop presentations

In addition, the workshop agenda is at Appendix One and a discussion paper, distributed prior to the workshop, is at Appendix Two.

Recommendations from the workshop

At the conclusion of the workshop, attendees agreed on the following actions:

- HealthPACT to provide advice, as appropriate, by its status as a standing committee of the Australian Health Ministers’ Advisory Council’s Hospitals Principal Committee, to encourage disinvestment opportunities that align at both the national and local levels.

- HealthPACT to provide a national repository for disinvestment programs to ensure relevant information is disseminated and a means for ongoing dialogue via its website.
Key messages

- The engagement of, and timing of consultation with, the clinical community is paramount to ensure appropriate consideration, and successful withdrawal, or acceptance of restricted use, of a technology or clinical practice.

- In identifying and prioritising technology or clinical practice disinvestment consideration, evidence of quality and safety issues is a key lever to engage clinicians.

- There may be a lack of robust evidence for the appropriate disinvestment of established, long-term healthcare practice and technology, however, a lack of evidence does not equate to evidence of a lack of effectiveness.

- Evidence alone is not sufficient and “people, structures and values need to be assessed”.

- Local health technology committees are integral, not only the introduction of new technology or clinical practice, but also for identifying opportunities to reassess evidence, including quality and safety, of existing technology or clinical practice to ensure optimal health care.

- Clinical redesign encourages health services to monitor high-cost diagnostic-related groups, costs and benchmark outcomes for disinvestment opportunities and use redesign processes to improve the patient journey and eliminate waste.

- Patient benefits and non-financial metrics are just as important as clinical outcomes to communicate in any disinvestment activity.

- Increasing system capacity, freeing up system resources and incentivising a proposed change in clinical practice are examples of successful disinvestment activity outcomes.
Part One: Disinvestment Fundamentals – a guide for health services around developing a disinvestment approach

**What is disinvestment?**

Disinvestment relates to the process of withdrawing health resources, either partially or completely, from existing healthcare practices (including procedures, devices, diagnostics, programs and pharmaceuticals) that are deemed to deliver no or low health gain for their cost, and are thus not efficient health resource allocations. Released resources can then be re-invested in clinical practices and technologies that deliver safe and effective healthcare for all patients, therefore representing efficient health resource allocation.

*Disinvestment is often perceived to be a dirty word:* The term disinvestment is generally disliked by clinicians and consumers alike due to its negative connotations around funding withdrawal. While other, more acceptable terms include prioritisation, reappraisal, reprioritisation, optimisation, substitutional reinvestment and evidence-based reassessment, the term ‘disinvestment’ is currently used internationally.

*Passive disinvestment and natural attrition do occur:* Many interventions once common are often outmoded. There are numerous examples of surgical interventions that were once considered clinically appropriate but, through natural attrition, are no longer performed (e.g. non-medically indicated male circumcision).

*Active disinvestment:* Active disinvestment strategies use a more directed approach to reduce the practice of unnecessary, ineffective, inefficient or harmful interventions. Nationally and internationally, health technology assessment (HTA) programs are now looking to incorporate processes for disinvestment where it is generally understood to mean that low- or no-value healthcare will cease to be funded where there is a lack of safety, clinical and cost effectiveness evidence to support its continued use. Disinvestment activity is underway at all levels of the Australian and New Zealand health systems, including the review of existing Medical Benefits Scheme (MBS) item numbers through the Commonwealth’s Comprehensive Management Framework, New Zealand’s National Health Committee reviews, system-wide clinical redesign programs and new technology programs such as those in Victoria and Queensland. It is becoming internationally recognised that active disinvestment programs should ideally be linked with resource reinvestment and reallocation. It is worth noting that, in Australia, the pharmaceutical industry proactively undertakes disinvestment, reflected by requested item removal from the Pharmaceutical Benefits Schedule.

**Challenges to disinvestment**

Many challenges face the healthcare system including the aging population, increasing chronic disease prevalence and advances in medical technology, which add to, rather than replace, technologies in use, healthcare costs and community expectations. In a resource-limited
environment, governments cannot continue to invest in clinical practices and technologies without exploring disinvestment opportunities.

Traditional HTA methodologies have become established practice when health systems seek to invest in and implement new clinical practices and technologies. Recognition that increasing healthcare expenditure is unsustainable has invigorated disinvestment activity in a bid to remove harmful, ineffective or cost-ineffective practices at the Australian and New Zealand Government, State Government and hospital levels.

Disinvestment is not an easy process to undertake as activities for investment are more readily identified than those for disinvestment. In addition, there is, as yet, no validated approach for successful disinvestment, nationally or internationally. Partial disinvestment may need to be considered as some clinical practices and technologies may represent a benefit or harm to particular patient groups and not to others.

Challenges to successful disinvestment include:

- no agreed disinvestment methodology
- poor quality evidence
- a lack of resources
- a lack of political, clinical and administrative will to evaluate established technologies
- fee-for-service funding, which rewards quantity, not quality, of services
- difficulties with identifying low-value services
- some clinical practices and technologies may be associated with sensitivities (e.g. those used to care for children, cancer patients, and people at the end of life)
- disinvestment doesn’t always occur with new clinical practice/technology adoption
- multiple stakeholders
- vested interests from manufacturers and some clinicians
- clinical advocates for healthcare practices who may be reluctant to change
- a lack of communication between regulatory agencies
- a lack of post-market surveillance.

**Identifying and prioritising disinvestment opportunities**

There are various methods for identifying and prioritising disinvestment opportunities, however, there is not a single validated methodology. A multi-pronged approach is often utilised that combines a top-down (with policy consisting of incentives and clear messages) and a bottom-up (involving empowering clinicians and patients) approach with competition from the side in the form of appropriate metrics. The process should be transparent, appropriately inclusive and use easy-to-understand language.
Top-down approaches (usually aimed at system efficiencies) include identifying:

- high cost clinical practices and technologies
- low volume clinical practices
- surgical substitution opportunities
- potential targets for clinical redesign.

Bottom-up approaches include:

- stakeholder engagement primarily involving clinicians
- an evidence-based assessment of quality and safety of clinical practices and technologies
- investment in new clinical practices and technologies as a means of driving disinvestment of existing clinical practices and technologies
- assessment of variations in practice, e.g. regional or geographic variation, changes in practice over time, variations in patterns of use between clinicians, variations between institutions (e.g. public versus private).

**Stakeholder engagement**

The Australian Government’s Comprehensive Management Framework provides the primary mechanism for disinvestment of medical practices at the national level through formal review of existing MBS item numbers. Funding can be an important lever to stop or restrict ineffective healthcare practices. However, there is a need for timely and broad stakeholder consultation and clinician engagement, which is exemplified by the challenges encountered by the review process (e.g. the opposition from the public and clinicians when ophthalmology services were recently reviewed). One of the most important factors to achieving a wider acceptance of disinvestment is the engagement of the clinical community in the process.

This theme is reiterated by New Zealand’s National Health Committee (NHC), which has implemented a program of ‘re prioritisation’ where early stakeholder consultation is considered critical for success. The New Zealand NHC has identified that: i) a lack of early engagement of clinicians results in little change in practice; ii) good data is required to determine what is happening in practice; and iii) political, clinical and public buy-in is important. Vested interests exist, particularly in the area of comparative effectiveness research. Clear identification of patient outcomes and material benefits also need to be communicated.

Stakeholder engagement is also a necessary component of programs such as Queensland’s Selecting the Most Appropriate and Relevant Tests and Treatments (SMARTT Care) program, where clinical working groups are engaged to form recommendations or to nominate potential services for disinvestment. Identification of clinical ‘champions’, key clinical groups or influential experts are pivotal in driving acceptance of change. Clinician-driven assessment and
recommendation development for discontinuation of existing clinical practice and technology are appropriate tools to inform disinvestment.

International work, such as the ‘Choosing Wisely’ lists published recently in the United States also highlight the importance of stakeholder engagement. These lists, launched in 2012, were developed in conjunction with over 20 specialty societies whose memberships exceed 500,000 clinicians. Each society developed a list of ‘5 things physicians and patients should question’ in recognition of the important physician and patient conversations to improve care and eliminate unnecessary tests and procedures.

**An evidence-based approach**

In assessing whether a particular clinical practice or technology would be a suitable disinvestment candidate, the focus should primarily be on quality and safety. Access to robust evidence, rather than an emphasis on cost saving, will allow for improved decision-making. The first indication of a clinical practice or technology being a candidate for disinvestment is often the presence of a quality and safety concern, representing a strong argument for clinicians to consider possible disinvestment. In this way, safety and quality concerns can act as a lever to engage clinicians.

Traditional HTA methodology has not considered disinvestment of existing clinical practice or technology since these are usually legacy items that often became established practice despite a lack of supporting evidence. This is demonstrated in the Commonwealth’s ophthalmology review that, despite a robust and rigorous evidence assessment process, identified little evidence to support disinvestment of several MBS item numbers and their original inclusion on the MBS.

Most formal disinvestment in Australia has occurred as a result of academic research, where selected health interventions have been targeted in order to judge public reaction around values, beliefs and the resources available. Research projects, such as the Assessing Service and Technology Use To Enhance Health (ASTUTE Health) study, used an evidence-based approach to identify two potential disinvestment topics: assisted reproductive technologies for older women and vitamin B12/folate diagnostic tests. The controversial nature of these topics highlighted the need to consider all forms of evidence, not only including safety, effectiveness and cost-effectiveness, but also ethics, and the need for stakeholder consultation.

The United Kingdom’s National Institute of Health and Clinical Excellence (NICE) has identified a range of low-benefit clinical interventions. The resulting ‘do not do’ database recommends a list of clinical practices that should be discontinued completely, not done routinely or recommended for a specific patient population (i.e. partial disinvestment).

Medical registries may also be viewed as an important evidence source. Registries are a means of supporting the ongoing monitoring and identification of high-risk medical devices and may be a tool to inform disinvestment consideration. The recent international quality and safety concerns around breast implants serve as an example of the need for high-risk medical device registries. It is recognised that registries require ownership and can be quite costly to maintain, however, they
provide an avenue for comprehensive data collection and data linkage between jurisdictions that can be used to assess appropriateness for either ongoing investment or disinvestment.

**Continued investment as a driver for disinvestment**

HTA increases the efficiency of the healthcare system by ensuring new clinical practices and technologies provide value for money, ideally before they are widely disseminated. New clinical practices and technologies can render existing clinical practices and technologies obsolete relatively quickly through natural attrition. Ideally, existing clinical practices and technologies should be subject to ongoing evaluation. However, HTA programs are limited by resources and the dynamic nature of new clinical practices and technologies appearing on the horizon. Therefore, while review of existing clinical practices and technologies is slow, investment in new clinical practices and technologies occurs more rapidly. Governments are faced with budgetary constraints, which make it imperative for disinvestment activities to be undertaken in parallel with the uptake of new clinical practices and technologies. Investment decisions made through technology programs such as those in some Australian states, will have considered disinvestment opportunities. For example, investment in Fibroscan® technology, a non-invasive method of assessing liver fibrosis, has reduced liver biopsy rates markedly.

Disinvestment should be viewed in the context of the life cycle of a clinical practice and technology (Figure 1), and conclude with a decision on its obsolescence. Medical devices often become obsolete faster than other technologies due to industry ability to rapidly develop new iterations. However, technology use may change during its life cycle, making it important for clinicians and other stakeholders to continually review utility and their use in the context of these changes.

![The technology life cycle](image)
System efficiencies – a top-down approach

Disinvestment is more likely to be accepted by both clinicians and consumers if the focus is on quality and safety. Any disinvestment decision will be considered as a foregone benefit for some, and evidence alone does not drive change; therefore, there is a need to identify incentives to implement clinically appropriate change. Disinvestment is driven by incentives, evidence and high-level support. Understanding how incentives work is arguably a requirement for success, and it is important to understand that incentives operate differently for investment and disinvestment.

An important incentive for disinvestment would be to make available the freed resources to fund more appropriate services in the same program or hospital more broadly. Understanding budgetary constraints and explicit control of, and responsibility for, the budget are also requirements for success.

A good demonstration of this is Victoria’s New Technology Program, where investment in selective technology can drive disinvestment and deliver a good return on investment (ROI). ROI and disinvestment were quantified over a five-year period. Best results were observed where there was surgical substitution, often reflected in the use of less invasive procedures and techniques. ROI realised was primarily released capacity where resources were freed up, resulting in fewer dollars being spent to deliver more services.

Although clinical redesign methodology is primarily used as a service improvement tool, it may have a secondary benefit of providing governments a means of disinvestment by identifying and eliminating waste, resulting in improvements to patient flow. Its main objective involves analysing non-value-add areas to determine how they can be improved and delivered in a shorter time period. Clinical redesign is patient-focused, led by clinical staff, systematic and methodical, and importantly must occur rapidly. The redesign approach encompasses a blend of methodologies, including combinations of Lean thinking, Six Sigma, theory of constraints and systems thinking. The focus is on engagement, following a process that diagnoses the root cause, utilises multidisciplinary and cross-disciplinary team-designed solutions, and allows and introduces change with the ultimate aim of putting a continuous improvement process in place. The redesign process tracks performance of an organisation or service and provides a framework for change and future decision making.

Where to from here?

Disinvestment necessitates agreed priority setting, assessment and consideration around where and how savings of released resources might be redistributed to support, for example, additional technology investment or support additional service delivery. Successful disinvestment can, therefore, result in a redistribution of services and rebalancing of need across a health service.

It is important that any disinvestment process be driven by quality and safety, and informed by early clinical engagement and consultation. National and international efforts indicate that
successful disinvestment results from a combination of a ‘bottom-up’ local approach, and a ‘top-down’, system approach alongside clinician and other stakeholder engagement.

Clinician engagement is paramount in order to gain trust and enable the identification of potential and appropriate candidates for disinvestment. Savings, either monetary or in the form of released capacity, should be considered as incentives to drive change in practice and bolster the ongoing commitment required in relation to disinvestment activities.

Interventions that are ideal for disinvestment are rare but pertinent qualities include:

- reasonably prevalent to warrant disinvestment
- high or low volume healthcare practices that may be associated with significant costs
- unacceptable cost per QALY
- strong support by evidence of no effect/harm
- level of consensus among stakeholders, including support from clinicians and consumers
- clinical guidelines and quality standards provide decision support
- measurable outcomes
- the ability to use financial incentives with changes to:
  - coverage/reimbursement;
  - vendor contracts; or
  - formularies/inventories.
- alignment with existing work program.

Although disinvestment tends to occur at a local level, a broad strategy could include consideration of the following (non-exhaustive) factors:

- An awareness of the need to combat over-diagnosis, overtreatment and overspending should be fostered at all levels of the health system. Professional accountability should become the norm, not just at times of ‘budget emergency’.
- There is a need for an improved and transparent evidence base. This could take the form of registries for surgical procedures and medical devices, or linked datasets, especially across jurisdictions. This would require cooperation between regulatory agencies, clinicians and manufacturers and may require legislation to ensure the disclosure of proprietary data.
- More rigorous regulatory approval criteria are required. This may take the form of requiring the evaluation of clinical and cost effectiveness for specific indications for all new clinical practices or technologies, or that approval is conditional and time-limited, with periodic reassessment.
- Consumers need to be involved and be educated in all aspects of their health care, including investment and disinvestment.
Part Two: Disinvestment Strategies in the Australian and New Zealand Healthcare Systems – a summary of workshop presentations

Research initiatives: The ASTUTE study – lessons learnt from the NHMRC funded disinvestment research journey

Professor Janet Hiller, Assoc. Dean of Health Sciences (Research), Australian Catholic University

“[disinvestment] relates to the processes of withdrawing (partially or completely) health resources from any existing healthcare practices, procedures, technologies, [programs] and pharmaceuticals that are deemed to deliver no or low health gain for their costs, and are thus not efficient health resources allocations.”

The ASTUTE Health Study, supported by an NHMRC grant, involved developing and evaluating a model around changing resource allocation to ineffective or inappropriately applied health practices. The study selected potential disinvestment targets using a combination of criteria as outlined by Elshaug et al including:

- geographic variations in care
- temporal variations in volume including recent sudden growth
- public interest or controversy
- nomination
- legacy items.

Two case studies were identified: assisted reproductive technologies (ART) for older women and B12/folate testing. Methodology for the case studies included an examination of the evidence base by conducting a systematic review, followed by several rounds of engagement with stakeholders (clinicians, consumers and policy makers) to identify additional evidence.

In the past, several unsuccessful attempts had been made to alter the funding structure of ART. The evidence demonstrated an enormous increase for these services in Australia over time, and importantly, that the chances of a successful ART outcome decreased with increasing maternal age. A cost-effective analysis was conducted, and bioethicists were engaged to illustrate the need to balance the capacity to benefit, and rights and needs of the population, along with illustrating that there were many deeply-held emotions in this area.

The second case study examined tests listed on the MBS: the more expensive combined B12/folate test, and a B12 test or a folate test. A rapid growth in the combined test has been observed over time in addition to a geographic variation in practice. The study examined the

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evidence to determine whether the combined test was valid and reliable, including the consequences of testing or not testing for both. Many inconsistencies were identified, with the conclusion being that the test was not useful in informing prognosis and that the growth in its use was not based on quality evidence. Stakeholder engagement in this case study revealed that pathology groups supported evidence-based decisions in theory, but objected in practice, however, they agreed that the MBS item number should be split. Community stakeholders initially believed that all diagnostic tests told the truth, and ultimately walked away with a better understanding of reliability of diagnostic testing.

Conclusions from the ASTUTE study included:

• a need for widespread engagement around review of disinvestment protocols
• a lack of evidence to support disinvestment in terms of traditional HTA
• it is important to engage with consumers
• there is a high community tolerance for over servicing
• understanding political imperatives is important
• that cost-effectiveness analyses are difficult due to unreliable or missing effectiveness data.
The Australian Government: Review of existing MBS item numbers
Dr Richard Bartlett, First Assistant Secretary, Medical Benefits Division, Department of Health and Ageing

The Comprehensive Management Framework is an ongoing review process of the MBS in an effort to identify possible amendments to the schedule, such as updating items and descriptors, to align with current clinical practice. The initial project under this framework was the review of ophthalmology item numbers, followed by reviews of colonoscopy, bariatric surgery and pulmonary catheterisation, which were intended to build expertise in the process.

The ophthalmology review resulted from the negative experience of attempting to alter the level of reimbursement for cataract surgery without prior stakeholder engagement. The subsequent reviews focused on gathering safety, clinical effectiveness and cost-effectiveness evidence to support a particular position, which was considered in addition to significant clinical engagement. In addition, the public release of review documents for stakeholder feedback has been instrumental in building confidence in the process.

As of September 2013, a total of 22 MBS item numbers have been listed by the Medical Services Advisory Committee (MSAC) for review. Triggers for reviews may include one or more of the following:

- increased service growth and cost to the MBS
- potentially unsafe or out of date service
- a need to align with current clinical practice
- evidence – literature reviews and data on which decisions can be made
- international and national disinvestment activity.


From consideration of the international literature it would appear that the MBS review process is, while in early stages of review program implementation, at the level of, or ahead of that achieved internationally.
**Surgical disinvestment— “it’s not unhealthy rationing, it’s rational health policy”**

*Professor Guy Maddern, Surgical Director, ASERNIP-S and Director, Division of Surgery, The Queen Elizabeth Hospital, Adelaide*

The term ‘disinvestment’, was not looked upon favourably due to its pejorative nature and its cause for antagonism, particularly amongst surgeons. A better approach was the ‘re-appraisal’ of current practice and evidence as a means of introducing change.

When discussing disinvestment it is crucial to consider the lifecycle of health technologies. The introduction, adoption and decay of new technologies reflect a spectrum of use that can happen slowly, gradually or rapidly. Some technologies need to be disinvested or decayed very rapidly, and HTA can be used to determine when this should happen. Registries can be particularly useful for technologies that rapidly decay or require disinvestment. A good example of this is the use of Lap-Bands, a device used in bariatric surgery. Use of this device is beginning to decline due to the awareness of problems associated with their insertion, as well as alternatives to managing obesity that do not involve such a high-risk surgery. Faulty devices such as the Poly Implant Prothèse breast implants highlighted the need for device registries in order to follow patients with implanted devices.

The Safety, Quality and Sustainability Forum, established in collaboration with the Commonwealth Department of Health and Ageing, has several criteria for selection in reviewing devices and procedures including those that are high volume or high cost, or those that have seen a decline in use or have been recently introduced. For example, focal therapy for prostate cancer is a high-cost procedure with little evidence that it is an appropriate intervention. However, as the intervention is performed within the current MBS specifications it will not be reviewed by the MSAC.

Consideration should also be given to financial drivers to encourage appropriate practice, highlighting examples where simpler procedures were overlooked due to the lower rate of reimbursement. So although, in general, the majority of surgeons were not averse to change and were relatively quick to abandon old methods, some would always be resistant to change and may require incentives to change practice.
Choosing Wisely with a Twist: the New Zealand experience

Dr Mark O’Carroll and Mr Ben Campbell-Macdonald (Senior Analyst) National Health Committee, New Zealand

New Zealand’s National Health Committee (NHC) preferred ‘reprioritisation’ to disinvestment. The NHC presented two reprioritisation experiences and differences in outcomes.

The first involved the insertion procedure of ventilation tubes (grommets), chosen due to it being a relatively simple procedure with good existing evidence, being a regular feature on various international disinvestment lists, and having been partially assessed for disinvestment previously by the New Zealand Ministry of Health. A rapid literature review was conducted, local variation in intervention rates were mapped, New Zealand’s history of use was reviewed, and the opportunity cost of the status quo was estimated.

There was a ‘pro-grommets’ policy in the 1990s and New Zealand had a high rate of performing the grommet procedure. There was no national pathway of care for otitis media. The variation in standardised intervention rates was reasonably large and significant, with an opportunity cost of NZ$4.4 million per year. The evidence revealed grommets were moderately effective to six months in children. There was a mostly negative response regarding the review from the media.

Lessons learned from this first review included:

• clinician buy-in matters
• clinical opinion leads media opinion leads public opinion
• media relations, and therefore public relations, matter
• evidence is irrelevant if the front-line is not on board
• disinvestment is a dirty word.

Catheter ablation for atrial fibrillation (AF) was reviewed due to rising costs. A literature review was conducted, regional variation and clinical targeting of patients analysed and engagement of a clinical working group. Crude mapping revealed discrepancies between AF prevalence and service delivery. Clinical buy-in was relatively easy, resulting in difficult prioritisation decisions being made in a sensible and controlled manner, enabling the reprioritisation process.

A four-step reprioritisation process was outlined, involving identification, prioritisation, evaluation and implementation. Challenges experienced included:

• good evidence was required to determine what was happening in practices
• clinical, political and public buy-in was important
• that savings and improved health outcomes need to be demonstrated.

For the NHC the focus in the future is now on:

• clinical and sector engagement
• materiality and feasibility
• alignment with the broader work program.
Disinvestment at the State level: Queensland

Selecting the Most Appropriate and Relevant Tests and Treatments Care (SMAART Care)

Associate Professor Ian Scott, Director, Department of Internal Medicine and Clinical Epidemiology, Princess Alexandra Hospital, Queensland

The graph below suggests that benefits gained from health interventions have peaked, and overall, new health interventions are providing less benefit (in QALYs\(^3\)) per dollar expended. Many services did not deliver value in terms of health, resulting in over-diagnosis, over-treatment and over-servicing.

![Health system performance demonstrating that health outcomes are driven by productivity and cost-effectiveness of interventions](image)

SMARTT Care is based on the Queensland Department of Health’s HTA program, and aims to identify areas of potential savings, which is then communicated to hospital and health services via the statewide clinical networks. The program has initially utilised a number of resources, including NHMRC guidelines, HTA databases, the US Choosing Wisely Program, the NICE ‘Do-Not-Do’ list and the MBS Quality Framework study\(^5\) to identify possible disinvestment opportunities.

When initiating disinvestment conversations at a clinical level, it is important to consider the operating environment. A number of factors were identified as to why clinicians continue to use healthcare practices that are of no or low value care, including:

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\(^3\) QALY = quality adjusted life year


clinician regret at not administering a treatment when it may lead to benefit, which overpowers regret for the consequences of an unnecessary treatment

pro-intervention bias, particularly amongst younger clinicians, towards choosing action over inaction

pro-technology and innovation bias towards too readily believing that newer treatments and technologies are superior to their predecessors

a desire to please referring clinicians

fear of patient approbation or litigation for not doing things

supply-driven demand from industry and providers

over-estimation of treatment benefits and safety from both a clinician and patient perspective

over-reliance on pathophysiological or anatomical reasoning, or surrogate outcomes that do not necessarily translate into patient-important benefits

clinical practice guidelines written by conflicted panellists

fee-for-service funding that rewards quantity instead of quality of services (i.e. over-servicing does occur)

more generally, medical training, socialisation, habit, ritual, custom.

Disinvestment at the State level: Queensland Clinical redesign

Mr Jason Currie, Executive Director, Clinical Redesign Program, Department of Health, Queensland

Clinical redesign fits in the disinvestment space, with key points of the methodology being that it is patient-focused, led by clinical staff, is systematic and methodical, and the process is rapid with tight timeframes. Clinical redesign, which is primarily a change of management methodology, supports clinicians to improve the patient experience and access to clinical services through a statewide program of clinical service redesign. Redesign encompasses a range of methodologies including Lean thinking, Six Sigma, theory of constraints and systems thinking that aim to reduce waste, reduce variation and add value. Critically, clinical redesign analyses non-value-add areas such as patient waiting times to identify areas that can be improved on. Gains may be seen where clinicians are engaged, where patients are the focus, and where the whole patient journey is considered.
Disinvestment at the State level: Victoria

Investment drives disinvestment and return on investment

Dr Paul Fennessy, Manager, Genetics and Health Technology, Department of Health, Victoria and HealthPACT member for Victoria

Victoria’s submission-based New Technology Program allowed seed funding of a range of new technologies in public hospitals with the aim to incorporate them into routine clinical practice. By investing in new technology, the program drove disinvestment of old technologies, thus delivering a return on investment (ROI). The focus of the program was on surgical substitution, due to the ease of collecting data in this area. A model was developed in the clinical care team and the ROI model was designed with the aim being to quantify disinvestment and explain the benefits derived from the investment program. The return on investment model uses released value and reduced length of stay as outputs, that is, fewer dollars used to deliver more services.

Six (mainly surgical substitute) technologies were assessed as part of the ROI analysis. Total investment of AU$5.65 million resulted in released value between AU$2,000 and AU$145,000 per case. Disinvestment across the six technologies ranged from between 30 and 100%. The ROI model indicated, that after five years, the ROI was AU$42 million or more than 7:1.

Disinvestment at the hospital level: Monash Health

Practical examples of successful disinvestment strategies

Associate Professor Richard King, Head of Medicine, Monash Health, Victoria and VPACT Chair

Although many hospitals may not have access to clinicians who have HTA expertise, disinvestment, or ‘substitutional reinvestment’, can still be successfully implemented at the hospital level by making use of sources such as ‘Choosing Wisely’ and NICE’s ‘do not do’ list. By creating an Evidence Dissemination Service, Monash Health collated and appraised every major review from sources such as the Cochrane HTA Database and the UK’s National Institute for Health Research for evidence of harm or effectiveness. This information was made available to directors of clinical units to explain why certain procedures should not continue to be conducted in the organisation. The response rate was mixed and the return rate variable.

Disinvestment successes were noted for several procedures, however one of the greatest disinvestment achievements was in the pharmacy area. When the evidence for drug use was reviewed, the previous formulary comprising seven ACE inhibitors, four proton-pump inhibitors and multiple statins was reduced to one statin, two ACE inhibitors and one proton-pump inhibitor now being prescribed across the organisation, which has resulted in a saving of AU$3 million over five years.
Disinvestment at the hospital level: Auckland District Health Board – practical examples of successful disinvestment strategies

Professor Stephen Munn, Director, Abdominal Transplant Service, Auckland City Hospital, New Zealand and clinical observer on HealthPACT for New Zealand

The Auckland District Health Board (ADHB) is a NZ$1.5 billion per year organisation and introducing new technologies was often difficult due to budget constraints, hence an interest in disinvestment strategies that could release funds. In 2005, the ADHB Clinical Practice Committee was formed to evaluate new and existing health technologies and to provide advice to managers about resource allocation decisions. The committee comprised 12 clinicians with the ability to undertake literature reviews and analytical work related to HTA. The committee has reviewed 62 new and existing health technologies to date, and most advice provided by the committee has been implemented by decision makers. Of the 62 submissions, 11 related to opportunities to restrict access to, or discontinue, a health technology.

Examples included:

- A review of home humidification for dry mouth following radiation treatment or ear nose and throat surgery, where service delivery costs were $300,000 per year, with an increase in use predicted. The evidence revealed no significant change from baseline post-treatment and local data suggested no evidence in a reduction in hospitalisation rates. Therefore, funding of this technology was discontinued.

- A review of MRI to monitor vestibular schwannomas (i.e. acoustic neuroma). The evidence indicated that while there was growth in tumour size over time, there was no growth after four years, yet monitoring with MRI continued after 10 years. Therefore it was recommended that ‘MRI acoustic series’ imaging could only be performed annually up to five years.

These examples demonstrate that HTA tools in a hospital-based unit had allowed informed advice to be given about both investment and disinvestment, or restriction of access decisions. Disinvestment advice had resulted in cost-saving decisions by hospital managers, indicating the feasibility of cost-containment at a hospital level.
Quantifying Disinvestment – how can we measure disinvestment?

Professor Marion Haas, Deputy Director, Centre for Health Economics Research and Evaluation, University of Technology Sydney

From an economics perspective, a conventional HTA approach and framework assessing technology investment may not be appropriate for disinvestment. Technology is a major driver of increasing healthcare costs. It was assumed that, over time, HTA would increase efficiency of the healthcare system by ensuring technologies provided value for money, that new technologies would render old technology obsolete relatively quickly by natural attrition and that existing technologies would be evaluated in good time. However, this has not been the case with the review of existing technologies being slow and investment in new technologies occurring at a faster rate. Governments faced with budgetary constraints make it imperative that disinvestment is discussed.

It is logical to think that the HTA framework used for investment should also be useful for disinvestment, however, this approach has not been successful. The development of a formal disinvestment identification process is as far as most countries have progressed, resulting in the need for both identification and implementation to be recognised as separate processes. Identification methods for disinvestment were originally devised, not specifically with disinvestment in mind, and can include medical opinion, clinical practice variations, development of clinical guidelines and comparative effectiveness research. Clinical practice variations are driven by the perceived need to identify causes of variation amenable to intervention and there are many ways of describing these variations, such as by use, per capita expenditure, across regions, by insurance, socioeconomic status, by practitioner or organisation. Systematic investigations may ultimately identify candidate technologies for disinvestment.

This raises issues regarding implementation:

- Can we value the savings from disinvestment? There is a need to understand what the alternative might be and savings from disinvestment may be different for different groups of patients, depending on their disease and other characteristics.

- Understanding how the health benefits that have been foregone can be valued – what is going to be given up in order to disinvest? In particular, what would patients be prepared to give up? Given that investment is assessed on relative cost per QALY gained, disinvestment should be based on unacceptable cost per QALY gained, which is a difficult proposition but equally as important.

- Can we capture the resources freed up? Stakeholders need to see how freed resources will be used in order to agree to, or find the implementation of, disinvestment acceptable. This relies on an understanding of which income or budget will be affected.

Implementing a disinvestment program could involve a number of useful processes including:
• Program budgeting and marginal analysis, as well as related approaches, where the objective is to reallocate resources in the context of planning and priority setting. This involves a formal assessment of costs and benefits and redistribution, reduction or expansion of services, and a rebalancing of interventions across a service. It incorporates results from research, local data and expert opinion to determine how resources are currently used and how changes to resource use can be made, within constraints around budgets, to reflect best practice. It is, however, resource intensive, requiring commitment and cooperation of managers and clinicians, and some activities for investment are more readily identified than those for disinvestment.

• Pay for performance (P4P), which in theory aims to pay for improved outcomes, but in practice pays for improved processes because outcomes are further down the track and more difficult to achieve.

• A fund holding approach that involves working within a defined population, a defined spectrum of care at different system levels, with the idea that funds are pooled.

Understanding how incentives work is a requirement for success, and it is important to understand that incentives operate differently for investment and disinvestment. An important incentive is that freed resources must be available to fund alternative interventions or services in the same program. Understanding budgetary constraints and explicit control of and responsibility for the budget are also requirements for success.

There also needs to be a reasonable set of options available for comparative evaluation of costs and outcomes that enables valuation of savings and foregone benefits. This is where program budgeting and marginal analysis, option appraisal and economic evaluation or some combination of these represents important ideas.
Appendix One: Workshop agenda

<table>
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<tr>
<th>Topic</th>
<th>Presenter</th>
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<tr>
<td>1. Welcome • Introduction to HealthPACT</td>
<td>Professor Brendon Kearney Chair, HealthPACT</td>
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<tr>
<td>2. Purpose and background • Objectives of the workshop</td>
<td>Professor Paddy Phillips Facilitator</td>
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<tr>
<td>3. Welcome from Queensland</td>
<td>Dr Michael Cleary Deputy Director-General, Health Service and Clinical Innovation Division, Queensland Department of Health</td>
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<td>4. Setting the scene • What is meant by disinvestment?</td>
<td>Professor Janet Hiller Associate Dean of Health Sciences (Research), Australian Catholic University</td>
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<td>• The ASTUTE study – lessons learnt from the NHMRC funded disinvestment research journey</td>
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<td>5. Disinvestment at the National Level • Comprehensive Management Framework for the MBS</td>
<td>Dr Richard Bartlett First Assistant Secretary, Medical Benefits Division, Department of Health and Ageing</td>
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<tr>
<td>• What are the key outcomes? Is this approach working? Examples of measurable success?</td>
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<tr>
<td>• Future directions</td>
<td>Professor Guy Maddern Surgical Director, ASERNIP-S Director, Division of Surgery, The Queen Elizabeth Hospital, Adelaide</td>
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<td>6. Disinvestment at the Commonwealth Level • “It’s not unhealthy rationing, it’s rational health policy”</td>
<td>Dr Mark O’Carroll National Health Committee, New Zealand</td>
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<tr>
<td>• New Zealand National Health Committee – practical examples from a national level on disinvestment strategies</td>
<td>Mr Ben Campbell-Macdonald Senior Analyst, National Health Committee, New Zealand</td>
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<tr>
<td>7. Disinvestment at the International Level • New Zealand National Health Committee – practical examples from a national level on disinvestment strategies</td>
<td>Dr Mark O’Carroll National Health Committee, New Zealand</td>
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<tr>
<td>8. Presenter panel • The disinvestment landscape: is disinvestment actually a ‘dirty’ word?</td>
<td>Professor Janet Hiller Dr Richard Bartlett Professor Guy Maddern Dr Mark O’Carroll Mr Ben Campbell-Macdonald</td>
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<tr>
<td>Topic</td>
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| 9. Disinvestment at the State Level  
- SMARTT Care & Choosing Wisely – practical examples of successful disinvestment strategies/projects. | Associate Professor Ian Scott  
Director, Department of Internal Medicine and Clinical Epidemiology, Princess Alexandra Hospital, Queensland |
| 10. Disinvestment at the State Level  
- Investment drives disinvestment and return on investment. | Dr Paul Fennessy  
Manager, Genetics and Health Technology, Department of Health, Victoria |
| 11. Disinvestment at the Hospital Level  
- Practical examples of successful disinvestment strategies/projects. | Professor Stephen Munn  
Director, Abdominal Transplant Service, Auckland City Hospital, New Zealand |
| 12. Disinvestment at the Hospital Level  
- Practical examples of successful disinvestment strategies/ projects. | Associate Professor Richard King  
Head of Medicine, Monash Health Chair, VPACT |
| 13. Clinical Redesign and eliminating waste  
- Queensland’s Clinical Services Redesign Program | Mr Jason Currie  
Executive Director, Clinical Redesign Program, Queensland Department of Health |
| 14. Panel Discussion  
- Implementing disinvestment strategies | Associate Professor Ian Scott  
Dr Paul Fennessy  
Professor Stephen Munn  
Associate Professor Richard King |
| 15. Quantifying disinvestment  
- How can we measure disinvestment?  
  - What is released value?  
  - How can savings be measured?  
  - How does efficiency translate into real outcomes?  
  - Incentives and sustainability | Professor Jane Hall  
Director of Strategy  
Professor Marion Haas  
Deputy Director  
Centre for Health Economics Research & Evaluation, University of Technology Sydney |
| 16. Panel Discussion  
- The big picture: aligning disinvestment with strategic priorities | Dr Tony O’Connell  
Director-General, Queensland Department of Health  
Professor Jane Hall  
Mr Richard Bartlett  
Dr Mark O’Carroll |
| 17. Key actions and recommendations  
- Where to from here?  
- Identification and prioritisation of actions/recommendations. | Professor Paddy Phillips  
Facilitator |

Workshop Close
Appendix Two: Disinvestment discussion paper

Introduction

The Health Policy Advisory Committee on Technology (HealthPACT) is to facilitate a workshop on 17 May 2013 with the aim of bringing together clinicians, regulators, health service managers and policymakers in order to examine the opportunities afforded by disinvestment of ineffective and inefficient clinical practices within the Australian and New Zealand health systems.

This paper has been developed to inform discussion at the workshop.

The Health Policy Advisory Committee on Technology (HealthPACT)

HealthPACT is the national committee for the horizon scanning of new and emerging technologies. HealthPACT provides jurisdictions with evidence-based advice on emerging technologies. This information is used to inform jurisdictional financing decisions and to assist in the managed introduction of new health technologies, including medical practices and devices.

HealthPACT is a sub-committee of the Australian Health Ministers Advisory Council (AHMAC), reporting through its Hospitals Principal Committee (HPC). HealthPACT comprises representatives from all Australian State and Territory health departments, the Australian Department of Health and Ageing, the Medical Services Advisory Committee (MSAC), the Therapeutic Goods Administration (TGA), the Department of Veterans’ Affairs, the New Zealand Ministry of Health and the New Zealand National Health Committee.

The Workshop

Disinvestment of ineffective, inefficient or harmful clinical practices and technology presents opportunities to enhance patient and operator safety and improve quality of care that can also result in health system savings.

It is anticipated that disinvestment will be of increasing focus to health systems and health managers, which have to manage increasing health care costs in an increasingly constrained fiscal environment. HealthPACT is seeking to work with key stakeholders from all tiers of government to consider and discuss national and international disinvestment experiences and outcomes, and to identify options and collaborative opportunities for targeted disinvestment within health care settings that duly consider associated policy, funding and workforce.

This discussion paper highlights the potential value and current activities surrounding disinvestment and will inform discussion at the workshop regarding the role of, and identifying options for advancing, disinvestment opportunities in Australia.
Background

Health systems around the world are facing the challenge of controlling escalating costs without compromising quality of care at a time of increasing financial pressure. Although health technology assessment (HTA) has been used worldwide to assist decision-makers with prioritising respective agendas regarding the selective and timely introduction of new health technologies, there is a lack of stakeholder commitment, resources and effective, let alone validated, mechanisms to determine the appropriateness of ceasing health practices.1

Over the last decade, researchers, policy makers and clinicians have coined the term ‘disinvestment’ to refer to an explicit process of withdrawing, partially or completely, health resources from existing technologies that are deemed to deliver little or no health gains for their cost and, therefore, do not represent efficient health resource allocation.2 It is unfortunate the term ‘disinvestment’ tends to imply for many that health care items will be cut or rationed by withdrawing funding.

Whilst many attempt to redefine the term with the objective of maintaining its intent, a replacement term or phrase is likely to generate ongoing debate and require subsequent efforts to ensure global approval and use. Other terms identified to replace ‘disinvestment’ include: value for money, therapeutic equivalence, allocative reinvestment, reducing waste, and bending the cost curve.

Disinvestment of existing ineffective or inappropriately applied healthcare practices has gained momentum within Australia and internationally as a tool for achieving the goal of quality of care and sustainability of resource allocation.3 Internationally, efforts have been, and continue to be, made to identify and reduce, or even stop, clinical practices that offer little or no value, or are potentially harmful; thereby saving scarce resources that could be redirected elsewhere.

Elshaug et al. nominate that “imperatives for identifying and reducing such waste include: i) an ethical imperative to ensure patient safety and thus avoid tests and treatments that cause harm directly or indirectly without providing commensurate benefit; ii) a quality imperative to measure and reward best practices; and iii) an economic imperative to reduce spending and enhance the diffusion of cost-effective innovations”.4 These nominations articulate disinvestment as a driver, and an enabler, of patient safety and quality health care provision that has the added benefit of supporting the selective introduction of cost-effective health technologies and clinical practices.

What is unclear is how to harness and utilise the savings/released value generated by disinvestment activities that provide ongoing incentives and continue to enable innovation. This was exemplified, to some extent, at the August 2009 workshop on disinvestment, hosted by HealthPACT, where participants identified the following topics as important considerations in developing and implementing a disinvestment agenda: national approach, use of evidence, stakeholder involvement and collaboration, research, implementation of change, governance and economic considerations.5
Successful initiatives exist, both internationally and nationally, regarding disinvestment/optimisation to allow policy makers and providers to achieve a higher level of efficiency by re-allocationg savings, or released value, generated by disinvestment toward services with better value, without negative effects on quality of care.\textsuperscript{6, 7}

**International disinvestment initiatives**

Disinvestment initiatives have been increasingly explored in both developed and developing countries, including Denmark, Spain, the United Kingdom, the United States of America, Israel, Canada and Australia. Experience in some Spanish autonomous regions, Australia and the UK indicates that identifying prioritising and disinvesting is a difficult process, partly due to the lack of reliable administrative mechanisms to identify and prioritise health technologies. The following summarises disinvestment some leading organisations.

**Health Technology Assessment international (HTAi)**

HTAi is the international professional society for producers and users of HTA. A Policy Forum held in January 2012 identified key opportunities and challenges for applying HTA to support disinvestment and to consider barriers to the implementation of disinvestment decisions. Following this, a plenary session on “HTA the road map from investment to disinvestment” was held in the 9th HTAi Annual Conference, in which leading experts in the field facilitated discussion on a range of topics related to disinvestment.\textsuperscript{6}

**United Kingdom**

In 2006, National Institute for Health and Care Excellence (NICE) commenced a pilot to identify ineffective treatments through a technology appraisal program. As a result, the “Do not do” guidance database was generated, and updated regularly, to inform providers of low-benefit clinical interventions (i.e. where a technology is not recommended for use in the National Health Service or where a technology is recommended for an optimised subgroup). To date, over 800 technologies are on the “Do not do” list. For example, over two years, an approximate 80% reduction in total number of prescriptions for antibiotic prophylaxis was seen.\textsuperscript{8, 9} Primary Care Trusts have been responsible for implementing NICE recommendations, and although positive recommendations from NICE Technology Appraisals carry a mandatory funding directive, no additional funding is provided to do so. Therefore, the challenge remains for fund holders to implement these recommendations within a capped budget environment.

**United States of America**

Choosing Wisely, an initiative of the American Board of Internal Medicine (ABIM) Foundation, was launched in 2012 to “help physicians and patients engage in conversations about the overuse of tests and procedures and support physician efforts to help patients make smart and effective care choices”. This widely supported initiative recently published summaries of “Five things physicians and patients should question”, demonstrating how harnessing the firepower of over 20 speciality societies in the USA (e.g. American College of Cardiology, the American
College of Radiology, American Society for Clinical Pathology\textsuperscript{8}), is critical in progressing the disinvestment agenda and reining in the cost of inefficient health care.

In 2011, the Good Stewardship Working Group reported the cost of the top five unnecessary clinical services exceeded US$5 billion, noting this was based on GP and outpatient consults. Both initiatives demonstrate that disinvestment is not only applicable to the acute setting.

Spain

The Basque Office for HTA (OSTEBA) has taken a leading role in advancing health technology reassessment research and practice. In 2010, OSTEBA developed the first, and currently the only known, model available for guiding the process of disinvestment known as (GuNFT—Guideline for Not Funding Technology).

A three-year review of the GuNFT guidelines has identified some possible unintended or undesired side-effects (e.g. overly-bureaucratic process; disinvesting item with doubtful value but producing a gap on health care provision; no accountable, transparent or systematic mechanism). The impact of such a policy, if implemented, could be high because it takes into account the opinions of different stakeholders, proposes a transparent process to delist health technologies and offers a more sustainable way of managing health innovation by not only managing their introduction but also managing withdrawal of those with low added value, thereby permitting the re-allocation of resources while maintaining stakeholder buy in.

National disinvestment initiatives

The Australian Government

Medical Services Advisory Committee (MSAC)

The Federal Government introduced the MBS Quality Framework in 2009 to systematically review existing MBS items to ensure that they continue to offer improved health outcomes for patients and represent value for money. To date, four demonstration reviews have been undertaken and another 16 new reviews are planned for 2011-2013. As one of the four demonstration reviews, existing ophthalmology items were reviewed. Implementing recommendations of this review has proved challenging for both government and clinicians, demonstrating, perhaps, not only the need for a broad consultative approach with all stakeholders participating, but also challenging clinicians to better understand the impact of health budgets and demanding they take a leadership role in managing them.

So far, 61 items have been reviewed at the first-stage and a further 22 items are being assessed at the second-stage of the review. The report from stage 1 can be accessed here and the protocol for stage 2 can be accessed from this link. Another project conducted under the Quality Framework umbrella was to develop a strategy that may enable the identification of potentially low-value clinical services via an “environmental scan” of the literature. This project identified 156 potentially ineffective services, which provides a basis for further discussion in respect to
disinvestment. The project highlighted the difficulties in developing a robust and transparent process for the reassessment of clinical services.$^9$

Recently, the Federal Government established a committee to examine the role of disinvestment regarding federally-funded health care. It is anticipated that details on this activity will be presented at the workshop.

National Health and Medical Research Council (NHMRC)

In 2009 the University of Adelaide commenced the three-year NHMRC-funded Assessing Service and Technology Use To Enhance Health (ASTUTE Health) study aimed at trialling and evaluating a model to disinvest ineffective or inappropriately applied health care practices. Two case studies were considered during the lifetime of this project: pathology testing for Vitamin B12 and the assisted reproductive technologies (ART) in vitro fertilisation and intra-cytoplasmic sperm injection. A number of papers discussing the protocol and end results of this project have been published.$^{10-13}$

State and Territory Governments

Queensland

The Queensland Department of Health’s formal HTA program commenced in 2009 and, until recently, mainly administered its New Technology Funding Evaluation Program. This program assessed the potential for funding new health technologies and, in so doing, provided an opportunity for disinvestment of the comparator technology or established clinical intervention that the new technology would replace. Formal evaluations have provided an insight into the optimisation of technologies, that is, which patients would benefit most from the introduced technology.

In 2013, the HTA program is directing its energies into assisting Hospital and Health Services (HHSs) to realise cost savings by conducting a more formal disinvestment assessment strategy. The clinical networks, particularly the State-wide General Medicine Clinical Network and State-wide Intensive Care Clinical Networks, have been engaged to assist this process and the program has been recently named “SMARTT Care: Selecting the Most Appropriate and Relevant Tests and Treatments”. The SMARTT Care Program aims to identify and reduce the use of low-value healthcare through the research and development of evidence-based health policy. The objectives of reassessing and disinvesting low-value or harmful practices are to improve patient safety and quality while reducing costs. Refocusing resource allocation to high-value interventions will increase the effectiveness and cost-effectiveness of public health services in Queensland. The intent of the SMARTT Care Project is to identify areas of potential savings for individual HHSs to consider, rather than mandating, changes.

Victoria

While the role of the New Technology Program was to support investment in selected new technologies, a positive outcome has been the simultaneous disinvestment of inefficient or
outmoded clinical practice. For example, the introduction of endobronchial-guided ultrasound to biopsy and diagnose mediastinal lung tumours has resulted in the significant disinvestment of its pre-existing surgical comparator, mediastinoscopy, of almost 100%. Analysis demonstrates that this disinvestment has reduced the multiday admission to a same day procedure, improved patient safety and outcomes, provides same-day pathology results, reduced referrals for lung resection due to improved biopsy yield and has, in addition, freed up an operating theatre. This particular disinvestment has improved patient safety and quality outcomes, and generating savings/released value of almost $7,000 per surgery avoided.

Work is underway to analyse savings/released value generated by disinvestment as an outcome of targeted new technology investment and for a health service/hospital collaborative to identify strategic opportunities for disinvestment.

**Western Australia**

Identification of health technologies for disinvestment has typically been undertaken at a local level and specific to a particular technology, in response to safety concerns or as technology advances have driven the supersession of an older technology. However, proposed change to the governance of high-cost health technologies in Western Australia will provide increased scope for explicit disinvestment activity.

Currently, HTA and funding for new technology is dealt with independently to policy and funding for the replacement of medical equipment. A proposed partnership between the committees responsible for new and replacement technology aims to support the development of a disinvestment strategy for older technologies and procedures, including the cascading of equipment from tertiary sites to other health care providers in the State. Mapping of new and emerging technologies across a range of clinical areas will also potentially identify ageing technology warranting assessment for disinvestment.

Systematic disinvestment can be demonstrated, however, by strategies implemented by Path West Laboratory Medicine Western Australia to optimise the utilisation of specialised pathology equipment. For example, increased demand for pathology testing has warranted the replacement of biochemistry analysers in larger laboratories with equipment able to meet the requirements both for higher throughput and an increased range of required tests. Technology advances, with consolidation of multiple platforms into fewer biochemistry analysers, have improved laboratory efficiency and productivity, while the reallocation, a partial disinvestment, of older equipment to smaller laboratories with less demand for assay speed and range is another important part of the program.

Benefits of equipment cascading include:

- Equipment efficiency and reliability in high demand sites: results available in shorter time
- Improved productivity: capacity to undertake more assays per FTE
- Decreased expenditure on new analysers in smaller laboratories.
• More effective use of capital funding.

PathWest has undertaken a similar equipment cascading process with other equipment, including haematology, blood gas and coagulation analysers.

In parallel with disinvestment of suboptimal equipment and clinical practices, inefficient health service processes have been improved through the prudent use of service improvement methodologies. WA Health is promoting this approach in multiple ways:

• Implementation of hospital and health service-led Lean and Clinical Service Redesign projects.

• Systematic integration of Clinical Service Redesign methods (using Lean and Six Sigma methodologies) into business process supporting Activity Based Management implementation and reforms affecting patient flow (NEAT, NEST and Four Hour Rule programs). Previous programs included the creation of ‘solutions funds’ to assist the implementation of additional minor capital and works expenditure that derived from a formal service improvement process (where the need for additional equipment/infrastructure is clearly linked to a proper root cause analysis and process redesign).

• Lean Action Challenges undertaken as leadership stretch projects for participants undergoing leadership programs – such as the WA Health Emerging Leaders Program. An important component of the program, Lean methodology is applied to identify inefficiencies, or wastes, in health service activities to achieve measurable targets.

• Training of over 1,000 staff on the use of Lean and other service improvement methods.

• To a small extent, the creation of equipment logs whereby various workplaces can offer to exchange or share equipment that is deemed ‘redundant’ following a service improvement/redesign project.

Consistent with the Lean approach, staff on the hospital-floor, with managerial support, undertake process mapping to identify problems and, through a structured redesign process, develop possible solutions to drive improvements in health services. Over 300 team-lead projects have occurred in WA Health. Of these, over 150 service improvement initiatives have been documented, targeting inefficient practices in administrative, patient flow and referral processes across a wide range of health services.

As with more traditional disinvestment, improvements in service provision have led to cost-savings through release of staff time, increased patient volume capacity and improved safety, leading in many cases to both indirect and direct improved health outcomes.
Examples of service improvement initiatives involving disinvestment of inefficient practices:

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<tr>
<th>Hospital department or Health Service</th>
<th>Process reviewed</th>
<th>Target</th>
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<tr>
<td>Paediatric oncology</td>
<td>Ambulatory patient blood testing</td>
<td>To have 100% of full blood picture results available to clinic staff within 1 hour of patient arrival</td>
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<tr>
<td>Regional Hospital Surgical Dept</td>
<td>Waitlist procedures</td>
<td>98% of category one elective surgical patients will have their procedures performed within 30 days</td>
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<tr>
<td>Women and Newborn Drug and Alcohol Service</td>
<td>Whole service, including room allocation, antenatal appointments and standard operating procedures</td>
<td>To reduce patient wait time by 80%. (Service efficiencies also allowed a post-natal follow up clinic to be established within the existing FTE)</td>
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New Zealand Government

The New Zealand Government has commenced a process for delivering a whole of system disinvestment/prioritisation framework. The National Health Committee (NHC) was established in 2011 to assist Government in the assessment of new and existing health technologies, and in so doing, advise the health and disability sector to spend funding in the most effective way. In September 2012, the NHC produced a discussion paper summarising the issues around the disinvestment/prioritisation of health care practices at the micro (the use of specific interventions), meso (broad service groups such as radiology, cardiology) and the macro (health system) level, via either implicit or explicit means. A HTA toolbox is being developed that can be used in evidence-based assessments of the clinical effectiveness of interventions that can provide the NHC with sufficient information to advise the Minister of Health on the removal of lower quality interventions. It is likely that disinvestment decisions will focus more on the better targeting of interventions to specific sub-groups of patients rather than the complete withdrawal of an intervention, ensuring the right patients get the right service, freeing up resources for other more clinically and cost-effective interventions.

A number of New Zealand’s District Health Boards have also implemented ad hoc disinvestment programmes on an individual basis.

Hospital

The pharmacy department at Melbourne’s Monash Medical Centre implemented a program for pharmaceutical prescribing and dispensing based on the principles of disinvestment. It recently reported that the health service saved $3.4 million over a four-year period without any adverse health outcomes. Other opportunities are being assessed for evidence-based disinvestment and savings.

Challenges

Disinvestment of ineffective, inefficient, harmful or inappropriate practices is a growing priority for health systems; however, various challenges from political, clinical and social perspectives have
been identified for disinvestment process. These include lack of political will, loss of perceived controls on clinical autonomy and patient choice, heterogeneity of patient outcomes and the need for convincing evidence of absence of benefit from the use of a technology.\textsuperscript{6, 15} Complicating the situation is the lack of well-developed or validated mechanisms to identify and prioritise clinical practices or technologies with uncertain clinical or cost-effectiveness, as well as a research agenda to advance disinvestment policy and methods.\textsuperscript{15} The NICE experience has highlighted that optimal targeting the population, rather than total disinvestment, may be a viable option forward.\textsuperscript{16}

Given the challenges faced, it has been suggested that it is essential for government partnerships to involve professional societies and relevant stakeholders (including consumer) to put disinvestment on their agenda. This includes raising community awareness on the importance of disinvestment, close collaboration among policy makers, clinicians, HTA agencies, the public and industry, and improving health outcome data generation and reporting that can adequately inform robust and evidence-based decision-making – a particular challenge for disinvestment compared to other aspects of HTA and implementation.

Realising methodological complexity underpinning HTA for disinvestment and, in general, absence of evidence, instead of evidence of no effect or of harm, underpins many disinvestment recommendations. It is therefore critical to consider development and adoption of a systematic policy approach regarding disinvestment, which applies to our particular setting and health systems, with a robust, validated and transparent process.\textsuperscript{15, 16}

**Summary**

Disinvestment of ineffective or inefficient clinical practices has great potential for improving quality and safety of care, improving patient outcomes and strengthening the sustainability of health system. However, there are many challenges. Collaboration and communication among stakeholders is paramount to overcome the known barriers in order to not only advance this new policy and practice area, but also to demonstrate to clinicians and patients that this approach is valid, appropriate, leads to better health care and supports a sustainable health system, particularly in light of the continued frenzy in technology evolution, ageing population and an increasingly literate community demanding the newest and most expensive health care.

**Questions for consideration at the workshop**

What are stakeholders hoping to realise by establishing a disinvestment framework?

What are the common themes and key differences of disinvestment activities between stakeholders?

What metrics are important in supporting a disinvestment program, and do these differ between stakeholders? What approaches should be taken regarding data collection? What are the data collection priorities and options?
How can existing disinvestment programs (in Australia, New Zealand and internationally) best inform decision-making by stakeholders?

What is the role of professional bodies in developing and implementing a disinvestment agenda?

How should a disinvestment agenda and framework be developed to assist decision-making in a consistent, robust, evidence-based and transparent manner?

If disinvestment has the potential to drive significant health system savings and improve safety and quality for patients, how can we do this in Australia and New Zealand, who do we need to engage and what resources are required – recognising there is already potential duplication across both Australia and New Zealand?
References


