PHARMAC

Pharmaceutical Management Agency Ltd

Annual Review

for the year ended 30 June

1999

PHARMAC

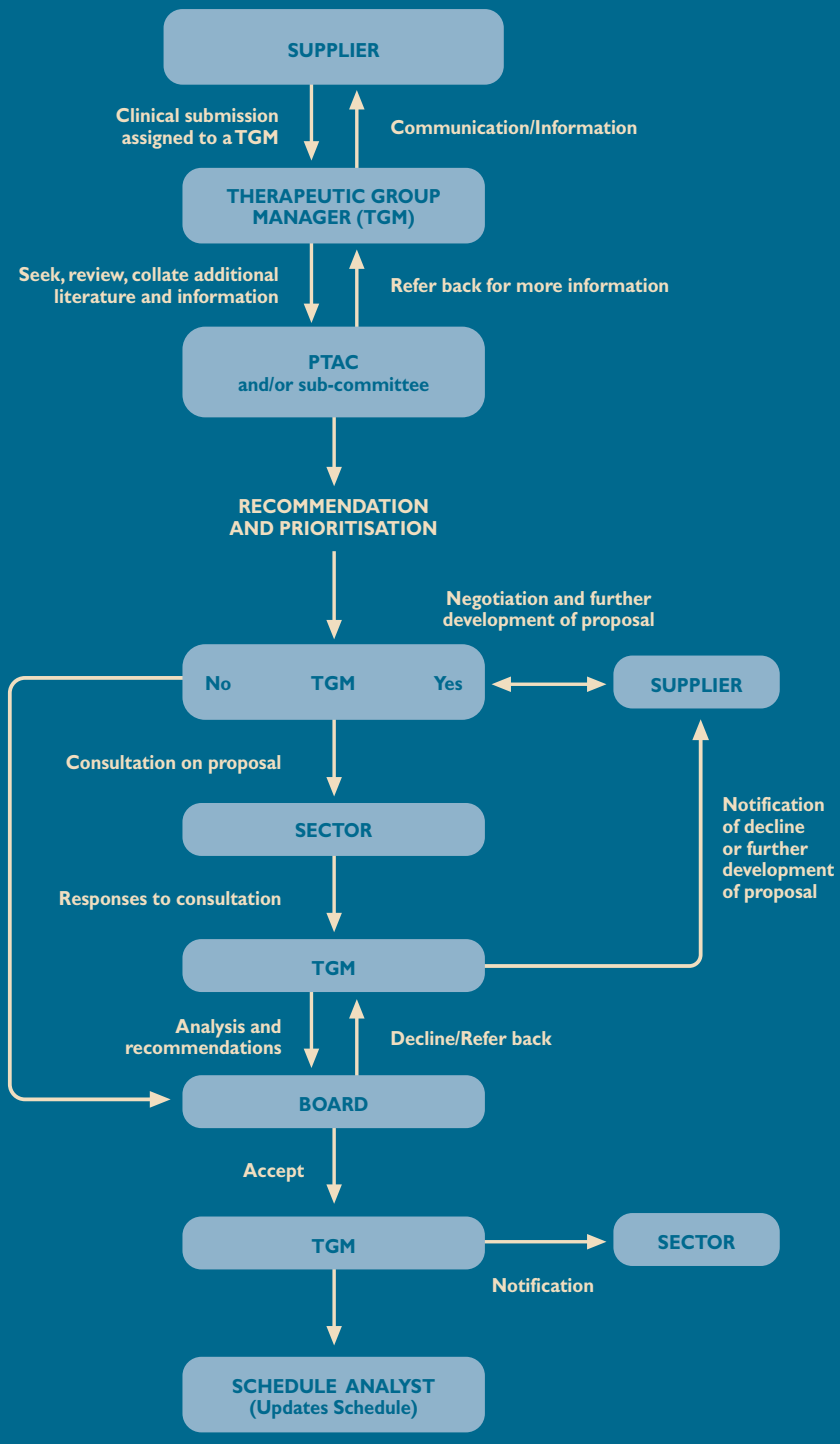
(the Pharmaceutical Management Agency Ltd) is a not-for-profit company owned by the Health Funding Authority (HFA). Its role is to manage the national Pharmaceutical Schedule on behalf of the HFA.

The Schedule is a list, updated monthly and reprinted three times a year, of over 3,000 subsidised prescription drugs and related products available in New Zealand. The Schedule also records the price of each drug, the subsidy it receives from public funds and the guidelines or conditions under which it may be funded.

The PHARMAC Board makes the final decisions on subsidy levels and prescribing guidelines and conditions, with contributions from independent medical experts on the Pharmacology and Therapeutics Advisory Committee (PTAC) and its specialist sub-committees, and PHARMAC's managers and analysts.

In all its decisions PHARMAC seeks to balance the needs of patients for equitable access to healthcare with the needs of taxpayers for responsible management of the costs they ultimately bear.

Process for listing a new pharmaceutical on the Pharmaceutical Schedule



The process set out in the diagram above is intended to be indicative of the process that may follow where a supplier wishes to list a new pharmaceutical on the Pharmaceutical Schedule. PHARMAC may, at its discretion, adopt a different process or variations of this process.

Inside

In this Review:

- *"Year" means years ending 30 June. For example: "this year" means the year ended 30 June 1999; "last year" means the year ended 30 June 1998, "next year" means the year ended 30 June 2000.*
- *Unless otherwise stated all values are in New Zealand dollars.*
- *Unless otherwise stated all references to expenditure are unadjusted for any rebates that may be due or paid by suppliers under risk sharing agreements.*

Highlights of 1998/99

- a record high number of new chemical entities were listed on the Pharmaceutical Schedule this year,
- a reduction in pharmaceutical expenditure by $55 million,
- medication review – an independent report by the Best Practice Advocacy Centre suggests patients enjoyed significant benefits from the review of high blood pressure treatment carried out in conjunction with PHARMAC's changes to the subsidy levels for ACE inhibitors,
- 23 older pharmaceuticals were tendered which resulted in savings of $6.5 million a year,
- major price reductions of up to 60 and 70 percent for eight different medicines. Savings for these eight drugs groups alone total $55 million a year,
- litigation – the Privy Council upheld PHARMAC's actions in reducing the subsidy on the antibiotic Rulide as being fair and in the public's interest. Several other cases were either dropped or settled out of court,
- a more constructive relationship with the pharmaceutical industry,
- a demand side strategy was implemented.

Meeti

PHARMAC Chairman, Denis Tait, says the changing pharmaceutical operating environment has meant challenge and innovation for PHARMAC.

ng change *head on*

The health sector has continued to change in the past 12 months – particularly through the restructuring of New Zealand's public health funding system from four separate regional health funding agencies into the single, nationwide Health Funding Authority (HFA).

PHARMAC has felt the effects of this change, especially with the promotion of General Manager David Moore, Medical Director Win Bennett and Information Manager James Harris to new roles within the HFA. While this was, of course, testimony to the calibre of people working at PHARMAC, it inevitably challenged PHARMAC's depth as an organisation.

The new face of PHARMAC

I have no doubt that the eyes of the pharmaceutical industry and the medical and pharmacy professions have been upon PHARMAC, assessing its performance following such upheaval. However, I can confidently say that the internal appointment of Wayne McNee as General Manager has meant business as usual. In fact the past year's performance, which includes Wayne's initial months at the helm, reflects an organisation consolidating and building on its past achievements.

PHARMAC has continued to manage pharmaceutical expenditure utilising some innovative techniques and has endeavoured to further develop its relationships with the pharmaceutical industry, the medical profession and other external agencies.

It has been a year in which PHARMAC has enjoyed a high degree of confidence. With much of the historical litigation against the organisation now resolved, PHARMAC has been able to comprehensively review some key therapeutic areas and achieve significant savings without legal challenge to its processes. Of particular note are initiatives in the cardiovascular area, which resulted in subsidy reductions of 60 percent on ACE inhibitors and 40 percent on dihydropyridine calcium channel blockers (DHPCCBs).

Multi-product tendering – a new approach

PHARMAC's first major multi-product tender was completed this year, producing savings of about $6.5 million per year. This success gave the organisation the confidence to embark on an even larger multi-product tender involving 79 chemicals and 173 presentations. The results, which will be reported in next year's annual review, will lower New Zealand's pharmaceuticals bill considerably, providing funds for further investment in new drugs and other health interventions.

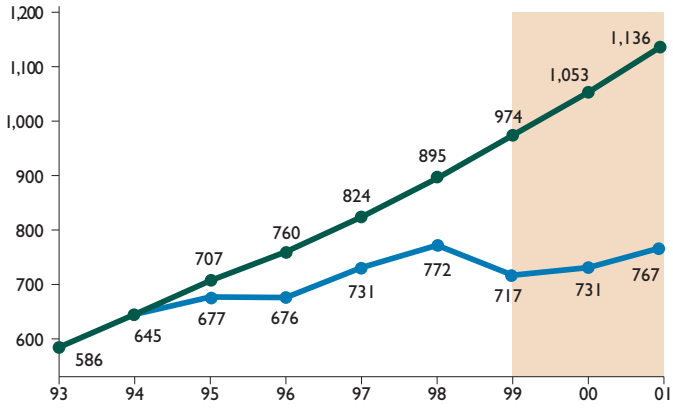
Breaking price barriers

1998/99 was a breakthrough year in terms of lower prices for many generic pharmaceuticals as their parent drugs came off patent. The most significant (outside the multi-product tenders) were price reductions of more than 70 percent on the H_2 antagonists after the patent for Zantac expired, an initial 60 percent off aciclovir after the patent for Zovirax expired and 75 percent off atenolol.

It is encouraging to see pharmaceutical companies responding to PHARMAC's drive to rationalise spending on older technology, so that new technology and other healthcare initiatives can be funded.

Effect of PHARMAC interventions

Total subsidised, non-hospital-funded, drug cost in $ millions including distribution and dispensing fees and GST, 30 June years.



Estimated expenditure without PHARMAC interventions.

Actual and forecast expenditure with PHARMAC interventions only.

Forecast.

Without PHARMAC interventions the drug subsidy bill this year would have been $257 million higher, rising to $322 million higher next year.

Demand side initiatives

While access to at least one fully subsidised option has been preserved whenever price reductions have been implemented, we have also been aware that, in some cases at least, patients have switched medication to avoid additional charges. We have, wherever possible, endeavoured to soften this impact, especially in cases where PHARMAC's decisions have affected large numbers of patients.

For example, in the case of the H_2 antagonists and serotonin reuptake inhibitors, PHARMAC delayed the application of reference pricing, allowing time for doctors to reassess their patients' medication, in order to minimise the impact of subsidy changes on patients and prescribers. Key decisions in the cardiovascular area were implemented in conjunction with subsidised doctors' visits and comprehensive drug review campaigns involving prescribers and pharmacists to ensure that patient safety was not compromised.

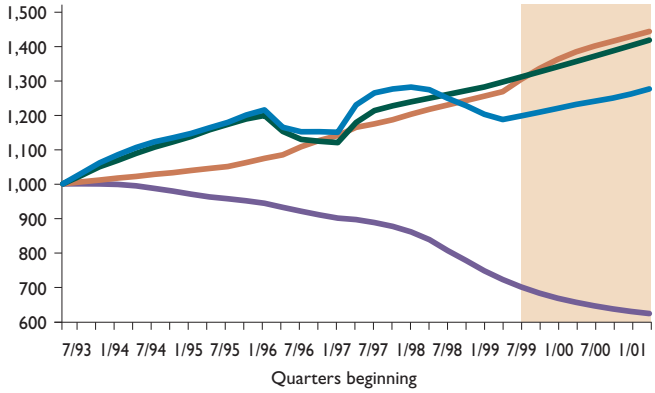
These initiatives, in particular, have highlighted the value of reviewing drug therapy from the perspectives of both optimal therapy and appropriate use of pharmaceutical resources. They also led to our first steps towards actively promoting the message of responsible prescribing which is pivotal to PHARMAC's goal of managing pharmaceutical expenditure.

These demand side activities are the responsibility of two new members of the PHARMAC team. Responsibility for managing the contracts and service plans with the Best Practice Advocacy Centre (BPAC) and Preferred Medicines Centre Inc (PreMeC) was transferred from the HFA to PHARMAC. The demand side team has worked in close liaison with the HFA and this approach is likely to characterise PHARMAC's work within the new HFA operating environment.

The significance of this undertaking is highlighted by the impact of direct-to-consumer (DTC) advertising, a marketing device that has been increasingly used in the past 12 months and is gaining a higher profile in the media, with which our own campaigns must compete.

Subsidy, volume, mix and cost indices

Four-quarterly moving averages
Base: December quarter 1992 = 1,000.



***Cost index** is the drug cost to the HFA ex manufacturer before GST.*

***Volume index** is the number of prescriptions multiplied by a standardised measure of the amount prescribed per prescription.*

***Mix index** is the residual from cost index divided by (volume index X subsidy index).*

***Subsidy index** is like the consumers price index but for subsidised pharmaceuticals only.*

Forecast.

Direct-to-consumer advertising

The rise in DTC marketing reflects the huge investment drug companies are making in marketing new drugs. However, PHARMAC is concerned that DTC advertising exploits consumers' lack of medical knowledge resulting in:

- patient confusion and unnecessary concern over their state of health;
- pressure on doctors to prescribe drugs;
- inappropriate or unnecessary drug use (with adverse health and cost impacts on patients);
- forcing up pharmaceutical expenditure (where the drugs are subsidised); and
- undermining of public confidence in the state-funded health care system.

Clarifying our priorities

Our working relationship with the HFA has enabled and encouraged a healthy exchange of ideas on prioritising health funding. This year, PHARMAC has further developed work on prioritisation, specifically in the field of cost-utility analysis, which began in early 1998.

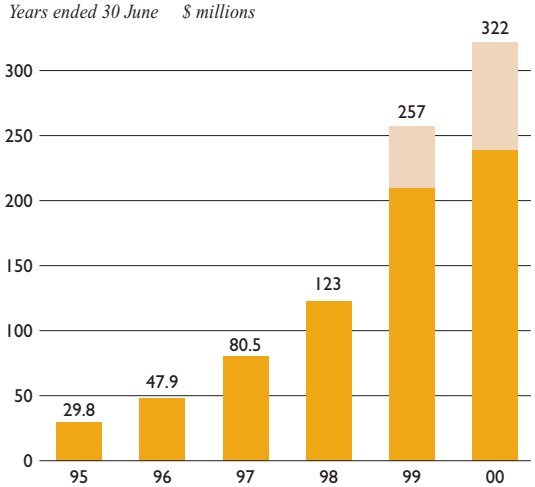
The HFA is considering the cost-utility analysis approach, which PHARMAC has already put to the test in key investment decisions. These include listing of dorzolamide (Trusopt) for glaucoma, widening of access to statins and to tacrolimus (Prograf) for renal rescue, and new arrangements for the funding of atypical anti-psychotic agents.

Changes in the Board structure

The changes to New Zealand's health funding agency have also brought changes to PHARMAC's Board membership. The former regional representation has been replaced with a mixture of HFA representatives and, for the first time, a director and alternate director who are independent of the HFA. These appointments bring a new perspective to PHARMAC's decision-making process.

TOTAL CUMULATIVE SAVINGS

Years ended 30 June $ millions



Net savings from decisions made between 1 July 1993 and 30 June 1998.

Estimated savings from implemented and planned decisions made since 1 July 1998.

DEMAND SIDE INITIATIVES IN 1998/99

- An implementation programme to assist medication review after the subsidy for ACE inhibitors was reduced in August 1998.
- An implementation programme to assist medication review after the subsidy for felodipine was reduced in March 1999, followed by reference pricing to the DHPCCBs in June 1999.
- A national campaign, launched by Prime Minister Jenny Shipley in May 1999, to reduce the unnecessary prescribing of antibiotics for viral conditions. PHARMAC helped to co-ordinate this activity, which included participation by 20 Independent Practitioner Associations (IPAs) (comprising over 2,400 general practitioners), the Pharmacy Guild and PreMeC.
- The introduction of Healthy Scepticism, a publication by the Medical Lobby for Appropriate Marketing (MaLAM), which aims to improve prescribers' understanding of marketing techniques, enhance critical appraisal of evidence and encourage best practice in prescribing. Peter Mansfield, MaLAM Director, ran workshops for GPs and pharmacy facilitators around the country.

A year of successful performance

PHARMAC can be congratulated on its performance in the past 12 months. It's been a year of change and adaptation, of innovation and ongoing negotiation. In a market that is globally sophisticated – technologically and medically – the organisation has met the challenges with confidence.

Thanks

I would like to take this opportunity to thank everyone on the PHARMAC Board for their contributions throughout what has been a demanding year. Thanks also to Wayne McNee and his team at PHARMAC, who worked very hard and have achieved impressive results.

Denis Tait
Chairman
19 November 1999

PHAR

PHARMAC's General Manager Wayne McNee discusses PHARMAC's high profile and often contentious role in New Zealand's healthcare industry.

MAC – making tough decisions

Since its inception, PHARMAC's decisions have characteristically evoked public debate. This may, in part, be a reflection of the fact that healthcare tends to be an emotive and newsworthy subject. It can also be said that PHARMAC has developed a reputation for being tough.

We are proud of our courage to tackle difficult health issues and our ability to make good decisions on pharmaceutical expenditure, taking into account needs, benefits, the impact on other areas of the health sector and the finite total health budget. We aim to be thought of as tough, but fair. However, when resources are limited and demand seemingly infinite, there is inevitably a risk that decisions will be seen as unfair by some groups.

Funding decisions within the health sector attract much attention from patients, prescribers, and government and, sometimes, all three. It is true that some medical and patient groups are more organised and skilled at lobbying than others. Some issues attract more political and government attention. PHARMAC therefore, needs to make sure it does not favour groups that are effective at lobbying at the expense of those that are less so. Therefore, PHARMAC relies on processes that are aimed at, and are successful in, managing these forces. While we may be tough, we endeavour to take a balanced approach to all decisions.

Decision criteria

So how, in practice, are the decision criteria applied?

This table gives an indication of some considerations under each decision criterion for three different types of Pharmaceutical Schedule listing decisions involving:

- a generic drug;
- a New Chemical Entity (NCE) with marginal benefits over and more expensive than an existing therapy; and
- a high-cost/modestly effective NCE indicated for treating a disease for which there are few alternative therapeutic options.

Decision criteria	General considerations
The health needs of the HFA's population	The needs (in terms of pharmaceutical and non-pharmaceutical medical care required) of New Zealanders affected with the medical condition for which the pharmaceutical is indicated are identified and considered here.
The availability and suitability of existing pharmaceutical and other therapies to meet the health needs of this population	Access to and efficacy of other treatment options (pharmaceutical and non-pharmaceutical) for the relevant medical condition are considered here. The ability of existing treatments to meet the health needs identified above, the availability of these treatments and their side-effects are considered in detail. Groups of patients within that group affected by the medical condition whose health needs are not met or not completely met by existing treatments are identified here.
The clinical benefits, risks and the costs of the pharmaceutical	The effect of the pharmaceutical on patient outcomes and safety is considered here together with the cost (gross and net) of the pharmaceutical.
The cost-effectiveness of meeting health needs by purchasing pharmaceutical services rather than by purchasing other health care and disability services	The proportion of benefit (in terms of clinical and quality of life outcomes for patients) to cost (including consideration of cost off-sets from pharmaceutical and/or non-pharmaceutical interventions avoided) is considered here. This cost-benefit ratio may be compared with the ratios associated with other medical interventions.

Balancing pharmaceutical and other health needs

PHARMAC is a wholly owned subsidiary of the Health Funding Authority (HFA). As such, our decision-making involves looking beyond pharmaceuticals to healthcare as a total package, in the interests of looking after the total healthcare needs of New Zealanders. This means that when we consider a new drug, we assess its value not only against other similar drugs already on the market, but against other types of healthcare. It may be more appropriate, for example, to provide patients with surgery rather than with a new, possibly more effective but also more expensive drug.

Given that the HFA was established just a little over a year ago, this approach is still developing. It is also still limited to a certain extent by the nature of the system in which we operate – for example by ring-fenced funding and the existence of separately operated hospitals around New Zealand, both of which can limit the HFA's ability to move services between areas of health need and geographical regions as required.

However, the boundary between our work and the HFA's has become less defined and a more co-operative approach, such as that shown in joint projects such as the nicotine replacement therapy pilot programmes, is developing. Regular meetings with senior managers from the HFA's personal health team provide a valuable opportunity to share information and learn from each other. PHARMAC also contributes its expertise to HFA-related areas such as primary healthcare contracting and a range of other HFA initiatives including the hepatitis B screening programme, in which the HFA will put in place a programme to identify patients who need treatment, and work with PHARMAC to provide that treatment.

Balancing the views of many

Competition for scarce resources can generate considerable pressure for PHARMAC in prioritising resources. PHARMAC's pharmaceutical pricing initiatives have generated savings. Some of these savings can be used to re-invest in pharmaceuticals and other healthcare, but there is never enough to go around.

In the next year alone, PHARMAC has $23.5 million worth of potential new investment decisions to consider. For the group of patients who might benefit from any one of these treatments, or for prescribers with an interest in that treatment, their need for that drug is bound to seem the most deserving. Some groups will go to great lengths to demonstrate or draw attention to that need. Others may not have the skills or resources to do that.

In the end, it falls to PHARMAC to decide which treatments get subsidised, to what degree and in what order. So how does PHARMAC avoid simply allocating resource to the "squeaky wheel"?

It is possible to make equitable decisions even in the face of the immense pressure from medical, patient and political groups that is often associated with these issues. While we have no perfect formula, we have come a long way in developing techniques that assist in objective decision-making. Our decision-making process, which centres around PHARMAC's decision criteria and consultation, is often augmented by cost-utility analysis (CUA).

Generic drug	New Chemical Entity (NCE) with marginal benefits over and more expensive than existing therapy	High cost/modestly effective NCE indicated for treatment of a disease for which there are few alternative therapeutic options.
The listing of a generic pharmaceutical (which by definition is already available) will ensure that current health needs continue to be met but is unlikely to meet any new or unmet health needs identified.	Assessment under this criterion may depend on how well currently available treatments meet the health needs identified.	Assessment under this criterion is likely to include consideration of the fact that there is an unmet or largely unmet health need and the significance of that need.
A generic pharmaceutical is unlikely to significantly alter considerations under this criterion. However, the availability of an adequate range of other pharmaceuticals (branded or generic) could be regarded as a reason not to list a generic pharmaceutical unless its listing can be justified under other criteria.	Assessment would include consideration of whether the pharmaceutical would meet the health needs of any sub-group of patients that are not being met with existing treatments. Consideration would also be given to the additional benefits to patients whose health needs are being largely met with existing treatment. This assessment may lead to a recommendation to target subsidies for the pharmaceutical to those patients in whom the benefits are significant and those who are not benefiting from existing treatment.	Consideration would be given to the fact that there are few, if any, alternative treatments for the disease, which could make this a significant factor.
A generic pharmaceutical is rarely associated with significant risks or additional benefits. By virtue of Medsafe's approval to market the pharmaceutical, a generic pharmaceutical is assumed to have the same clinical benefits and risks as the branded product or other generic brands of the same chemical. However, the likelihood of the pharmaceutical being listed on the Schedule may be increased if it costs less than other currently listed brands.	The significance of any efficacy, safety, side effect or compliance advantages that can be demonstrated in respect of the pharmaceutical is considered here. Consideration is given to whether the higher cost of the pharmaceutical compared to existing treatments is justified either by these advantages or under other criteria.	Assessment is focused on the benefits of the drug in terms of outcomes. Risks to patients are assessed in the context of Medsafe's approval process. The high cost of the pharmaceutical would be highlighted here.
The cost-effectiveness of a generic pharmaceutical is not usually assessed in detail but is usually assumed to improve where the product is listed at a lower price and subsidy.	Justification for the listing of a pharmaceutical under this criterion usually requires the product to be demonstrably either as cost-effective as the other available treatments or more cost-effective than existing/currently available treatments or to be more cost-effective than these treatments in particular groups of patients. If a drug is only demonstrably cost-effective in select groups of patients, funding may be targeted to those patients on the basis of this analysis. Cost effectiveness is assessed either in-house or on the basis of published cost-utility analysis. The results of cost-utility analysis can be a factor in decisions about prioritising funding for new treatments. There is no exact threshold for cost effectiveness. Cost/benefit ratios for NCEs are compared with each other as far as possible. Scarce resources are ideally allocated to the most cost-effective NCE first, followed by the next until funds are exhausted.	

Consultation – contributing to the decision-making process

We are required by law to consult on all our decisions. However, since PHARMAC was established over six years ago, our consultation process has developed so that it now extends beyond our strictly legal requirements.

In our early days, we tended to consult only with those pharmaceutical companies that we believed would be directly affected by our decisions. Consultation with medical groups was on a much smaller scale and patient groups were rarely consulted.

Today we consult with a wide variety of interest groups. These include general medical groups (such as the Royal New Zealand College of General Practitioners and the New Zealand Medical Association), specialist medical groups (such as the National Heart Foundation and New Zealand Society of Gastroenterology), general practitioners, Independent Practice Associations (IPAs), pharmacy groups (such as the Pharmaceutical Society and Pharmacy Guild) and, where possible, patient groups (such as Diabetes New Zealand). While most of our consultation is done in writing, we have often met with interest groups to discuss particularly contentious proposals in more detail.

Attitudes to our consultation process vary widely. Many people believe that our decisions are a "fait accompli" even before the consultation process starts, and that the consultation is merely a token gesture. Some are highly disappointed when they perceive that their submission has not had any material effect on our decision.

Decision criteria

This table (including the first part on pages 8 and 9) is indicative of the matters that PHARMAC considers, based on past and current practice, when applying the decision criteria contained in its Operating Policies and Procedures to make decisions about the listing of new generic drugs or new chemical entities. The table does not represent a statement of any new PHARMAC policy. It is intended to enlighten readers on PHARMAC processes.

The comments made in the table are necessarily of a general nature. Individual decisions on new listing applications will continue to be made on a case by case basis. PHARMAC is not bound to follow any approach referred to in the table in any particular case in the future. The table is not exhaustive. Other factors that are not mentioned may be considered in a particular case or the comments in the table may not apply in a particular case.

Where there is reference in the table to information which PHARMAC may consider, this may be based on information made available by suppliers, through consultation, through PHARMAC's own enquiries, or otherwise. The table is not intended to reflect any new obligations on PHARMAC with respect to the information it relies on in its decision making.

PHARMAC welcomes and will have regard to any comments you may wish to make on this table.

Decision criteria	General considerations
The overall budgetary impact of any changes to the Pharmaceutical Schedule	The gross and net impact of funding the pharmaceutical on total pharmaceutical spending (annually and, at a discounted rate, over 5 years) is considered here.
The direct cost to health service users	The effect of the decision on the costs of the pharmaceutical and/or other costs to patients associated with the medical condition are considered here. The requirement to have at least one fully subsidised treatment available in a therapeutic sub-group is a key consideration.
Any recommendations on core health and disability services made by the National Advisory Committee on Core Health and Disability Support Services	Any relevant advice regarding access to pharmaceuticals is considered here.
Such other matters as PHARMAC sees fit	Any other relevant issues are considered here.

These misconceptions are unfortunate and may, in part, be due to our inability to respond individually to each of the thousands of submissions we receive. However, we value and review all submissions. Many are extremely useful, providing a "grass roots" perspective on how our decisions will affect the day-to-day work of the medical and pharmaceutical profession and the potential impact on patients. Each one is read and analysed and taken to the Board for its consideration. We summarise all submissions and include comment on issues raised in them for the Board as well as providing the complete submission. In many cases, responses to consultation prompt changes to our recommendations to the PHARMAC Board.

The old saying, "you can't please all of the people all of the time", absolutely rings true for PHARMAC and our consultation process. Of course it would be ideal if all doctors could provide the best possible treatment for all their patients regardless of what are often very high costs. However, resources are limited so we must work together to find the best possible healthcare solution in a cost-effective way to enable an equitable healthcare system for all New Zealanders.

Relationships with the medical profession

Regular contact with the medical profession, generally through attending seminars and conferences, is another useful way of ensuring that our decisions are informed and that they are implemented smoothly. While these forums can be confrontational, they offer an opportunity for healthy debate, which can only assist decision making and be good for the relationships in the longer term.

I recognise that we have caused a great deal of change for the whole medical profession during the past year – and this has inevitably caused some problems in implementation, particularly for GPs who may have had to discuss a new drug with patients. We will continue to work to achieve transition arrangements that provide both doctors and patients with as much notice and information as possible about changes.

Sector relationships

Constructive relationships with the industry in which we work are also an important part of our business. In an environment that involves a natural tension between the participants – PHARMAC, suppliers, pharmacists and the medical profession – these relationships allow us to inform each other on our sometimes widely differing perspectives.

Certainly we seem to have had more contact industry-wide during the year – a reflection perhaps of some of PHARMAC's highly contentious decisions and the changes these have sometimes meant for the industry. This contact is likely to continue and develop – and while I doubt there will ever be a day when we all agree on everything, we now at least largely respect each other's perspectives and work around some clearly

Generic drug	New Chemical Entity (NCE) with marginal benefits over and more expensive than existing therapy	High cost/modestly effective NCE indicated for treatment of a disease for which there are few alternative therapeutic options.
Listing of a generic pharmaceutical usually results in savings. Therefore, justification for listing the pharmaceutical is often focused on this criterion. The potential for patients to switch to a more expensive alternative as a result of such a listing may also be considered.	The cost of listing this type of pharmaceutical depends on whether the drug is likely to be used: 1. in addition to; 2. instead of; or 3. by a different group of patients than; existing/currently available treatments. In 1 and 3, all expenditure is likely to be new expenditure. In 2, we consider the additional cost over existing/currently available treatments. However, decisions requiring additional expenditure may depend on the availability of funding and relative cost effectiveness of the pharmaceutical compared with other decisions associated with increased spending.	The total cost of subsidising the drug is considered here. In addition, its relative cost-effectiveness (against other NCEs being considered for funding), and the health needs and available funding determine the significance of this criterion.
A generic pharmaceutical is usually listed at full subsidy. The likelihood of the most widely prescribed brand(s) being fully subsidised and the impact of possible manufacturer's surcharges on these is also considered.	NCEs are usually only listed at full subsidy. This is to ensure equitable access to subsidy for all New Zealanders regardless of income.	NCEs are usually only listed at full subsidy. This is to ensure equitable access to subsidy for all New Zealanders regardless of income.
Any relevant advice regarding access to pharmaceuticals is considered here.	Any relevant advice regarding access to pharmaceuticals is considered here.	Any relevant advice regarding access to pharmaceuticals is considered here.
Any other relevant issues are considered here.	Any other relevant issues are considered here.	Any other relevant issues are considered here.

defined parameters to achieve the best possible results for New Zealand patients and taxpayers.

Our relationship with pharmaceutical companies has matured – we are seeing a shift away from litigation and antagonism to a greater acceptance of the way PHARMAC operates. We have good relationships with the majority of companies. We have almost daily dialogue with many of them in the process of developing sound agreements that balance out PHARMAC's aim to get the best healthcare within the available funding, and their objectives to make profits for their shareholders.

Two hui held during the year contributed to an improvement in our relationships with suppliers. Initiated by Associate Health Minister Tuariki Delamere, the hui brought together PHARMAC and the pharmaceutical companies, firstly in January at Whitianga Marae in the Bay of Plenty and then in June at Tapu te Ranga Marae in Wellington.

The hui provided an excellent forum for everyone to air their views on neutral ground. The Marae protocol in particular, which enables each person to have their say uninterrupted, provided a useful discussion environment. After the hui in Whitianga, several companies praised it as a constructive opportunity for frank and open discussion. It is discussion that I'm sure will continue, although our focus now is on working with the companies to achieve tangible results rather than on extensive debate on issues that may never be resolved.

To the future

PHARMAC has a difficult job to do. We have to learn about, appreciate, analyse and apply the views of the many different people and organisations with which we work. It's a challenge that we enjoy – and one that often produces a "win-win" solution.

I believe our "tough but fair" attitude is appropriate, particularly given our dual responsibility to patients and taxpayers. Indeed, it's the only one that works given our operating environment. I look forward to continuing to consolidate our relationships with the stakeholders.

PHARMAC's reviews of and changes to the Pharmaceutical Schedule are governed by its Operating Policies and Procedures – a public document developed following consultation with the pharmaceutical industry.

It's a

John Hedley, Chairman of the Pharmacology and Therapeutics Advisory Committee (PTAC), says prescribers have a critical role to play in using society's healthcare resources wisely.

"TWO GUESSES WHO'S BEEN TWISTING DR PEDDLETHORPE'S ARM"

matter *of balance*

As doctors, our duty of care to our patients is sometimes in conflict with our duty to society to conserve precious health resources. Prescribing can be – and indeed should be – a delicate balancing act between the ethical responsibilities to the patient and those to society.

On the one hand, we have obligations to provide good medical care to our patients. This is an underlying element of our training, incorporated in the New Zealand Medical Council Code of Ethics and emphasised in the Health Commissioner's Code of Health and Disability. However, it's important to appreciate that these obligations, especially those in the Code of Health and Disability Consumer's Rights, lean heavily towards the patient. When prescribing pharmaceuticals, the prescriber has to bear other issues in mind.

Society delegates to doctors the authority to prescribe – and along with this a responsibility to make considered, wise decisions on its behalf. It's a relationship based largely on trust – but more than just the trust of patient in their doctor. Society has invested in and values the prescriber's training and experience, and relies on them to use their knowledge to make the best decisions for their patients while safeguarding the integrity of the health system as a whole.

Yet how many of us have written prescriptions lately only to find out later that our favourite drug for that condition carries an additional charge for the patient, requires additional paperwork before access is allowed or has been delisted from the Pharmaceutical Schedule? Are we all working as hard as we can to ensure that our knowledge of pharmaceutical policies and regulation does not limit or disadvantage our patients?

Informed decisions – using the Pharmaceutical Schedule

Regular reports in daily newspapers of doctors' reactions to PHARMAC's initiatives suggest that, as prescribers, we sometimes object to these infringements of our "rights" to prescribe whatever we want. But I believe that the authority to prescribe is a privilege, not a right. Freedom of prescribing is qualified freedom. We are often faced with a choice of treatments that have similar therapeutic outcomes. In these cases, we have a responsibility to try the least expensive agent first. If we reject one option in favour of a more expensive one, and that turns out to be as effective as the less expensive one, the difference in cost is simply waste – and we have not fulfilled our obligations to society.

The Pharmaceutical Schedule is a valuable guide to help us ensure that we meet these obligations. While it does not contain all the pharmaceutical information we require to make prescribing decisions, it is the most reliable and up-to-date source of information on which pharmaceuticals are subsidised, how to access those subsidies and how to avoid additional charges. If we fail to refer to the Schedule before prescribing and send a patient off with a prescription for a drug that incurs an additional charge they can ill afford, we have overlooked our duty to them to provide affordable care. If we are not familiar with the access criteria for some drugs in the Schedule, we may create unnecessary delays for our patients in accessing vital treatment or, ultimately, deprive them of the best treatment available.

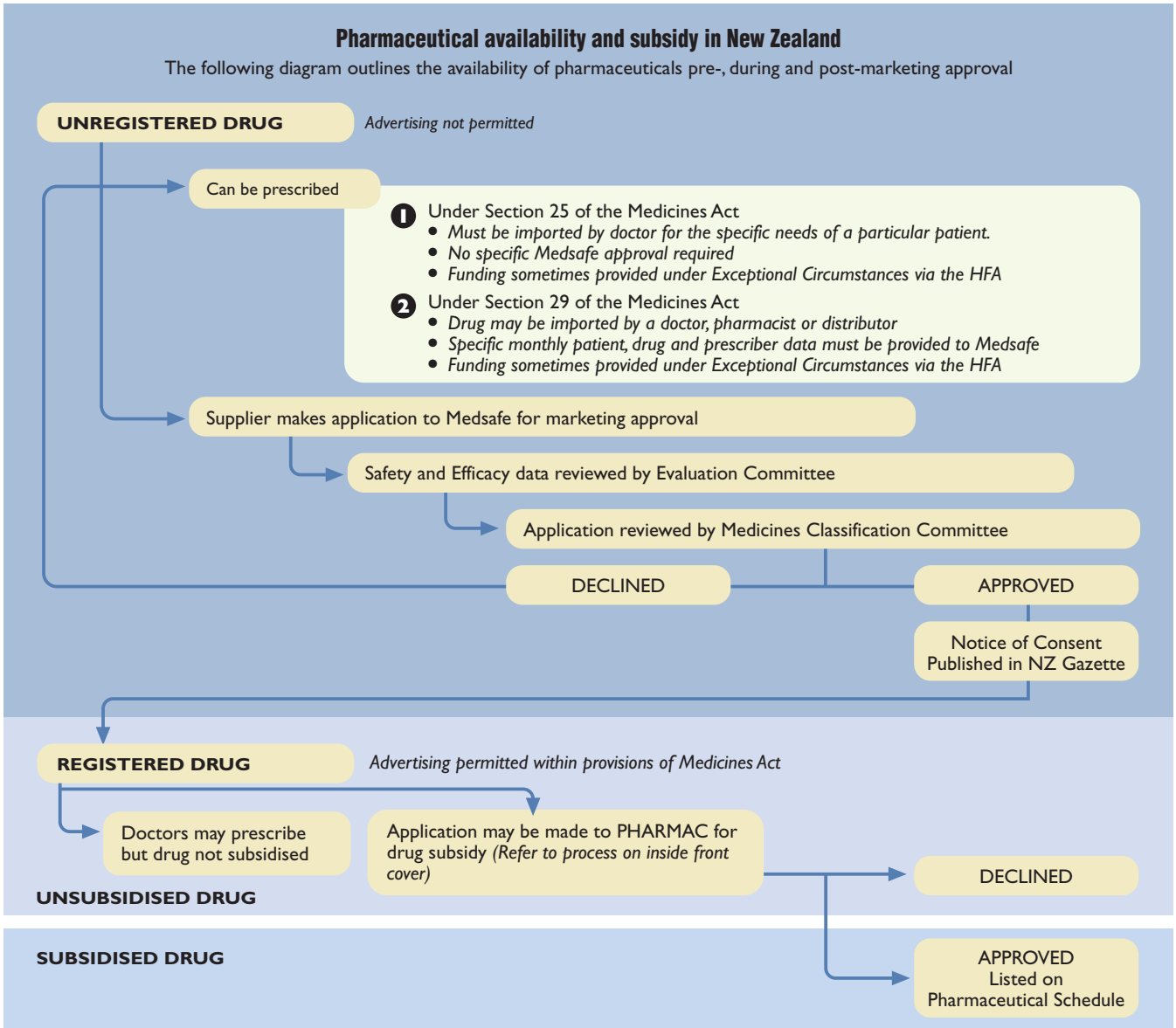
PTAC and PHARMAC – making a valuable contribution

While privately my colleagues, friends and acquaintances almost universally support the work of PTAC and respect the task PHARMAC has to perform, the public reactions of many members of the medical profession to PHARMAC's activities do not reflect this support. Yet who would suggest a better way of carrying out the resource allocation decisions?

The agreements that PHARMAC enters into with drug companies cannot and do not meet with universal approval. The agreement reached with ACE inhibitor suppliers this year is a good example of how an issue can polarise the medical profession. As in other cases where PHARMAC has used product similarities to leverage prices downwards and reduce the costs of pharmaceutical care, many doctors objected to the effect of these changes on the choice of fully subsidised agents. However, we must realise that such agreements are reached to buy more healthcare for tax dollars, which must be the overriding consideration. Whether a company stays in business in New Zealand as a result of this process must be outside our consideration.

Issues for hospitals and specialist clinics

Prescribers in the hospitals and specialist clinics have a particular responsibility to use the Pharmaceutical Schedule conscientiously, in that their prescribing leads prescribing in the community and so has a major influence. The outpatient prescriptions they write do not influence the financial position of their hospital, but they do affect New Zealand's overall drug spend once patients are in community care.



A VIEW FROM THE INSIDE

Invercargill-based paediatrician Dr Paul Tomlinson and Howick GP Dr Allan Moffitt are both members of the Pharmacology and Therapeutics Advisory Committee (PTAC).

PTAC is a committee of medical specialists and general practitioners nominated by professional bodies such as the New Zealand Medical Association and other medical colleges and societies. Dr Tomlinson was nominated by the paediatric division of the Royal Australasian College of Physicians and has been part of PTAC since 1997, while Dr Moffitt was nominated by the New Zealand General Practitioner's Association and joined the committee in February 1998.

Both believe PTAC has an important role to play.

"PTAC is positioned between pharmaceutical suppliers who wish to market their product and PHARMAC, which generally wishes to manage expenditure on pharmaceuticals," says Dr Tomlinson. "While we have to work closely with PHARMAC, we strive to maintain an essential objectivity and balance in our provision of medical advice."

PTAC reviews applications from drug companies for the inclusion of new drugs on the Pharmaceutical Schedule. From time to time it is also asked to advise on other issues associated with managing the Schedule. This can include reviews of subsidy and access to groups of drugs as well as individual drugs.

"Much of PTAC's work focuses on the relative benefits of treatments and therefore the appropriate level of availability," says Dr Tomlinson. "The challenge is to balance all areas of health need in a context of limited funding."

The committee meets quarterly and requires an intensive preparation process.

"Reading the paperwork for each meeting takes me the equivalent of four working days, and between meetings we occasionally hold teleconferences. Then there's the full day meetings in Wellington four times a year," says Dr Moffitt. "PTAC members are also often asked to participate in or chair sub-committees, which are a bit like working parties that report back to PTAC and PHARMAC on particular issues."

Dr Moffitt says he's impressed with the scientific and evidence-based nature of the decision-making process.

"It's when you get totally different fields, such as drugs for multiple sclerosis versus statins, that it can be hard to decide where the greater benefit lies."

Dr Tomlinson sees part of his role as trying to improve children's access to pharmaceutical products, but he is also conscious of his responsibility to comment on issues affecting other patient groups.

"I see it as important that children's perspectives are considered and their interests safeguarded. In other matters I can offer an unbiased viewpoint without having any 'vested interest' in a product's success."

Members of PTAC and sub-committees are paid an hourly rate plus expenses for attendance at meetings and time spent preparing for meetings. Even though the role is demanding, both Dr Tomlinson and Dr Moffitt say they find the work stimulating and intellectually rewarding.

"I've learned a great deal since I joined PTAC," says Dr Tomlinson. "I learn a lot about new medicines, much of which is directly relevant to my work. My colleagues also benefit from my experience through our informal discussions."

Those in authority in hospitals would do well to reflect on this. These prescribers are as exposed as other doctors to aggressive marketing initiatives from pharmaceutical companies. If a company funds a hospital staff member wholly or in part, there is a conflict of interest. This may not be in the taxpayers' interest, even if it helps the hospital's bottom line.

There is something sad about seeing a highly trained and well paid specialist walking around a hospital like a mobile advertisement for the product whose name appears on the pen facing from his pocket. He's been acquired for a few cents. We also see government-owned hospitals that use as their daily pharmaceutical reference, a publication in which drugs are listed by brand name. This is a sad indictment of the priorities some prescribers place on prescribing wisely and conservatively.

If hospitals recognised these prescribers' role as influencers on others' prescribing habits, and appreciated that some drug trials have an important marketing component, we might eventually see more controlled access to hospital staff by company representatives, and consequent savings for the New Zealand pharmaceutical budget.

My thanks

My thanks to the members of PTAC and its sub-committees for their hard work and commitment during the year. The value of their work is not often publicly acknowledged, but is in the best interests of patients, and indeed society as a whole.

David Russell, Chief Executive of the Consumers' Institute of New Zealand, discusses the increasingly controversial role of direct-to-consumer advertising.

irect-to-consumer advertising

– a financial palliative for the pharmaceutical industry

The purpose of advertising is to sell things, the more the better. The sales pitch is usually for a well defined product or service and advertisements are crafted to appeal to those most likely to make a direct purchase.

However, advertising can be used in more subtle ways. It can arouse interest in the minds of the general public and that interest can then be used to bring pressure on a third party to buy. Direct-to-consumer (DTC) advertising of prescription drugs is a clear example of this.

Promote the pharmaceutical product to the public in an effective way and patients will then bring pressure on the medical professionals to prescribe. Of course, every time a script is written a sale is made and a dollar is earned by the manufacturer.

And that is at the heart of product advertising – profit. I listen with cynical amusement to claims that advertising leads to a better informed public. Of course advertising can inform and so it should. It can also humour, annoy, play on emotions such as nostalgia, pity, anger, envy, desire and sex. But these are all means to help achieve the end of increased sales and profit.

There is nothing wrong with this concept. We live in a democracy whose economic direction is governed, to a large extent, by free and competitive trade. If traders wish to sell then it is axiomatic that they have to advertise in some way. The audience to whom they are selling needs to know what is on offer.

The right to advertise is not unfettered however. The disparity in knowledge between an expert in a particular field and that of the public is recognised in law. For example, financial advertising is quite strictly controlled in New Zealand. Not only do financiers have to watch the claims they make but in many circumstances they have to back claims with a very detailed prospectus. The law of the land has seen fit to protect the financial health of the public.

Advertising claims that have a bearing on the physical health of citizens don't receive the same attention, yet there is often a greater lack of understanding by consumers about the technical detail of, and potential for harm by, what is on offer. There are some rules on advertising pharmaceuticals in the Medicines Act but these appear to be drafted on the assumption that advertising prescription drugs would be directed to health professionals and not the general public. Indeed, it is clear that TV advertising wasn't even considered when the legislation was written. In the main this didn't matter because the pharmaceutical companies did restrict their promotions to doctors and other health professionals.

But companies are now facing a more rigorous contracting system and this is affecting their margins. Add to this part-charging consumers for some prescriptions and the scene is set for DTC advertising. The companies need to enlist the support of the public to create a demand for drugs that otherwise would lose market share. They also see the need to promote new products that are not on the approved list of subsidised drugs. And so the advertising campaigns have started.

This follows a trend started in the US in 1997 when the Food and Drug Administration relaxed the controls over DTC drug advertising. The industry responded immediately. The spending on advertising to the public increased by 46 percent between 1996 and 1997. It is estimated that well over US$1 billion was spent on radio, TV and print ads in 1998.

Evidence suggests that companies are getting a good return for their advertising dollar. Claratyne, an allergy drug marketed by Schering-Plough, had sales of US$600 million in 1996. After DTC advertising costing US$55 million in 1997, sales reaped US$900 million.

A question that must be addressed by the Government is whether increased demand created by DTC advertising is driven by a latent health need in the community.

Since 1996, 10 drugs have been promoted directly to New Zealand consumers. They cover heath problems ranging from psychologically damaging lifestyle ailments such as hair loss and sexual dysfunction to drugs for the treatment of asthma, high blood pressure, prostate cancer and obesity.

When these ads began to appear, the Consumers' Institute publicly criticised them. We considered the advertisements were putting an uncritical gloss on the efficacy and application of the drugs they were promoting. For example, useful, intelligible consumer information about side effects, limitations on use, and price was either missing or obscured. Some ads cynically followed the letter of the law in the way they presented the legally required consumer information but this was neither accessible nor appropriate for the non-professional audience to which it was directed. This compliance but disregard for the intent of the law reached its zenith in television ads where a block of unreadable print was flashed on the screen for a second or so. Newspaper advertisements weren't a lot better. One advertisement not only presented the statutory consumer information in tiny type but also screened back the black print used in the body of the advertisement to a far lighter and much less readable grey.

The Institute thought the DTC advertising of prescription medicines should be banned. The industry responded with the claim that most of the advertisements were offering further information through 0800 telephone help lines or freepost services. Much of this was sound factual material but we felt it hardly compensated for the lack of responsibility the industry was showing in its primary advertising.

Support for the companies' position came from the Health and Disabilities Commissioner. She put forward the argument that consumers had a right to information about prescription drugs and that DTC advertising was one way of providing it. This view also was promoted by the Associate Minister of Health, Tuariki Delamere. It was clear that a ban was not acceptable to the Government. However, the industry has responded to consumer concern with a voluntary scheme promoted by the Association of New Zealand Advertisers. This centres on the Advertising Authorities' code for therapeutic products and an industry-appointed adviser who will provide advice and vet advertisements before they are released.

The Institute acknowledges that voluntary, industry-controlled restraints on advertising have worked well in other sectors – the liquor industry for example. A six-month trial of the industry self-control proposal is now underway. This is a freedom that, apart from the US, is not given in any other developed country in the world. The pharmaceutical industry must take its responsibilities to the consumers of New Zealand seriously. The Consumers' Institute will be monitoring its performance. Nothing short of an impeccable record of balanced, informative, DTC advertising of prescription drugs at the end of the trial will restrain the Institute from pressing for the introduction of specific controls.

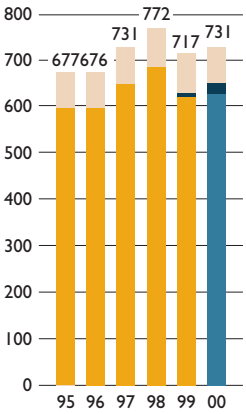
Annual review *by therapeutic group*

This section is devoted to the detail of PHARMAC's operations this year. A summary of the main changes to the Pharmaceutical Schedule implemented this year is set out in the table on pages 22-25. By way of introducing those changes, the main themes underlying the transactions entered into by PHARMAC are described on the following two pages.

PHARMAC's goal is to improve the value for money from the Government's expenditure on pharmaceutical subsidies. Value for money is a function of the healthcare delivered by the pharmaceutical and the price of the drug. Therefore, PHARMAC is always interested in these twin goals – getting better drugs and getting better prices. Within this framework, lower prices are valued because the savings they provide can be used to meet other, previously unmet, health needs.

SUBSIDISED DRUG COST

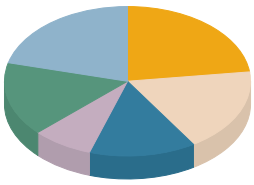
Years ended 30 June
$ millions



- *GST.*
- *Cost, including estimated distributing margins and dispensing fees.*
- *Atypical antipsychotic agents.*
- *Forecast.*

INVESTMENT BY THERAPEUTIC GROUP

Year ended 30 June 1999



- *Cardiovascular and blood (23%).*
- *Nervous system (18%).*
- *Respiratory tract and allergies (14%).*
- *Infections (8%).*
- *Alimentary tract and metabolism (16%).*
- *All other (21%).*

In order to achieve both these objectives, PHARMAC is organised so that each of its five Therapeutic Group Managers (TGMs) is responsible for one or more therapeutic groups – these are shown in the table on pages 22-25. Within each therapeutic group, the TGM is responsible for all aspects of expenditure management, including being aware of new drug developments, processing applications for listing new drugs, contracting with companies for listing of or subsidy reductions on their drugs and implementing decisions made by the PHARMAC Board. This parallels the drug development cycle – from new innovative product, through introduction and growth, patent expiry and generic competition.

This year a principal theme of TGM work has been to improve value for money by increasing the level of price competition among drugs, and results for the year indicate a healthy level of competition. It is convenient to think of price competition occurring at two stages of a drug's life cycle: while it is on patent; and following patent expiry.

Genuine ground-breaking innovations in pharmaceuticals are rare. Instead, most new pharmaceuticals differ by small increments from existing products. This pattern gives rise to drug families, such as ACE Inhibitors, H_2 Antagonists or Proton Pump Inhibitors. PHARMAC often uses this as the basis for its reference pricing policy, whereby drugs are grouped into therapeutic sub-groups (defined as drugs which have the same or similar therapeutic effect treating the same or similar condition) with a common subsidy prevailing across the sub-group. This ensures that equivalent subsidies are paid for drugs of equivalent value.

There is intense competition among the drug companies for market share in the main therapeutic groups. A quick scan of the medical magazines shows that the majority of advertising is for "me-too" products in the large, valuable product categories. Reference pricing enables PHARMAC to harness this competition and apply it to the goal of value for money. Because patients and doctors are sensitive to extra patient charges, if a company lowers its price it stands to gain significant market share as long as other companies do not match the reduced price and subsidy.

This was the basis of some of the significant transactions during the year, with subsidy reductions in ACE Inhibitors, Dihydropyridine Calcium Channel Blockers (DHPCCBs), breath-activated asthma products, NSAIDs and proton pump inhibitors. Because of the high expenditure in these areas and the magnitude of the subsidy reductions, these transactions underpinned the reduction in expenditure that was achieved.

Once a patent expires, there is further scope for competition from generic products, and this helped PHARMAC achieve savings of a previously unseen magnitude. Within 13 months of the patent on acyclovir (Zovirax) expiring, the subsidy for acyclovir had fallen by 70 percent. Similarly, the patent expiry on ranitidine (Zantac) saw subsidies for all H_2 antagonists fall by 70 percent within three months – even though competition between the H_2 antagonists had already reduced this subsidy in previous years. Similar price breaks are expected in the coming year with the expiry of patents on the number one prescribed antibiotic co-amoxyclav (Augmentin) and the blockbuster anti-depressant fluoxetine (Prozac).

In 1997, PHARMAC introduced preferred brand arrangements and tendered for the sole subsidised supply of 23 different chemicals. Subsidies were reduced for 11 of the chemicals in the 1997/98 year as a result of the tender, with savings of around $4.2 million per annum. Price reductions averaged 39 percent.

In some cases, PHARMAC awarded tenders for sole supply conditional on the supplier gaining market approval for a product. As a result, PHARMAC reduced subsidies for an additional four chemicals in that first multi-product tender during the 1998/99 year (ipratropium bromide nebules, dextropropoxyphene with paracetamol, flutamide tablets and calcium carbonate tablets). Annual savings from these decisions were approximately $2.3 million, with price reductions once more averaging around 39 percent.

In addition, PHARMAC entered into preferred brand contracts for a number of products. These led to further savings and average price reductions of about 40 percent.

The success of the 1997/98 tender inspired PHARMAC to consult on a further multi-product tender in markets worth approximately $70 million, in September 1998. Main proposed changes to implementation from the previous tender were:

- allowing suppliers to bid for preferred brand status in addition to sole supply status;
- allowing suppliers to make bids involving more than one chemical; and
- increasing the length of the trade-in and trade-out periods to allow suppliers and pharmacists to manage stock more easily.

After evaluating consultation responses, PHARMAC entered into three contracts with suppliers that provided for price reductions from 1 March 1999 for some products. In return, PHARMAC agreed to provide protection from tendering for a particular period. Price reductions for these contracts were estimated to save approximately $4.7 million per year.

PHARMAC tendered a subset of products on the original consultation list in December 1998. Savings from this tender are expected to be approximately $15 million per annum, with subsidy reductions to occur in the 1999/00 year.

New investments

PHARMAC's success in reducing the costs of old pharmaceutical technology has enabled investment in new pharmaceutical technology and other healthcare interventions. However, it is important that this investment is soundly based.

PHARMAC has developed techniques to help assess which drugs are worth funding. The principal technique is "cost-utility analysis", which involves a systematic assessment of the costs and benefits of a particular drug. PHARMAC's approach is set out in *Prescription for Pharmacoeconomic Analysis*, which is available from PHARMAC and also published on our website. Key features of the approach are:

- benefits are assessed in terms of quality adjusted life years (QALYs). These are an assessment of the improvement in life expectancy and quality of life achieved as a result of a drug;
- when assessing costs, PHARMAC looks not just at the direct costs of the drug but also at the effect on other parts of the health system. For instance, if a drug means that a patient is less likely to require hospitalisation, this is considered as a cost offset; and
- cost-utility is only one part of a drug's assessment. Decisions are taken against the full decision criteria – cost-effectiveness is just one criterion.

The cost-utility analysis will often provide an indication that a drug is a good investment for certain patients – but not necessarily for others.

In these cases the drug may be listed, but restricted (for subsidised access) only to patients in whom it is cost-effective. The majority of new listings last year had some form of restriction attached.

These restrictions are never set in stone and are reviewed as and when new evidence comes to light. TGMs regularly initiate reviews of groups of drugs or therapeutic areas to ensure that subsidies and access are appropriate and consistent with published evidence available. The review of statin drugs which resulted in wider access this year is an example of this. Other major reviews undertaken and completed this year were a review of CNS stimulant drugs, atypical anti-psychotic agents, antibiotics and Special Foods.

When listing new drugs, we are also conscious of the budgetary impact, given that invariably newer pharmaceuticals are more expensive than older ones. Sometimes this risk can be managed with restrictions, but in other cases we are able to enter into risk sharing arrangements with suppliers. For instance sumatriptan tablets (Imigran) were listed this year as a result of a market cap arrangement with GlaxoWellcome.

The top 15 expenditure groups

By therapeutic group 2 by claim date

$ millions, GST exclusive	**1999**	1998	1997	1996	1995
ACE Inhibitors	**30.5**	53.6	51.0	44.6	45.3
Selective Serotonin Reuptake Inhibitors	**29.1**	29.8	25.9	17.5	14.4
Proton Pump Inhibitors	**24.4**	18.1	14.1	11.5	7.8
Dihydropyridine Calcium Channel Blockers	**20.1**	22.6	22.1	21.9	23.2
Penicillins	**18.2**	20.4	19.7	20.3	19.0
HMG CoA Reductase Inhibitors (statins)	**17.0**	7.8	14.3	10.9	7.9
Beta Adrenoceptor Blockers	**14.4**	20.4	22.3	18.8	19.8
Opioid Analgesics	**14.3**	14.3	13.4	10.1	8.8
Diabetes Management – Glucose/Blood Testing	**13.5**	12.6	11.7	9.8	9.1
Anticonvulsants	**11.7**	10.7	9.9	8.6	8.5
Inhaled corticosteroids – Metered Dose Inhalers – High dose	**11.3**	11.5	11.5	11.3	12.9
Antipsychotics	**10.1**	4.4	3.9	3.7	3.7
Non Steroidal Anti-inflammatory Drugs	**9.9**	12.6	12.9	15.1	17.3
Other Calcium Channel Blockers	**9.2**	10.7	11.8	10.2	11.4
Combined Oral Contraceptives	**9.1**	9.8	10.2	9.5	10.4

Companies are also able to advance their products by providing savings on older products. For instance, we listed two drugs for treating breast cancer – anastrazole and letrazole – by such mechanisms. Anastrozole (Arimidex) was listed as a result of Zeneca agreeing to a 50 percent subsidy reduction on the older oncology drug, tamoxifen citrate. Letrazole (Femara) was listed as a result of a multi-product cross deal with Novartis involving subsidy reductions on a number of drugs.

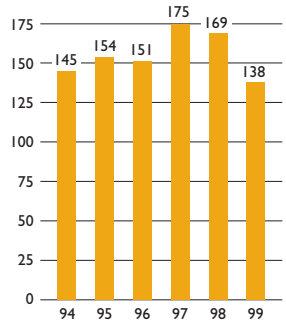
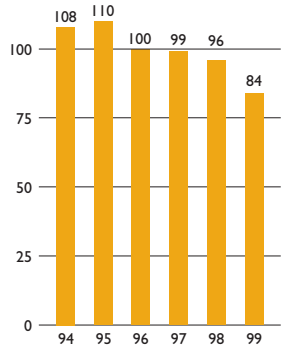
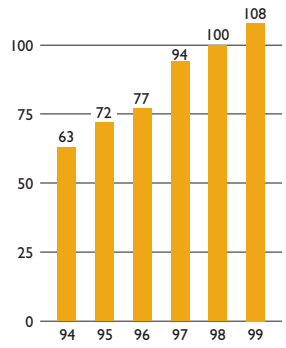
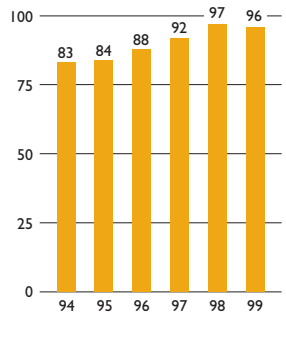
The same considerations that apply to listing drugs also apply to decisions to widen access. During the year the specialist restriction on paroxetine (Aropax) was lifted as a result of a risk sharing agreement with SmithKline Beecham.

Any account of activities would be incomplete without considering expected developments. PHARMAC staff monitor the pipeline of drug development in order to anticipate potential new therapies.

This year was notable as the year of the lifestyle drug – companies launched products for hair loss, erectile dysfunction and weight loss. These developments echoed the concerns of PHARMAC's former General Manager, David Moore, in last year's *Annual Review* article about medicalisation – the process whereby natural life processes are brought into medical jurisdiction and treated as if they are an illness.

However, drug developments also offer hope for patients suffering from certain diseases for which we would all like to be able to provide effective treatment. Of note, we look forward to applying our critical appraisal and decision-making skills to new developments in the areas of osteoporosis, multiple sclerosis, Alzheimer's disease, congestive heart failure, schizophrenia, glaucoma, and hepatitis C over the next 12 months.

Major transactions by therapeutic group

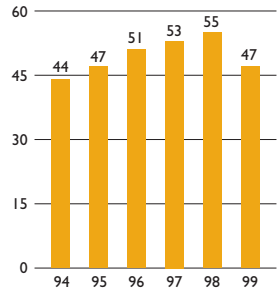
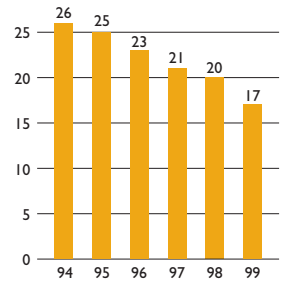
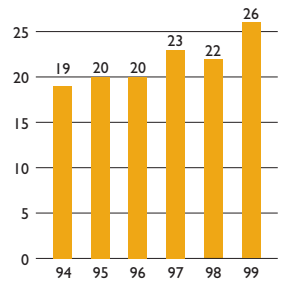
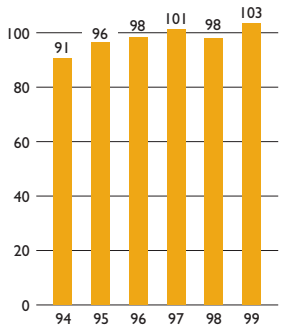
Therapeutic group	Expenditure *Years ended 30 June* *$ millions before GST*	Major areas of expenditure	Key new chemicals listed
Cardiovascular and Blood and Blood Forming organs		ACE inhibitors Calcium channel blockers (CCBs) Lipid modifying agents Beta blockers	Nicotine Replacement Therapy funded for HFA Smoking Cessation Programme from 1 Jun 99.
Respiratory		Inhaled corticosteroids Inhaled beto-adrenoceptor agonists Nasal preparations	Oxis (eformoterol fumarate) and salbutamol turbuhalers listed from 1 Oct 98. Telfast (fexofenadine HCl) listed from 1 May 99. Vicrom (sodium cromoglycate) and Tilade (nedocromil) CFC free inhalers listed from 1 Jun 99.
Nervous System		Antidepressants Antipsychotics Analgesics Anticonvulsants	Tasmar (tolcapone) listed from 1 Jul 98. Imigran (sumatriptan) tablets listed from 1 Nov 98. Cipramil (citalopram HBr) listed from 1 May 99. Clozopine, olanzopine and risperidone listed from 1 Feb 99.
Alimentary Tract and Metabolism		Anti-ulcerants Diabetes Antidiarrhoeals	Omeprazole, amoxycillin, metronidazole triple therapy Helicobacter pylori eradication pack (Helicosec) listed from 1 Nov 98. Actigall (ursodeoxycholic acid) listed from 1 Feb 99. Entocort CIR (budesonide) listed from 1 Feb 99. Gaviscon Infant listed from 1 Apr 99. Humalog (lispro) listed from 1 May 99.

Note: *These graphs differ from those provided in previous Annual Reviews because the data produced this year is based on the therapeutic grouping shown in the printed Pharmaceutical Schedule rather than the BNF classification system used in previous years.*

Expenditure is unadjusted for rebates due or paid under risk-sharing agreements with suppliers.

Key subsidy reductions	Key reviews completed/other significant decisions	Effects of sole supply/preferred supplier arrangements	Emerging issues/pending reviews
Angiotensin II Converting Enzyme (ACE) inhibitors (60% subsidy decrease from 1 Aug 98). Dihydropyridine CCBs (40% subsidy decrease from 1 Jun 99). Bezafibrate (20% subsidy decrease from 1 Nov 98 and approximately 15% subsidy decrease from 1 Mar 99). Dipyridamole (40% subsidy decrease from 1 Mar 99).	Access to statins widened from 1 Dec 98. Heparin subsidies increased from 1 Feb 99 to ensure reasonable range is fully subsidised.	Sole supply arrangements on acebutolol (56-69% subsidy decrease), glyceryl trinitrate TDDS patches (32% subsidy decrease), labetolol (37-62% subsidy decrease), nadolol (39-54% subsidy decrease), oxprenolol (41-49% subsidy decrease), pindolol (71-81% subsidy decrease), prazosin (49% subsidy decrease), propanolol (39-66% subsidy decrease), sotolol (42-51% subsidy decrease) and timolol (67% subsidy decrease) all from 1 Aug 1998. Preferred supplier arrangement on atenolol (75% subsidy decrease from 1 Oct 1998).	Consideration (by Cardiovascular sub-committee of PTAC) of applications to list Angiotensin II antagonists. Access to erythropoietin. Access to Low Molecular Weight Heparin.
	Listing of more CFC free inhalers.	Sole supply arrangement on ipratroprium bromide nebules (30% subsidy decrease from 1 Apr 99).	Request For Proposals (RFP) – inhaled corticosteroid metered dose inhalers.
Bromocriptine (30% subsidy decrease from 1 Feb 99). Derestriction of Aropax (paroxetine) (30% subsidy decrease from 1 Feb 99). Selegiline (50% subsidy decrease from 1 Feb 99).	CNS stimulants review (completed 1 Jan 99). New funding arrangements for atypical antipsychotic agents (AAAs) (implemented 1 Feb 99).	Sole supply arrangement on dextropropoxyphene with paracetamol (29% subsidy decrease from 1 Dec 98). Sole supply arrangement on levodopa with carbidopa 100mg (43% subsidy decrease from 1 Feb 99).	Prozac patent expiry. Review of access to New Anticonvulsant Drugs. Beta-interferon. Treatments for Alzheimer's disease. Ongoing issues regarding access to AAAs.
Derestriction of Somac (pantoprazole) (35% subsidy decrease from 1 Sept 98). 30% subsidy reduction on Humulin N from 1 May 99.	Request for increase dose of Ceredase for Gaucher's Patients (declined Apr 99).	Sole supply arrangement on calcium carbonate (55% subsidy decrease from 1 Dec 98). Preferred supplier arrangement on H_2 antagonists (48% subsidy decrease from 1 Sept 98 and a further 42% subsidy decrease implemented between 1 Sept 98 and 1 Jan 99).	Increasing expenditure on and review of oral rectal and colonic anti-inflammatories. Increasing use of PPI.

Major transactions by therapeutic group

Therapeutic group	Expenditure *Years ended 30 June* *$ millions before GST*	Major areas of expenditure	Key new chemicals listed
Infections		Penicillins Cephalosporins Macroloides Quinolones Anti-fungals Anti-virals Anti-retrovirals	Viramune (nelphinavir)+ Viracept (nevirapine) listed from 1 Oct 98. Zithromax (azithromycin) listed from 1 Nov 98. Valaciclovir (Valtrex) listed from 1 Nov 98. Combivir (zidovudine + limivudine) listed from 1 Jun 99.
Musculoskeletal System		NSAIDs Muscle relaxants Hyperuricaemia and Antigout	
Hormone Preparations – Systemic (excluding contraceptives)		Hormone replacement therapy Trophic hormones Sex hormones – non-contraceptive	Kliovance and Estrofem listed from 1 May 99.
Other *Genitourinary* *Dermatological* *Oncology +* *Immunosuppression* *Sensory* *Special Foods*		Contraceptives – hormonal Immuno-suppressants Eye preparations Special Foods	Neoral (cylosporin A) listed for atopic dermatitis from 1 Feb 99. Prograf (tacrolimus) listed for renal rescue from 1 Nov 98. Arimidex (anastrazole) listed from 1 Feb 99. Femara (letrazole) listed from 1 Feb 99. Trusopt (dorzolamide) listed from 1 Jul 98. Resource Standard, Resource Plus, Resource Just for Kids, Resource Diabetic, Vivonex Pediatric, Vivonex Ten, Elemental 028, Monogen, Fibresource, Isosource and Orgran Pasta range listed from 1 May 99.

Note: *These graphs differ from those provided in previous Annual Reviews because the data produced this year is based on the therapeutic grouping shown in the printed Pharmaceutical Schedule rather than the BNF classification system used in previous years.*

Expenditure is unadjusted for rebates due or paid under risk-sharing agreements with suppliers.

Key subsidy reductions	Key reviews completed/other significant decisions	Effects of sole supply/preferred supplier arrangements	Emerging issues/pending reviews
Aciclovir (60% subsidy decrease from 1 Oct 98). Flucloxacillin (5% subsidy decrease from 1 Sept 98).	Antibiotic review completed (Feb 99). Removal of requirement for patient co-payment for anti-tuberculotics from 1 Feb 99. Penicillin VK fully subsidised from 1 May 99.	Preferred supplier arrangement on aciclovir (15% subsidy decrease on subsidy at start of year from 1 Nov 98). Sole supply arrangement on cefaclor (25-30% subsidy decrease from 1 Aug 98).	Augmentin patent expiry. Quadruple therapy for AIDS. Antibiotic resistance. Access to antibiotics for infective endocarditis.
NSAIDs (20-22% subsidy decrease on low and high dose oral presentations from 1 Mar 99). NSAIDs (10% subsidy decrease on moderate dose oral presentations from 1 Jun 99). Diclofenac (25% subsidy decrease from 1 Aug 98).			Consideration of applications to list COX-2 inhibitors.
	Changes in distribution of Growth Hormone (implemented 1 May 99).		Request for proposals for Growth Hormone. Growth Hormone for adults.
Oxybutinin (15% subsidy decrease from 1 Oct 98). Gynaecological anti-infectives (29% subsidy decrease from 1 Oct 98 and a further 37% from Jan 99). Pregnancy test kits (30% subsidy decrease from 1 Aug 98). Topical anti-infectives (45% subsidy decrease from 1 Oct 98 and a further 45% from Jan 99). Intron A (interferon alpha 2 beta) (5% subsidy decrease from 1 Mar 99). Tamoxifen citrate (50% subsidy decrease from 1 Feb 98). Oral Supplements and Complete Diets (subsidy decreases of 18% (standard), 26% (paediatric), 19% (diabetic) from 1 May 99). Standard Products and Added Fibre Products (5% subsidy decrease from 1 Jun 98).	Two additional fully subsidised brands of oral contraceptives listed from 1 Sept 98. Access to new glaucoma treatments. Part 1 of Special Foods review (completed May 99). Availability of Special Foods from retail pharmacies from 1 Jun 99.	Sole supply arrangement on flutamide (60% subsidy decrease from 1 May 99). Preferred supplier arrangement on timolol maleate (30% subsidy decrease from 1 Aug 98).	Removal of Special Authority for Oral Contraceptives. Review of topical corticosteroid sub-grouping. Access to taxanes. Access to new anti-cancer therapies. Access to other new glaucoma treatments. Review of funding mechanism/ distribution of Special Foods.

The operations of PHARMAC

In the six years PHARMAC has been in operation, it has yielded savings to the taxpayer of $257 million, listed 491 new products and widened access to 101 drugs. Next year, further savings are expected along with an increase in demand for funding for and investment in new drugs. The overall effect is likely to be continued incremental gains in terms of health benefit and value for money from pharmaceutical spending.

Financial impact of PHARMAC decisions

PHARMAC's decisions this year resulted in the HFA spending an estimated $257 million less on pharmaceuticals than would have been spent in the year if past trends had continued. However, expenditure is expected to rise by $14 million next year.

Listing changes to the Pharmaceutical Schedule[1]

Years ended 30 June Number	**1999**	1998	1997	1996	1995	**Total since 1994**
New chemical entities listed	**32** (4)	14	11	7	8	**83**
New presentations listed	**40**	33	24	23	18	**154**
New products listed	**56**	53	20	32	46	**247**
Total new listings[2]	**128**	**100**	**55**	**62**	**72**	**491**
Derestrictions or expanded access[3]	**34**	14	10	13	14	**101**
Changes that restrict or limit access	**3**	7	6	4	4	**24**
De-listing	**51** (5)	106	14	0	0	**171**

In five years 491 new or enhanced products have been listed; access has been widened for a further 101; and 171 products have been either restricted or de-listed.

1. *Based on the date on which decisions are implemented.*
2. *Does not represent the total number of products added to the Schedule, since the listing of one new chemical entity can result in the listing of more than one presentation.*
3. *By decision, not necessarily the number of chemical entities affected.*
4. *A higher than usual number of new chemical entities were listed this year. This was, in part, due to the completion of a review of Special Foods that resulted in 13 new listings.*
5. *The increase in number of de-listed products this year is mainly due to introduction of sole supply arrangements.*

Pharmaceutical Schedule

On the surface, things continued as usual with the Pharmaceutical Schedule. PHARMAC published the full Schedule three times and maintained the demanding requirement of publishing the monthly *Update*. In addition, we continued with the production of *Dispatch*, the short summary of each month's changes that is faxed to pharmacists to give them advance notice of subsidy changes.

At the same time, important developments have been underway that will affect the future of the Schedule. PHARMAC has contributed actively to the Pharmacy Electronic Claiming project, which will enable pharmacies to submit their claims to HBL electronically. A key part of this development is that PHARMAC's Pharmaceutical Schedule database will be simultaneously exported to pharmacies (via software vendors) and HBL, so that all parties are working to the same Schedule of subsidies and restrictions.

PHARMAC has been working in two areas to enable the transition to the new arrangements. A new database structure was developed; SiMPle replaced SMP. As the name suggests, the new version is simpler, with fewer tables. It will be easier to manage within PHARMAC and more robust for export to software vendors and HBL. At the same time, we have been working on improving the accuracy and completeness of the data within the database. This has been a major undertaking since the database was first developed and used for internal use, and therefore had not been maintained with the disciplines currently required.

Schedule systems

PHARMAC launched a completely re-designed website (www.pharmac.govt.nz) in February 1999 with an emphasis on the provision of detailed information about PHARMAC's role, activities and how it makes drug subsidy decisions.

Most of PHARMAC's publications, including the Pharmaceutical Schedule and its Operating Policies and Procedures, can now be viewed online or downloaded from the website. The monthly Schedule *Update*, *Dispatch* and press releases are now posted to the website for health professionals and consumers to view.

On-going analysis of website "traffic" shows that interest in the re-vamped website has grown steadily – with around 70 percent of visitors either accessing the Interactive Online Schedule database to calculate their prescription costs, downloading PHARMAC publications or viewing press releases. A website enquiry form has enhanced PHARMAC's communication with individual consumers in particular.

Open communication

PHARMAC continued to offer an 0800 number and freepost. The information line is available toll-free between 9.00am and 4.00pm weekdays. The PHARMAC 0800 Information Line aims to respond to all calls within 24 hours.

The 0800 number was used during the year by patients, students and Members of Parliament, doctors, nurses, dieticians and health educators. From 1 July 1998 – 30 June 1999, the PHARMAC 0800 information line received approximately 5,100 calls from the public and health professionals. Pharmacists with queries about changes to the Pharmaceutical Schedule and Updates were the most frequent callers.

Public enquiries were very high during the ACE Inhibitor and DHPCCB related subsidised GP visit campaigns, when patients on medication affected by a change in subsidy required information and reassurance particularly about options and rights.

Personnel and training

As at 30 June 1999, PHARMAC employed 16 people full time. They comprised a general manager – a role which was filled by ex-medical director, Win Bennett, until October 1998 when he left PHARMAC and was replaced by Wayne McNee from November 1998, five therapeutic group managers, a strategic development manager, five analysts, two demand side managers, an office manager and a group secretary. The role of medical director was vacant at 30 June but has since been filled by Dr Peter Moodie.

Applications declined by PHARMAC Board[1]

Years ended 30 June

Number	1999	1998	1997	1996	1995	Total since 1994
New chemical entities	**20** [2]	2	14	5	8	**64**
New presentations	**0**	10	3	8	3	**29**
New products	**0**	2	11	5	9	**31**
Derestrictions	**3**	1	1	1	1	**11**
Totals	**23**	15	29	19	21	**135**

This year, the PHARMAC Board considered 151 applications for subsidy, of which 128 were listed and 25 declined. The acceptance rate is therefore 85 percent.

1. *Based on the date on which decisions are implemented.*
2. *A higher than usual number of declined applications for new chemical entities is due mainly to the Special Foods review which resulted in 18 declines.*

Between them PHARMAC staff have a mix of medical/science, business and economic qualifications.

Many of PHARMAC's staff undertook additional training. Courses included public health, clinical pharmacy, and business studies. Some attended courses on negotiation and media.

Financial performance

Total operating costs rose slightly despite much lower costs associated with litigation. The net increase was due mostly to increased office costs (mostly attributable to additional costs associated with the 0800 Information Line) and, to a lesser degree, to increased staff costs (which increased as a result of higher than usual recruitment expenses during the period).

The annual cost of PHARMAC

Derived from audited figures for years ended 30 June

$ 000s	1999	1998	1997	1996	1995
Staff costs *(includes Directors' and professional fees)*	**1,539**	1,440	1,245	1,170	804
Office costs *(includes depreciation, rent, phones, library, purchase of data, ordinary legal costs)*	**1,701**	1,176	855	925	575
Consulting services *(includes PTAC, PR, general consulting, audit fees, HRM and accounting)*	**1,215**	1,409	1,517	1,408	1,047
Schedule production *(printing and postage only)*	**424**	479	345	338	260
Costs associated with litigation	**594**	1,039	1,607	680	0
Total cost	**$5,473**	$5,543	$5,569	$4,521	$2,686

At balance date, fixed assets comprised $213,000 of office and computer equipment, furniture and fittings.

Increases of more than $200,000 in year ending 30 June 1999

By therapeutic group *$ millions, GST exclusive*	Dollar change 1999 over 1998	Percentage change 1999 over 1998	Percentage change 1999 over 1993
Inhaled beta-agonist and anticholinergic agents – nebuliser – Salbutamol	0.48	94	N/A
Inhaled beta-adrenoceptor agonist and anticholinergic agents – MDI	0.48	30	105
Androgen Agonists and Antagonists	0.49	15	95
Alpha Adrenoceptor Blockers	0.50	9	157
Protein Supplements, Formulae Used for PKU and other Inborn Errors of Metabolism	0.51	65	46
Immune Modulators	0.52	35	70
Calcium Homeostasis	0.57	44	390
Inhaled beta-adrenoceptor agonists – long acting inhalers – MDI	0.58	45	N/A
Rectal and Colonic Anti-inflammatories	0.61	9	127
Insulin: Intermediate and long-acting Preparations	0.62	7	86
Anti-retrovirals – Protease inhibitors	0.64	119	N/A
Other CNS Agents	0.66	40	135
Anti-thrombotic Agents – Antiplatelet Agents	0.66	24	–37
Oral Supplements/Complete Diet (nasogastric/gastronomy tube feed)	0.73	48	110
Trophic Hormones – GnRH Analogues	0.77	94	249
Anti-anaemics – Hypoplastic and Haemolytic	0.81	57	163
Diabetes Management – Glucose/Blood Testing	0.92	7	90
Anticonvulsants	0.94	9	60
Anti-retrovirals – Nucleosides reverse transcriptase inhibitors	1.09	97	274
New Anti-epileptics	1.16	50	N/A
Anti-fungals	1.26	33	209
Trophic Hormones	1.72	76	–12
Anti-acne Preparations	2.26	36	97
Acute Migraine Treatment	2.48	67	715
Immuno-suppressants	2.60	52	70
Inhaled corticosteroids – metered dose inhalers – Very high dose	3.97	86	N/A
Anti-psychotics	5.68	130	186
Proton Pump Inhibitors	6.28	35	671
HMG CoA Reductase Inhibitors (statins)	9.15	117	315

Decreases of more than $200,000 in year ending 30 June 1999

By therapeutic group *$ millions, GST exclusive*	Dollar change 1999 over 1998	Percentage change 1999 over 1998	Percentage change 1999 over 1993
ACE Inhibitors	–23.14	–43	–20
H_2 Antagonists	–9.62	–53	–70
ACE Inhibitors with Diuretics	–6.22	–79	–66
Beta Adrenoceptor Blockers	–6.00	–29	–25
Inhaled corticosteroids – breath activated devices – High dose	–3.35	–36	–49
Nitrates	–2.72	–30	–40
Anti-virals – Recurrent episodes of genital herpes	–2.68	–55	8
Non Steroidal Anti-inflammatory Drugs	–2.68	–21	–46
Dihydropyridine Calcium Channel Blockers	–2.46	–11	9
Inhaled corticosteroids – breath activated devices – Very high dose	–2.31	–21	–34
Penicillins	–2.24	–11	15
Macrolides	–2.08	–45	–31
Cephalosporins and Cephamycins	–1.73	–34	–15
Other Calcium Channel Blockers	–1.53	–14	–12
Inhaled corticosteroids – breath activated devices – Medium dose	–1.53	–48	–64
Respiratory devices	–1.50	–39	–1
Monoamine-Oxidase Type A Inhibitors	–1.45	–39	–7
Anti-virals – Acute herpes zoster	–1.25	–57	N/A
Inhaled beta-adrenoceptor agonists – breath activated devices – High dose	–1.22	–53	–51
Nasal preparations – Allergy prophylactics	–1.22	–19	–44
Hormones and Related Agents	–1.11	–20	–20
Inhaled beta-adrenoceptor agonists – breath activated devices – Medium dose	–1.02	–33	–27
Anti-virals – First episode genital herpes	–1.02	–44	64
Beta Adrenoceptor Blockers with Diuretics	–0.95	–74	–78
Dopamine Agonists and Related Agents	–0.85	–12	–25
Antacids and Reflux Barrier Agents	–0.83	–52	–67
Emollients and Barrier Creams	–0.79	–38	–41
Inhaled beta-adrenoceptor agonists – breath activated devices – Terbutaline 500 ug	–0.75	–17	–11
Inhaled corticosteroids – metered dose inhalers – Medium dose	–0.74	–10	–20
Anti-androgen oral contraceptives	–0.72	–39	41
Combined oral contraceptives	–0.71	–7	–7
Anti-fungals Topical	–0.66	–32	–2
Selective Serotonin Reuptake Inhibitors	–0.66	–2	559
Tetracyclines	–0.62	–28	–33
Inhaled anticholinergic agents – nebuliser solutions – High dose	–0.60	–26	–10
Pregnancy tests – HCG urine	–0.60	–38	1
Sodium cromoglycate	–0.55	–32	–65
Corticosteroids Topical – Plain	–0.51	–8	–3
Inhaled beta-adrenoceptor agonists – metered dose inhalers – Low dose	–0.50	–9	–6
Gynaecological anti-infectives	–0.46	–44	–60
Antipyretics and Non-Opioid Analgesics	–0.44	–7	36
Topical nasal decongestants	–0.44	–100	–100
Glaucoma Preparations	–0.42	–10	2

Directory

PHARMAC Board

Directors

Denis Tait *(Chairman).*
David Moore *(HFA)* – from Sept 98.
Peter Wilson *(Independent)* – from Sept 98.
Kath Fox *(HFA)* – from Oct 98.
Gabrielle Collison *(HFA)* – from Jan 99.

Alternate Directors

Michael Sewell *(Independent)* – from Oct 98.
Win Bennett *(HFA)* – from Nov 98.

Other Directors during the year

Carolyn Gullery *(HFA)* – to Jan 99.
Dermot McNerney *(HFA)* – to Sept 98.
Dwayne Crombie *(HFA)* – to Sept 98.
Lynne Lane *(HFA)* – to Sept 98.

Pharmacology and Therapeutics Advisory Committee (PTAC)

John Hedley, MBChB, FRACP, FACCP, Member Thoracic, Cardiac and Gastroenterology Societies of Australia and New Zealand, Chairman.

Peter Black, MBChB, FRACP, physician and pharmacologist. (Resigned May 99.)

Robin Briant, MD, FRACP, physician and pharmacologist.

Bruce Foggo, MBChB, Dip Obst, FRNZCGP, general practitioner.

Allan Moffitt, BHB, MBChB, Dip Obs, general practitioner.

Peter Pillans, MBChB, FCP, FRACP, pharmacologist.

Tom Thompson, MBChB, FRACP, physician.

Paul Tomlinson, MBChB, MD, MRCP, FRACP, BSc, paediatrician.

PTAC sub-committees

Asthma
John Hedley (PTAC), Chair
Innes Asher, paediatrician
Carl Burgess, clinical pharmacologist
Julian Crane, respiratory physician
Les Toop, general practitioner
Ian Town, respiratory physician

Mental Health
Robin Briant (PTAC)
Peter Ellis, psychiatrist, Chair
Carl Burgess, clinical pharmacologist
John Hopkins, psychiatrist
Anne Walsh, psychiatrist
Janet Holmes, general practitioner

Antibiotics
John Hedley (PTAC), Chair
Robin Briant (PTAC)
Bruce Foggo (PTAC)
Sandy Smith microbiologist
Paul Tomlinson (PTAC)
Mark Thomas, infectious diseases specialist

Special Foods
Paul Tomlinson (PTAC), Chair
Kerry McIlroy, dietician
Jo Stewart, dietician
John Wyeth, gastroenterologist

Cardiovascular
John Hedley (PTAC), Chair
Alan Moffitt (PTAC)
Peter Black, pharmacologist (Resigned May 99.)
Gary Gordon, cardiologist
Andrew Hamer, cardiologist
Lannes Johnson, general practitioner

Hormonal Contraceptives
Bruce Foggo (PTAC)
Sharon Kletchko, physician, Chair
Frances McClure, general practitioner
Christine Roke, general practitioner
John Hutton, reproductive endocrinologist

Diabetes
Tom Thompson (PTAC), Chair
Pat Carlton, diabetes nurse specialist
Paul Drury, diabetologist
Tim Kenealy, general practitioner
Peter Moore, diabetologist
Russell Scott, diabetologist (Resigned Mar 99)

Neurology
Tom Thompson (PTAC), Chair
Alistair Dunn, general practitioner
Lindsay Haas, neurologist
John Hedley (PTAC)
William Wallis, neurologist

Nucleosides
John Hedley (PTAC), Chair
Evan Begg, clinical pharmacologist
Stephen Chambers, infectious diseases specialist
Richard Meech, physician
Mark Thomas, infectious diseases specialist

Osteoporosis
John Hedley (PTAC), Chair
Peter Black, physician and clinical pharmacologist
Anna Fenton, endocrinologist
Ian Reid, endocrinologist
Richard Sainsbury, geriatrician
Les Toop, general practitioner

CNS Stimulants
John Hedley (PTAC), Chair
Paul Tomlinson (PTAC)
Allan Moffitt (PTAC)
Martin Pollock, neurologist
Catherine Stedman, pharmacology registrar
John Werry, psychiatrist

Extemporaneously Compounded Preparations (ECP)
Allan Moffitt (PTAC), Chair
Sue Peacock, pharmacist
Brian Walker, pharmacist
David Woods, pharmacist
Bruce Taylor, dermatologist

The PHARMAC team

Win Bennett, *general manager to Oct 98.*
Wayne McNee, B Pharm, MPS, *general manager from Nov 98.*
Jason Arnold, BSc, PG Dip Stats, *forecast analyst.*
Richard Braae, BCom (Hons), MA, *strategic development manager.*
Matthew Brougham, MSc (Hons), Dip Health Econ, *therapeutic group manager.*
Ruth Casalvolone, B Pharm, MBA, *demand side manager.*
Cristine Della Barca, Dip Pharm, Dip Bus Admin, MPS, *therapeutic group manager.*
Jan Edwards, *office manager.*
Ursula Egan, Dip Pharm, MPS, *schedule analyst (part time).*
John Geering, BA, BSc, *programmer/analyst.*
Kyle Jones, BA BSc (Hons), *project manager/ research.*
Luca Li Bassi, Medical Doctor, Dip Mgt, *therapeutic group manager.*
Lele Ma'auga, *therapeutic group assistant.*
Scott Metcalfe, MBChB, D Com H, FAFPHM, *epidemiologist/public health physician (on contract).*
Jan Quin, RCpN, *project manager (part time).*
Dilky Rasiah, MBChB, DPH, *therapeutic group manager.*
Rico Schoeler, Diplom – Volkswirt, Dip Econ, *analyst.*
Peter Sharplin, MSocSc, *forecast analyst (resigned Jun 99).*
Tim Smart, *medical director (resigned May 99, replacement* Peter Moodie*).*
Martin Szuba, MD, MBA, MSc, *therapeutic group manager.*
Rachel Wilson, NZIMR, *demand side manager.*
Linda Whatmough, *office manager (resigned May 99.)*

For further information

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