Australian Medical Workforce Advisory Committee

THE EAR, NOSE AND THROAT SURGERY WORKFORCE IN AUSTRALIA

SUPPLY AND REQUIREMENTS

1997 - 2007

AMWAC Report 1997.6

October 1997

©Australian Medical Workforce Advisory Committee 1997

ISBN 0 7313 4007 8

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without the prior written permission of the Australian Medical Workforce Advisory Committee.

Enquiries concerning this report and its reproduction should be directed to:

Australian Medical Workforce Advisory Committee
Locked Mail bag 961
New South Wales Health Department
NORTH SYDNEY NSW 2059

Telephone: (02) 9391 9933
Email: amwac@doh.health.nsw.gov.au
Internet: http://amwac.health.nsw.gov.au

Suggested citation:

Australian Medical Workforce Advisory Committee (1997), The Ear, Nose and Throat Surgery Workforce In Australia, AMWAC Report 1997.6, Sydney

Publication and design by Australian Medical Workforce Advisory Committee.

Cover design and printing by Copybook, Sydney.

CONTENTS

Abbreviations **v**

List of Tables and List of Figures **vi**

Terms of Reference of AMWAC and the AMWAC Ear, Nose and Throat Surgery Workforce Working Party **x**

Membership of AMWAC **xi**

Membership of the AMWAC Ear, Nose and Throat Surgery Workforce Working Party **xii**

Introduction, Guiding Principles and Methodology **1**

Summary of Findings and Recommendations **4**

Description of the Current Ear, Nose and Throat Surgery Workforce **14**

The Number of Practising ENT Surgeons in Australia 14
Growth in the ENT Surgery Workforce 15
Distribution of the ENT Surgery Workforce 16
Age Profile 20
Gender Profile 22
Hours Worked 23
Contribution to Public Hospital Work 28
Services Provided and Performed 29
Training Arrangements 35

Adequacy of the Current Ear, Nose and Throat Surgery Workforce **39**

ENT Surgeon:Population Ratio 39
Public Hospital Vacancies 40
Elective Surgery Waiting Times 40
Consultation Waiting Times 43
ENT Surgeons' Workload 44
Conclusions on Adequacy of the Current ENT Surgery Workforce 45

Projections of Requirements **46**

Population 46
Trends in Service Provision 47
Issues Affecting Workforce Size 47
Changes in Technology and Options for Service Provision 48

Projections of Supply **49**

Entry Into the Workforce 49
Retirements 49
Female Participation in the Workforce 49
Overseas Trained Doctors 49
Provision of Services in Rural and Remote Areas 50
Substitution 51

Balancing Supply Against Requirements **52**

Requirement Trends 52
Supply Trends 53
Projected Balance 53

Recommendations **56**

Appendix A: Rural, Remote and Metropolitan Areas Classification **58**

Appendix B: Summary of ASOHNS/AMWAC Survey of ENT Surgeons **60**

References **73**

ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AHMAC	Australian Health Ministers' Advisory Council
AIHW	Australian Institute of Health and Welfare
AN-DRG	Australian National Diagnosis Related Groups
ASOHNS	Australian Society of Otolaryngology, Head and Neck Surgery
CME	Continuing Medical Education
DHFS	Commonwealth Department of Health and Family Services
ENT	Ear, Nose and Throat
FRACS	Fellow of the Royal Australasian College of Surgeons
FTE	Full Time Equivalent
ICU	Intensive Care Unit
MBS	Medicare Benefits Scheme
NSQAC	National Specialist Qualification Advisory Committee
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
RACS	Royal Australasian College of Surgeons
RRMA	Rural, Remote and Metropolitan Areas Classification
SA	South Australia
SPR	Surgeon:Population ratio
Tas	Tasmania
Terr	Territory
TRD	Temporary Resident Doctor
Vic	Victoria
VMO	Visiting Medical Officer
WA	Western Australia

LIST OF TABLES

1 Number of practising ENT surgeons (various sources), selected years 1995-1997

2 Growth in the ENT surgery workforce, selected years 1984-85 to 1995-96

3 ENT surgeons (Medicare data); by State/Territory, 1984-85 and 1995-96

4 ENT surgeons:population and number of ENT surgeons per 100,000 population; by State/Territory, selected years 1995-1997

5 Distribution of ENT surgeons; by geographic location, 1995

6 Age profile of the ENT surgery workforce (AIHW data); by State/Territory and major age group, 1995

7 Age profile of the ENT surgery workforce (AIHW data); by geographic location and major age group, 1995

8 Age profile of ENT surgeons (Medicare data); by State/Territory and major age group, 1995-96

9 ENT surgeons total hours worked per week; by major age group, 1995

10 ENT surgeons direct patient care hours worked per week; by major age group, 1995

11 ENT surgeons average hours worked; by total hours and direct patient care hours and State/Territory, 1995

12 ENT surgeons average hours worked and average on call hours; by geographic location, 1995

13 ENT surgeons work premises; by geographic location of main job, 1995

14 ENT surgeons work setting of main job; by State/Territory, 1995

15 Time spent by ENT surgeons on various activities, 1997

16 ENT surgeon access to public hospital beds; by State/Territory, 1997

17 Summary of medical services attracting Medicare benefits provided by ENT surgeons and general surgeons, 1990-91 and 1995-96

18 Summary of medical services attracting Medicare benefits provided by ENT surgeons; by main type of activity, selected years 1990-91 to 1995-96

19 Top consultation and diagnostic Medicare items provided by ENT surgeons, 1990-91 and 1995-96

20 Top operative Medicare items provided by ENT surgeons, 1990-91 to 1995-96

21 Public hospital ENT separations; by AN-DRG, 1991-92 to 1994-95

22 ENT separations public and private hospitals; by AN-DRG, 1994-95

23 ENT surgery advanced training positions; by State/Territory and hospital, 1997

24 ENT surgery advanced trainees; by State/Territory, 1989 to 1997

25 ENT surgery advanced trainees training program completions, 1992 to 2000

26 ENT surgeon:population ratio (Medicare data); by State/Territory, 1984-85 and 1995-96

27 ENT surgeon:population ratio (Medicare data); by year, 1984-85 to 1995-96

28 Public hospital clearance times (in months) for category 1 and category 2 patients, ENT surgery and general surgery; by State/Territory and indicator procedure, 1995

29 Proportion of category 1 and category 2 patients on elective surgery waiting lists who were overdue (waiting over 30 days), ENT surgery and general surgery; by State/Territory, 1995

30 Average waiting time (days) in private rooms for a standard first ENT consultation, treatment of a serious condition and an urgent procedure; by State/Territory, 1997

31 Average waiting time (days) in a public outpatient clinic for a standard first ENT consultation, treatment of a serious condition and an urgent procedure; by State/Territory, 1997

32 Number of operations performed by ENT surgeons over a typical month, 1997

33 ENT surgeons indicating a capacity to increase public hospital work; by State/Territory, 1997

34 Projected trends in the population aged between 0-14 years (%); 1993 to 2031

35 Age profile of ENT surgeons' patients, 1997

36 Trends in service provision by ENT surgeons, 1990-91 to 1995-96

37 Medicare services provided by ENT surgeons and all clinicians, selected Medicare items; 1990-91 and 1995-96

38 Projected requirements for ENT surgery services; by hours worked per week, 1997, 2002 and 2007

39 ENT surgery graduate output needed to move projected supply into balance with projected requirements (1.2% growth per year); by hours worked per week, 1997 to 2007

40 Total and additional ENT surgery training positions; by State/Territory, 1997 to 2007

Appendix B

B1 Distribution of ENT surgeons, ASOHNS/AMWAC survey and ASOHNS members; by State/Territory, 1997

B2 Geographic distribution of ENT surgeons, ASOHNS/AMWAC 1997 survey and AIHW 1995 survey

B3 Age profile of ENT surgeons, ASOHNS/AMWAC 1997 survey and AIHW 1995 survey

B4 Year of FRACS qualifications of ENT surgeons, 1997

B5 Year of surgical qualification of non FRACS ENT surgeons, 1997

B6 Average hours worked per week by ENT surgeons, consulting rooms and hospitals, 1997

B7 ENT surgeons practice activity (% of time spent in a typical month); by type of activity, 1997

B8 Summary of ENT surgeons typical working week, 1997

B9 Number of operations performed by ENT surgeons over a typical month, 1997

B10 Age profile of ENT surgeons' patients and number of operations performed in each age group, 1997

B11 Staff employed by ENT surgeons in their practice, 1997

B12 ENT surgeons expectations of change in the size of their practice over the next five years, 1997

B13 ENT surgeons' plans to change their work pattern, 1997

B14 ENT surgeons with access to public hospitals and capacity to increase public hospital work (%); by State/Territory, 1997

B15 Average waiting time (days) for a first ENT surgical consultation, treatment of a serious condition and an urgent procedure; by public outpatient/private rooms and State/Territory, 1997

B16 Basic requirements for providing a rural outreach ENT surgery service

B17 Basic requirements for providing a resident rural ENT surgery service

B18 Actual year of intended retirement for ENT surgeons aged 50 years and over, 1997

B19 ENT surgeons' professional satisfaction, 1997

B20 ENT surgeons' perceptions of the factors that could affect the size of the ENT surgery workforce over the next ten years, 1997

B21 ENT surgeons' perceptions of the impact of socio-demographic trends on ENT surgeon workforce requirements, 1997

B22 ENT surgeons' perceptions of the need for growth in the size of the ENT surgery workforce over the next ten years, 1997

TERMS OF REFERENCE OF AMWAC AND THE AMWAC EAR, NOSE AND THROAT SURGERY WORKFORCE WORKING PARTY

The Australian Health Ministers' Advisory Council (AHMAC) established the Australian Medical Workforce Advisory Committee (AMWAC) to advise on national medical workforce matters, including workforce supply, distribution and future requirements.

AMWAC held its first meeting in April 1995.

AMWAC Terms of Reference

1. To provide advice to AHMAC on a range of medical workforce matters, including:

   - the structure, balance and geographic distribution of the medical workforce in Australia;
   - the present and required education and training needs as suggested by population health status and practice developments;
   - medical workforce supply and demand;
   - medical workforce financing; and
   - models for describing and predicting future medical workforce requirements.

2. To develop tools for describing and managing medical workforce supply and demand which can be used by employing and workforce controlling bodies including Governments, Learned Colleges and Tertiary Institutions.

3. To oversee the establishment and development of data collections concerned with the medical workforce and analyse and report on those data to assist workforce planning.

AMWAC Ear, Nose and Throat Surgery Workforce Working Party Terms of Reference

The AMWAC ENT Surgery Workforce Working Party was established as a sub-committee of AMWAC and was asked to provide a report to AMWAC on the optimal supply and appropriate distribution of ENT surgeons across Australia, including projections for future requirements.

The Working Party held its first meeting on 25 July 1996, presented its report to the 8 October 1997 AMWAC meeting. The report was accepted by AHMAC at its October 1997 meeting.

MEMBERSHIP OF AMWAC

Independent Chairman

Professor John Horvath	Physician, Sydney

Members

Ms Meredith Carter	Director, Health Issues Centre
Dr William Coote	Secretary General, Australian Medical Association
Mr Michael Gallagher	First Assistant Secretary, Higher Education Division, Commonwealth Department of Employment, Education, Training and Youth Affairs
Dr Susan Griffiths	General Practitioner, Minlaton, South Australia
Professor John Hamilton	Dean, Faculty of Medicine and Health Sciences, University of Newcastle
Professor Ross Kalucy	President, Medical Board of South Australia
Dr John Loy	First Assistant Secretary, Hospitals and Health Financing Division, Commonwealth Department of Health and Family Services
Dr Richard Madden	Director, Australian Institute of Health and Welfare
Mr Ron Parker	Secretary, Tasmanian Department of Community and Health Services
Mr Abul Rizvi	Assistant Secretary, Corporate Reform and Migration Strategy Branch, Commonwealth Department of Immigration and Multicultural Affairs
Dr Robert Stable	Director General, Queensland Department of Health
Dr David Theile	Surgeon, Brisbane (former President, Royal Australasian College of Surgeons)

MEMBERSHIP OF THE AMWAC EAR, NOSE AND THROAT SURGERY WORKFORCE WORKING PARTY

Chairman

Dr David Theile	Surgeon, Brisbane (past President, Royal Australasian College of Surgeons)

Members

Dr Cameron Bracks	ENT Surgeon, Bunbury, Western Australia (from April 1997)
Dr Patrick Bridger	ENT Surgeon, Bankstown, Sydney (to April 1997)
Dr Bill Coman	ENT Surgeon, Brisbane (from September 1997)
Dr Robert Guerin	ENT Surgeon, Kent Town, Adelaide (to August 1997)
Ms Kay Lord	Director, Human Resources, New South Wales Department of Health
Ms Loretta Vaughan	Manager, Health Workforce Unit, Victorian Department of Human Services
Ms Joan Dowling	Policy Officer, AMWAC (to December 1996)
Dr Mary Harris	Policy Officer, AMWAC (from March 1997)

The Working Party would also like to acknowledge the assistance provided by the Australian Society of Otolaryngology, Head and Neck Surgery (ASOHNS) and the helpful comments provided by Professor John Horvath and Mr Paul Gavel (AMWAC); Dr Ron van Konkelenberg and Ms Anastasia Ioannou (AMWAC) for assistance with the projection modelling; and Mr Ross Saunders (DHFS); Mr John Harding, Mr Warwick Conn and Mr Graham Angus (AIHW) and the Royal Australasian College of Surgeons (RACS) for assistance with data collection.

INTRODUCTION, GUIDING PRINCIPLES AND METHODOLOGY

Introduction

In preparing this report, the Working Party's aim has been to promote appropriate ENT services across Australia.

The main objective of the Working Party has been to promote an optimal supply and appropriate distribution of ENT specialists, including projections for future requirements to the year 2007.

Guiding Principles

In compiling this report, the Working Party adopted the following guiding principles:

- the Australian community should have available an adequate number of trained ENT specialists, appropriately distributed to provide the ENT services it requires;
- the community is best served when ENT specialists have high standards of qualification and work with a high level of ongoing experience, matched by appropriate facilities;
- the ENT specialist workforce must provide a range of individual practices from highly specialised to those covering the full spectrum of the ENT specialty and making an interface with other specialties;
- all Australian citizens must have access to a good standard of ENT care irrespective of geography and economic status. In achieving this, convenience to the patient must be balanced against the quality of services that can be distributed to meet that convenience; and
- both public and private sectors must provide an adequate amount and quality of service.

The Working Party defined an ENT surgeon as a qualified specialist who is conducting ENT consultations, ENT surgery, medico legal consultations on ENT conditions or is in a full time or part time academic position relating to ENT surgery. It includes salaried positions and private practice. It does not include any practitioner who is not registered as an ENT surgeon; nor does it include trainees or other registrars.

Methodology

The approach of the Working Party has been to analyse existing data sources and to undertake consultation with relevant persons and organisations, in order to make informed comments on the factors affecting the current and future market for ENT services.

In estimating workforce numbers, establishing a profile of the workforce and assessing its adequacy, important sources of data were:

1 Royal Australasian College of Surgeons (RACS)

The RACS keeps a variety of data, principally on number, age, gender and location of Fellows, and data on training posts and trainees.

2 Australian Society of Otolaryngology, Head and Neck Surgery Ltd.

The Society keeps a variety of data, principally a membership list by State/Territory and status of membership. Three types of members are identified, namely ordinary, special and provisional. Ordinary members are full time practising surgeons, special members are retired and semi-retired surgeons and provisional members are registrars in training. All Fellows of RACS Division of ENT Surgery are members of ASOHNS but not all members of ASOHNS are Fellows of RACS. Hence, the Society's records provide more comprehensive information than do the RACS records. AMWAC and ASOHNS surveyed ASOHNS members in July 1997. This survey had a 39% response rate.

3 Australian Institute of Health and Welfare

The principal AIHW data source is the annual Medical Labour Force Survey which presents national labour force statistics for registered medical practitioners, principally through a survey collected as part of the annual renewal of registration. In the Labour Force Survey, otolaryngology (ENT) specialist is a practitioner in active practice who reported being a specialist whose principal qualification was in otolaryngology. The numbers presented in this report are estimates produced from the 1995 survey. This survey had an overall response rate of 79.6%.

4 Commonwealth Department of Health and Family Services (DHFS) Medicare provider database

Medicare provider statistics define medical practitioners according to the predominant services billed to Medicare. The Medicare statistics include all practitioners who have billed Medicare for at least one service during a financial year.

The major deficiency with the use of Medicare data for workforce planning purposes is that it does not provide data on practitioners who are salaried ENT specialists in the public hospital system and who do not render services on a fee for service basis. Medicare data thus excludes services rendered free of charge to public hospital patients, to Veterans' Affairs patients and to compensation cases.

5 AHMAC and DHFS casemix report on hospital activity

Since August 1994, a national overview of hospital activity as measured by Australian National Diagnosis Related Groups (AN-DRGs) has been published. To date reports covering the years 1991-92, 1992-93, 1993-94 and 1994-95 have been issued. The first

three reports only included information on activity in public hospitals. The 1994-95 report provides details on activity in both public and private hospitals.

AN-DRGs are a classification system of acute episodes in hospitals. Each DRG represents episodes of care for inpatients with similar clinical characteristics (for example diagnosis, procedure, age).

6 AMWAC Public Hospital Specialist Vacancy Survey

AMWAC surveyed Australian public hospitals in October 1996 to obtain information on public hospital ENT surgery specialist vacancies for both consultants/visiting medical officers (VMOs) and salaried/staff specialists. A vacancy was defined as a position for which funding is available and for which active recruitment is being, or has been, undertaken. The survey also sought information on temporary resident doctors (TRDs) filling vacancies. This survey had a 95% response rate; the major non respondents were several large hospitals in New South Wales and Victoria.

7 Australian Bureau of Statistics (ABS)

The Australian Bureau of Statistics (ABS) population data and projections are used as the sole source on population data. In making its population projections ABS uses four different series. The population projections in this report are based on Series A/B, where constant fertility and low overseas migration are assumed (ABS 1994 and ABS 1997).

8 Rural, Remote and Metropolitan Areas Classification

Wherever possible, distributional data has been interpreted using the rural, remote and metropolitan areas (RRMA) classifications developed by the Commonwealth Department of Health and Family Services and the Commonwealth Department of Primary Industries and Energy (DHSH & DPIE 1994). A summary of the RRMA classification is provided in Appendix A.

Key Assumption

The Working Party would like to emphasise that the projections on ENT surgery supply and requirements are based on the assumption that there will be no significant change in existing national health structures.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

This report describes the current ENT surgery workforce, assesses the adequacy of that workforce, and projects workforce supply and requirements to the year 2007.

The report suggests that the workforce is currently just satisfactory, although the data used to gauge the adequacy of the workforce give somewhat conflicting indications. More important, however, is the conclusion that without prompt corrective action, the workforce will move towards a situation of escalating undersupply.

The current projected level of graduate output will not be sufficient to meet expected future requirements. It is estimated that requirements will grow by a minimum of 1.2% per year. Future supply will be particularly affected by the large cohort of surgeons aged 55 years and over proceeding through to retirement (39.4% of the workforce).

As a result, it is recommended that graduate output be increased from the recent average of ten graduates per year to 15 graduates per year. To achieve this increase in graduate output it is recommended that State and Territory health departments undertake negotiations with the RACS and ASOHNS for the establishment of an additional 20 ENT surgery training positions with the increase to be staged over the next three years.

Description of the Current ENT Surgery Workforce

Number of Practising ENT Specialists

- The number of ENT surgeons is available from three sources of data, namely, ASOHNS, AIHW and Medicare. In 1997 the ASOHNS had a membership of 271. The AIHW 1995 survey identified 315 ENT specialists whose main job was ENT surgery. Medicare data (1995-96) identified 317 ENT surgeons. These latter figures reflect the total effective ENT surgery workforce.

- ENT surgeon numbers have remained relatively stable over the past 12 years, with a per annum increase less than population growth (1.6%). Between 1984-85 and 1996-97, the number of ASOHNS full time practising members increased by 9.6%; equivalent to a per annum increase of 0.9%. Medicare data shows a per annum increase of 0.8% with no change in the number of ENT surgeons between 1991-92 and 1995-96.

Distribution

- There is some maldistribution of the workforce between States and Territories and between urban and rural areas

- Medicare and ASOHNS data show that compared to population distribution Queensland and Western Australia are less well endowed and South Australia and Victoria are better endowed.

- Data from the AIHW 1995 survey (based on specialists whose main practice is ENT surgery), provides a fairly similar distribution pattern to that arising from the other sources, although Victoria is shown as being comparatively under endowed and Western Australia and the Northern Territory as comparatively better endowed.

- The AIHW 1995 Medical Labour Force Survey shows that of the 315 specialists whose main practice was ENT surgery; 85.6% were in major urban centres and 14.3% were in rural and remote areas; (27.7% of the population).

ENT Surgeons:Population

- Nationally, using Medicare and AIHW data, the ENT surgeon to population ratio is estimated at 1:57,550 and 1:57,803 respectively. ASOHNS data, with a membership lower than the number of practising ENT surgeons, gives a much lower SPR of 1:70,810.

- States and Territories with an ENT SPR below the national average (Medicare data) are New South Wales, Queensland, Western Australia and the Northern Territory. South Australia and the Australian Capital Territory are noticeably better endowed than the national average.

Age Profile

- ENT surgeons tend to be older when compared to other specialists. For example, according to the AIHW survey the average age of all male specialists in 1995 was 48.3 years (43.4 years for females) while the average age of ENT specialists was 53 years.

- AIHW data shows that in 1995, 128 (40.6%) of ENT surgeons were aged 55 years and over and of these surgeons 53 (41%) were aged 65 years and over. 24% of the workforce was aged under 45 years. The largest ten year age group was the 45 to 54 years group (36.2%). The proportion of ENT surgeons 55 years of age and over is significant and indicates that there will be a substantial number of surgeons leaving the workforce over the next ten to fifteen years given an average retirement age of 68 years.

- Like the rest of the workforce, 38.6% of rural based ENT surgeons are aged 55 years and over. This suggests that rural areas could experience a reduction in resident ENT services over the next ten years given the fact that only 7.9% of rural based ENT surgeons are aged under 45 years. It appears that there may be a preference amongst younger ENT surgeons for metropolitan practice.

- Medicare age data shows that in 1995-96 28% of ENT surgeons are aged over 60 year, 36% are aged under 50 years and 36% are aged between 50 and 59 years. It also shows that the age trends vary considerably across States and Territories. For example, in New South Wales and South Australia only 32% of ENT surgeons are in the under 50 years age group, while in Tasmania 75% are in this younger age category. Queensland also has an above average proportion of ENT surgeons under 50 years of age (37.7%) and a substantially lower proportion of surgeons aged over 60 years compared to the other States and Territories.

- Four States/Territories have above average proportions of older ENT surgeons, namely, New South Wales, South Australia, Western Australia and the Northern Territory. Whilst the Australian figure shows 64% of ENT surgeons are aged 50 years and over, in New South Wales and South Australia over 68% of ENT surgeons are aged 50 years and over. These two States, in particular, are likely to experience a substantial number of retirements during the next five to ten years.

Gender Profile

- There are few female ENT surgeons; both Medicare and the AIHW survey record five (1.6%) and ASOHNS has six female members.

- This level of female representation is one of the lowest levels amongst all specialties. It compares to women representing 3.1% of all surgeons, 3.6% of general surgeons, 14% of all specialists and 25.6% of all clinicians.

- Three of the 39 ENT trainees in 1997 are female (7.7%).

Hours Worked

- The average hours worked per week by ENT surgeons is 51.1 hours and the average hours spent on direct patient care is 47.6 hours (19.4% work 61 hours or more per week).

- Of the ENT surgeons who responded to the 1995 AIHW Medical Labour Force survey:
  - 54% worked between 41 and 60 hours per week;
  - 73.6% worked 41 hours or more per week;
  - 19.4% worked 61 or more hours a week;
  - 7.6% worked more than 71 hours per week; and
  - 26.4% worked 40 hours or less per week and 12.2% worked 30 hours per week or less.

- 79.2% of ENT surgeons aged 65 years and over worked 40 hours or less per week, 23% of ENT surgeons aged 55 to 64 years worked 40 hours or less per week and 11% of those aged under 55 years worked 40 hours or less per week.

- Of the 35 ENT surgeons working 30 hours or less per week, 54% were 65 years and over. This, coupled with the age profile data, suggests that a reasonable number of ENT surgeons continue to practice beyond 65 years of age.

Contribution to Public Hospital Work

- Seventy five percent of respondents to the ASOHNS/AMWAC 1997 survey indicated that they had access to public hospital beds for the treatment of non-insured patients. On average, these surgeons provide 2.2 public hospital sessions per week.

Medicare Services

- Between 1990-91 and 1995-96 there was an increase of 11.5% in the total number of services provided by ENT specialists billing Medicare. When consultations are removed from this calculation the increase is 19.2%, with a per annum increase of 3.6%. Over the same period, the number of ENT surgeons billing Medicare increased by 5.9% and the average number of services per provider increased by 5.3%.

- The most common Medicare item provided by ENT surgeons across all years was a consultation subsequent to the first in a single course of treatment (MBS item 105). This item together with item 104 (referred initial consultation in a single course of treatment) represented 55% of all MBS items provided by ENT surgeons in 1995-96.

- Among the top 22 items attracting Medicare benefits, there was a 5.8% increase in the number of consultations provided between 1990-91 and 1995-96, equivalent to a per annum increase of 1.1%. During this same time period diagnostic ENT Medicare items increased by 19.9% (a per annum increase of 3.7%) and between 1991-92 and 1995-96, operation item claims increased by 10.8%, equivalent to a per annum increase of 2.6%.

- Between 1990-91 and 1995-96, the largest activity increase occurred in nasedoscopy or sinoscopy or fibre-optic exam of nasopharynx, which increased by (226.9%). Other items in which substantial increases occurred were frontal sinus or ethmoidal sinuses (61.9%) and ear toilet, requiring use of operating microscope (61.1%). Operation items in which large decreases occurred were intranasal operation on antrum, or removal of foreign body (-63.1%) and cauterisation or diathermy of septum, turbinates or pharynx (-23.6%).

Public Hospital Casemix Activity

- Between 1991-92 and 1994-95 ENT AN-DRGs (that is 14 fully and one partly allocated AN-DRG) increased by 26% or 8% per annum. However, most of this increase occurred between 1991-92 and 1993-94; a much smaller increase (2.8%) occurred between 1993-94 and 1994-95.

- The AN-DRG with the highest level of activity in 1994-95 was tonsillectomy and/or

adenoids with 24,164 separations. Procedures that showed a dramatic increase between 1991-92 and 1994-95 were tonsillectomy and/or adenoids (207.7%), other ear, nose, mouth and throat diagnoses without complications (255.1%), otitis media and uri (age greater than nine years with complications) (84.3%) and rhinoplasty (79.7%).

- General acute care hospital ENT service trends are consistent with overall trends, notably, an increase in the number of separations, a decrease in average length of stay and an increase in cost by volume.

Private Hospital Casemix Services

- ENT services (as defined by 14 AN-DRGs fully allocated to ENT services) provided by private acute care hospitals accounted for 67,912 separations in 1994-95. Private hospital ENT separations represented 38.3% of all ENT hospital separations in 1994-95 for the selected ENT AN-DRGs

Training Arrangements

- The RACS training program in advanced surgical training in otolaryngology - head and neck surgery commences when candidates have completed two years of basic (part 1) surgical training and have passed the part 1 examinations.

- Advanced training in ENT surgery is for a minimum of four years, during which time trainees are expected to become familiar with all aspects of medicine and surgery involving the main subdivisions of the specialty, namely, otology, rhinology, laryngology and head and neck surgery with a balance between inpatient and outpatient work and between adults and children.

- As at June 1997, there were 40 approved ENT surgery advanced training positions in Australia and 39 ENT trainees.

- From 1992 to 1997 there was a 21.2**%** increase in the number of advanced ENT trainees. The increases varied considerably between States/Territories with a 33.3**%** increase in Victoria/Tasmania, a 30% increase in New South Wales and no change in the number trainees in Queensland, South Australia and Western Australia.

Adequacy of the Current ENT Surgery Workforce

Surgeon to Population Benchmarks

- No clear cut benchmarks appear to exist for ENT surgery.

- The number of ENT surgeons per head of population (based on Medicare data) has decreased over the past 12 years with 1:54,820 in 1984-85 to 1:57,550 in 1995-96.

Public Hospital Vacancies

- At October 1996, there were ten ENT surgery public hospital vacancies for which funding was available and recruitment action was either currently underway, or had been taken. Six vacancies were for VMOs and the other four vacancies were for staff specialists. Three vacancies were in New South Wales, three in Victoria, three in Queensland and one in Western Australia. No vacancy was filled with a TRD.

Elective Surgery Public Hospital Waiting Times

- The structure of public hospital waiting lists suggests that for some ENT services patients are electing to be treated somewhere other than the public hospital system. The 1996 AIHW report on elective surgery waiting times found that of the ENT patients admitted for elective surgery during the study period, 20% were category 1 patients and of these 83% were public patients (89% myringotomy and 86% tonsillectomy). The clearance time of 0.7 months for category 1 ENT patients was higher than that for all patients (0.6 months).

- States/Territories with ENT surgery clearance times longer than 0.7 months for category 1 patients were Northern Territory (2.3 months), South Australia (1.2 months), Australian Capital Territory (0.9 months), Queensland (0.8 months) and New South Wales (0.8 months).

- The overall clearance of ENT surgery of 0.7 months for category 1 patients and 4.7 months for category 2 patients is above that for all surgical patients and suggests that public hospital ENT services are barely adequate. Compared to all surgery, ENT clearance rates for category 1 cases are comparable but are longer for category 2 patients. It is frequently recounted that ENT is a specialty which does not fare well when hospital funding reductions result in decreased hospital bed numbers and service provision.

Consultation Waiting Times

- The ASOHNS/AMWAC survey of ENT surgeons revealed that in general private patients wait less time than public patients to consult and be treated by an ENT surgeon. The waiting times for a serious condition (eg. cancer) are appropriately short for private patients but too long for public patients particularly in Victoria and South Australia. The waiting times for an urgent condition (eg. intractable sinus pain) are too long in the public hospital system in Victoria and Western Australia.

Surgeons' Workload

- For surgeons responding to the ASOHNS/AMWAC survey of ENT surgeons, the average number of operations was 42 per month with most operations being undertaken without a surgical assistant. 79% of respondents indicated they were satisfied with their workload, 20% felt they were over worked but only 14% felt that more ENT surgeons were required in their geographic area.

- Twenty seven percent of ENT surgeons indicated they had time available to increase their practice activity. Of the 78% of respondents with access to public hospitals, 23% indicated they had the capacity to increase their public hospital work. On average respondents felt they had the capacity to conduct an extra 1.5 sessions per week.

Conclusions on Adequacy of the Current Workforce

- The Working Party concluded that, overall the ENT workforce was just satisfactory, that future expansion should certainly not fall behind projected goals and that continued monitoring of efficiency gains and the overall balance will need to be quite vigilant.

Projections of Requirements and Supply

Requirement Trends

- Over the next ten years the Australian population is expected to increase at a per annum rate of 1.2%. The Working Party chose not to factor in the 0.4% usually added to population estimates due to the effects of an ageing population because the impact was considered to be minimal on the ENT surgeon workforce.

- Between 1991-92 and 1995-96 there was an annual increase of 2.2% in the total number of Medicare services provided by ENT surgeons and an increase of 8% in public hospital ENT separations. The Working Party considers that some of the growth in Medicare services can be explained by an increase in ENT surgeon productivity while much of the growth in hospital separations can be explained by changes in AN-DRG classification between 1991-92 and 1993-94. This is supported by the fact that growth in public hospital separations was substantially smaller (2.8%) between 1993-94 and 1994-95.

- The Working Party considered that future ENT surgery workforce requirements should be based on a per annum growth of 1.2%. It is recognised that this is a conservative estimate of expected future growth.

Supply Trends

- Over the past five years, an average of seven new ENT surgeons have entered the workforce each year. The Working Party estimates that, on average, in each of the next four years ten new ENT surgeons will enter the workforce and twelve graduates in subsequent years.

- There are currently 128 ENT surgeons aged 55 years and over, representing 40.6% of the workforce, 53 of whom are 65 years of age and older. If all of these surgeons retired over the next ten years this would represent an average loss of 13 surgeons per year.

- Medicare data indicates there are 89 ENT surgeons over 60 years of age; equivalent to 28% of the workforce. If all of these surgeons retired over the next five years this would represent an average loss of 18 surgeons per year.

- It is expected that the proportion of women in the workforce will increase marginally, as the number of female trainees increases, albeit from a very low number, and the large, all male, cohort of surgeons aged 55 years and over proceeds through to retirement.

- ENT surgeons entering the Australian workforce through the Australian Medical Council specialist college pathway are expected to be small and to have no, or minimal, effect on overall workforce supply.

- In 1995-96, for operations attracting Medicare benefits, ENT surgeons performed 96.7% of all aural operations, 90.2% of all nasal operations and 95.4% of all selected throat operations. Similar shares were recorded in 1990-91. As a result, the Working Party concluded that there was little scope for substitution within ENT surgery.

Balancing Projected Supply with Projected Requirements

- The supply of ENT surgeons was projected by ageing the 1996 supply through each year of age, subtracting retirements and adding an average nine new graduates per year to 2001 and 12 graduates in subsequent years. The number of ENT surgeons was converted to hours per week by applying the average number of hours worked to head counts in each major age cohort. These projections show that supply will increase from the estimated current level of 16,006 hours per week to an estimated 18,250 hours per week in 2007 assuming most retirements will occur between 65 and 75 years of age.

- A balance in supply to match a continued growth rate in requirements of 1.2% per annum is difficult to achieve by only increasing the number of new ENT graduates from the year 2002. The impact of the older cohort of ENT surgeons is expected to peak in the year 2002. An increase in the number of graduates from the current average of 10 per year to 15 per year will assist in redressing the current divergent demand/supply trend. However, additional measures may need to be considered for a number of years. Under this scenario notional shortages are expected to peak at 11.3% in 2002 but for requirements and supply to move back towards balance thereafter.

- The evidence of increased output of ENT services by a static numerical workforce

over the last five years suggests increased efficiency of the workforce. If further efficiencies are achieved the effective divergence of supply and demand may be lessened.

- Training positions should be increased proportionately less in the comparatively well endowed States of South Australia and Victoria and kept roughly in line with projected State/Territory population shares in 2007. In particular, emphasis needs to be given to increasing positions in Queensland and New South Wales as a priority. If possible, increases in training positions in the Victoria/Tasmania program should be made in Tasmania initially.

- Given the anecdotal evidence that ENT surgery is often not a high priority with hospital administrators, the creation of any additional ENT surgery training positions may not only require State/Territory health department funding but also a commitment to ensuring sufficient availability of operating sessions, beds and outpatient sessions.

RECOMMENDATIONS

The Working Party recommends:

1. There be an increase in the number of funded ENT surgery training positions and trainees to match an expected future growth in requirements of 1.2% per year.

2. That State and Territory health departments undertake negotiations with the RACS and ASOHNS for the establishment of an additional 20 ENT surgery training positions; with the increases to be staged and distributed as shown in the following table:

Total and additional ENT surgery training positions; by State/Territory, 1997 to 2000

State/Territory	Total 1997 (current)	Total 2000	Increase in 1998	Increase in 1999	Increase in 2000
NSW/ACT	13	21	3	3	2
Victoria/Tasmania	12	16	2	1	1
Queensland	6	11	2	2	1
SA/NT	5	6	1	-	-
Western Australia	4	6	2	-	-
Australia	**40**	**60**	**10**	**6**	**4**

3. State/Territory based ENT surgery services working groups, comprising the RACS, ASOHNS and State/Territory department of health representatives, be organised to co-ordinate the establishment of the new training positions and to oversee the introduction of any short term measures they may feel are necessary to meet localised service shortfalls (recognising that the increased number of graduates will not make an effective contribution to the ENT workforce until 2002).

   Any State/Territory health department commitments to funding additional training positions may need to recognise the implied need to ensure there is sufficient availability of ENT public hospital operating sessions, beds and outpatient sessions to accommodate the increased level of training.

4. That ENT surgery requirements and supply projections be monitored regularly so that they can be amended if new trends emerge.

5. That this monitoring be coordinated by AMWAC, the RACS and ASOHNS, and the results incorporated into the AMWAC annual report to AHMAC. AMWAC will provide all necessary support.

DESCRIPTION OF THE CURRENT EAR, NOSE AND THROAT SURGERY WORKFORCE

As discussed in the Introduction, there is a variety of data sources on the numbers, attributes and distribution of ENT surgeons in Australia. While each of these data collections has some deficiency, it is possible to piece together a reasonably accurate and up-to-date profile of the workforce.

In establishing the profile of the current ENT surgery workforce the Working Party defined:

- the number of ENT surgeons;
- their distribution by State/Territory and geographic location;
- age and gender profiles of the workforce;
- the hours worked; and
- the services provided and performed.

The Number of Practising ENT Surgeons in Australia

The data sources used are the records of the ASOHNS, the AIHW medical labour force survey and the DHFS Medicare database.

The ASOHNS records membership of the Society, including surgeon address and level of membership. In 1997, there were 252 full time ordinary members of the ASOHNS and 19 provisional members identified as having completed their training; a total of 271. In addition, there were 37 special members. The President of ASOHNS indicated to the Working Party that there were a number of ENT immigrant specialists who were not members of ASOHNS and this would be one factor that could account for the ASOHNS number being lower than data from other sources.

Medicare data for 1995-96 identified 317 practising ENT surgeons. This data refers to any ENT specialist who bills Medicare at least once for a given item identified as provided by ENT surgeons. Hence, it is likely to include semi-retired surgeons and ENT specialists who are not members of ASOHNS.

The AIHW Medical Labour Force Survey revealed 314 specialists with ENT qualifications. For 311 of these specialists ENT was their main qualification. 315 specialists described their main practice as ENT. Additionally, 5 described ENT as their second specialty of activity and for 3 specialists ENT was their third specialist activity.

The data from these three sources are summarised in Table 1. The Working Party considers that the Medicare and the AIHW data best reflects the total effective specialist ENT surgery workforce.

Table 1: Number of practising ENT surgeons (various sources), selected years

ENT Surgeons	ASOHNS (1997)	Medicare (1995-96)	AIHW (1995)
Total	271	317	315[a]

a - specialists whose main practice is ENT surgery
Source: AIHW, ASOHNS and DHFS

The AIHW survey estimated that 76.1% of specialists whose main practice was in ENT surgery obtained their initial qualification in Australia. A further 9.4% obtained their initial qualification in Asia and 4.7% obtained it in the United Kingdom/Ireland.

Growth in the ENT Surgery Workforce

Table 2 shows the changes occurring in the ENT surgery workforce since 1984-85 using the three main sources of data. The picture is one of stability rather than growth, especially over the past five years. Whilst growth over the 12 year period 1984-85 to 1996-97 has averaged about 1% per annum, it is notable that there has been no change between 1992-93 and 1995-96 in the number of ENT surgeons as indicated by Medicare data and by AIHW surveys.

Between 1984-85 and 1996-97 the number of ASOHNS full time practising members increased by 9.6%. This represented a per annum increase of 0.9%. Since 1991-92 this category of membership has increased by 7.1%; equivalent to a per annum increase of 1.2%.

Medicare data shows that the total number of ENT specialists billing Medicare increased by 10.6% from 288 in 1984-85 to 317 in 1995-96. This is equivalent to a per annum increase of 0.8%. However, between 1991-92 and 1995-96 there has been no change in the number of ENT surgeons.

Data from the AIHW surveys also indicate a steady situation with respect to the number of specialists whose main practice is ENT surgery, namely, 315 specialists identified in both 1992 and 1995.

Population growth between 1984-85 and 1995-96 was 17.4%, a per annum increase of 1.6%. Accordingly, the increase in the number of ENT surgeons has been below population growth.

Table 2: Growth in the ENT surgery workforce, selected years 1984-85 to 1995-96

ENT surgeons	1984-85	1991-92	1995-96	% change 1991-1996	% change 1984-96	Per annum increase
ASOHNS	245	253	271	7.1	9.6	0.9%
Medicare	288	317	317	0.0	10.6	0.8%
AIHW	. .[a]	315[b]	315	0.0	. .	..

. . - not applicable
a - no AIHW survey in this year
b - 1992-93 figure, being the first year of AIHW Medical Labour Force survey
Sources: ASOHNS, AIHW and DHFS

Some idea of the changes in the ENT surgeon workforce across States and Territories can be gained from Table 3 which uses Medicare data. The inclusion criteria for Medicare specialists are constant and therefore provide an indication of the magnitude of change in the workforce. As previously indicated, since 1984-85 the ENT workforce has increased by 10.1% while the population has increased by 17.4%. South Australia and the Northern Territory are the only two States/Territories in which increases in the ENT surgery workforce have exceeded population growth. In all other States/Territories growth in the ENT specialist workforce has not kept pace with population growth.

In terms of growth in the number of ENT surgeons, the largest increases have been in Queensland, Western Australia and the Northern Territory, whilst the number of surgeons has actually decreased in Tasmania, albeit marginally.

Table 3: ENT surgeons (Medicare data); by State/Territory, 1984-85 and 1995-96

Year	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Aust
1984-85	104	74	41	28	24	9	2	6	288
1995-96	108	80	53	31	28	8	3	6	317
% change	3.1	8.1	29.3	10.7	16.7	-11.1	50.0	0.0	10.1
% pop. increase	14.6	11.4	32.9	8.8	26.7	9.9	22.4	24.1	17.4

Sources: DHFS and ABS

Distribution of the ENT Surgery Workforce

Table 4 provides a summary of the distribution of ENT surgeons between States/Territories and surgeon to population details, using each of the three main data sources.

Medicare and ASOHNS data show that the State/Territory distribution of ENT surgeons is roughly in line with the distribution of the population, with the exception of Queensland

and Western Australia, who are comparatively less well endowed, and South Australia and Victoria, who are comparatively better endowed.

Data from the AIHW 1995 survey (based on specialists whose main practice is ENT surgery), provides a similar distribution pattern to that from other sources, although Victoria is shown as being comparatively under endowed and Western Australia and the Northern Territory as comparatively better endowed. For the Northern Territory, the AIHW survey indicates there are eight ENT surgeons rather than the three recorded by the other data sources. Checking with the Northern Territory health department indicated they felt there were two resident ENT surgeons and one ENT registrar, but several surgeons visited regularly and this could account for the discrepancy.

Nationally, using Medicare and AIHW, the ENT surgeon to population ratio (SPR) is estimated at 1:57,550 and 1:57,803 respectively. ASOHNS data, with a membership lower than the number of practising ENT surgeons, gives a much lower SPR of 1:70,810. States and Territories with an ENT SPR below the national average are New South Wales, Queensland, Western Australia and the Northern Territory. South Australia and the Australian Capital Territory are noticeably better endowed than the national average.

The variations in the relative numbers of ENT surgeons in the States and Territories indicate where emphasis for workforce adjustments should be directed. Table 5 highlights that the maldistribution in the workforce also occurs between urban and rural areas.

Table 5 uses AIHW 1995 Medical Labour Force Survey data and Medicare data to show the distribution of ENT surgeons by geographic location. The AIHW data indicates that of specialists whose main practice was ENT surgery; 77% were in a capital city, 8.6% were in major urban centres and 14.3% were resident in rural and remote areas. The AIHW data also revealed that 8.9% of ENT specialists were in large rural centres and 5.4% were in other rural areas. Similar to the AIHW data, Medicare data shows that the bulk of ENT surgeons are located in a capital city and that a significant proportion of surgeons in Queensland and Tasmania have their practice in a rural location.

Table 4: ENT surgeons:population and number of ENT surgeons per 100,000 population; by State/Territory, selected years 1995-1997

State/ Territory	ENT surgeons	% of total ENT surgeons	% of Australian population	SPR	Surgeons per 100,000 pop.
Medicare (1995-96)					
NSW	108	34.0	33.9	1:62,872	1.74
Victoria	80	25.2	24.8	1:56,763	1.76
Queensland	53	16.7	18.3	1:63,296	1.58
South Aust.	31	9.8	8.1	1:47,716	2.09
West. Aust.	28	9.7	9.7	1:62,954	1.97
Tasmania	8	2.5	2.4	1:54,675	1.83
North. Terr.	3	0.9	1.0	1:58,033	1.72
ACT	6	1.9	1.7	1:50,683	1.97
Australia	**317**	**100.0**	**100.0**	**1:57,550**	**1.74**
ASOHNS (1997)					
NSW	93	34.3	33.9	1:66,225	1.51
Victoria	73	26.9	24.8	1:62,052	1.61
Queensland	48	17.7	18.3	1:69.095	1.45
South Aust.	30	11.1	8.1	1:49,443	2.02
West. Aust.	21	7.7	9.7	1:83,186	1.20
Tasmania	6	2.2	2.4	1:80,733	1.20
North. Terr.	0	-	1.0	-	-
ACT	0	-	1.7	-	-
Australia	**271**	**100.0**	**100.0**	**1:67,189**	**1.48**
AIHW (1995 - figures based on surgeons whose main specialty of practice is ENT surgery)					
NSW	104	33.0	33.9	1:59,221	1.69
Victoria	74	23.5	24.8	1:61,214	1.63
Queensland	53	16.8	18.3	1:62,577	1.60
South Aust.	30	9.5	8.1	1:49,443	2.03
West. Aust.	33	10.5	9.7	1:52,936	1.91
Tasmania	7	2.2	2.4	1:68,757	1.47
North. Terr.	8	2.5	1.0	1:22,138	4.25
ACT	6	1.9	1.7	1:52,367	2.12
Australia	**315**	**100.0**	**100.0**	**1:57,803**	**1.73**

Source: ASOHNS, AIHW, DHFS and ABS

Table 5: Distribution of ENT surgeons; by geographic location, 1995

State/Terr.	No.	% of total	Capital city	%	Other urban	%	Rural	%
				AIHW 1995				
NSW	105	33.4	77	73.3	10	9.5	18	17.1
Victoria	73	23.2	58	79.5	6	8.2	9	12.3
Queensland	53	16.9	32	60.4	11	20.8	10	18.9
South Aust.	30	9.6	30	100.0	0	0.0	0	0.0
West. Aust.	33	10.5	31	93.9	0	0.0	2	6.1
Tasmania	6	1.9	4	66.6	0	0.0	2	33.3
North. Terr.	8	2.5	4	50.0	0	0.0	4	50.0
ACT	6	1.9	6	100.0	0	0.0	0	0.0
Australia	**314**	**100.00**	**242**	**77.1**	**27**	**8.6**	**45**	**14.3**
				Medicare 1995-96				
NSW	108	34.0	79	73.1	11	10.2	18	16.7
Victoria	80	25.2	60	75.0	6	7.5	14	17.5
Queensland	53	16.7	31	58.5	8	15.1	14	26.4
South Aust.	31	9.8	29	93.5	. .	. .	2	6.5
West. Aust.	28	8.8	26	92.9	*	*	2	7.1
Tasmania	8	2.5	3	37.5	*	*	5	62.5
North. Terr.	3	0.9	2	66.6	. .	. .	0	0.0
ACT	6	1.9	6	100.0	. .	. .	1	33.3
Australia	**317**	**100.00**	**236**	**74.4**	**25**	**7.9**	**56**	**17.7**

* number less than 3
. . - not applicable
Sources: AIHW and DHFS

Whilst a rural/remote distribution of 14-17% is significantly below the share of population (27.7%), ENT surgery is one of the specialties with a comparatively better representation in rural/remote areas, although the presence is still well below the 22.6% of general surgeons who are located in a rural or remote area.

According to respondents to the AMWAC/ASOHNS 1997 survey, the requirements for a safe sustainable resident ENT surgical rural practice are a population catchment of 70,000, a suitably equipped local hospital, the support of other specialty colleagues

(most notably radiologists, pathologists and anaesthetists) and the support of allied health professionals (including audiology, speech pathology and physiotherapy). In addition, adequate ongoing experience of the surgeon is required to maintain surgical standards.

The above considerations impose limitations on how widely in the rural community resident ENT surgeons can be spread and certainly it could not expect to be on par with population share. However, ENT surgery is one specialty which lends itself to rural outreach work by metropolitan based specialists.

The findings of the AMWAC/ASOHNS survey revealed that 28.9% of metropolitan ENT surgeons provide services to rural areas on a regular visiting basis, with an average of 3.8 days per month of rural outreach work. 32% of these surgeons indicated that there was opportunity for rural areas where they work to be served from a rural centre in the next five years and most of these said that more ENT surgeons were required for this to happen.

Reasons given for providing rural outreach work included the variety of the work, patient need, inability to attract other ENT surgeons, loyalty to the local general practitioners and having previously lived in the area for a number of years.

Age Profile

ENT surgeons tend to be older when compared to other specialists. For example, according to the AIHW survey the average age of all male specialists in 1995 was 48.3 years (43.4 years for females) while the average age of ENT specialists was 52.6 years.

AIHW data (Table 6) shows that in 1995, 39.4% of ENT surgeons were aged 55 years and over and 16.5% were aged 65 years and over. 24.4% of the workforce was aged under 45 years. The largest ten year age group was the 45 to 54 years group (36.2%). The proportion of ENT surgeons 55 years of age and over is significant and indicates that there will be a substantial number of surgeons leaving the workforce over the next ten to fifteen years. The Working Party estimated that the average age of retirement for ENT surgeons is 68 years.

Table 6: Age profile of ENT surgeons (AIHW data); by State/Territory and major age group, 1995

State/Terr.	<35 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75+ yrs	Average age (yrs)	% aged 65+ yrs
NSW	1	21	29	32	15	6	54.7	20.1
Victoria	2	21	28	7	16	0	51.5	21.8
Queensland	3	8	24	9	3	5	50.9	15.6
South Aust.	2	4	10	13	2	0	53.1	6.1
West. Aust.	2	8	14	8	2	0	49.9	6.4
Tasmania	0	2	5	0	0	0	46.6	0.0
North. Terr.	0	0	2	4	2	0	60.3	0.0
ACT	0	4	2	0	0	0	44.7	0.0
Total	**10**	**67**	**114**	**72**	**41**	**11**	**52.6**	**16.3**
% age group	3.3	21.2	36.2	23.0	12.9	3.4	-	-

Source: AIHW

Table 7 summarises the age profile by geographic location for specialists whose main practice is ENT surgery. The table shows that 38.6% of rural based ENT surgeons are aged 55 years and over, which is marginally less than the national average. This finding suggests that urban and rural areas are likely to experience proportionately similar reductions in resident ENT services over the next five years to ten years, as most of the older surgeons leave the workforce or commence working a limited number of hours per week. For rural areas, however, the reduction maybe greater when considered alongside the fact that only 11.4% of rural based ENT surgeons are aged under 45 years, and thus is decidedly less than the total workforce proportion in the younger age group (22.9%). So there appears to be a preference amongst younger ENT surgeons for metropolitan practice.

Table 7: Age profile of ENT surgeons (AIHW data); by geographic location and major age group, 1995

Age group (years)	Urban	% of age group	Rural	% of age group	Total	% of total
under 35	9	100.0	0	0.0	9	2.9
35 to 44	58	92.1	5	7.9	63	20.0
45 to 54	93	80.9	22	19.1	115	36.5
55 to 64	65	86.7	10	13.3	75	23.8
65 & over	46	86.8	7	13.2	53	16.8
Total	**271**	**86.0**	**44**	**14.0**	**315**	**100.0**

Source: AIHW

Table 8 summarises Medicare age data and includes information on the age profile of ENT surgeons by State and Territory. This Table shows that overall 28% of ENT surgeons are aged over 60 years, 36% are aged under 50 years and 36% are aged between 50 and 59 years. It also shows that the age trends vary considerably across States and Territories. For example, in New South Wales and South Australia only 32% of ENT surgeons are in the under 50 age group, while in Tasmania 75% are in this age group. Queensland also has an above average proportion of ENT surgeons under 50 years of age (37.7%) and a substantially lower proportion of surgeons aged over 60 years compared to the other States and Territories, thus, projecting a trend towards redressing the overall lower than average proportion of ENT surgeons in Queensland.

Four States/Territories have above average proportions of surgeons over 60 years of age, namely, New South Wales, South Australia, Western Australia and the Northern Territory. Whilst the Australian figure shows 28% of ENT surgeons are aged 60 years and over, in New South Wales and South Australia over 32% of ENT surgeons are aged 60 years and over. These two States, in particular, could be expected to experience a proportionately greater number of retirements during the next five to ten years.

Table 8: Age profile of ENT surgeons (Medicare data); by State/Territory and major age group, 1995-96

Age	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Aust
% under 50 years	32.4	36.3	37.7	32.2	35.7	75.0	*	33.3	36.0
% 50-59 years	34.3	37.5	43.4	35.4	21.4	*	50	33.3	36.0
% over 60 years	33.3	26.3	18.9	32.3	35.7	*	*	33.3	28.0
Total numbers	**108**	**80**	**53**	**31**	**28**	**8**	**6**	**3**	**317**

* denotes less than 3 ENT specialists
Source: DHFS

Gender Profile

Medicare data indicates that in 1995-96 five of 317 ENT specialists were female (1.6%). ASOHNS membership list records that six (2.4%) members are female. The 1995 AIHW survey records 5 (1.6%) female ENT surgeons.

This level of female representation is one of the lowest levels amongst all specialties. It can be compared to women representing 3.2% of all surgeons, 3.6% of general surgeons, 14% of all specialists and 25.6% of all clinicians.

The extent to which the gender imbalance in this workforce changes will be reliant on the number of females who apply for, and are accepted into, ENT surgery training positions, the number who complete training and the number who are retained in the workforce.

According to the ASOHNS records the number of female ENT specialists varies considerably across States and Territories ranging from 7% in Queensland to none in South Australia, Western Australia and Tasmania. Of the 88 members of ASOHNS in New South Wales, two (2.3%) are women and there is one female ENT member of the ASOHNS in Victoria (1.5%).

The hours worked by ENT female specialists was collected but is not reported because of the risk to confidentiality due to small numbers.

The AMWAC/AIHW report on Female Participation in the Australian Medical Workforce concluded that the life time contribution of female specialists was estimated to be around 75% of a male specialist across all specialties. The ENT Workforce Working Party concluded that the potential impact of an increase in the number of female

specialists does not require consideration in this workforce at this time (AMWAC & AIHW, 1996).

In 1990, the RACS Council established >A Women in Surgery Committee= to work on aspects of recruitment, training and professional activities of RACS that might differentially affect women. For the benefit of both female and male trainees, the RACS has designed a Policy on Interrupted and Part-time Training which states that interrupted and part-time training is permitted under certain conditions. These conditions include prior approval of the Censor-in-Chief=s Committee; that it must be undertaken in an approved training post; must have the same content of training and total training time as for full time trainees; and must have the approval of the employing authority (that is the relevant State/Territory hospital).

Hours Worked

The level of active supply is affected by the participation rate of practitioners, in terms of their full time and part time status. ENT surgeons working different hours can be converted to a standard estimate of productivity defined as number of hours provided.

ENT surgeons work, on average, 51.1 hours per week and spend, on average, 47.6 hours per week in direct patient care. Tables 9 and 10 detail the estimated total hours and total patient care hours worked per week by ENT specialists by age category and gender. This information comes from the AIHW Medical Labour Force Survey, 1995. It should be noted that Medicare data were examined but not used. The Medicare designation of full time and part time is based on income derived from services that attract a Medicare benefit, which would not pick up on work in a public hospital, and so does not give a complete insight into total work that could be performed. Survey data on total hours worked was therefore considered a more accurate indication of overall workforce participation.

Table 9 shows that of the ENT surgeons who responded to the 1995 Medical Labour Force survey:

- 54% worked between 41 and 60 hours per week;
- 73.6% worked 41 hours or more per week;
- 19.4% worked 61 or more hours a week;
- 7.6% worked more than 71 hours per week; and
- 26.4% worked 40 hours or less per week and 12.2% worked 30 hours per week or less. Of the 35 specialists working 30 hours or less per week, 54% were 65 years and over.

79.2% of ENT surgeons aged 65 years and over worked 40 hours or less per week, 23% of ENT surgeons aged 55 to 64 years worked 40 hours or less per week and 11% of those aged under 55 years worked 40 hours or less per week.

Table 9: ENT surgeons total hours worked per week; by major age group, 1995

Total hrs worked per week[a]	< 45 years	45-54 years	55-64 years	65+ years	Total	%
1-10	0	0	1	8	9	3.1
11-20	0	0	0	11	11	3.8
21-30	3	0	3	9	15	5.2
31-40	6	11	14	10	41	14.2
41-50	18	33	16	6	73	25.4
51-60	21	38	22	2	83	28.8
61-70	9	18	7	0	34	11.8
71+	3	8	9	2	22	7.6
Not stated[b]	10	4	3	7	24	-
Total	**70**	**112**	**75**	**55**	**312**	**100.0**

a - total hours includes administrative duties not directly related to care of patients but excludes hours on call not worked
b - in estimating percentages these figures have been subtracted from the totals
Source: AIHW

The number of hours spent on direct patient care (Table 10) is similar to that for total hours worked (Table 9):

- 52.3% of ENT specialists provided between 41 and 60 hours of direct patient care per week;
- 62.7.7% provided 41 hours or more per week of direct patient care;
- 10.7% provided 61 or more hours of direct patient care;
- 4.0% provided 70 or more hours per week on direct patient care;
- 16.8% provided 30 hours per week or less on direct patient care. 37% worked 40 hours or less per week on direct patient care and 16.8% provided 30 hours per week or less. Of the 41 specialists working 30 hours or less per week, 65.9% were 65 years and over.

Table 10: ENT surgeons direct patient care hours worked per week; by major age group, 1995

Direct patient care	< 45 years	45-54 years	55-64 years	65+ years	Total	%
<20 hours	0	3	2	20	25	10.2
21-30 hours	3	3	3	7	16	6.6
31-40 hours	15	16	12	6	49	20.2
41-50 hours	17	30	15	4	66	27.2
51-60 hours	13	23	22	3	61	25.1
61-70 hours	5	7	4	0	16	6.6
71 hours & over	1	5	4	0	10	4.1
Not stated[a]	18	25	12	16	71	-
Total	**72**	**112**	**74**	**56**	**314**	**100.0**

a - in estimating percentages these figures have been subtracted from the totals
Source: AIHW

Table 11 summarises the total hours and direct patient care hours worked by State/Territory. Notably ENT surgeons in the Northern Territory work, on average, longer hours than ENT surgeons in other States/Territories. ENT surgeons in South Australia and Tasmania also work, on average, longer hours than surgeons in other States.

Table 11: ENT surgeons average hours worked; by total hours and direct patient care hours and State/Territory, 1995

Average hours worked	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Total
Total hours	48.5	54.7	48.0	56.8	48.6	53.8	52.0	63.0	51.1
Patient care hours	45.5	47.5	39.9	51.3	42.1	49.5	41.0	58.0	45.7

Source: AIHW

Table 12 summarises the total hours and direct patient care hours worked by geographic location. Based on the AIHW (1995) survey, the average total hours worked by ENT surgeons in capital cities (50.9 hours) is 3 to 3.6 hours less than the number of hours worked on average by ENT surgeons in large and small rural centres and 31 hours less than the total hours worked by ENT surgeons in remote locations. Similarly, ENT surgeons in remote rural locations report working more hours (77 hours) on direct patient care than do ENT surgeons in other locations (43.7 to 47.1 hours).
Substantially fewer ENT specialists in capital cities reported being on call than

specialists in other locations, namely, 63.2% of specialists in other urban locations and 55% of rural ENT specialists (Table 12).

Table 12: ENT surgeons average hours worked and average on call hours; by geographic location, 1995

Hours	Capital city	Other major urban	Large rural centre	Small rural centre	Remote	Total
Average age (years)	52.5	51.6	51.2	54.2	58.0	52.4
Average total hours worked per week	50.9	51.8	54.5	54.0	82.0	51.6
Average patient care hours worked per week	45.9	47.1	43.7	46.3	77.0	46.0
% reporting on call hours	39.9	63.2	55.0	55.6	0.0	32.5

Source: AIHW

The AIHW survey indicates that, in 1995, 92.4% of ENT surgeons were working in private rooms in their main job (compared with 75.9% of general surgeons). A further 4.8% were working mainly in public hospitals compared with 17.7% of general surgeons. Four of the fifteen (27%) ENT surgeons working in public hospitals were located in remote rural areas (Table 13).

Table 13: ENT surgeons work premises; by geographic location of main job, 1995

Work premises	Major urban centre	Large rural centre	Small rural centre	Remote	Total (%)
Private rooms	251	26	13	0	291 (92.)
Public:					
- Public hospital	11	na	0	4	15 (4.8)
- Public other	3	na	0	0	5 (1.6)
Private:					
- Public hospital	3	0	0	0	3 (0.9)
- Public other	0	0	0	0	0 (0.0)
Not stated	na	na	0	0	na (0.4)
Total	**265**	**27**	**13**	**4**	**309 (100.0)**

na - not available due to numbers being less than three
Source: AIHW

Table 14 examines ENT surgeons work premises of their main job by State/Territory. The AMWAC/ASOHNS survey revealed that on average ENT surgeons spend 27.9 hours per week consulting in their primary practice and 9.4 hours operating with an average of 42 operations per month (Tables B6 and B9). In addition, 62% of respondents indicated undertaking consulting and operating in other locations. The average hours spent consulting and operating in these locations was 7.4 hours and 3.8 hours respectively (Table B6).

Table 14: ENT surgeons work setting of main job; by State/Territory, 1995

Region of main job	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Total (%)
Private rooms	96	68	45	28	33	7	6	3	286 (90.7)
Acute care public hospital	4	3	6	2	0	0	0	5	19 (6.0)
Other work setting	5	3	1	0	0	0	0	0	9 (2.9)
Total	**104**	**74**	**53**	**30**	**33**	**7**	**6**	**8**	**315 (100.0)**

Source: AIHW

Table 15 provides a snap-shot of the time spent on various activities by ENT surgeons over a typical working week. Private consulting and operating account for the largest amount of in-hours and out of hours time. In addition, a substantial amount of out of hours work time is spent on continuing medical education activities, administration, telephone calls, correspondence and research.

Table 15: Time spent by ENT surgeons on various activities, 1997

Type of services provided	Average hours worked per week	
	In-hours	Out-of-hours
Private consulting	20.0	8.8
Public outpatient time	3.5	0.0
Private operating	8.0	1.0
Public operating	5.0	1.3
Administration	2.2	1.6
Telephone calls	1.5	1.9
Correspondence	3.5	1.5
Research	3.0	1.3
Continuing medical education	2.0	2.5

Source: ASOHNS/ASOHNS survey of ENT surgeons

Contribution to Public Hospital Work

75.5% of respondents to the ASOHNS/AMWAC 1997 survey indicated that they had access to public hospital beds for the treatment of non-insured patients (Table 16). 57% of ENT surgeons with access to public hospital beds worked in one hospital, 30.5% worked in two public hospitals and 11% worked in three.

Table 16: ENT surgeon access to public hospital beds; by State/Territory, 1997

	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Aust
% respondents in each State	80.7	75.0	57.1	91.6	81.8	a	..	..	75.5

a - numbers too small to report
.. no data
Source: ASOHNS/AMWAC survey of ENT surgeons

Of ENT surgeons with access to public hospitals, 68.9% received sessional payments and no one was employed as a full time salaried clinician. On average, these ENT surgeons undertake 2.2 public hospital sessions per week.

56.6% of respondents to the ASOHNS/AMWAC survey reported undertaking public hospital on-call work and that on average the time spent on-call was 20 hours per week. 19% of respondents indicated that this public hospital activity involved being on-call during out-of-hours with the average hours per week spent on this activity being 19.5.

Services Provided and Performed

Surgical services in Australia are provided through Medicare and through other insurance arrangements in fee for service practice, and through the government funded public hospital system. Detailed service specific data for medical services that attract Medicare benefits is available for many years. Public hospital casemix data are available from 1991-92 to 1994-95. Private hospital casemix data are only available for 1994-95.

Medicare Services

Table 17 provides information on the total number of medical services attracting Medicare benefits provided by ENT surgeons for the years 1990-91 and 1995. Comparative data are provided for general surgeons.

Table 17: Summary of medical services attracting Medicare benefits provided by ENT surgeons and general surgeons, 1990-91 and 1995-96

Year	No. of providers	Total number of services	Average number of services per provider	Total number of services (excluding consultations)	Average number of services per provider (excluding consultations)
1990-91					
- ENT surgeons	306	1,437,000	4,696	604,310	1,975
- General surgeons	931	1,883,510	2,023	620,558	667
1995-96					
- ENT surgeons	324	1,601,591	4,943	720,525	2,224
- General surgeons	959	2,149,772	2,205	630,068	657
% increase					
- ENT surgeons	5.9	11.5	5.3	19.2	12.6
- General surgeons	3.0	14.1	9.0	1.5	-1.5

Source: DHFS

Between 1990-91 and 1995-96 the total number of services provided by ENT surgeons billing Medicare increased by 11.5%, from 1,437,000 to 1,601,591. This is equivalent to a compound annual increase of 2.2%. Some of this increase in ENT specialist service utilisation was due to an increase in the number of surgeons and some due to an increase in the number of services billed per surgeon. For example, between 1990-91 and 1995-96 the number of ENT surgeons billing Medicare increased by 5.9% (from 306 to 324) and the number of services per practitioner increased by 5.3% (from 4,696 to 4,943). The number of ENT surgeon items excluding consultations increased by 19.2% in the same 5 year period. This represents a compound annual increase of 3.6% and an increase of 12.6% for the average number of such items per practitioner.

Approximately 30% of all ENT services were direct billed. This level of direct billing is similar for general surgeons and this is one of the highest proportions of direct billing for all surgeons (AMWAC 1997).

Table 18 provides a summary of the top Medicare Benefits Schedule (MBS) ENT surgery items for 1990-91 through 1995-96. In 1995-96, these items represented 93.5% of the 1,601,591 services provided by ENT surgeons.

Table 18: Summary of medical services attracting Medicare benefits provided by ENT surgeons; by main type of activity, selected years 1990-91 to 1995-96

MBS item number	1990-91	1991-92	1995-96	% change[a]
Consultations (items 105 and 104)	832,690		881,066	1.1
Diagnostics (items 11300-12003)	329,606		395,509	3.7
Operations		256,014	283,745	2.6
- otological operations (items 41500-41650)		98,949	105,960	1.7
- throat operations (items 41770-41907)		36,207	34,261	-1.4
- nasal operations (items 41653-41767)		120,858	143,524	4.4

a - % compound annual increase/decrease
Source: DHFS

Between 1990-91 and 1995-96, the number of consultations increased by 1.1%, diagnostic items increased by 3.7% and ENT operations increased by 2.6% despite a decrease of 1.4% in the number of throat operations.

Tables 19 and 20 indicate that the most common item provided by ENT surgeons between 1990-91 and 1995-96 was a consultation subsequent to the first in a single course of treatment (MBS item 105). This item together with item 104 (referred initial consultation in a single course of treatment) represented 55% of all MBS items provided by ENT surgeons in 1995-96.

Between 1990-91 and 1995-96, the largest activity increase among diagnostic items occurred in audiogram, with other cochlear tests (123.8%) while the largest decrease occurred in skin sensitivity testing (Table 19).

Table 20 reports activity change in the number of ENT operations for the years 1990-91 to 1995-96. During this time the largest increase occurred in nasedoscopy or sinoscopy or fibre-optic exam of nasopharynx, which increased by 226.9%. Other operation items in which large increases occurred were frontal sinus or ethmoidal sinuses (61.9%) and ear toilet, requiring use of operating microscope (61.1%). Operation items in which large decreases occurred, between 1990-91 and 1995-96, were intranasal operation on antrum, or removal of foreign body (-63.1%) and cauterisation or diathermy of septum, turbinates or pharynx (-23.6%).

Table 19: Top consultation and diagnostic Medicare items provided by ENT surgeons, 1990-91 to 1995-96

MBS item no.	Item description	1990-91	1995-96	% change 1990-96	% of 1995-96 items
	Consultations				
105	Consultation subsequent to the first in a single course of treatment	457,250	473,118	3.5	29.5
104	Referred initial consultation in a single course of treatment	375,440	407,948	8.7	25.5
	Diagnostics				
11327	Impedance audiogram involving tympanometry	85,486	115,519	35.1	7.2
11312	Audiogram, air and bone conduction and speech discrim	76,707	79,024	3.0	4.9
11309	Audiogram, air conduction	66,196	66,687	0.7	4.2
11315	Audiogram, air and bone conduction and speech	25,100	40,843	62.7	2.5
11324	Impedance audiogram	28,642	30,525	6.6	1.9
11300	Brain stem evoked audiometry	10,884	18,479	69.8	1.2
11318	Audiogram, with other cochlear tests	6,355	14,221	123.8	0.9
12003	Skin sensitivity testing	10,274	8,092	-21.2	0.5
11306	Non-determinate audiometry	8,101	7,625	-5.9	0.5
11339	Electronystagmography	6,019	7,464	24.0	0.5
11333	Test of labyrinth or labyrinths	5,842	7,030	20.3	0.4

Source: DHFS

Table 20: Top operative Medicare items provided by ENT surgeons, 1990-91 and 1995-96

MBS item no.	Item description	1990-91	1995-96	% change 1990-96	% of 1995-96 items
41764	Nasendoscopy or sinoscopy or fibre-optic exam of nasopharynx	17,287	56,516	226.9	3.5
41632	Middle ear, insert tube for drainage	49,532	47,223	-4.7	2.9
41647	Ear toilet, requiring use of operating microscope	25,994	41,870	61.1	2.6
41716	Antrum, intranasal operation on, or removal of foreign body from	41,716	15,402	-63.1	1.0
41737	Frontal sinus or ethmoidal sinus	9,225	14,933	61.9	0.9
41689	Turbinectomy or turbinectomies	14,244	12,571	-11.7	0.8
41671	Nasal septum, septoplasty, submucous resection	13,933	12,395	-11.0	0.8
41789	Tonsils or tonsils and adenoids	11,846	10,323	-12.9	0.6
41674	Cauterisation or diathermy of septum, turbinates or pharynx	12,847	9,814	-23.6	0.6

Source: DHFS

Public Hospital Casemix

As is well known, Medicare does not cover the full spectrum of surgery for any diagnosis. It excludes non fee for service public hospital work and work completed under other insurance arrangements. As a result, hospital casemix data is used as another indicator of the services provided.

AN-DRG procedures predominantly performed by ENT surgeons were selected to analyse service trends. The AN-DRGs to be used were identified on the basis of a project undertaken by the New South Wales Health Department which used a panel of experts to allocate DRGs to a Service Related Group (SRG). Among the SRGs indicating ENT services were fifteen DRGs, associated with MDC3: Diseases and Disorders of the Ear, Nose, Mouth and Throat, were fully allocated to ENT services and three items were partly allocated. Whilst recognising that health departments in other States and Territories may allocate some DRGs differently, the Working Party decided to use 15 of the AN-DRGS selected by the New South Wales to examine trends in the provision of hospital services.

The relevant information is summarised in Table 21 and shows that between 1991-92 and 1994-95 there was an overall compound annual increase in the number of hospital separations based on the 15 AN-DRGS selected of 8%. However, most of this increase occurred between 1991-92 and 1993-94; a much smaller increase (2.8%) occurred between 1993-94 and 1994-95.

Table 21: Public hospital ENT separations; by AN-DRG, 1991-92 to 1994-95

Item no.	Description	1991-92	1992-93	1993-94	1994-95	% change
Items fully allocated to ENT services						
115	Sinus, mastoid and complex middle ear procedures	3,342	3,747	3,878	4,132	23.6
117	Miscellaneous ear, nose, mouth and throat procedures	11,126	11,363	8,777	8,801	-20.9
118	Rhinoplasty (with or without turbinectomy)	2,676	2,422	4,717	4,810	79.7
122	Tonsillectomy and/or adenoidectomy	7,853	8,334	23,940	24,164	207.7
124	Myringotomy with tube insertion	9,407	10,479	11,782	12,417	32.0
131	Epistaxis	3,049	3,395	3,668	3,892	27.6
132	Epiglottis	425	197	157	128	-70.1
133	Otitis media and uri (age greater than 9 years with complications)	1,361	1,435	1,778	2,508	84.3
134	Otitis media and uri (age greater than 9 years without complications)	10,128	9,904	10,916	11,124	9.8
135	Otitis media and uri (age less than 10 years)	14,181	13,715	13,941	13,539	-4.5
137	Nasal trauma and deformity	4,201	4,286	4,346	4,152	-1.2
138	Other ear, nose, mouth and throat diagnoses with complications	6,604	6,561	842	1,125	-83.0
139	Other ear, nose, mouth and throat diagnoses without complications	2,735	2,906	9,056	9,713	255.1
148	Cochlear implant	-	-	58	83	60.3
Total		*77,088*	*78,744*	*97,856*	*100,588*	*30.5*
Items partly allocated to ENT services						
125	Other ear, nose, mouth and throat procedures	3,743	4,276	1,220	1,245	-66.7
Total - all ENT items		**80,831**	**83,020**	**99,076**	**101,833**	**8.0***

* % Compound annual increase
Source: AHMAC & DHFS, Australian casemix reports, 1991-92 to 1994-95

The item with the highest level of activity in 1994-95 was tonsillectomy and/or adenoids with 24,164 separations. Procedures that showed a dramatic increase between 1991-92 and 1994-95 were tonsillectomy and/or adenoids (207.7%), other ear, nose, mouth and throat diagnoses without complications (255.1%), otitis media and uri (age greater than nine years with complications) (84.3%) and rhinoplasty (79.7%).

Table 22 examines the provision of ENT services by private acute care hospitals for the 1994-95 (currently the only year for which information is available).

Table 22: ENT separations public and private hospitals; by AN-DRG, 1994-95

Item no.	Description	Public hospital separations	Private hospital separations	% public hospital
115	Sinus, mastoid and complex middle ear procedures	4,132	7,018	37.1
117	Miscellaneous ear, nose, mouth and throat procedures	8,801	9,197	48.9
118	Rhinoplasty (with or without turbinectomy)	4,810	8,422	36.4
122	Tonsillectomy and/or adenoidectomy	24,164	18,079	57.2
124	Myringotomy with tube insertion	12,417	14,261	46.5
131	Epistaxis	3,892	858	81.9
132	Epiglottis	128	16	88.8
133	Otitis media and uri (age greater than 9 years with complications)	2,508	498	83.4
134	Otitis media and uri (age greater than 9 years without complications)	11,124	3,157	77.9
135	Otitis media and uri (age less than 10 years)	13,539	1,083	92.6
137	Nasal trauma and deformity	4,152	1,463	73.9
138	Other ear, nose ,mouth and throat diagnosis with complications	1,125	158	87.7
139	Other ear, nose, mouth and throat diagnosis without complications	9,713	3,658	72.6
148	Cochlear implant	83	44	65.4
Total		**100,588**	**67,912**	**61.7**

Source: AHMAC & DHFS, Australian Casemix report, 1994-95

The data provided in Table 22 shows that for the 14 selected AN-DRGs fully allocated to ENT services there were 67,912 private hospital separations. The item with the highest level of activity was tonsillectomy and/or adenoidectomy. Private hospital separations accounted for 38.3% of all hospital separations for the 14 selected AN-DRGs in 1994-95.

In addition to increases occurring in the number of separations, the Working party also found that between 1991-92 and 1994-95 the number of public hospital bed-days increased by 10.8%, there was a substantial decrease in the number of days that people spent in hospital and the cost by volume rose by 25.3%. These general trends are consistent with those occurring throughout the acute care hospital sector. Notably an overall increase in the number of separations and number of bed-days, an increase in the proportion of same day separations, a decrease in average length of stay and an increase in cost by volume.

Training Arrangements

The training program in advanced surgical training in otolaryngology is directed by the RACS and ASOHNS. The program commences when candidates have completed two years of basic (part 1) surgical training and have passed the part 1 examinations. Advanced training in ENT surgery is for a minimum of four years, during which time trainees are expected to become familiar with all aspects of medicine and surgery involving the main subdivisions of the specialty, namely, otology, rhinology, laryngology and head and neck surgery with a balance between inpatient and outpatient work and between adults and children. The objective of the training program is to create a broadly based otorhinolaryngologist who is competent to practise the specialty (RACS 1996). As at June 1997, there were 40 approved ENT surgery advanced training positions in Australia and 39 ENT trainees (Tables 23 and 24). The average age of trainees was 32 years. There are currently three female advanced trainees, equivalent to 7.7% of trainees. This represents an increase in the proportion of women who completed training at the end of 1996 (5.3%) and in the proportion of women among full time practising members of the ASOHNS (2.4%). However, this female representation is low compared with their representation among all advanced surgical trainees (17.2%) (MTRP 1997). Part time training is available but currently there are no part time trainees.

Table 23: ENT surgery advanced training positions; by State/Territory and hospital, 1997

State	Hospital	Accredited positions
New South Wales		**13**
	Gosford	*1*
	John Hunter, Newcastle	*1*
	Liverpool	*1*
	New Children=s, Westmead	*1*
	Prince of Wales	*1*
	Repatriation General, Concord	*1*
	Royal North Shore	*1*
	Royal Prince Alfred	*2*
	St Vincents	*1*
	Sydney	*1*
	Sydney Children's, Randwick	*1*
	Westmead	*1*
Victoria/Tasmania		**12**
	Alfred	*1*
	Austin/Repatriation	*1*
	Geelong	*1*
	Monash Medical Centre	*2*
	Royal Melbourne	*1*
	Royal Melbourne Children's	*1*
	Royal Victorian Eye and Ear	*3*
	St Vincents	*1*
	Royal Hobart (Tasmania)	*1*
Queensland		**6**
	Gold Coast	*1*
	Ipswich	*1*
	Mater Misericordiae	*1*
	Princess Alexandra	*1*
	Royal Brisbane	*1*
	Royal Brisbane Children's	*1*
South Australia		**5**
	Flinders Medical Centre	*1*
	Modbury	*1*
	Queen Elizabeth	*1*
	Royal Adelaide	*1*
	Women's and Children's	*1*
Western Australia		**4**
	Fremantle	*1*
	Princess Margaret	*1*
	Royal Perth	*1*
	Sir Charles Gairdner	*1*
Total		**40**

Source: RACS and ASOHNS

Table 24: ENT surgery advanced trainees; by State/Territory, 1992 to 1997

Year	NSW	Vic/Tas	Qld	SA	WA	Aust
1992	10	9	6	4	4	33
1993	12	9	6	4	4	35
1994	12	10	6	4	4	36
1995	12	11	6	4	4	37
1996	13	11	6	4	4	38
1997	13	12	6	4	4	39
% increase 1992-1996	30.0	33.3	0.0	0.0	0.0	21.2
% 1997 trainees	33.3	30.8	15.4	10.2	10.2	100.0
% population[a]	35.6[b]	27.7	18.1	9.2[c]	9.6	100.0

a - population is an estimate for 1995-96
b - includes Australian Capital Territory
c - includes Northern Territory
Source: RACS, ASOHNS and ABS

From 1992 to 1997 there was a 21.2**%** increase in the number of advanced ENT trainees. The increases varied considerably between States/Territories with a 33.3**%** increase in Victoria/Tasmania, a 30% increase in New South Wales and no change in the number trainees in Queensland, South Australia and Western Australia.

The distribution of the ENT surgery advanced trainees is reasonably consistent with the distribution of the population. However, Queensland has a proportion lower to that of the general population while South Australia and Western Australia have higher proportions. There are no training positions or trainees from the Northern Territory or the Australian Capital Territory. However, ASOHNS is examining the feasibility of establishing a training positions in the Northern Territory based at the Royal Darwin Hospital in collaboration with the South Australian faculty. The South Australian faculty has agreed to rotate a trainee in the training position. The feasibility of this initiative rests upon having a full-time ENT surgeon with teaching experience located in Darwin. It is envisaged that this training position will involve the trainee in work with remote Aboriginal communities in addition to Darwin based work. Two further training positions are under consideration by ASOHNS, namely one in Newcastle and one in Victoria.

The average age of acquisition of full membership of ASOHNS is 33 years. There is some expectation that this age may tend to rise, especially with the advent of graduate-entry medical courses; although it will be some ten years before this possibility would start to have any effect.

Table 25 shows that over the past five years, on average, seven trainees have completed the training program each year; ranging from a high of ten trainees in 1995 to a low of five trainees in 1992. Over the next four years it is expected that annual training program completions will average ten.

Table 25: ENT surgery advanced trainees training program completions, 1992 to 2000

Year	NSW	Vic/Tas	Qld	SA	WA	Total
1992	1	1	2	1	0	5
1993	2	3	1	0	2	8
1994	3	2	2	1	0	8
1995	3	3	1	2	1	10
1996	3	1	1	1	0	6
1997[a]	2	4	1	0	2	9
1998[a]	3	3	2	1	0	9
1999[a]	4	3	2	2	1	12
2000[a]	4	2	1	1	1	9

a - expected completions
Source: ASOHNS

ADEQUACY OF THE CURRENT EAR, NOSE AND THROAT SURGERY WORKFORCE

There are a number of indicators of the adequacy of a medical workforce. No single measure can provide a definitive assessment, however, by examining each of the following it is possible to gain an indication of whether the workforce is adequately meeting current demand or if there is a significant shortfall or oversupply. The indicators chosen by the Working Party were:

- surgeon:population ratio;
- public hospital vacancies;
- elective surgery waiting lists and waiting times;
- waiting times for consultations; and
- perceptions of the adequacy of the current workforce.

ENT Surgeon:Population Ratio

No clear cut benchmarks appear to exist for ENT surgery. In addition, the Working Party concluded that international comparisons suffer because of variations in definitions of specialists and in style and scope of practice and health systems. The Working Party believes that the value of the ENT surgery SPRs lies in their use as tools of comparison between States/Territories and for comparisons over time. Table 4 calculated SPRs using ASOHNS, Medicare and AIHW data. The Medicare data are used in this section to provide some comparisons over time. Table 26 highlights trends in SPRs across States and Territories over the past 12 years.

Table 26: ENT surgeon:population ratio (Medicare data); by State/Territory, 1984-85 and 1995-96

Year	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Aust
1984-85									
ENT surgeons	104	74	41	28	24	9	2	6	288
Pop. (>000)	5464.5	4120.1	2571.2	1371.2	1418.6	442.8	148.6	251.4	1,5788.3
SPR 1:	52,543	55,677	62,712	48,971	59,108	49,200	74,100	41,900	54,820
No./100,000	1.90	1.80	1.59	2.04	1.69	2.03	1.35	2.39	1.84
1995-96									
ENT surgeons	108	80	53	31	28	8	3	6	317
Pop. (>000)	6190.2	4541.0	3354.7	1479.2	1762.7	473.7	177.1	307.5	18,023.0
SPR 1:	57,317	56,763	63,296	47,716	62,954	59,213	59,033	51,250	57,550
No./100,000	1.74	1.76	1.58	2.09	1.59	1.69	1.69	1.95	1.74

Note: 1995-96 population is an estimate
Source: DHFS and ABS

Table 27 shows the number of ENT surgeons per head of population has decreased over the past 12 years with 1:54,820 in 1984-85 to 1:56,855 in 1995-96.

Table 27: ENT surgeon:population ratio (Medicare data); by year, 1984-85 to 1995-96

Year	ENT surgeons	Population ('000)	Population per ENT surgeon	Surgeons per 100,000
1984-85	288	15,788.3	1:54,820	1.84
1985-86	289	16,018.4	1:55,427	1.82
1986-87	303	16,263.3	1:53,674	1.88
1987-88	300	16,538.2	1:55,127	1.83
1988-89	303	16,814.4	1:55,493	1.82
1989-90	295	17,065.1	1:57,847	1.74
1990-91	305	17,284.0	1:56,669	1.78
1991-92	312	17,489.1	1:56,055	1.79
1992-93	314	17,656.4	1:56,231	1.79
1993-94	310	17,661.5	1:56,973	1.75
1994-95	317	17,840.8	1:56,280	1.77
1995-96	317	18,023.0	1:56,855	1.74

Note: 1994 to 1996 population estimates
Source: DHFS and ABS

Public Hospital Vacancies
The AMWAC survey of public hospital specialist vacancies conducted in October 1996 found there were ten ENT surgery vacancies.

There were three vacancies in New South Wales, three in Victoria, three in Queensland and one in Western Australia. There were no TRDs filling ENT surgery vacancies.

Elective Surgery Waiting Times
Elective surgery waiting lists are often used as indicators of the adequacy of services, although there are limitations with the use of waiting lists. These include:

- the lack of consistent standardised collection and reporting which hampers any meaningful national interpretation;
- the fact that just looking at the number of people on waiting lists conceals the fact that large numbers of people proceed through the system within a reasonable time;
- that waiting lists are open to manipulation, especially in the way they are

maintained; and

- that they are influenced by varying allocations of theatre time and resources.

In turn, this means that it can be difficult to isolate the impact any workforce shortage may have on the size of a waiting list and waiting times from the impact of other factors.

The AIHW has tried to provide some degree of national interpretation of waiting lists by conducting, in 1994 and 1995, two surveys of State and Territory health authorities which aimed to collect nationally consistent information. The most recent report collected two types of data, namely, information about additions and depletions to public hospital waiting lists during the six-month survey period in 1995 and information about patient clearance time for elective surgery. This latter measure provides some indication of the ability of the hospital system to meet the demand for elective surgery (Moon 1996).

Clearance times were operationally defined as the time it would take, in months, to clear the lists if no new patients were added to the list. In addition, the calculation also assumes that waiting lists are pooled, so that patients can be treated at any public hospital. If the assumptions hold, clearance time is the maximum time a patient currently on the lists could expect to wait (Moon, 1996: 26). Patients were classified as either category 1 or category 2, where category 1 patients are those where admission is desirable within 30 days and category 2 patients are those where admission can be beyond 30 days.

Table 28 shows estimates of clearance time for each State/Territory by specialty and two ENT indicator procedures. The clearance time for category 1 ENT patients was 0.7 months. This waiting time was longer than that for general surgery (0.5 months) and for all patients (0.6 months). States with clearance times longer than 0.7 months for category 1 ENT patients were New South Wales, Queensland, South Australia, the Australian Capital Territory and the Northern Territory. Similarly, the clearance time of 4.7 months for category 2 ENT patients was above the average for all patients (3.5 months) with a particularly long clearance time in the Northern Territory (11.6 months).

Table 28: Public hospital clearance times (in months) for category 1 and category 2 patients, ENT surgery and general surgery; by State/Territory indicator procedure, 1995

Specialty	NSW	Vic	Qld[a]	SA	WA	Tas	NT	ACT	Aust[b]
				Category 1 patients					
ENT surgery	0.8	0.3	0.8	1.2	0.4	0.7	2.3	0.9	0.7
General surgery	0.5	0.2	1.1	0.4	0.2	0.8	1.3	2.1	0.5
All patients	**0.6**	**0.4**	**0.9**	**0.6**	**0.4**	**0.8**	**1.3**	**1.7**	**0.6**
				Category 2 patients					
ENT surgery	4.6	3.9	7.4	4.7	7.1	6.4	11.6	4.3	4.7
General surgery	2.3	3.4	3.4	2.8	3.6	3.7	7.4	10.2	3.0
All patients	**2.9**	**3.6**	**3.9**	**3.3**	**4.3**	**5.1**	**6.8**	**6.8**	**3.5**

na - not available
a - Queensland data collection period differs from those of other States/Territories
b- excludes Queensland
c -number suppressed due to small numbers
Source: AIHW (Moon 1996)

On the day the survey was taken, 33.3% of ENT category 1 patients on public hospital waiting lists were overdue (27% for all patients). 16.1% of category 2 ENT patients were overdue (compared with 11% of all patients). States/Territories with high levels of overdue category 1 patients were the Northern Territory, Tasmania, Queensland and the Australian Capital Territory (Table 29).

Table 29: Proportion of category 1 and category 2 patients on elective surgery waiting lists who were overdue (waiting over 30 days), ENT surgery and general surgery; by State/Territory and indicator procedure, 1995

Specialty	NSW %	Vic %	Qld[a] %	SA %	WA %	Tas %	NT %	ACT %	Aust[b] %
				Category 1 patients					
ENT surgery	31.6	15.4	50.0	42.7	0.0	66.7	71.4	45.5	33.3
General surgery	21.0	0.0	34.3	18.7	0.0	28.6	78.6	49.5	21.9
All patients	**26.2**	**3.4**	**43.0**	**32.7**	**25.6**	**40.6**	**83.1**	**50.1**	**26.7**
				Category 2 patients					
ENT surgery	8.3	9.8	47.2	12.2	6.3	48.7	54.9	20.8	16.1
General surgery	2.4	8.7	14.6	5.1	33.1	23.6	33.7	28.1	9.8
All patients	**4.8**	**8.5**	**24.2**	**9.8**	**24.3**	**9.8**	**35.9**	**27.5**	**11.4**

a - Queensland data collection period differs from those of other States/Territories
b - excludes Queensland
c - number suppressed due to small numbers
Source: AIHW (Moon 1996)

The overall clearance of ENT surgery of 0.7 months for Category 1 patients and 4.7 months for Category 2 patients is above that for all surgical patients and suggests that Public Hospital ENT services are barely adequate. Compared to all surgery, ENT clearance rates for Category 1 cases are comparable but are longer for Category 2 patients. It is frequently recounted that ENT is a specialty which does not fare well when hospital funding cuts result in decreased hospital bed numbers and service provision. Hospital administrators concede that ENT is seldom a high priority.

Consultation Waiting Times

The ASOHNS/AMWAC survey of surgeons collected information on ENT surgeon consultation waiting times. The results are shown below in Tables 30 and 31 and reveal that in general private patients wait less time than public patients to consult and be treated by an ENT surgeon. The waiting times for a serious condition are appropriately short for private patients but too long for public patients particularly in Victoria and South Australia. The waiting times for an urgent condition are too long in the public hospital system in Victoria and Western Australia.

Table 30: Average waiting time (days) in private rooms for a standard first ENT consultation, treatment of a serious condition, and an urgent procedure; by State/Territory 1997

State/Territory	Standard consultation	Serious condition (eg., cancer)	Urgent condition (eg., intractable sinus pain)
NSW/ACT	26.7	2.0	4.6
Victoria	14.8	1.9	3.7
Queensland	3.8	1.6	2.5
South Australia	13.75	2.0	3.6
Western Australia	25.0	1.2	3.3
Tasmania	a	a	a

a - insufficient numbers to report data
Source: ASOHNS/AMWAC survey of ENT surgeons

Table 31: Average waiting time (days) in public outpatient clinic for a standard first ENT consultation, treatment of a serious condition, and an urgent procedure; by State/Territory 1997

State/Territory	Standard consultation	Serious condition (eg., cancer)	Urgent condition (eg., intractable sinus pain)
NSW/ACT	46.3	7.1	8.5
Victoria	66.0	10.8	15.6
Queensland	92.0	7.5	8.5
South Australia	114.2	17.9	9.8
Western Australia	85.8	3.7	18.7
Tasmania	a	a	a

a - insufficient numbers to report data
Source: ASOHNS/AMWAC survey of ENT surgeons

ENT Surgeons' Workload

For surgeons responding to the ASOHNS/AMWAC survey of ENT surgeons, the average number of operations was 42 per month with most operations being undertaken without a surgical assistant (Table 32).

Table 32: Number of operations performed by ENT surgeons over a typical month, 1997

Operation situation	Mean
Surgical assistant present	6.9
Surgical assistant not present	36.1
As assistant surgeon	1.2
Total	42.2

Source: ASOHNS/AMWAC survey of ENT surgeons

In the ASOHNS/AMWAC survey, 78.9% of respondents indicated they were satisfied with their workload, 20% felt they were over worked but only 14.4% felt that more ENT surgeons were required in their geographic area. In response to the question on capacity to increase workload, 26.7% of ENT surgeons indicated they had time available to increase their practice activity. 78% of respondents had commitments to the public hospital system. Of the respondents 23% indicated they had a capacity to increase their public hospital work. On average respondents felt they had the capacity to conduct an extra 1.5 sessions per week (Table 33).

Table 33: ENT surgeons indicating a capacity to increase public hospital work; by State/Territory, 1997

State/Territory	Able to increase sessions (%)	Average increase in sessions per week
NSW/ACT	34.6	1.5
Victoria	25.0	1.0
Queensland	28.6	1.0
South Australia	16.6	2.5
Western Australia	0.0	0.0
Tasmania	..	..
Australia	**23.3**	**1.5**

Source: ASOHNS/AMWAC survey of ENT surgeons

Conclusions on Adequacy of the Current ENT Surgery Workforce

The lack of numerical expansion of the ENT workforce over the past ten years immediately alerts to the possibility of a current deficiency. However, both the services per ENT surgeon through Medicare (Table 17) and total public hospital ENT services have expanded (Table 19). This greater provision of services by the same workforce indicates greater efficiency. Surgeon opinion suggests that there are probably further efficiency gains to be made as the better trained workforce comes through.

Private ENT waiting times are satisfactory but public system waiting times are too long. There is some declared unused capacity for public hospital ENT surgeon services and evidence of restriction of public beds and operating times.

The balancing of these pieces of evidence and opinion is not easy. The Working Party concluded that the ENT workforce overall was just satisfactory, that future expansion should certainly not fall behind projected goals and that continued monitoring of efficiency gains and the overall balance will need to be quite vigilant.

Like most other areas of the medical workforce the provision of ENT services in rural areas falls behind that of the metropolitan areas. The distribution of ENT surgeons and their outreach services to rural areas is better than many other specialties but nevertheless has not reached an optimum level. There is a geographic maldistribution which does need attention.

PROJECTIONS OF REQUIREMENTS

Population

Australia has a growing and an ageing population. The 1995-96 population is estimated at 18.29 million (ABS 1997). The ABS estimates that the population will reach 19.169 million by 2001 and 20.095 million by 2006 (ABS 1994). Annual growth in population is estimated at 1.2%.

ABS estimates that the median age of the total population will rise from 33.1 years in 1993 to between 39.4 and 41.8 years in 2041. As a proportion of the total population, those aged 65 and over represented 11.7% (2.1 million) in 1993, and will increase to 12.78% (around 2.56 million) in 2006 (ABS 1994). Of even greater significance to predicting future ENT workforce requirements is estimated change in the 0 to 14 year age group. In 1994, this age group represented 21.6% (3,852,400) of the Australian population and by 2006 is expected to represent 20.1% (4,031,100) of the population; an average annual increase of 0.4%. However, there is substantial variation between States/Territories. For example, the percentage of the population in Victoria aged between 0-14 years in 1994 was 21.04% (941,800 people) and in 2006 is estimated to be 19.8% (954,800); an average annual increase of 0.1% while in the Northern Territory 0-14 year olds represented 27.7% of the population in 1994 (47,500) and are estimated to represent 24.8% in 2006 (51,300); an average annual increase of 0.6% (Table 34).

Table 34: Projected trends in the population aged between 0-14 years (%), 1993 to 2031

State/Terr.	1993	1994	1995	1996	2001	2006	2011	2016	2021	2026	2031
NSW	21.5	21.4	21.4	21.3	20.8	20.2	19.3	18.7	18.3	18.1	18.0
Vic	21.1	21.0	21.0	20.9	20.4	19.8	18.9	18.1	17.6	17.3	17.2
Qld	22.3	22.2	22.1	21.9	21.1	20.5	19.8	19.1	18.6	18.2	18.0
SA	20.2	20.4	20.3	20.2	19.3	18.4	17.6	16.9	16.5	16.2	16.0
WA	22.8	22.6	22.4	22.2	21.1	20.2	19.7	19.2	18.7	18.4	18.1
Tas	22.8	22.6	22.5	22.2	20.9	19.8	18.9	18.3	17.9	17.5	17.0
NT	27.9	27.7	27.5	27.3	25.9	24.8	23.6	23.0	22.6	22.3	22.0
ACT	22.6	22.1	21.8	21.5	20.7	20.6	20.4	19.6	18.7	17.9	17.6
Australia	**21.7**	**21.6**	**21.5**	**21.4**	**20.7**	**20.1**	**19.3**	**18.6**	**18.1**	**17.0**	**17.7**

Source: ABS

Respondents to the ASOHNS/AMWAC survey indicated that 40% of their time was spent with patients aged under 17 years and 27.5% of their time with patients aged over 60 years. Young adult work (17 to years) comprised 15% of their time and work with adults (35 to 60 years) 23.7% of their time (Table 35). Hence, it is apparent that while ENT surgeons spend a substantial amount of their time treating people under the age of 16 years, they also provide services across the age spectrum. The Working Party concluded that the ageing of the Australian population is not going to have a significant impact on future requirements for ENT specialists. For this reason it was decided that

general population growth be used as an indicator of future need rather than factoring in the effect of ageing.

Table 35: Age profile of ENT surgeons' patients, 1997

Age group of patients	Average number of patients for consultation	Average number of patients for operation	% of time with age group
0-16 years	8.3	34.0	40.0
17-35 years	14.1	3.4	15.1
35-60 years	20.0	4.0	23.7
61-70 years	15.3	2.2	15.5
70 years and over	9.0	1.7	12.0

Source: ASOHNS/AMWAC survey of ENT surgeons

Trends in Service Provision

The trends in the services provided by ENT surgeons are summarised in Table 36 using Medicare data and public hospital casemix data. This data indicates that there has been a compound annual increase of 1.1% in ENT consultation items which accounted for 55% of MBS services provided by ENT surgeons in 1995-96. Diagnostic items increased by 3.7% and operation items increased by 2.6% per annum. There has also been a per annum increase in the provision of public acute care hospital ENT services of 8% between 1991-92 and 1994-95. However, the rate of increase between 1993-94 and 1994-95 was considerably smaller, namely, 2.8%.

Table 36: Trends in service provision by ENT surgeons, 1990-91 to 1995-96

Indicator	Compound annual increase %
Medicare total ENT items[a]	2.2
Medicare ENT consultation items[a]	1.1
Medicare ENT diagnostic items[a]	3.7
Medicare ENT operations[a]	2.6
Public hospital casemix ENT surgery procedures[b]	8.0
Public hospital casemix ENT surgery procedures[c]	2.8

Note: a - 1991-92 to 1995-96; b - 1991-92 to 1994-95; c - 1993-94 to 1994-95.
Source: DHFS

Issues Affecting Workforce Size
Respondents to the ASOHNS/AMWAC survey were also asked to indicate whether they believed particular factors would increase workforce requirements, decrease workforce requirements or whether requirements would stay the same.

The most important issues that respondents considered would increase ENT surgery workforce requirements were patient expectations and knowledge (70%), more defensive medicine (62%), technology (53%) and the ageing of the population (51%). Trends perceived as likely to decrease demand for ENT services were the introduction of managed care, substitution of surgeons, access to beds, theatres and nurses and the allocation of public health resources (Appendix B).

Changes in Technology and Options for Service Provision
Little has been written on the impact of technological change on ENT surgery. Some work by Ruben (1991) forecasts that the practice of otolaryngology and head and neck surgery will change substantially in the 21st century; but his views relate more to the medium term rather than the next ten years, which is the concern of this report. Among the factors influencing change are the human genome project, leading to manipulation of DNA. Ruben maintains that this will affect many diagnostic strategies and treatment modalities (for example regrowth of hair cells in the inner ear, the development of natural killer cells specific for a given neoplasm and the remodelling of a fractured mandible). Furthermore, he claims that in the future the distinction between physician and surgeon will become even more indistinct in the practice of otolaryngology.

In the future, ENT surgeons will continue to undertake many surgical interventions (for example tracheostomy, drainage of abscess, repair of trauma, and the removal of tumours). However, the nature of much surgical practice will change. For example, ENT surgeons will be using various types of lasers designed to spot weld tissues or to destroy specific cells and biological implants and hybrid implants (electromechanical systems attached to biological systems) may become common practice.

Lasers are being used with increasing frequency. Some new technologies result in longer operating times but shorter length of stay. There is an increasing volume and variety of procedures performed on an outpatient basis and same day surgery is commonly employed. Technologic advances have led to treatment of some lesions by non-specialists that in the past would have been treated only by the ENT specialist.

All of the above technological developments may or may not occur. Furthermore, should they eventuate the effect that they will have on workforce requirements is unknown and difficult to speculate on at this point in time. It is important that the situation be monitored.

PROJECTIONS OF SUPPLY

Entry Into the Workforce

Over the past five years, an average of seven new ENT surgeons have entered the workforce each year. Over the next few years the number of new ENT surgeons is likely to be a little higher than this average, given the greater number of advanced trainees (Tables 22 and 23). The Working Party estimates that, on average, in each of the next four years ten new ENT surgeons will enter the workforce.

Retirements

In the ASOHNS/AMWAC survey 58.8% of respondents (n=53) provided an indication of their retirement intentions; 41.5% of respondents indicated that they would retire at 65 years, 18% of respondents indicated they intended to retire before 65 years, 30% of respondents felt they would retire between 65 and 70 years and 9.4% of respondents indicated they intended to work beyond 70 years (Appendix B). On balance it would seem that the use of 68 years as a suitable retirement age is appropriate for projection purposes.

If the retirement intentions of the respondents to the survey are indicative of the intentions of the workforce as a whole, a sizeable number of ENT surgeons can be expected to leave the workforce over the next ten years. Table 6 shows that there are currently 124 ENT surgeons aged 55 years and over, representing 39.4% of the workforce. If all of these surgeons retired over the next 15 years this would represent an average loss of eight surgeons per year.

Medicare data indicates there are 89 ENT surgeons over 60 years of age; equivalent to 28% of the workforce. If all of these surgeons retired over the next ten years this would represent an average loss of nine surgeons per year (see Table 8).

Female Participation in the Workforce

It is expected that the proportion of women in the workforce will increase marginally, as the number of female trainees increases, albeit from a very low number, and the large, all male, cohort of surgeons aged 55 years and over proceeds through to retirement.

Generally, female specialists have a lifelong working contribution which is 75% of the male contribution. For female general surgeons the lifetime contribution is estimated at 68% of the male general surgeon lifetime contribution (AMWAC & AIHW 1996).

Overseas Trained Doctors

ENT surgeons entering the Australian workforce through the Australian Medical Council specialist college pathway are expected to be small and to have a minimal effect on overall workforce supply. Between 1990 and 1996 only 25 overseas specialist surgeons

were registered, 29 were rejected and 42 were asked to undergo further training and examination (AMC 1996). These figures are for all surgical specialties, not just ENT surgeons, and they clearly indicate that the number of surgeons entering through this pathway is small.

There may also be a small number of ENT surgeons who emigrate, but overall the Working Party felt there would be a net gain of several overseas trained specialists per year.

Provision of Services in Rural and Remote Areas

The provision of ENT services outside capital cities and major urban areas is better than for most specialties. The AIHW 1995 survey estimates that 14% of main job ENT specialists are in rural areas and Medicare 1995-96 data indicates that 17.7% of ENT surgeons are in rural areas. This latter figure suggests that some outreach services are being provided by urban based ENT specialists. This is confirmed by the ASOHNS/AMWAC survey, which found that 28.9% of urban respondents to the ASOHNS/AMWAC survey indicated they provided outreach services to rural communities.

However, despite these comparatively encouraging figures, the Working Party believes young ENT surgeons still need to be encouraged to consider rural practice; and rural and provincial training opportunities need to be provided where appropriate.

To help gain an insight into why ENT surgeons undertake rural practice the ASOHNS/AMWAC survey asked resident rural ENT surgeons to indicate their main reasons for establishing a specialist rural practice. Almost universally they nominated the rural lifestyle and the variety of work as the main reasons for choosing a rural location. Only one rural respondent indicated that he came from the country. The main requirements for a successful resident rural practice were given as a population catchment of 70,000, an appropriately equipped local hospital, a public hospital appointment, the support of relevant allied health personnel, ambulance and air retrieval services and access to support from colleagues.

75% of rural respondents indicated they would make use of a specialist locum service if it was established, with the majority of those interested indicating a requirement of between four and six weeks of locum support.

The Working Party believes that in some situations it will not be possible for resident, or even regular visiting, specialist services, and as a result basic ENT surgery services will need to be provided by a general practitioner. Essentially, this will be in the smaller rural and remote rural communities where there is insufficient workload and infrastructure to warrant recruitment of specialists. It will continue to be important for general practitioners in these areas to obtain and maintain basic procedural skills.

Substitution

Table 37 provides details of ENT surgery services attracting Medicare benefits provided by ENT surgeons and all clinicians and shows that most ENT surgery items are performed by ENT surgeons.

In 1995-96, ENT surgeons performed 96.7% of aural operations (excluding cleaning of the external canal); 90.2% of all nasal operations and 95.4% of throat operations for item numbers chosen so as to exclude oesophageal procedures, which are predominantly performed by gastroenterologists. Somewhat surprisingly, the data also shows that, in 1995-96, 97.9% of all tonsil and adenoid procedures were performed by ENT surgeons. The ENT surgeon share of neck, salivary gland and intra-oral procedures is modest, but the total amount is also small.

The Working Party considered that there is little scope for substitution, in either direction, for the procedures in the current practice of ENT surgery.

Table 37: Medicare services provided by ENT surgeons and all clinicians, selected Medicare items; 1990-91 and 1995-96

Medicare items	Total 1990-91	ENT 1990-91	% ENT 1990-91	Total 1995-96	ENT 1995-96	% ENT 1995-96	Total % change 1990-1996	ENT % change 1990-1996
Audiometry	501,489	321,541	64.1	544,538	397,755	73.0	8.6	23.7
Salivary glands	2,037	436	21.4	1,898	568	29.9	- 6.2	30.3
Intra-oral operations	1,365	304	22.3	1,496	339	22.7	9.6	11.5
Neck operations	1,837	266	14.5	1,756	342	19.5	- 5.4	28.6
Aural operations	95,074	91,787	96.5	106,397	102,884	96.7	11.9	12.0
Nasal operations	120,218	110,293	91.7	159,168	143,552	90.2	32.4	30.2
Throat operations	36,924	34,036	92.2	35,183	33,551	95.4	- 4.7	-1.4
(tonsils & adenoids)	(28,127)	(26,733)	(95.0)	(23,836)	(23,343)	(97.9)	(-15.3)	(-12.7)

Selected item numbers: audiometry 11300 to 11339; salivary glands 30247 to 30269; intra-oral operations 30272 to 30283; neck operations 30286, 30289, 30293, 30294, 30313, 30314, 30325, 30328; aural operations 41503 to 41650; nasal operations 41653 to 41767; throat operations 41770, 41773, 41776, 41779, 41782, 41785 to 41789, 41792, 41793, 41796, 41797, 41800, 41801, 41804, 41807, 41810, 41813, 41816, 41822, 41825, 41834 to 41886.
Source: DHFS

BALANCING SUPPLY AGAINST REQUIREMENTS

Requirement Trends

Over the next ten years the Australian population is expected to increase at the rate of 1.2% per annum. The Working Party chose not to factor in the 0.4% usually added to population estimates due to the effects of an ageing population because the impact was considered to be minimal on the ENT surgical needs, which do not have a particular bias to the older age group of the population.

Between 1991-92 and 1995-96 there was an annual increase of 2.2% in the total number of Medicare services provided by ENT surgeons and an increase of 8% in public hospital ENT separations. The Working Party considers that some of the growth in Medicare services can be explained by an increase in ENT surgeon productivity while much of the growth in hospital separations can be explained by changes in AN-DRG classification between 1991-92 and 1993-94. This is supported by the fact that growth in public hospital separations was substantially smaller (2.8%) between 1993-94 and 1994-95.

Table 38 shows workforce requirements under three different growth assumptions starting from the 1997 requirement level; and ranging between growth in requirements of 1.2% per year to 2% per year.

Table 38: Projected requirements for ENT services; by hours worked per week, 1997, 2002 and 2007

Year	Population growth trend (1.2% per year)	Medicare ENT items growth trend (1.5% per year)	Public hospital casemix growth trend (2% per year)
1997	16,198	16,246	16,326
2002	17,194	17,502	18,025
2007	18,250	18,854	19,901

Source: AMWAC and van Konkelenberg

The productivity of ENT surgeons as measured in hours worked will vary from time to time and by age group as not all surgeons work a uniform full time working week, so it is appropriate to measure services provided in hours instead of by head count. In 1996 the 315 specialist ENT surgeons in the workforce provided an estimated total of 16,006 hours of services per week. The Working Party concluded that in 1996 the workforce was adequately meeting requirements, so it can be assumed that supply was approximately equal to requirements.

The Working Party considered that trends in services growth are likely to continue at a similar level to population growth (ie., between 1.2% and 1.5% per annum). As a result, it is estimated that workforce requirements will grow at a minimum of 1.2**%** per annum. It is recognised that this is a conservative estimate of expected future growth.

Supply Trends

The supply of ENT surgeons was projected by ageing the 1996 supply through each year of age, subtracting retirements and adding on average nine new graduates per year to 2001 and 12 graduates in subsequent years. Of particular importance, is the fact that supply trends over the next ten years will be dominated by the large cohort of ENT surgeons aged 55 years and over and their progression through to retirement.

The number of ENT surgeons was converted to hours per week by applying the average number of hours worked to head counts in each major age cohort. These projections show that supply will increase from the estimated current level of 16,006 hours per week to an estimated 18,250 hours per week in 2007 assuming most retirements will occur between 65 and 75 years of age.

Projected Balance

A balance in supply to match a continued growth rate in requirements of 1.2% per annum is difficult to achieve by only increasing the number of new ENT graduates from the year 2002. This is due to the large cohort of older ENT surgeons expected to progress through to retirement over the next decade. The impact of this cohort is expected to peak in the year 2002. An increase in the number of graduates from 10 per year to 15 per year will assist in redressing the current divergent demand/supply trend. However, additional measures may need to be considered for a number of years. Under this scenario notional shortages are expected to peak at 11.3**%** in 2002 but for requirements and supply to move back towards balance thereafter (Table 39). Retirements and workforce participation assumptions should be monitored and the projections amended if new trends emerge.

Table 39: ENT surgery graduate output needed to move projected supply into balance with projected requirements (1% growth per year); by hours worked per week, 1997 to 2008

Year	Number of graduates	Projected supply (FTEs)	Projected requirements (FTEs)	Balance (shortage)	% shortage
1997	6	16,012	16,198	186	1.2
1998	9	15,680	16,392	712	4.5
1999	9	15,561	16,598	1,028	6.6
2000	12	15,460	16,788	1,329	8.6
2001	9	15,532	16,990	1,458	9.4
2002	15	15,450	17,194	1,743	11.3
2003	15	15,693	17,400	1,707	10.9
2004	15	15,936	17,609	1,672	10.5
2005	15	16,180	17,820	1,640	10.1
2006	15	16,424	18,034	1,610	9.8
2007	15	16,670	18,250	1,580	9.5

Source: AMWAC and van Konkelenberg

The results of this projection work show that under the scenario presented in this report, the output of the ENT surgery training program should increase to 15 graduates per year from 2002. In previous years 40 training positions has produced on average 10 graduates per year. Hence, if the target of 15 graduates is desired an additional 20 ENT surgery advanced training positions would be required.

This is a reasonably large increase in training positions in a year and unlikely to be practical. The Working Party recommends a staged increase in training positions of 10 in 1998, 6 in 1999 and 4 in 2000. In terms of ability to effect increases in training positions the staged scenario is preferable. It will also enable the projected trend in requirements to be monitored and the recommended increases in training positions adjusted if necessary. The staged increase will mean that in 2007 the projected shortfall in hours worked will be 10.5% not 9.5% as shown in Table 39.

Training positions should be increased proportionately less in the comparatively well endowed States of South Australia and Victoria and kept roughly in line with projected State/Territory population shares in 2007. In particular, emphasis needs to be given to increasing positions in Queensland and New South Wales as a priority. If possible, increases in training positions in the Victoria/Tasmania program should be made in Tasmania initially.

It should be noted that, given the anecdotal evidence that ENT surgery is often not a high priority with hospital administrators, any additional ENT surgery training positions may not only require State/Territory health department funding but also a commitment to ensure sufficient availability of ENT public hospital operating sessions, beds and outpatient sessions.

RECOMMENDATIONS

The Working Party recommends:

1. There be an increase in the number of funded ENT surgery training positions and trainees to match an expected future growth in requirements of 1.2**%** per year.

2. That State and Territory health departments undertake negotiations with the RACS and ASOHNS for the establishment of an additional 20 ENT surgery training positions; with the increases to be staged and distributed as shown in Table 40:

Table 40: Total and additional ENT surgery training positions; by State/Territory, 1997 to 2000

State/Territory	Total 1997 (current)	Total 2000	Increase in 1998	Increase in 1999	Increase in 2000
NSW/ACT	13	21	3	3	2
Victoria/Tasmania	12	16	2	1	1
Queensland	6	11	2	2	1
SA/NT	5	6	1	-	-
Western Australia	4	6	2	-	-
Australia	**40**	**60**	**10**	**6**	**4**

3. State/Territory based ENT surgery services working groups, comprising the RACS, ASOHNS and State/Territory department of health representatives, be organised to co-ordinate the establishment of the new training positions and to oversee the introduction of any short term measures they may feel are necessary to meet localised service shortfalls (recognising that the increased number of graduates will not make an effective contribution to the ENT workforce until 2002).

   Any State/Territory health department commitments to funding additional training positions may need to recognise the implied need to ensure there is sufficient availability of ENT public hospital operating sessions, beds and outpatient sessions too accommodate the increased level of training.

4. That ENT surgery requirements and supply projections be monitored regularly so that they can be amended if new trends emerge.

5. That this monitoring be coordinated by AMWAC, the RACS and ASOHNS, and the results incorporated into the AMWAC annual report to AHMAC. AMWAC will provide all necessary support.

APPENDIX A: RURAL, REMOTE AND METROPOLITAN AREAS CLASSIFICATION

The Commonwealth Departments of Health and Family Services and Primary Industries and Energy, Rural, Remote and Metropolitan Areas classification, has been used to classify the geographic location of the job of responding medical practitioners in the following seven categories. The data used in determining these categories are based on the 1991 population census.

Metropolitan areas:

1. *Capital cities* consist of the State and Territory capital cities of Sydney, Melbourne, Brisbane, Perth, Adelaide, Hobart, Darwin and Canberra.

2. *Other metropolitan centres* consist of one or more statistical subdivisions which have an urban centre of population of 100,000 or more in size. These centres are: Newcastle, Wollongong, Queanbeyan (part of Canberra-Queanbeyan), Geelong, Gold Coast-Tweed Heads, Townsville-Thuringowa.

Rural zones:

3. *Large rural centres* are statistical local areas where most of the population reside in urban centres of population of 25,000 to 99,999. These centres are: Albury-Wodonga, Dubbo, Lismore, Orange, Port Macquarie, Tamworth, Wagga Wagga (NSW); Ballarat, Bendigo, Shepparton-Mooroopna (Vic); Bundaberg, Cairns, Mackay, Maroochydore-Mooloolaba, Rockhampton, Toowoomba (Qld), Whyalla (SA); and Launceston (Tas).

4. *Small rural centres* are statistical local areas in rural zones containing urban centres of population between 10,000 and 24,999. These centres are: Armidale, Ballina, Bathurst, Broken Hill, Casino, Coffs Harbour, Forster-Tuncurry, Goulburn, Grafton, Griffith, Lithgow, Moree Plains, Muswellbrook, Nowra-Bombaderry, Singleton, Taree (NSW); Bairnsdale, Colac, Echuca-Moama, Horsham, Mildura, Moe-Yallourn, Morwell, Ocean Grove-Barwon Heads, Portland, Sale, Traralgon, Wangaratta, Warrnambool (Vic); Caloundra, Gladstone, Gympie, Hervey Bay, Maryborough, Tewantin-Noosa, Warwick (Qld); Mount Gambier, Murray Bridge, Port Augusta, Port Lincoln, Port Pirie (SA); Albany, Bunbury, Geraldton, Mandurah (WA); Burnie-Somerset, Devonport (Tas).

5. *Other rural areas* are the remaining statistical areas within the rural zone. Examples are Cowra Shire, Temora Shire, Guyra Shire (NSW); Ararat Shire, Cobram Shire (Vic); Cardwell Shire, Whitsunday Shire (Qld); Barossa, Pinnaroo (SA); Moora Shire, York Shire (WA); George Town, Ross (Tas); Coomalie, Litchfield (NT).

Remote zones: these are generally less densely populated than rural statistical local areas and hundreds of kilometres from a major urban centre.

6. *Remote centres* are statistical local areas in the remote zone containing urban centres of population of 5,000 or more. These centres are: Blackwater, Bowen, Emerald, Mareeba, Moranbah, Mount Isa, Roma (Qld); Broome, Carnarvon, East Pilbara, Esperance, Kalgoorlie/Boulder, Port Hedland, Karratha (WA); Alice Springs, Katherine (NT).

7. *Other remote areas* are the remaining areas within the remote zone. Examples are: Balranald, Bourke, Cobar, Lord Howe Island (NSW); French Island, Orbost, Walpeup (Vic); Aurukun, Longreach, Quilpie (Qld); Coober Pedy, Murat Bay, Roxby Downs (SA); Coolgardie, Exmouth, Laverton, Shark Bay (WA); King Island, Strahan (Tas); Daly, Jabiru, Nhulunbuy (NT).

APPENDIX B: ASOHNS/AMWAC SURVEY OF ENT SURGEONS, 1997

METHODOLOGY

To assist with the establishment of a profile of the ENT surgery workforce in Australia, a mailed survey of all ASOHNS members was conducted. The survey was administered by AMWAC in consultation with the ASOHNS. 99 Fellows of ASOHNS responded to the questionnaire, which is a response rate of 39%.

RESULTS

Distribution of Respondents

Table B1 shows that the distribution of respondents to the ASOHNS/AMWAC survey is similar to the overall State/Territory distribution of ASOHNS members. States with a low representation were New South Wales and Queensland.

Table B1: Distribution of ENT surgeons, ASOHNS/AMWAC survey respondents and ASOHNS members; by State/Territory, 1997

	NSW	Vic	Qld	SA	WA	Tas	Aust
ASOHNS/AMWAC survey (n=97)							
% respondents	29.5	27.3	15.9	13.6	12.5	1.1	100.0
ASOHNS practising members (n=252)							
% of members	37.3	28.6	18.3	12.3	8.3	2.3	100.0

Source: ASOHNS; and ASOHNS/AMWAC survey of ENT surgeons

Table B2 indicates that the geographic distribution of respondents to the ASOHNS/AMWAC survey is consistent with the distribution of the workforce as defined by the AIHW 1995 survey.

Table B2: Geographic distribution of ENT surgeons, ASOHNS/AMWAC 1997 survey and AIHW 1995 survey

	Capital city	Other urban	Rural	Aust
ASOHNS/AMWAC survey (n=97)				
% respondents	79.8	5.6	14.6	100.0
AIHW 1995 survey (n=315)				
% workforce	77.1	8.6	14.3	100.0

Source: AIHW and ASOHNS/AMWAC survey of ENT surgeons

Age Profile

From the ASOHNS/AMWAC survey, the age range of respondents was from 30 years to 80 years with an average age of 51.7 years. The largest group of respondents was the 50 to 59 year age group (44.4%), followed by the 40 to 49 year age group (26.7%); 17.8% of respondents were aged 60 years and over. This profile is consistent with the age profile of the workforce as described by Medicare data apart for an under representation of older ENT surgeons.

Table B3: Age profile of ENT surgeons, ASOHNS/AMWAC 1997 survey and AIHW 1995 survey

	<40 yrs	40-49 yrs	50-59 yrs	60+ yrs	Total
ASOHNS/AMWAC survey (n=97)					
% respondents	11.1	26.6	44.4	17.8	100.0
Medicare (n=315)					
% of providers	11.6	24.9	31.9	31.5	100.0

Source: DHFS and ASOHNS/AMWAC survey of ENT surgeons

Gender Profile

All respondents to the ASOHNS/AMWAC survey were male. This response is not surprising given that only 2.4% of ordinary members of ASOHNS are women.

Training Qualifications

As indicated in Table B4, the majority of survey respondents obtained Fellowship of RACS between 1970 and 1990.

B4: Year of FRACS qualifications of ENT surgeons, 1997

Year	Number	%
1948-1960	6	6.7
1961-1970	11	12.2
1971-1980	30	33.3
1981-1990	30	33.3
1991-1996	13	14.4
Total	**90**	**100.0**

Source: ASOHNS/AMWAC survey of ENT surgeons

Nine respondents indicated that they were not Fellows of RACS but that they held ENT surgical qualifications. As indicated in Table B5, most of these surgeons gained their qualifications between 1961 and 1970.

B5: Year of surgical qualification of non FRACS ENT surgeons, 1997

Year	Number	%
1961-1970	6	66.7
1971-1980	2	22.2
1981-1990	1	11.1
Total	**9**	**100.0**

Source: ASOHNS/AMWAC survey of ENT surgeons

Hours Worked

On average ENT surgeons work a total of 48 hours per week. The average amount of time spent in consulting rooms was 27.9 hours per week. For the 63.6% of ENT surgeons with a sub-practice the average time spent in sub-practice consulting was 7.4 hours (Table B6).

The average time spent by ENT surgeons in hospitals as part of their practice is 9.4 hours per week and for those with a sub-practice they spend 3.8 hours (Table B6).

B6: Average hours worked per week by ENT surgeons, consulting rooms and hospitals, 1997

	Consulting rooms (average hours per week)	Hospitals (average hours per week)
Primary practice		
- Average hours per week	27.9	9.4
Sub practice		
- Average hours per week	7.4	3.8
Total hours		
- Average hours per week	33.4	14.6

Source: ASOHNS/AMWAC survey of ENT surgeons

Practice Profile

Respondents to the survey indicated that they spend most of their time in four types of activities, namely, paediatric otolaryngology, rhinology and sinus surgery, otology and laryngology (Table B7).

B7: ENT surgeons practice activity (% of time spent in a typical month); by type of activity, 1997

Type of services provided	Mean
Otology	24.3
Otoneurology	6.6
Rhinology and sinus surgery	26.4
Paediatric	28.9
Laryngology	15.0
Facial plastic	5.2
Allergy testing	3.7
Medico-legal practice	7.7

Source: ASOHNS/AMWAC survey of ENT surgeons

Table B8 provides a summary statement of the typical working week of ENT surgeons. Respondents indicated that almost 25% of their working time was spent in after hours activities. During work hours, ENT surgeons spend over 40% of their time on private consulting and a further 16% of their time on private operating. Approximately 17% of their time is spent undertaking public hospital commitments. Continuing medical education is largely undertaken out-of-hours while administration, telephone calls and correspondence occupy up to 15% of ENT surgeons in-hours time.

Table B8: Summary of ENT surgeons typical working week, 1997

Type of services provided	Average hours worked per week	
	In-hours*	Out-of-hours
Private consulting	20.0	8.8
Public outpatient time	3.5	0.0
Private operating	8.0	1.0
Public operating	5.0	1.3
Administration	2.2	1.6
Telephone calls	1.5	1.9
Correspondence	3.5	1.5
Research	3.0	1.3
Continuing Medical Education	2.0	2.5

* In-hours time refers to work between the hours of 8.00am and 5.00pm, Monday to Friday.
Source: ASOHNS/AMWAC survey of ENT surgeons

Table B9 indicates that the average number of operations performed per month by ENT

surgeons is 42 with most operations being undertaken without a surgical assistant.

Table B9: Number of operations performed by ENT surgeons over a typical month, 1997

Operation situation	Mean
Surgical assistant present	6.9
Surgical assistant not present)	36.1
As assistant surgeon	1.2
Total	42.2

Source: ASOHNS/AMWAC survey of ENT surgeons

Age of Patients

Respondents indicated that 40% of their time was spent with patients aged under 17 years and 27.5% of their time with patients aged over 60 years. Young adult work (17 to 35 years) comprised 15.1% of their time and work with adults (35 to 60 years) 23.7% of their time. This data indicate that the ageing of the Australian population is unlikely to impact significantly on requirements for this workforce.

Table B10: Age profile of ENT surgeons' patients and number of operations for each age group, 1997

Age range of patients	Number of patients for consultation (mean score)	Number of patients for operation (mean score)	% of time with age group (mean score)*
0-16 years	8.3	34.0	40.0
17-35 years	14.1	3.4	15.1
35-60 years	20.0	4.0	23.7
61-70 years	15.3	2.2	15.5
70 years and over	9.0	1.7	12.0

* number does not add up to 100 due to variation in individual estimates
Source: ASOHNS/AMWAC survey of ENT surgeons

Personnel Employed by ENT Surgeons

Forty eight percent of respondents indicated that they employed a nurse receptionist, 42% employed an audiologist, 29% an audiometrist and 29% a nurse/technician (Table B11).

Table B 11: Staff employed by ENT surgeons in their practice, 1997

Type of staff employed	Yes %	No %	No response %
Audiologist	42.2	41.1	16.6
Audiometrist	28.8	40.0	31.1
Nurse/technician	28.8	34.4	36.6
Nurse receptionist	47.7	28.8	23.3

Source: ASOHNS/AMWAC survey of ENT surgeons

Expected Change in Practice Size

Over the next five years 46% of ENT surgeons expect the size of their practice to remain the same. Twenty one percent of ENT surgeons expect the size of their practice to increase while almost 30% expect a decrease in the size of their practice (Table B12).

B12: ENT surgeons expectations of change in the size of their practice over the next five years, 1997

Expectation	%
Increase	21.1
Decrease	28.9
Remain the same	45.6

Source: ASOHNS/AMWAC survey of ENT surgeons

Plans to Change Pattern of Practice

28.8% of ENT surgeons indicated that they planned to change the pattern of their work and of these 73% said they intended reducing the amount of work they do. Intention to change work pattern was significantly related to age ($p<0.001$). Six respondents to this question indicated that they plan to change the type of activity they do with no general pattern of activity. Only one respondent planned to increase his level of activity (Table B13).

Table B13: ENT surgeons' plans to change their pattern of work, 1997

Age (years)	Reduce work hours	Increase work hours	Change type of practice	No response
30-39	0.0	0.0	0.0	11.6
40-49	0.0	0.0	0.0	27.9
50-59	12.8	1.2	4.7	24.4
60-69	8.1	0.0	2.3	3.5
70+	1.2	0.0	0.0	3.5

Source: ASOHNS/AMWAC survey of ENT surgeons

Public Hospital Involvement

75.5% of respondents indicated that they had access to public hospital beds for the treatment of non-insured patients (Table B14). Most (58%) of these ENT surgeons worked in one hospital, 30.5% worked in two public hospitals and 11.1% worked in three. Three ENT surgeons indicated doing 5 hospital sessions per week while 11 were doing 1 session with an average of 2.2 public hospital sessions per week.

56.6% of respondents reported undertaking public hospital on-call work. The average amount of time spent on this activity was 20 hours per week. 19% of respondents indicated their public hospital activity involved being on-call during out-of-hours with the average hours per week spent on this activity being 19.5.

Of the surgeons with access to public hospitals, 68.9% indicated that they received sessional payments and no one was employed as a full time salaried clinician.

Of ENT surgeons with access to public hospitals, 30.9% indicated they could do more public hospital work if it was funded (Table B14). Most of these surgeons were able to do 1 or 2 more sessions.

Table B14: ENT surgeons with access to public hospitals and capacity to increase public hospital work (%); by State/Territory, 1997

Public hospital work	NSW	Vic	Qld	SA/NT	WA	Tas	Aust
% of specialists within State/Territory with public hospital access	80.7	75.0	57.1	91.6	81.8	a	75.5
% within State/ Territory able to increase sessions	42.8	33.3	50.0	18.2	0.0	a	30.9
Capacity to increase sessions- average number of sessions/week	1.5	1.5	1.3	3.0	0.0	a	1.2

a - insufficient numbers to report data
Source: ASOHNS/AMWAC survey of ENT surgeons

Consultation Waiting Times
Tables B15 shows that private patients wait less time than public patients to consult and be treated by an ENT surgeon. The waiting times for a serious condition are appropriately short for private patients but too long for public patients particularly in Victoria and South Australia. The waiting times for an urgent condition are too long in the public hospital system in Victoria and Western Australia.

Table B15: Average waiting time (days) for a standard first ENT surgical consultation, treatment of a serious condition and an urgent procedure; by public outpatient/private rooms and State/Territory 1997

State/Territory	Standard consultation	Serious condition	Urgent condition
	Private patients		
NSW/ACT	26.7	2.0	4.6
Victoria	14.8	1.9	3.7
Queensland	3.8	1.6	2.5
South Australia	13.75	2.0	3.6
Western Australia	25.0	1.2	3.3
Tasmania	a	a	a
	Public patients		
NSW/ACT	46.3	7.1	8.5
Victoria	66.0	10.8	15.6
Queensland	92.0	7.5	8.5
South Australia	114.2	17.9	9.8
Western Australia	85.8	3.7	18.7
Tasmania	a	a	a

a - insufficient numbers to report data
Source: ASOHNS/AMWAC survey of ENT surgeons

First Consultation
The average waiting times for a first consultation in private rooms ranged from 26.7 days in New South Wales to 3.8 days in Queensland.

The survey found it takes substantially longer to have a first consultation in a public outpatient unit than to have a private consultation in most States/Territories, with public consultation waiting times ranging from an average of 114.2 days in South Australia to 46.3 days in New South Wales.

In all States/Territories the waiting time for a standard first consultation for public

patients was more than double the waiting time for private patients.

Patients referred with a serious condition
The survey found that in most cases a patient referred with a serious condition was seen on average within 1.7 days in private rooms and within 9.4 days in public hospital outpatients.

The average waiting time for patients referred with a serious condition in a public hospital ranged between 3.7 days in Western Australia to 17.9 days in South Australia. The average waiting time for private patients ranged from 1.2 days in Western Australia to 2 days in New South Wales and South Australia.

Urgent procedure (eg., intractable sinus pain)
Respondents were also asked how long a patient waits for an urgent procedure.

The survey found patients could expect to wait an average of 3.5 days for an urgent procedure in a private facility and 12.2 days in a public hospital.

Average waiting times for an urgent procedure in a public hospital ranged between 8.5 days in New South Wales and Queensland to 18.7 days in Western Australia. The average waiting times in a private facility ranged from 2.5 days in Queensland to 4.6 days in New South Wales.

Metropolitan Practitioners Providing Rural Outreach Services
22 (28.9%) of metropolitan ENT surgeons indicated that they provide services to rural areas. On average these surgeons spend 3.8 days per month in rural areas with a range of 0.3 days to 20 days. Seven ENT surgeons indicated that there was opportunity for rural areas where they work to be served from a rural centre in the next five years and most of these said that more ENT surgeons were required for this to happen.

Respondents gave the main reasons for providing services to rural areas as:
- variety of work; AI love it≅
- patient need; community service; aid to people without transport
- inability to attract other ENT surgeons; taken over from a retiring surgeon
- loyalty to general practitioners
- lucrative and easy access
- lived in the area for 20 years
- service shared with two other practitioners

Table B16 summarises the requirements for providing a good rural outreach ENT surgery service.

Table B16: Basic requirements for providing a rural outreach ENT surgery service

Basic requirement	Response (n=22)
Population catchment required	36,406
Local hospital facilities	Equipped (yes 63.6%) No (9.0%) No response (27.4%) Operating theatre
Allied health/ancillary staff	Audiology Speech pathology Pathology Physiotherapy Radiography
Other services required in close proximity	Audiology General surgery X-ray/pathology Radiology Paediatric
GP skills required	Preoperative and post-operative care Anaesthetics Voroscope Minimal
Number of specialists required for 24 hour cover	2
Public hospital appointment	Yes (27.2%) No (13.6%) No response (59.2%)
Other	Appointment at metropolitan teaching hospital Commitment by country hospital Must stay overnight

Source: ASOHNS/AMWAC survey of ENT surgeons

Resident Rural Practitioners

21 respondents (23.3%) indicated that they lived and worked outside a major urban centre.

The main reasons for living and working in a rural area were given as:

- rural lifestyle
- variety of work
- good place to raise children
- came from the country

Other reasons included there was no one else, tired of city hospitals and patients, more relaxed, emigrated from the United Kingdom for this purpose, high incidence of allergy and services needed.

The average number of years that ENT surgeons practising in a rural area intend remaining in the country was 14.2 years.

The average time taken to establish a rural practise was 1.8 years with 60% of respondents indicating it took them less than 6 months .

Table B17 provides a summary of the basic requirements for providing a good resident rural ENT surgery service.

Table B17: Basic requirements for providing a resident rural ENT surgery service

Basic requirement	Response
Population catchment required	50,000 to 70,000
Local hospital facilities	Laser Microscopes/Fess instrument/drill Day surgery and adequate theatres Public/private with all ENT equipment Full ICU Micro drill Dedicated ENT beds CT scanner
Allied health/ancillary staff	Nurse audiometrist Audiology Speech pathology Pathology Physiotherapy Radiography
Other services required in close proximity	Ambulance/air retrieval Visiting oncologyaudiology General surgery Thoracic/neurology/ophthalmology X-ray/pathology Radiology Paediatric Head and neck clinic
GP skills required	Minimal
Number of specialists required for 24 hour cover	2 (range 1-4)
Public hospital appointment	Yes (57.1%) No (14.3%) No response (28.6%)

Source: ASOHNS/AMWAC survey of ENT surgeons

Locum Service Requirements of Rural ENT Surgeons

Sixteen rural ENT surgeons indicated that if a specialty locum scheme were established they would make use of it. The majority (54%) of those interested indicated a requirement for between four and six weeks of locum support.

Retirement

58.8% of respondents provided details of their retirement intentions. The expected age of retirement ranged from 55 years to 85 years with an average age of retirement of 66.3 years. Table B18 indicates that 13% of survey respondents intend retiring in the next five years and a further 19% within ten years.

Table B18: Actual year of intended retirement for ENT surgeons 50 years and over, 1997

to 2002	2003-4	2005-7	2008-9	2010-11	2012-14	2015-17	2018-21	2022-26
12	8	9	10	1	9	2	2	-

Source: ASOHNS/AMWAC survey of ENT surgeons

ENT Surgeons' Professional Satisfaction

78.9% of ENT surgeons indicated they were satisfied with their workload, 10% felt they were over worked and 12% did not respond to this question (Table B19).

14.4% considered that more ENT surgeons were required in their geographic area and 18.9% perceived a need for other specialists. 10% of respondents indicated that Anaesthetists were required in their geographic area.

26.7% of ENT surgeons indicated they had time available to increase their practice activity (Table B19).

Table B19: ENT surgeons' professional satisfaction, 1997

Indicator	% yes	% no	% no response
Satisfied with workload	78.9	10.0	12.0
Overworked	20.0	54.4	25.5
Require more ENT surgeons in your area	14.4	48.9	36.7
Require more specialists in your area	18.9	75.5	5.5
Not enough back up in your area	12.2	48.9	38.9
Insufficient surgery for adequate income	12.2	78.9	8.8
Insufficient surgery to maintain competence	10.0	81.1	7.8
Do you have time available to increase your practice activity	26.7	44.5	28.8

Source: ASOHNS/AMWAC survey of ENT surgeons

ENT Surgeons' Perceptions of Factors Affecting Workforce Requirements

Respondents were asked to indicate whether they believed particular factors would increase workforce requirements, decrease workforce requirements or whether requirements would stay the same (Table B19). Among the important issues that respondents considered would increase ENT surgery workforce requirements were patient expectations and knowledge, more defensive medicine, technology, ageing of the population, increasing specialisation, safer procedural practice, contracting of hospital services and expectations of health professionals. Factors likely to decrease ENT workforce requirements were introduction of managed care, access to beds, theatres, nurses, public health resource allocation, substitution of ENT surgeons, and lifestyle changes (Table B20).

Table B20: ENT surgeons' perceptions of the factors that could affect the size of the ENT surgery workforce over the next ten years, 1997

Factors affecting the size of the workforce	Increase %	Decrease %	Stay the same %	% no response
Ageing of the population	51.1	10.7	28.9	9.3
Patient expectations/knowledge	70.0	2.2	21.1	6.7
More defensive medicine	62.2	8.9	21.1	7.8
Increasing specialisation	47.7	8.9	34.4	9.0
Technology	53.3	13.3	25.6	7.8
Health outcomes/quality assurance	43.3	5.6	40.0	11.1
Safer procedural practice	41.1	5.5	44.4	9.0
Expectations of health professionals	35.5	3.3	52.2	9.0
Disease patterns	4.4	7.1	76.7	11.8
Multi-disciplinary team approach	31.1	3.3	56.7	8.9
Geographic distribution of population	23.4	6.2	60.0	10.4
Geographic distribution of surgeons	28.9	6.7	54.4	10.0
Increased hospital productivity	14.4	12.0	52.2	21.4
Emphasis on hospital efficiency	21.1	8.9	60.0	10.0
Contracting of hospital services	42.2	14.4	35.6	7.8
Introduction of managed care	22.3	35.5	31.1	11.1
Access to beds, theatres, nurses	25.5	28.9	34.4	11.2
Public health resource allocation	21.1	25.5	41.1	12.3
Substitution of surgeons	4.4	30.0	53.3	12.3
Lifestyle changes	7.8	27.4	55.5	9.3

Source: ASOHNS/AMWAC survey of ENT surgeons

Table B21 shows that 48.8% of ENT surgeons believe that the above socio-demographic trends will increase ENT workforce requirements. Ten percent of respondents consider that the above trends will decrease requirements and 23.3% of ENT surgeons consider that they will have little or no impact.

B21: ENT surgeons' perceptions of the impact of socio-demographic trends on ENT surgeon workforce requirements, 1997

	Increase %	Decrease %	Stay the same %	No response
Impact on workforce requirements	47.8	10.0	23.3	18.9

Source: ASOHNS/AMWAC survey of ENT surgeons

54.5% of respondents consider that between 1997 and 2008 there is need for a 5% average annual increase in the size of the workforce (Table B22).

B22: ENT surgeons' perceptions of the need for growth in the size of the ENT workforce over the next ten years, 1997

	Mean	Median	Mode	No response
% annual growth required	5.5	5.0	5.0	41

Source: ASOHNS/AMWAC survey of ENT surgeons

REFERENCES

Australian Bureau of Statistics/Australian Institute of Health and Welfare (1997), The Health and Welfare of Australia’s Aboriginal and Torres Strait Islander Peoples, Canberra

Australian Bureau of Statistics (1994), Projections of the Populations of Australia, States and Territories: 1993 to 2041. 3222.0, Canberra

Australian Bureau of Statistics (1993), Private Hospitals Australia 1991-92. Catalogue No. 4390.0, Canberra

Australian Health Ministers’ Advisory Council and Commonwealth Department of Health and Family Services (1996) Australian Casemix Report on Hospital Activity 1994-95, Canberra

Australian Health Ministers’ Advisory Council and Commonwealth Department of Human Services and Health (1995), Australian Casemix Report on Hospital Activity 1993-94, Canberra

Australian Health Ministers’ Advisory Council and Commonwealth Department of Human Services and Health (1995), Australian Casemix Report on Hospital Activity 1992-93, Canberra

Australian Health Ministers’ Advisory Council and Commonwealth Department of Human Services and Health (1994) Australian Casemix Report on Hospital Activity 1991-92, Canberra

Australian Institute of Health and Welfare (1994a), Australia's Health 1994, Canberra

Australian Institute of Health and Welfare (1994b), Health Technology Statistics Bulletin, June 1994, Canberra

Australian Institute of Health and Welfare (1995), Health Labour Force 1992-93, Canberra

Australian Institute of Health and Welfare (1996a), Medical Labour Force Profile 1994, Canberra

Australian Institute of Health and Welfare (1996b), Otolaryngology (Ear, Nose and Throat Specialty) Labour Force Profile, unpublished data collection

Australian Medical Council (1996), Projections on overseas trained doctors entering the medical workforce through the AMC examination, Report to AMWAC, May 1996

Australian Medical Workforce Advisory Committee & Australian Institute of Health and Welfare (1996), Female Participation In The Australian Medical Workforce, AMWAC Report 1996.7, Sydney

Commonwealth Department of Human Services and Health and Commonwealth Department of Primary Industries and Energy (1994), Rural, Remote and Metropolitan Areas Classification, Canberra

Doherty Professor R, et al (1988), Australian Medical Education Workforce Into the 21st Century - Report of the Committee of Inquiry Into Medical Education and Medical Workforce, Canberra

Ferguson, JA, Goldacre, MJ, Henderson, J and Freeland, AP (1991), Workload trends in otolaryngology: some statistical observations from medical record linkage, *Clinical Otolaryngology,* 16: 391-398

Medical Training Review Panel (1997), Medical Training Review Panel - First Report, Canberra

Moon L (1996), Waiting For Elective Surgery In Australian Public Hospitals, 1995, AIHW Health Services Series no. 7, Canberra

Ruben, RJ (1991), Otolaryngology and head and neck surgery in the twenty-first century, Otolaryngology- Head and Neck Surgery, volume 104 (6): 775-776