

# The significant impacts of workplace change on medical scientists in Victoria

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## Abstract

*Pathology in Victoria has undergone considerable change in the last decade. The need for productivity gains, the effects of downsizing and budget cuts, alongside the effects of casemix funding, privatisation and the advent of Enterprise Bargaining Agreements (EBAs) have all placed considerable strain on medical scientists.*

*This paper outlines the impacts of workplace change on medical scientists in Victoria, the most significant workplace stressors on medical scientists today, and what medical scientists feel needs to happen to enable them to regain control over their working lives.*

*The findings from key informant interviews and focus groups of medical scientists show that radical changes in service requirements have occurred. The restructuring of laboratories to 'core' business and subsequent changes in client expectations has impacted on the standards of service delivery in pathology. These changes have resulted in considerable stress as the scientists struggle to cope with work intensification, increases in rostered work during 'unsociable' hours, the lack of control over change, and challenges to their professionalism as they feel that quality standards are not being met.*

## Context

In recent years, change has impacted significantly on all sectors of the Australian healthcare industry, not least in the State of Victoria. Those affected include many professional groups, including the subjects of this study, medical scientists. The medical scientists do not have a high profile and are not as well known to the public as either the medical or nursing professions, despite their integral importance to the efficient running of our health services (thanks to their valuable research and diagnostic functions).

Many of the scientists' activities are highly specialised, and include "state-of-the-art" diagnostic laboratory testing, clinical psychology services, nutritional services and monitoring of sleep disorder units. A few scientists are clinical perfusionists and others are audiologists. This paper forms part of research involving the largest group of medical scientists in Victoria, those who work in pathology laboratories. Even within this group, specialisation occurs with most medical scientists working in traditional areas such as haematology, biochemistry, microbiology, anatomical pathology, cytogenetics and, more recently, molecular biology across both public and private pathology providers.

In 1999, a survey in the form of a questionnaire based on the ACTU "Working Time Life" Survey (ACTU, 1999) was sent to medical scientists at two workplaces, one public and one private (Weekes, 2001) aimed at discerning effects workplace change has had on this group of medical scientists.

This survey revealed that the medical scientists are working longer hours with considerably less control over their jobs and working lives than they had experienced over the previous 12 months. The majority of respondents were laboratory-based scientists - hence the focus on this group for this further study. The survey also showed that there was little difference in the working life of medical scientists in the public and private sectors. However, as a group they are experiencing more work intensification, less control over their work and are more

stressed compared to other workers in both the Australian Workplace Industrial Relations (Morehead Alison, 1997) and the Australian Council of Trade Unions surveys (ACTU, 1999). This survey (Weekes, 2001) also found that to regain control of their lives, scientists were choosing to work part time.

This survey of medical scientists was small but significant, and paved the way for further research designed to look at what specific changes might have impacted on medical scientists causing work intensification and increased stress. This further research also looked at what the scientists are doing to cope with change and what they feel needs to be done to enable them to regain control over their working lives.

## Changes in the Victorian health sector

The healthcare sector in Victoria has undergone radical change over the past decade. Until the mid-1980s, hospitals had been funded on historically-based inputs such as salaries and the cost of pharmaceuticals. Hospital budgets were generally rolled over from the previous year with adjustments made for award variations made on approved staff profile and indexation of non-salaried costs (Lin & Duckett, 1997). Commencing in the mid-1980s, the hospitals moved to "global budgeting" whereby hospitals had autonomy to shift funds between various classes of inputs and between salary and non-salary expenditure areas where it was perceived there might be scope for efficiency savings and rationalisation of services (Lin & Duckett, 1997).

In Victoria, after the election of the Liberal/National Party coalition Kennett Government in 1992, the pace of reform increased. The new government was committed to cost cutting and downsizing in the public sector, the privatisation of public utilities, the contracting out of public services to the private sector and greater accountability for public spending (Alford, 1994).

In the health sector, the policies of privatisation and competitive tendering, the introduction of casemix funding and the downsizing of the health budget also changed the way healthcare was delivered in Victoria. The Kennett Government also cut acute hospital sector budgets by 15% over three years and required "unbundling" of hospital activities so they could be funded separately. As these measures were introduced at the same time as casemix, this was perceived to be responsible for the problems in the Victorian hospital system (Duckett, 1995).

Duckett argued in 1995 that each patient under casemix funding brought resources with them and that treating additional patients was now beneficial and profitable, but results did not exactly reflect the advertised model in the mid-90s. Hospitals that treated patients efficiently found the extra throughput funds that were made available were quickly used up. Consequently beds and operating theatres had to be closed and waiting lists became longer (Larkins, 1995). This has had a profound impact on staff as well as patients as hospitals struggled to survive.

The quest for efficiency gains was universal and implemented throughout the healthcare sector. No area remained unscathed, and pathology did not escape.

## The pathology sector

Private pathology is principally funded by Medicare, and public pathology by hospital budgets (Deeble & Lewis-Hughes, 1991). Historically, attempts to control pathology spending by governments have been made via changes in the Medicare schedule. This enabled pathology fees per service to fall by about 26% between 1984-1985 and 1989-90 (Deeble & Lewis-Hughes, 1991). However, by the early 1990s, the pathology industry was growing at a rate of 7.3% per annum compared to 3.1% for other medical services, and serious consideration was being given as to how services could be rationalised. In fact, pathology in 1991 was on a larger scale, more labour-intensive and more commercialised than any other individual medical activity and it was observed that pathology laboratories were very substantial business enterprises (Deeble & Hughes, 1991).

To address this problem a series of reviews (Chamula, 1991; Kearney, 1991; Tomatsu, 1992) were commissioned between 1989-1991 throughout the Melbourne metropolitan area. These resulted in a body of recommendations being presented, calling for the streamlining of pathology services by merging or contracting out several public pathology services to other public hospitals (Kearney, 1991; Tomatsu, 1992).

Changes in private pathology gained pace after the repealing of Section 19 1-7 in the 1996 review of the Pathology Accreditation Act 1984. There was a shift in the ownership of private pathology services from medical practitioners to business enterprises. This resulted in a reduction in the numbers of private pathology providers through mergers

and takeovers. These changes in ownership and subsequent reduction in the numbers of private pathology services changed workplaces dramatically. Also, the incursion of public pathology into areas traditionally serviced by private pathology (AAPPI, 1997) has meant the transformation of pathology testing into an extremely competitive business.

In 1989, only 2% of the staff in laboratories were medical staff but their salaries represented 8-10% of total costs. Deeble and Lewis-Hughes (1991) recommended that, to attract good medical specialist staff, structures should be put in place to maintain salaries and entitlements in the new climate of service rationalisation particularly if rights to private practice were lost or curtailed. Productivity gains and cost cutting targets needed to be achieved elsewhere, and as medical scientists were by far the largest group in pathology laboratories in Victoria at that time, their work was a prime target for rationalisation. The likely impact that rationalisation would have on the working conditions of medical scientists working in these areas was not addressed.

## The medical scientists

Medical scientists are healthcare professionals whose role is not immediately visible to the public, as they have limited patient contact. They are employed in both the public and private sectors, either in acute public hospitals or in private pathology laboratories. Historically, medical scientists have been subordinated to the medical profession in the division of labour in healthcare despite their arguments that they perform 90% of the work in medical science (Gardner, 1994). The medical scientists are a degree-based professional body of whom nearly 29% hold a higher degree Australia-wide. In 1996, throughout Australia there were 9,514 medical scientists of whom 3,036 were working in Victoria (AIHW, 1998). Of these scientists 66.9% were female and 54.4% worked in the public sector (AIHW 1998).

Medical scientists in Victoria are represented by the Medical Scientists' Association Victoria (MSAV), an industrial organisation covering science-based professionals. The main professional body is the Australian Institute of Medical Science (AIMS), while some medical scientists also belong to other discipline affiliated groups such as the Australian Association of Clinical Biochemists (AACB).

Results from the previous study (Weekes, 2001) indicated the changes in the healthcare sector over the past decade have made a dramatic difference to the working environment in which medical scientists operate. The pace of their work has increased, management control over them has increased and most medical scientists are experiencing higher levels of resultant stress. Job satisfaction has decreased, and working arrangements for full-time workers are affecting their health while job security has decreased. This has resulted in work intensification becoming the only way to achieve the productivity gains expected from the combination of change drivers: downsizing, budget cuts, casemix funding, privatisation and other industrial changes such as the introduction of Enterprise Bargaining Agreements (EBAs).

This study was undertaken to see what changes have impacted on medical scientists and what this group of professionals perceive can be done to enable them to regain control over their working lives.

## The study

Information was collected by a review of the literature. Then a preliminary study by questionnaire, on stress and the workplace was performed in 1999 (Weekes, 2001). From this an analytical framework was developed, with areas to be explored including:

- identification of changes that have occurred over the past decade
- the main factors influencing workplace change
- workplace responses and their impact on medical scientists
- how medical scientists have coped with changes
- the impact on their working lives
- what can be done to improve the future for medical scientists.

Thirdly, key informant interviews and focus groups were conducted in mid-2001. The key informant interviews were held with scientific middle managers from three types of laboratories: a public pathology laboratory, a privatised public pathology laboratory, and a private pathology service.

In addition, two key informant interviews were held with medical science educators involved in course design, and two further interviews were held with industrial representatives. The final interview was with a medical scientist Grade 1 under 30 years of age. Several key personnel from the professional body were approached but preferred to give personal opinions as members of the focus groups.

Interviews took approximately one hour each and were audiotaped. They were then coded manually and analysed using grounded theory (Strauss, 1990).

### **Focus groups**

The focus groups comprised medical scientists from all gradings throughout the pathology industry and represented laboratories from both the public and private sectors. Other participants were a medical scientist who had left medical science to pursue other career options and a manager. Most of the participants worked in different aspects of pathology: i.e. haematology/ blood bank, biochemistry, microbiology and histology.

### **Limitations**

This study has several limitations. First, it is a small study with 15 participants in the focus groups and eight key informant interviews. Second, it is based on medical scientists' perceptions and not those of the broader structural interests of the pathology industry. The medical scientists are not a well-researched group and I wanted to put forward their views.

Third, the researcher is herself a medical scientist and as such, a member of both the professional body and the industrial organisation. Although great care has been taken not to introduce researcher bias, the subject's interaction with the researcher would most likely be different to what it would have been if the researcher were someone from outside the field. It was felt that subject matter was probably more technical and possibly a broader range of topics discussed than if the researcher had not been a member of the "group."

The proposal for this research was submitted to the Human Ethics Committee, Faculty of Health Sciences, La Trobe University for approval. Informed consent was sought and received from each key informant interview participant and each focus group member.

## **Factors that have influenced change**

### **Government policy changes**

Most of the focus group participants and the interviewees felt that the changes in the laboratory were due to increased budgetary pressure caused by the Kennett Government's policies of economic rationalism and competitive neutrality. This was considered the most significant driver of change in the laboratories.

All study participants agreed that the government recognised that rationalising pathology services could make a major cost saving. It was felt that the government considered the public sector inefficient and wanted to move to a private sector focus.

The three managers interviewed agreed that pathology had to become more financially accountable. One stated that duplication and "empire building" by individuals needed to be stopped. Something had to be done. The managers realised that pathology services were growing autonomously and needed co-ordination. Duplication of services in some hospitals meant a larger workload for the end user, the requesting doctor. At one hospital, under the old system, separate requests for every individual test needed to be written to each department whereas now one global request will cover all types of pathology testing.

The change in government policy brought with it a change in focus. This started with the "unbundling" of teaching and research activities within the laboratories. Krickler (1993) argues that "the role of the hospital pathology service is to deliver pathology." This meant that education and research functions that are considered by the medical scientists to be a fundamental of laboratory life would need to be funded separately. The medical scientists felt that this had led to a downgrading of the research done by laboratories. This change was noted most emphatically by the three managers interviewed. Pathology was to become more commercially orientated

and financially accountable, less research-oriented and generally beneficial. It was also suggested in Focus Group 2 that the Kennett Government had also had another agenda, to make public pathology look profitable so its services could be sold off to private providers.

### **Technological change**

Technological change was not observed to be the driving force of change in the laboratory but it was seen to have facilitated the change process. As observed in the focus groups, improvement in technology has had a huge impact on the way work is organised. Participants from all laboratories reported finding the workplace more factory-like, with more emphasis on the "turn-around time:" i.e. a focus on minimising the time it takes for a particular test to be done rather than ensuring optimisation of the quality of the testing.

## **How government policies and technological change have affected the workplace**

Laboratories are doing more work with less money and fewer staff. This has had a range of impacts on the staff in different laboratories as each laboratory has had a different approach to the rationalisation of services. Overall, the most common view expressed by the focus group participants was they had experienced significant work intensification over the past decade.

### **Who is making the decisions?**

One of the managers felt that pathologists (medically trained doctors), who used to make all the decisions, have been marginalised over the past decade. This interviewee observed that there are more opportunities for scientists with management skills to have a career structure. The focus groups and the grade 1 scientist felt that business people are restructuring pathology with little understanding of, or feeling for, the value of the education and skills of the scientists who are actually performing the laboratory work.

### **It was recognised that pathology is now a business**

"Business" managers are now replacing "laboratory" managers and this indicated a change of focus from laboratories with science-based answers to health problems to business decisions about which tests are the most profitable. This change in focus was recognised by everyone interviewed, individually or in group settings. Some of the managers felt that the new "business" approach was necessary due to the way pathology had been growing, whilst others were more concerned about the possibility of a drop in quality of the testing.

## **The impact of change on the laboratory**

### **Increased work demands and increased volume and complexity of work**

All participants have experienced work intensification and job broadening and, at various stages, job insecurity.

### **Changes in client expectations (who IS the client?)**

One of the main changes identified in the focus groups was the change in client expectations, which played a large role in changing the timing of the workflow in the laboratory. Laboratories are now offering testing services on a 24 hour a day basis providing even what seems to be inappropriate testing at odd hours just to keep the client's business. This has caused increased workloads and has created difficulties for scientists in grading the urgency of work to match patients' or doctors' needs. "Who is the client?" they seem to be asking? "Is it the patient (subject of the test)? Or the doctor the person ordering the test?" This dilemma has caused stress for some scientists who feel that acutely-ill patients have a greater need for pathology services deserving priority over those doctors who may generate a lot of business for the lab but whose work can wait a bit longer for results.

### **Loss of staff and expertise**

Participants in both focus groups indicated that there had been a net loss of experienced staff to the system in their laboratories and that this had a profound effect on the remaining workers. They are finding that skills (or "corporate knowledge") are being lost and not being replaced.

### **Changes in service requirements**

The participants in the study were drawn from a variety of both public and private laboratories. All of these laboratories had undergone structural reorganisation. Through mergers, downsizing, changes in technology and changing client expectations, work processes are entirely different to what they were a decade ago. The biggest impacts and challenges for the scientists remaining in the workplace have been the changes to their hours of work caused by changes to the rostering system as laboratories adjust to meeting heightened expectations in a more competitive climate. The increase in the amount of shift work has had a big impact on most of the scientists in the focus groups.

### **Changes in technology**

With the expectations of the client base changing and the push for savings by the government, technology is rapidly changing. It was felt that managers of pathology laboratories were more interested in test throughput as opposed to rationalising test numbers and ensuring the relevance of the testing.

### **The increase in the standard of control by the governing body**

Two of the managers observed that there had been an increase in the quality control of testing through the National Pathology Accreditation Advisory Committee (NPAAC) and the National Accreditation Testing Agency (NATA). The heightened standards of quality control were welcomed by the managers, who viewed them as pluses for patient care. However, the additional paperwork created by increased quality scrutiny was seen to create extra work for both the managers and their staff.

### **Lack of training**

Technology changes and staff attrition had both increased the need for staff training but because of reduced staff numbers, the maintenance of satisfactory training levels was seen to be very difficult.

Focus group participants also observed how difficult it was to interest young scientists in continuing education programs (offered regularly by the professional groups). Increasing amounts of shift work were cited as the main reasons scientists were unable to attend these ongoing training sessions particularly as the rare evenings they were not at work tended to be valued "home time." In fact, one of the focus group participants observed when asked about the impact of rosters on her social life said "This is my social life."

### **Challenges to professionalism as standards are not being met**

Challenges of change and other stressors were seen to be eroders of scientists' professionalism largely due to constant workload. Scientists perceive that they could not perform their job properly because of the demands of increased workload. The combination of lack of professional development opportunities (or time to take up these opportunities); not feeling valued by their employer and not feeling in control of their work was seen to be causing demoralisation of the scientists.

### **Flatter career structures**

Most of the participants felt that there were no career structures. It was very difficult to make career advances as the jobs or positions have disappeared.

### **Multiskilling and deskilling**

Work place standards have been compromised through multiskilling, participants reported. Many of the scientists felt that multiskilling was a form of deskilling because an expert knowledge base was lost when these scientists were multiskilled. This had been specially noted in laboratories that had high levels of specialised skills in particular areas such as blood banking.

One of the managers interviewed felt the complexity of the work, the rate of change and the work volume are constantly increasing with everyone trying hard not to make a mistake. The compound effect is creating a lot of problems for staff, the manager reported. Staff were becoming stressed as they felt they were not achieving what was felt to be an appropriate standard of care.

### **Manipulation of staff to achieve organisational goals (including managerial prerogative)**

One of the managers felt that staff had been exploited to ensure management objectives were met with managers taking advantage of staff professionalism. He felt that scientists will try to keep their standards of care at a uniformly high level to ensure that patients are not disadvantaged a fact which management recognises and manipulates in order to meet business objectives.

## **Effects on the scientists**

### **Stress**

There has been an impact on health, which was acknowledged by the managers who saw changes in their staff, as the workload became more demanding. Many of the focus group participants had increased levels of stress and their work had impacted on their health and family life as well. Increases in stress because of the disruption to personal lives caused by increased shift work was one of the key issues dealt by the industrial officers.

### **Lack of control over changes**

The focus groups felt that they had no control over the change process, that the changes were being driven from outside with little of any involvement from those affected. There was a sense of powerlessness to implement control over their work amongst most of the scientists interviewed.

### **Problems with management**

The current changes have put a wedge between management and the scientists with the organisational change having a big impact on the way that labs are managed. This effect was observed by both managers and focus group participants (scientists). As the work environment becomes increasingly complex, devolution of responsibility for results has occurred. This has happened partly because the laboratory managers have changed their role to business managers with less responsibility for clinical and scientific input. As the workload increases, more medical scientists are responsible for accepting and reporting of results that once was the domain of the pathologist or the laboratory manager. Many scientists felt that they were losing control over their work especially in relation to the spread of hours and the duties that they are required to do yet were having to accept greater responsibility for the results produced.

### **Coping mechanisms**

Many of the participants have felt powerless to change the situation. A prevalent mechanism for coping was fatalism or acceptance.

"It's not so much what you put up with it is just a way of life" (Focus Group 1).

Yet the sheer love of science is what keeps the scientists working and many agreed that while it is stressful, if they can get to do some science then they are able to cope.

"Yes, but you still love science. I'm still in it because after 34 years I still get a buzz out of the science. It's the only thing that keeps me going" (Focus Group 1).

## What can be done to (re) gain control over scientists' working lives?

Most people interviewed were unsure what lay ahead. It was felt that to regain control that they would like less work pressure and more time to do the scientific work that had drawn them to the profession in the first place. To rekindle passion for the work they needed to have opportunities for stimulus through doing developmental work and the satisfaction of innovation. Scientists need the stimulus and satisfaction of a working system that incorporates both diagnostic and research work.

Several participants saw that the profile of the medical scientist needs to be raised although not everyone had given much thought to the future. One of the managers was "*too busy putting out bushfires*" to think about where the profession was going. Another manager felt that medical scientists needed to take control of professional lives, that they lack self-esteem. Both the educators reiterated this point. They felt that the medical scientists were not taking the opportunities to take control of technology and are lacking confidence in their ability. Gardner in 1995 argued that medical scientists are in a position to have independent professional status because they work largely independently of the medical profession and are ultimately responsible for the scientific output of a laboratory whether or not the results have been instrument generated with no interpretation from either scientist or pathologist. They need to grab the opportunities while they are presented which is very difficult to do when resources are stretched to the limit. None of the practicing scientists in this study had argued for this position probably because they feel powerless to control the changes in their working lives.

## Conclusions

The impacts of health policy and technological change on medical scientists have been many and diverse. Government policy and technological changes have jointly caused major structural changes in the organisation and management of pathology laboratories over the past decade. These have had a profound effect on the way that medical scientists deliver health care.

It was recognised throughout this study that some changes were absolutely necessary "empire building" and duplication of services was wasting precious resources. However, as one of the managers suggested, possibly the pendulum has swung too far in the other direction. There was recognition that the change from a patient-orientated focus to a business-type structure has caused scientists to feel stressed and powerless to control the changes in their working lives.

These changes are perceived to be affecting services detrimentally at a number of levels, impacting not only individual scientists but on medical science as a profession because ongoing professional development has suffered through lack of time and changes in rostering systems. It is perceived that this lack of professional development will compromise the quality of patient care as older scientists leave the profession leaving the younger and less experienced in their place.

It was felt that the present objective of laboratories is to do as many profitable tests as possible to keep their new clients (the doctors) using their service rather than testing for good patient management. The strategy of employing business managers rather than laboratory managers has caused considerable angst because more responsibility for testing has fallen to junior scientists.

This study was done at the end of a decade of change driven by government policy and aided by technology. The signs are that the future for medical scientists will be one of continuing change but possibly with different drivers. Primary suspects in this future may be automation and the diversion of testing from laboratories to the bedside. This future needs to be recognised by medical scientists, and its effect anticipated.

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