



# **Tasmanian Department of Health and Human Service**

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## **Agency Health Professional Reference Group**

## **Allied Health Professional Workforce Planning Group**

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### **Allied Health Professional Workforce Planning Project**

**Audiology Information**  
**Medical Illustration Information**  
**Nuclear Medicine Technology Information**

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### **1 Preface**

This combined professions Information paper should be read in conjunction with the main Allied Health Professional Workforce Planning Project Discussion Paper.

## **2 Audiology**

### **2.1 Description of the audiology profession**

An audiologist assesses hearing, determines where disorders might be within the auditory system and is responsible for the non-medical management of hearing loss and associated disorders of communication.

Working in evaluative, therapeutic, clinical or research areas, an audiologist plans and administers hearing tests, interprets results and designs and implements rehabilitation programs.

Audiologists are employed in the Australian Hearing Services, hospitals, health centres, private practice or in academic research or teaching positions. Increasing numbers are employed in private practice and a small number in special education or industrial audiology.

#### **2.1.1 Description of related occupations**

##### **2.1.1.1 Audiometry**

Audiometrists administer audiometric tests to measure hearing and fit hearing aids.

(Commonwealth Department of Education, Science and Training 2002)

### **2.2 Present workforce status**

There were no audiology positions or audiologists employed within the DHHS at the time of the workforce planning project, however some state service responsibilities are contracted out to Commonwealth providers.

### **3 Medical illustration**

#### **3.1 Description of the medical illustration profession**

Medical illustrators provide support for allied health and medical instruction. Building on a foundation of drawing and design, medical illustrators translate anatomical and surgical sketches into instructional illustrations, advertisements, courtroom exhibits, computer graphics and other contemporary work of the illustration profession (Rochester Institute of Technology Medical Illustration 2002).

#### **3.2 Present workforce status**

There was only one medical illustrator employed by DHHS at the Launceston General Hospital, but upon the retirement of this staff member in July 2002, the position will be abolished. No further information is presented regarding the DHHS medical illustration workforce.

## **4 Nuclear medicine technology**

### **4.1 Description of the nuclear medicine technology profession**

Nuclear medicine technologists use radioactive pharmaceuticals to diagnose, and sometimes treat, a range of diseases. With experience and sometimes further training, nuclear medicine technologists may specialise in areas such as ultrasound, positron emission tomography, computer programming or bone mineral densitometry.

Employment is concentrated in larger centres due to the specialist nature of this branch of medicine. Although nuclear medicine technologists usually work in city-based hospitals, there is a growing trend towards private facilities that provide increasing employment opportunities (Commonwealth Department of Education, Science and Training 2002).

All nuclear medicine technologists seeking employment in Tasmania must apply to the Medical Radiation Science Professionals' Registration Board (ex Radiographers' Registration Board) for a licence to practise as a nuclear medicine technologist. Licenses to operate radiation emitting apparatus and handle radioactive material are required by the Tasmanian Radiation Control Act 1977.

### **4.2 Present workforce status**

#### **4.2.1 Education of nuclear medicine technologists**

A science degree specialising in nuclear medicine technology is offered in New South Wales, Victoria and South Australia. There are limited places in Australian universities for students and also limited clinical placements for students. Upon graduation many nuclear medicine technologists tend to seek employment in Queensland or Western Australia.

There are usually 35 nuclear medicine technology graduates from New South Wales, 16 from Victoria and 8 to 10 from South Australia each year.

#### **4.2.2 Present supply of nuclear medicine technologists**

Nine nuclear medicine technologists were registered with the Medical Radiation Science Professionals Registration Board in 2001. Seven of these were female (78 per cent).

The DHHS Human Resource Services Information System indicated that there were two nuclear medicine technology positions within DHHS. Both of the nuclear medicine technology positions were located in and managed through the Department of Medical Imaging at the Royal Hobart Hospital. These positions included one full-time PF1 position and one full-time PF3 position. Both of the nuclear medicine technology positions were filled at the time of this analysis.

There were also nuclear medicine technologists employed in the private sector in Hobart and Launceston.

Three nuclear medicine technologists resigned from the DHHS in 2000 and 2001. In the two years 2000 and 2001, there was one DHHS nuclear medicine technologist position advertised.

#### **4.2.3 National demand for nuclear medicine technologists**

Unpublished research by the Commonwealth Department of Employment and Workplace Relations found that in late 2001, in:

New South Wales, the demand for nuclear medicine technologists increased as new scanning facilities were set up in both regional and metropolitan areas. There were few difficulties in filling vacancies. The supply from university completions is projected to increase, and the labour market for the profession should remain in balance over the short term.

Victoria, although nuclear medicine technologists had been reported to be in short supply, the merging of a number of smaller private practices has reduced the demand for staff. Previous shortfalls were met by importing nuclear medicine technology staff from Canada, New Zealand and an oversupply in the workforce in New South Wales. The nuclear medicine technology workforce was in balance and is expected to remain so in the short term.

Queensland, despite the overall demand levels being low, the labour market for nuclear medicine technologists was in shortage. No education facilities are available in Queensland and recruitment was from interstate or overseas.

South Australia, there was no evidence of recruitment difficulties and the labour market was in balance. More graduates are produced than are needed by the local job market and South Australia is a net exporter of nuclear medicine technology graduates to other areas of Australia.

Western Australia, the demand for nuclear medicine technologists has been increasing steadily with the introduction of new equipment and procedures. There is no training in Western Australia and as there was no improvement predicted in supply and there were continuing difficulties in filling vacancies from interstate or overseas, it was predicted that shortages would continue in the short term.

Tasmania, there was a shortage in nuclear medicine technologists. The reason given was the lack of a local training facility and the difficulties in attracting people who live in other states or countries to relocate. Because of the small size of the workforce (approximately 10 in Tasmania), vacancies do not occur very often and when they do there is no local pool of available labour to draw upon. Recruitment has been more common from overseas.

### **4.3 Future workforce status**

Information from the JobSearch web site of the Commonwealth Department of Employment and Workplace Relations (2002) stated that job prospects for medical imaging professionals (including medical diagnostic radiographers, radiation therapists, nuclear medicine technologists and sonographers) are very good. Employment growth for medical imaging professionals to 2007-08 is expected to be moderate. Employment grew slightly over the past ten years and strongly over the past two years. The growing emphasis on preventative medicine is generating strong demand for medical imaging professionals. There are national skill shortages for medical imaging professionals.

The vacancy level for medical imaging professionals is very high.

Vacancies arising from job changing (medical imaging professionals changing employers) are expected to provide 95 per cent of vacancies, compared with 5 per cent from new jobs (employment growth for medical imaging professionals).

### **4.4 Workforce planning issues identified in consultations**

There are shortages of nuclear medicine technologists worldwide.

As discussed earlier, there are frequently shortages in various parts of Australia, depending on the numbers and availabilities of nuclear medicine graduates in the previous year and growth of local nuclear medicine services.

In Tasmania, the demand for nuclear medicine technologists has the potential to expand dramatically. The Commonwealth Government recently conducted a review into the use and effectiveness of an emerging technology called Positron Emission Tomography (PET). This is a highly accurate diagnostic tool capable of detecting certain conditions or changes at cell level. The Commonwealth Government review committee's recommendations included further research into the use of the technology and further investigation regarding the limitations on the expansion of the technology at this stage. However, industry sources believe that it is only a matter of time before PET technology is more widely adopted.

It is believed that this will create more demand for nuclear medicine technologists if and when it is introduced in Tasmania.

## 5 References

Commonwealth Department of Education, Science and Training, Good job guide, viewed 2 March 2002,

<<http://jobguide.thegoodguides.com.au/search.cfm>>

Department of Employment and Workplace Relations (DEWR) viewed 1 October 2002,

<http://jobsearch.gov.au/joboutlook/ASCODesc.asp?ASCOCODE=2391>

Medical Radiation Science Professionals Act (2000),

<<http://www.thelaw.tas.gov.au/scanact/ACTTITLE/F/ME>>

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