Senate inquiry into the availability of new, innovative and specialist cancer drugs in Australia

Submission from the Clinical Oncology Society of Australia and Cancer Council Australia

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The **Clinical Oncology Society of Australia** (COSA) is the peak national body representing health professionals from all disciplines whose work involves the care of cancer patients.

Cancer Council Australia is Australia's peak national non-government cancer control organisation and advises the Australian Government and other bodies on evidence-based practices and policies to help prevent, detect and treat cancer.

Recommendations

- Coordinate evaluations by the Medical Services Advisory Committee (MSAC), Therapeutic Goods Administration (TGA) and Pharmaceutical Benefits Advisory Committee (PBAC) assessments to reduce the delay of sequential government processes;
- Introduce earlier reportable endpoints such as objective tumour response rates and progression-free survival (as compared with overall survival) into PBAC assessment processes to provide timelier recommendations for drug listing;
- Introduce a more rigorous post-market surveillance system, to support at the back end the flexible criteria needed for more efficient pre-approvals and to identify savings to offset the costs of listing new cancer drugs;
- Invest in chronic disease prevention at a level that reflects the increasingly unsustainable costs of treating lifestyle-caused disease through the PBS;
- Introduce an online system to coordinate and reduce the administrative burden of the PBAC application process for sponsors;
- Develop a guiding framework to underpin a consistent review by PBAC of cost-effectiveness outcomes demonstrated through cost per QALY;
- Base the framework on the application of minimum effectiveness thresholds and value-based assessment tools that recognise improved quality of life and reduced disease burden in the decision-making process for new treatments;
- Develop a funding mechanism to routinely profile multiple genes to identify treatable changes in cancer; and
- Audit jurisdictional chemotherapy co-funding arrangements and call on jurisdictions to remove additional charges that compromise equity of access across states and territories.

Overview

COSA and Cancer Council Australia commend the Senate for conducting this inquiry and welcome the opportunity to provide context and independent recommendations.

Cancer causes the highest level of death and premature death in Australia, with the greatest loss of life among people aged 55 to 64 (Australian Institute of Health and Welfare, 2015).

Timely and affordable access to cancer drugs is therefore one of the most urgent human and health system sustainability issues in Australia and is set to become increasingly important until the ageing of the nation's population peaks in the middle of the century (Australian Bureau of Statistics, 2013).

Cancer in Australia

Cancer contributes to between 16% and 19% of the total disease burden in Australia and accounts for three out of every 10 deaths (AIHW, 2014). Cancer control was declared a National Health Priority Area by the Australian Government in 1996.

As cancer is predominantly a disease associated with ageing, the number of cases diagnosed in Australia is projected to rise significantly. In 2011 there were 118,711 cancers diagnosed (AIHW 2014) and this is expected to reach around 150,000 in 2020 (AIHW 2012), an increase of 26%.

All cancers except non-melanoma skin cancer are potentially fatal if not treated (non-melanoma skin cancers can also be fatal if ignored). In Australia, on average around 51% of cancer patients require chemotherapy[1] and other prescription drugs as part of their essential treatment (Ng et al., 2010).

Health system expenditure on cancer

In 2008-09 health system expenditure on cancer in Australia was $4,526 million (AIHW, 2013). This is expected to rise, with over $10 billion projected to be spent on cancer in 2032-33 due to an increase in the volume of services, population growth and the ageing of the population (Goss, 2008).

Many cancer drugs are subsidised under section 100 of the National Health Act, which includes the Efficient Funding of Chemotherapy (EFCP) program and the Highly Specialised Drug Program (HSDP). In 2010-11 close to $95 million was spent on the EFCP (PBS Information Management Section 2014) while over $1 billion was spent on the HSDP, of which cancer drugs accounted for 12% (Department of Health and Ageing & Medicines Australia, 2013).

In 2008-9 $540 million was spent on cancer drugs in Australia, an increase from $169 million in 2000-01 (AIHW, 2013). Between 2009–10 and 2013–14 the EFCP program had an average annual growth rate of 62.61% (PBS Information Management Section, 2014). It is projected that spending on cancer drugs will increase by 244% between 2003 and 2033 (Goss, 2008).

Cancer drugs are the fasting growing expenditure item on the PBS by disease type (Pharmaceutical Benefits Scheme, 2014). It is important to note, however, that government expenditure on cancer drugs is lower than expenditure on drugs to treat cardiovascular and nervous system disorders – although cancer causes significantly greater loss of years of life in Australians (PBS, 2014).

Cancer drugs under-funded in relative terms

Despite the growth in cancer drug expenditure, cancer prevention and care in Australia in relative terms remain under-funded in relation to the years of life lost to Australians through cancer. For example, cancer represents 19% and growing of Australia's disease burden (years of life lost) but only 13% of overall healthcare expenditure (AIHW, 2015 & AHIW 2010).

And, while expenditure on cancer drugs continues to increase, there are no oncology medicines in the top 10 most costly drugs to the Australian taxpayer subsidised through the PBS. (The list of drugs by subsidy is dominated by medicines for treating diet-related disease) (PBS, 2014).

Analyses published by Deloitte/Access Economics, for the Cancer Drugs Alliance, showed that the average time between TGA approval and PBS listing of cancer medicines has increased from 15 months to 31 months over the past decade (Deloitte/Access Economics, 2013).

The changing nature of cancer drug development

Cancer is a disease of abnormal gene function. The sequencing of the human genome has therefore led to a greater understanding of the molecular characteristics of cancer, enabling the development of cancer drugs targeted at molecules specific to cancer cells.

For example, one of the first targeted cancer drugs was Imatinib – a molecule engineered to inactivate a cancer-causing protein only found in chronic myelogenous leukemia (CML) (National Cancer Institute, 2012). Treatment with Imatinib changed CML from a cancer with a poor outcome to a chronic, manageable disease. More recently a number of drugs targeting molecules in melanoma have dramatically improved survival (NCI, 2014), enhancing patient outcomes but adding significant costs to PBS expenditure.

The understanding of the molecular composition of cancer has also led to the identification of many different types of cancers. Cancers that were once characterised by tissue type and location can now be divided further into subgroups based on their molecular profile. This has reduced the market for some cancer drugs and increased the recruitment time for clinical trials, making trials more expensive to run.

Given the pivotal role of trials to the subsiding of new medicines, this is one of a number of important issues that needs to be addressed if cancer patients are to have affordable access to life-saving and life-extending drugs.

Drugs are also being developed that are showing significant patient benefits in preliminary studies, well before sufficient time has passed to report on disease-free survival. It is critical that endpoints other than disease-free survival are considered when health authorities evaluate the relative benefits of new medicines.

There are, therefore, significant challenges and opportunities for improving patient access to essential cancer drugs. We have sought to articulate some of these challenges, opportunities and summary recommendations against the terms of reference of this inquiry.

Addressing the terms of reference

a) The timing and affordability of access for patients

Delays for patients in accessing potentially life-saving and life-extending cancer medicines in Australia are well-documented.

As well as the often unacceptable time lag between evidence of benefit and drug availability, overall delays are reportedly increasing as the numbers of Australians dependent on access to cancer medicines grows (Deloitte/Access Economics, 2013).

Apart from data derived from large public processing units such as the TGA and the PBS, there is no systematic collection of information about the adverse impact of delays and the prohibitive costs of new cancer medicines in Australia – this in itself is a significant problem. Anecdotally, however, problems of drug access to patients in respect of timing and affordability are consistently among the most frequently reported concerns raised by the community with Cancer Council and COSA. Numerous testimonies from cancer consumer groups, over many years, have also highlighted the delays and prohibitive costs to patients that compromise access to medicines.

Timing – systemic delays

Australian healthcare consumers and practitioners rightly expect timely access to quality cancer medicines with demonstrated safety and efficacy. However, well-documented systemic delays continue to constrain the efficient delivery of cancer medicines to patients in Australia. These delays impact on access to medicines with the potential to support earlier-stage diagnosis of cancer and improved short- and long-term survival.

The process in Australia is in our view unnecessarily complex and time-consuming, involving multiple agencies, inflexible evaluation criteria and fragmented sequential processes.

Current system in summary

Firstly the TGA assesses the quality, safety and efficacy of any new drug before it goes on the market. The TGA also reviews applications of new indications for existing medicines. If approved, the drug for use is registered on the Australian Register of Therapeutic Goods (ARTG). Thereafter, the drug's sponsor can submit an application to the Pharmaceutical Benefits Advisory Committee (PBAC) requesting that the drug be evaluated and listed for subsidy.

PBAC assesses the clinical and cost-effectiveness of the registered medicine compared with other available treatments. The assessment considers the medicine's in use within the Australian market for the indication/s for which it has been approved by the TGA compared to already available, where applicable, medicines addressing that same issue. The Minister for Health, and/or the Cabinet (through the federal Department of Health) considers the PBAC's recommendations prior to a drug being listed on the PBS.

In addition, if the indication for the drug's subsidisation is based on a diagnostic test, the Medical Services Advisory Committee (MSAC) must review and approve any new related medical service or a change to an existing service.

Currently, it takes a typical cancer drug at least 14 months from TGA submission to listing on the PBS (Deloitte/Access Economics, 2013). There is no flexibility to respond to the treatment requirements of cancer patients. Application to the key regulatory bodies (TGA, PBAC and MSAC) is sequential and dependent on fixed meeting dates and/or the need for resubmission, which can further delay PBS listing by at least four months (Deloitte/Access Economics, 2013).

While a parallel process for TGA and PBAC submissions was implemented several years ago to help reduce delays, coordination with MSAC application where required should also be introduced.

Although some critical cancer drugs have been recommended by PBAC, Cabinet has delayed PBS listing due to budgetary constraints or an inability to reach an agreed price with the sponsor (Deloitte/Access Economics, 2013). For example, the prostate cancer drug Abiraterone acetate was recommended by PBAC in November 2012 but took 10 months for PBS listing. Currently, the

average time from PBAC recommendation to PBS listing is close to seven months (Wonder, 2014).

Special access programs

Additional avenues are available for cancer patients to access unregistered drugs, including drugs in early development through clinical trials, compassionate and Special Access Programs (SAS), and use beyond a TGA indication. However, access may be unsustainable, dependent on select conditions, provide no guarantee of safety and can be unaffordable to the patient.

Seeking access to an unregistered medicine through an authorised prescriber, by personal importation or a SAS managed by the TGA, can be problematic as it may:

- require a relationship between the patients' treating clinician and the pharmaceutical company
- involve complex international access programs that are cumbersome for clinicians and pharmacists to administer;
- involve caps on participation or waiting lists or quantity of the medicine;
- be costly for the patient;
- involve complex legal and insurance considerations within a hospital; and
- a sponsor has no obligation to supply an unregistered product under SAS.

In addition, an SAS approval is provided on a case-by-case basis, resulting in treatment discontinuity and inequity of patient access. The sponsor of an approved program has no obligation to provide access to treatment or, if they do, can choose to withdraw supply at any time. This is a key problem especially when there is delay in reimbursing an approved drug, which only the wealthy can access. This results in a two-tiered system of access in Australia.

Clinical trials

Participating in clinical trials is seen as one avenue for earlier access to potentially life-saving and life-extending drugs, however it is not an option for a significant number of some patients because:

- not all new cancer drugs are tested through clinical trials conducted in Australia;
- patients must be referred to hospitals and clinicians participating in the trial. Participation may be impossible due to location; and
- strict eligibility criteria may make some patients ineligible to participate.

A key to the problem is the reliance on overall survival data as an endpoint and a determining factor when PBAC is reviewing the efficacy of drugs submitted for listing.

Affordability

The problems of delayed access also affect affordability of cancer drugs, given that PBS listing is essential to ensuring costly medicines are within reach of a typical Australian cancer patient.

The PBS is seen as a pillar of the Australian health system and is critical to providing affordable access to cancer drugs. However, the system is limited. One of the most widely reported problems with drug access – based on personal submissions to Cancer Council and pleas for support from patients – is that a subsidy model based on population-wide cost-effectiveness cannot address extreme disadvantage on an individual basis. This is exacerbated by the requirement that funded applications for an indication must be submitted and often supported by data from costly clinical trials – which are usually only undertaken if the relevant drug is likely to be marketed at a high

enough volume to turn a profit for the applicant.

The result in a number of cases is that high-cost, low-volume drugs are not submitted for evaluation (let alone listed), even if they confer a significant survival benefit to a relatively small but desperate patient group. We understand the fiscal challenges of subsidising medicines in these cases, however it is in our view incumbent upon government to explores ways of supporting patients who are unable to afford drugs that could offer them a significant survival benefit.

Successive governments have emphasised the need to offset subsidisation of a wider range of essential medicines with savings elsewhere in the system. Greater rigour in post-market evaluation, and an increased investment in disease prevention, are two potential savings measures that should be explored to support longer-term system sustainability and free up funds for subsidising urgently required new cancer drugs.

PBS listing, cost-sharing

The PBS Schedule lists all medicines available to be dispensed to patients at a Government-subsidised price, with the aim of making priority medications more affordable.

If a medicine is not PBS-listed, pricing arrangements to promote affordable access can be established through cost-share programs coordinated by the Australian sponsor of the drug and approved by participating hospitals or private clinicians. Depending on the level and degree of cost-sharing, the patient, the hospital or the sponsor may cover the entire cost of the treatment or there may be a gap which the patient is required to cover. A survey of nine sponsors found that they provided 4,748 patients with compassionate access in 2011-2012, more than half of which was to cover the gap between TGA registration and PBS reimbursement (Deloitte/Access Economics, 2013).

There are an increasing number of these compassionate or early access programs that need to be coordinated by clinicians and pharmacies. Access is not equitable, as these programs are not uniformly provided to patients across jurisdictions or even clinicians and hospitals. Patients may need to have their care transferred to another clinician or hospital to access cancer drugs that need to be self-funded.

So, while the availability of these schemes is critical to some patients, they are arbitrary and in our view not a long-term, systematic solution to the problem.

The key to affordable access of urgently required cancer drugs is a more efficient, responsive process for evaluating and listing medicines for PBS subsidy.

Solution – flexible, responsive indications for efficacy

Survival is only one critical endpoint to indicate that a cancer drug is efficacious; there are some drugs that demonstrate a clear patient benefit before overall survival data can be made available. Patients die while waiting for longitudinal survival data to show a drug is effective, even though other important evidence of efficacy has been published. Waiting for survival data can also compromise the benefits of a clinical trial, by increasing: costs; the numbers of patients needed for recruitment and retention; and confounding factors.

Therefore, additional endpoints beyond direct overall survival should be considered when PBAC is evaluating the potential benefits of a new cancer drug. Indicative endpoints could include: objective tumour response; response rate; time to progress; time to treatment failure; and progression-free survival (duration of time without disease progression) (Olver, 2013). Treatment outcomes or endpoints relating to significantly improved quality of life, or the measurement of improved symptom control should also be considered.

In addition, advances in cancer research have generated a greater understanding of molecular biology, resulting in the identification of smaller subsets of cancer and, along with rare cancers, naturally produces small patient sizes (Olver, 2014). The use of surrogate endpoints which, still demonstrate major outcomes in benefit, would support the generation of clinically meaningful data in cancers with long survival, or generally present at a later stage.
Variation between the standard of evidence required for anti-cancer therapy and other chronic disease agents is unacceptable and limits the potential reach of cancer medicines. For example, despite a lack of evidence, many lipid-lowering drugs are used effectively in primary or secondary prevention of cardiovascular disease. However, in the treatment of renal cell carcinoma, evidence demonstrates the use of one VEGFR TKI followed by another is beneficial but regulation prohibits a move from sunitinib to pazopanib in the case of progression on the first agent. Such blocks to access must be addressed.

Solution – enhanced post-market surveillance and evaluation

While in our view there is an excess level of rigidity in the pre-market assessment of essential medicines, once drugs are listed for PBS subsidy their efficacy and cost-effectiveness are not subjected to the same rigour.

The absence of rigorous, ongoing post-listing review can lead to unnecessary expenditure and suboptimal use of listed medicines. Greater rigour in post-market review is a potential cost offset that could allow for the listing of new medicines which, while vitally important to a comparatively small number of patients, do not currently meet cost-effectiveness criteria.

Greater rigour in post-market evaluation would also be a necessary tool for accepting surrogate endpoints other than disease-free survival as indicators of efficacy when assessing new PBAC applications – as recommended in response to the problems of timing and delay.

Agreed future milestones could be monitored through regular post-market assessment using agreed, pre-determined reporting mechanisms. It would require a commitment from the sponsor to provide results of ongoing studies and greater monitoring of safety and efficacy post-market by the TGA.

Solution – increased investment in disease prevention

Improved access to drugs for disadvantaged patients who are currently living with life-threatening conditions is the key focus of this joint submission. However, it is also critical to note that long-term system sustainability in the subsidy of medicines will only be achieved if investment in disease prevention is currently increased.

For example, of the top-10 PBS items by expenditure, the two most expensive medicines subsidised by the Australian taxpayer (Rosuvastatin, Atorvastatin) are for treating diet-related disease, as is the fourth (Esomeprazole). The ninth most costly (Insulin Glargine) is for treating diabetes (largely associated with diet) while the 10th, Tiotropium, is for treating emphysema, almost entirely caused by tobacco smoking (PBS, 2014).

The taxpayer subsidisation of these five medicines alone is well over $1 billion per annum and rising. However, as is well-documented, Australia invests only 1.7% of its total health budget in prevention.

Unless more is done to reduce the preventable costs of treating lifestyle-caused illness – which in 32% of cases also includes cancer – patients in Australia will have their access to life-saving medicines increasingly compromised.

Chemotherapy co-payment, inter-jurisdictional disparity

Since the introduction of the Revised Arrangements for the Efficient Funding of Chemotherapy, cancer patients who live in a jurisdiction where they are required to pay a chemotherapy co-payment no longer have to pay for repeats of a prescription. This has had a positive impact. However, there are inconsistencies and variations across and within jurisdictions on the imposition of a co-payment on original prescriptions.

Even with the benefits of the Revised Arrangements for the Efficient Funding of Chemotherapy, a significant number of cancer patients report that the chemotherapy co-payment add significantly to the financial hardships of a cancer diagnosis.

While the cause and extent of the inter-jurisdictional disparities is unclear, the outcome is an additional cost to some patients that undermines the Commonwealth's intention, through the PBS, to make chemotherapy drugs affordable across Australia on an equitable basis.

It is recommended that the Federal Government audit jurisdictional chemotherapy co-funding arrangements and call on jurisdictions to remove additional charges that compromise equity of access across states and territories.

Recommendations

- Coordinate, where required, MSAC evaluations with TGA and PBAC assessments to reduce the delay of sequential government processes;
- Introduce earlier reportable endpoints such as objective tumour response rates and progression-free survival (as compared with overall survival) into PBAC assessment processes to provide timelier recommendations for listing;
- Introduce a more rigorous post-market surveillance system, to support at the back end the flexible criteria needed for more efficient pre-approvals and to identify savings to offset the costs of listing new cancer drugs;
- Invest in chronic disease prevention at a level that reflects the increasingly unsustainable costs of treating lifestyle-caused disease through the PBS; and
- Audit jurisdictional chemotherapy co-funding arrangements and call on jurisdictions to remove additional charges that compromise equity of access across states and territories.

b) The operation of the Pharmaceutical Benefits Advisory Committee and the Pharmaceutical Benefits Scheme in relation to such drugs, including the impact of delays in the approvals process for Australian patients

Australian healthcare consumers and medical practitioners expect timely access to quality medicines with proven safety and efficacy. Creating greater efficiency in the processes for registration and reimbursement will increase access to therapies for cancer patients.

The National Medicines Policy states that governments and healthcare providers must work together to ensure that:

> *"access processes are made as simple and streamlined as possible, so that subsidisation of medicines is timely, mechanisms are understood, and unnecessary administrative barriers and expenses are avoided"*

- National Medicines Policy, Department of Health and Ageing, 2000

Currently the access process for cancer drugs is costly and inefficient. There is confusion in the community around TGA registration, PBAC recommendations and PBS listing. Processes and outcomes are often unclear, due to the inconsistent application of Quality Adjusted Life Year (QALY) to decisions (Makarounas-Kirchmann et. al., 2007). Specifically, issues to access include:

- Listings of cancer drugs on the PBS is becoming increasingly complex, requiring significant resources from clinicians and pharmacists. The Expert Review of Medicines and Medical Devices Regulation is ongoing. (We hope the review gives attention to minimising the administrative burden associated with the PBS and recommends an electronic submission process for PBS submissions.)
- Even when drugs are listed on the PBS, the risk-share arrangements may mean that clinicians and pharmacies must administer complex programs, such as the one for Ipilimumab. This may limit universal availability of such drugs.
- The requirement for Cabinet approval for some very expensive drugs results in delays to actual listing once a positive recommendation has been made by the PBAC.
- Once funding streams are identified for initial indications for a drug, there can be confusion over new indications and this process often lags well behind the literature. Close to 30% of evidence-based protocols for anti-cancer therapy in a major cancer treatment centre are beyond the TGA's approved use (Mellor 2012). For example nab-paclitaxel is listed on the PBS for metastatic breast cancer, however it was only recently listed for pancreatic cancer and is not listed for lung or other rare tumour types, despite the favourable clinical outcomes.
- PBAC assesses the cost-effectiveness of the proposed medicine against standard practice. In many situations cytotoxic chemotherapy is standard treatment, which is typically less expensive due to market competition over time or due to the consequences of PBS reform in reducing the price of medicines that have come off patent (Deloitte 2013). The outcome is a high incremental cost-effectiveness ratio, which the PBAC must then decide whether it justifies the additional health outcomes for the intended patient population. Demonstrating the cost-effectiveness of a new therapy to address supportive care needs of cancer patients can be of greater difficulty as such innovative therapies are compared to lower cost palliative measures. Recognition of the additional health benefits from proposed therapy and the value to the patient are critical to recognise the needs, beyond survival, of a person affected by cancer.

In addition, it is critical to recognise the impact of PBS criteria on restricting the sequence a therapy is given has on patient access to subsidised cancer medicines. Often new evidence suggests altering this sequence but this is not possible in clinical practice due to restrictions on the funding of agents based on the sequence the drugs are administered in. One example of this issue is the funding of melanoma agents (ipilimumab and dabrafanib) for patients with BRAF mutations. The PBS listings of these drugs restrict the order of therapy, however recent studies indicate this order may not be efficacious for some patients. The lack of flexibility in prescribing is leading to cost-inefficiencies and compromises patient outcomes (Gedye & Boyle, 2015).

Decision-making tools

There are a number of methods used around the world for assisting with the decision-making process regarding the subsidisation of prescription drugs (Harvey & deBoer, 2015). Recommendations made by PBAC are assisted by cost-effectiveness analyses based on Quality Adjusted Life Year (QALY). However the application of this tool is inconsistent (Makarounas-Kirchmann et. al., 2007) and there is no minimum or maximum costs bases on QALYs and set by the PBAC.

The US and the UK have developed funding programs specifically for cancer drugs. In the US the Food and Drug Administration (FDA) is accelerating approval for cancer drugs based on early clinical trial results. The creation of the Cancer Drugs Fund in England in 2011, separate from other drug approval processes, improved access to new listings from three to 11 in a 12-month period (Wonder, 2014). However, the fund is over budget and has been criticised as it has not been able to address the issue of price negotiation with manufacturers (Claxton, 2015).

As recommended against ToR a), a scheme based on surrogate endpoints (also known as performance-based, risk-sharing arrangements) could be implemented in Australia. The scheme could involve new cancer drugs being submitted for funding based on surrogate endpoints (such as progression-free survival) with an upfront agreement (not subject to appeal) that funding would be reduced if the drug, in post-market evaluations, did not realise a major endpoint such as overall survival or improved quality of life.

Post-marketing surveillance under this type of scheme would need to be strictly conducted, as the earlier a drug is marketed, the greater the risk of uncovering rare or unusual adverse effects.

This would ensure that the most important new cancer drugs (i.e. drugs for cancers where there is no other treatment, or drugs which have shown clinically meaningful differences in outcomes), are available to patients as soon as possible. The scheme could be co-funded by industry at a cost greater than the standard approval process, to encourage sponsors to limit their submissions to breakthrough drugs.

Other decision-making tools for consideration include use of a minimum effectiveness threshold and value based assessment of health technologies. The minimum effectiveness threshold method evaluates health interventions based on direct clinical effectiveness such as increased survival or improved quality of life and not indirect effects such as reduced tumour size (Buyx, 2011). Value-based assessment of health technologies takes into account the burden of illness as well as the wider impact of the disease on society, has recently been considered in the UK (Raftery, 2014).

Molecular testing

Increasingly, the use of new cancer drugs requires detection of specific mutations by a molecular pathology test. Examples include identifying:

- a mutation in the BRAF gene at the V600 position in order to receive the BRAF inhibitor Dabrafenib for metastatic melanoma;
- HER2 gene amplification in breast cancer to access Trastuzumab; and
- activating mutations in EGFR in order to receive Gefitinib or Erlotinib

In order for these drugs to be used in the clinic both PBAC and MSAC processes must be fulfilled, increasing the administrative burden for sponsors and extending the waiting time for patients to access the drugs. It currently takes at least 51 weeks before a diagnostic test is approved for reimbursement (Deloitte/Access Economics, 2013).

Furthermore, the current process does not recognise that assessing multiple genetic changes in the one assay can offer significant clinical and efficiency advantages and may reduce the need for re-biopsy. Countries such as France are providing government funding for assessment of multiple oncogenes in cancer patients which is resulting in increased clinical trial activity and access to novel agents (Nowak, 2012).

There is a pressing need to develop mechanisms for funding routine multigene profiling which can identify all actionable changes in advanced malignancies. This has the potential to improve outcomes for many cancer patients. The potential benefits of multi-gene testing are particularly

relevant for patients with rarer cancers for which there are few or no effective treatment options.

Trastuzumab is recognised to be very effective in HER2 positive breast cancer (around 15% of breast cancers), but HER2 may also be amplified or mutated in other malignancies such as gastric adenocarcinoma (around 20% of cases), gallbladder carcinoma and pancreatic carcinoma. Currently there is no mechanism to fund testing for HER2 in non-breast tumours and no access to potentially effective Trastuzumab in these malignancies if they were HER2 positive. Use of this and other therapies that are already proven to be safe and effective could have considerable cost-effectiveness for the Australian healthcare system.

Recommendations

- Introduce an online system to coordinate and reduce the administrative burden of the PBAC application process for sponsors;
- Develop a guiding framework to underpin a consistent review by PBAC of cost-effectiveness outcomes demonstrated through cost per QALY;
- Base the framework on the application of minimum effectiveness thresholds and value-based assessment tools that recognise improved quality of life and reduced disease burden in the decision-making process for new treatments; and
- Develop a funding mechanism to routinely profile multiple genes to identify treatable changes in cancer.

c) The impact on the quality of care available to cancer patients

The availability of new, innovative and specialised cancer drugs has a major impact not just on the quality of care available to cancer patients but also on their quality of life and life expectancy. The time taken by health professionals to perform the complex administrative tasks necessary to access cancer drugs not available on the PBS reduces the time they can spend giving quality care to cancer patients.

The need to transfer patients between doctors and hospitals to gain access to unlisted cancer drugs compromises continuity of care, may increase the need for the patient to travel and find accommodation, and may affect the psychological health of the patient.

Systemic efficiencies, recommended under ToR b) and c), would reduce the need for patients and their doctors to rely on disruptive patient transfers as an unviable way to access unlisted drugs.

Genetic technology

Advances in technology and an increased understanding of molecular biology has led to the introduction of many new cancer drugs with the ability to target their impact on cancerous cells while leaving non-cancerous cells unharmed.

As discussed, the detection of a specific gene mutation can aid an early cancer diagnosis and inform clinical management of the disease. This specialisation of treatment, beyond the traditional treatment of cancer based on location, offers significant advantages in treatment response. Therapeutic interventions can then be concentrated to patients who have presented with the mutation which increases the chance that the corresponding therapeutic intervention will be effective. A consequent reduction in the use of ineffective medicine reduces unnecessary dispensing (and cost) of drugs and is superior to traditional cytotoxic chemotherapy, which kills both malignant and non-malignant cells.

Despite the extraordinary potential of genetic technologies to benefit an increasing number of

patients, the benefits will only be harnessed if government authorities explore the recommendations on more timely and affordable access to drugs set out against ToR a) and b).

Recommendations

- As per ToR a) and b).

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