The Australian Institute of Radiography
Response

The Health Workforce: Productivity Issues Paper

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Contents

EXECUTIVE SUMMARY

Health care is a vital service that daily touches the lives of millions of Australians at significant and vulnerable times: birth, illness, and death. In recent decades, technology and know-how have substantially improved how care is delivered and the prospects for recovery. Australian markets for innovation in health services and medical devices are second to none. The miracles of modern medicine have become almost commonplace. At its best, Australian health care is the *best* in the world.

Notwithstanding these extraordinary achievements, the cost, quality, and accessibility of Australian health care have become major legislative and policy issues. Substantial increases in the cost of health care have placed considerable stress on federal, state, and household budgets, as well as the employment-based health insurance system. Health care quality varies widely, despite cost controls, source of payment, and patient preferences.

This response to the Federal Government's Productivity Commission Issues Paper (May 2005) examines workforce productivity (WP) in addressing these challenges. It is to be considered in conjunction with our submission of 30th May 2005. Effective WP within health care markets has long been debated. For much of our history, the public, federal and state regulators, judges and academic commentators have seen health care as a 'special' good to which normal economic forces do not apply. Scepticism continues today.

The AIR response seeks to address the Productivity Commission issues by presenting a wider perspective of the re-emergence of WP impact upon quality health care. In the past few decades, competition has profoundly altered the institutional and structural arrangements through which health care is financed and delivered. Competitions law and policy have played an important and beneficial role in this transformation. Imperfections in the health care system have impeded WP from reaching its full potential.

This paper addresses two basic questions that AIR members perceive as fundamental when government considers the general issue of WP within a health service context.
First, what is the current function of WP in health care, and how can it be enhanced to increase health consumer welfare?
Second, how has, and how should, Government policy work to protect existing and potential WP in health care?

This Executive Summary outlines the AIR's research, findings, conclusions, recommendations, and observations. Subsequent sections provide in-depth discussion and analyses.

- Section 1 provides an overview and introduction.
- Section 2 focuses on features of the health care system that can impede WP.
- Section 3 addresses health care providers, new delivery systems and forms of organisation impacting on productivity issues.
- Section 4 presents AIR's recommendations to improve WP in health care markets.

The final section presents the AIR's perspectives on issues in performance enforcement in health care to public and private providers. In presenting these views the AIR stresses the importance of a pragmatic and mixed method approach to addressing WP improvement in which quality of health care in terms of the human factors are the primary lever for sustained improvement.

1. Current health care challenges: A wider perspective to productivity

1.1 Health care expenditures

Total health expenditure in Australia in 2002-03, from all sources, was estimated to be $72.2 billion, 9.5% of Gross Domestic Product (GDP) or $3,652 per person. This is significantly lower than spending in the USA (14% of GDP).

Public (non-psychiatric) hospitals have the highest expenditure at $16.2 billion or 25.6% of total recurrent health expenditure in 2001-02, followed by medical services with $11.2 billion (17.7%) and pharmaceuticals with $9.1 billion or 14.3% of total recurrent health spending.

Total government spending on public health was $1,073 million in 2001-02 or 1.7% of total recurrent health expenditure. In 2000-01, 55.6% of total public health expenditure provided by all governments was financed by the Australian Government: 30% through direct spending by the Department of Health and Ageing on Australian government programs and 25.6% as payments to the states and territories to help fund their expenditure programs (AIHW 2005). The balance of public health funding (44.4%) was provided by the state and territory governments.

Private insurance and other private spending are obscure in Government statistics. However, in the USA private insurance spending accounts for 40 %; and consumer out-of pocket spending accounts for the remaining 15 % (Chassin 1998).

The percentage of Government expenditure on public health from total public health expenditure rose significantly between 1960-61 (50.88%) to a peak of 71.71% in 1984-1985. Government expenditure has remained around 67% since the early 1990s. In the last few years, however, dramatic cost increases have returned, attributable to both increased use of and increased prices for health care services. Inpatient hospital care and pharmaceuticals are the key drivers of recent increases in expenditures. These trends are likely to continue, and even accelerate, as new technologies develop and the percentage of the population that is elderly increases (AIHW 2005).

1.2 Health care quality varies

Quality has multiple attributes (Productivity Commission 1999). Many health service researchers and providers focus on whether the care that is provided is based on empirical evidence or efficacy (Joyce et al 2004; Porter and Teisberg 2004; Simoens 2003). The Institute of Medicine in the USA defines quality as 'the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.' The AIR defines quality health care as 'doing the right thing at the right time in the right way for the right person and having the best results possible.' Some consumers may focus on how long they must wait for an appointment, and how they are treated at the provider's clinic. Many health care providers and health services researchers treat the cost of care (and the resources of consumers) as immaterial. For them, you either provide high quality care to a particular patient or disease set, or you do not.

From a consumer perspective, health care quality encompasses several distinct factors, and the delivery system must perform well on each if it is to provide high quality care. These factors include whether the diagnosis is correct, whether the 'right' treatment is

selected (with the 'right' treatment varying, depending on the underlying diagnosis and patient preferences), whether the treatment is performed in a technically competent manner, whether service quality is adequate, and whether consumers can access the care they desire. Information is necessary for consumers to make decisions regarding their care, and determine how well the health care system is meeting their needs.

If we focus strictly on technical measures, what is known about the quality of health care in Australia? Commentators, professionals and government officials agree that the vast majority of patients receive the care they need, but there is still significant room for improvement. Government officials and health commentators note that treatment patterns vary significantly; procedures of known value are omitted, and treatments that are unnecessary and inefficacious are performed and hundreds of millions of dollars are spent annually on services whose value is questionable or non-existent (Joyce et al 2004; Porter and Teisberg 2004). As one commentator stated:

> Quality problems . . . abound in health care systems. The majority of these problems are not rare, unpredictable, or inevitable concomitants of the delivery of complex, modern health care. Rather, they are frighteningly common, often predictable, and frequently preventable.'[1]

1.3 The Australian economy typically relies on workforce productivity

In the overwhelming majority of markets, the government does not decide the prices and quality at which sellers offer goods and services. Rather, rivals compete to satisfy consumer demand, and consumers make decisions about the price and quality of goods or services they will purchase. A well-functioning market maximises consumer welfare when consumers make their own consumption decisions based on good information, clear preferences, and appropriate incentives.

Vigorous WP, both price and non-price, can have important benefits in health care as well. An adequate level of well-trained and professional practitioners generally results in lower prices and, thus, broader access to health care products and services. A well-trained workforce promotes higher quality and encourages innovation. More concretely, WP can result in new and improved treatment, reduced pain, fewer side effects, and treatments offered in a manner and location consumer's desire. Taking a purely quantitative approach to analysis of WP for health care professionals can result in unpleasant outcomes for the public/patients. A Tayloristic approach to improving WP (Boje and Winsor 1993), i.e., neglecting the 'human factors' associated with health economics can be disastrous (Hamilton et al 2000). The AIR believes the drivers for improved WP is keeping the very best trained practitioners, attracting the best young minds, mandating for continuing professional development (CPD) ensuring universities are able to provide advanced skills development programs, including quality and timely short courses. A blended solution also involved practitioners repaying patient trust by ensuring they maintain their expertise and deliver services with compassion. Where changes to present levels of WP can potentially create winners and losers, approached intelligently, a holistic approach can inspire professionals to do an even better job for health consumers. It is the latter approach, which the AIR advocates to improve productivity whilst simultaneously improving health care.

Underpinning process inputs means increased emphasis on CPD compliance, greater provision for quality short courses as part of Continuing Education (CE), we, at the AIR, believe will help to increase WP and concurrently improve patient welfare.

The AIR also recognises workforce productivity is not a panacea for all of the problems with Australian health care system. Workforce productivity cannot provide its full benefits to consumers without good information and properly aligned incentives. Moreover, workforce productivity cannot eliminate the inherent uncertainties in health care, or the informational asymmetries among consumers, providers and Federal and State governments, regulators and agencies. Workforce productivity also will not shift resources to those who do not have them

2. Features of health care that can limit workforce productivity

2.1 Making improvements to the important system of health care regulation

An extensive regulatory framework, developed over decades, at both the federal and state levels of government affects where and how WP functions in health care markets. Much of the regulatory framework arose haphazardly, with little consideration of how the pieces fit together, or how the pieces could exacerbate poor work practice tendencies within the overall structure. Proposals for new regulatory interventions have often focused solely on their claimed benefits, instead of considering their likely costs. Where proposals fit into a more flexible regulatory framework proposals for new practice should contribute to improvements to public/patient health and not frustrate WP. Failure by those proposing change to consider such matters can reinforce or extend existing regulatory imperfections and reward incumbent interests. Indeed, in health care, some international commentators see WP in the health industry as a problem to be tamed, with top-down prescriptive regulations (Dafny 2005; Chassin 1998). Others see it as an opportunity to improve quality, efficiency, and enhance public/patient welfare (Villeneuve and Hurst 2005; Joyce et al 2004). It is the latter position which the AIR supports.

As a significant purchaser in most health care markets, the Federal and State governments use regulations to influence the price and quality of the services for which it pays (Productivity Commission 1999). The government's actions as both purchaser and regulator have profound effects on the rest of the health care financing and delivery markets as well. Pricing issues, even if indirect, can distort provider responses to consumer demand and restrict public access to health care services. Multi-State regulatory rules surrounding the right to practice, by health professionals, restrict practitioner mobility and practitioner compliance costs. In particular reference to Medical Radiation Science (MRS), a national registration board would greatly improve this situation and see employees of national providers take up positions in locations/regions where practitioners are required most.

Other government rules/regulations reduce the rewards from innovation and sometimes create perverse incentives, rewarding inefficient conduct and poor results. Moreover, 'poor organisational management' of complex organisations, can frustrate professionals, hinder the development of new forms of WP and increase the attrition rate of people leaving various industries (Kloot 1997). The scope and depth of regulation is also not universal; providers offering competing services are routinely subject to widely varying regulatory regimes and payment schedules.

2.2 Maintenance of professional practice

Consumers need to be provided with more information about the training and level of commitment their practitioner has to them and their profession.

A lack of consumer awareness of the professional standing on CPD status of their practitioner can lead to poor WP and undesirable consequences.

2.2.1 Consumer and professional practitioner incentives

Health consumers assume they will get the best possible care from a person providing immediate care and employed within a system that ensures people maintain their professional competence.

The AIR has taken a pro-active stance through the introduction of mandatory CPD within its membership. This allays concerns that a lack of commitment to maintaining professional practice reduces the quality and efficiency of the health care system when public/patient interest is put ahead of all other interests. We believe mandatory CPD must be extended to ensure all MRS practitioners throughout Australia maintain their professional competence.

A lack of good information also hampers consumers' ability to evaluate the quality of the health care they receive. Within the Medical Radiation Sciences, there are practitioners with validated Statements of Accreditation, that can provide evidence of ongoing participation in CPD. Others cannot substantiate these claims. Some health care providers have a high percentage of practitioners without validated Statements of Accreditation. One of the most effective ways to improve WP, blending qualitative and quantitative outcomes, is to make CPD mandatory for all. If health insurance companies are required to ensure provider workforces and independent practitioners they engage to improve the health of their policyholders, are holders of a validated Statement of Accreditation, unproductive and poor health practice can be stamped out.

2.2.2 Provider incentives

Health providers have a strong ethical obligation to deliver high quality care. The health care financing system, however, generally does not reward or punish health care providers directly based on their performance. When this fact is coupled with the consumer incentives outlined above, the result is that providers who deliver higher quality care are generally not rewarded directly for their superior performance. Providers who deliver lower quality care are generally not directly punished for their poorer performance and, worse still, may even be rewarded with higher payments than providers who deliver higher quality care.

2.3 Information problems may limit the effectiveness of workforce productivity

2.3.1 Lack of reliable and accurate information about price and quality

The public has access to better information about the price and quality of automobiles than it does about most health care services.

It is difficult to get good information about the price, quality of health care goods and services, and professional association approved accredited practitioners. Although numerous State-based organisations and private entities are experimenting with a range of 'report cards' and other strategies for disseminating information to health consumers, there is scepticism about whether government is measuring the right things and in the right way (Dafny 2005).

Without good measures and good information about what is being measured and why, concern will continue to be directed towards political and economic decisions that dominate over public welfare.

2.3.2 Asymmetry of information between providers and consumers

Most consumers have limited information about their illness and their treatment options. Consumers with chronic illnesses have more opportunity and incentive to gather such information, but there is still a fundamental informational asymmetry between providers and patients. There is also considerable uncertainty about the optimal course of treatment for many illnesses, given diverse patient preferences and the state of scientific knowledge (Wicks et al 1998).

2.3.3 Consumer uncertainty about reliability of health care information

Uncertainty increases transaction costs, fraud, and deception dramatically. Although the Internet can provide access to information about health care, it also enhances the risks of fraud and deception regarding 'snake oil' and miracle cures (FTC-DOJ 2004). Professional agencies can be supported by Government to design, develop and maintain quality health consumer material so that the public is better informed. In particular, safety information regarding radiation treatment which debunks myths that otherwise lead to significant time and cost in reassuring patients about the use of radiation, it's value towards their recovery, and safe in the hands of a well trained and competent clinical practitioner. Thus, potential WP improvements provide substantial indirect benefit.

2.3.4 Information technology

Medical imaging and radiation therapy care does not employ information technology extensively or effectively. Patient cards and tracking systems are frequently hand-written. Records are often maintained in hard copy and scattered among multiple locations. Few providers use e-mail to communicate with patients. Public and private entities have worked to develop and introduce electronic medical records and computerised clinical order entry, but professional commentators agreed that much remains to be done.

2.4 Cost, quality and access: The iron triangle of trade-offs

Health policy analysts commonly refer to an 'iron triangle' of health care.[2] The three angles of the triangle are the cost, quality, and accessibility of care. The 'iron triangle' means that, in equilibrium, increasing the performance of the health care system along any one of these dimensions can compromise one or both of the other dimensions, regardless of the amount that is spent on health care.

Tying health care provider payments to the quality of services could improve providers' incentives to contain costs and improve quality, provided the right measures are used (Productivity Commission 1999). Better quality also could be achieved at less cost by reducing unnecessary services and managing consumers with chronic conditions more cost-effectively. Taking a wider perspective to the notion of WP has an important role to play in accomplishing these objectives.

Nonetheless, trade-offs between cost, quality, and access can be necessary. The stakeholders involved must make those trade-offs at multiple levels. Some health consumers may prefer a 'nothing but the best' package of medical care, but others are willing to trade-off certain attributes of quality for lower cost, or trade-off one attribute of quality for another. For example, some consumers will be more willing than others to travel in exchange for lower prices, while others may be more willing to travel in exchange for higher quality care. Discussion and agreement by stakeholder groups needs to be based on full disclosure of information on these matters. Unified position on the nature of the 'iron triangle' for the Australian health system has positive consequences for a balanced approach to improving WP because it rejects a narrow perspective to development of the health system (Guerin and Calvert 2005) and to notions that clinical practitioners can increase productivity by working harder or more hours (Collison 2001). Potential outcomes of a pragmatic and holistic approach should have a positive impact of retaining and developing MRS professionals.

2.5 The problem of reverse operational synergy

It is the AIR's understanding that for the first time in Australia's history, by June 2008, the number of people leaving the workforce will exceed the number of people entering work.

Moreover, the skills gap will be far greater than a simple calculation between the numbers of practitioners in versus those leaving practice. This is because the people leaving take with them a significantly larger skill set than those entering the workforce. The AIR refers to this as reverse operational synergy. In all probability, it may take as many as 2 or 3 Professional Development Year graduands on an accelerated learning curve to replace an accredited practitioner. It is recommended that a soft landing strategy be devised whereby incentives are given to intending retirees to remain in the workforce part time.

2.6 Societal attitudes regarding health care

For most products, the consumers' resources constrain demand for products and services. Meaning, consumers and the public do not generally expect vendors to provide services to those who cannot pay for them. For example, few would require grocery stores to provide free food to the hungry or landlords to provide free shelter to the homeless. By contrast, most members of the public and many health care providers view health care as a 'special' good and not subject to normal market forces. Government has a significant obligation to provide necessary care without regard to ability to pay. Similarly, many perceive risk-based premiums for health insurance to be inconsistent with obligation norms and fundamental fairness, because those with the highest anticipated medical bills will pay the highest premiums. A range of regulatory interventions reflects these norms (Wicks et al 1998).

Moreover, the ageing characteristics of the Australian population and potential for a marked downward shift in the professional capabilities of the whole MRS profession, due to mass retirements, needs to be addressed. Initiatives need to be systemic and include as a minimum incentives to retain experienced professionals on a part time or casual basis. A well considered recruitment campaign to attract a greater share of persons wanting a career change to the health industry needs to be supported by Government.

Removal of student number restrictions on Universities also needs to form part of the solution to present and probable future escalation of the skill gaps problem. For those presently employed and likely to remain involved over the next 15 years, mandatory CPD and government support for CPD activities needs to be ramped up if inroads are to be made.

2.7 Workforce planning issues

The professional body, the AIR, represents approximately 50% of those listed by the Australian Bureau of Statistics as being from the field of Radiation Sciences in either diagnostic radiography or radiation therapy. At least 50% of the current workforce is likely to retire or leave in the next 10 to 15 years and there is no workforce plan to counter this. To alleviate this situation, incentives are needed to encourage experienced staff to continue past retirement age, even in a part-time capacity.

University course completion rates can be higher. Some students leave based on making a sound decision the profession is not for them. Others use it as a stepping-stone to gain entry into another allied degree such as medicine or physiotherapy. This reduces the already small numbers being trained in the Medical Radiation Science courses. Further to this is the number of overseas students taken into courses by particular universities. The health sector is required to provide training places for international students for clinical aspects of the course and they often never work in the health industry in Australia. Universities require additional support to ensure international students planning to work in Australia meet professional practice standards.

Currently the number of diagnostic radiographers is in short supply with the problem greater in some areas than others such as rural and outer metropolitan areas. There needs to be an increase in the numbers being taken into university courses, however a flow-on consequence arises - it is then difficult to find the number of places required for necessary clinical experience.

Radiation Therapy has had increases in university places, which arose from the recent report commissioned by the Federal government into Radiation Oncology. If proper continued WP is not initiated, the radiation therapy profession will find itself back where it was - *shortages of experienced staff*. There are a number of new installations planned for the next few years. These developments will draw experienced staff from the current areas of practice, exacerbating skill shortages in general areas. The intake numbers in courses, at a minimum, must be maintained at the current level and not revert to pre-crisis level. Within the education sector, the funding for the increase in the university intake was for a limited period of time and not on an ongoing basis.

The increase or expansion in service for both professions need to take into account both the public and private sector, as the private sector pulls a large number of well qualified staff from the public sector. The private sector does provide some services to the larger rural towns but not in remote locations.

Workforce planning for rural and remote areas needs careful consideration. Remote operators who are often the general practitioner or the senior nurse in the small hospital provide the radiographic service when there is insufficient workload to employ a diagnostic radiographer. These operators are trained in examinations of the head and extremities.

In most cases they undertake a short course that enables them to be licensed in the State in which they operate and are overseen by a diagnostic radiographer in a nearby or associated hospital for quality of x-ray film, radiation safety and associated aspects of the practice.

Incentives need to be carefully designed and offered to have people move from the positions in the cities to rural and remote areas.

2.8 Education and training

2.8.1 Entry-level studies

Medical Radiation Science (MRS) education levels are entry-level degree programs. These entry-level degree programs include the traditional three-year program plus mentored entry into the profession year as part of a fourth year; or a four-year degree with no mentored entry. Universities also offer a two-year Masters program, which is underpinned by a first degree in an appropriate science.

Unlike nursing and medicine, there is no funding available either through health or education for the cost of the clinical training of Medical Radiation Science graduates. This cost is absorbed into the system and therefore in some cases the level of clinical training and experience gained by the undergraduate is less than optimal.

There is a paucity of clinical educators within the health area. Some hospitals do have these positions but often at the expense of staffing in another area. This lack of quality clinical supervision may result in a loss of productivity once the undergraduate has qualified, as they do not have the sound practical knowledge to build on.

The funding for courses needs review as the courses are currently funded under cluster 6, which is the same as computing and built environment. This cluster allows nothing for clinical training. It would be more appropriate if they were in the same funding cluster as medicine in cluster 9 or at least receive the same funding as nursing per student. Improvements to WP can be expected as well as reducing the affect of reverse operational synergy on future development initiatives.

The pressure of students on the public health system is enormous on what is already an understaffed workforce and trying to fill the increasing demands on the system for service. Greater support by government towards appropriate levels of funding and university places needs to occur. Moreover, better co-ordination between the education and health sectors needs to occur so university programs better match more definitive workforce planning. The aim is to improve the flow of new entrants so skill gaps are addressed where they are most needed.

Modern teaching and learning mediums need to be explored by training providers. In some of the courses there is now a move to different ways of delivering information including sources such as the net and CDs. Some of the functions, which are carried out in clinical practice, are first practiced in the classroom where there is access to x-ray machines, film processing systems and treatment planning computers. This aspect of clinical education could be expanded if there were sufficient funds made available for the provision of suitable space and equipment .

2.8.2 Professional Development Year

The Professional Development Year (PDY) is a mentored entry year into the profession. Each year PDY diagnostic radiographers or radiation therapists are given a position within the department. The aim is to increase their exposure to the profession in a controlled learning environment so the individual gains confidence to provide professional health care.

In some States these positions are supernumerary to the establishment numbers for the department and in others they are considered in the total operational establishment figures. Where they are part of the numbers, the productivity in the early part of each year after graduation is compromised in those departments by the fact that the total staff is not fully productive. An increase in productivity could be achieved if these positions were considered supernumerary in all situations. This would give the possibility of debriefing when the new graduate was experiencing new case types and experiences in the workplace. Overall this later situation would provide for a more rounded beginning practitioner and professional at the end of the year.

2.8.3 Post graduate qualifications

It is now becoming apparent that medical radiation scientists have to continue with education in many cases after graduation from their first qualification. Some may undertake short courses in specialities they wish to pursue in their professional life eg. MRI, CT , brachytherapy, breastScreen and other specialist modalities. Others will pursue post graduate qualifications through a university or other tertiary institution. These courses will be Masters in their field, management qualifications, sonography qualifications or courses which will lead to them being able to practice their profession at an advanced level and do tasks that may have been assigned to another professional within either diagnostic radiology or radiation oncology. These qualifications will lead to a better workforce whether through qualifications, experience, satisfaction with the job and so therefore retention of the workforce. No allowance is made for release time to undertake these studies.

2.8.4 Re-entry to workforce

The AIR has a formalised re-entry program into the workforce. The program varies according to the period of time the person has been absent and covers both an academic upgrade to current graduate practitioner level as well as a period of clinical experience. This re-entry program is carried out in approved clinical centres under the guidance of the Professional Accreditation and Education Board (PAEB) of the AIR. Some of the Statutory Regulators also have their assessment of currency of practice before they will issue registration to practice.
The course is designed for patient safety and wellbeing by having the returning to professional practice diagnostic radiographer or radiation therapist obtaining a level of expertise before they independently practice. The few practitioners who each year embark on this course return to the workforce. With the shortage of diagnostic radiographers and currently to a lesser extent the radiation therapists this aspect of resumption of professional practice should be advertised. Increasing the number of diagnostic radiographers and radiation therapists returning to the workforce via this program would form part of the strategy to reduce the size of the skills gap. Hence make a valuable contribution to overall improvements to productivity and patient satisfaction with the health services they receive.

2.9 Migration Issues

The AIR, under the auspices of AEI-NOOSR, undertakes the assessment of all diagnostic radiographers, radiation therapists and sonographers who have gained qualifications outside Australia and wish to have them assessed for acceptance to practice in Australia. The Overseas Qualification Assessment Panel (OQAP)does this task within the AIR. All overseas applications are assessed against the standard in Australia at the time of qualification. These applications may be assessed as an acceptable standard, requiring further study such as a bridging course, or not acceptable at all.

The assessment requires a stringent level of English to be achieved to gain acceptance if the applicant comes from a non-English speaking background. This is essential for patient safety as the profession deals with dangerous elements and clear communication in various mediums is necessary. The AIR requires an academic band 7 in the International English Language Testing System (IELTS).

If the applicant is in Australia there is the possibility of the person being asked to undertake a competency based assessment (CBA).

Diagnostic radiographer, radiation therapist and sonographer professions are currently all on the 'Migration Occupations in Demand List' (MODL).

The AIR accredits a number of courses from the United Kingdom, Ireland, New Zealand and Hong Kong in both professions, which allows a more straightforward method of assessment and acceptance of qualifications for those trained in these courses.

Through migration, there are a few additional professionals entering the country each year to practice and add to the productivity of the profession. Many who fit into the last mentioned group, from the accepted courses, are often here on working holidays and although they fill in vacancies in the workforce for a short period they are not a long-term solution. Some who do come from overseas bring with them ideas and suggestions for improved workflow practices and increased productivity. Many have participated in schemes in their country of origin particularly the UK or Ireland where there has been some sweeping changes in the last few years.

2.10 Regional and Remote

As indicated earlier in this submission, large numbers of the diagnostic radiographers and most radiation therapists are situated in the capital cities or large regional centres. The radiographers in these regional and rural areas are often undertaking roles that in the metropolitan areas would fall to a radiologist. It is often due to the lack of radiologist support where the medical staff they work for are the general practitioners in the town with a radiologist doing weekly visits.

Again, as indicated earlier, the very remote areas do not have the workload to sustain a radiographer position and therefore the radiographic service in those areas is provided by a trained and qualified operator who is supported by the nearest radiographer.

The larger regional centres will always have a public hospital imaging department as well as at least one private practice within town. These will often duplicate services and, within the health system, not particularly productive for the health dollar.

3 Health care providers: New delivery systems, new forms of organisation, and competitive pressures

3.1 Hospitals

3.1.1 Hospital networks

Over the past 20 years, many hospitals have merged or consolidated into multi-hospital networks or systems. Some believe that hospital consolidation generally has promoted the development of efficiencies and instilled life back into failing hospitals (Ziegler 2005). Others believe that a primary result of consolidation has been a failure (Guerin-Calvert 2003; Kane 2002; Kane et al 2002). Forrest et al (2002) writes it is unclear that increased costs of health care found to occur during the formative years of a merger will continue to escalate once mergers settle down. Lewin (2002), Young et al (2000) and Wicks et al (1998) all claim, rising cost of health care results from a multitude of pressures health care providers confront. Such pressures include shortages of professionals and other personnel, rising liability premiums, the costs of improved technology, and other government imposed obligations.

International studies of the relationship between WP and increased expenditure after merger have found that high hospital concentration is associated with increased expenses, regardless of whether the hospitals are for-profit or non profit (Wicks et al 1998). Some studies have found that merged hospitals experienced smaller price and cost increases when hospitals are geographically concentrated and when the merger-involved sites were geographically dispersed, the reverse was found (Dafny 2005; Dranove and Lindrooth 2003; Connor et al 1998). Another study found that some systems', which pushed for hospital mergers did not produce efficiencies because of management failure to combine and streamline corporate functions (Spang et al 2001). The major culprit being burgeoning corporate/administration functions, which means less funds are available and directed to patients. Some have pointed out that studies typically do not differentiate among senior management decision-making post merger, and different types of hospital consolidations might reflect very different hospital strategies and could have different efficiency effects.

3.1.2 Privatisation of public health care: Specialty private hospitals

Specialty hospitals provide care for a specific specialty (*e.g.*, cancer) or type of patient (*e.g.*, children). Newer single, specialty private hospitals (SPHs) tend to specialise and this can lead to a further increase in specialisation, thus, in many instances having an adverse impact on WP. Others disagree, suggesting that specialist clinical practitioner sends healthier, lower risk patients to specialist hospitals and sicker patients to a general hospital. This enables the SPH to produce service less expensively yet still be reimbursed at the same rates as the general hospital. A real concern expressed by AIR members is that, left unchecked, specialist private hospitals will siphon off the most profitable procedures and patients, leaving public hospitals with less money to cross subsidise socially valuable, but less profitable care.

3.1.3 Entry: Ambulatory surgery centre

In the USA Ambulatory Surgery Centres (ASCs) perform surgical procedures on patients who do not require an overnight stay in the hospital. Technological advances in surgery and anaesthetic agents have made it possible for ASCs to perform a wide range of surgical procedures. Medicare reimbursement in the USA has had a profound effect on the number of ASCs and the amount and types of surgery performed in them. Diagnostic imaging professionals form a vital part of the efficient and effective function of ASCs and if this recent development in the USA presents itself in Australia, Diagnosticians require Medicare Provider status to ensure patients receive the best and most convenient service possible.

3.1.4 Hospital purchasing

Hospitals should be encouraged to join a 'Group-Purchasing Organisations' (GPOs) to consolidate their purchases and achieve volume and other discounts. GPOs have the potential to assist hospitals in lowering costs.

3.1.5 Consumer price and quality sensitivity: The need for better information

At present, most insured consumers are 'rationally ignorant' of the price of medical services they receive, because insurance largely insulates them from the financial implications of their treatment. Even if consumers were interested in the price of their care, they would find it very difficult to obtain the information. The pricing of health care services is complicated and frequently obscure. Thus, proposals to increase consumer price sensitivity must develop strategies to increase the transparency of pricing information.

An analogous finding emerges for quality measures. Although health care stakeholders typically express interest in report cards, they often do not use such information to select health providers. If the information is usable, consumers will select treatments that accord with their preferences. Publicly available report cards can motivate providers to address quality deficiencies, even when it does not appear that many consumers rely on that information. Well-informed consumers helps government and the market deliver efficient and effective health services and therefore is one of the drivers for improvements to WP.

3.1.6 Pricing: Bulk purchasing, price discrimination, cost shifting, and cross-subsidies

Understanding health care pricing requires an understanding of four terms: bulk purchasing, price discrimination, cost shifting, and cross subsidies. The terms have distinct meanings, although there is some overlap between cost shifting and cross subsidies. Bulk purchasing occurs when large organisations receive purchasing discounts because of the volume of their purchases. Price discrimination involves charging different consumers different prices for the same services, based on differential demand. Cost shifting refers to raising the price charged to one group of consumers because of lowering the price to other consumers. Cross subsidising is the practice of charging profit maximising prices above marginal costs to some health consumers or for some services and using the surpluses to subsidise other health consumers or other clinical services (Richardson 2004).

Some health care commentators state cost shifting is common in the medical marketplace. Others disagree, and stated that bulk purchasing discounts and price discrimination only explains observable pricing patterns and quality service provision. AIR members agree, however, that there are a range of subsidies and cross-subsidies in the medical marketplace. For example, providers lose money by treating the uninsured, but make money by treating the well insured. Any administered pricing system has difficulty replicating competitive prices and these ebbs and flows in pricing lead to some organisations showing healthy margins, often mistakenly labelled as having higher WP. The AIR refutes this notion.

3.2 MRS productivity improvement issues

In relation to productivity from the professions of diagnostic radiography, radiation therapy and sonography there are a number of areas. In diagnostic radiography there are tasks that the radiologist currently does which the radiographer could carry out. These include certain x-ray film reporting, either in particular operational areas such as an emergency department or specified anatomical areas, Head CT scans, some contrast examinations like barium enemas. In many practices the radiographer already does venepuncture and contrast injections for some categories of examinations. The radiographer could carry out the contrast examinations such as the barium enema and catheterise the patient plus administer the contrast. This would free up the radiologist to do other tasks more appropriately assigned to their qualifications and training. The radiographer may give up some administrative tasks to a clerical person so they can carry out these more advanced tasks.

These tasks would need to be linked to further education and training and initially be overseen by the radiologist in a formalised manner until competencies are at an acceptable level to ensure the patient safety and in cases of reporting accuracy of diagnosis.

Another area where a diagnostic radiographer may be able to develop a role and increase productivity at a more reasonable cost and time for the health system and in particular the patient is to triage certain ailments in emergency similar to the nurse practitioner. The radiographer is trained to understand which modality within their sphere is best for a diagnosis or demonstration of a particular pathology.

The emergency specialist or nurse practitioner may diagnose the ailment and leave it to the radiographer to image appropriately and then report on the image for the consulting specialist.

Sonography already sees an autonomous operator doing ultrasound with limited input from the medical specialist. This role could be expanded to reading and reporting on the scans so that the radiologist is further relieved of duties to concentrate on the high end of the skills they have.

Radiation therapists (RT) can take on a number of roles undertaken by radiation oncologists. The shift would relieve pressure placed on radiation oncologists. For example, radiation therapists can extend their role in treatment planning to volume marking on the patient scan set ready for planning, assessment of plans and selection of treatment dosage according to protocols. The radiation therapist can undertake patient reviews during treatment and skin care of the patient while on treatment.

To achieve efficiency and productivity with this latter activity there may need to be adjustments to some prescribing regulations to allow the radiation therapist to prescribe the required pharmaceuticals according to agreed workplace protocols.

Radiation therapists can be the primary professional to assess the radiation field adjustments required daily to ensure accurate treatment delivery and efficient productivity through a department. There are again specialist areas that the radiation therapist may choose to move into such as brachytherapy, stereotactic radiosurgery or intensity modulated radiation therapy (IMRT).

As with the diagnostic radiographer, many of these expanded roles require further study and mentoring until competencies in the required area are at a standard that both protects the patient but certainly adds to the department's productivity through re-allocation of tasks carried out by the professionals within that department.

4. Recommendations to improve workforce productivity in health care

WP has affected health care markets substantially over the past three decades. New forms of organisation have developed in response to pressures for lower costs, and new strategies for lowering costs and enhancing quality have emerged. Health professionals have responded to challenges and in real terms there are fewer professionals doing more health work than ever before in Australia. Organisational and management practice reforms need to be part of the WP equations rather than the Productivity Commission taking a narrow managerial perspective to the issue. Otherwise an opportunity to embrace new and multiple perspectives of how to improve health care will continue to impede the 'public good'.

The list of recommendations below focuses on how to encourage the development of prerequisites to WP, such as: good information about the cost of health care, ongoing maintenance and development of professional standards and quality treatment. The AIR recognises that the work remaining to be done is complex, difficult and will take time. A renewed focus on the prerequisites for effective WP, however, may assist policymakers in identifying and prioritising tasks for the near future.

Recommendation 1:

> **Governments and providers should continue experiments to improve incentives for providers to lower costs and enhance quality and for health consumers to seek lower prices and better quality.**
>
> ***a) Governments, public and private health providers should improve measures of quality, price and attraction, retention and ongoing development of professional practitioners.***

As noted above, health care pricing can be obscure and complex. Increased transparency in pricing is needed to implement strategies that encourage providers to lower costs and consumers to evaluate prices. Achievement of this goal will likely require addressing the issue of cross-subsidisation.

A great deal of work already has been done on measuring quality. Quality measures exist for a considerable number of conditions and treatments. The AIR encourages further work in this area.

The AIR suggests that particular attention be paid to the criticism that narrowly framed (economic) performance report cards for public hospitals and other performance measures discourage providers from treating sicker patients. Present report cards should be replaced with 'balanced scorecards' and if it is not addressed, this criticism could undermine the perceived validity and reliability of information about quality (Elkington 1997; Kaplan and Norton 1996).

b) Governments, and providers should furnish more information on prices and quality to consumers in ways that they find useful and relevant, and continue to experiment with financing structures that will give consumers greater incentives to use such information.

Information must be reliable and understandable if patients/public are to use it in selecting health plans and health providers. Research to date indicates that many consumers have not used the price and quality information they have received to make decisions about health plans and health providers. Additional research into the types of price and quality information that health consumers would use for those decisions appears to be necessary; including full disclosure of providers committed to 100% participation of MRS employees in mandatory CPD.

c) Governments and health providers should experiment further with payment methods for aligning providers' incentives with public interests in lower prices, quality improvements, and innovation.

Payment methods that give incentives for providers to lower costs, improve quality, and innovate could be powerful forces for improving WP in health care markets. Although governments have experimented with some payment methods that provide incentives to lower costs, no payment method has yet emerged that more fully aligns provider incentives with the interests of the public in lower prices, quality improvements, and innovation. At present, for example, most payments to providers have no connection with the quality of care provided.
For example, the questions patients are asked are unlikely to produce the type of survey results that will lead to qualitative improvements in their health . This WP gap can be addressed through inter organisational cultural change. Furthermore, financial incentive, or penalty, from government for providers found not to have 100% workforce compliance to mandatory CPD needs to form part of government's quality health care enforcement program to providers, if government is serious about improving productivity and quality health care.

A focus on the degree to which provider incentives are compatible with patient interests is therefore important. Compatible incentives and interests are more likely to yield better results. Incompatible incentives and interests are more likely to have unintended consequences that can lead to worse results. Initiatives that address the use of payment methods to align provider incentives with public interest are necessary. These experiments should be carefully analysed to evaluate their consequences, both intended and unintended. The public interest includes mandatory CPD for health professionals and validated Statements of Accreditation as evidence the person is 'fit to practice'.

Recommendation 2:

> **States should remove barriers to the establishment of a national registration board for MRS professionals.**
>
> ***a) States with registrations, licensing or other programs, which do not stipulate mandatory CPD post accreditation, should reconsider whether these programs best serve their citizens' health care needs.***

The AIR believe that, on balance, State based registration programs are not successful in containing health care costs because they hinder continuous improvement of standards of practice amongst qualified practitioners. This shortfall provides a substantial risk to quality health care.

> ***b) States should consider adopting the recommendation of the Australian Institute of Radiography to introduce a validated Statement of Accreditation and mandatory CPD as the minimum entry requirement to practice adopted by state licensure boards.***

National licensure boards with broader membership, including representatives of the general public, and individuals with expertise in health administration, economics, consumer affairs, education, and health services research, should replace the State based systems, which are ad hoc in application of minimum standards to practice.

> ***c) Federal government should consider implementing uniform licensing standards or reciprocity compacts to improve quality health care and workplace productivity. This will also reduce barriers to MRS professionals accepting out-of-state appointments and reduce the cost of multi-state registration.***

Uniform licensure standards and reciprocity compacts could operate both to protect consumers and to reduce barriers to accessing the best health professionals. State regulators and legislators should explicitly consider the pro-performance health service benefits of a National Registration Board. Similar considerations apply to the potential for a National licensure to improve WP from out-of-state professionals who wish to move interstate to meet public health needs where they are needed most.

Recommendation 3:

> **Governments should re-examine the role of state based licensure in health care in light of their inefficiencies and potential to distort workforce productivity and quality of health services.**

There is significant scope to extend the roles performed by radiation therapists and radiographers to free other health professions to focus on reducing other aspects of the skills gap and to make further improvement to WP when patient health care needs are paramount. There is also the potential to build further flexibility into MRS health care provision in rural and remote areas provided standards and quality audits centred on the 'human factors' are pillars within the reform.

Recommendation 4:

Government, the AIR and other major stakeholders agree to re-examine role extension and rural and remote flexibility issues. The aim is to ensure radiation therapists, radiographers and sonographers meet the challenge of an ageing national demographic whilst ensuring these professions strengthen further standards of health care.

5. The AIR perspectives on issues in performance enforcement in health care

The AIR have been active for nearly 50 years in health care markets, challenging poor conduct and providing guidance to consumers and professional practitioners. This section outlines the AIR's perspective on several issues in performance enforcement in health care markets.

5.1 Perspective on private provider related issues

Multi-provider Networks - The AIR promotes a policy that financial risk-sharing between taxpayers and private providers must be based on the private provider showing privatisation ventures that produce significant efficiencies. This in context of a holistic approach to WP, quality health care and price in which all three tenets are inseparable.

1st Observation:

> **Payment for performance arrangements for private providers constitutes a form of financial risk sharing amongst taxpayers and business owners. The public interest must be maintained by introducing the notion of 'proof of benefit' placed on private providers.**

5.2 Perspective on hospital-related issues

Hospital Mergers - The AIR will continue to carefully monitor through its members the effectiveness and efficiency of post merger hospitals and any proposed hospital mergers. The aim is to challenge unsubstantiated claims of merger success/failure in delivering WP and health care outcomes.

2nd Observation:

> **Hospital geographic markets should be defined properly.**

The definition of hospital geographic markets has proven controversial. In connection with this Report, the AIR argues governments need to do more work to determine the contours of the relevant geographic market in which hospitals operate.

a. The types of evidence used in *all* merger cases, such as strategic planning documents of the merging parties and customer testimony and documents, should be used by governments to help delineate relevant geographic markets in hospital merger cases. Evidence regarding the willingness of consumers to travel and Doctors to steer consumers to less expensive alternatives should also be considered.

Footnotes and References

Footnotes

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