AAPP Australian Association Of Pathology Practices Inc.
ABN 41 052 527 634

# Impact of Advances in Medical Technology on Healthcare Expenditure in Australia
## Submission to the Productivity Commission

## 1 Introduction

The Australian Association of Pathology Practices Inc. (AAPP) welcomes the opportunity to participate in the Productivity Commission's Inquiry into the Impact of Advances in Medical Technology on Healthcare Expenditure in Australia.

We ask to be kept informed of the Inquiry's progress and to be offered the opportunity for further input as the Inquiry develops.

### 1.1 AAPP Background

The Australian Association of Pathology Practices (AAPP) is the principal industry body for private pathology practice in Australia, representing over 80% of the private specialist pathology market.

The AAPP was established in the late1980's to provide private practice pathology with organised and professional representation during high-level negotiations with the Federal government.

AAPP members provide cost effective pathology services to the Australian Community.

Our aim is to promote the honourable and ethical practice of pathology and to promote the practice of private pathology within Australia. We seek to help the government achieve its fiscal objectives, whilst safeguarding professional and economically viable pathology

### 1.2 What is Pathology?

Pathology is a medical specialty which focuses on understanding the mechanism of disease, the diagnosis and the monitoring of therapeutic modalities. The ultimate aim of pathology is to prevent and eradicate disease.

Pathology involves the examination and testing of body fluids (eg. blood) and body cells to identify what changes are occurring and to assist in selecting the best course of treatment. It is the diagnostic skills of pathologists that allow patients to know if they are pregnant, anaemic, diabetic, at risk of heart disease or if their lump is malignant or not.

Pathology, is at the heart of all medicine, and delivers the following benefits:

- Saves lives and healthcare dollars through detection and prevention of disease.
- Improves patient welfare by allowing better and earlier diagnosis resulting in more efficient and effective treatment.
- Improves the long term well being of Australians by allowing precise monitoring of peoples' health (eg. tracking blood cholesterol levels).
- Increases the effectiveness and efficiency of drug therapy and helps prevent side effects.

PO Box 158 (Unit 6, 2 Phipps Close)
DEAKIN WEST ACT 2600
Tel: (02) 6282 2277 ● Fax: (02) 6282 2953 ● E-mail: aapp@client-solutions.com.au

### 1.3 History of reforms in pathology

The funding and delivery of pathology services under Medicare has been under constant scrutiny for the last fifteen years. This has been mainly due to the inexorable increasing demand for pathology services and the consequent cost burden on Medicare. Over this period, the AAPP has been instrumental in many, if not all, of the reforms aimed at constraining costs whilst ensuring a continued high standard of pathology care.

For over 8 years, the pathology profession has agreed to the capped funding of pathology Medicare services. Whilst this has been a painful process for providers, it has been supported by the profession and government and has delivered the following benefits:

- Continued Fee-for-service for this specialist medical service;
- Certainty in outlays to the government;
- Massive savings to government through efficiency dividends built into the Agreements;
- Bi-partisan political support;
- Agreed annual growth rates;
- Industry stability during a period of unprecedented consolidation and corporatisation;
- Professional survival for pathologists and scientists;
- Improved efficiencies in delivery of services;
- Improved Pathology Services Table through targeted fee adjustments and improved relativities between items of service; and
- Improved management skills – each Agreement has delivered precise outcomes with the profession's active support.

It has to be acknowledged however that there is a downside to capped funding not least being the increasing difficulty year after year to continue to deliver savings against forward estimates. Some of the difficulties are listed below:

- Reduced margins in pathology practices;
- Not always best medical practice – reforms are funding based rather than medically based;
- Potential to curtail excellence and encourage mediocrity – by doing more and more for the same amount of money;
- Discourages entrepreneurship – limits to return on investment;
- Temptation by central agencies to continually tighten the "noose";
- Fee cuts happen quickly, whereas fee increases under a funding cap take much longer to implement;
- Diminishing returns to parties – it gets harder each year to deliver savings;
- Opposed by AMA and other medical specialties;
- Absence of corporate memory in the bureaucracy and impending within the profession;
- Tends to institutionalise conflict between profession and government; and
- Probably not sustainable in the long term

### 1.4 Third MoU

The profession has recently negotiated a third Pathology Funding MoU running from 1 July 2004 to 30 June 2009. The MoU allows for $8 billion in Medicare Pathology outlays over the five year term. It is a complex document covering not only outlays but policy reforms, quality use of pathology initiatives and pathology workforce training. A Fact Sheet on the MoU accompanies this submission. The complete MoU is available from the DoHA website.

### 1.5 Defining "appropriate" Technology

In terms of the current Inquiry, the AAPP supports the broader definition of technology which encompasses drugs, devices, medical and surgical procedures used in medical care, and the organisational and supportive systems within which such care is provided.

# 2 Impact of medical technology

The AAPP believes that the development and implementation of new medical technologies is inevitable and, on balance, overwhelmingly beneficial to patients and the community at large. In particular we believe that, subject to a satisfactory system for assessment, regulation, quality assurance and accreditation, new medical technologies have the following benefits:

- Saves and improves lives
- Achieves faster, more accurate diagnoses (so patients are treated more effectively and less expensively)
- Makes doctors and hospitals more efficient
- Enables patients to recover faster so they can be healthy and productive
- Reduces expensive disabilities
- Reduces medical mistakes in an era of increasing complexity

In the case of pathology there is already undeniable evidence that recent technological advances in diagnostic testing have resulted in major benefits to the community. For example the incidence of cervical cancer has fallen by around 50% over the last ten years due to the success of the cervical cancer screening program (pap smears). Similarly the performance of PSA testing on men over fifty is already showing positive results in the early detection and cure of prostate cancer.

New technologies already emerging will have similar benefits in the years ahead. This aspect of pathology technological advance is dealt with more fully in section 4.5 below,

# 3 Key drivers of demand

Pathology is a secondary medical service. That is, it is ordered on behalf of a patient by a requesting practitioner. Consequently, pathology providers have little direct control over the volume and frequency of services requested of them. Under capped funding arrangements, where providers can only compete over market share, rather than over a growing market, the profession is as keen as the Government to ensure that pathology ordering is appropriate and necessary. Otherwise provides will be required to undertake more testing without additional recompense.

The AAPP has taken a particular interest in what drives pathology demand and these are summarised under four broad groupings below.

## 3.1 Government induced demand

- Changed Govt policy, for example:
  - Private Health Insurance incentives;
  - Budget decisions to fund increased access to pap smears, diabetes initiatives – which result in higher pathology utilisation;
  - Higher GP rebates leading to more demand for secondary services;
  - Safety Net on gaps;
  - Election promises.
- Public health awareness programs such as cholesterol monitoring, folate deficiency, diabetes etc
- Collateral effects of other changes
  - PBS drugs requiring pathology monitoring
- Cost-shifting between states/Commonwealth

Where these factors are evident and their effects can be mutually agreed, then increases to the funding cap are able to be negotiated.

## 3.2 Requester induced demand

In the main, the factors listed below are more in the way of hypotheses rather than established fact. However, the AAPP believes that investigation will prove the validity of the hypotheses and encourages appropriate studies be undertaken.

- Changes in medical practice – where, for instance, generational change in medical practitioners might result in more pathology being ordered;
- Preventive medicine – where early diagnosis and intervention prevents the development of more serious medical conditions;
- GP corporatisation. The issue here is whether GPs in a corporatised medical centre are more or less likely to have different pathology ordering patterns than the traditional general practice.
- Medico-legal. The crisis in the medical indemnity insurance industry highlights the fact that many doctors now feel obliged to cover every possibility, perhaps by ordering more diagnostic tests, in order to avoid medical liability issues.
- Ordering software programs. The take-up of computers in general practice and the pathology ordering software which accompanies this development, may make it easier for pathology (and more of it) to be ordered, often automatically.
- Longer consultations. There is a trend towards longer consultations in general practice. Often a consultation is terminated by the prescribing of medication or the ordering of tests. The question is, will the longer consultation result in more pathology being ordered than in a shorter consultation?
- Competition between GPs. To the extent that patients "shop around" between primary care GPs, is it likely that a GP who orders more pathology might be seen as delivering a better service than one who doesn't?
- Better trained - more sophisticated investigations. As GP accreditation and registrar training becomes more sophisticated, there may be a tendency for GPs to investigate more complex cases which might otherwise have been referred to a specialist. The issue here is whether this results in more pathology being ordered.
- Demanded by patients. Perhaps the biggest driver of requester demand is that imposed on them by insistent and more aware patients who are demanding more comprehensive analysis of their condition involving greater diagnostic testing. With the onset of the "baby boomers" this phenomenon is likely to increase over the next few years.

### 3.3 External factors

Whilst pathology providers have little influence over government or requester induced demand for their services, they have absolutely no control over external factors driving demand. These include:

- Demographics – especially the ageing of the population which will accelerate over the next 15-20 years. There will be an explosion in demand for pathology services over this period.
- Industry suppliers' marketing activities – where diagnostic manufacturers influence requesting practitioners' behaviour and ordering patterns; and
- Industry health promotions.

Other external factors, whilst not being demand-related, actually compound the demand effect through increased costs borne by providers within a fixed funding cap. These are economic factors such as:

- Wage costs
- CPI
- Exchange rate variations

### 3.4 Provider induced

In a capped funding and highly regulated market which describes pathology services in Australia, the only way in which a market can be grown is at another provider's expense. The alternative is that as the quantum of services rises through industry competition, then fee cuts are imposed to bring the MoU in on track. In this environment, providers tend to compete on level of service, comprehensive and state of the art practice, accurate results and fast turnaround times.

# 4 Costs & dynamics of innovation

## 4.1 Key assertions

- A comparison of many international studies suggests that Australia's health system is perhaps the best health system in the world;
- The standard of pathology care in Australia is world best practice;
- The same statement could be made about other medical specialties;
- The worldwide shortage of medical specialists in high technology areas contributes to the high cost of service provision. The retention of Australian trained specialists is an important factor in this regard.
- Health is a highly political issue in Australia with the public supportive of the Medicare system and concerned to maintain the current high standard and availability of medical services;
- In the recent federal election both parties reinforced a public impression that both the Government and Opposition are prepared to pay what it takes to keep faith with the public's demand for healthcare and medical services;
- The key question therefore is not whether technologies increase costs, but what benefits are achieved for the resources consumed.

## 4.2 Cost containment

Australia has generally performed well in containing the costs of new medical technologies and healthcare costs overall. We spend between 8 and 9% of GDP on healthcare – well below the USA and in the middle range of most OECD countries. Our hybrid system of public funding for hospitals, Medicare funding for community medical services with the supplementation of private health insurance and patient co-payments has, perhaps accidentally, provided a very robust system. The USA on the other hand has gone down the managed care track and has converted many medical services from fee-for-service to "prospective payment systems" and yet there remain over 40 million Americans without any medical cover whatsoever. Additionally, the HMO system tends to encourage *under*servicing leading to further medical litigation problems.

The Australian system of fee-for-service accompanied by downward pressure in the market place is well-positioned for the future. There is growing acceptance of a "user pays" principle for those that can afford it and recognition that our mixed model actually works better than most others.

The main problem areas in the Australian system arise because of the two-tier political funding of health at the state and federal levels. The main issues of concern are:

- Waiting lists
- Cost shifting

A further concern is the relatively short political horizon in which health policy decisions are made. It is difficult for a political party to make long term changes to a system when they have a 3 year electoral cycle to contend with.

## 4.3 Dynamics of innovation

### *Technology Cost drivers*

The AAPP suggests that the major cost drivers of technological innovation are:

- Research & development;
- Phasing in – the expensive take-up phase of new technologies;
- Intensity of use – whether the technology fills a niche market or is of wider application;
- Whether the technology is:
    - Completely new;
    - Modified from earlier technologies;
    - Expanded application of technology;
    - Transfer of technologies that were developed elsewhere;

- Major change v incremental change;
- Treatment substitution; or
- Treatment expansion.

***Investigation and funding of new technologies***

New technologies have many hurdles to clear in becoming a part of normal medical practice. Not least of these is the high cost of acquisition and long lead times associated with the development of new technologies.

There are significant regulatory obstacles designed to ensure the efficacy and cost-effectiveness of new technologies prior to any government decision regarding their funding. Australia is relatively well-served in this regard.

The establishment some years ago of the Medical Services Advisory Committee (MSAC) modelled on the successful Pharmaceutical Benefits Advisory Committee (PBAC) has brought new rigour to the assessment of new medical services and technologies in Australia. Whilst MSAC has its critics, mainly in relation to the time taken to process MSAC assessments, it has brought a professional focus and an organised system for considering applications.

The pathology sector also has a committee which predates the MSAC. This is the Pathology Services Table Committee (PSTC) comprised of representatives of the profession and Government. The role of the PSTC is to keep under constant review the pathology section of the MBS (known as the PST) with regard to the introduction of new items, review of old items, changes to descriptors and, when relevant, fee adjustments.

There are frequent news items regarding very significant breakthroughs in testing technologies. We are not able to anticipate those which succeed. Our experience in managing outlays over recent years suggests that when introduced their funding under Medicare should be restricted to relevant clinical pre-conditions and that the PCC/PSTC should have a key role in their evaluation and introduction.

The pathology profession has never felt entirely comfortable with the ambiguous relationship between the PSTC and MSAC, believing that in many cases it would have been preferable to have the PSTC review particular technologies rather than the cumbersome process of MSAC. This is a matter recently taken up by the AAPP in its submission on the review of MSAC's terms of reference.

### 4.4 Quality control and quality use of pathology

One area of technology advancement where pathology is the ground breaker is in the cooperation between the profession and Government on the matter of quality assurance.

Pathology is in the vanguard of quality assurance through measures such as:

- Regulation – of pathologists, of pathology companies and of pathology laboratories;
- Standards development through the National Pathology Accreditation Advisory Council;
- Assessment and accreditation of pathology laboratories by NATA/RCPA Peer Review system; and
- Quality Assurance Programs:
  - externally through the Royal College of Pathologists of Australasia _ QAP Pty Ltd'; and
  - other systems providing internal QAP programs

The quality use of pathology is also a key ingredient of the current MoU with funds allocated for studies into the appropriate ordering of pathology.

## 4.5 Forecasts of future growth

The basic premise is that current/recent medical practice has been directed at 'batch' therapy – i.e. all oncology treatments for a specific cancer are very similar. However, with the introduction of the 'omics' (proteomics, genomics), medical therapies have become individualised, hence leading to a potential for marked increase in costing. There will probably have to be an understanding with the Australian public as to whether Medicare can actually afford this option. Some countries, already, do not attempt to provide universal care, especially in the complex areas such as intensive care and dialysis.

### *Information Technology*

The development of National Electronic Health Records in Australia, whilst resulting in huge benefits for patients, medical practitioners and the Government in terms of both health outcomes and funding in the long term, will only be achieved successfully with significant input of funds. These funds will not only be required to enable and ensure the uptake of the necessary technology base and interoperability across all sectors of health, but will also require significant input by Government to address some of the legal and policy issues arising as EHR becomes a reality.

### *Genetics*

In the last 20 years there has been an exponential growth in understanding of the genetic basis of human disease. The translation of this understanding from research laboratories to diagnostic laboratories has been erratic, both over time and in different regions. The reasons for this variability in the rate of the clinical application of genetic testing include:

- advances in both scientific understanding and in enabling methodologies are typically episodic and unpredictable
- the clinical utility of a scientific advance may not be appreciated to the same degree by all of the practitioners in a field
- patients and their families vary in the extent to which they are seek access to genetic tests
- there have been shortages to varying degrees of skilled personnel who could perform genetic tests and provide genetic counselling
- the funding of clinical and laboratory genetic services across Australia has been provided by state governments without any mechanism for national coordination. Hence there have been marked differences in the resources to employ or train appropriate staff in different States and Territories.

One solution to this lack of both resources and national coordination would be to federally fund significant areas of this vital branch of medicine nationally through the MBS and the PST.

### *Functional and structural genomics, proteomics, pharmacogenomics*

Developments in these areas will inevitably lead to the use of targeted therapies for individual patients in addition to the more "generic therapeutic solutions". These targeted therapies will be designed to take advantage of genomic differences that may affect the patient's response to non-targeted therapies.

### *Bioinformatics and DNA microarray technology and gene expression profiling*

The ability, with the development of large scale computational bioinformatics, to analyse increasingly complex DNA microarrays to produce expression profiles has the potential to dramatically improve knowledge of cancer genomics leading to early diagnosis and predisposition profiling especially in such diseases as ovarian and breast cancer.

## 5 Policy options

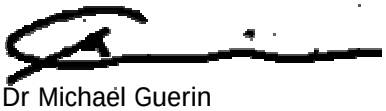
It is unlikely that a "one size fits all" approach to funding new medical technologies will be appropriate. For a start, some medical technologies will not incur large costs and so will no doubt find an easier way to market than will high volume, high cost technologies.

It is inevitable however that new technologies will be in demand in an environment of escalating medical costs due to demographic factors. There are only so many ways of dealing with unfettered growth in demand and these include:

- Watchful waiting – adopting a wait and see attitude – somewhat akin to ignoring the inevitable;
- Tightening the boundary between new and existing technology – thus putting a brake on "technology creep" at the margin;
- Limiting the supply of medical technology by regulation, funding constraints or extending waiting lists;
- Constraining investment in medical research; or
- Accepting the need for these services and reprioritising the community's resources away from other areas such as defence spending, industry subsidies, tax cuts etc.

The debate about future health costs and the impact on these costs of medical technology will go on for many years. It is perhaps the most important political and social issue of the 21st century. Australia is lucky to be starting in a relatively advantageous position. Whilst we must watch and learn from what is happening elsewhere, we have demonstrated our ability to put together a system that has served Australia well. It is likely that change will continue to be incremental and preferably with the cooperative insights of the medical profession.

Our system needs fixing, but is not by any means broken.



Dr Michaël Guerin
AAPP President
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