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## Executive summary

Rationing healthcare in some form is inevitable, even in wealthy countries, because resources are scarce and demand for healthcare is always likely to exceed supply. This means that decision-makers must make choices about which health programs and initiatives should receive public funding and which ones should not. These choices are often difficult to make, particularly in Australia, because:

1. there are inconsistencies in and duplication of the economic evaluation evidence generated to inform the rationing process;
2. much of the economic evaluation evidence being generated by academics and private consultants in Australia has limited influence on decision-making because its focus is too narrow or it is not policy relevant; and
3. decision-makers do not always use clearly defined processes to compare information on competing programs or initiatives and judge their relative value for money.

Australia does have some well-regarded rationing processes in place—the Pharmaceutical Benefits Advisory Committee and the Medical Services Advisory Committee, for example—that incorporate important information such as cost-effectiveness into the assessment process. However we can improve rationing processes by looking to organisations internationally. England’s National Institute of Health and Care Excellence, and the Canadian Agency for Drugs and Technology for Health, are two examples of organisations that have helped to create a strong culture of cost-effectiveness in healthcare. Both are independent government agencies that pull together the best available information to assist health policymakers make decisions about healthcare funding. The advice they provide is influential and almost always adopted by decision-makers.

To facilitate better healthcare rationing in Australia, we make the following recommends:

1. Make explicit rationing based on a national decision-making tool (such as Multi-criteria Decision Analysis) standard process in all jurisdictions.
2. Develop nationally consistent methods for conducting economic evaluation in health so that good quality evidence on the relative efficiency of various programs and initiatives is generated.
3. Generate more economic evaluation evidence to inform rationing decisions.
4. Revise national health performance indicators so that they include true health system efficiency indicators, such as cost-effectiveness.
5. Apply the Comprehensive Management Framework used to evaluate items on the Medicare Benefits Schedule (MBS) to the Pharmaceutical Benefits Scheme (PBS) and the Prosthesis List to accelerate disinvestment from low-value drugs and prostheses.
6. Seek agreement among Commonwealth, state and territory governments to work together to undertake work similar to the National Institute for Health and Care Excellence in the United Kingdom and the Canadian Agency for Drugs and Technologies in Health.

## Background

Rationing in healthcare is the process of deciding which healthcare services are funded by government, and which ones are not. These decisions are made both explicitly and implicitly every day by politicians, public servants and healthcare professionals simply because governments cannot afford to pay for all the services people might want or need [1]. Methods of rationing healthcare include:

- Denying access by setting thresholds for eligibility for a particular service (for example the Australian Health Care Card);
- Selecting or targeting certain people because they are most likely to benefit from the service or program (this is the converse of denying access);
- Deflecting would-be recipients of a service or program to another one funded by another government or government department (for example, referring a child for speech pathology provided by the education department rather than the health department);
- Deterring use by imposing barriers (for example charging a consumer co-payment for access to care, requiring a referral from a General Practitioner before seeing a medical specialist, or changes to policy or program guidelines or rules);
- Delaying access (for example by allowing waiting lists for elective surgery to develop);
- Diluting the level of services offered (for example, putting limits on the number of visits provided by medical specialists in hospital outpatient services)[1].

Although rationing happens routinely, the term has negative connotations when applied to healthcare because many people believe that it is not reasonable or ethical to place arbitrary limits on access to care. However the Latin root of the word, 'rational', conveys a sense of proportioned distribution based on reasoned appraisal. Economists use the word in this way as they assume people are rational beings who weigh the advantages and disadvantages of an option before choosing one that maximises their happiness and satisfaction. When seen in this light, it is reasonable to expect governments to use the best available information to make rational decisions about the allocation of resources in healthcare.

Governments also have an obligation to intervene in the healthcare market and allocate resources appropriately because it is well accepted that the market on its own will not achieve the best possible health outcomes for every dollar spent (efficiency) [2]. This is called market failure and is common in healthcare because:

- producers (such as doctors) often have considerable market power;
- consumers do not have full information about the healthcare they might require in the future, nor do they understand the full range and consequences of treatments appropriate for them (information asymmetry);
- the supply of some goods and services results in costs or benefits that impact on others (externalities); and
- health is considered a public good (by many economists).

Although governments cannot create perfect competition in the healthcare market, it is the role of governments to minimise market failures so that all population groups have access to quality healthcare. Governments prioritise interventions when market failure jeopardizes government priorities and objectives. Market failure can be avoided when governments fund programs and initiatives filling gaps that result from the private healthcare sector. While it is the government's role to aim for greater efficiency and equity in the health system than what a private or free market health system achieves, to do this uses scarce resources. Programs and initiatives that deliver healthcare to all Australians and fill gaps will need to be resourced. Health budgets must be rationed wisely so that the healthcare market —public and private—delivers the best health outcomes possible and minimises market failure.

## What is the policy issue?

In order to ensure that healthcare resources are used as efficiently as possible, Australian governments need to adopt a more consistent, explicit and evidence-informed approach to rationing. Governments will then be better placed to decide whether to continue funding programs and initiatives, or fund better value for money services instead.

There are some examples in Australia of governments rationing healthcare resources explicitly and consistently using economic evaluation evidence such as the Commonwealth Government's Pharmaceutical Benefits Advisory Committee (PBAC) and the Medical Services Advisory Committee (MSAC) (see Box 1 below for more details on economic evaluation). However, consistent, explicit and evidence-informed rationing processes, such as economic evaluation evidence, are relatively rare. Instead, many decisions about what programs and initiatives should be subjected to rationing, and which rationing methods should be used, are made implicitly.

This lack of consistency means that it is difficult, if not impossible, to directly compare the efficiency of different programs and initiatives. For example, the efficiency criteria used to assess medication for treating children's depression on the Pharmaceutical Benefits Scheme (PBS) are different from those used to assess the efficiency of programs, such as the Kids Matter mental health framework, even though they are attempting to achieve the same health outcome.

Programs and initiatives funded by Australian federal, state and territory governments are the focus of this brief because these funding decisions are difficult but are examples where economic evaluations and explicit rationing processes can assist (see [here](#) for an example of federal programs and initiatives and [here](#) for a state initiative). These programs and initiatives do not often deliver direct patient benefits. They may aim to improve processes or achieve short term health outcomes, but quantifying overall health benefits such as mortality or morbidity is a challenge. Examples of potentially contentious programs and initiatives are advertising campaigns for safe alcohol consumption or healthy eating, and the Australian General Practice Training program.

Decisions such as implementing the National Disability Insurance Scheme, ways to fund state and territory hospitals and patient care delivered to individuals are beyond the scope of this brief,

although the PBS and Medicare Benefits Schedule (MBS) are highlighted as systems that offer guidance when improving rationing for programs and initiatives.

It is also worth noting that improving rationing processes in government goes only part way to improving the efficiency of the whole health system. This is because Australia has a mixed public-private health system where the private sector plays a major role in health service delivery. If the government makes a decision not to fund a particular program or initiative, it does not mean that the private sector cannot deliver it, or that government funds will not be used to support it through more indirect means (for example, the MBS or private health insurance rebate). Decision-makers need to acknowledge how closely linked the public and private health systems are and understand the implications of how rationing in the public health system will affect government expenditure and general service delivery in the private health system.

#### **Box 1: What is economic evaluation?**

Economic evaluation is a comparative analysis of economic costs and consequences of two or more programs or initiatives. In health, cost-effectiveness analysis or cost-utility analysis is used. The analysis informs decision-makers about how to maximise health benefits from a fixed budget, thereby achieving allocative efficiency<sup>1</sup>. Although health departments can be allocated more resources, and governments can borrow money, in a well-managed budget there is a limit to what health departments can spend each financial year. A fixed budget results in 'scarcity', a core concept of economics [4, 5]. A decision to use resources for one program or initiative means a loss of health benefits elsewhere in the sector. The loss arises because resources are no longer available for an alternative use. The health benefits lost by not funding one program or initiative represent the opportunity costs of the program that is funded [4, 5].

Cost-effectiveness analyses show the cost per unit of health benefit gained; normally the cost per Quality Adjusted Life Year (QALY)<sup>2</sup> gained. A program or initiative is considered to be cost-effective when more health outcomes are generated from the health dollars spent than those that would have been achieved if an alternative option was funded. Examples of programs that have been evaluated using cost-effectiveness analysis are the federally funded National Hand Hygiene Initiative [6], the Active After School Communities program and a Victorian General Practitioner-based obesity reduction program [7]. These programs have been evaluated using different cost-effectiveness methods, but using this type of evidence will still assist decision-makers improve rationing. Ideally, economic evaluation methods should be uniform in Australia (see recommendation 2).

<sup>1</sup> Technical efficiency can be examined separately to allocative efficiency and some recommendations to improve technical efficiency have been addressed in a report by the Grattan Institute [3].

<sup>2</sup> A measure of the state of health of a person or group in which the benefits, in terms of length of life, are adjusted to reflect the quality of life. One QALY is equal to 1 year of life in perfect health [49].

## Current rationing processes in Australia

Rationing expenditure on public healthcare occurs routinely in four main domains: (1) at the Commonwealth level; (2) at the state and territory level; (3) at the regional and local level (for example, in local hospital networks or districts, community health services); and (4) at the point of clinical care. It is mostly done implicitly, but there are some examples of explicit and evidence-informed rationing taking place.

### *Rationing at the Commonwealth level*

At the Commonwealth level, three processes exist that are somewhat explicit and use the best available evidence: the PBAC; the MSAC; and the Prostheses List Advisory Committee (PLAC). These processes are managed under one Commonwealth Health Technology Assessment (HTA) program.

The PBAC's role is to assess applications for listing medicines on the PBS and advise the Minister for Health on an appropriate funding decision [8]. PBAC recommendations are based on a comprehensive process, which has required information on cost-effectiveness since 1993. Recommendations are made based on criteria specified in the *National Health Act 1953* [8–10]. The PBAC is supported by the Economics Technical Sub-committee. This sub-committee evaluates the cost-effectiveness of major submissions, by reviewing and interpreting economic analyses and assessing their quality, validity and relevance [8, 10].

The MSAC assesses applications for listing medical services on the MBS and also advises the Minister for Health [8]. Recommendations are based on eligibility criteria specified in the *Health Insurance Act 1973*. The opportunity for medical services to be formally evaluated for cost-effectiveness has existed in the MSAC guidelines since 1998, although cost-effectiveness analyses are not always required [8, 11, 12]. The MSAC is supported by two sub-committees: the Protocol Advisory Sub-Committee (PASC); and the Evaluation Sub-Committee (ESC). Together, these sub-committees determine the appropriate evaluation method for the medical service being assessed and interpret the evaluations for MSAC including cost-effectiveness analysis [8].

The PLAC assesses applications for prostheses to be funded under the Prostheses List and advises the Minister for Health in the same way as the PBAC and MSAC [8]. Its decision-making guidance comes from the *Private Health Insurance Act 2006* and the Private Health Insurance (Prostheses) Rules. A major objective of the PLAC is to set the benefits that private health insurers must pay for the prostheses listed [8]. There does not appear to be any explicit cost-effectiveness analysis in the prostheses assessment process, although two health economists currently sit on the committee [8, 13].

Beyond these committees, healthcare rationing of various programs and initiatives occurs more broadly in the Commonwealth department of health. This said, an explicit rationing process is only applied to the MBS, PBS and PLAC.



### *Rationing support from the Productivity Commission*

The Productivity Commission currently plays a significant role in Commonwealth government rationing. Broad, national health initiatives, such as aged care reforms, are often referred to the Productivity Commission for assessment. Additionally, the Commission reports on efficiency and effectiveness of the health system through the Reports on Government Services but assessment of costs and health outcomes of relatively smaller programs and initiatives through full economic evaluation is rarely conducted. A health roundtable is being facilitated by the Commission in 2014–2015 to identify ways to improve efficiency within the existing healthcare sector ‘system’ [14]. Ways to improve efficiency in addition to those recommended in this brief may be identified through this roundtable process.

### *Rationing by state and territory governments*

The Health Policy Advisory Committee (HealthPACT) is a sub-committee of the Australian Health Ministers’ Advisory Council (AHMAC) whose membership comprises of representatives from all state and territory health departments, the Commonwealth Department of Health, MSAC and the New Zealand National Health Committee. Its purpose is to provide advance notice and evaluate the potential impact of adopting significant new and emerging technologies on the respective health systems.

Unlike the legislative framework surrounding Ministerial adoption of PBAC, MSAC and PLAC recommendations, there is no legislation to guide Ministers’ or senior public servants’ rationing decisions following HealthPACT assessments [8, 15]. HealthPACT also does not always seek economic evaluation evidence as part of the assessment process [15, 16]. This means that decisions to adopt health technology assessment recommendations are voluntary, and may sometimes be based on information that does not include economic evaluation evidence.

Some state governments—for example, Queensland, Victoria and Western Australia—have also invested in separate health technology assessment processes in addition to those coordinated by HealthPACT. Queensland explicitly outlines decision-making criteria for its assessment of new technologies, which includes a criterion called ‘Value for Money’, and as such implies that consideration be given to cost-effectiveness, although this is not clearly stated in publicly available policy documents [17]. Victoria and Western Australia do not provide publicly available information on whether or not they use economic evaluation evidence in their assessment processes and decision-making about rationing [18].

It is not clear what proportion of funding for publicly funded programs and initiatives in each state and territory are made using explicit decision-making processes that include information from economic evaluations.

### *Rationing at the Local Hospital Network level*

Rationing is commonplace at the Local Hospital Network (LHN) level because hospital administrators need to work within set budgets. Rationing occurs in areas that do not deliver direct patient care such as administration, research and training, but it also occurs in clinical areas. It is sometimes done by setting eligibility rules or rules about priority access—for example, eligibility criteria for pregnant women wanting to access midwifery models of antenatal care, or emergency department triage rules and processes. However, other more indirect or implicit methods are also used to ration clinical care at the local level. They include: making decisions about workforce numbers and mix, which services to provide, in what volume and in which location, and the level of capital investment on beds, theatres and new equipment.

The precise methods by which rationing occurs at the LHN level are not publicly available, and there appears to be few formal mechanisms for sharing decisions across areas. This means that resources allocated to healthcare services and therefore the way they are delivered may vary considerably from area to area.

### *Rationing healthcare to patients*

Clinicians play an important role in decision-making about the allocation of resources simply by carrying out their jobs. In exercising their clinician judgement, they are routinely making decisions about the kind of interventions that should be provided to patients, the extent of treatment, and which patients should and should not receive certain treatments. Although these decisions are made within the constraints set by Commonwealth, state and territory, and hospital network decision-makers [1], the decisions clinicians make have a major impact on the overall funding and allocation of hospital budgets (particularly under the Activity Based Funding model).

Because clinicians have considerable autonomy and make decisions based on their expertise and clinical judgement, most of their day-to-day decisions escape close scrutiny and are not subject to cost-effectiveness analysis. While there are many clinical decision-making tools such as Multi-criteria Decision Analysis and clinical guidelines available to help standardise decision-making at this level, there is only limited evidence to suggest that it has an impact on processes of care and patient outcomes [19].

## **Weaknesses in Australian healthcare rationing processes**

There are three key weaknesses in Australia's healthcare rationing processes:

1. there are inconsistencies in and duplication of the economic evaluation evidence generated to inform the rationing process;
2. much of the economic evaluation evidence being generated has limited influence on decision-making because its focus is too narrow or it is not policy relevant; and

3. decision-makers do not always use clearly defined processes to compare information on competing programs or initiatives and judge their relative value for money.

Each will be considered in turn below.

### *Inconsistency and duplication in the generation of evidence*

Economic evaluation evidence is generated in Australia in many different ways. A wide variety of modelling methods are used to conduct economic evaluations and evaluation quality varies considerably. Definitions of efficiency and health outcomes also tend to differ. For example, in some economic evaluations, health outcomes are measured as QALY, while in others clinical measures of effect are used.

Some evaluations, such as many HealthPACT reports, only consider the economic impact of adopting the new technology without assessing the health and cost consequences, which are normally assessed in a full economic evaluation [15]. Private consultants are also often asked to conduct economic evaluations of new programs or initiatives, and they use a variety of different economic evaluation methods and reporting styles. Because there is no national consensus on what methods and reporting styles should be used for economic evaluations, it is difficult for decision-makers to use the available evidence to make meaningful comparisons of different options.

Australia's challenges in generating robust evidence to inform healthcare rationing are compounded by the fact that each state and territory government has its own process for determining which programs and initiatives it will fund. As a result, some of the work done to inform decision-making may be duplicated across jurisdictions. Although the creation of HealthPACT minimises duplication to some extent, there are still many programs and initiatives that fall outside its scope. If one state, for example, commissions an economic evaluation of a program that also operates (or could also operate) in another state, currently there is no process in place to share this information with other jurisdictions.

### *The influence of economic evaluation in decision-making*

Recommendations made by PBAC and MSAC that are informed by economic evaluation evidence are usually robust. However, these committees' influence on final decisions is weak because recommendations from PBAC and MSAC are advisory only, with the final decision resting with the Minister for Health [10]. Unlike the Minister, PBAC and MSAC do not have to make decisions with regard to the overall budgetary or political implications. Instead, PBAC and MSAC can recommend that certain drugs or services are funded because they are cost-effective compared to other drugs and services; they do not need to assess the portfolio-wide fiscal implications (or opportunity costs) associated with funding decisions. For example, PBAC is not required to evaluate the cost-effectiveness of drugs compared to medical services or alternative health programs, such as lifestyle interventions that may even achieve the same health outcomes.

While PBAC and MSAC use robust decision-making processes, their narrow scope is a limitation. Both committees are required only to answer a research question about cost-effectiveness; they are not required to address the broader policy question of whether or not public funds should be used to fund the new drug or medical service under assessment. This narrow focus limits the committees' influence on the Minister's final decision. Economic evaluations conducted for governments would be more influential if they were planned for and communicated department-wide, answered policy-relevant questions and provided information on both cost-effectiveness and budgetary impact.

### *Absence of processes to compare evidence*

While some form of ministerial influence over funding decisions is necessary to ensure the government is able to both manage the budget and meet public expectations, the criterion by which a Health Minister makes decisions is Cabinet-in-Confidence, thus not entirely known. On some occasions, it appears that ministers' decisions are made in response to intense political pressure or a desire to achieve other priorities. For example, in 2000, the PBAC recommended against listing the breast cancer drug Herceptin on the PBS. The government faced intense public pressure to list the drug but was unable to do so in the absence of a positive recommendation from the PBAC. In response, the Minister sidestepped the PBAC process and provided public funding for the drug by creating a separate Herceptin program [10]. If an explicit process was followed, the justification for funding a program or initiative would be clear and easily defensible.

Within governments, clearly defined processes are often not used to compare information about the various programs and initiatives under active consideration for funding. Without a consistent process that requires, for example, economic evaluation evidence to be used, information about efficiency, social or accessibility objectives may be left out and dominated by other implicit information or priorities.

In many cases including information about efficiency in an explicit decision-making process is limited by poor data availability and capacity to conduct the policy-relevant evaluations. There is a gap between the economic evaluation evidence required to inform rationing and what is available and generalizable to the Australian health system. While not all programs and initiatives require an economic evaluation because the benefits and costs are not contested, many funding decisions should be informed using information of this type. For example, many drugs were listed on the PBS prior to economic evaluation being introduced to PBAC's role in 1993, and almost half the drugs listed on the PBS have not been subjected to an economic evaluation [10]. Previous government investment in the PBS is not being reviewed through more widespread use of economic evaluations, although this has commenced for the MBS<sup>3</sup>. There may be challenges evaluating all contested programs and initiatives nationally as the Strategic Review of Health and Medical Research (McKeon Review) highlighted how small the health services research field is and how few health economists

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<sup>3</sup> In contrast to the PBS, MBS listed services are being reviewed by the MSAC as part of a Comprehensive Management Framework [22]. The review commenced in 2010 and initially examined clearly ineffective services before moving to examining the cost-effectiveness of a limited number of other services. Without this formalised review and embedded process to update MBS items, the schedule will have become outdated.

there are in Australia [23]. However, assessing the efficiency and information about other competing objectives of programs and initiatives in an explicit and consistent manner should be an aspiration of Australian governments.

## International approaches to rationing healthcare

Healthcare funding and practice decisions in the English and Welsh National Health Services are guided by evidence generated by the National Institute for Health and Care Excellence (NICE) [24]. NICE guidance primarily affects clinical practice and consequently overall health system expenditure. NICE considers that simply demonstrating clinical effectiveness is not enough to justify government funding for any particular clinical service; the cost implications must also be taken into account [25]. As a result, NICE has recently focused on disinvestment, which is the process of identifying harmful, ineffective and/or extremely costly services and ceasing government funding for them. To advance this agenda, NICE has developed a database of clinical practices that should not be funded by the National Health Service—the ‘do not do’ recommendations [26].

Other core priorities for NICE and the English and Welsh National Health Services are distributing costs fairly across the population and maximising health outcomes for all [25]. NICE explicitly uses scientific and social judgements to balance the inevitable tensions between efficiency, equity and other objectives. To ensure that public values are given due consideration in the decision-making process, NICE has established independent expert committees with decision-making power and a Citizens Council [25].

In contrast to Australia, NICE makes decisions about whether or not the National Health Service and its Clinical Commissioning Groups [27] should purchase a health service. For the most part, the government does not decide which specific health programs and initiatives should be funded [25]. The government’s role is to supply funding to support the local implementation of NICE guidance, as outlined in the Health and Social Care Act 2012 [28]. In England and Wales, the use of economic evaluation to inform rationing is respected and it is accepted that the explicit and consistent process applied by NICE will lead to changes in clinical practice.

Canada also has an agency dedicated to making explicit decisions about the use of health resources. The federal, provincial and territorial governments established the Canadian Agency for Drugs and Technologies in Health (CADTH) in 1989. It has evolved over time so that it now generates economic evaluation evidence to inform resource allocation decisions, as originally this was not part of the agency’s mandate [29]. One of the agency’s strengths is that it is independent from government and funded by both federal and provincial/territorial governments. The agency also uses internal and external analysts, and it uses standardised economic evaluation methods, adopted first in 2006 [29]. CADTH’s consistent approach to explicit rationing using the best available evidence is another of its key strengths.

In the United States, just like other countries, decisions are routinely made about the allocation of federal and state funds to health programs such as Medicaid, chronic disease prevention and workforce initiatives. In the US, however, it is not generally socially or politically acceptable to

describe the process as ‘rationing’ because of the public’s objection to government interference in perceived private and individual matters of patient care [30]. Through the Patient Protection and Affordable Care Act, the United States has established an independent government agency that conducts comparative-effectiveness research—the Patient-Centred Outcomes Research Institute. While the Patient Protection and Affordable Care Act prohibits cost-effectiveness research informing Medicaid decisions, cost-consequences and value for money concepts are still part of the Institute’s analysis [31]. Additionally, cost-effectiveness research continues to be conducted by researchers outside the Institute and likely influences the American health system [30].

The American state of Oregon experimented with an explicit rationing process in the early 1990s. In this experiment, the state government sought to expand access to Medicaid, the United States’ joint federal-state public healthcare program for low-income Americans, by using an explicit rationing process, along with community consultation, to determine a list of services that would be funded by the government. More details about the experiment are outlined in Box 2.

### **Box 2: The Oregon Experiment**

In 1994, the American state of Oregon began operating an explicit healthcare rationing process in its Medicaid program (the joint federal-state public healthcare program for low-income Americans) in order to increase the number of eligible state residents into the program. At the time, Medicaid covered only 42 percent of low-income Americans, and other states were tightening eligibility requirements in response to growing program expenditures. The premise of Oregon’s reform, known as the Oregon Health Plan (OHP), was that although Oregon could not conceivably afford to pay for every medical care service for every person, it could expand Medicaid insurance to cover all state residents below the federally established poverty line while controlling expenditures if it was willing to ration care [32].

Oregon began by creating of a list of medical services, and a state-appointed Health Services Commission reduced more than 10,000 medical procedures to a list of 709 medical conditions and their related treatments (known as “condition/treatment pairs”), through a process of community meetings, public opinion surveys, cost-benefit analyses and medical research [32]. The state government’s legislature then legislated how much it was willing to spend on the OHP per legislative session and then literally draw a line across the list of condition/treatment pairs. The state covered all services above the line and would not cover any services below the line. In the event of a financial shortfall, the choice was either to move higher up the list and exclude more services, or to earmark more revenues for the program [32].

Oregon overcame early controversy surrounding its embrace of explicit rationing to earn widespread praise for its success in expanding insurance coverage to the uninsured. It managed to expand health insurance coverage to more than 600,000 people in OHP’s first five years, reducing the state’s uninsured rate [32]. Fears of rationing’s impact on Medicaid patients were allayed by OHP’s generous benefit package and the absence of extensive rationing [37].

Oregon was confronted with difficult political choices in the 2000s as a result of deteriorating fiscal conditions, and the state wrestled with budget cuts and ways to make up revenue shortfall. A 2004 state referendum against tax increases to cover government expenditures passed, which triggered large OHP cuts [37]. OHP scaled back services, began charging means-tested premiums and stopped accepting new plan members in 2004. In 2008 it ran a lottery-based system to sign up 3,300 new member (tens of thousands signed up for the lottery) [39, 40].

Budget constraints and loss of political confidence saw OHP in significant decline until the roll-out of the United States government’s Patient Protection and Affordable Care Act—commonly known as Obamacare. From 2011 to 2012, Oregon underwent significant OHP reform whereby it has transformed OHP in order to receive federal funding to expand OHP eligibility with participants seeking their health services from newly created Coordinated Care Organizations [42–44].

The Choosing Wisely [33, 34] campaign, initially developed in the United States and now operating in a number of countries, aims to encourage physicians to talk with their patients about only using tests and procedures that are essential and effective [35]. More than 60 specialty medical societies have developed lists of “Things Providers and Patients Should Question”. Each list provides information on when tests and procedures might be inappropriate such as not scheduling elective caesarean sections before 39 weeks gestation and not prescribing antibiotics for mild ear infection in children aged 2 to 12 years.

An equivalent Canadian campaign has been established in partnership with the Canadian Medical Association with the intention of developing similar resources for encouraging physician and patient conversations about the most appropriate care [36]. Australia is also commencing a campaign lead by [NPS Medicine Wise](#). Although these campaigns are not focused on cost-effectiveness and efficiency, establishing a culture that avoids unnecessary tests and procedures is an important component of developing a more consistent, explicit and evidence-informed approach to healthcare rationing.

## Consistent approaches to explicit and evidence-informed healthcare rationing

To establish robust healthcare rationing in Australia, decision-makers need to acknowledge the various implicit and explicit priorities that influence the process and develop a decision-making tool that incorporates them. Ideally, this tool should include economic evaluation evidence. Adopting such a tool at the Commonwealth, state and territory levels would mean that the same broad criteria were used to make judgements about funding new healthcare programs or initiatives across the country.

### *Acknowledge the influences on rationing*

To improve the way healthcare is rationed in Australia, policymakers need to make explicit the various priorities that influence decision-making. These may include national priorities, public sentiment, political priorities and views on the importance of achieving efficiency and equity in the health system. Figure 1 is a framework that illustrates the various influences on healthcare rationing in Australia. In reality, these influences vary over time and are not weighted equally. However, the consistently important influences that do not vary over time should be explicitly set out in any decision-making tool adopted to inform rationing decisions, represented by the orange box in Figure 1. The tool should also be informed by criteria such as National Health Performance indicators, which have been developed around national priorities and social expectations (see blue boxes in Figure 1). Economic evaluation information should also be included in the tool. There are also currently implicit pieces of information that influence rationing which are often not clear to the public and discussed behind closed doors. Examples of this information that is considered implicitly are in the red circles in Figure 1. These influences should be made explicit and included in the decision-making tool.

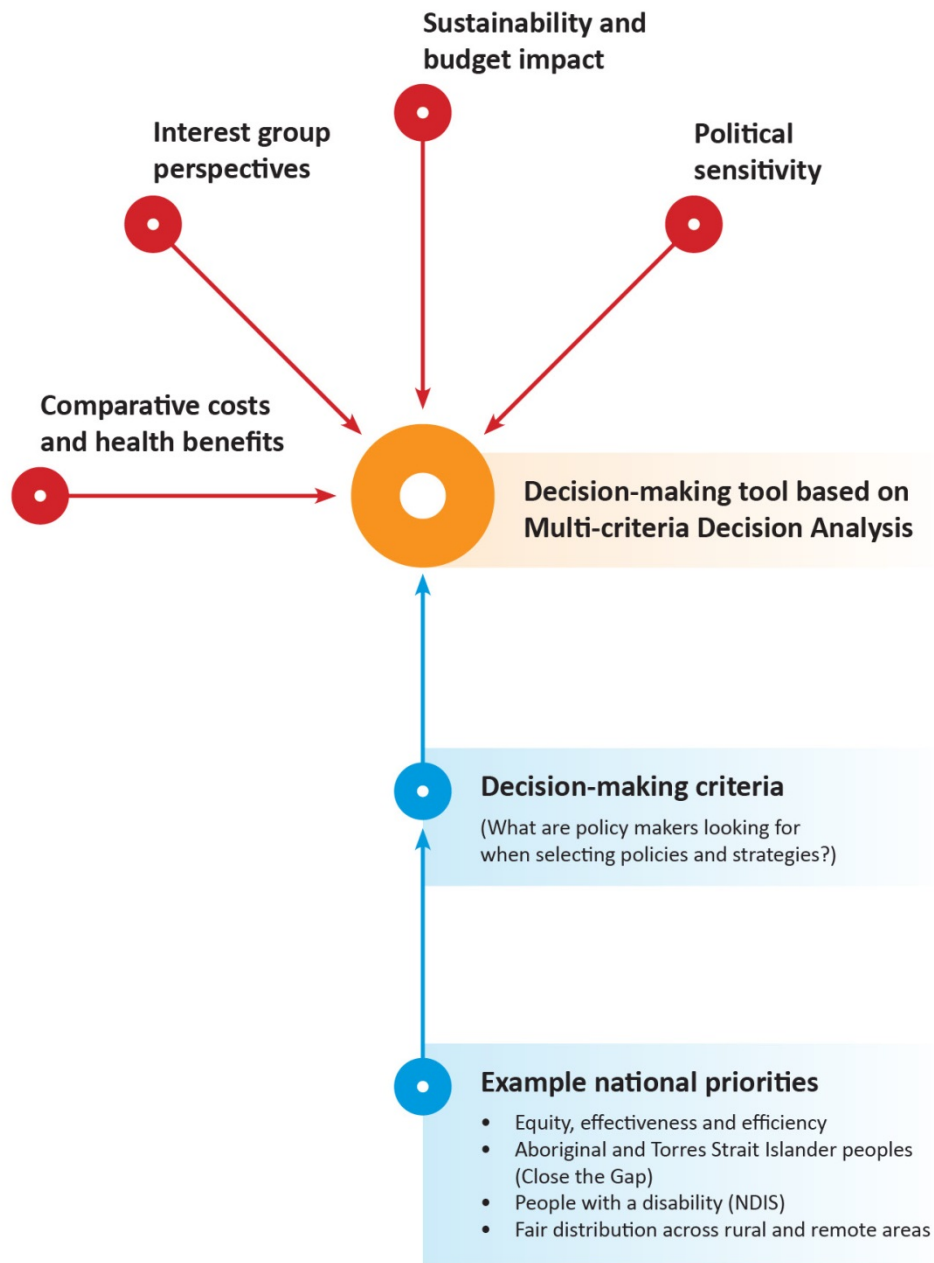
### *Use a decision-making tool to guide rationing*

There are a number of decision-making tools proposed for use in clinical healthcare including Multi-criteria Decision Analysis and Program Budgeting and Marginal Analysis [45, 46]. Multi-criteria Decision Analysis is one tool that policymakers should consider adopting because it can be applied to decisions regarding the funding of program and initiatives, that is, it could be used by Commonwealth, state and territory and local governments to inform decision-making. It has widespread acceptance in clinical healthcare and is routinely used in other disciplines such as environmental sciences, agriculture, energy sciences, and marketing [45-48]. The tool came into use following the observed inability of people to effectively analyse multiple streams of information on an issue, for example the implications for cost-effectiveness and equity [46].

For Commonwealth, state and territory governments to use the Multi-criteria Decision Analysis tool to guide funding and disinvestment decisions, they would need to develop a bespoke version based on various explicit priorities and criteria (see Figure 1). If government objectives for healthcare are clear, then developing criteria and their relative importance for use in a decision-making tool will be straight-forward. It may be difficult though, to gain national agreement on decision-making criteria. Once the tool was developed, it could be used to make decisions on a broad range of programs and initiatives. To illustrate, a worked example of a possible decision-making tool based on Multi-criteria Decision Analysis is presented in Annex 1.



Figure 1: Influences on healthcare rationing



## Policy solutions

To improve the way scarce healthcare resources are rationed in Australia, governments should consider adopting the following solutions.

1. Make explicit rationing based on a national decision-making tool (such as Multi-criteria Decision Analysis) standard process in all jurisdictions.
  - i. This would allow policymakers to compare the relative efficiency, equity and other performance requirements of different programs and initiatives, and it would allow policymakers to disinvest from low-value programs and initiatives with savings reinvested in higher value ones.
  - ii. It may not be feasible to examine all programs and initiatives using such a tool, but new and contentious existing programs and initiatives, at least, should be examined.
2. Develop nationally consistent methods for conducting economic evaluation in health so that good quality evidence on the relative efficiency of various programs and initiatives is generated.
  - i. This evidence could then be used by health departments across the country to inform decision-making.
  - ii. Australia should also consider developing and adhering to guidelines for conducting economic evaluations similar to those used by international agencies such as the National Institute for Health and Care Excellence in the United Kingdom and the Canadian Agency for Drugs and Technologies in Health.
3. Generate more economic evaluation evidence to inform rationing decisions.
  - i. Cost-effectiveness research that is coordinated nationally and answers policy-relevant questions should be conducted.
  - ii. Independent evidence should be generated and organised in such a way that decision-makers can use it to assess multiple policy options.
4. Revise national health performance indicators so that they include true health system efficiency indicators, such as cost-effectiveness.
  - i. This will create a culture and expectation among decision-makers that programs and initiatives will be measured in terms of their cost-effectiveness and require efficiency to be measured consistently.
5. Apply the Comprehensive Management Framework used to evaluate items on the MBS to the PBS and the Prosthesis List to accelerate disinvestment from low-value drugs and prostheses.
6. Seek agreement among Commonwealth, state and territory governments to work together to undertake work similar to the National Institute for Health and Care Excellence in the United Kingdom and the Canadian Agency for Drugs and Technologies in Health.

## Annex 1: Worked example of a possible decision-making tool based on Multi-criteria Decision Analysis (MCDA)

In this example programs A, B and C are being considered for funding (see Table 1). The performance of each program is assessed in a matrix using fictional sample data. The rows describe how well each option performs using a bespoke set of criteria. It is important that these same criteria are used consistently by health policy decision-makers and health service managers when assessing various programs and initiatives for funding.

In Table 1 below, each program is assessed against criteria using relevant units of measurement. For this example in Table 1:

- Cost-effectiveness is reported as cost per Quality Adjusted Life Year (QALY) gained (see Box 1);
- Burden of disease is reported on a 5-star scale where a high number of stars indicates the probability of the program or initiative reducing the burden of significant diseases;
- Benefit for Aboriginal and Torres Strait Islanders is reported on a 5-star scale where a high number of stars indicates the probability of the program or initiative improving health outcomes;
- Priority for remote populations is reported as yes (tick) or no (blank) indicating whether the program or initiative is a priority for this population;
- Support from key interest group is reported as yes (tick) or no (blank) indicating whether the program or initiative receives support; and
- Aligns with government policy is also reported as a yes (tick) or no (blank).

The lower half of the table is a quantitative analysis of the original assessment given in relevant units of each program's performance. Information in the top half of Table 1 is converted into numerical values on a scale from 0 to 100. The method for converting performance assessment criteria to numerical values would need to be developed when the decision-making tool is designed.

In this example, a numerical score of 100 demonstrates that Program C is very cost-effective. Program B is not as cost-effective with a numerical score of 45.

The values are weighted according to the importance of each criterion, with weights chosen by the decision-makers in the initial process of developing the decision-making tool. The weighted average scores for each policy option are then calculated. The calculation of the final score for Program A is  $50 \times 0.3 + 40 \times 0.15 + 30 \times 0.15 + 0 \times 0.2 + 100 \times 0.1 + 0 \times 0.1 = 35.5$  [46]. In the lower half of Table 1, Program B scores the highest and is therefore the best option according to this decision-making tool and set of criteria.

Notably, Program B scores worst against cost-effectiveness criteria in this example but this does not discount the value of economic evaluation evidence. The process allows the performance of programs and initiatives to be assessed against objectives that compete with cost-effectiveness. This

is appropriate as efficiency will never be the sole objective of government funded programs and initiatives.

Ideally, to inform a defensible and high quality rationing process, economic evaluation evidence should consistently be included in a decision-making tool that is based on explicit criteria developed in line with national priorities.

The difficulty with decision-makers and health service managers consistently using a decision-making tool based on MCDA will be the temptation by decision-makers to allow non-rational and/or overtly political factors dominate the eventual decision of whether or not to proceed with a program, treatment or service.

Table 1: Example Multi-criteria Decision Analysis

Policy options	Program A	Program B	Program C
Cost-effectiveness	\$40 000 per QALY	\$55 000 per QALY	\$1000 per QALY
Burden of disease	**	****	*
Benefit Aboriginal and Torres Strait Islanders	**	*****	none
Priority for remote populations	none	✓	none
Support from interest group]	✓	✓	none
Aligns with government policy	none	✓	✓
<i>Quantitative analysis below this cell</i>			
Cost-effectiveness (30%)	50	45	100
Burden of disease (15%)	40	80	20
Benefit Aboriginal and Torres Strait Islanders (15%)	30	100	0
Priority for remote populations (20%)	0	100	0
Support from interest group (10%)	100	100	0
Aligns with government policy (10%)	0	100	100
Raw/Weighted scores	220/35.5%	490/80.5%	220/43%

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