# Table of Contents

- **Message from the Chairman** 2
- **Foreword** 3

## Background
- The changing global burden of disease and injury 5
- Strategies for health research and development 6
- Objectives of the Institute programs 6
- Regional and international collaboration 7

## Institute Structure and Funding
- **Structure** 8
- **Funding** 10

## Institute Programs
- **Institute Staff** 11
- **Institute Programs** 12
  - Heart and Vascular Diseases 12
  - Injury 20
  - Mental Health 26
  - Biostatistics 27
  - Policy and Practice 28
  - Finance and Administration 28
  - Teaching and Training 29

## Staff Publications
- **Staff Publications** 31

## Staff Presentations
- **Staff Presentations** 35

## Meetings Convened
- **Meetings Convened** 38

## Staff Individual Awards
- **Staff Individual Awards** 38

## Appendix – Board of Directors
- **Appendix – Board of Directors** 40
It is with great pleasure that I present the first annual report of the Institute for International Health. I am delighted by the progress that we have made since our establishment early in 1999. Over the past year, we have developed a series of new major projects and begun a fund raising program that has already secured income in excess of $10 million for the 2000/2001 financial year.

We are indebted to those institutions that provided initial infrastructure funding including The Medical Foundation of the University of Sydney, Ramsay Health Care, the National Health and Medical Research Council of Australia and NSW Health. Their support has both enabled establishment of the Institute and facilitated achievement of its initial goals.

A particular highlight of the past year, was the award to the Institute of a large research grant from Servier Laboratories in Paris in support of a seven year, international collaborative study of treatments that may prevent the cardiovascular complications of diabetes.

I largely attribute the success of the Institute to the work of its staff, and in particular the two directors, Professor Stephen MacMahon and Professor Robyn Norton. Stephen and Robyn have worked tirelessly in building the Institute literally from the ground up, into an organisation that conducts research in more than 200 hospitals and universities worldwide.

At a meeting in mid-2000, the Board of Directors of the Institute for International Health resolved to accept invitations from the University of Sydney and the Central Sydney Area Health Service to relocate the staff and central operations of the Institute. From early 2001, the Institute will be temporarily located at the Newtown campus of the University of Sydney in the former Australian Graduate School of Management building. It will move in 2002 to permanent accommodation in the King George V Hospital within the Royal Prince Alfred Hospital campus, once site redevelopment is completed.

I would like to recognise the support and assistance provided by Northern Sydney Area Health Service and the Northern Clinical School of the University of Sydney in the initial establishment of the Institute, and I trust that our collaboration will continue to flourish.

The next few years should see a period of rapid growth in the Institute for International Health. I look forward to being a part of it.

Peter Burrows
Chairman
Board of Directors
The Institute for International Health was established in January 1999, with the support of the University of Sydney Faculty of Medicine. Its purpose was to develop an international program of research and development concerned with the management of common chronic diseases and injury. During the period covered by this report (January 1999 to June 2000), the Institute attracted substantial long-term research funding and as a consequence the Institute's staff and programs have expanded quickly. Throughout this 18-month period, the Institute's staff and central operations were located at the Royal North Shore Hospital campus in Sydney, from which the activities of more than 200 research staff employed in many institutions worldwide were coordinated.

Particular highlights of the Institute’s research programs during its first 18 months of operation include:

• Completion and publication in The Lancet of final results from the Pulmonary Embolism Prevention Trial (PEP), a randomised trial of a short course of low dose aspirin for the prevention of venous thromboembolism among 17,444 patients undergoing major orthopaedic surgery. The study demonstrated a clear reduction in the risks of pulmonary embolism and deep vein thrombosis among patients assigned aspirin – a result that is likely to have important implications for orthopaedic practice worldwide.

• Completion of recruitment to the Auckland Car Crash Injury Study, a case control study, involving over 500 case drivers and 500 control drivers, investigating the roles of potentially modifiable risk factors for motor vehicle-related occupant injuries.

• Completion of follow-up in the PACIFIC Pilot Study, a randomised trial investigating the effects of blood pressure lowering and homocysteine lowering on various parameters among 723 patients with coronary heart disease.

• Completion of recruitment to the New Zealand Blood Donors Health Study, a longitudinal cohort study investigating the associations of various factors with the risks of serious injury and major cardiovascular diseases among 22,725 participants.

• Completion of the penultimate year of follow-up in PROGRESS, a randomised trial of blood pressure lowering for the secondary prevention of stroke in 6,105 patients with a history of cerebrovascular disease.

One of the major focuses of Institute activities in 1999/2000 has been fundraising and the Institute and its staff have received several major grants and awards in support of research infrastructure, programs and projects. These include:

• The National Health and Medical Research Council Eccles Award to Professor Stephen MacMahon in support of the Institute’s Heart and Vascular Disease Program.
• A three year grant (July 2000 to June 2003) from the NSW Department of Health for infrastructural support
• An equipment grant from the University of Sydney for the development of the Institute’s computer network and support systems
• A major research grant from the Institut de Recherches Servier Internationales for ADVANCE, a large-scale international randomised trial of blood pressure and blood glucose lowering in 10,000 patients with diabetes, initiated and designed by staff of the Institute
• A donation from Servier Laboratories towards the cost of new office accommodation for the Institute’s Heart and Vascular Disease Program

Over the next few years, continued growth of the Institute staff and programs is anticipated and, as a consequence, in December 2000 the Institute will be relocating its main operations to a new site, close to the main campus of the University of Sydney and the Royal Prince Alfred Hospital. These University premises will house the Institute for a period of two years, after which the Institute will move to permanent accommodation in the King George V Hospital within the Royal Prince Alfred campus. From 2001, the Institute will join the Central Clinical School of the University of Sydney Faculty of Medicine and the Central Sydney Area Health Service, while strengthening its ongoing relationship with the Faculty’s School of Population Health and Health Services Research.

The growth of the Institute over its initial 18 months of operations owes much to the combined efforts of the Institute’s staff and Board of Directors. In particular, we would like to express our sincere thanks to Professor John Chalmers and Mr Peter Burrows whose advice and support have been pivotal in ensuring the successful establishment of the Institute. Additionally, we would like to acknowledge the important role played by many others during the Institute’s initial phase of development, including Dr Stephen Christley and colleagues from the Northern Sydney Area Health Service who provided support to the Institute during its time at the Royal North Shore Hospital.

Robyn Norton
Director & Ramsay Health Care Professor of Injury Prevention

Stephen MacMahon
Director & Medical Foundation Professor of Cardiovascular Medicine and Epidemiology
The changing global burden of disease and injury

The establishment of the Institute was stimulated by the large and growing global and regional burden conferred by non-communicable diseases and injury. Worldwide in 1990, non-communicable diseases and injury accounted for about 33 million of the 50 million deaths that occurred that year and about 55% of the years of healthy life lost due to death or disability. Between 1990 and 2020, deaths from non-communicable diseases and injury are expected to rise from 33 million to about 58 million, and there will be similar proportional increases in years of healthy life lost. Three of the major contributors to this growing disease burden are cardiovascular disease, injury and neuropsychiatric conditions. Collectively, in 1990 these accounted for about 40% of all deaths and 35% of all years of healthy life lost worldwide. By 2020, the same three causes are expected to account for about half of all deaths and a similar proportion of years of healthy life lost. In parallel with the increase in non-communicable diseases and injury, there is likely to be a continued decline in the burden of illness from communicable, maternal, perinatal and nutritional disorders. Deaths from these causes are expected to decline from 17 million per year in 1990 to about 10 million in 2020; years of healthy life lost due to death or disability from the same conditions will also decline substantially over this period. The magnitude of the decline is such that the burden of ill health due to injury alone is likely to equal and perhaps exceed that of communicable diseases by 2020.

These major changes in the global burden of disease and injury reflect, in part, a continuing shift in the distribution of non-communicable diseases and injury from developed countries to developing or newly industrialised countries, primarily as a consequence of the changing demographic patterns in the latter. So, whereas in 1990, about a third of all deaths from non-communicable disease and injury occurred in developed countries, by 2020 the proportion is likely to be reduced to a fifth. Thus, about 80% of all deaths from non-communicable causes worldwide will occur in developing or newly industrialised countries, and more than half of these deaths will occur in the populations of Asia and the Pacific. These deaths from non-communicable causes will occur at substantially younger ages in developing or newly industrialised countries than in developed countries.

Changing Patterns of Death Worldwide

Millions of Deaths

<table>
<thead>
<tr>
<th>Year</th>
<th>Chronic Diseases and Injuries</th>
<th>Infectious, Maternal, Perinatal and Nutritional Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>33</td>
<td>17</td>
</tr>
<tr>
<td>2020</td>
<td>58</td>
<td>10</td>
</tr>
</tbody>
</table>

Global Burden of Disease Project, 1996

Strategies for health research and development

This rapidly changing distribution of the global burden of non-communicable diseases and injury requires major investment in health research and development in those countries likely to be most adversely affected by the changes. If the predicted epidemics are to be minimised in scale and managed appropriately, then there is a pressing need for research on modifiable determinants of risk in these populations and for the development of practical, affordable research-based strategies for preventive and therapeutic intervention. This will not be easily achieved by the efforts of health research and development experts located within developing and newly industrialised countries alone, since they are relatively few, poorly resourced, and often inexperienced in non-communicable diseases and injury (since the main focus of research and development in many developing countries has been – appropriately – communicable, maternal, perinatal and nutritional disorders). In contrast, experts in these fields from developed countries are numerous, comparatively well resourced, and more experienced in non-communicable diseases and injury. Thus, there is a strong rationale for encouraging health research and development experts from these countries to turn their attention, at least in part, to the escalating problems faced by developing and newly industrialised countries, and to work with their counterparts in these regions in an effort to minimise and manage the epidemics. This is an important priority for global health resource allocation, and a major aspect of the rationale for the programs of the Institute for International Health.

Objectives of the Institute programs

The principal aim of the Institute is to conduct an international program of health research and development, the objectives of which are to facilitate the prevention of premature death, serious ill health and disability from common causes of non-communicable diseases and injury. The program is oriented to health issues of global significance, with an emphasis on the health problems of the Asia Pacific region, particularly those of economically developing and newly industrialised countries, as well as those of Australia. In particular, the program is focussed on three major health problems: heart and vascular diseases, injury and neurological and psychiatric conditions.

For each of the health problems targeted, the research component of the program comprises preventive, epidemiological and clinical studies. The main aims of these studies are the discovery of modifiable causes of diseases and injury, and the identification of effective, practicable
strategies for their prevention and treatment. The research program is being conducted both in developed countries, including those of Australasia, North America and Europe, and in developing and newly industrialised countries, including those in the broader Asia and Pacific region. A complementary policy and practice program is currently in development: this program is concerned with the formulation and implementation of affordable, research-based health care policy and practice in an effort to reduce the burden of non-communicable disease and injury. The policy and practice program will involve initiatives in Australia and other countries from the Asia Pacific region, as well as countries in the Middle East, South America and Africa. The Institute also contributes to teaching programs, at the graduate and post-graduate level, in medicine and health sciences at the University of Sydney. In collaboration with the Department of Public Health and Community Medicine and the clinical departments of the University of Sydney, the Institute offers academic programs for advanced training in epidemiology, biostatistics and clinical research for post-graduate research fellows from Australia and overseas.

Regional and international collaboration
Research and development programs of the type conducted by the Institute require extensive regional and international collaboration. In 1999/2000 the Institute’s research program was conducted in collaboration with more than 200 universities and hospitals in over 12 countries worldwide. Major collaborative relationships have been established in Asia, North America and Europe with research centres with particular interests in heart and vascular disease, injury or health care in developing or newly industrialised countries. The Institute is also involved in collaborative programs with the World Health Organization and the Global Forum for Health Research. Regionally, major collaborative relationships have been established with the University of Melbourne, the University of Auckland, the Australia and New Zealand Intensive Care Society and with several centres in Sydney including the NHMRC Clinical Trials Centre (University of Sydney) and the Injury Risk Management Research Centre (University of New South Wales).
Structure

Board of Directors and Research Committee

The Institute has been established as an independent charitable institution, the activities of which are overseen by a Board of Directors, which during the period covered by this report, also constituted the Institute Research Committee. The Board of Directors oversees fundraising, investment and expenditure, and advises on administration and management. Membership of the Board includes representatives of the Institute, representatives of major sponsors (including The Medical Foundation of the University of Sydney and Ramsay Health Care), a representative of the Northern Sydney Area Health Service (to June 1999) and a representative of the Central Sydney Area Health Service (from October 2000). A full listing of Board members is provided in the Appendix.

The University of Sydney

The Institute is formally associated with The University of Sydney, through a formal Memorandum of Understanding that designates the Institute as a Research Department of the University of Sydney. During the period covered by this report, the Institute was part of the Northern Clinical School of the Faculty of Medicine. From 2001, the Institute will be part of the Central Clinical School. In addition to these clinical school links, the Institute has a close relationship with the School of Population Health and Health Services Research. Many staff of the Institute have full or conjoint academic appointments at the University of Sydney and all applications for support from peer-reviewed agencies and foundations such as the National Health and Medical Research Council, the National Heart Foundation and the Wellcome Trust are submitted through the University of Sydney.

Central Sydney Area Health Service

From 2001, the Institute will have a formal relationship with the Central Sydney Area Health Service, and in 2002 the Institute will relocate to a permanent site on the Royal Prince Alfred Hospital campus. Appropriately qualified staff will be appointed to Honorary Consultant positions at Royal Prince Alfred Hospital.

Research and Development Advisory Committee

In 2001, a Research and Development Advisory Committee will be established to review and advise on the research and development programs of the Institute. Members of the committee will include international authorities on non-communicable diseases and injury, authorities on health research and development in developing and newly industrialised countries, representatives of international health and development agencies, and representatives of the Australasian and Asian Pacific research community.
Institute Structure and Funding

Programs

The work of the Institute is organised within six programs: the Heart and Vascular Diseases Program, the Injury Program, the Mental Health Program (to be established 2001/2002), the Policy and Practice Program, the Biostatistics Program, and the Finance and Administration Program.

Management

The Institute is headed by two Principal Directors (Professor Stephen MacMahon and Professor Robyn Norton) who are responsible to the Board of Directors for the activities of the Institute. Dr Bruce Neal is Director of the Heart and Vascular Diseases Program, Professor Robyn Norton is Acting Director of the Injury Program, Dr Mark Woodward is Acting Director of the Biostatistics Program and Ms Gillian Dowell is Director of the Finance and Administration Program. It is anticipated that directors of the Mental Health Program and the Policy and Practice Programs will be appointed during 2001. Collectively, the Principal Directors and Program Directors form the Institute Management Committee, which oversees all the activities of the Institute. The Institute Management Committee is chaired by one of the two Principal Directors.


**Institute Structure and Funding**

**Funding**

**Core Institute Support**

Initial core support for the Institute was provided by grants from The Medical Foundation of the University of Sydney and Ramsay Health Care. This enabled the establishment of two Chairs in the Faculty of Medicine at The University of Sydney. The Medical Foundation provided support for the establishment of The Medical Foundation Chair of Cardiovascular Medicine and Epidemiology. Ramsay Health Care provided support for the establishment of the Ramsay Health Care Chair of Injury Prevention. The Commonwealth Department of Health and Aged Care also contributed funds for the development of the Injury Program at the Institute and the National Health and Medical Research Council contributed funds for the development of the Heart and Vascular Diseases Program through an Eccles Award to Professor Stephen MacMahon.

In 1999, the Institute was awarded a large equipment grant from the University of Sydney to support the establishment of the Institute’s computer network and analysis facilities. In 2000, the Institute was awarded a three-year grant from the NSW Department of Health for infrastructural support. In the same year, the Institute received a large donation from Servier Laboratories towards the cost of new office accommodation for the Institute’s Heart and Vascular Diseases Program (these funds will be utilised for the refurbishment of permanent office space in the King George V Hospital on the Royal Prince Alfred Hospital campus).

**Project Support**

Institute research projects are supported by a variety of agencies, foundations and sponsors including the National Health and Medical Research Council of Australia, the National Heart Foundation of Australia, the Health Research Council of New Zealand, the British Heart Foundation, the NSW Department of Health, the Northern Sydney Area Health Service, the Institut de Recherches Internationale Servier, Bristol-Myers Squibb, Pfizer, AstraZeneca and several other pharmaceutical companies. Other grants for research projects are being sought from the Wellcome Trust, the Roads and Traffic Authority of NSW, the Motor Accidents Authority of NSW and Aventis.
Institute Staff

Directors’ Office

Stephen MacMahon · Principal Director,
The Medical Foundation Professor of
Cardiovascular Medicine and Epidemiology,
University of Sydney

Robyn Norton · Principal Director, Ramsay Health
Care Professor of Injury Prevention, University
of Sydney

Terrie Agnew · Personal Assistant to
Professor MacMahon

Kristina McDaid · Personal Assistant to
Professor Norton

Professorial Unit

John Chalmers · Professorial Fellow, Professor
of Medicine & Chairman of Research
Development, University of Sydney

Hilary Banks · Personal Assistant to
Professor Chalmers

Heart & Vascular Diseases Program

Bruce Neal · Program Director, Senior Lecturer
in Medicine, University of Sydney

Ann Brennan · Administrative Assistant

Charles Algert · Research Officer

Neil Chapman · Senior Research Fellow
in Cardiovascular Medicine

Sayan Cheepudomwit · Visiting Research Fellow
in Epidemiology

Rochelle Currie · Senior Project Manager

Seham Girgis · Research Fellow in Epidemiology

Helen Monaghan · Senior Project Manager

Takaoshi Okubo · Visiting Research Fellow
in Cardiovascular Medicine

Niki Vincent (until 30 June 2000)
· Program Co-ordinator

Makoto Watanabe · Visiting Research Fellow
in Cardiovascular Medicine

Injury Program

Gordon Doig · Senior Research Fellow
in Critical Care Epidemiology

Marlene Fransen · Senior Research Fellow
in Musculoskeletal Epidemiology

Julie French · Senior Project Manager

Ting-Rui Guan · Research Fellow in Epidemiology

Rebecca Ivers · Senior Research Fellow
in Musculoskeletal Epidemiology

Lawrence Lam · Research Fellow in Epidemiology

Aleksandra Natora · Program Co-ordinator

Biostatistics Program

Mark Woodward · Acting Program Director,
Senior Research Fellow in Biostatistics
and Epidemiology

Federica Barzi · Visiting Research Fellow
in Biostatistics

Alan Brnabic · Biostatistician

Sam Colman · Statistical Programmer

Kathy Jayne · Data Management Co-ordinator

Irina Kotycheva · Network Administrator

Xin-Hua Zhang · Senior Research Fellow
in Cardiovascular Epidemiology

Finance & Administration

Gillian Dowell · Program Director

Emma Thomson · Finance and Personnel Officer
Heart and Vascular Diseases

Overview

This research program is focussed, in large part, on coronary heart disease and cerebrovascular disease. The choice of these diseases reflects their importance as causes of premature death and disability in both the West and the East. In 1990, these diseases represented the two leading causes of death globally, responsible for about 10.6 million deaths annually. This ranking is predicted to remain unchanged for some time. Moreover, throughout the next two decades, these two diseases are expected to remain among the top five causes of loss of healthy life due to death or disability, predicted to be responsible for the annual loss of almost 150 million years of healthy life by 2020. While the burden of ill health caused by coronary heart disease and cerebrovascular disease will continue to be substantial in both developed and developing regions, the toll in developing and newly industrialised countries will outweigh that in developed countries by a factor of four.

Blood pressure is a disease precursor that is a particular focus of the research program. This reflects its relative importance as a determinant of the total burden of cardiovascular disease, particularly in the populations of Eastern Asia. In some Eastern populations, the contribution of blood pressure to cardiovascular disease incidence may be more than twice as great as that in the West, due principally to the greater incidence of diseases that are strongly blood pressure-related in these countries. In particular, blood pressure appears to be the major determinant of death and disability due to cerebrovascular disease, which is the leading cause of death and loss of healthy years of life in China and several other Asian populations. Other risk factors of established importance as causes of cardiovascular disease in Western populations, such as smoking, high cholesterol and diabetes are now emerging as important risk factors in Eastern populations, and these are also the subject of some Institute research projects, together with more recently identified risk factors such as blood homocysteine levels, alcohol consumption, socio-economic status, and candidate gene polymorphisms.

The Heart and Vascular Diseases Program has made substantial advances during its first 18 months of operation. The PEP trial was completed and results of the main study and substudies were published. Major meetings with collaborators on Institute heart and vascular disease projects were held in Asolo, Beijing, Kuala Lumpur and Paris. Other developments include preparations for the analyses of several large-scale projects that are entering their final stages: the Blood Pressure Lowering Treatment Trialists’ Collaboration has completed the first round data collection and statistical analyses are underway, the PACIFIC study has completed follow-up and statistical analyses are underway, the PROGRESS study will complete follow-up in early 2001 with results to be reported in the middle of that year, and InterASIA should complete recruitment by mid 2001 with results to be reported later that year. In addition, the BLISS pilot study of blood pressure lowering with candesartan cilexetil in patients with acute ischaemic stroke and high blood pressure has commenced recruitment and plans for ADVANCE, a new-scale large trial among 10,000 patients with diabetes, are now in the final stages of development.
One of the most important developments of the year has been our continuing work on the Cardiovascular Health in Developing Countries Initiative of the World Health Organization and the Global Forum for Health Research. During 1999, the Institute hosted two meetings of collaborators in this initiative – one in Sydney and the other in London. A detailed proposal was subsequently prepared for the implementation of the project in six developing countries. Our work on this initiative marks the start of ‘policy and practice’ activities within the Heart and Vascular Diseases Program.

The outlook for the Heart and Vascular Diseases Program over next few years is very positive, with secured long-term support for several major projects. The growth of the program has been facilitated by the hard work of the current team, and will continue with the recent appointment of several new research fellows, project managers and program administration staff.

**Studies of the Heart and Vascular Diseases Program**

**ADVANCE: action in diabetes and vascular disease**

**Institute Investigators**

Stephen MacMahon, John Chalmers, Bruce Neal

**Collaboration**

University of Melbourne, Australia; University of Auckland, New Zealand; Chinese Academy of Medical Sciences, China; Imperial College, UK; Utrecht University, Netherlands.
During 2001, collaboration will be extended to 200 collaborating centres from about 20 countries worldwide.

Funding Agencies
Institut de Recherches Internationales Servier.

Aims
The main objectives of this study are to assess the effects of intensive blood pressure lowering and glucose control on serious complications among high-risk patients with type 2 diabetes.

Methods
The study is a factorial randomised, controlled trial. 10,000 eligible participants will be randomly assigned to the two treatment comparisons and followed for an average of 4.5 years.

Status/Results
The design of the study has been finalised and regional collaboration has been established. Recruitment is scheduled to commence in the first half of 2001 and final results from the study are expected to be available in 2006.

APCSC: Asia Pacific cohort studies collaboration
Institute Investigators
Stephen MacMahon, Xin-Hua Zhang, Mark Woodward, Bruce Neal

Collaboration
University of Auckland, New Zealand; Shiga University, Japan; Academia Sinica, Taiwan; Chinese Academy of Medical Sciences, China; Sugiyama Jogakuen University, Japan; Yonsei University, South Korea; and 81 investigators representing 58 cohorts from 9 countries/regions in the Asian Pacific area.

Funding Agencies
The project is partly supported by the National Health and Medical Research Council of Australia and the Health Research Council of New Zealand.

Aims
The main objectives of this project are to estimate the region-, age- and sex specific associations of a number of established and putative risk factors with the risk of several common cardiovascular diseases and the common causes of death in the Asian Pacific population.

Methods
The APCSC is a collaborative overview (meta-analysis) of prospective observational studies. Estimates of association will be obtained using individual participant data from 58 cohorts involving more than 500,000 participants with an average of 10 years follow-up. Data from about 200,000 participants with repeat risk factor measurements will be used to make adjustments for regression dilution bias.

Asia Pacific Cohort Studies Collaboration
Risk of death within 7 years from coronary heart disease for diabetics and non-diabetics (Risk per thousand)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Risk of Death (per thousand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Diabetic</td>
<td>Diabetic</td>
</tr>
<tr>
<td>Below 60</td>
<td>1.1</td>
</tr>
<tr>
<td>60-70 years</td>
<td>4.9</td>
</tr>
<tr>
<td>70 and over</td>
<td>13.8</td>
</tr>
</tbody>
</table>

Non-Diabetic
Diabetic
Status/Results
The second meeting of collaborators was held in Beijing in October 1999. The protocol has been published. The first stages of data collection and data editing have been completed. Data from 400,000 individuals from 42 cohorts are ready for analysis. Preliminary analyses of blood pressure and the risk of cardiovascular diseases will be reported at the 18th Scientific Meeting of the International Society of Hypertension in Chicago, August 2000.

BLISS: blood pressure lowering in ischaemic stroke study
Institute Investigators
Bruce Neal, John Chalmers, Stephen MacMahon
Collaboration
Austin and Repatriation Hospitals, Melbourne; Royal Melbourne Hospital, Melbourne; and Royal North Shore Hospital, Sydney.
Funding Agencies
BLISS is supported by a grant from AstraZeneca.
Aims
The primary objective of BLISS is to assess the safety of angiotensin II antagonist-based blood-pressure lowering among patients suffering acute ischaemic stroke with elevated levels of blood pressure at presentation.
Methods
BLISS is a randomised, double blind placebo controlled trial in which participants with stroke or TIA are randomised to the angiotensin II antagonist, candesartan, or matching placebo. One hundred participants are planned.

Status/Results
Recruitment has been initiated in all three centres and is ongoing. It is anticipated that recruitment will be completed and final results available in 2001.

Blood pressure lowering treatment trialists’ collaboration
Institute Investigators
Bruce Neal, Stephen MacMahon, John Chalmers
Collaboration
Chief investigators from large-scale trials worldwide, including studies in Australasia, Asia, North America and Europe.
Funding Agencies
The National Health and Medical Research Council of Australia, the Health Research Council of New Zealand, the British Heart Foundation, the International Society of Hypertension, AstraZeneca, Aventis, Bayer AG, Bristol Myers-Squibb, Glaxo Wellcome SpA, Merck, Pfizer, Searle and Servier.
Aims
To provide reliable evidence about the effects of newer classes of blood pressure lowering drugs on major causes of cardiovascular mortality and morbidity in a variety of patient groups.
Methods
A prospectively-planned overview (meta-analysis) of all major ongoing randomised controlled trials of blood pressure lowering therapies. The eligible trials involve a projected total of about 268,000 patients among whom about 1.1 million patient years of follow-up will be accrued upon completion of all studies.
Institute Programs

Status/Results
Agreement to collaborate has been confirmed by the investigators from 36 trials identified as eligible to participate. Preliminary results from the collaboration will be presented at the 18th scientific meeting of the International Society of Hypertension in Chicago in August 2000.

Community-based studies of the prevention of blood pressure-related diseases in populations from developing countries (part of the Cardiovascular Health Initiative in Developing Countries)

Institute Investigators
Bruce Neal, Stephen MacMahon

Collaboration
World Health Organization, Geneva; Global Forum for Health Research, Geneva; All India Institute of Cardiology, New Delhi.

Funding Agencies
World Health Organization, Merck & Co.

Aims
The main objective of this project is to formulate, implement and evaluate simple, low-cost intervention programs for the prevention of blood pressure-related diseases and other common cardiovascular conditions in populations from middle- and low-income countries.

Methods
This is a community intervention project that will be conducted in a number of middle- and low-income countries worldwide. Similar, but geographically discrete, communities will be selected for study in each country and then assigned at random to either a two year cardiovascular diseases control program or to continue with usual practice.

Status/Results
An active collaborative group has been established and funding is currently being sought from the Wellcome Trust, the NIH, and the pharmaceutical industry.

CSSS: China salt substitute study

Institute Investigators
Bruce Neal, Xin-Hua Zhang, Stephen MacMahon

Collaboration
University of Auckland, New Zealand; University of Western Australia, Perth; Chinese Academy of Medical Sciences, China.

Funding Agencies
Funding is being sought from the Wellcome Trust.

Aims
The primary aim of this study is to determine the long-term effects of a low-sodium, high-potassium salt-substitute on blood pressure among individuals with a history of cerebrovascular disease in North China.

Methods
The study proposed is a double-blind randomised controlled trial that will be conducted among 600 individuals with a history of cerebrovascular disease recruited and followed up for 12 months through an established network of hospital-based clinics in Northern China.

Status/Results
Funding is currently being sought from the Wellcome Trust, which has invited a full application after positive review of the preliminary application.
InterASIA: international collaborative study of cardiovascular disease in Asia

Institute Investigators
Bruce Neal, Xin-Hua Zhang, Stephen MacMahon

Collaboration
Tulane University, USA; National Health Foundation, Thailand; Chinese Academy of Medical Sciences, China.

Funding Agencies
Pfizer Inc.

Aims
The main objective of this study is to estimate the prevalence of cardiovascular diseases and risk factors for cardiovascular disease in Thailand and the People’s Republic of China.

Methods
This is a cross-sectional survey conducted in a representative national sample of 15,000 adults from the People’s Republic of China and 5,000 adults from Thailand. Data about risk factors is collected from a questionnaire, a brief physical examination and a blood test.

Status/Results
The design was finalised in the first half of 2000 with the pilot study to be initiated in July and the main study in August. Data collection will be completed in November 2000 and results should be available in early 2001.

NaBS: sodium in bread study

Institute Investigators
Bruce Neal, Seham Girgis

Collaboration
University of Otago, New Zealand; Royal North Shore Hospital, Sydney.

Funding Agencies
The Northern Sydney Area Health Service. Western Foods will provide the bread for the study.

Aims
The aim of this project is to determine whether it is possible to achieve a one-quarter reduction in the salt content of bread without adversely affecting palatability, through a series of small decreases in salt content.

Methods
100 participants will be randomly assigned to either 6 consecutive weeks of bread with 100% usual salt content or 6 weeks of bread in which the sodium content is reduced by 5% per week. Participants will be blind to the intervention to which they have been assigned.

Status/Results
This study will be completed by December 2000 with results available for presentation in early 2001.
PACIFIC pilot study: prevention with a combined inhibitor and folic acid in patients with coronary heart disease

**Institute Investigators**
Stephen MacMahon, Bruce Neal

**Collaboration**
University of Auckland, New Zealand; National Heart Foundation of Australia, Melbourne; Christchurch School of Medicine, New Zealand; and University of New South Wales, Sydney.

**Funding Agencies**
Bristol-Myers Squibb.

**Aims**
The primary aims of the PACIFIC pilot study are to investigate the effects of omapatrilat, a vasopeptidase inhibitor, on blood pressure and serum neurohormone levels, and the effects of folic acid on serum homocysteine levels.

**Methods**
The study is a factorial double-blind randomised controlled trial. 723 patients have been studied over an eight-month period. Participants were recruited from 28 centres in Australia and New Zealand.

**Status/Results**
The study has now completed follow-up and statistical analysis is ongoing. First results from the study are anticipated to be available in August 2000 with a principal presentation of the findings scheduled for the meeting of the American College of Cardiology in March 2001.

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PEP: pulmonary embolism prevention trial

**Institute Investigators**
Stephen MacMahon, Robyn Norton, Bruce Neal

**Collaboration**
University of Auckland, New Zealand; University of Oxford, UK; University of Leeds, UK and 148 other hospital and university centres worldwide.

**Funding Agencies**
The National Health & Medical Research Council of Australia, the Health Research Council of New Zealand, the National Heart Foundation of New Zealand, the British Heart Foundation.

### Pulmonary Embolism Prevention Trial

#### Percentage of patients with venous thromboembolism

<table>
<thead>
<tr>
<th></th>
<th>Aspirin (n=6679)</th>
<th>Placebo (n=6677)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep-vein thrombosis, no pulmonary embolism</td>
<td>59 (0.9%)</td>
<td>38 (0.6%)</td>
</tr>
<tr>
<td>Non-fatal pulmonary embolism</td>
<td>28 (0.4%)</td>
<td>43 (0.6%)</td>
</tr>
<tr>
<td>Fatal pulmonary embolism</td>
<td>18 (0.3%)</td>
<td>84 (1.3%)</td>
</tr>
<tr>
<td></td>
<td>105 (1.6%)</td>
<td>165 (2.5%)</td>
</tr>
</tbody>
</table>

Lancet 2000; 355: 1295-302
Aims
The objectives of PEP were to determine the effects of a short course of low dose aspirin on the risks of major thromboembolic events among patients undergoing major orthopaedic surgery.

Methods
PEP was a randomised, double blind placebo controlled trial in which 17,444 patients scheduled for surgery for hip fracture, hip replacement or knee replacement were randomised to aspirin (160 mg daily) or matching placebo.

Status/Results
The study is now complete and the main results were published in The Lancet in 2000. The study demonstrated a clear reduction in the risk of pulmonary embolism and deep vein thrombosis among patients assigned aspirin.

PROGRESS: perindopril protection against recurrent stroke study

Institute Investigators
John Chalmers, Stephen MacMahon, Bruce Neal, Mark Woodward

Collaboration
University of Auckland, New Zealand; University of Melbourne, Australia, Chinese Academy of Medical Sciences, China; National Cardiovascular Center, Japan; University of Glasgow, UK; Lariboisiere Hopital, France; University of Milan, Italy; Uppsala University, Sweden and 172 other hospital and university centres worldwide.

Funding Agencies
The Health Research Council of New Zealand, the National Health & Medical Research Council of Australia and Institut de Recherches Internationales Servier.

Aims
The objectives of PROGRESS are to determine the effects of an ACE inhibitor-based blood-pressure lowering regimen on the risks of stroke, dementia, disability and dependency, and other major cardiovascular disease events in patients with a history of stroke or transient ischaemic attack (TIA).

Methods
PROGRESS is a randomised, double blind placebo controlled trial in which participants with stroke or TIA were randomised to ACE inhibitor (perindopril)-based treatment or matching placebo(s). 6105 patients have been recruited and follow-up is scheduled to be completed early in 2001.

Status/Results
The study is now entering the final year of follow-up. First results from the study are anticipated to be available in mid-2001.
Other Activities of the Heart & Vascular Diseases Program

Staff of the Heart and Vascular Diseases Program have also been involved in the conduct of the Fletcher Challenge Heart and Health Study – a prospective observational study of individual and social determinants of chronic disease and injury disease in New Zealand (commenced 1994, 10,500 participants recruited) and the New Zealand Blood Donors’ Health Study – a prospective observational study of individual and social determinants of injury and chronic diseases in New Zealand (commenced 1997, 22,000 participants recruited).

Injury

Overview

This research program is focussed on motor vehicle-related injuries, musculoskeletal conditions (including fall-related injuries), and trauma management. The choice of the first two areas primarily reflects their current and projected importance as global and regional causes of death and disability. By 2020, motor vehicle-related injuries are expected to become the sixth leading cause of death and the third leading cause of years of healthy life lost due to death or disability, worldwide. The burden of ill health caused by these injuries will grow particularly quickly in the developing and newly industrialised regions of the world, including those of the Asia and Pacific regions, as the use of motor vehicles increases rapidly. In these regions, the burden of ill health caused by motor vehicle-related injuries is expected to approximate that caused by coronary heart disease in the same populations, and will exceed by a factor of almost 10 the burden of ill health caused by motor vehicle-related injuries in developed countries. Nevertheless, the burden will also remain substantial in the developed world, in which it will remain among the five leading causes of loss of healthy years of life. Musculoskeletal conditions and fall-related injuries in particular are also predicted to become more important causes of disability worldwide. By 2020, fall-related injuries alone are expected to confer a similar burden of ill health as that conferred by chronic obstructive pulmonary disease (ie. the annual loss of 25-30 million years of healthy life due to death or disability).

The Injury Program has made important progress during its first 18 months of operation. In particular, recruitment has been completed for two major studies for which the Institute has continuing primary responsibility: the Auckland Car Crash Injury Study (ACCIS) and the New Zealand Blood Donors’ Health Study (NZBDHS).

Analyses from the former study, involving over 1000 drivers, should elucidate the role of driver sleepiness in motor vehicle occupant injuries as well as the roles of a number of other driver, vehicle and road environmental factors. Analyses of the baseline data from the 22,000 participants in the NZBDHS (a prospective cohort study) are likely to be undertaken over the next 18 months and will examine cross-sectional relationships between various potential risk factors and self-reported motor vehicle-related injuries, fall-related injuries and violence.

The development of new research projects has been a major focus of the Injury Program over the past 18 months. A proposal for a cohort study aimed at identifying risk factors for driver injuries among 20,000 young people has involved
collaboration with colleagues at Curtin University, the University of New South Wales, the NSW Roads and Traffic Authority and the Motor Accidents Authority. Additionally collaborations with colleagues at Beijing Medical College and Shenyang Medical College in China have resulted in the development of a proposal to conduct a case-control study to identify potentially modifiable risk factors for motor vehicle-related injuries in that country.

A proposal has also been developed for a randomised controlled trial to examine the effects of a non-steroidal anti-inflammatory drug on ectopic bone formation, pain and disability following hip replacement surgery and the outcome of a funding application should be known in late 2000. Additionally, in collaboration with the Australia and New Zealand Intensive Care Society Clinical Trials Group and the Australian Red Cross Blood Service, a proposal has been developed for a large trial, involving 15 intensive care units in Australia and New Zealand, examining the efficacy and safety of albumin versus saline for fluid resuscitation in critically ill patients. While the final outcome of funding applications will be known in late 2000, considerable support has been offered from all state and territory governments in Australia.

While the continued growth of the injury program over the new few years is dependent on obtaining funding to support its research, the program and its staff are already making an impact nationally and internationally. Staff are active contributors to injury network meetings both in NSW and elsewhere in Australia and the Institute plays an integral role in its support for the development of the Global Forum for Health Research’s Road Traffic Initiative in Developing Countries.

Studies of the Injury Program

**ACCIS: Auckland car crash injury studies**

**Institute Investigators**
Robyn Norton.

**Collaborators**
University of Auckland, New Zealand; Auckland Healthcare, New Zealand.

**Funding Agencies**
Health Research Council of New Zealand, Transit New Zealand.

**Aims**
To identify and determine the contribution of potentially modifiable risk factors for motor vehicle-related injuries and to identify the longer-term burden of disability attributable to car crashes. Factors predictive of poor long-term outcome will also be investigated.

**Percentage of Global Burden of Death and Disability from Injury: 1990 and 2020**

![Percentage of Global Burden of Death and Disability from Injury: 1990 and 2020](Global Burden of Disease Project, 1996)
**Methods**

This is a case-control study, involving data collected from over 500 drivers involved in injury-related car crashes and over 500 drivers randomly driving on the roads in the Auckland region of New Zealand. There is an additional prospective component, in which cases and controls are followed up at four and 18 months following the initial interview. The physical and psychosocial functioning, health-related quality of life and welfare consequences of drivers involved in injury crashes will be compared with equivalent outcomes for drivers selected at random from the Auckland region.

**Status/Results**

Data collection for the case-control study was completed in 1999. Initial analyses are focusing on the role of driver sleepiness/fatigue in the incidence of driver injury. The four months follow-up data collection has been completed and the 18 months follow-up is ongoing. The first published reports from this study should be available in 2001.

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**AHFS: Auckland hip fracture studies**

**Institute Investigators**

Robyn Norton, Marlene Fransen, Rebecca Ivers, Mark Woodward.

**Collaboration**

University of Auckland, New Zealand; University of Otago, New Zealand; Middlemore Hospital, New Zealand.

**Funding Agencies**

Health Research Council of New Zealand.

**Aims**

To determine risk factors for hip fracture among older people and, after two years, to identify adverse outcomes attributable to the hip fracture.

**Methods**

The Auckland Hip Fracture Studies involved the conduct of a case-control study (n=910 cases and 911 controls) and a prospective cohort study, in which all cases and controls were recontacted at two years.

**Status/Results**

Analyses of the case-control data have shown that poor vision is an important risk factor for hip fractures in older people; the findings have been accepted for publication in the American Journal of Epidemiology. Additional analyses, utilising data from the cohort study, have shown that community-dwelling older people who sustain a hip fracture are significantly more likely to die or be institutionalised than are their peers.
Causes and consequences of motor vehicle-related injuries in China

**Institute Investigators**
Robyn Norton, Ting-Rui Guan.

**Collaboration**
Peking Union Medical College, China; Shenyang Medical College, China.

**Funding Agencies**
Funds to support the study in China are being sought from the Wellcome Trust.

**Aims**
To identify the causes of motor vehicle-related occupant injuries and document the longer term morbidity and disability associated with non-fatal injuries in China.

**Methods**
Population-based case-control study and a prospective cohort study.

**Status/Results**
Preliminary investigations have shown that it should be possible, over a period of two years, to recruit 1000 drivers of motor vehicles in which one or more occupants have been killed or hospitalised in the northern China city of Shenyang. The Traffic Police Bureau of Shenyang have offered their support to the study in facilitating the recruitment of controls (a random sample of 1000 drivers on the roads in Shenyang).

HIPAID: prevention of ectopic bone formation with anti-inflammatory drugs after hip replacement

**Institute Investigators**
Robyn Norton, Marlene Fransen, Bruce Neal, Stephen MacMahon.

**Collaboration**
Royal North Shore Hospital, Sydney; Rehabilitation Studies Unit, Sydney; University of Auckland, New Zealand.

**Funding Agencies**
Funds are currently being sought from the National Health and Medical Research Council of Australia and the Health Research Council of New Zealand.

**Aims**
To determine the effects of a non-steroidal, anti-inflammatory drug on the occurrence of ectopic bone formation and post-operative pain and disability after hip replacement surgery.

**Methods**
Randomised controlled trial of 1000 patients recruited from approximately 40 orthopaedic centres in Australia and New Zealand.

**Status/Results**
The outcome of funding applications should be known in late 2000.
Institute Programs

New South Wales young drivers’ cohort study

Institute Investigators
Robyn Norton, Lawrence Lam, Mark Woodward

Collaboration
Curtin University, Western Australia; University of New South Wales; Roads and Traffic Authority of NSW, Sydney.

Funding Agencies
Funds are currently being sought from the Motor Accidents Authority and the Roads and Traffic Authority of NSW.

Aims
To identify potential risk and protective factors (road risk perceptions, risky driving behaviours, pre-licensing driver experience and training/education) for motor vehicle-related crashes and injuries among young people aged 17 – 29 years.

Methods
A prospective cohort study of 20,000 young people recruited at the time they receive their provisional drivers licence at a NSW Roads and Traffic Authority licensing centre is proposed. Baseline information from participants would be linked prospectively to information about motor vehicle crash and injury involvement, prior to the age of 30 years, collected and routinely recorded in databases maintained by the NSW Road and Traffic Authority and the NSW Coroners.

Status/Results
The outcome of funding applications should be known in late 2000.

NZBDHS: New Zealand Blood Donors’ Health Study

Institute Investigators
Robyn Norton, Stephen MacMahon

Collaboration
University of Auckland, New Zealand; University of Otago, New Zealand.

Funding Agencies
Health Research Council of New Zealand.

Aims
To identify risk factors for a range of injury outcomes, including motor vehicle-related injuries.

Methods
Baseline information has been obtained from over 22,000 individuals aged 16 – 60 years at the time they provided a voluntary blood sample at one of several static or mobile New Zealand Blood Service sites, situated in the northern half of the north island of New Zealand. Information collected from study participants will be linked prospectively to information routinely collected by the New Zealand Health Information Service on all deaths and hospitalisations.

Status/Results
Recruitment and baseline data collection were completed in the latter half of 1999. Initial descriptive and cross-sectional analyses are ongoing.
SAFE: saline vs albumin fluid evaluation study

**Institute Investigators**
Robyn Norton, Stephen MacMahon, Bruce Neal

**Collaboration**
Australia and New Zealand Intensive Care Society Clinical Trials Group and the Australian Red Cross Blood Service.

**Funding Agencies**
Funding is currently being sought from the National Health and Medical Research Council of Australia, the Health Research Council of New Zealand, the Australian federal government and all state and territory governments, the Commonwealth Serum Laboratories and Bayer AG.

**Aims**
To determine the effects on all cause mortality of fluid resuscitation with 4% human albumin solution in normal saline or normal saline alone in critically ill patients in intensive care settings.

**Methods**
Randomised controlled trial of saline versus albumin fluid in 7000 patients recruited from 15 intensive care units in Australia and New Zealand.

**Status/Results**
The outcome of funding applications will be known in late 2000.

TRIP: translation of research into practice – prevention of falls and fall-related injuries

**Institute Investigators**
Robyn Norton, Aleksandra Natora

**Collaborators**
University of Sydney and Rehabilitation Studies Unit, Sydney.

**Funding Agencies**
Commonwealth Department of Health and Aged Care.

**Aims**
To determine whether small group interactive sessions, involving both practitioners and researchers, have the potential to be an effective means of transferring information between researchers and practitioners and, as a consequence, whether this method will enhance implementation of falls and falls-related injury evidence into practice.

**Methods**
Interactive sessions were planned with practitioners in six falls and falls-related program practice fields – geriatricians, health promotion managers, in-hospital nursing staff, nursing home managers, allied health workers and general practitioners. All sessions were facilitated, followed a standard format and were audio-taped for later transcription and analysis.

**Status/Results**
Five sessions were undertaken between November 1999 and June 2000. The findings of the study will be presented in late 2000.
Young males and risk taking project

**Institute Investigators**
Robyn Norton, Lawrence Lam

**Funding Agencies**
NSW Health Department.

**Aims**
To identify interventions that reduce/prevent risk taking behaviours in young males, including risky driving behaviours.

**Methods**
Systematic review of reviews that have examined the literature on known effective interventions for the prevention of risk taking behaviour among young males.

**Status/Results**
Completed November 1999. Overall, the study found that few reviews had been undertaken and of those that had, most were poor quality. In general, the quality of the evaluated intervention studies was poor. As a consequence, it was not possible to make specific recommendations about effective interventions. Recommendations for the development and implementation of interventions, based on comments provided by the authors of the best quality reviews, were made.

**Other Activities of the Injury Program**
The Institute for International Health is one of the partner organisations involved in the Global Forum for Health Research – Road Traffic Initiative, which aims to identify potential resources and support for research focussed on the problem of motor vehicle-related injuries in developing countries. The 1st Road Traffic Initiative meeting was held in Uganda, in May 2000. Staff of the Injury Program have also been involved in the conduct of the Fletcher Challenge Heart and Health Study – a prospective observational study of individual and social determinants of chronic diseases and injuries in New Zealand (commenced 1994, 10,500 participants recruited).

**Mental Health**
Neurological and psychiatric conditions are major causes of disability worldwide and, through their effects on suicide, in particular, are important causes of death. Worldwide in 1990, these conditions were estimated to be responsible for about 10% of all healthy life years lost due to death or disability. This contribution is expected to increase to 15% by 2020. Unipolar major depression is believed to be the neuropsychiatric condition responsible for the largest loss of years of healthy life. In 1990, it was the fifth leading cause of loss of healthy life years, and by 2020 it is predicted to become the second leading cause (after coronary heart disease). The burden of ill health caused by this condition appears to be greater in the developing and newly industrialised world in which it is the leading cause of loss of healthy years.

It is planned that the Institute’s Mental Health Program will be established during 2000/2001. A major focus of current efforts is to raise funds for the appointment of a Program Director and associated support staff. Full details of the projects to be conducted within this program will be developed once a Director is appointed.
Biostatistics

Biostatistics is central to all aspects of the Institute's research and development program and is an important component of public health services. A strong Biostatistics Program is therefore a major strategic objective of the Institute. This Program commenced operation with the appointment of Dr Mark Woodward as Acting Director in January 2000. The Program staff contribute to study design and data analysis in all Institute programs, as well as coordinating data management facilities and providing computer software and hardware support. The Biostatistics Program is involved in post-graduate teaching at the University of Sydney and at Macquarie University. During the second half of 2000, Program staff are planning to conduct a 5-day course in advanced biostatistics in Vietnam.

In addition to its work within the Institute, the Biostatistics Program is involved in collaborative projects with various other institutions including: the University of Dundee, Scotland (WHO MONICA Project and the Scottish Heart Health Study); the University of Glasgow, Scotland (the international CALIBRE trial of drug treatment as adjuncts to defibrillation in ventricular fibrillation, the GLAMIS case-control study of myocardial infarction and several other studies); University College, London (studies of genetic markers of thrombotic factors and their associations with cardiovascular diseases); and the University of Szeged, Hungary (studies of sexually transmitted diseases and chlamydia trachomatis infection in pregnant women).

The Biostatistics Program also provides consultant statistical advice to various research groups in Sydney including the Department of Rheumatology and the Pain Management & Research Centre at Royal North Shore Hospital and the NSW Centre for Perinatal Health Services Research at the University of Sydney.

The Biostatistics Program was strengthened in June 2000 by the arrival of Federica Barzi, on a fellowship from the Laboratory of Clinical Epidemiology of Cardiovascular Disease at Consorzio Mario Negri Sud, Santa Maria Imbaro, Italy. She will mainly be working on the Asia Pacific Cohort Studies Collaboration but will also be working on analysis of dietary data from the GISSI-Prevenzione study conducted in Italy. It is hoped that this will lead to further collaboration and staff exchange with the Italian institute.

In 2001, the Biostatistics Program will take over responsibility for the management of the Institute's major cohort studies including the Asia Pacific Cohort Studies Collaboration, the New Zealand Blood Donors Study, and the Fletcher Challenge Heart and Health Project. Methodological research is the next priority for expansion of the Program's work, with the appointment of another senior statistician planned.
Policy and Practice

Facilitating evidence-based health policy and practice is a major priority for the Institute. The Institute’s Policy and Practice Program will be launched in 2000/2001 and its objectives will be to facilitate the formulation and implementation of the most effective and affordable, research-based health care (including health promotion) policies and practices for those diseases and injuries responsible for the greatest burden of death and disability and the greatest proportion of health care cost. Like the research programs, the policy and practice programs will be conducted in both Western and Eastern populations in collaboration with other regional and international agencies. It is intended that the Institute’s Policy and Practice Program will involve a broad variety of activities including the provision of technical reports on current health status or health care practice in specific countries or regions, the development of guidelines for research-based health care policy and practice, the preparation of advisory reports on priorities for investment in health care, the formulation and implementation of new health care programs, and evaluation of the effects of such initiatives. The Program will also include an information dissemination service for the notification and promotion of key findings from the Institute’s research and development programs. Additionally, this service will provide a local and regional resource centre for key epidemiological data and related information on heart and vascular diseases, injury and neuropsychiatric conditions.

Full details of the projects to be conducted by the Policy and Practice Program will be developed when a Director is appointed in 2001.

Finance and Administration

The Finance and Administration Program is responsible for overseeing all financial and administrative activities of the Institute. A search for a Director for this program was undertaken during 2000 and Gillian Dowell was recently appointed to the position. A full set of standard operating procedures that will govern major aspects of the financial and administrative activities of the Institute will be developed and implemented during 2001.
Teaching and Training

Institute staff contribute to teaching at both the graduate and postgraduate levels in the University of Sydney. At the graduate level, the main contribution is to courses for the Bachelor of Medicine and Bachelor of Surgery (MB BS) degrees. At the postgraduate level, the major educational focuses of the Institute are doctoral (PhD and MD) and post-doctoral programs in epidemiology, biostatistics and clinical research, with the specific aim of training potentially independent epidemiological, biostatistical and clinical researchers. This training is undertaken in association with the Department of Public Health and Community Medicine at the University of Sydney and clinical departments of the University. Students from the wider Asia and Pacific regions, in addition to local graduates, are encouraged to apply for training positions. Institute staff also contribute to courses for the Master of Public Health (MPH), Master of International Public Health (MIPH) and Master of Clinical Epidemiology (M ClinEpi) programs. Short courses in biostatistics, epidemiology and clinical research are also offered from time to time.

Students in 1999/2000

Supervised by Professor Stephen MacMahon
PhD students:
Bruce Neal (completed, 2000)
Gary Whitlock (completed, 2000)
Anthony Rodgers (ongoing)
Natalie Walker (completed, 2000)

Supervised by Professor Robyn Norton
PhD students:
Gary Whitlock (completed, 2000)
Shanthi Ameratunga (ongoing)
Jennie Connor (ongoing)
Lawrence Lam (ongoing)

MPH students:
Alaa Al-Murieb (completed, 2000)
Susan Wells (completed, 2000)

Supervised by Dr Mark Woodward
PhD students:
Venkata Putcha (completed, 2000)
Peer Reviewed Journals


Chalmers J. The use of free and fixed drug combinations to improve hypertension control in our populations. Eur Heart J 1999; 20:1060-1.


John Chalmers


Clinical trials are the gold standard. Annual Scientific Meeting of the American Society for Hypertension. New York, USA 2000.


Four presentations: (1) Debate on guidelines (2) PROGRESS (3) Blood pressure goals (4) Preterax. 18th Scientific Meeting of the International Society of Hypertension. Chicago, USA 2000.


Efficiency and acceptability of a fixed low-dose perindopril-indapamide combination. XX1st Congress of European Society of Cardiology. Barcelona, Spain 1999.


Ting-Rui Guan


Deaths from motor vehicle related injury in 100 million population in China. 16th World Congress of the International Association of Accident and Traffic Medicine. Chongqing, China 1999.

Rebecca Ivers


Lawrence Lam


Stephen MacMahon


The true effects of established risk factors for cardiovascular disease. International Conference on Heart Health in the Developing Countries. New Delhi, India 1999.


Results of the Pulmonary Embolism Prevention Trial. 47th Meeting of the Cardiac Society of Australia and New Zealand. Wellington, New Zealand 1999.

Results of the Pulmonary Embolism Prevention Trial. SIROTISICOT World Congress. Sydney, Australia 1999.

Evidence from randomised controlled trials of antihypertensive drugs. Symposium on Hypertension and Related Diseases. Sydney, Australia 1999.


Aleksandra Natora

Bruce Neal


Randomised trials in orthopaedics. The combined seminar series. National Health and Medical Research Council of Australia, Clinical Trials Unit. Sydney, Australia 1999.


**Robyn Norton**

Conspicuity and risk of motorcycle injuries. 17th World Congress of the International Association for Automotive Traffic Medicine (IAATM), Stockholm, Sweden 2000.


Reducing the global burden of injuries: the role of epidemiological research. SICU, 304th Hospital, PLA. Beijing, China 1999.

Increasing age and experience: are both protective against motorcycle injury? A case-control study. 16th World Congress of the International Association for Accident and Traffic Medicine. Chongqing, China 1999.


Risk taking and young males. Grand Rounds. Rehabilitation Studies Unit. Sydney, Australia 1999.


**Niki Vincent**


**Xin-Hua Zhang**


Cardiovascular diseases and determinants in Asian Pacific population-APCSC Project. XVIIIth Royal North Shore Hospital and University of Technology, Sydney Scientific Research Meeting. Sydney, Australia 1999.
Meetings Convened

PROGRESS Joint Management Committee and Regional Study Coordinators Meeting. Kuala Lumpur, Malaysia, April 17th 2000.
Asia Pacific Cohort Studies Collaboration Meeting. Beijing, China, October 9-10th 1999.

Staff Individual Awards

John Chalmers
Honorary Doctorate of Medicine (MD). Flinders University of South Australia. Adelaide, Australia 1999.

Marlene Fransen

Rebecca Ivers

Stephen MacMahon

Niki Vincent
Appendix – Board of Directors

Mr Peter Burrows (Chairman)

Peter Burrows, First Vice President of Merrill Lynch Private (Australia) Pty Limited brings to the Board a depth of financial experience. He is a graduate of the University of Sydney with a Bachelor of Economics degree and is an Associate of the Securities Institute of Australia. Beginning his career in 1970, Peter worked in London at Cazenove and Co, stockbrokers, successfully completing his membership examinations for The Stock Exchange, London. Returning to Sydney in 1972, Peter joined Ernest L. Davis and Co, Stockbrokers and in 1978 became a member of the Sydney Stock Exchange and a partner. From 1984-86 Peter was Managing Director of Macquarie Davis Limited and then founded Burrows Limited. In 1986 and 1987 he was awarded ‘Stockbroker of the Year’. From 1988 to 1992 he was a director of the Australian Stock Exchange (Sydney) and took on his present role in 1997. Throughout his career Peter has spent a great deal of time on charitable and voluntary activities including presently being President of The Medical Research Foundation of the University of Sydney, Governor of the Museum of Sydney and member of the Advisory Board, Centre for Health Economics Research and Evaluation, University of Sydney. He is Chairman of Encompass Bioinformatics Limited. In the past, Peter has been Chairman of the New Children’s Hospital Appeal and Director of the Northern Clinical School Appeal, Royal North Shore Hospital. He has sat on the boards of such listed companies and organisations as Garratt’s Limited (Chairman), ASC Limited, Rabbit Photo Holdings Limited, Mosaix Technologies Limited and Australian Opportunities Investment Trust.

Professor Norbert Berend

Norbert Berend was the Executive Director of the Royal North Shore Hospital and Community Health Services (1997-2000). He is also Professor of Respiratory Medicine at the University of Sydney, a position he has held since 1994. Norbert is a former president of the Thoracic Society of Australia and New Zealand and is on the Executive of the Asia Pacific Society of Respirology. He is a Director of the Northern Medical Research Foundation, the Northern Heart Research Foundation and of the Pacific Laboratory Medicine Services. Norbert served on the Institute Board until June 2000.
Appendix – Board of Directors

Professor John Chalmers, AC

John Chalmers is Professor of Medicine and Chairman of Research Development in the Faculty of Medicine at the University of Sydney. Professor Chalmers was previously Foundation Professor of Medicine and a key figure in the establishment of the Flinders Medical Centre as a major academic centre in Adelaide. Over the past 20 years, he has been Chairman or President of many bodies including the National Health and Medical Research Council, the Royal Australian College of Physicians, the Australian Society for Medical Research and the International Society of Hypertension. He has served on many government bodies including the Australian Health Ministers Advisory Council, the Australian National Council on AIDS, the Australian Drug Evaluation Committee and the Pharmaceutical Benefits Advisory Committee. In 2000, John was appointed as Professorial Fellow in the Institute for International Health.

Mr Graham Cowley, LL B

Graham Cowley is Founder and Chairman of Cowley Hearne Lawyers. In 1993, Graham initiated Cowley Hearne’s membership of Commercial Law Affiliates, the world’s largest group of independent commercial law firms, in which he holds the position of President’s Counsellor (Vice President). He is a member of the International Bar Association and the American Chamber of Commerce and was formerly Chairman of the NSW Small Business Development Council. His notable achievements include being Founder of the Australian Law Marketing Association and the North Sydney Business Forum. Graham is also currently involved in various charitable organisations, including the Board of the Epilepsy Association of NSW. Graham joined the Institute Board in July 2000.
Mr Pat Grier

Pat Grier is Managing Director of Ramsay Health Care. Pat started his career in Australia as a Marketing Manager for Reckitt and Colman a pharmaceutical company and later became the General Manager of a large international cosmetics company – Revlon. He moved into the private health care industry ten years ago and joined HCA as a Hospital Executive bringing with him experience in marketing and general management. Having worked as a Chief Executive Officer at one of HCA’s largest hospitals, he moved to Ramsay Health Care in 1988, initially as Marketing and Development Manager and subsequently becoming Chief Operating Officer. During his time as Operations Manager, Ramsay Health Care was restructured and the organisation grew by over 300%. In 1995 he became Managing Director. In 1997, in preparation for continued growth, Ramsay Health Care was successfully floated on the Australian Stock Exchange. Having been a Marketing Manager and a General Manager in the cutthroat world of the retail industry, he has brought to the health care sector a wealth of experience in consumer marketing, general management and strategic thinking.

Dr. Diana Horvath, AO

Diana Horvath is the Chief Executive Officer of the Central Sydney Area Health Service. Diana is a graduate of the University of Sydney with a Bachelors degree in Medicine and a Masters degree in Health Planning. She is a Fellow of the Royal Australasian College of Medical Administrators, the Australian Faculty of Public Health of the Royal Australasian College of Physicians and the Australian College of Health Service Executives. Diana has been awarded the Sax Medal by the Australian Hospital Association, the highest honour periodically awarded by the AHA for innovation in health care management and research, and the Arthur Anderson/Dr Ed Crosby International Award for managerial innovation. Her previous appointments include Chairman of the National Health & Medical Research Council, Commissioner for the Health Insurance Commission, Member of the Australian Health Ministers’ Advisory Council and President of the Australian Hospital Association, among many others. Diana is also currently a Board Member of the Centenary Institute for Cancer Medicine and Cell Biology, the Institute of Respiratory Medicine, and the ANZAC Health and Medical Research Institute. Diana joined the Institute Board in October 2000.
Professor Stephen MacMahon

Stephen MacMahon is a Principal Director of the Institute for International Health. He holds the Medical Foundation Chair of Cardiovascular Medicine and Epidemiology at the University of Sydney and is Honorary Professor of Medicine at the University of Auckland. Stephen was previously Director of the Clinical Trials Research Unit and Associate Professor of Medicine and Clinical Pharmacology at the University of Auckland. He is a graduate of the faculties of medicine at the University of Sydney and the University of New South Wales and a Fellow of the American College of Cardiology. He received postgraduate training in cardiovascular disease epidemiology at the National Heart, Lung and Blood Institute in the United States and at the University of Oxford. He has been the recipient of many scholarships and fellowships; in 1999 he was the recipient of the Eccles Award from the National Health and Medical Research Council of Australia for his work on the causes, prevention and treatment of cardiovascular diseases.

Professor Robyn Norton

Robyn Norton is a Principal Director of the Institute for International Health. She holds the Ramsay Health Care Chair of Injury Prevention at the University of Sydney and is Honorary Professor of Injury Prevention at the University of Auckland, New Zealand. Robyn was previously Director of the Injury Prevention Research Centre at the University of Auckland. She is a graduate of the University of Sydney and undertook post-graduate training in epidemiology at the National Institute of Alcohol Abuse and Alcoholism in the United States and the Royal Free Hospital in London. She is currently Vice President of the Australasian Epidemiological Association and Chair of the NSW Chapter of the Australian College of Road Safety.