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Health 2020: A Discussion Paper is a significant step towards achieving a strategic plan for future health care in metropolitan Perth. The discussion paper sets out a range of issues and directions to inform debate before the final metropolitan health plan is delivered. The demands being placed on the health system are increasing faster than the capacity of the State Government to identify funds to meet them.

We must have a metropolitan health plan which is strategic and designs a health system with the flexibility to change as our needs change into the next century. Without this plan, we will go through the financial uncertainty that health systems around Australia and the western world are facing year after year with its inevitable consequences for health service provision.

And yet, even though the health system is indisputably under enormous pressure, innovation and reform continue to be implemented to the benefit of the people of Western Australia.

Many people have contributed to the ideas in this discussion paper and debate on options and issues by an even larger number of people will contribute to the final report.

I encourage you in every way possible to debate the directions for metropolitan health services that are raised in Health 2020: A Discussion Paper and to put your comments to the Metropolitan Health Strategic Planning Committee.

Alan Bansemer
Commissioner of Health
June 1998
We are now well into the process of developing a strategic health plan for metropolitan Perth. I am pleased to present an interim report, Health 2020: A Discussion Paper, which is the twelfth in a series of documents designed to clearly place the health debate in the public arena.

Since September 1997, when the Western Australian Government called for the development of a metropolitan health strategic plan to the year 2020, over 3,000 people and organisations across the State have contributed their ideas, time and expertise.

The process to develop this discussion paper has been designed to ensure that the values and diverse interests of the wider community and of health professionals are understood and considered. This level of commitment has led to open discussion and the emergence of many innovative ideas for the future development of the health system.

In line with the terms of reference of the Metropolitan Health Strategic Planning Committee, we are continuing to make a concerted effort to examine future requirements and opportunities for metropolitan health services.

I am pleased to present Health 2020: A Discussion Paper to the Commissioner of Health and I recommend its release to the people of Western Australia for their consideration and comment.

Dr Dianne McCavanagh
Chairperson
Metropolitan Health Strategic Planning Committee
Health Department of Western Australia
June 1998
The health system we now have is a legacy of the circumstances of the past. It arose from a legitimate response to particular times and, while appropriate for those times, it locks us into the solutions of yesterday. With changes in the demography of Perth and with changing community views about health, the inner city can no longer be considered the focal point for the delivery of health services.

The public holds strong views about health. Over 2,500 people living across the Perth-Peel area were interviewed by telephone and asked their views on how they and their children used health services and what they required in the future. Altogether the views and requirements of over 4,300 individuals were obtained in this community survey.

There were two clear messages from the public. Firstly, wherever possible, shift services from hospitals in the centre of Perth and provide them closer to where most people live. Secondly, people expressed confidence in the high quality of clinical services delivered in tertiary hospitals and wanted local services of the same standard.

There was general agreement by community leaders and local government representatives that tertiary services were unduly concentrated in the inner city. Their preferred solution was to retain both Royal Perth Hospital and Sir Charles Gairdner Hospital but to rationalise services and thus unlock resources to move to the outer suburbs. As part of this approach, they were of the view that Royal Perth Hospital and Sir Charles Gairdner Hospital should provide complementary not parallel services.

Health experts identified three key changes for the future of health services in Perth. Firstly, to bring together the diverse parts of the health sector to provide continuity of care for patients; secondly, to clearly delineate primary, secondary and tertiary services and to provide these services in the most appropriate settings and wherever possible in the community; and thirdly, to develop services of the highest quality to best meet future health needs in those parts of Perth where services are most needed.
Within the public system in the Perth metropolitan area almost all people receive their inpatient care in a tertiary hospital. Over recent years the public system in Perth has seen the growth of tertiary hospitals outstripping that of secondary hospitals. During the eight-year period 1989-90 to 1996-97, admissions to metropolitan public hospitals have increased by almost 40% with significant increases in the proportion of same-day admissions and a continuation of the downward trend in average length of stay.

A new approach for the delivery of clinical services is required which does not perpetuate a hospital model that is rapidly becoming outdated because of advancing technology and changing clinical practice.

This discussion paper proposes the development of major new state-of-the-art Health Centres in the suburbs with clinical services delivered through newly-formed partnerships of clinicians who will bring clinical expertise from the hospitals into the community.

It is proposed that these partnerships of clinicians, known as Integrated Clinical Services, be implemented so that clinicians assume the responsibility for managing patients across the continuum of care, from initial diagnosis and acute treatment through to ambulatory care and home-based services. This means, for example, that people with cancer would have their comprehensive care needs met without having to negotiate their own way through a complex health system.

Integrated Clinical Services will provide the means for the best standards of care to be disseminated and practised across the metropolitan area so that patients can expect the same high standards of care wherever they are treated within the public system. Teaching will also be undertaken across hospital and community settings. Patients will be confident that they will be treated by clinicians who have available to them the most up-to-date knowledge and who have the authority to obtain the best range of clinical services required.

It is anticipated that there will be approximately twelve Integrated Clinical Services. Clearly, there will have to be a trade-off between the desire of each specialty to have its own Integrated Clinical Service and the need for a critical mass, economies of scale and effective accountability.

A fundamental requirement for this approach to succeed is the alignment of financial responsibility and clinical responsibility. The management expertise of general managers and the clinical expertise of directors of Integrated Clinical Services will be combined in partnerships with joint responsibility for budget management.

Within the system of Integrated Clinical Services, the primary attachment of professional staff will be to the Integrated Clinical Services which will not be confined to any one institution or facility and will operate across boundaries of hospitals and community services. This flexibility has been made possible with the establishment of the Metropolitan Health Service Board.

Prior to the formation of Integrated Clinical Services, macro targets will be established in consultation with clinicians to devolve services to population growth areas. Targets will include the development of complementary rather than parallel services between Royal Perth Hospital and Sir Charles Gairdner Hospital, the devolution of most secondary services to the outer metropolitan area including children’s and women’s services, the devolution of outpatient services from tertiary and secondary hospitals into community settings and the staged relocation and development of rehabilitation services currently provided on the Shenton Park Campus of Royal Perth Hospital.

It is also proposed that Health Centres be established as free-standing multipurpose centres located close to the heart of major regional retail complexes.

These Health Centres will provide the maximum range of diagnostic and treatment services that can safely be supported in a community setting, some of which include:

- same-day surgery;
- renal dialysis;
- chemotherapy;
- post-operative nursing and support services;
- high technology diagnostic services; and
- antenatal services.
Health Centres will be located in areas of high health service need where similar services are not readily available. There are a number of significant advantages to the proposed free-standing Health Centres including:

• shifting the central focus for health care to the heart of the local community by providing a comprehensive range of services for the whole family;
• minimalising cancellations for elective day surgery and investigative procedures because separate sites will eliminate competition with urgent inpatient care;
• providing services which were previously restricted to secondary and tertiary hospital settings in community settings;
• making high quality specialist advice readily available through the introduction of sophisticated telehealth systems;
• providing services locally for people with chronic health problems requiring regular treatment, for example, renal dialysis; and
• reducing the burden of travel for people who are ill and require treatment services in settings which are as comfortable and non-institutionalised as possible, such as people receiving chemotherapy.

Health Centres are the key to shifting services to the community. Following appropriate services being moved to the Health Centres, the targeted redevelopment of hospitals as focused, more technologically sophisticated facilities concentrating on larger volumes of complex and/or high-cost treatments - the hospitals of the future - will be possible. Our ageing building stock makes it imperative that we use this opportunity for a targeted redevelopment program.

While selected clinical areas that were highlighted during consultations as requiring change are examined in this paper, no attempt has been made to develop comprehensive strategic service plans as this will be one of the first tasks for each Integrated Clinical Service in partnership with the Health Department of Western Australia. The discussion paper concludes with a proposed Policy and Funding Package which includes a predictable funding path, alignment of financial and clinical responsibility through the Integrated Clinical Services, the replacement of annual contracts with medium-term service agreements and the continued development of the budget reform process.

The initiatives proposed in this discussion paper have a strategic, longer-term focus which will enable the health system to meet the changes that are required to deliver better health services through to the year 2020.
A tent on Garden Island was set up as the first hospital in the State in 1829. Two more hospitals were set up in rented accommodation before the Colonial Hospital was finally established on its current site in 1855.

The histories of the establishment of the Colonial Hospital (now Royal Perth Hospital), The Knowle (now Fremantle Hospital), Perth Children's Hospital (now Princess Margaret Hospital for Children), King Edward Memorial Hospital for Women and Sir Charles Gairdner Hospital provide fascinating insights, not only into the people behind their development and their achievements, but also into the thinking and attitudes which have shaped the evolution of the health system over the years.

In the years since European settlement, the Western Australian health system has been subject to accumulating pressures which have from time to time come together to bring about significant shifts in the health system. It has gone through a number of more or less identifiable phases, each ushered in by a coalescence of political, economic, social and technological pressures for change.

In Destitute Circumstances – 1829 to 1890

In 1842 one of the early Governors of Western Australia asserted:

...there are no Public Hospitals in Europe entirely supported from the Public Chest... they are invariably supported either by funds devised by parties in trust for the purpose or annual private subscriptions. It is therefore absolutely necessary to confine the indulgence to persons who are in destitute circumstances.¹

How different this was from the lot of influential private citizens to whom it was:

...a mark of respectability and affluence to be able to secure medical attention in their own homes.²

The Governor's insistence that public hospitals should be reserved for the poor and destitute was consistent with contemporary thinking in early Victorian England, the 'well' from which the early settlers of Western Australia had sprung. Prospective hospital patients were rigorously screened to ensure that they were in

¹ Governor Hutt (1842), in History of Royal Perth Hospital, G C Bolton & P Joske, 1982.
destitute circumstances. It was not until 1946, following the introduction by the Commonwealth Government of a bed-day subsidy, that Western Australian public hospitals finally dropped the 'means test' and opened their doors to all members of the community.

Western Australia was a small and struggling colony of some 5,000 people in 1850 when the transportation of convicts commenced (1850 to 1868). By 1890, when representative government was introduced, the population had risen to 46,000. The discovery of gold in the Kimberley, Murchison and Eastern Goldfields regions between 1885 and 1893 brought a period of economic prosperity and rapid growth and by the turn of the century the population of Western Australia had more than trebled to 180,000 people.

A tent on Garden Island was set up as the first hospital in the State in 1829. Two more hospitals were set up in rented accommodation before the Colonial Hospital (later Royal Perth Hospital) was finally established on its current site in 1855. Unlike the hospitals in eastern Australia, the Colonial Hospital was funded primarily from the public purse and control of the hospital remained in the hands of the Executive Council. As a place reserved for the treatment of the destitute, there was little pressure from most of the influential private citizens about the standard of hospital care.

Medical treatments available for much of the nineteenth century were rudimentary by today's standards and hospitals were unpopular, even amongst the destitute. But this was to change with major scientific discoveries such as anesthesia (1842), antiseptic surgery (1867), bacteria (1876), diphtheria antitoxin (1892), X-rays (1895), viruses (1898), radiation (1896) and Aspirin (1899). In 1872 the earliest recorded surgery under a general anaesthetic (chloroform) in Western Australia took place.
Unaccustomed Luxury
- 1890 to 1914

On Friday, 22 January 1897, after years of community campaigning, Fremantle Hospital was finally established on its current site:

...the patients were very carefully carried on stretchers from Point Street to The Knowle. A party of men from the prison, who had been busy putting fittings and beds in position for some days, were still making the carriageway from Alma Street...nurses were delighted with two or three gas stoves to heat water, and the unaccustomed luxury of plumbing to pipe hot and cold water to fixed baths and sinks.1

In 1892, there were ten Government hospitals in Western Australia with a total of 102 beds. The next quarter of a century brought unprecedented change and growth in the Western Australian health care system with many other developments such as:

- Infectious Diseases Hospital at Shenton Park (1893);
- first Hospitals Act to regulate hospitals (1894);
- extension of the Perth Hospital (1897 and 1904);
- X-ray department at the Perth Hospital (1897);
- St John of God, Subiaco (1897);
- Homes of Peace, Subiaco (1903);
- Claremont Hospital (1909);
- Perth Children’s Hospital (1909);
- school medical services (1910); and
- King Edward Memorial Hospital for Women (1916).

What led to such a revolution in the health care system? Clearly, the economic prosperity that came with the discovery of gold played a major enabling role, but this alone would not have been sufficient. A number of additional factors came together to produce this change, including:

Political factors
- establishment of parliamentary democracy in WA (1890);
- Australian Federation (1901); and
- growth of unionism (commenced 1880s).

Social factors
- dramatic population growth (approximately 250,000 between 1890 and 1914) and increasing complexity of society;
- changing community values with active questioning of the conventional social order, including the origins of disadvantage;
- introduction of voting for women in State elections (1899); and
- introduction of Federal Invalid and Old Age Pensions Act (1908).

Technological factors
- the rapid growth of medical technology founded upon the scientific discoveries of the 19th century dramatically increasing the availability of effective treatments and raising public confidence in the health care system; and
- improved communication and transport systems.

Notwithstanding these substantial changes in health care, public hospitals essentially remained restricted to poor and worthy sufferers, still under the auspices of charity. To cater for the growing demands for hospital services of the more affluent members of society, small private hospitals started to spring up around Perth during the 1890s. By 1928, St John of God Hospital in Subiaco was taking over 60% of all private patients.

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An Acute Shortage of Ready Money - 1914 to 1945

The outbreak of the First World War in 1914 brought an end to the great period of hospital building in Western Australia. In the postwar period, State Government attention turned to infrastructure development and the rural areas. In 1927, the Hawkin’s Committee was convened to review hospitals in Western Australia. Based on United States’ benchmarks, it estimated that the Perth metropolitan area required 900 beds for general cases and 135 for infectious diseases, compared with its existing 765 and 90 respectively.

The Committee estimated that by 1937, the Perth Hospital would require 537 beds. Believing that these beds could not be accommodated on the present site, it recommended the development of another public hospital adjacent to the University of Western Australia, a proposal that was to surface again some twenty years later.

The year 1929 brought the onset of the Great Depression which was to last until 1933. In that year the Perth Children’s Hospital launched an appeal amongst businesses and individuals to help cover its costs. Unlike the Perth Hospital, the Perth Children’s Hospital had, from its inception, raised most of its operating funds from charity and by public subscription.

The appeal, launched during the depression, was predictably unsuccessful. It was reported:

There appears to be an acute shortage of ready money...distress and poverty exist in nearly all suburbs...As a result of the straitened circumstances brought about by unemployment, sickness and other causes, many families are in a miserable condition. The state of the houses in which many of these people live must seriously militate against the health of children.  

The Government was approached for a grant. Reluctantly, in 1930, the Government accepted responsibility for regular contributions to the maintenance and operating costs of the public hospitals and in 1931 the Hospitals Tax Act came into effect. This Act provided for regular subsidies to public hospitals of six shillings per occupied bed day.

By 1937, the Perth Hospital was under considerable pressure and the Hospital Board commissioned a review. The report was scathing about conditions in the hospital and recommended the building of a new multi-storey block on the Wellington Street site. Although eventually approved by Government in 1939, in 1942 construction was interrupted by the Second World War. The building was finally opened in 1948.

The period between the wars can be viewed as one of consolidation during which a number of important projects were undertaken, focusing primarily on extending the capacity of existing health care services. Projects included:

- a children’s ward at Fremantle Hospital (1919);
- Commonwealth Rehabilitation Wards at the Perth Hospital (1922);
- the first school dental service (1926);
- a radium treatment unit at the Perth Hospital (1928);
- Heathcote Hospital, for the reception of people suspected of having a mental illness (1929);
- the new Centenary Block at King Edward Memorial Hospital (1932);
- the first infant health clinic (1934);
- significant re-development of the Infectious Diseases Hospital at Shenton Park (1938);
- an Infant’s Ward at the Perth Children’s Hospital (1938); and
- the establishment of a Blood Bank (1940).

During this time, medical technology continued to advance, spurred on by both wars. Penicillin was introduced into clinical practice in 1943.

Centres of Science and Technology – 1945 to 1982

The experience of war and depression had a significant impact on the Australian psyche and during the 1920s and 1930s there was considerable debate about social welfare provisions. The debate essentially centred on the appropriateness of contributory welfare schemes (based upon the doctrine of ‘individual responsibility’) versus universalism (based upon the doctrine of ‘collective rights’).

With the war requiring greater central direction and control, the Federal Government moved to centralise taxation, previously the province of the States. A High Court challenge not only upheld the Federal Government’s powers for the duration of the war, but for all time. This decision irrevocably brought about a change in the relative access to finance of the State and Federal Governments. It was to have a profound effect on the shape of health and social policies.

In rapid succession, the Federal Government moved to introduce child endowment (1941), a widow’s pension (1942), the national welfare fund (1943), maternity allowance (1943), unemployment and sickness benefits (1944), increases to existing aged and invalid pensions (various points) and the medical benefits schemes (1944-1949).

The introduction of the Commonwealth hospital bed-day subsidy in 1946 had a profound effect on the public hospital system, opening up all Western Australian public hospitals to the entire community for the first time.

The 1950s and 1960s was a period of almost continuously expanding production and prosperity throughout Australia. Western Australia experienced an added benefit with the mineral boom of the late 1960s. The population of the State increased dramatically from 500,000 in 1947 to 1 million by 1970.

Fuelled by this period of growth, Western Australia’s health care system underwent massive change and development during the period 1945 to 1982, essentially taking on the shape which would be familiar to most people today.

Three additional factors that played a significant role in shaping the Western Australian health system over this period of time were:

- the establishment in 1956 of the Medical School at the University of Western Australia;
- the Committee of Enquiry into Metropolitan Hospital Needs in 1961 (Stephenson Report); and
- the entry of the Federal Government into health care policy and funding.

With access to anaesthesia, a sterile environment, X-rays and good professional nursing, the 20th century hospital finally arrived. But developing medical technology meant that people had to go to the technology, it could no longer be brought to them. The hospitals had been transformed into centres of science and technology.

In 1954, the State Government approved the establishment of a Medical School at the University of Western Australia. Prior to this, students wanting to study medicine had had to travel to Adelaide or Melbourne. The first student intake was in 1956. Four years later, the University Senate put a submission to the Minister for Health asking for a re-examination of the proposal for the development of a new general and teaching hospital at Hollywood, adjacent to the University.

The Dean of the Faculty of Medicine wrote in 1960:

...when the Medical School was established in 1956, it was not thought probable that the accommodation provided at the Royal Perth Hospital would serve as the nucleus of an expanding faculty universe...and a forecast was made that “within twenty years” Government would be faced with building a permanent home for the Faculty in close proximity to a new specialist hospital...

In the event, the shortage of faculty accommodation has been felt at an earlier date than was ever anticipated...

The Minister for Health set up a Special Committee of Enquiry, headed by Professor Gordon Stephenson, to investigate the University’s proposal and to review the hospital requirements of the metropolitan region at the same time.

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5. E Saint, ‘Submission from the Dean of the Faculty of Medicine’, in Report of the Minister of Health’s Special Committee of Enquiry into Metropolitan Hospital Needs, May 1961.
The Stephenson Report was a remarkable piece of work for its time, based on the latest medical thinking and practice of the day. Essentially, it laid the foundation for much of the development of the metropolitan hospital system as it is today, notably Sir Charles Gairdner Hospital and the secondary hospitals.

What the Report underestimated was the rate of growth of Perth and the geographic spread of its population. It predicted that the population of Perth would reach one million by 1995 and 1.1 million by the turn of the century. Furthermore, the report went on:

The central hospital group will...be within eight to ten miles [13 to 16 kms], as the crow flies, from the periphery of the main built-up area as it is likely to be at the end of the century; and readily accessible by the radiating highways from the outer as well as the inner suburbs.

In fact, Perth's population reached the one million mark in 1985, some ten years earlier than predicted, and the metropolitan area now extends for about 100 kilometres from north to south and 30 from east to west.

The year 1972 saw the beginning of large national health and welfare spending programs. Federal 'specific purpose grants' to the States for health increased dramatically, particularly in the area of non-institutional services. Between 1972 and 1979, expenditure on public and community health in Western Australia increased sixfold, from around $6.5 to $39.5 million. The origins of many of the community-based health services in their present form can be traced back to this period.

The economic downturn of the later part of the 1970s brought an end to this era. Construction on the North Block of Royal Perth Hospital was halted in 1979. The final major capital works projects during this period were the Princess of Wales Building at Fremantle Hospital (1981) and the remodelling of Princess Margaret Hospital. In 1979 the Federal Government ceased its special purpose health funding grants.

In its report to the Minister in May 1961, the Committee wrote:

It would be possible, with the aid of quite superficial surveys and the comfort of superficial pronouncements, to say that on the whole, the existing hospital system is fairly adequate. We could then draw up a programme which would try to supply its worst deficiencies over the next 10 or 20 years. Alternatively, we can recognise, that here in Western Australia, as well as other countries of the world, a revolution is taking place in hospital requirements, and that these changes are being caused by such facts as improved medical techniques, hospital insurance benefits, and the high staffing and maintenance cost of hospitals.

The Committee took the latter alternative and in a fascinating and far-sighted report set out its vision for the Western Australian hospital system for the next forty years. After a thorough analysis of population trends, international standards of best practice, the composition and configuration of existing hospital facilities and the views of key stakeholders, they recommended the staged development of a new teaching hospital on the site of the Chest Hospital (1958) at Hollywood, adjacent to the University. In 1963, the Chest Hospital was renamed Sir Charles Gairdner Hospital; it grew incrementally throughout the 1960s and 1970s and became, in 1977, part of the QE11 Medical Centre.

But the Committee’s recommendations did not end there. It proposed the development of ‘general practitioner hospitals’ for general and maternity cases at Osborne Park, Midland Junction, Armadale, Kwinana and Queens Park. The Report stated further:

When the metropolitan population reaches 1,000,000, approximately in the year 1995, the following would be the six major general hospitals: the new hospital at Hollywood; Royal Perth Hospital; the Princess Margaret Hospital (children); Fremantle Hospital; and the new hospitals at Bull Creek and Osborne Park. As the population grows beyond this point the hospitals at Kwinana and Midland Junction will probably expand to achieve general hospital status...About the year 2000, a second medical school will be needed, and the Bull Creek hospital would be suitable for the main teaching hospital for such a medical school.

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6 Report of the Minister of Health’s Special Committee of Enquiry into Metropolitan Hospital Needs, May 1961.
7 ibid.
8 ibid.
In an Increasingly Competitive World – 1982 to 1998

Development of the Western Australian health system during this period has been dominated by a number of factors including:

- the increasing role of the Federal Government in health care policy and finance;
- the changing economic climate;
- growing consumer demand;
- rapidly developing health, information and communication technology;
- the shift to evidence based medicine; and
- attempts to reduce inequalities in health status.

The arguments for and against a universal compulsory health insurance scheme have waxed and waned from before the turn of the century. Only months after its introduction, Medibank, the first such scheme, was dismantled in 1976. In 1983, the newly elected Government undertook the re-introduction of a compulsory health insurance in the form of Medicare. It was based on the principles of:

- universal coverage (access to all);
- fairness (contributions in accordance with ability to pay);
- affordability (costs held down by subsidies); and
- simplicity (eligibility for all).

Medicare has had a profound effect both on the Australian population and on the health care system. Support amongst Australians for Medicare has grown steadily from 44% at the time of its introduction in 1983 to 93% in 1996/97. Conversely, participation in private health insurance has steadily declined, down to 34% in Western Australia in December 1997. While arguments still continue about the impact of Medicare on public hospital numbers and on expenditure, the Australian public appears to have given solid endorsement to its underlying principles.

The latter part of this period has witnessed what appears to be the private health care sector ‘re-inventing’ itself by re-defining its relationship with government. In the face of the declining private patient market, small private operators are gradually disappearing or being taken over by large companies, many of which are entering into new arrangements with government through the contracting out of public health care services.

The Australian economy, like that of many other countries, has been subject to a range of complex processes including a dramatic expansion in the speed and extent of international trade, investment, production, financial and information flows and the growing significance of regional trading blocks and international economic agreements.

In an increasingly competitive world, this period has been marked by lower economic growth with high unemployment and periods of recession. Governments across Australia have responded with strategies aimed at increasing local and international competitiveness and reducing public sector spending.

The winds of change were felt early during this period in Western Australia with the amalgamation of the three former independent departments of Hospitals, Mental Health and Public Health to form the Health Department of Western Australia. In his inaugural report, the Commissioner of Health wrote:

The objective of Government in amalgamating the three existing departments into the one Health Department on July 1 1984, was to provide a rigorous, accountable management structure.

In the fourteen years since its formation, the Health Department of Western Australia has undergone a number of reforms, primarily of its management and organisational structure. The fundamental dynamic of many of these reforms has been the age-old problem of trying to balance the tensions, inherent in every system, between the growing demand for and supply of health care services on the one hand and the resources available on the other.

Between 1982 and 1996, the population of the metropolitan area increased by about 25%, from 950,000 to 1.25 million people. This growth, together with the ageing of the population, has clearly increased the demand for health services. Furthermore, there is evidence that changing community expectations, especially in relation to
the speed of services and the range of treatments, have been pushing up demand. But there is accumulating evidence that these factors taken in isolation would not have been sufficient to account for the actual growth in demand that has occurred during this period.\(^{12,13}\)

The key underlying determinant of increasing demand, which was well recognised by our predecessors, remains the rapid advance in medical technology that has greatly enhanced treatment capability. There have been astonishing developments in the last 10 to 15 years in many areas of medicine including anaesthesia, surgery, diagnostic procedures, pharmaceuticals and tele-health. Increased medical capability, combined with population factors and community expectations, has had a substantial effect on the demand for and cost of health services.

It is within this environment that attention during the 1990s has turned to ‘health outcomes’, that is, to the change in the health of an individual, group or population which is attributable to an intervention or series of interventions. The focus on outcomes has also highlighted the significant inequalities in the health of Western Australians. Evidence has steadily accumulated that there is considerable variability in the judgements made by individual clinicians about recommending specific treatments and, perhaps as a consequence, considerable variation in outcomes. Clinical protocols and the powerful evidence-based medicine movement, which will have a substantial effect on shaping the organisation and delivery of health services, are direct responses to this clinical variability.


\(^{13}\) W B Schwartz & D N Mendelson, ‘Eliminating waste and inefficiency can do little to contain costs’, Health Affairs, Spring, 1994.
The Government's commitment is to refine the health system so that it becomes more responsive to the needs of all Western Australians by taking appropriate services to the people and reducing unnecessary duplication.

Key Principles and strategic directions were announced in 1997 to shape the future development of the health system.

**Key Principles**

Securing the greatest possible improvement in the health and quality of life for all Western Australians involves building a system which:

- recognises that all individuals should have a fair opportunity to attain their full health potential, irrespective of age, gender, race, ethnicity, socioeconomic status or place of residence and targets resources where needs are greatest;
- seeks to maximise the clinical and cost effectiveness of services and thereby secure the greatest benefit for the resources available;
- respects the differing needs of individuals, groups and communities and engages people, both individually and collectively, in making informed choices about the type of health care services they want;
- seeks to optimise the individual's total experience of the service provided, the courtesy and effectiveness of the support arrangements, the appropriateness of the interventions, the skill with which it is delivered and the benefits which are derived; and
- is clinically and economically sustainable.

**Strategic Directions**

To address the challenges facing the health system seven strategic directions were identified:

- purchasing for health benefit;
- seeking continuous improvement;
- involving people;
- working in partnership;
- securing healthy alliances;
- care closer to home; and
- best use of resources.

These strategic directions will guide activities throughout the health system in the short to medium term.

14 Health Department of Western Australia, Developing the Metropolitan Health Services Plan, HDWA, Perth, 1997.
LISTENING TO THE COMMUNITY

The community delivered two key messages about the future of health care in the Perth metropolitan area. Firstly, shift services from hospitals in the centre of Perth wherever possible and provide them closer to where most people live. Secondly, people expressed confidence in the high quality of clinical services delivered in tertiary hospitals and want local services of the same standard.

The community made its views known through:
- a telephone survey of members of the public;
- a forum of community organisations and local government representatives;
- interviews with respondents to advertisements in The West Australian and community newspapers calling for interested community leaders; and
- interviews with consumer organisation leaders.

The Public

Most people are satisfied with current health services, but they would prefer services to be provided locally if the standard of care matches that provided by the tertiary hospitals. Despite falling lengths of hospital stay, the majority of people are satisfied with the time they spend in hospital, however, given the choice to go home earlier with support, about one-third would take up this offer.

These were the views of 2,559 people living across the greater metropolitan area, including Peel, who were interviewed by telephone on health service use and future health service needs. Respondents with children were asked to provide information on their first three children and as a result, information on over 4,300 individuals was obtained.

Two-thirds of respondents rated publicly funded health services as good or very good, with young people generally rating the quality of health services most highly. The overall satisfaction is in line with a national study carried out in 1997.16

which found that two-thirds of Western Australians rated the overall quality of health care in this State as high or fairly high which was better than national average ratings.

**Hospitals**

As expected, the majority of respondents identified the hospital closest to where they lived as their local hospital, except where those hospitals did not have an emergency department. Overwhelmingly, hospitals providing emergency services, whether public or private, were more likely to be identified as a local hospital.

People were asked if they would use local services if the same medical specialists that work in tertiary hospitals such as Royal Perth Hospital or Princess Margaret Hospital provided their services locally. This received strong support, with 70% of respondents ‘very likely’ and a further 14% ‘somewhat likely’ to use such services locally.

Most respondents (84%) indicated they would use 24-hour emergency clinics if they were available and they were as easy or easier to get to than a hospital emergency department. Those who had not used any emergency services were asked where they would go for emergency treatment. Many (58%) said that they would go to Royal Perth Hospital as it was most convenient.

Most respondents who had used hospital emergency or outpatient services or had been admitted for a same-day or overnight stay had travelled more than ten kilometres. The majority expressed a preference for a local service mainly because it would be closer to home and easier for friends and relatives to visit.

Although the majority of respondents (80%) indicated that the length of hospital stay for overnight admissions was adequate, more than one-third would prefer to go home earlier if home-based support was available. The main reasons were that they felt better in their home environment and/or that they were unhappy in hospital. Young people aged 16 to 24 years were more likely than any other age group to indicate that their stay in hospital had been too long and that they would prefer to go home sooner.
Mature respondents made above average use of public transport to get to hospital for outpatient clinics and admissions and were more reliant on friends for transport. Use of ambulance services to receive emergency treatment was the highest in this group (44%).

Children

There was strong support by parents for care closer to home, with over 70% of parents saying they would use the local hospital if the services their children required were provided there.

Although 89% of parents indicated that their child’s stay in hospital had been of the right duration, one-third would prefer their child home earlier if there were adequate home support. Nearly three-quarters of these parents said that their child would feel better at home, while others said it would enable them to meet their family responsibilities.

Obstetric Services

Two-thirds of women stated that they would prefer to use a local hospital if appropriate obstetric services were available. However, they identified the need to enhance current facilities and increase the quality of obstetric services locally.

One-third of women said they would prefer to go home earlier if home support could be provided because they felt better at home or needed to go home to care for their other children. For the 56% of women who preferred to stay in hospital the most common reason given was that being in hospital provided an opportunity to rest.

General Practitioners

The majority of respondents (87%) had visited a general practitioner (GP) in the last 12 months with two-thirds having travelled less than five kilometres to the GP surgery for their consultation.

Those people who had not used any health services were asked where they would go for non-emergency medical treatment. Most said they would use the local GP or medical centre (70%).

Community Organisations and Local Government

There was general agreement by community organisations and local government representatives that tertiary services were unduly concentrated in the inner city. These views were expressed at a forum which was jointly sponsored by the Health Consumers’ Council and the Health Department of Western Australia.

The preferred solution was to rationalise services between Royal Perth Hospital and Sir Charles Gairdner Hospital, to retain both hospitals but provide secondary services for inner city residents at one of these sites only. There was agreement that Fremantle Hospital should be retained and that the level and range of services should be increased at local hospitals, especially Joondalup, Swan and Armadale hospitals. Enhancing secondary services at either Rockingham or Mandurah was preferred to developing services on the Murdoch site.

There was support for providing obstetric and paediatric care closer to where people live provided that more complex services were located at a centre of excellence. There was no consensus about whether to relocate Princess Margaret Hospital or King Edward Memorial Hospital. However, there was a view that gynaecological oncology should be located on an adult tertiary hospital site.

There was agreement that emergency services should be developed/enhanced locally, especially at Joondalup, Swan and Armadale hospitals and either Rockingham or Mandurah. The majority view was in favour of one emergency centre in the inner city provided that services at these outer metropolitan hospitals were upgraded to provide an adequate service. The importance of having emergency services located close to industrial work sites was raised. The majority view favoured Royal Perth Hospital as a major trauma centre and supported a metropolitan-wide telephone triage system involving after-hours GP services.

There was agreement that rehabilitation services should be located in community settings provided that the changes were properly
resourced and quality maintained. The majority view supported a centre of excellence for tertiary rehabilitation services.

All groups agreed that GP services should be better linked into the State health system and their role expanded to include after-hours care, emergency care, outpatient and some inpatient care, particularly for secondary services. There was some support for an expanded role for nurse practitioners. A range of suggestions to focus health promotion/health education programs were made including targeting high risk populations. The work of the day has been published in Proceedings from the Community Forum: 6 February 1998.

**Community Leaders**

Tertiary hospitals should devolve secondary services to local hospitals and the public be encouraged to make greater use of services provided within their community. These were the views of community leaders who responded to advertisements placed in The West Australian and community newspapers throughout Perth. They included health consumers, health service providers, health managers and local government representatives.

There was general agreement that appropriate health services should be provided closer to where people live and that the community should be consulted on the range of services provided to them. Greater involvement of GPs in community-based care, the management of patients in secondary and tertiary settings, and the provision of 24-hour services were emphasised.

Quality and accessibility were seen by many as the most positive attributes of the current metropolitan health system. Lack of stability in the Health Department of Western Australia and the need to improve Commonwealth and State funding arrangements were identified as areas to be addressed. Workforce and teaching and research issues were seen as integral to the planning process. An analysis of these interviews was published in the discussion paper Preliminary Consultation with Community Leaders: The Views of a Sample of Community Leaders on Future Directions for the WA Health System.

**Consumer Organisation Leaders**

The development of an integrated system with improved coordination and referral processes, clearer role delineation and a shift in services from tertiary hospitals to local hospitals, were seen as issues to be addressed by a sample of consumer organisation leaders interviewed by the Health Consumers’ Council of Western Australia.

Principles fundamental to a future health system were identified as access and equity and the need for consumer consultation. There was support for improving access to health services throughout the metropolitan area, reducing waiting lists, establishing realistic expectations among consumers and allocating resources according to need. A consumer oriented health system which empowers consumers to be involved in decision making about their own health and also about system-wide issues was strongly supported.

Community-based care was identified as the key to future health service delivery. Establishing processes which facilitate continuity of care and involve general practitioners, hospital clinicians and the community were seen as essential. Also stated was the importance of targeting services for those with special needs, especially people with disabilities, with chronic conditions and the elderly. The importance of taking a holistic approach to health care and recognising the impact of social welfare issues was identified.

Prompt access to acute health services for the majority of people was identified as a major strength of the current system as were the quality and range of clinical services and the expertise of staff.

Broad system issues including funding were identified as significant factors to be examined. Workforce issues, particularly in relation to training of health professionals in the community, were seen to require attention. An analysis of these interviews was published in the discussion paper Preliminary Consultation with Consumer Organisation Leaders: The Views of a Sample of Consumer Organisation Leaders on Future Directions for the WA Health System.
EXPERT VIEWS

Health experts identified three key changes for the future of health services in Perth. Firstly, to bring together the diverse parts of the health sector to provide continuity of care for patients (clinical integration); secondly, to clearly delineate primary, secondary and tertiary services and to provide those services in the most appropriate setting and wherever possible within the community (role delineation); and thirdly, to develop services of the highest quality to best meet future health needs in the parts of Perth where those services are most needed (service development).

While health experts agreed on the issues requiring change, they presented a diverse range of solutions as to how to tackle them. Experts made their views known through:

• a future options workshop;
• a survey of selected clinicians;
• roundtable discussions; and
• interviews with a sample of health leaders.

FUTURE OPTIONS WORKSHOP

A road map is needed to guide the future development of the health system to 2020. Integration, role delineation and service development along with issues of workforce, teaching and research and funding need to be addressed.

These were the views expressed at an Options Development Workshop held to identify feasible options for the future development of metropolitan health services. A number of clinicians, health managers from the public, private and non-government sector, consumer representatives and health academics attended.

A series of papers was presented to inform and stimulate debate including:

• The Health System of the Future: A Personal Perspective
  Dr Gareth Goodier
• Outcome Research and Health Planning
  Professor D’Arcy Holman
• Primary Care in an Integrated Health System
  Dr Scott Blackwell
• Role Delineation
  Dr Bill Beresford
• Changes in Delivery of Surgical Care and their Potential Impact
  Professor David Fletcher
• Teaching in an Integrated Health System
  Professor Louis Landau

The integration of primary, secondary and tertiary care received a lot of attention with solutions ranging from regional networks to managed care, general practice fundholding and the extension of clinical directorates. There was significant agreement that the role of GPs needs to be expanded and their links with the State health system strengthened.

Secondary hospitals were regarded by many as not fulfilling their role. Industrial issues related to fee for service were frequently identified as a barrier to the future development of secondary hospitals. The future of secondary and tertiary hospitals was discussed extensively and specific suggestions were made about the number of hospitals and the re-configuration of services.

The proposed solutions for the future were many and varied. The work of the day has been published in Proceedings from the Options Development Workshop: 26 November 1997.

CLINICIAN SURVEY

Role delineation, particularly in relation to tertiary and secondary services, was highlighted as important in a recent survey of members of the Medical Council and the Clinical Advisory Committee of the Metropolitan Health Service Board. In addition, they regarded the development of a well integrated health system which includes community services and general practice as essential to providing seamless health care.

Important trends in health service delivery included an enhanced role for public health services, community-based health services, general practice, day surgery and emergency medicine. Minimally invasive and day surgery, diagnostics and imaging, advances in pharmaceuticals and improved information technology were seen to be the major areas of clinical change.

There was general support for population based planning. Demographic changes and the
needs of specific population groups, as well as changes in particular health conditions, were identified as likely to have a significant impact on the future health system. Issues of recruitment and retention of medical and nursing professionals were considered integral to the effective functioning of the health system. An analysis of the survey results was published in the discussion paper Preliminary Consultation with Clinicians: The Views of a Sample of Clinicians on Future Clinical Practice in WA.

**Roundtable Discussions**
Roundtable discussions were held with health experts, including specialty-specific groups, to hear arguments about the relative merits of possible future options and included:

- emergency medicine;
- general practice;
- paediatrics;
- community health;
- obstetrics and gynaecology;
- surgical services;
- allied health;
- cancer services; and
- teaching and research.

In addition to the roundtable discussions, meetings were held with a large number of individuals and organisations to assist in developing the metropolitan health strategic plan.

**Health Leaders**
Three key issues of concern to health leaders were role delineation, integration and service delivery. In addition, funding, workforce issues, and teaching and research were identified as significant factors to be examined as part of the planning process.

Those interviewed included chief executive officers and general managers of private, public and non-government health services and hospitals in metropolitan and rural areas, directors of nursing, directors of medical services, heads of university departments, general practitioners, members of the Metropolitan Health Service Board and general managers in the Health Department of Western Australia.

The quality and range of clinical services available to Western Australians were seen as the most positive aspects of the current health system. Lack of stability and the need for greater cooperation in the system were identified as important areas to be addressed. Clear direction and leadership and improved communication were seen as essential elements for implementing change.

The need for consumer focused and community-based care were identified as underlying principles to be considered in the development of the health system. An analysis of the interviews was published in the discussion paper Fifty Five Health Leaders: Their Views on Future Directions for the WA Health System.
A CHANGING POPULATION

On census night in 1996, 1,726,095 people were counted in Western Australia, of whom 93.6% were counted at home. This represents a growth of 8.8% in the Western Australian population since the previous census in 1991.

Western Australia is the second fastest growing state in Australia after Queensland. Projections indicate that Western Australia’s population will continue to grow at the rate of 28,000 per year to reach 2.5 million in 2021. Perth will continue to maintain its large share of the State’s population. While all regions across the State will grow, the most rapid growth is expected in the South West, the Kimberley and coastal towns.

Almost three-quarters of the population of the State live in Perth. The population in the Perth-Peel region was 1.2 million in 1996, excluding overseas visitors, and is expected to reach approximately 1.8 million in 2021.

People Born Overseas

Over one-third of people (33.4%) living in the Perth-Peel region in 1996 were born overseas. Compared with Australia as a whole, Western Australia has a higher proportion of overseas-born people (27.6% compared with 21.8%) and a different mix of countries of birth.

The majority of overseas-born people resident in Western Australia in 1996 lived in the Perth-Peel region (411,391; 86.4%). Of this group, 182,840 were born in non-Mainly English Speaking Countries (MESC). Of the total Perth-Peel population, 128,782 people over the age of five years spoke languages other than English at home and 23,770 did not speak English well or at all. In Balcatta, Osborne Park, North Perth, Beaconsfield and White Gum Valley, the majority of people not fluent in English were Europeans who arrived in Australia before 1981. Highgate and Karawara had high proportions of more recently arrived south-east Asian born people not fluent in English. Mirrabooka and Girrawheen in the north have a mix of pre-1980s migrants from Europe and more recently arrived people from south-east Asia who are not fluent in English.

Aboriginal People

At the 1996 Census there were 16,966 indigenous Australians living in the Perth-Peel region accounting for 1.4% of the total population in this region and comprising 33.4% of the total indigenous population of Western Australia. Ministry for Planning projections indicate that for at least the next ten years, the Aboriginal population will increase at an average annual rate of 2.5% compared with a general population increase of 1.5%. This higher growth rate is attributed to the relative youth of the Aboriginal population and will result in a greater proportion of Aboriginal people living in the Perth-Peel area.

There are higher proportions of Aboriginal people living in certain parts of Perth, principally Kwinana, Cockburn, Armadale and Coolbellup in the south and Midland, Lockridge, Balga and Girrawheen in the northern suburbs. The Australian Bureau of Statistics relates this to the location of public housing and that Aboriginal people have an affinity with particular areas in the Perth-Peel region.

Socioeconomic Disadvantage

At the 1996 Census, 21% of households in the Perth-Peel region received a weekly income of less than $300. These households are often those of older people living alone and relying on pensions as their main source of income, or those of single parents or unemployed people. Low income areas in which there is a high proportion of older people include Bentley, Mandurah, Menora, Shoalwater, Midland and Calista. Other areas where there is a high proportion of low income households include: Rockingham, Fremantle, Perth and Armadale.

Particular suburbs of socioeconomic disadvantage include those where there is a high proportion of government-owned rental housing such as Cockburn, Kwinana, Balga, Girrawheen and Midland.

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20 Ibid.
22-23 Ibid.
24 Western Australian Planning Commission, op. cit.
Population Growth

Between the 1991 and 1996 Census, growth rates in excess of 25% were recorded in the newly developed outer suburbs. These included Quinns Rock and Joondalup in the northern coastal strip, Kwinana, Rockingham and Mandurah along the southern coastal strip and the inland suburbs of Stratton in the north-east and Cannington in the south-east.28

The older, near-city suburbs such as Highgate, Tuart Hill, Subiaco, Victoria Park and South Perth and the coastal suburb of Scarborough had the highest population densities (number of people per square kilometre). This contrasts with the northern and southern outer suburbs and the eastern hills areas where large lot sizes reduced population density.29

Population Projections

In order to ensure that planning for future health services incorporates the most current population projections for the metropolitan area, the Health Department of Western Australia has utilised population projections prepared by the Ministry for Planning. The regions developed by the Planning Commission in the State Planning Strategy have been adopted in the development of the metropolitan health strategic plan in order to enable comparison between planning data prepared by Western Australian government agencies.

Population projections from the Ministry for Planning indicate that the overall population in the Perth-Peel area will increase and age ratios within the population will change considerably in the period to 2021.

By 2021 those aged 65 years and over will comprise 16% of the population (11% in 1996) while the proportion of children aged 0-14 will decline from 21.4% of the population in 1996 to 18.1% in 2021. The variation in projected growth rates for the different population groups is illustrated in Figure 1.

Overall, the greatest population growth is expected to occur in the southern suburbs of the metropolitan area as shown in Figure 2. The Peel region (comprising Mandurah and Murray) and the South-West region (comprising Cockburn, Rockingham and Kwinana) are expected to experience rapid population growth with their 1996 populations of 49,506 and 138,800 increasing to 102,115 and 268,599 respectively by 2021.30

The North-West region (Wanneroo), 207,186 to 415,495, the Eastern region (Swan, Mundaring and Kalamunda), 152,675 to 272,599, and the South-East region (Gosnells, Armadale and Serpentine-Jarrahdale), 137,723 to 234,102, are also expected to experience consistent growth over this period.31

The Inner and Middle metropolitan regions are projected to experience either marginal or negative growth to 211,198 and 418,097 respectively by 2021.32

![Figure 1 Population projections for the Perth Peel area by age group, 1996 – 2021](source)

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Persons (thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>283.2</td>
</tr>
<tr>
<td>15-24</td>
<td>203.2</td>
</tr>
<tr>
<td>25-44</td>
<td>247.5</td>
</tr>
<tr>
<td>45-64</td>
<td>417</td>
</tr>
<tr>
<td>65+</td>
<td>514.2</td>
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</tbody>
</table>

![Figure 2 Population projections by Perth metropolitan regions, 1996 – 2021](source)

<table>
<thead>
<tr>
<th>Regions</th>
<th>Persons (thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner</td>
<td>211</td>
</tr>
<tr>
<td>Middle</td>
<td>211.2</td>
</tr>
<tr>
<td>North-West</td>
<td>207.2</td>
</tr>
<tr>
<td>Eastern</td>
<td>152.7</td>
</tr>
<tr>
<td>South-East</td>
<td>137.7</td>
</tr>
<tr>
<td>South-West</td>
<td>138.8</td>
</tr>
<tr>
<td>Peel</td>
<td>495</td>
</tr>
</tbody>
</table>

Source: Ministry for Planning, 1998

26, 27, 28, 29 ibid
31, 32 ibid.
34 Ministry for Planning, op. cit.
A SNAPSHOT OF HEALTH STATUS

The health status of the people in this State, compared wherever possible with the health status of other Australians, is examined in this section. Mortality and self-reported health status and lifestyle factors have been selected as key indicators because they are well known and the data are available to compare Western Australians with people who live in other parts of Australia.

Mortality and Survival

A Western Australian boy born in 1995 can, on average, expect to live to 75.2 years and a girl to 81.2 years. This is longer than the Australian average where a boy can expect to live to 75.0 years and a girl to 80.8 years. Australia ranks as one of the healthiest countries in the world.

Life expectancy has been increasing steadily in Australia over this century with those born around the turn of the century living, on average, 55 to 59 years. It is likely that life expectancy will continue this upward trend and those born mid-way through the next century are predicted to live some five years longer.

Over the last 30 years, gains in life expectancy have occurred mainly among those who are middle aged or older with the result that there has been a growth in the part of the population aged over 75 years.

There has been debate about whether the increase in life expectancy has been matched by a corresponding increase in the quality of life, or whether it has simply resulted in more years spent in a state of illness or disability. The evidence to date indicates that while life expectancy has been increasing, so too has the number of years of handicap-free life. Further, it has been estimated that while men have a lower life expectancy at birth than women, they will also have fewer years of severe handicap.

Figure 3 Life Expectancy at birth by gender, selected countries

<table>
<thead>
<tr>
<th>Male</th>
<th>Country/Year</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>76.5</td>
<td>Japan (1993)</td>
<td>83.1</td>
</tr>
<tr>
<td>76.6</td>
<td>Hong Kong (1993)</td>
<td>82.3</td>
</tr>
<tr>
<td>75.5</td>
<td>Sweden (1992)</td>
<td>81.1</td>
</tr>
<tr>
<td>74.9</td>
<td>Canada (1992)</td>
<td>81.4</td>
</tr>
<tr>
<td>75.0</td>
<td>Australia (1994)</td>
<td>80.9</td>
</tr>
<tr>
<td>73.7</td>
<td>Italy (1991)</td>
<td>80.5</td>
</tr>
<tr>
<td>73.7</td>
<td>United Kingdom (1992)</td>
<td>79.2</td>
</tr>
<tr>
<td>73.2</td>
<td>Singapore (1992)</td>
<td>78.9</td>
</tr>
<tr>
<td>72.8</td>
<td>New Zealand (1992)</td>
<td>79.2</td>
</tr>
<tr>
<td>72.2</td>
<td>USA (1991)</td>
<td>79.2</td>
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</table>

Source AIHW, 1996

Figure 4 Past and projected life expectancies for Australians at birth by gender

<table>
<thead>
<tr>
<th>Male</th>
<th>Year</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>1900</td>
<td>59</td>
</tr>
<tr>
<td>75</td>
<td>1996</td>
<td>81</td>
</tr>
<tr>
<td>81</td>
<td>2051</td>
<td>86</td>
</tr>
</tbody>
</table>

Source University of Canberra, 1997

38 Ibid.
Death Rates

Western Australian mortality rates compare favourably with national rates with an age standardised death rate of 6.2 per 1,000 for Western Australia and a national death rate of 6.5. The relatively higher life expectancy for Western Australians is largely attributable to lower national death rates for ischaemic heart disease and cancer.40

Infant mortality rates in Western Australia compare favourably with the nation. In Western Australia in 1995 the rate of deaths in the first year of life was 5.1 per 1,000 live births as compared with 5.7 nationally. The rate of stillbirths and deaths in the first 28 days was 7.8 per 1,000 which was lower than the national rate of 8.1.41

Leading Causes of Death

There have been significant shifts in the major causes of death in Australia throughout this century. In the 1920s infectious and parasitic diseases accounted for 9% of all deaths, but less than 1% of all deaths today. More recently there has been a dramatic fall in the death rate from cardiovascular disease. Between 1968 and 1994 the age standardised death rates from cardiovascular disease for males and females have halved.42

In 1995 the five leading causes of death among Western Australians were:

- diseases of the circulatory system which include heart disease and stroke: 2,075 male deaths (39.0%) and 1,972 female deaths (43.5%);
- cancers: 1,571 male deaths (29.5%) and 1,233 female deaths (27.2%);
- respiratory system diseases: 417 male deaths (7.8%) and 309 female deaths (6.8%);
- external causes of injury and poisoning including motor vehicle accidents and suicide: 466 male deaths (8.8%) and 191 female deaths (4.2%); and
- endocrine, nutritional, metabolic diseases and immunity disorders: 184 male deaths (3.5%) and 147 female deaths (3.2%).43

Overall, diseases of the circulatory system and cancer account for 68.5% of all male and 70.7% of all female deaths.

Mortality and Socioeconomic Disadvantage

While the overall health status of Western Australians is favourable when compared with that of the nation, within the State there are wide variations in health status which are clearly linked to socioeconomic circumstances.

Mortality was highest for those individuals who, at the time of their death, were living in parts of metropolitan Perth which had high levels of socioeconomic disadvantage as measured by the Index of Relative Socioeconomic Disadvantage.

Based on these initial findings, work is underway to gain a fuller picture of variation between and within the suburbs of metropolitan Perth.

Mortality in Aboriginal People

From the time of birth there is a health disadvantage for Aboriginal people with life expectancy at birth being approximately 18 years less than for other Western Australians. In the Perth metropolitan area the average life expectancy of Aboriginal men and women is lower in the eastern suburbs than in the northern and the southern suburbs.

The rate of death in the first year of life for infants born to Aboriginal women in Western Australia in 1995 was five times the overall rate. This rate, though unacceptably high, has declined, being 17% lower than in 1985.44

In 1995 the Western Australian Aboriginal death rate was 2.5 times higher than the rate for other Western Australians after adjusting for differences in the age structures of the Aboriginal and non-Aboriginal populations.

At virtually every age Aboriginal people die at higher rates than other Australians, with the differences most marked between the ages of 25 and 54 years when Aboriginal people die at rates 5 to 7 times higher than non-Aboriginal people.45

The leading causes of death among Western Australian Aboriginal people in 1995 were diseases of the circulatory system followed by injury and poisoning, cancer, endocrine, nutritional and immunity disorders and diseases of the respiratory system.46

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40 B Ridolfo & J Codde (eds), op.cit.
42 Australian Institute of Health and Welfare, op.cit.
43 Health Department of Western Australia, op. cit.
44 ibid.
46 Health Department of Western Australia, op.cit.
During 1995, the survey findings showed that across all States and Territories over 80% of people aged 15 years or more considered themselves to be in good health or better. In comparison with the nation, more Western Australians rated their health as good or very good and conversely, fewer rated their health as fair or poor. Despite these lower rates of fair or poor health, people in this State reported somewhat higher rates of arthritis, hay-fever, long or short sightedness, asthma, deafness, injuries and allergies than the national average.

Among Western Australians, health related lifestyle factors were generally very similar to other Australians.

Overall Findings on Health Status
The overall health status of the people of this State compares favourably with the rest of the nation:
- a higher life expectancy for Western Australians than the Australian average;
- a lower age standardised death rate of 6.2 per 1,000 for Western Australia compared to the national rate of 6.5;

Mortality in Overseas Born Australians
Australians born overseas generally have lower mortality rates than people born in Australia. However, this difference reduces with increasing length of residence so that after 15 to 20 years mortality rates approximate those of people born in this country.

Among those born overseas aged 25 to 64 years, the mortality rate is lower than for those born in Australia, with Asian-born men having the lowest rates among men. Women born in Asia and in continental Europe have the lowest death rates among women. However, there are some individual causes of death for which some overseas-born people have higher death rates including lung cancer (20% higher for men and 40% higher for women born in the UK and Ireland), breast cancer (16% higher for women born in the UK and Ireland), diabetes mellitus (52% higher for men born in Asia) and stomach cancer (higher for all groups except Asian-born men).47

With the exception of those born in the UK and Ireland, overseas-born Australians aged over 65 years have lower mortality rates than their Australian-born counterparts. In contrast, there is a 15% higher death rate from cancer among those older Australians born in the UK and Ireland, with lung cancer, for example, being 45% higher for men and 74% higher for women.48

Self Reported Health Status
Self report of health status is increasingly being used as a measure of current physical health and there is increasing evidence that it is a good predictor of mortality.49

The majority of Western Australians consider themselves healthy according to the results of a National Health Survey conducted during 1995. The survey findings showed that across all States and Territories over 80% of people aged 15 years or more considered themselves to be in good health or better. In comparison with the nation, more Western Australians rated their health as good or very good and conversely, fewer rated their health as fair or poor.

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Table 2  Persons aged 15 years or more in Western Australia and Australia: self reported lifestyle factors, 1995

<table>
<thead>
<tr>
<th>Lifestyle Factors</th>
<th>Western Australia (%)</th>
<th>Australia (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No/low exercise level</td>
<td>66.8</td>
<td>67.0</td>
</tr>
<tr>
<td>Current smoker</td>
<td>22.6</td>
<td>23.7</td>
</tr>
<tr>
<td>Medium/high alcohol risk level</td>
<td>9.0</td>
<td>8.3</td>
</tr>
<tr>
<td>No Pap. smear within last 2 years</td>
<td>43.4</td>
<td>42.5</td>
</tr>
<tr>
<td>No regular breast examination</td>
<td>10.6</td>
<td>9.8</td>
</tr>
<tr>
<td>Overweight/obese</td>
<td>41.7</td>
<td>42.8</td>
</tr>
<tr>
<td>Seldom/never use sun protection</td>
<td>8.6</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Source ABS National Health Survey, 1995

• wide variations in health status in metropolitan Perth linked to socioeconomic circumstance;
• a significant health disadvantage for Aboriginal people with life expectancy at birth being approximately 18 years less than for other Western Australians;
• Australians born overseas generally having lower mortality rates than people born in Australia, although this difference reduces with increasing length of residence; and
• the majority of Western Australians rating themselves as being healthy with health related lifestyle factors which were generally very similar to other Australians.
HEALTH SERVICE USE

A profile of metropolitan publicly funded hospitals is presented in this section, along with an analysis of the differences between public and private acute care hospitals, trends in first time hospital admissions and cumulative length of stay in Perth metropolitan hospitals from 1989-1997. A brief overview of Western Australians' use of selected Commonwealth funded services is described.

Profile of Publicly Funded Perth Hospitals

The complexity of inpatient care is demonstrated by the fact that hospital separations are recorded under approximately 14,000 diagnoses and procedure codes, delivered by up to 16 accepted clinical specialties incorporating over 40 sectional specialties, in at least 30 types of specialised service delivery units.

Some simplification of this complexity is necessary, with Major Diagnostic Categories (MDCs) and Diagnostic Related Groups (AN-DRGs) being two of the tools commonly used for this purpose. At this level (analysis in terms of 23 MDCs and 667 AN-DRGs), all but the most specialised hospitals deliver a very broad range of services. If all separations are divided into two categories, medical and surgical, the majority of separations are for medical diagnoses.

It is possible to highlight the particular profile of hospitals by focusing on most of the caseload as represented by the top AN-DRGs. This technique can provide very powerful information on a significant portion of a hospital's separations or bed-days, and also, in the case of weighted AN-DRGs, on a significant portion of their resource usage. In taking this approach it is important not to lose sight of the fact that hospitals, either individually or as a system, do much more than just these top AN-DRGs, albeit with very small numbers of cases in some categories. To put this another way, common things occur commonly, but rare things can occur at any time or any place. The data confirms this.

Tertiary Hospitals

The trend for Perth's general tertiary hospitals up until now has been that they have actively sought to have a comprehensive range of services at each of the three hospitals. There are, of course, also a number of tertiary hospitals in Perth that have a very specific focus such as women's and children's services, rehabilitation and mental health services. In some cases, these specialties, or at least the complex end of the range, are only available at these hospitals. In mental health there has been a reduction in stand-alone psychiatric hospitals with the closure of Heathcote Hospital and the opening of modern psychiatric units on general hospital sites so as to mainstream mental health within the general health system.

It is perhaps not surprising that similarities are evident in the pattern of services provided by the three general adult tertiary hospitals, in particular Royal Perth and Sir Charles Gairdner Hospitals.

As is the case with most hospitals of this type around the nation, day only admissions for renal dialysis and chemotherapy account for a significant number of the unweighted separations at both hospitals. At Fremantle Hospital, chemotherapy is the largest single type of unweighted separation, but by a relatively smaller margin. It should be noted that renal dialysis has only recently commenced at Fremantle Hospital.

Further analysis of this unweighted caseload reveals that the top ten AN-DRGs at both Royal Perth and Sir Charles Gairdner Hospitals account for a large proportion of their total acute patient caseload, being 36% and 41% respectively. At 20%, the corresponding figure for Fremantle Hospital is lower.

Other diagnoses and procedures that figure prominently in Royal Perth Hospital's caseload of unweighted separations include: major affective disorders; circulatory diseases without acute myocardial infarction but with invasive cardiac procedures; gastroscopy for non-major digestive disease; colonoscopy; personality disorders and acute reactions; heart failure and shock; and poisoning or toxic effects of drugs. Weighting for resource usage highlights more tertiary diagnoses.
and procedures such as tracheostomy; percutaneous cardiac interventions; coronary bypass; cerebrovascular disorders; hip and femur procedures; and small and large bowel procedures. Some of these reflect particular state-wide service responsibilities at that hospital.

A slightly different pattern is seen in Sir Charles Gairdner Hospital's caseload which includes: same-day admissions for endocrine, nutritional or metabolic disorders; gastroscopy for non-major digestive disease; planned same-day rehabilitation; kidney and urinary tract diagnoses; colonoscopy; planned same-day aftercare; and medical back problems. Again, weighting for resource usage highlights more tertiary diagnoses and procedures including craniotomy and chronic obstructive airways disease which reflect particular service responsibilities at Sir Charles Gairdner Hospital.

The caseload of Fremantle Hospital shows a similar pattern, but with the addition of obstetric services.

Royal Perth Hospital, Sir Charles Gairdner Hospital and Fremantle Hospital all deliver services on a local, metropolitan and in some cases state-wide basis.

Not surprisingly, the caseload of Princess Margaret Hospital covers a wide range of diagnoses and procedures relevant to neonates, infants, children and adolescents, including: bronchitis and asthma; gastroenteritis; dental extractions and restorations; whooping cough and acute bronchiolitis; fractures, sprains, strains, and dislocations of the forearm, hand and foot; tonsillectomy and/or adenoidectomy; myringotomy with tube insertion; eating and obsessive-compulsive disorders; chemotherapy; and childhood mental health disorders.

The caseload of King Edward Memorial Hospital covers a range of tertiary and secondary obstetric and gynaecological diagnoses and procedures, dominated by vaginal delivery without complicating diagnoses. There is also a high caseload of neonates, ranging from the completely well to the gravely ill.

Secondary Hospitals

Many secondary hospitals also provide a wide range of general specialties, although there is a limit to the complexity or specialisation of services provided. Certain secondary hospitals have focused in particular areas such as elective surgery or aged care. A distinguishing feature among the secondary hospitals is that not all of these hospitals provide emergency services.

An analysis of the top 10 AN-DRGs of the secondary hospitals shows that there are also similarities in the patterns of services provided.

This is particularly so for Armadale, Rockingham, Joondalup, Swan and Kalamunda Hospitals. Common diagnoses and procedures at some or all of these hospitals include: vaginal delivery without complicating diagnosis; caesarean section without complicating diagnosis; other antenatal admission; neonate admission wt>2,499 grams; gynaecological procedures for non-malignancies; lens procedures; bronchitis and asthma; gastroscopy for non-major digestive disease; knee procedures; tonsillectomy and/or adenoidectomy; myringotomy with tube insertion; colonoscopy; other skin, subcutaneous tissue and breast procedures; dental extractions and restorations; and cholecystectomy.

Osborne Park, Bentley, Mandurah and Murray District Hospitals each have their own distinctive pattern. The caseload of Osborne Park includes most of the range of secondary services described above, but with an emphasis on endoscopic procedures and an additional focus on rehabilitation. Bentley also offers a range of secondary services, but with an additional focus on mental disorders. Up until recently, Mandurah had almost no surgical caseload, but this has changed since redevelopment. All other secondary hospitals have both a medical and surgical caseload, including a significant day surgical component.

On a weighted case basis, rehabilitation is the number one AN-DRG at Armadale, Bentley, Osborne Park and Swan Hospitals, whereas vaginal delivery without complicating diagnosis is the number one AN-DRG at Joondalup, Kalamunda, Murray Districts and Rockingham Hospitals (and number two at Armadale, Osborne Park and Swan Hospitals).
### Table 3: Indicators for tertiary hospitals

<table>
<thead>
<tr>
<th></th>
<th>Royal Perth</th>
<th>RPH - Shenton Park Campus</th>
<th>Sir Charles Gairdner</th>
<th>Fremantle</th>
<th>Woodside</th>
<th>Princess Margaret</th>
<th>King Edward Memorial</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995/96* Net Direct Expenditure (000's)</td>
<td>$238,708 (includes RPH- Shenton Park)</td>
<td>$161,103</td>
<td>$105,932</td>
<td>$3,788</td>
<td>$74,892</td>
<td>$53,411</td>
<td></td>
</tr>
<tr>
<td>1996** Unweighted Separations</td>
<td>57,669</td>
<td>15,094</td>
<td>50,827</td>
<td>29,807</td>
<td>2,167</td>
<td>23,476</td>
<td>15,952</td>
</tr>
<tr>
<td>1996** Weighted Separations</td>
<td>79,730</td>
<td>12,116</td>
<td>57,745</td>
<td>37,345</td>
<td>1,790</td>
<td>23,099</td>
<td>18,302</td>
</tr>
</tbody>
</table>

**Most common reasons for admission (on a weighted case basis)**

- Major Affective Disorders, Tracheostomy, Renal Dialysis, Percutaneous Cardiac Interventions, Coronary Bypass, Rehabilitation, Renal Dialysis, Non-acute Quadruplegia, Paraplegia, Hip Replacement, Other Major Joint & Limb Reattachment, Tracheostomy, Renal Dialysis, Chemotherapy, Craniotherapy, Major Affective Disorders, Tracheostomy, Major Affective Disorders, Schizophrenia Disorders, Heart Failure & Shock, Cerebro-vascular Disorders Except TIA, Uncomplicated Vaginal Delivery, Uncomplicated Caesarean Delivery, Uterine & Adnexa Procedures for Non-Malignancy, Moderately Complicated Vaginal Delivery, Neonate Wt >2499G, Eating & Obsessive Compulsive Disorders, Complicated Caesarean Delivery, Whooping Cough & Acute Bronchiolitis, Moderately Complicated Mental Disorders, Bronchitis & Asthma, Neurone Wt <750G, Uncomplicated Vaginal Delivery, Severe Complications, Vaginal Delivery, Neonate Wt 750-999G.

| 1996** Surgical/Medical Split (on unweighted separations) | 21/79 | 11/58/88.5 | 18/82 | 24/76 | 39/61 | 25/75 | 38/62 |

| 1996** % Same Day (of total separations) | 49.3% | 76.5% | 58.5% | 38.4% | 10.6% | 36.3% | 21.9% |

**Clinician Profile**

- Comprehensive Range of Specialties and Super-Specialties, Selected Specialties and Super-Specialties, Comprehensive Range of Specialties and Super-Specialties, Comprehensive Range of Specialties and Super-Specialties, Selected Specialties and General Practitioners, Comprehensive Range of Paediatric Specialties and Super-Specialties, Comprehensive Range of Women's Health Specialties and Super-Specialties.

**1996** main catchment localities, based on primary catchment postcodes.*** (separations from these localities together, account for >10% of the hospital's separations)


*** A primary catchment postcode is defined as % of total separations for a postcode to an individual hospital >7.5%, and % of a hospital's total separations >1%.
Table 4: Indicators for secondary hospitals

<table>
<thead>
<tr>
<th></th>
<th>Armadale</th>
<th>Bentley</th>
<th>Joondalup/ Wanneroo</th>
<th>Kalamunda</th>
<th>Mandurah</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1995/96</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Net Direct</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expenditure (000's)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unweighted Separations</td>
<td>6,673</td>
<td>6,965</td>
<td>7,371</td>
<td>4,944</td>
<td>1,558</td>
</tr>
<tr>
<td>1996**</td>
<td>5,918</td>
<td>6,758</td>
<td>5,619</td>
<td>4,141</td>
<td>1,503</td>
</tr>
<tr>
<td>Weighted Separations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most common reasons for admission (on a weighted case basis)</td>
<td>Rehabilitation, Vaginal Delivery, Uterine and Adnexa Procedures for Non-Malignancy, Lens Procedures w/o Vitrectomy, Vaginal Delivery, Uncomplicated Caesarean Delivery</td>
<td>Rehabilitation, Schizophrenia Disorders, Major Affective Disorders, Uncomplicated Vaginal Delivery, Uncomplicated Caesarean Delivery</td>
<td>Uncomplicated Vaginal Delivery, Uncomplicated Caesarean Delivery, Tonsillectomy &amp;/or Adenoidectomy, Moderately Complicated Vaginal Delivery, Knee Procedures</td>
<td>Uncomplicated Vaginal Delivery, Uterine and Adnexa Procedures for Non-Malignancy (various categories), Cholecystectomy w/o CDE, Female Reproductive System Re-construction</td>
<td>COAD, Heart Failure &amp; Shock, Medical Back Problems, Respiratory Infection &amp; Inflammation, Oesophageal Gastro &amp; Miscellaneous Diagnoses</td>
</tr>
<tr>
<td>1996**</td>
<td>40/60</td>
<td>45/55</td>
<td>64/36</td>
<td>47/53</td>
<td>0.2/99.8</td>
</tr>
<tr>
<td>Surgical/Medical Split (unweighted separations)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Same Day (of total separations)</td>
<td>30.2%</td>
<td>42.0%</td>
<td>28%</td>
<td>22.6%</td>
<td>9.9%</td>
</tr>
<tr>
<td>1996**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical Profile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>main catchment localities, based on primary catchment postcodes.***</td>
<td>Armadale</td>
<td>Bedfordale</td>
<td>Brookdale</td>
<td>Forrestdale</td>
<td></td>
</tr>
<tr>
<td>(Separations from these localities together, account for &gt;10% of the hospital's separations)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Hospital Morbidity System (HDWA) datasets downloaded 7 Oct 1997 and 19 Feb 1998  
(Note: Exclusions have been made for boarders, single healthy newborns and still births KPMG AN-DRG cost weights have been used)  
*** A primary catchment postcode is defined as % of total separations for a postcode to an individual hospital >7.5%, and % of a hospital's total separations >3%
### Table 4  Indicators for secondary hospitals

<table>
<thead>
<tr>
<th></th>
<th>Murray District</th>
<th>Osborne Park</th>
<th>Rockingham</th>
<th>Swan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Direct Expenditure (000's)</strong></td>
<td>$7,633</td>
<td>$20,542</td>
<td>$14,002</td>
<td>$22,752</td>
</tr>
<tr>
<td><strong>1995/96</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unweighted Separations</strong></td>
<td>3,484</td>
<td>9,127</td>
<td>7,415</td>
<td>10,983</td>
</tr>
<tr>
<td><strong>1996</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weighted Separations</strong></td>
<td>2,657</td>
<td>8,784</td>
<td>5,743</td>
<td>9,370</td>
</tr>
<tr>
<td><strong>1996</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Most common reasons for admission (on a weighted case basis)</strong></td>
<td>Uncomplicated Vaginal Delivery, Uncomplicated Caesarean Delivery, Procedure for Miscarriage, Uterine and Adnexia Procedures for Non-Malignancy, Inguinal &amp; Femoral Hernia</td>
<td>Rehabilitation, Uncomplicated Vaginal Delivery, Rehabilitation, Uncomplicated Caesarean Delivery, Uterine and Adnexia Procedures for Non-Malignancy, Inguinal &amp; Femoral Hernia</td>
<td>Uncomplicated Vaginal Delivery, Uncomplicated Caesarean Delivery, Uterine and Adnexia Procedures for Non-Malignancy, Inguinal &amp; Femoral Hernia</td>
<td>Uncomplicated Vaginal Delivery, Uncomplicated Caesarean Delivery, Uterine and Adnexia Procedures for Non-Malignancy, Inguinal &amp; Femoral Hernia</td>
</tr>
<tr>
<td><strong>1996</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Surgical/Medical Split (unweighted Separations)</strong></td>
<td>47/53</td>
<td>37/63</td>
<td>40/60</td>
<td>40/60</td>
</tr>
<tr>
<td><strong>1996</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>% Same Day (of total Separations)</strong></td>
<td>36.1%</td>
<td>40.6%</td>
<td>33.4%</td>
<td>37.6%</td>
</tr>
<tr>
<td><strong>1996</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clinician Profile</strong></td>
<td>Selected Specialties and General Practitioners</td>
<td>Selected Specialties and General Practitioners</td>
<td>Selected Specialties and General Practitioners</td>
<td>Selected Specialties and General Practitioners</td>
</tr>
<tr>
<td><strong>1996</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>main catchment localities, based on primary catchment postcodes</strong></td>
<td>Pinjarra, Ravenswood, South Yunderup</td>
<td>Balga, Mirrabooka, Nollamara, Westminster</td>
<td>Safety Bay, Shoalwater, Waikiki, Warnbro</td>
<td>Baskerville, Bellevue, Boys Greenmount, Helena Valley, Herne Hill, Jane Brook, Koongamia, Middle Swan, Midland, Milidond, Red Hill, Stratton, Swan View, Viveash</td>
</tr>
</tbody>
</table>

---

** Hospital Morbidity System (HDWA) datasets downloaded 7 Oct 1997 and 19 Feb 1998 (Note: Exclusions have been made for boarders, single healthy newborns and still births KPMG AN-DRG cost weights have been used)
*** A primary catchment postcode is defined as % of total separations for a postcode to an individual hospital >7.5%, and % of a hospital's total separations >1%
All secondary hospitals tend to provide a local hospital service to surrounding suburbs. In addition, Osborne Park and Bentley Hospitals are characterised by having a large proportion of their caseload flow in from outside their local areas. Even so, a significant majority of people from metropolitan Perth who require hospitalisation either present directly to or are transferred to tertiary hospitals.

**Trends in the Use of Publicly Funded Perth Hospitals**

Most people receive their inpatient care in a tertiary hospital. By 1996/97 almost 80% of separations in publicly funded metropolitan hospitals were undertaken by tertiary hospitals.

From 1990/91 to 1993/94 the secondary hospitals experienced greater growth than the tertiary hospitals, although over recent years this trend has well and truly reversed. Since 1993/94 separations in tertiary hospitals have increased by over 20%, and in the same period, growth in separations in secondary hospitals have increased by only 13%. A similar pattern can be found for weighted separations.

In the period 1990/91 to 1996/97 patients admitted to a tertiary hospital were almost three times more likely to have been admitted to hospital at least once in the current financial year compared with a patient admitted to a secondary hospital.

**Profile of Public and Private Perth Acute Hospitals**

In Western Australia, as in the rest of the nation, different profiles of activity exist between private and public acute hospitals.

**Public Hospitals**

On non-standardised populations, public acute care hospital separations per 1,000 in Western Australia in 1995/96 were lower than the Australian average, but similar to Victoria and Queensland. The percentage of public same-day separations in Western Australia was 38.5% which was less than the Australian average of 39.9% and fell short of the 43.7% achieved by Victoria. The average length of stay in public acute care hospitals for Western Australia and the nation were identical.51

**Private Hospitals**

When comparing private acute care hospitals across Australia, the private hospital separations per 1,000 in Western Australia in 1995/96 were less than the Australian average. The percentage of private hospital same-day separations in Western Australia was 41.1% which was less than the Australian average of 48.7% and fell short of the 55.3% achieved by New South Wales. The average length of stay of 3.7 days exceeded the Australian average of 3.4 days.52

<table>
<thead>
<tr>
<th>State</th>
<th>Separations per 1,000 population</th>
<th>% of same-day separations</th>
<th>Average length of stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales</td>
<td>192.9</td>
<td>38.0</td>
<td>3.9</td>
</tr>
<tr>
<td>Victoria</td>
<td>185.2</td>
<td>43.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Queensland</td>
<td>184.4</td>
<td>38.4</td>
<td>3.9</td>
</tr>
<tr>
<td>South Australia</td>
<td>214.6</td>
<td>40.4</td>
<td>3.6</td>
</tr>
<tr>
<td>Western Australia</td>
<td>188.7</td>
<td>38.5</td>
<td>3.9</td>
</tr>
<tr>
<td>Tasmania</td>
<td>151.8</td>
<td>37.0</td>
<td>5.3</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>255.0</td>
<td>43.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Australian Capital Territory</td>
<td>186.1</td>
<td>46.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Australia</td>
<td>190.2</td>
<td>39.9</td>
<td>3.9</td>
</tr>
</tbody>
</table>

*Note: The increasing separations in South Australia and the Northern Territory may be largely explained in terms of the inclusion of separations from satellite dialysis units; and also (in the case of SA) the inclusion of a full year’s data for the Repatriation General Hospital (formerly a Commonwealth Hospital).*


52 ibid.
Figure 6 Weighted separations for publicly funded hospitals in metropolitan Perth 1990/91 - 1995/96

Note: The cost weights are non-ICU, non medical cost weights developed from the costing study work done by the HDWA Operations Division. The weights in the non-teaching sector have been scaled down to reflect their lower efficient standard cost.

No exclusions have been made for boarders, single healthy members and stillbirths.

### Figure 7 Separations for publicly funded hospitals in metropolitan Perth 1990/91 - 1995/96

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Tertiary Sector</th>
<th>Year 1990/91</th>
<th>Year 1993/94</th>
<th>Year 1995/96</th>
<th>Year 1996/97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Royal Perth Hospital (inc. Rehab)</td>
<td>49,331</td>
<td>62,486</td>
<td>69,820</td>
<td>73,491</td>
<td></td>
</tr>
<tr>
<td>Fremantle</td>
<td>23,287</td>
<td>24,859</td>
<td>28,060</td>
<td>32,125</td>
<td></td>
</tr>
<tr>
<td>Princess Margaret Hospital</td>
<td>18,069</td>
<td>19,556</td>
<td>22,343</td>
<td>23,760</td>
<td></td>
</tr>
<tr>
<td>King Edward Memorial Hospital</td>
<td>15,382</td>
<td>18,756</td>
<td>18,930</td>
<td>19,433</td>
<td></td>
</tr>
<tr>
<td>Sir Charles Gairdner Hospital</td>
<td>36,053</td>
<td>42,133</td>
<td>47,218</td>
<td>54,770</td>
<td></td>
</tr>
<tr>
<td>Sub Total</td>
<td>143,022</td>
<td>167,790</td>
<td>186,391</td>
<td>203,579</td>
<td></td>
</tr>
<tr>
<td>Secondary Sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Armadale</td>
<td>5,737</td>
<td>7,412</td>
<td>7,451</td>
<td>8,013</td>
<td></td>
</tr>
<tr>
<td>Osborne Park</td>
<td>7,249</td>
<td>9,245</td>
<td>9,911</td>
<td>10,852</td>
<td></td>
</tr>
<tr>
<td>Bentley</td>
<td>4,399</td>
<td>6,243</td>
<td>7,389</td>
<td>7,828</td>
<td></td>
</tr>
<tr>
<td>Rockingham</td>
<td>9,441</td>
<td>7,760</td>
<td>7,716</td>
<td>8,141</td>
<td></td>
</tr>
<tr>
<td>Wanneroo</td>
<td>5,759</td>
<td>7,817</td>
<td>7,741</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joondalup</td>
<td>750</td>
<td>9,418</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Mandurah</td>
<td>1,793</td>
<td>1,617</td>
<td>1,489</td>
<td>1,376</td>
<td></td>
</tr>
<tr>
<td>Murray Pinjarra</td>
<td>3,339</td>
<td>4,610</td>
<td>5,044</td>
<td>6,068</td>
<td></td>
</tr>
<tr>
<td>Kalamunda</td>
<td>4,206</td>
<td>4,540</td>
<td>5,212</td>
<td>5,022</td>
<td></td>
</tr>
<tr>
<td>Sub Total</td>
<td>37,923</td>
<td>48,834</td>
<td>51,803</td>
<td>55,218</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>180,945</td>
<td>216,624</td>
<td>237,994</td>
<td>258,797</td>
<td></td>
</tr>
</tbody>
</table>

Note: The cost weights are non-ICU, non-medical cost weights developed from the costing study work done by the HDWA Operations Division. The weights in the non-teaching sector have been scaled down to reflect their lower efficient standard cost. No exclusions have been made for boarders, single healthy members and stillbirths.

Leading DRGs in Public and Private Hospitals in Western Australia

When the leading DRGs are examined in the public and private acute hospitals in Western Australia the differences between these two sectors are further highlighted.

Separations

The top 20 DRGs in the public sector included nine which did not feature in the top 20 for the private sector. This demonstrates that the profile for the two sectors is different. The top ranked DRG, renal dialysis, accounted for a 7.5% share of separations in public acute hospitals but not appear within the top 20 DRGs for private hospitals in Western Australia. This contrasts with the role of the private sector nationally, where renal dialysis is ranked eighth.

Same Day Separations

Renal dialysis was the leading DRG in terms of same-day separations in public acute hospitals in every State and Territory throughout Australia. In line with this, renal dialysis accounted for 19.4% of same-day separations in Western Australia (22.4% nationally). The second leading DRG for same-day separations in public hospitals in Western Australia was chemotherapy, accounting for 8.9% (8.7% nationally).

The top DRG for same-day separations in Western Australian private hospitals was other colonoscopy without complications, which accounted for 11.4% (10.6% nationally). It ranked fourth among Western Australian public hospitals, accounting for 3.9% of same-day separations (3.0% nationally).

Bed Days

In Western Australia in 1995/96 the AN-DRG that accounted for the highest number of bed-days in both the public and private sectors was vaginal delivery without complicating diagnosis (public 2.9%, private 3.4% nationally) followed by major affective disorder (public 1.8%, private 3.2% nationally).

---

Table 6  Private acute hospital separations, same day separations, average length of stay, Australia, States and Territories, 1995-96

<table>
<thead>
<tr>
<th>State</th>
<th>Separations per 1,000 population</th>
<th>% of same-day separations</th>
<th>Average length of stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales</td>
<td>75.1</td>
<td>55.3</td>
<td>3.1</td>
</tr>
<tr>
<td>Victoria</td>
<td>91.9</td>
<td>51.2</td>
<td>3.4</td>
</tr>
<tr>
<td>Queensland</td>
<td>104.5</td>
<td>46.5</td>
<td>3.5</td>
</tr>
<tr>
<td>South Australia</td>
<td>95.1</td>
<td>38.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Western Australia</td>
<td>83.5</td>
<td>41.1</td>
<td>3.7</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Australia</td>
<td>86.7</td>
<td>48.7</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Note n.p. - Not for publication  n.a. - Not available
Source Commonwealth Department of Health and Family Services, 1997

Table 7  The two AN-DRGs (v3.0) that account for the highest number of separations and their percentage share, ranked in descending order, Western Australia, 1995/96

<table>
<thead>
<tr>
<th>Public Acute Hospitals</th>
<th>AN-DRG</th>
<th>% of separations</th>
</tr>
</thead>
<tbody>
<tr>
<td>572 - Admit for Renal Dialysis</td>
<td>7.5</td>
<td></td>
</tr>
<tr>
<td>780 - Chemotherapy</td>
<td>3.5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Private Acute Hospitals</th>
<th>AN-DRG</th>
<th>% of separations</th>
</tr>
</thead>
<tbody>
<tr>
<td>335 - Other colonoscopy w/o complications</td>
<td>5.1</td>
<td></td>
</tr>
<tr>
<td>332 - Other gastroscopy for non-major digestive disease w/o complications</td>
<td>4.6</td>
<td></td>
</tr>
</tbody>
</table>

Source Commonwealth Department of Health and Family Services, 1997

53 ibid.
54 ibid.
55 ibid.
Trends in the Use of Public and Private Hospitals

This section provides an overview of trends in metropolitan hospital admissions and length of stay between 1989/90 and 1996/97. It is taken directly from work commissioned by the Strategic Planning and Evaluation Division of the Health Department of Western Australia for the metropolitan health strategic plan and undertaken by the Department of Public Health at the University of Western Australia.56

The linkage of health records in Western Australia has provided an unprecedented opportunity to examine trends in the utilisation of health services over time. The linked health records provide a longitudinal view of how services are delivered to patients as distinct from a profile of what services are being provided at different institutions.

The results presented here include first admissions to Perth metropolitan hospitals in each financial year according to 15 major clinical service groupings for both the public and private hospitals. Also provided are the cumulative number of metropolitan hospital bed-days used by patients in each of the 15 clinical service groups within the first year of first-time hospital admission.

Although providing a necessarily broad overview of the use of Perth metropolitan hospital services, the data provides the first step towards dis-aggregating the effects of changes over time in individual numbers of patients and changes in the total utilisation of hospital services by the average patient.

There were 2,740,591 admissions to Perth metropolitan hospitals (including those in the Peel Health Service) in the period 1989/90 to 1996/97. These admissions included rural residents admitted to metropolitan hospitals during the eight-year study period. A separate analysis of unlinked data shows metropolitan hospital use by residents of rural Western Australia accounted for 8% of cases and 10% of all bed-days in 1996/97. Some 57% of these cases were admitted to tertiary hospitals while 36% used private hospitals. Further analysis of linked data will be required to examine the use of metropolitan hospitals by people from rural and remote areas.

Annual hospital admissions increased by 44% from 274,721 to 395,937 over the eight fiscal years. Some 48.5% of admissions were to the five metropolitan tertiary hospitals, 19.1% to other metropolitan hospitals and 32.4% to private hospitals.

Using the linkages between hospital records, it was shown that the 2.7 million hospital admissions belonged to 1,097,360 individual patients.

---

Changes in the number of admissions, number of first-time (index case) admissions, proportion of same-day cases, average length of stay (LOS) and cumulative length of stay were determined for each of the 15 clinical service groups.

Overall results for the private and public sector combined demonstrated that:
- during this time the majority of admissions were for surgery (14.8%), medicine (11.9%) and orthopaedics (10.8%);
- annual hospital admissions increased by 44% from 274,721 to 395,937 during the eight-year period;
- all the clinical groups showed at least a 10% increase in the number of episodes during the period except obstetrics and general surgery which remained relatively stable;
- with the exception of rehabilitation and neonatology all the clinical service groups showed at least a 10-20% reduction in their average length of stay;
- the proportion of same-day admissions almost doubled in the eight years from 25% of all admissions in 1989/90 to 44% in 1996/97;

When comparing the public and private sector, selected highlights include:
- overall admissions have increased for both the public and private sectors for psychiatry, cardiac, neurology, renal/urology, oncology, ENT/eyes/dental, medicine, haematology/immunology and rehabilitation. The change in overall admissions for surgery, obstetrics and neonates followed the same pattern for the public and private sector where change was less than 10%. For orthopaedics, respiratory and gynaecology a different profile exists between the public and private sectors where in each case the public sector shows a less than 10% increase whereas in the private sector, respiratory (>100%), gynaecology (>50%) and orthopaedics (>21%) showed large increases in admissions;
- the proportion of same-day admissions has generally increased, with the greatest increases seen in the private sector except for medicine and rehabilitation where the increases are greater in the public sector; and
- overall, the mean cumulative length of stay has decreased in both the public and private sectors for almost all clinical service groups with variations in the degree of change.

Although changes in data collection and admission policy confound the results for some clinical service groups, especially neonatology and rehabilitation, this analysis provides a broad picture of changing patterns of metropolitan hospital use.

Moving to the next layer of analysis, when hospital admissions were classified by DRG-based clinical service groups, the largest numbers of admissions occurred in the categories of surgery, medicine and orthopaedics. When each of the 15 DRG-based clinical service groups is further classified into 32 subgroups, a greater level of detail is provided. It may be seen, for example, that most of the cardiac group was made up of cardiology patients (4.7%) as distinct from cardiothoracic surgery patients (0.9%); oncology was almost entirely medical oncology (3.2%) as against radiation oncology (<0.1%), whereas gynaecology was mostly surgical gynaecology (8.1%) rather than medical gynaecology (0.4%).
Table 10 Trends in numbers of hospitalisation episodes and length of stay over time for each of the 15 DRG-based clinical services groups – public and private hospitals

<table>
<thead>
<tr>
<th>Service</th>
<th>Index (N)</th>
<th>Total (N)</th>
<th>Same-day prop.(all)</th>
<th>Mean LOS(all)</th>
<th>Mean LOS(index)</th>
<th>Mean cum LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY - Psychiatry*</td>
<td>90/91</td>
<td>89/90</td>
<td>89/90</td>
<td>89/90</td>
<td>89/90</td>
<td>89/90</td>
</tr>
<tr>
<td>FY - Psychiatry*</td>
<td>96/97</td>
<td>96/97</td>
<td>96/97</td>
<td>96/97</td>
<td>96/97</td>
<td>95/96</td>
</tr>
<tr>
<td>PY - Psychiatry - Public</td>
<td>▲▲</td>
<td>▲▲▲▲</td>
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<td>▲▲▲▲</td>
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</tr>
<tr>
<td>PY - Psychiatry - Private</td>
<td>▲▲▲▲</td>
<td>▲▲▲▲</td>
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<td>▲▲▲▲</td>
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<tr>
<td>CD - Cardiac - Public</td>
<td>—</td>
<td>▲</td>
<td>▲▲</td>
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<td>▲▲</td>
<td>▲▲</td>
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<tr>
<td>CD - Cardiac - Private</td>
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</tr>
<tr>
<td>NN - Neuro - Public</td>
<td>▲▲▲▲</td>
<td>▲▲▲▲</td>
<td>▲▲▲▲</td>
<td>▲▲▲▲</td>
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<tr>
<td>NN - Neuro - Private</td>
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<td>▲▲▲▲</td>
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<tr>
<td>RU - Renal/Urology - Public</td>
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<tr>
<td>RU - Renal/Urology - Private</td>
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<tr>
<td>MR - Oncology - Public</td>
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<tr>
<td>MR - Oncology - Private</td>
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</tr>
<tr>
<td>EO - ENT/Eyes/Dental - Public</td>
<td>—</td>
<td>▲ ▲</td>
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<td>▲ ▲</td>
<td>▲ ▲</td>
<td>▲ ▲</td>
</tr>
<tr>
<td>EO - ENT/Eyes/Dental - Private</td>
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<tr>
<td>GS - Surgery - Public</td>
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<tr>
<td>GS - Surgery - Private</td>
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<tr>
<td>OR - Orthopaedics - Public</td>
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<tr>
<td>OR - Orthopaedics - Private</td>
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<td>▲ ▲ ▲</td>
</tr>
<tr>
<td>GM - Medicine - Public</td>
<td>▲</td>
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<tr>
<td>GM - Medicine - Private</td>
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<tr>
<td>RS - Respiratory - Public</td>
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<tr>
<td>RS - Respiratory - Private</td>
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<tr>
<td>HI - Haem./Immunity - Public</td>
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</tr>
<tr>
<td>HI - Haem./Immunity - Private</td>
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<td>▲ ▲ ▲ ▲</td>
<td>▲ ▲ ▲ ▲</td>
<td>▲ ▲ ▲ ▲</td>
</tr>
<tr>
<td>RB - Rehabilitation - Public</td>
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<td>▲ ▲ ▲ ▲</td>
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<td>▲ ▲ ▲ ▲</td>
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<tr>
<td>RB - Rehabilitation - Private</td>
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<td>▲ ▲ ▲ ▲</td>
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<td>▲ ▲ ▲ ▲</td>
</tr>
<tr>
<td>GY - Gynaecology - Public</td>
<td>—</td>
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<td>▲ ▲</td>
<td>▲ ▲</td>
<td>▲ ▲ ▲</td>
</tr>
<tr>
<td>GY - Gynaecology - Private</td>
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<td>▲ ▲ ▲</td>
</tr>
<tr>
<td>OB - Obstetrics - Public</td>
<td>▲</td>
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<tr>
<td>OB - Obstetrics - Private</td>
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<td>▲ ▲</td>
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</tr>
<tr>
<td>NE - Neonatal - Public</td>
<td>—</td>
<td>—</td>
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<td>▲ ▲</td>
<td>▲ ▲ ▲</td>
</tr>
<tr>
<td>NE - Neonatal - Private</td>
<td>—</td>
<td>—</td>
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<td>▲ ▲</td>
<td>▲ ▲</td>
<td>▲ ▲ ▲</td>
</tr>
</tbody>
</table>

a These data do not include ‘approved’ psychiatric hospitals or units in the public system as the linked data was not available at the time of the preliminary analysis. Attempts are being made to obtain this data and wherever possible it will be included in future analyses. The opening of the Bentley Hospital and Fremantle Hospital psychiatric units may have skewed the reported trends.

b. Falling trends in first-time admission within the early years of observation must be interpreted with caution. Many of these early first-time admissions will not have been true first-time events but rather second or subsequent hospital admissions of patients admitted for the first time prior to July 1989. However, this phenomenon is unlikely to affect the data to any practical degree beyond 1992/93.

c. Trends since 1992/93 only, due to differences in recording of newborn information prior to this date.

d. Variations in the 1995/96 data are the result of particular data linkage issues which are being addressed.

Key
- ▲ 10-20% increase
- ▲ ▲ 21-50% increase
- ▲ ▲ ▲ > 50% increase
- ▲ ▲ ▲ ▲ > 100% increase
- < 10% difference

Source HDWA & UWA, 1998
### Table 11  Number and percentage of total admissions for each of the 32 subgroups of the DRG-based clinical service groups: July 1989 to June 1997

<table>
<thead>
<tr>
<th>Broad Category</th>
<th>Clinical Services Group</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental Health</td>
<td>Psychiatry</td>
<td>87,654</td>
<td>3.2</td>
</tr>
<tr>
<td>Related Medical and Surgical Specialties</td>
<td>Cardiology</td>
<td>128,102</td>
<td>4.7</td>
</tr>
<tr>
<td></td>
<td>Cardiac Surgery</td>
<td>24,640</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>Neurology</td>
<td>68,183</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Neurosurgery</td>
<td>18,408</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>Cardiac Surgery</td>
<td>24,640</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>Urology</td>
<td>102,840</td>
<td>3.8</td>
</tr>
<tr>
<td></td>
<td>Renal (inc Renal Dialysis)</td>
<td>163,145</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>Radiation Oncology</td>
<td>990</td>
<td>0.0</td>
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<tr>
<td></td>
<td>Medical Oncology</td>
<td>88,145</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>ENT</td>
<td>113,846</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>Ophthalmology</td>
<td>81,338</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Dental</td>
<td>60,549</td>
<td>2.2</td>
</tr>
<tr>
<td>Other Surgery</td>
<td>General Surgery</td>
<td>352,830</td>
<td>12.9</td>
</tr>
<tr>
<td></td>
<td>Vascular</td>
<td>15,899</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Plastics</td>
<td>33,276</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Burns</td>
<td>4,112</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>Cranio-Maxillary-Facial</td>
<td>603</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Other major organ transplantation</td>
<td>46</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Orthopaedics</td>
<td>297,176</td>
<td>10.8</td>
</tr>
<tr>
<td>Other Medicine</td>
<td>General Medicine</td>
<td>79,621</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td>Gastroenterology</td>
<td>205,482</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>Endocrinology</td>
<td>17,315</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Rheumatology</td>
<td>24,038</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>Respiratory Medicine</td>
<td>124,728</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td>Clinical Haematology</td>
<td>49,969</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Clinical Immunology</td>
<td>3,505</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>Rehabilitation Medicine</td>
<td>6,903</td>
<td>0.3</td>
</tr>
<tr>
<td>Women and Neonates</td>
<td>Gynaecology: Surgical</td>
<td>220,736</td>
<td>8.1</td>
</tr>
<tr>
<td></td>
<td>Medical</td>
<td>10,958</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>Obstetrics: Delivery</td>
<td>139,941</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>Other Obstetrics</td>
<td>15,901</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Neonatology</td>
<td>115,905</td>
<td>4.2</td>
</tr>
<tr>
<td>Other*</td>
<td>Ungrouped</td>
<td>83,564</td>
<td>3.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>2,740,591</td>
<td>100</td>
</tr>
</tbody>
</table>

* Not recommended as a grouping per se – relevant DRGs to be analysed on a case by case basis.
Source: HDWA & UWA, 1998
Use of Selected Commonwealth Funded Services
Western Australians used a total of just over 17 million Medicare services in the twelve month period from July 1996 to June 1997 including:
- 8.9 million consultations with GPs;
- 1.6 medical specialist consultations;
- 4.5 million pathology services; and
- almost 1 million diagnostic services.

The profile of Medicare service usage varies between males and females and with age. Younger children in the 0 to 4 years age group are higher users of services relative to the 5 to 14 years age group. Except for the early childhood years, males use fewer Medicare services than females throughout their lifespan. Service use is at its highest in the 75-plus age group for both men and women.

Overall Findings on Health Service Use
Overall, the key features of health service use that emerge include:
- within the public system in the Perth metropolitan area most people receive inpatient care in a tertiary hospital (approximately 80% of separations);
- over recent years the public system in Perth has seen the growth of tertiary hospital use outstripping that of secondary hospitals;
- there is a different profile of activity between the private and public acute hospitals in Western Australia;
- during the eight-year period 1989-90 to 1996-97, admissions to metropolitan public and private hospitals increased by 44%, the proportion of same-day admissions almost doubled from 25% to 44% of all admissions and almost all clinical groups showed at least a 10-20% reduction in average length of stay; and
- the profile of Medicare service use varies across lifespan with service use at its highest in the 75-plus age group for both men and women.

Table 12 Average number of Medicare services per Western Australian resident and per Australian resident by age and gender of patient – for services processed from 1 July 1996 to 30 June 1997

<table>
<thead>
<tr>
<th>Sex</th>
<th>Age</th>
<th>WA</th>
<th>Australia</th>
<th>WA</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-4</td>
<td>8.26</td>
<td>9.45</td>
<td>7.65</td>
<td>8.68</td>
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<td>5.15</td>
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<tr>
<td></td>
<td>10-14</td>
<td>4.05</td>
<td>4.43</td>
<td>4.25</td>
<td>4.55</td>
</tr>
<tr>
<td></td>
<td>15-19</td>
<td>4.28</td>
<td>4.80</td>
<td>8.27</td>
<td>8.36</td>
</tr>
<tr>
<td></td>
<td>20-24</td>
<td>4.32</td>
<td>5.15</td>
<td>11.04</td>
<td>11.46</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>4.92</td>
<td>5.87</td>
<td>12.84</td>
<td>13.38</td>
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<td>35-44</td>
<td>5.97</td>
<td>7.04</td>
<td>11.40</td>
<td>12.11</td>
</tr>
<tr>
<td></td>
<td>45-54</td>
<td>8.37</td>
<td>9.47</td>
<td>13.09</td>
<td>14.08</td>
</tr>
<tr>
<td></td>
<td>55-64</td>
<td>13.03</td>
<td>14.41</td>
<td>15.44</td>
<td>16.85</td>
</tr>
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<td></td>
<td>Total</td>
<td>7.47</td>
<td>8.65</td>
<td>11.63</td>
<td>12.76</td>
</tr>
</tbody>
</table>

Source: HIC, 1997
Health professionals, health managers and community leaders were asked what attributes of current health services they believed were most positive and what aspects they thought needed changing.

Almost without exception, people rated the range and quality of services and the level of expertise and skill of health practitioners as the major strengths of the current health system, especially in relation to the inner metropolitan hospitals, which were generally recognised as being of world standard.58

The single most common need for change identified by these groups was for the introduction of a system of networking that would lead to greater coordination of services across the continuum of primary, secondary and tertiary levels of care.

There was also strong support for changing the current patterns of service delivery to ensure that services are delivered as close to where people live as possible. This generally took the form of increasing the number and range of services available in secondary hospitals in the outer metropolitan area.

Overwhelmingly, the public expects two major changes to occur in the development of future health services in Perth. Firstly, to shift services from inner metropolitan hospitals wherever possible and provide them closer to where most people live. Secondly, people expressed immense confidence in the high quality of clinical services delivered in the inner metropolitan hospitals and want to be assured of this quality for locally delivered services.

The primary goal of the metropolitan health strategic plan is to increase the ability of the metropolitan health system to respond to the changing health needs of the population and the changing face of clinical practice as it enters the 21st century. The specific objectives of the plan are to:

- examine future requirements and opportunities for metropolitan health services which will meet

58 Inner Metropolitan Hospitals include Fremantle Hospital, Sir Charles Gairdner Hospital, Royal Perth Hospital, Princess Margaret Hospital and King Edward Memorial Hospital.
the health needs of the population, provide high quality patient-focused care and deliver improved health outcomes;
• develop a preferred approach to the configuration of health services which is clinically and economically sustainable;
• detail new capabilities arising from better knowledge, advances in technology and new approaches to treatment; and
• consider investment for future recurrent and capital requirements arising from the plan.

In order to achieve many of these objectives there needs to be a fundamental redesign in the way that clinical services, teaching and research are currently organised and operated. A system needs to be implemented that ensures full integration at the clinical service and professional levels with staff operating across hospital and health services boundaries. There must also be complementary changes to undergraduate teaching and postgraduate research.

There are a number of significant factors, which are already manifest at the clinical practice level, that are set to change the face of the health system as we know it, not least:
• rapid advances in new health technology and emerging models of clinical practice are leading to shorter hospital stays and enabling an increasing number of procedures to be carried out at home or in other community settings;
• rapid advances in information and communication technology are breaking down the need for services to be grouped on a single site; and
• the emergence of evidence-based practice with its focus on clinical effectiveness and outcomes will have a substantial effect on shaping the organisation and delivery of health services.

Hospitals of the future are likely to be smaller, more technologically sophisticated and to concentrate on larger volumes of a more limited range of specialties and complex, high-cost treatments. A considerable proportion of the diagnostic and investigative work and treatment that currently takes place in outpatient and other
acute hospital settings will take place in alternative community settings.

But the pace and scope of change are unpredictable and, therefore, to design a total, fixed health system for the future is not practical. Rather it is more realistic to develop a structure that is flexible, dynamic and responsive to change. In turning to the future, three key issues are considered:

- the integration of clinical services;
- the re-configuration of health services; and
- improving access to services for people living in the outer metropolitan area.
INTEGRATING CLINICAL SERVICES

In July 1997, the State Government released its policy for the metropolitan health system in which it:

• announced the formation of a 20 member board, the Metropolitan Health Service Board, to replace the 11 existing metropolitan health service boards; and

• re-affirmed the Health Department of Western Australia’s responsibility for strategic policy and planning, its role as the single, central purchaser of health services for the State, and its accountability for public health sector assets.

The primary goal of these initiatives was:

...to provide more convenient access to hospital and health care services...to take services to where patients are rather than the reverse by being able to manage the Government health services of the metropolitan area as one system...[to address] the complexities of funding and statutory responsibilities [which] compel individual hospitals and services to focus on their own interests.59

Currently, the metropolitan public health system is composed of groupings of health providers, the Health Services, which share the common governance of the Metropolitan Health Service Board. Some of the Health Services are comprised predominantly of tertiary hospital services with a state-wide role, while others are made up of primary and secondary level services with no tertiary services.

While most people consulted thought that the establishment of a single Metropolitan Health Service Board presented a real opportunity for getting health services and hospitals to work more closely together, few believed that the full potential of this initiative could be achieved without some change to the current system of linkages between health services.

Western Australia, like most developed countries, has instituted a number of health reforms over the past fourteen years. All these reforms have had only a marginal effect on the way health services are delivered. The linkages between hospital and community services, between complementary services in different hospitals, between public sector services and general practice and between promotion and prevention and treatment services, remain poor. Attempts to improve hospital access in the outer metropolitan areas have been singularly unsuccessful.

A major problem has been that the attempts to date to coordinate health services have primarily focused on linking services at the management level. This has brought together a disparate array of services that have little in common in terms of patient flows, technology, treatment patterns, cost and required skill mix, to be managed as a single entity.

Hospitals have dominated our thinking in the health sector. In order to overcome the constraints imposed by the current system, to achieve a fairer distribution of resources and reduce unnecessary duplication of services and infrastructure, the provision of services must be uncoupled from its facilities base. The future lies in the provision of primary, secondary and tertiary care closer to where services are required, from the intensive care unit through to the patient’s own home.

Crossing the Boundaries

Essentially, it is the health professionals and educators that have to be uncoupled from their facilities base, whether it be a hospital or a community clinic. It is proposed that a system of Integrated Clinical Services be implemented in metropolitan Perth as a means of integrating services.

Integrated Clinical Services are aggregations of clinical services that are interdependent for a combination of the following reasons:

• they are based upon the way people use services and serve patients with similar or related needs;

• they provide services for particular population groups;

• they reflect the nature of the care process and of the health professionals’ skills mix and training; and

• they have common or similar requirements, particularly in terms of clinical support needs, infrastructure and technology.

59 Health Department of Western Australia, Establishment of Metropolitan Health System: Summary of State Government Policy, HDWA, 1997.
The proposed model of Integrated Clinical Services is very different from the better known Hub and Spoke model which involves professional staff from central hospitals (the hub) outreaching to the outer metropolitan areas (the spokes). Under the Hub and Spoke model, the primary professional attachment remains to the parent hospital.

Within the system of Integrated Clinical Services, the primary attachment of professional staff, that is the medical, nursing and allied health staff, is to the Integrated Clinical Services which are not confined to any one institution or facility, but operate across the boundaries of hospitals and community services. They assume responsibility for managing the care of patients across the continuum of care, from initial diagnosis and acute treatment through to ambulatory care and home-based services.

Potentially, it would be possible to have an Integrated Clinical Service for each specialty group. However, it is proposed to have around twelve Integrated Clinical Services that will have responsibility for the provision of specified groups of services across the metropolitan area. This will require the aggregation of a number of specialty groups within each Integrated Clinical Service. Clearly, there will be a trade-off between the desire of each specialty to have its own Integrated Clinical Service and the need for a critical mass, economies of scale and effective accountability.

The number and types of Integrated Clinical Services will need to be sufficiently comprehensive to meet all the health needs of people living in the metropolitan area and of people referred for treatment from rural areas.

Integrated Clinical Services should aim to provide for the health needs of patients in the most appropriate setting, with systematic and seamless movement from entry to exit. They will need to establish treatment protocols and best practice guidelines to ensure as much consistency as possible in quality and outcomes across all the components of care.

There will be wide consultation with clinicians to determine the optimum groupings of services to form the Integrated Clinical Services. The challenge for Western Australia will be in tailor-making a solution that best fits our unique local circumstances. Without wishing to prejudice that process, two structures in operation in Australia are presented in Appendix 1.

The goals for the establishment of Integrated Clinical Services are:
- to encourage a focus on improving the health of the Integrated Clinical Services’ constituency;
- to promote continuity of care in patient management by providing a means of integrating services across the traditional boundaries of health care facilities and units;
- to provide a mechanism for clinicians to take full operational responsibility for the delivery and management of services within an Integrated Clinical Service;
- to provide a mechanism for service development which is flexible, clinically sustainable and able to respond to the changing needs of the population;
- to promote best practice and uniformity of standards;
- to ensure that resources are fairly allocated to areas of clinical need; and
- to ensure technically efficient use and sharing of clinical resources (human, capital and technology) within Integrated Clinical Services.

It is proposed that each Integrated Clinical Service be managed by a Management Team, headed by a Clinical Director and a General Manager who is a member of the Metropolitan Health Service Board. The management team will be a multi-professional team consisting of the heads or senior members of the major professional groups working within the Integrated Clinical Service. Ideally, the team would have general practitioner and community representation. In establishing the management team, consideration will need to be given to ensuring that the members are not drawn from any single institution or unit, but are representative of the full scope of the Integrated Clinical Service’s activities.

To bring about the desired shifts in health service provision and to ensure that services are focused on the needs of the population, it is essential that decisions about resource allocation be separated from the facilities base. The
Integrated Clinical Services will need to be given a central role in budget management decisions.

The management expertise of the General Managers in partnership with the clinical expertise of the Director of the Integrated Clinical Service will be combined so that they take joint responsibility for budget management.

There are clearly a number of options for staff management in the proposed system of Integrated Clinical Services. Given that one of the primary objectives is to separate the provision of services from its facilities base, two overriding principles must be that, wherever possible, clinical staff should be part of the Integrated Clinical Services and that principal staffing decisions that affect their operation should be made by the Integrated Clinical Services.

With the move to Integrated Clinical Services that operate across health facilities and units on a metropolitan-wide basis, the current practice of hospitals and health services each individually credentialling professional staff will not be sustainable. The Metropolitan Health Service Board is currently developing a system for cross-service credentialling that could be applied with the introduction of Integrated Clinical Services.

**Defining the Responsibilities**

Despite the often-stated intention of basing decision making within the health system on the health needs of the population and not on hospitals and health services, planning, purchasing, governance, management and service provision decisions have, to date, been dominated by a facilities focus. This has led to services and resources being locked in to particular hospitals or health units, despite the changing demography and health needs of the community. This approach has been a major barrier to aligning services with changing community needs and to coordinating service delivery across the boundaries between hospitals/health units.

The first order decisions will be what are the health needs/service needs of the population and what mix of services would best meet those needs. The appropriate facilities in which this mix of services would best be delivered would become a second order decision.

The formation of Integrated Clinical Services will clearly go part of the way to overcoming these barriers. However, a strengthening of the roles and responsibilities of the various components of the health system will be required to support the development of a system that is primarily focused on the health needs/service needs of the community.

The purchaser’s role (Health Department of Western Australia) would be fully aligned with the Integrated Clinical Services rather than hospitals and health units. The purchaser would have responsibility for the development of purchasing plans and for establishing the service contracts within which the Integrated Clinical Services would be required to operate. Responsibility for the purchasing of publicly funded, privately operated services would remain with the purchaser. However, it would be imperative that this be coordinated with the Metropolitan Health Service Board and the Integrated Clinical Services to ensure that services are complementary and properly integrated. This would increase coordination of patient care and reduce the risk of patients falling through the gaps between these service systems.

The Metropolitan Health Service Board would have responsibility for ensuring the proper operation of the Integrated Clinical Services and control over the funds allocated for this purpose by the purchaser. It would also be responsible for overseeing the implementation of action resulting from strategic and purchasing plans developed in partnership with the Health Department of Western Australia.

The strategic planner (Health Department of Western Australia) would retain responsibility for strategic planning and evaluation for the health system and the setting of macro targets for the devolution of clinical services. It would also maintain its current role in strategic capital development to ensure that capital initiatives are in line with strategic planning for clinical services.

General Managers of Health Services may also have a joint management function in one or more Integrated Clinical Service. They will have responsibility to the Board for managing facilities but will be accountable to the Health Department of Western Australia for major capital infrastructure.
A commonly expressed view amongst clinicians was that the private sector provision of publicly funded inpatient services had the potential to significantly limit flexibility in the location and mix of services and in the coordination of patient care. They saw no difficulty with private ownership of facilities or in the private provision of infrastructure and support services, but they were of the opinion that the needs of the patients would be better served by the professional staff from the Integrated Clinical Services in-reaching into private hospitals to provide the professional care.

Clearly, there will need to be wide consultation with stakeholders, including privately managed and publicly funded services, to determine what form the model of Integrated Clinical Services should take to ensure that it best fits local circumstances.

Comments are invited on:

• the desirable number of Integrated Clinical Services and their component services;
• the management and staffing arrangements for Integrated Clinical Services;
• the mechanisms for ensuring that the Integrated Clinical Services operate to pursue the objectives and strategic directions set for the health system, including the setting of targets for the devolution of services from the inner metropolitan hospitals;
• definition of their role in relation to the planners, purchasers, the Metropolitan Health Service Board, health service managers and heads of units and services;
• definition of their role in relation to budget holding, clinical priority setting, models of care and standards;
• relationships with primary care, the non-government sector and the private sector; and
• relationships with local communities and population groups served by the Integrated Clinical Services.
RECONFIGURING HEALTH SERVICES

Since 1986, the Health Department of Western Australia has focused on improving access to hospitals and health services for people living in the outer suburbs of Perth by moving services closer to where they live. By contrast, in the five years to 1996 the trend has been to increased centralisation of hospital use. In that period, patient discharges from the inner metropolitan hospitals increased by 30% while those from the outer metropolitan hospitals fell by 11%. This situation is not supportable, given that by 2006 over one million people, or two-thirds of the population of metropolitan Perth, will be living in the outer suburbs.

Secondary Hospitals

Perth’s hospitals and health services must be planned and managed to serve the population rather than to perpetuate institutions. In order to improve access to services for people living in the rapidly growing outer metropolitan areas of Joondalup, Swan, Rockingham and Armadale, there will need to be a substantial re-allocation of resources from the central metropolitan area.

Not all the needs of these communities will be able to be met by simply moving services from the inner metropolitan hospitals. Although the population in the outer metropolitan areas is expected to increase by 30% between 1996 and 2006, from 777,100 to 1,013,700, the population of the central metropolitan area is expected to fall by just under 2% from 542,300 to 532,200. The net result will be a growth of 17% in Perth’s population between 1996 and 2006. Some new investment in services will be required to meet the rapidly growing demand in the outer metropolitan areas.

During consultations, there were a variety of views expressed about the futures of Bentley, Osborne Park and Kalamunda Hospitals. Both Bentley and Osborne Park Hospitals are within 10 kilometres of the inner metropolitan hospitals and it would not be practical to develop a full range of acute secondary level services at either campus.

Suggestions about the future use of the hospitals have ranged from high throughput elective surgery to specialised rehabilitation services. However, further consideration needs to be given to the future of the services and the use of existing infrastructure. The needs of the local populations may be better served by the development of free-standing Health Centres, the concept of which is more fully elaborated later in this section.

Issues raised during consultations regarding Princess Margaret and King Edward Memorial Hospitals and Royal Perth Hospital-Shenton Park Campus, have been addressed in the following chapter on Service Development.

What services should be provided by the outer metropolitan hospitals, that is Joondalup, Swan, Rockingham and Armadale, to enable them to meet the majority of the needs of their local populations? There is no straightforward answer. In December 1995, the Victorian Metropolitan Planning Board identified a number of tertiary and state-wide services that they believed should be restricted to a small number of hospitals and not duplicated across all hospitals. The criteria used for their identification were essentially:

- low volume of patients where quality and outcome require a minimum volume;
- high capital cost particularly in technology;
- restricted number of highly specialised staff and high level of supporting infrastructure required; and
- new technology and technology still under evaluation.

Taking these criteria into consideration, services that should be given a high priority for development/enhancement at appropriate peripheral hospitals in Perth are listed in Table 13.
In the short to medium term, cardiology, rheumatology and respiratory medicine should also be considered for further development/enhancement in appropriate peripheral hospitals. It would not be appropriate to devolve all non-tertiary services to the outer metropolitan area. The inner metropolitan hospitals, Sir Charles Gairdner, Royal Perth, Fremantle and Princess Margaret/King Edward Memorial Hospitals, will be required to continue to provide secondary services for just over half a million people living in the inner suburbs in addition to continuing to provide selected tertiary services for the State.

But there are also tertiary level services which have a significant non-inpatient component. Patient access to these non-inpatient services could be greatly improved by their devolution to the outer metropolitan areas, preferably to free-standing Health Centres. Particularly important amongst these services are ambulatory services, renal dialysis and chemotherapy.

Clearly, in order to accommodate this increase in the level and range of services in the outer metropolitan areas it will be necessary to build up the physical infrastructure in local communities. But buildings alone will not be sufficient. The system of Integrated Clinical Services must ensure that the new services continue to provide the high quality of care to which the people of Western Australia have become accustomed.

### Table 13 High priority service areas for development/enhancement at appropriate Perth peripheral hospitals

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaesthetics</td>
<td>High Dependency Care</td>
</tr>
<tr>
<td>Diabetes/Endocrinology</td>
<td>Imaging and Pathology</td>
</tr>
<tr>
<td>Emergency Medicine (urban district)</td>
<td>Obstetrics (including level 2 neonatal unit)</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>Orthopaedics</td>
</tr>
<tr>
<td>General Medicine</td>
<td>Paediatrics (non-tertiary)</td>
</tr>
<tr>
<td>General Surgery</td>
<td>Psychiatry (adult inpatient)</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>Rehabilitation</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>Urology</td>
</tr>
</tbody>
</table>

**Tertiary Hospitals**

The majority of people consulted believed that if we were starting today to construct a health system from ‘scratch’, it would look very different from our current system. Many saw that we would have only one central hospital providing secondary and tertiary services to people living in the inner and central suburbs and quaternary services for the entire State. This would be complemented by hospitals in the northern and southern areas of Perth, providing a range of secondary and tertiary services to people living in the rapidly growing outer suburbs.

But we do not have that luxury and we already have a massive investment in infrastructure in hospitals in the central metropolitan area. Perhaps even more importantly, it is imperative that we do not perpetuate a model of hospitals that is rapidly becoming outdated. At a time when advancing technology and changing models of clinical care are set to transform the inner metropolitan hospitals, it would not be appropriate to simply relocate or replicate them in the outer metropolitan area.

Priority for capital investment must be afforded to three separate but related developments:

- establishing multi-purpose Health Centres, strategically located close to where people live, to meet the increasing volume and range of services that can and should be managed in non-inpatient settings;
- building up information/communication technologies to support the model of Integrated Clinical Services which will operate across dispersed health sites; and
- developing the infrastructure at the outer metropolitan hospitals where appropriate to enable them to increase the volume and range of secondary services available to their local communities and redeveloping infrastructure to support appropriate tertiary and quaternary services.

These developments, together with the establishment of Integrated Clinical Services, will have a profound impact on the central hospitals. As the capacity for hospital and non-inpatient care increases in the outer metropolitan areas, the
services provided at Sir Charles Gairdner, Royal Perth, Fremantle and Princess Margaret/King Edward Memorial Hospitals will contract and they will become increasingly more focused on the delivery of complex, highly specialised tertiary services for the State and the secondary health care needs of their local communities.

Nevertheless, the proximity and over-concentration of services at the two largest general hospitals in the State, Sir Charles Gairdner and Royal Perth, which between them consume over 40% of the State’s hospital budget, present a real challenge for re-configuring the metropolitan health system. A number of options were presented during consultation for resolving this problem, including amalgamation of the hospitals and closure or relocation of one or the other hospital.

Given the level of investment at each of the sites, it would not be economically feasible at this stage to relocate or close one of the hospitals. The preferred option is a staged reduction in the provision of secondary level services at both hospitals in parallel with the growth of services in the outer metropolitan areas. The introduction of the system of Integrated Clinical Services, with teams of professional staff working across both sites, will provide the mechanism for the development of complementary services between the tertiary services wherever possible.

This process of re-configuring the health system will need to be managed and not simply left to chance. It will consider work undertaken in previous reviews. The delineation of complementary tertiary and quaternary services will include, but not be limited to, tertiary components of neurology, neurosurgery, both emergency and elective, cardiothoracic surgery including transplantation surgery, tertiary components of cardiology, lung transplantation, limb reconstruction surgery, limb reimplantation, burns and trauma. It will involve working with clinicians and managers to identify those services that should be classified as ‘tertiary’ or ‘state-wide’ and be restricted to one or two sites and those that should be devolved to the outer metropolitan area. Plans will then need to be developed and targets set for moving services out. Clearly, the rate of devolution will be dependent on two key factors: the establishment of the system of Integrated Clinical Services and the investment in infrastructure in the outer metropolitan areas, initially through the development of Health Centres.

CARE IN THE COMMUNITY

Community organisation leaders and local government representatives want multi-professional clinics with a wide range of sophisticated services based in the community. The concept fits the health service of the future with the notion of a virtual hospital or hospital without beds which delivers high quality services in the community. This concept was proposed by health experts.

Immense confidence was expressed by the public in services provided by tertiary hospitals and they would use local services if delivered by the same specialists that currently work at such hospitals as Princess Margaret Hospital and Royal Perth Hospital.

The rapidly growing trend towards shorter hospital stays and ambulatory care (same-day procedures, outpatient attendance, pre-admission assessments and home-based treatment and care) is increasingly necessitating greater coordination across the hospital/community continuum and a team approach to practice. To enhance the range, mix and accessibility of health care services and better coordination between the primary, secondary and tertiary sectors, an innovative model for the provision of services is being proposed - the Health Centre.

Health Centres would ideally be free-standing multi-purpose centres, located close to the heart of major regional retail complexes and accessible by public transport. Health Centres should be located in areas of high health service need where similar services are not readily available. These factors will be taken into account in establishing future Health Centres' locations and capacity. Health Centres would focus on providing accessible, high quality services with the back up of inpatient services for more complex care as required. They will provide the opportunity for tertiary hospitals along with local hospitals to forge a new partnership with the community.

Health Centres would provide the maximum range of diagnostic and treatment services that can safely be supported in a community setting. Services that could be provided through a Health Centre include:

- same-day surgery;
- day procedures (such as endoscopy);
- renal dialysis;
- antenatal care;
- chemotherapy;
- extended hours general practitioner services;
- specialist medical consulting clinics (replacing a large proportion of hospital-based outpatient clinics);
- specialist allied health services (replacing a large proportion of hospital-based outpatient clinics);
- dental services;
- high technology diagnostic services;
- pre-admission assessment services;
- post-operative nursing and home support services;
- coordination of hospital in the home;
- promotion and prevention services;
- domiciliary support for older people; and
- pharmacy services.

Services provided by the Health Centres could be tailored to meet the needs of particular communities with a flexible design to ensure that they could develop and change as the needs of the communities changed.

There are a number of significant advantages to the proposed free standing Health Centres, including:

- shifting the central focus for health care to the heart of the local community by providing a comprehensive range of services for the whole family from the young to the elderly on the one site;
- ensuring fewer cancellations for elective day surgery and investigative procedures by being on a separate site and not competing with the needs of people requiring urgent inpatient care;
- improving community access to services previously restricted to secondary and tertiary hospital settings;
- making high quality specialist advice readily available through the introduction of sophisticated telehealth systems;
- providing services close by for people with chronic health problems who require regular treatment, for example, renal dialysis; and
• reducing the burden of travel for people who are ill and require treatment services in settings which are as comfortable and as non-institutionalised as possible, such as people receiving chemotherapy.

Health Centres have a significant potential to move services out of hospitals and to free up capacity to treat more complex cases without the need for increasing infrastructure on hospital sites. Before embarking on major capital development programs at the outer metropolitan hospitals, careful consideration will need to be given to the potential impact of the Centres on current activity at those hospitals.

The Health Centres should be established first. This will provide an opportunity for the early devolution of non-inpatient services from both the inner and outer metropolitan hospitals, providing space at the latter for the establishment of appropriate services.
The clinical service areas highlighted in this section were identified during the consultation process as requiring particular attention.

No attempt has been made to deliver comprehensive strategic service plans at this stage. The service areas presented in this discussion paper in no way pre-empt the development of the proposed Integrated Clinical Services or suggest that these clinical areas should each, in their own right, become an Integrated Clinical Service.

There have been discussions with clinicians from clinical areas other than those reported in this section, and the outcomes of these discussions have also informed the development of this paper. These discussions are continuing and further groups of clinicians will be consulted.

Several recent plans, including the State Mental Health Plan and the Palliative Care Plan are currently being implemented and the overall changes to the wider health system proposed in this discussion paper will impact on these clinical areas. Planning initiatives are also underway in particular service areas including emergency medicine, rehabilitation and cancer services. Input from all these areas will continue to inform the development of the metropolitan health strategic plan.

The process will also be informed by the regional plan for the provision of health services to Aboriginal people living in the metropolitan area. This is being progressed by the Office of Aboriginal Health, the Health Department of Western Australia, in partnership with the Commonwealth Government and Western Australian Aboriginal Community Controlled Health Organisations.

In addition to the service development areas which are highlighted, issues of teaching and research, workforce and funding were identified during consultations as significant factors to be considered. A proposed approach to funding, teaching and research has been put forward in this discussion paper. Workforce issues will be considered after broad changes, such as the development of Integrated Clinical Services, have been determined.
Opment
HEALTH CARE IN THE COMMUNITY

The public has come to expect a range of prevention and continuing care services to be delivered in the community. Recent advances in medical technologies and clinical practice have paved the way to provide a new and widening range of acute care services in community settings and in some circumstances in peoples’ own homes.

Consultations

Strong values and preferences were expressed that services are best delivered close to where people live and where they go to conduct their daily lives. To facilitate this approach, it was generally believed that there was a need for a significant enhancement of community services, including a strengthened capacity to provide acute services in the community as an alternative to hospital.

There was general agreement among those consulted on the need for enhanced coordination of services provided by medical specialists, GPs, community nursing, community health and home support services. Common themes to expand health care in the community which were reiterated during the consultations included:

• increasing community-based medical specialists and allied health services and reducing hospital-based ambulatory care;
• introducing community located multi-professional clinics to provide a wide range of services;
• expanding post-operative home nursing and home support services;
• increasing levels of support for older people and those with disabilities;
• improving community services for people with mental illness, particularly in the area of youth suicide and drug use; and
• strengthening the range of strategies required to address Aboriginal health problems.

Some new models of care and key services delivered in the community are examined in the following section and significant issues are highlighted particularly acute health care in the community, community health services and aged care.

Acute Health Care in the Community

Health Centres

This discussion paper proposes the development of Health Centres which are free-standing, multipurpose centres located in areas of high health need close to major regional retail centres. They are discussed in greater detail in the previous chapter but, in summary, they will provide services in community settings which are currently delivered on tertiary and secondary hospital sites. They will be a focal point for a range of acute care services including day surgery and acute home care, alongside traditional community services. A range of innovative options and care packages which transcend the current boundaries of organisations and funding arrangements will be possible. The development of Health Centres will provide opportunities for Integrated Clinical Services to progressively increase the range of health care provided in the community.

Acute Home Care

In a telephone survey of people living in metropolitan Perth and Peel, approximately one-third of those who had been admitted to a hospital stated that they would have preferred to go home earlier if good home-based support had been available. Reasons given included that they felt better in their home environment and/or that they were unhappy in hospital. A number of people with children indicated that going home earlier would allow them to care for their family.

Acute health care in the home has received significant attention over the last decade as an alternative environment that provides some patients with a higher quality of life and provides a possible solution to containing hospital costs.

Many acute home care programs have been introduced internationally, including the UK, Canada and the USA and these programs are gaining prominence in Australia. Two distinctive objectives for acute home care have emerged from these myriad of programs - those which avoid hospital admission and those which achieve early discharge.
While the common perception is that moving services from hospitals to the community will reduce costs, the results have been equivocal and are dependent on many factors including managing the length of stay in the acute home program, substituting hospital beds for acute home care places and managing the cost of drugs and consumables.66 67

Some of the considerations to be addressed in providing acute home care to the community include:

• identifying the appropriate clinical conditions suitable for this model of care;
• designing and promulgating standards for the provision of acute home care including appropriate protocols for patient selection, consent, treatment, emergency backup and discharge;
• assessing the efficacy and the cost of acute home care;
• managing the introduction and testing of new acute home care technologies including equipment for direct service provision and information technology; and
• providing information and education about new treatment options available through acute home care for clinicians, patients and the community generally.

Community Health

Child and community health services have had a long and distinguished history in Western Australia and have made a significant contribution towards the eradication of diphtheria and poliomyelitis, the near complete elimination of malnutrition in school aged children and a dramatic reduction in infant mortality.68

These achievements were made possible by the School Medical Service (from 1910), the Infant Health Service (from 1923), Public Health Nurses (from 1965), Community Health Services (from 1972) and, from 1976, through their combined efforts as the Community and Child Health Services.69

Today, the community health program provides health promotion (including health education) services, surveillance to ensure early detection of disability and disease and treatment of selected conditions at the community and individual level. The community health program focuses on:

• screening, immunisation and child health services within schools, at community clinics and in the home;
• ambulatory basic health care to groups with special needs (for example, Aboriginal people, people on low incomes and women). This care includes diagnosis, referral, and where appropriate, community-based treatment and ongoing management of patients suffering certain conditions;
• health education to individual clients; and
• community health promotion at the local level.

A consistent theme during consultations and in major reviews was that community health services are fragmented and lack a strategic direction.68 69 There is limited clinical integration between community-based health care providers and between hospitals and community-based services. Yet this multiplicity of providers is often seeing the same people. As a consequence of this fragmentation, there is a lack of continuity of care and the opportunity to align and focus the efforts of a number of health professionals may be lost or at times unnecessarily duplicated.

The health needs of the community have changed over time and nowhere is this better reflected than in the history of community health. Over the decades, there has been a gradual shift from a focus on infectious disease control and the effects of poor environmental circumstances to managing more complex social, emotional and behaviour problems in response to the health issues of the ’90s.

As health problems have changed, so too have the number and type of health services required to address these problems. There are now multiple health providers engaged in health surveillance, screening, immunisation, ambulatory care to groups with special needs, community-based treatment and ongoing management of people with certain diseases, health education to individuals and community health promotion. Immunisation, for example, is a service delivered by multiple providers.
There is also a multiplicity of providers promoting the health of local communities. This needs to be coordinated through the development of programs which engage the community and clearly target those populations with the greatest health risk. Community health promotion at the local level requires an agreed framework which encourages integrated approaches which are sustained over time and appropriately evaluated.

In partnership with other providers, community health services need a capacity to repeatedly adapt in response to new and emerging epidemics. This is fundamental to maintaining the health of the population. The Integrated Clinical Services will provide the mechanism to focus the effort of community health services onto the health priorities of today.

Non-Government Sector

A range of non-government agencies deliver publicly funded community-based health services. They play a vital role in the delivery of health and support services and range from specific disease focused organisations to generic providers of particular types of interventions.

Providing continuity of care across a range of public sector and non-government organisations is complex. Priorities across these two sectors may not always align. Alignment of priorities and gatekeeping must be resolved if continuity of care is to be achieved. By being active participants in Integrated Clinical Services the non-government sector will, for the first time, have a platform within the mainstream health structures from which to align priorities and service effort.

Aged Care

Increasing longevity is one of the major achievements of the twentieth century. One of the most important trends in recent times has been the importance of the provision of health and related services in peoples’ homes and in health care settings close to the person’s place of residence.

The major providers and programs which deliver care in the community are:

- general practitioners;
- community and hospital linked aged care assessment services and specialist geriatric medical services;
- community care and post acute care and rehabilitation services provided by public hospitals; and
- community care services including home nursing, home help, personal care, respite, transport and delivered meal services funded by the Home and Community Care (HACC) program and provided by community-based organisations.

In Western Australia, the Aged Care Assessment Teams (ACATs) provide approximately 20,000 individual comprehensive aged care

Table 14 Immunisation: number and percentage of episodes of immunising provider from 1 July 1996 to 30 June 1997

<table>
<thead>
<tr>
<th>Provider Type</th>
<th>Western Australia</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>Division of GP</td>
<td>10</td>
<td>0.00</td>
</tr>
<tr>
<td>Local Government</td>
<td>34,440</td>
<td>13.50</td>
</tr>
<tr>
<td>State Health Department</td>
<td>29,928</td>
<td>11.73</td>
</tr>
<tr>
<td>Flying Doctor Service</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Medicare GP</td>
<td>166,076</td>
<td>65.10</td>
</tr>
<tr>
<td>General Practice</td>
<td>1,758</td>
<td>0.69</td>
</tr>
<tr>
<td>Public Hospital</td>
<td>9,567</td>
<td>3.75</td>
</tr>
<tr>
<td>Private Hospital</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Aboriginal Health Service</td>
<td>574</td>
<td>0.23</td>
</tr>
<tr>
<td>Community Health Centre</td>
<td>12,751</td>
<td>5.00</td>
</tr>
<tr>
<td>Total</td>
<td>255,104</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Australian Childhood Immunisation Register, 1997.
assessments each year to enable people to gain access to appropriate aged care services such as rehabilitation, home care and residential care. Over 80% of people referred are over the age of 70 years.

It is estimated that, for the target population, the HACC program funds the following level of services each month:

- 15,000 people receive a total of 70,000 hours of home help;
- 3,500 people receive a total of 25,000 hours of personal care;
- 7,000 people receive a total of 27,000 hours of home nursing;
- 1,500 people receive a total of 15,000 hours of in-home respite;
- 3,000 people receive a total of 53,000 hours of centre based respite; and
- 11,000 people receive a total of 130,000 meals.

Family and informal carers of frail aged people and people with disabilities provide essential support within the community. Supporting carers will be increasingly important in the future for a number of reasons, including:

- families tend to be smaller and family support networks are not as extensive as in the past;
- high workforce participation rates, particularly for women, have substantially reduced the availability and flexibility of family carers;
- de-institutionalisation and improvements in health care for people with chronic disease and disability has meant that it is now not unusual for aged parents, who themselves are frail, to be the primary family carers of severely disabled children who are approaching old age; and
- the relatively lower mortality rate for women has resulted in large numbers of frail aged women who live alone in the community.

The existing trends which contribute to the need and demand for a broad range of government funded and subsidised community care services will continue. Emphasis will be on community care services which assist the frail aged, people with disabilities and those with chronic illness to be rehabilitated to maximise their independence. People with disability associated with having a mental disorder should not be excluded from aged care services unless those services are inappropriate or cannot be adapted to meet their needs.

Appropriate targeting and efficient delivery of services will be crucial and will include:

- providing a level of home support services that will prevent premature admission to institutional care and which will enable individuals to enjoy an independent life style of high quality, for as long as possible;
- facilitating local community care provider linkages to ensure that individuals have access to a range of care services and appropriate needs and holistic care for people with multiple and complex care needs;
- improving links at the local level between GPs, home care service providers and public hospitals;
- supporting family and informal carers; and
- increasing participation of volunteers to augment services provided by paid carers, particularly in regard to transport, delivered meals and social support.

**Issues for Discussion**

**Acute Health Care in the Community**

Integrated Clinical Services will take responsibility for developing acute health care services in the community and admitting people to these services from an inpatient or community setting. Acute home care services will provide an alternative to hospital admission or enable people to be discharged earlier. As such, it will substitute for inpatient care.

**Community Health**

Component services within child and community health, for example, services to women, children or the elderly, will be aligned with whichever Integrated Clinical Service is most appropriate.

Mechanisms to link community health services with general practice, mental health and the acute care sector need to be developed. Integrated Clinical Services will have responsibility for ensuring that these links are developed in order to achieve an alignment of effort and greater clinical integration.
Integrated Clinical Services will be required to demonstrate a range of promotion and prevention services which engage the community and clearly target those populations with the greatest health risk. Performance needs to be monitored to ensure that promotion and prevention is not substituted with acute or continuing care.\textsuperscript{71}

**Non-Government Sector**

Based on the population served and the type of clinical issues addressed, consideration needs to be given to which community-based services should be aligned with which Integrated Clinical Services. For many non-government and private organisations with a disease-specific focus, these partnerships are already in place. However, for other organisations, providing a wide range of services to a particular population or services across a range of health conditions, tailor-made solutions will need to be found.

**Aged Care**

There are many providers and programs which deliver care in the community for the aged. Integrated Clinical Services will have responsibility for coordinating tailor-made packages of care which can be provided by a variety of organisations. An issue for discussion is whether there should be a designated Integrated Clinical Service for the aged which provides the focus for coordinating care across all Integrated Clinical Services as well as coordinating services across the numerous provider groups.

A number of health services used by the aged will be provided in the proposed Health Centres, including many medical and allied health outpatient services, rehabilitation, chemotherapy, renal dialysis and support services. As these Health Centres will be located with easy public transport access, this will enhance service delivery to the aged.
OBSTETRICS AND GYNAECOLOGY

For the past eight years, there have been around 25,000 babies born each year in Western Australia. The vast majority of births (98.6%) were of single babies. Maternity services provide care for women during their pregnancy, labour and childbirth and care for mothers and babies postnatally. Services are provided by a range of professions in community and hospital settings.

The foundation for the current system of service delivery was laid earlier this century when mortality and morbidity for mothers and babies were high and there was concern about their poor living conditions.

In December 1916, the Commissioner of Health, reporting on the first 5½ months of operation of the King Edward Memorial Hospital, commented:

As regards the work performed in the institution there were...101 confinements. Of the children born...there were seven stillbirths and three deaths. There was one maternal death. In four cases complications necessitated surgical operations.72

Since the Commissioner’s report of 1916, there has been a dramatic decrease in maternal and perinatal mortality and morbidity. Over the last 25 years alone, perinatal deaths (foetal deaths and deaths of new-born babies) in this State have fallen from 28 per 1,000 total births in 1970 to seven per 1,000 in 1994. In the 10 years to 1993, the average rate of death for Western Australian women during pregnancy, childbirth and the postnatal period was six per 100,000 live births.73

Since 1974 there has been a trend towards older mothers. The median age of mothers for all births has increased from around 25.7 years in 1974 to 28.8 years in 1995 and this trend appears to be continuing. This is reflected in the decreasing dominance of 20 to 24 year old mothers, falling from around one in three in 1974 to one in five in 1994, and a corresponding increase in the proportion of 30 to 34 year old mothers, from around one in seven to one in three over the same period.74

Fertility patterns have changed dramatically in recent years. In 1979, Western Australia's fertility rate fell below two babies per woman for the first time since records have been kept. By 1996, Western Australia's fertility rate was 1.8, slightly above the Australian average. The rate for Aboriginal women at 3.05 was considerably higher than that for non-Aboriginal women.75 It is predicted that the fertility rate of Western Australian women will continue to decline into the next century to around 1.78 by 2003 and 1.77 by 2051.76

The number of women in the child bearing cohort aged 15 to 44 is expected to increase by just over 20,000 or 6.5% between 1996 and 2006. However, based on the anticipated 5% to 6% fall in fertility rates in Western Australia over this period, the number of births is likely to remain relatively stable at between 25,000 and 26,000 per annum.77

As a consequence, the major changes during the next 12 to 15 years will be in the distribution of demand for obstetric services, with a declining demand in the inner and central suburbs of the metropolitan area and significant growth in demand in the outer areas of Joondalup, Swan and Rockingham.
Figure 8  Projected births in the Perth metropolitan area, 1996 to 2011

Note  The actual number of births is likely to be less as a result of decreasing fertility rates.

Patterns of Service Provision

Obstetric Services

Between 1991/92 and 1996/97 there have been significant trends in the utilisation pattern of maternity services in the metropolitan area. King Edward Memorial Hospital has steadily increased its market share over the period to 26.9% whereas the private hospitals have declined to 29.9%.

The number of patients using public hospitals has increased over the period by 9.4% as a result of significant growth in public patients (17.8%). By contrast, there has been a significant decline in the number of private patients using public hospitals (52.2%).

Overall, there has been a significant decline in women seeking private obstetric care in Western Australia. This undoubtedly reflects the continuing decline in private health insurance among Western Australians since the introduction of Medicare. The rate of basic hospital cover fell from 60.5% in December 1983, to 39.6% in December 1993 and 34% in December 1997. 78

Fertility rates in rural Western Australia are higher than in the metropolitan area. In 1993, just over 31% of all births were to women resident in rural areas. But the percentage of rural women giving birth in country hospitals has been gradually declining over many years and in 1993, almost one in five of them gave birth in the metropolitan area. 79 Clearly, this decision is influenced by a number of factors including identified health risk and individual choice. However, the declining number of general practitioners providing birthing services (20.1% between 1992 and 1994) has undoubtedly been significant in producing this downward trend. 80

The average length of stay in hospital for obstetric cases has gradually been declining over the years. In 1995/96 it was 5.2 days, down from 5.6 days in 1993 and 6.6 days in 1988/89. The average for metropolitan public sector hospitals was 5.0 days in 1993, compared with 7.1 days in private sector hospitals. 81

There has been a trend to almost universal hospital births and rising rates of intervention in childbirth. In Western Australia, the home-birth rate has varied little over many years, ranging from 0.7% to 0.4% of births each year. In 1993, home-births accounted for 0.4% of all births in Western Australia. In that same year, of all women confined, 63% had a spontaneous vaginal delivery, 16% had an assisted vaginal delivery (breach manoeuvre, forceps or vacuum extraction), while 21% underwent a caesarean section (elective 11% and emergency 10%). 82

Gynaecological Services

Gynaecological services incorporate a wide range of women’s services primarily aimed at the treatment of disorders of the reproductive system. Certain disorders of the breast, the lower urinary tract, the lower bowel and the endocrine system also come within the province of gynaecology. Services are provided in hospitals, specialists’ rooms, clinics and day surgery centres.

The incidence rate for first admissions to hospital for gynaecological services, both surgical and medical, has remained stable at just over 20,000 admissions per year in the metropolitan area since 1993/94. The vast majority of admissions have been for surgical procedures; 93% to 95% in public hospitals and 97% to 98% in private hospitals. 83

<table>
<thead>
<tr>
<th>Table 15 Trends in market share of obstetric services in the Perth metropolitan area, 1991/92 to 1996/97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Hospitals (excluding KEMH)</td>
</tr>
<tr>
<td>KEMH</td>
</tr>
<tr>
<td>Private Hospitals</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Note 1996/97 data is not available for Glengarry Hospital. An extrapolated figure has been used based on trends.
Source Hospital Morbidity System, HDWA.

78 Hospital Morbidity System, HDWA.
80 Ibid.
81 Hospital Morbidity System, HDWA and Legislative Assembly of WA, op.cit.
82 Legislative Assembly of WA, op.cit.
83 Hospital Morbidity System, HDWA.
There have been a number of significant trends in the provision of gynaecological services in the period from 1989/90 to 1996/97:\(^8\)
- the proportion of first-time admissions to public hospitals has declined from 66% to 53%, while the proportion of private sector admissions has increased from 34% to 47%;
- the proportion of same-day admissions (day-only procedures) has increased significantly from 23% to 52%; and
- the average length of hospital stay has dropped significantly, from 3.6 days to 2.6 days and the average annual cumulative length of stay (which takes into account all admissions and readmissions in a single year) has fallen from 4.5 days to 3.1 days.

Driven by the increasing rate of day surgery, shorter cumulative lengths of stay and an approximately constant number of new patients, it could be expected that there will be less demand on gynaecological beds, particularly in public sector hospitals. A countervailing influence on demand will be the ageing of the population with an increase in gynaecological oncology and urogynaecology.

**Current Services**

There are nine public hospitals, including King Edward Memorial Hospital, and nine private hospitals in the metropolitan area which provide maternity services. In addition, all the public hospitals and a number of private hospitals provide gynaecological services. King Edward Memorial Hospital currently provides the only public tertiary level services for women.

**King Edward Memorial Hospital for Women**

As the first women’s hospital in the State, the only public hospital for complex obstetric and gynaecological services and, more recently, designated a Centre for Women’s Health, King Edward Memorial Hospital holds a special place in the hearts of many Western Australians. Each year, more than one in four mothers have their babies at the hospital, including 70% of all Aboriginal women and 35% of all rural women who give birth in the metropolitan area.\(^8\)

Currently the hospital provides a primary, secondary and tertiary health care service for women giving birth. Women from all over the metropolitan area and rural Western Australia access its services, as illustrated in Table 16.

**Table 16** Births at King Edward Memorial Hospital by region of residence of the mother, 1996/97

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Births</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Metro</td>
<td>1562</td>
<td>31%</td>
</tr>
<tr>
<td>North Metro</td>
<td>1251</td>
<td>25%</td>
</tr>
<tr>
<td>S/East Metro</td>
<td>820</td>
<td>16%</td>
</tr>
<tr>
<td>S/West Metro</td>
<td>692</td>
<td>14%</td>
</tr>
<tr>
<td>Rural</td>
<td>532</td>
<td>11%</td>
</tr>
</tbody>
</table>

Source: Hospital Morbidity System, HDWA

King Edward Memorial Hospital provides services for approximately 1,250 women requiring tertiary level care each year.\(^9\) King Edward Memorial Hospital also provides a state-wide neonatal service for sick and premature babies, ranging from 24-hour emergency resuscitation of the newborn, through high dependency care (level 2 nursery) to intensive care, including assisted ventilation and care of extremely premature babies (level 3 nursery).

It also provides a 24-hour emergency obstetric service that provides emergency care for about 10,000 women per year and a range of out-patient services with 36,000 occasions of service each year, half of which are antenatal services.\(^10\)

It has been estimated that King Edward Memorial Hospital is currently providing about one-third of public hospital gynaecological surgery and one-half of gynaecological medical services.\(^11\) It is the tertiary centre for gynaecological cancer services and urogynaecology in Western Australia. King Edward Memorial Hospital plays a crucial role in teaching and research in Western Australia in the areas of women’s and perinatal health and it provides training for medical students, midwives, obstetricians and gynaecologists, anaesthetists, maternal-fetal medicine specialists, allied health and many others.

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Centring Care on Women and their Families

A survey of community attitudes to public health services conducted as part of the development of the metropolitan health strategic plan found that the majority of women either used or would have preferred to use local services and hospitals. The main reason given was that it is closer to home and increases access for themselves and their families.

There is a sound clinical reason for providing services closer to where people live. Continuity of care has been found to be important to all women during pregnancy, labour and the postnatal period. This is much more likely to be achieved where specialists are working alongside general practitioners, midwives and child health nurses in local communities.

As outlined earlier, there will be substantial growth in demand for obstetric and gynaecological services in the outer metropolitan areas of Joondalup, Rockingham and Swan over the next 12 to 15 years. Births to women residing in these three areas currently account for around 35% of births, but it has been estimated that this will grow to 45% by 2006 and 50% by 2011. The growth in the Joondalup area is expected to be particularly large and by 2011, one in five babies will be born to women living in that area.

The changing pattern of demand, coupled with the desire of women to have greater access to local services, will require a progressive redistribution of resources to local areas. A survey of mothers conducted in May 1995 found that while 42% of mothers chose the hospital because of convenience of access, 35% did so because of its favourable reputation. Local services will need to be developed in a way that gives women confidence that they offer the same high standard of care as is currently available at hospitals like King Edward Memorial Hospital. This will require a fundamental redesign in the way services are delivered.

Establishing an Integrated Clinical Service

It is proposed that all obstetric and gynaecological services within the metropolitan area be brought together as part of an Integrated Clinical Service. This service would bring together medical staff, nurses and allied health staff, to form a network that would span the boundaries of hospitals and community services and assume responsibility for managing the care of women across the continuum of care, from initial contact to home-based care.

The Integrated Clinical Service will have responsibility for progressively re-distributing services to outer metropolitan areas in response to the changing demography of the population. It will also have responsibility for ensuring that a consistently high quality of obstetric and gynaecological services are available for all women regardless of where they live. As the balance in the provision of services shifts outwards, training and research will have to shift with them. It will require a fundamental re-think of the concept of centre of excellence to encompass that of a service of excellence.

Issues for Discussion

Upgrading Services in the Outer Metropolitan Area

Obstetric and gynaecological services will need to be expanded in the Joondalup, Rockingham and Swan areas in order to improve the current level of access for local women and babies and to meet the projected growth in demand. This will require a mix of the following:

- enhancement of staffing, including specialists obstetricians and gynaecologists, specialists in training, midwives and generalist paediatricians;
- the development and proper staffing of level 2 neonatal units on site;
- upgrading of laboratory and imaging services;
- upgrading of anaesthetic services;
- expansion of physical space; and
- adequate theatre space (including emergency theatre space).

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88 ibid.
90 ibid.
91 Obstetric services are being upgraded as part of the Armadale Health Service redevelopment.
Antenatal and outpatient services will not be provided routinely on hospital campuses. The Health Centres described earlier will serve as an ideal alternative, providing for close links with general practitioners, child health nurses, community nurses and a wide range of other clinical and support services.

The changes outlined above will have a significant impact on the way in which obstetric and gynaecology services are delivered in the metropolitan area. There are three key issues that will need to be addressed by the Integrated Clinical Service:

Gynaecological Oncology Services
During consultations with community organisation leaders and health experts concerns were expressed regarding the provision of gynaecological oncology on the King Edward Memorial Hospital site. The view was that the needs of women with cancer of the reproductive system may be better served by providing services on a general hospital site where there is access to a full range of investigative and cancer treatment services. This view was not generally supported by clinicians working at King Edward Memorial Hospital. Further examination of this issue is required as the needs of women must be paramount.

Training and Research
The numbers of specialist, midwives and general practitioners working in obstetrics are declining and strategies need to be developed to combat the growing shortages in these areas. Programs need to be developed aimed at increasing general practitioner involvement in obstetric care, including shared care between general practitioners, specialists and midwives.

Undergraduate and postgraduate training and research need to be re-organised to complement the changing pattern of service delivery.

Neonatal Services
Consideration will need to be given over the next five to six years to splitting the level 3 neonatal unit at King Edward Memorial Hospital, which at 20 cots, is larger than most neonatal intensive care units in other States.
EMERGENCY MEDICINE

Each year, around a quarter of a million people are treated in hospital emergency departments in the Perth metropolitan area. These departments also provide a secondary referral service for rural residents requiring emergency services not available to them at their local or regional level. Allowing for the fact that some people attend several times a year, it means that probably around one in 10 to 12 Perth residents has contact with the hospital emergency departments at least once a year. It is therefore no wonder that the emergency departments have a high public profile and feature regularly in the media.

Hospital emergency departments exist principally to treat people with sudden onset of illness and injury of such severity and urgency that they need immediate help which is either not available from their general practitioner or for which their general practitioner has referred them for treatment. Emergency Departments provide a range of treatments from immediate resuscitation to urgent medical advice for all who attend.

Typically, between 20% and 50% of all patients admitted to hospitals are admitted via emergency departments which occupy a pivotal role in the health care system, forming the principal interface between the community and the hospital. Illnesses rather than injury make up over half the problems for which people present to the hospital emergency department.

Major trauma makes up only a small proportion of the total amount of acute injury and illness treated by the emergency departments of metropolitan hospitals. Nevertheless, it is extremely important as the major cause of premature death (80% of all deaths in teenagers and young adults), resulting in more years of life lost before the age of 65 than the total for heart disease, stroke and cancer.

In his Plan for the Metropolitan Region Perth and Fremantle - 1955, Gordon Stephenson wrote:

The deplorable toll of fatal and other injuries due to road accidents continues day by day and in the Police Reports on 17,724 accidents in Western Australia in the year 1953, it is shown that 192 persons were killed...of these numbers, 99 were killed...in the region [metropolitan area].

These figures represent a rate of 26 deaths per 100,000 population. Since 1953, the rate of death from road accidents has been more than halved to around 12 per 100,000 persons per year. This has probably been due both to major preventative measures which have targeted speeding, drinking and driving, seat belts, car safety features, bicycle helmets and road design and to much improved emergency services.

Current Services

There is a significant variation in the size, staffing, facilities and supporting specialist services available between the emergency departments at the inner metropolitan tertiary hospitals and those at the outer metropolitan hospitals. The former have large emergency departments staffed by consultant emergency physicians, registrars, resident medical officers and interns. These departments have a full range of essential support services (eg intensive care and coronary care units, pathology and haematology services, imaging services) and supporting specialist services (eg general surgery, orthopaedic surgery, general medicine, and anaesthesia). Sir Charles Gairdner Hospital and Royal Perth Hospital both provide a tertiary referral service for neurosurgery, while Royal Perth Hospital also provides a referral service for burns patients.

Following the release of the Accident and Emergency Services Review Committee Report in 1989, emergency departments were upgraded at peripheral hospitals. Swan, Armadale, Rockingham and Joondalup Hospitals now have part-time emergency physician directors and are staffed by resident medical officers, most of whom are on rotation from the central tertiary hospitals. Limited availability of support services and supporting specialist services still results in a considerable number of patients having to be transferred to tertiary hospitals.

Current figures show that the emergency departments of the large inner metropolitan hospitals, Royal Perth Hospital, Sir Charles Gairdner Hospital, Fremantle Hospital and Princess...
Margaret Hospital, each treat between 40,000 and 50,000 people annually. A 1994/95 study showed that the outer metropolitan hospitals, Swan, Wanneroo, Armadale and Rockingham Hospitals were providing about one-third of all emergency hospital treatments. Since then, emergency departments have been opened at the new Joondalup Hospital (replacing Wanneroo Hospital) and St John of God Hospital, Murdoch.

Three key issues relating to the future of emergency medicine in the metropolitan area are considered in this section:
• the relationship between hospital emergency departments and primary care;
• increasing access to emergency departments for people living in the outer metropolitan area; and
• the management of multiple major trauma.

Hospital Emergency Services and Primary Care
There has been a persistent perception that hospital emergency departments have been providing services to people with health conditions that could easily be handled by their general practitioners. All emergency departments have taken steps to minimise this problem since a review in 1989. There is some indirect evidence to suggest that they may largely have achieved their goal:
• the overall rate of admission from emergency departments ranges from 20% to 30% in peripheral hospitals to 40% to 45% in central tertiary hospitals, reflecting the high levels of acuity amongst patients;
• the rate of admission among people presenting with problems rated as non-urgent (lowest rating) ranges from around 5% to 8% in the peripheral hospitals up to 12% to 15% in the tertiary hospitals, reflecting the severity of conditions even in the lowest urgency levels; and
• attendance figures for emergency departments in metropolitan Perth (240,000 in 1994/95) compare favourably with figures for metropolitan Melbourne (607,000 in 1992/93) which is approximately 2½ times the population of Perth.

Notwithstanding, there is undoubtedly some overlap between the role of general practice and that of the hospital emergency department. This overlap is likely to be minimised by the growth of after-hours general practitioner services that incorporate minor injury/procedure capacity.

Improving Access in the Outer Suburbs
People living within the outer suburbs of Perth want greater access to emergency departments locally. This would appear to be a reasonable expectation, given that around 750,000 people are currently living in these suburbs, and it is estimated that the population will grow to more than one million by the year 2006.

For illnesses such as heart attack, the time from first symptoms to treatment can be critical to the outcome. Similarly, in the case of major multiple trauma which is life-threatening, time is critical and emergency specialists talk of the first hour post-injury as the golden hour.

Setting the Standards
The need for speed of access to emergency departments has been recognised in the standard set by the State Trauma Committee and the College of Emergency Medicine. They have recommended that emergency departments should be positioned so that people living in the metropolitan area should be no more than 25 minutes by private vehicle from their nearest department.

New South Wales has delineated six distinct levels of hospital emergency services, ranging from level 1: ‘No planned emergency service’ to level 6: ‘Can manage all emergencies (including neurosurgery and cardiothoracic surgery)’. The Australian College of Emergency Medicine (ACEM) has recently adopted a five level system which is a minor modification of the NSW system, but based on the place of delivery – remote rural, rural, major regional, urban district and major referral.

Emergency departments need day and night access to the support of a wide array of other specialties and services which help with diagnosis, offer specialist expertise, plan emergency admissions, assist with the initial care of the critically ill or injured and screen referrals. The clusters of

94 Office of the Auditor General WA, Hospital Emergency Departments, Report number 8, Perth, 1995
95 Health Department of Western Australia, Accident and Emergency Services Review Committee Report, HDWA, 1989.
(Note: not all emergency departments reported their figures)
services required for the proper operation of a major referral emergency department are outlined in Figure 9.

Where Our Services Stand
Currently, the only hospitals in the state with emergency departments which have 24-hour access to all these essential support specialties and support services are Sir Charles Gairdner Hospital, Royal Perth Hospital, Fremantle Hospital and Princess Margaret Hospital for Children.

The emergency departments at the outer metropolitan hospitals in Perth are currently functioning at somewhere between level 2 and 3 under the NSW system and just below the rural level under the ACEM system, namely: ‘able to manage a range of acute illnesses and injury, including resuscitation and limited stabilisation; provides local trauma service, with stabilisation prior to transfer’. However, access to specialists in general surgery, general medicine, anaesthesia and paediatrics on a 24-hour basis is extremely limited.

Clearly it would not be economically, clinically or technically feasible to simply duplicate the level of services already operating in the inner metropolitan tertiary hospitals. But the level of emergency care provided by the outer metropolitan hospitals cannot be increased simply by increasing the levels of medical and nursing staff in their emergency departments.

![Figure 9 Emergency department relationships](image-url)
Increasing the Capacity

In order to increase the capacity of the outer metropolitan hospitals to manage a larger range of emergencies within their communities and reduce transfers to the central tertiary hospitals, the hospitals will need to be able to accommodate more emergency admissions. The range of on-site specialist and support services will have to be enhanced to include, at minimum, general surgery, simple orthopaedic surgery, general medicine, paediatrics, anaesthetics and an intensive treatment area. Without this, patients will still have to be transferred to inner metropolitan hospitals following stabilisation.

Emergency department staffing also will need to be upgraded to provide for a full-time director of emergency medicine (preferably with qualifications in emergency medicine) registrars, resident medical officers and interns and dedicated experienced registered general nurses (some with post basic training). Access to allied health professionals and liaison psychiatry will also be necessary.

It has been suggested that an emergency department needs a certain minimum level of attendance to maintain the expertise of its doctors and nurses and to provide an adequate breadth of training for junior staff. The Accident & Emergency Reference Group of the London Implementation Group has suggested that 35,000 patients per year is an appropriate minimum.97 It has also been claimed that a minimum of 50,000 is desirable if all the recommended supporting specialties, 24-hour services and emergency facilities are to be provided cost-effectively.98

Future Options

With the increasing population in the outer suburbs, the case for upgrading emergency services at Rockingham, Swan, Armadale and Joondalup Hospitals will become progressively more pressing over time.

Currently, the four outer metropolitan hospitals are treating just under one-third of total emergency department attendance (250,000) at an average of 20,000 people each per annum. Based on current population growth, it is estimated that the number of emergency department attendances at metropolitan hospitals will reach 270,000 by 2001/02, an increase on the 1994/95 figures of around 30,000.94 If the capacity of the peripheral hospitals were expanded to enable them to manage 50% of total attendances, they would be treating on average just over 33,000 each per annum by 2001/02.

Based on this scenario, the emergency departments at Royal Perth and Sir Charles Gairdner Hospitals would between them be treating around 55,000 attendances per annum, which is slightly greater than the minimum recommended by the North West Thames Regional Health Authority Taskforce for a major referral service. There would be the scope for emergency services to be consolidated, providing both emergency services for the inner metropolitan area and state-wide services for neuro-surgery, cardiothoracic surgery and burns patients.

Managing Multiple Major Trauma

There has been some debate over the benefits of having one centrally located designated major trauma centre for Perth, along the lines of the model established in the United States. A recent study of an experimental trauma centre set up in the United Kingdom concluded that ‘any reductions in mortality from regionalising major trauma care...would probably be modest compared with reports from the United States’100

Trauma Systems rather than Centres

In 1992, the National Road Trauma Advisory Council established a working party to produce guidelines for trauma management in Australia.101 In its report released in 1993, the working party recommended that the emphasis be on trauma systems, rather than on stand-alone trauma centres. A tiered, integrated trauma system, based around established hospitals but relying on tertiary referral facilities for specific complex cases, was considered to be the most appropriate way to provide necessary trauma services to suit Australian conditions.

Under the proposed model, a trauma system is intended to coordinate efforts to provide
optimal care for groups of injured people, embracing the full range of services from the point of injury, admission to hospital, treatment in hospital and the process of rehabilitation. The working party proposed that hospitals be categorised according to their capacity to provide particular levels of care for injured patients.

**Applying the Model**

Within this study's approach, trauma services in metropolitan Perth would be designated as either major trauma services or urban trauma services. The former would have the capacity to provide total 24-hour care for every aspect of injury, from prevention through resuscitation, initial assessment, investigation, definitive care (including all major surgical disciplines) and rehabilitation. They would also carry major responsibility for coordination of other trauma services in the system.

Urban trauma services on the other hand, would service communities in the outer metropolitan areas. In general terms, they would be able to provide prompt assessment, resuscitation, emergency surgery and stabilisation of a small number of seriously injured patients while arranging for their transfer to the responsible major trauma services. They would have, at minimum, well-developed orthopaedic and general surgery services. The potentially most seriously injured patients from the surrounding community would be selected for bypass of these services directly to a major trauma service.

The State Trauma Advisory Committee recently recommended against establishing a single specialised trauma centre, preferring instead the model outlined above which would link together the inner metropolitan tertiary hospitals (as major trauma services) with the outer metropolitan hospitals (as urban trauma centres) to form trauma systems. Further, it recommends that tertiary trauma services for specific areas of major trauma, such as burns and spinal injury, should not be duplicated in view of the small number of cases per annum and the limited number of specialists with the necessary sub-specialty skills. In this sense, the major trauma systems would be a component of the overall emergency response system, with the Major Referral emergency departments being designated as Major Trauma Services and the Urban District departments as Urban Trauma Services.

**Issues for Discussion**

It is proposed that all emergency departments within the metropolitan area be brought together to form one element of an Integrated Clinical Service. The question of what other services should be part of the Integrated Clinical Service with emergency medicine will be the subject of further consultation with clinicians. The Central Sydney Area Health Service has linked emergency medicine with respiratory and critical care services, while the Southern Health Care Network in Victoria has incorporated it into a Clinical Program with general practice and general medicine (see Appendix 1).

The proposed model for coordinating emergency departments within an Integrated Clinical Service would provide an opportunity for:

- improving the management of emergencies (including major trauma) by maximising coordination between services at the primary, secondary and tertiary levels;
- maximising flexibility in the use of staff and resources across services within the system;
- increasing the capacity of the system to respond to changing demands as services are further developed in the outer metropolitan hospitals;
- enhancing the training and research capacity of the system; and
- greater consistency in quality and information and performance management.
OUTPATIENT SERVICES

Outpatient clinics have traditionally been run by tertiary hospitals. They grew out of a need to provide free specialist medical care for people who could not afford to pay. Services were provided by doctors in training or honorary specialists who, in return for hospital admitting privileges, donated their time to supervising junior doctors and consulting on more complex cases.

Subsequently, medical specialists were paid to provide outpatient services in tertiary hospitals and Medicare enhanced affordable access to private medical specialists. Despite these events, the role of outpatient clinics remains substantially unchanged; they continue to be located largely in tertiary hospitals, to provide training for doctors, to be free and to deliver services to people who are likely to have low incomes.

Many people attending an outpatient clinic do so because there is no co-payment and it provides the only ‘one-stop shop’ for multi-professional care including pathology, radiology, pharmacy and allied health. The probability of attending outpatient clinics sharply increases with age. Although most people attending outpatient clinics are Australian born, people born overseas are over represented in their use of these services.

Emerging Issues

A number of common themes emerged during consultations which highlighted the need to:

• deliver services closer to where people live by shifting services off tertiary hospital sites to alternative settings;
• improve coordination of care between different providers;
• enhance equity of access to a range of health care with a specific concern that outpatient clinics sometimes operate as an expensive gatekeeper for access to other hospital resources, particularly allied health; and
• provide teaching, traditionally a focus in outpatient clinics, in a range of settings.

Table 17 Tertiary hospital outpatient services, attendances based on annualised survey data, 1994/95

<table>
<thead>
<tr>
<th>Clinic</th>
<th>No of Hospitals</th>
<th>Annual No of Attendances</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthopaedics</td>
<td>4</td>
<td>60,524</td>
<td>16.0%</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>4</td>
<td>36,742</td>
<td>9.7%</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>3</td>
<td>26,120</td>
<td>6.9%</td>
</tr>
<tr>
<td>Oncology</td>
<td>5</td>
<td>22,925</td>
<td>6.1%</td>
</tr>
<tr>
<td>General Surgery</td>
<td>4</td>
<td>23,634</td>
<td>6.2%</td>
</tr>
<tr>
<td>Endocrinology &amp; Diabetes</td>
<td>5</td>
<td>13,950</td>
<td>3.7%</td>
</tr>
<tr>
<td>Plastic Surgery</td>
<td>4</td>
<td>18,433</td>
<td>4.9%</td>
</tr>
<tr>
<td>Medicine</td>
<td>5</td>
<td>14,230</td>
<td>3.8%</td>
</tr>
<tr>
<td>Haematology</td>
<td>3</td>
<td>7,010</td>
<td>1.9%</td>
</tr>
<tr>
<td>Dermatology</td>
<td>4</td>
<td>8,361</td>
<td>2.2%</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>10,649</td>
<td>2.8%</td>
</tr>
<tr>
<td>Neurology &amp; Neurosurgery</td>
<td>4</td>
<td>9,560</td>
<td>2.5%</td>
</tr>
<tr>
<td>Renal</td>
<td>4</td>
<td>14,897</td>
<td>3.9%</td>
</tr>
<tr>
<td>ENT &amp; Mouth</td>
<td>4</td>
<td>16,213</td>
<td>4.3%</td>
</tr>
<tr>
<td>Respiratory</td>
<td>4</td>
<td>9,576</td>
<td>2.5%</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>4</td>
<td>8,556</td>
<td>2.3%</td>
</tr>
<tr>
<td>Antenatal</td>
<td>1</td>
<td>19,294</td>
<td>5.1%</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>4</td>
<td>11,377</td>
<td>3.0%</td>
</tr>
<tr>
<td>Cardiology</td>
<td>4</td>
<td>9,088</td>
<td>2.4%</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>2</td>
<td>2,655</td>
<td>0.7%</td>
</tr>
<tr>
<td>Birth Centre</td>
<td>1</td>
<td>4,847</td>
<td>1.3%</td>
</tr>
<tr>
<td>Anaesthesia</td>
<td>4</td>
<td>5,849</td>
<td>1.5%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>4</td>
<td>4,618</td>
<td>1.2%</td>
</tr>
<tr>
<td>Emergency/Women’s Pain</td>
<td>1</td>
<td>9,009</td>
<td>2.4%</td>
</tr>
<tr>
<td>Vascular</td>
<td>2</td>
<td>4,248</td>
<td>1.1%</td>
</tr>
<tr>
<td>Genetics</td>
<td>1</td>
<td>892</td>
<td>0.2%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>1</td>
<td>734</td>
<td>0.2%</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>1</td>
<td>796</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

Total 378,762 100.0%

Note: RPH Inner Metropolitan Psychiatric Service not included
Source: HDWA (Arthur Andersen Report), 1996

Metropolitan Medical Outpatient Services

Nearly three-quarters of all patients receiving medical outpatient services are seen in tertiary hospitals. The metropolitan secondary hospitals provide relatively few medical outpatient services other than antenatal and aged care.

Profile of Services

The majority of outpatient clinic specialties are provided by all general adult tertiary hospitals. Table 17 shows the range and the annual patient volumes for outpatient services in tertiary hospitals.

102 Royal Perth Hospital, Description, Classification and Costing of Services Provided to Non-admitted patients in a Large Metropolitan Teaching Hospital, RPH, Perth, 1997.
104 Department of Human Services Victoria, Non-Admitted Patient Services: A Literature Review and Analysis, Monash University, Melbourne, 1997.
In metropolitan tertiary hospitals, orthopaedics was the top ranked clinic in terms of attendances. In 1994/95 orthopaedics accounted for 16% of all booked medical outpatient attendances. In secondary hospitals, the proportion of annual attendances for antenatal care (40%) and geriatric care (33%) accounted for the majority of outpatient services provided.

**Table 18 Tertiary hospital outpatient clinics new and repeat patients, 1994/95**

<table>
<thead>
<tr>
<th>Clinic</th>
<th>% Repeat</th>
<th>% New</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenatal</td>
<td>79.6</td>
<td>20.4</td>
</tr>
<tr>
<td>Orthopaedics</td>
<td>67.0</td>
<td>33.0</td>
</tr>
<tr>
<td>Eyes</td>
<td>83.7</td>
<td>16.3</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>92.6</td>
<td>7.4</td>
</tr>
<tr>
<td>General Surgery</td>
<td>62.5</td>
<td>37.5</td>
</tr>
<tr>
<td>Plastic Surgery</td>
<td>73.2</td>
<td>26.8</td>
</tr>
<tr>
<td>Medicine &amp; Paediatrics</td>
<td>64.0</td>
<td>36.0</td>
</tr>
<tr>
<td>Oncology</td>
<td>92.8</td>
<td>7.2</td>
</tr>
<tr>
<td>ENT &amp; Oral Surgery</td>
<td>68.8</td>
<td>31.2</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>90.5</td>
<td>9.5</td>
</tr>
<tr>
<td>Respiratory</td>
<td>75.8</td>
<td>24.2</td>
</tr>
<tr>
<td>Dermatology</td>
<td>75.2</td>
<td>24.8</td>
</tr>
<tr>
<td>Renal</td>
<td>75.7</td>
<td>24.3</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>57.6</td>
<td>42.4</td>
</tr>
<tr>
<td>Cardiology</td>
<td>63.8</td>
<td>36.2</td>
</tr>
<tr>
<td>Endocrinology &amp; Diabetes</td>
<td>82.8</td>
<td>17.2</td>
</tr>
<tr>
<td>Neurology</td>
<td>68.8</td>
<td>31.2</td>
</tr>
<tr>
<td>Haematology</td>
<td>88.2</td>
<td>11.8</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>62.9</td>
<td>37.1</td>
</tr>
<tr>
<td>Anaesthetic</td>
<td>9.5</td>
<td>90.5</td>
</tr>
<tr>
<td>Other Surgical Specialty</td>
<td>46.7</td>
<td>53.3</td>
</tr>
<tr>
<td>Vascular Surgery</td>
<td>60.3</td>
<td>39.7</td>
</tr>
<tr>
<td>Pain</td>
<td>73.2</td>
<td>26.8</td>
</tr>
<tr>
<td>Special Paediatrics</td>
<td>68.2</td>
<td>31.8</td>
</tr>
<tr>
<td>Adolescent</td>
<td>70.6</td>
<td>29.4</td>
</tr>
<tr>
<td>Immunology</td>
<td>80.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Infectious Disease/STD</td>
<td>62.0</td>
<td>38.0</td>
</tr>
<tr>
<td>Genetics</td>
<td>69.9</td>
<td>30.1</td>
</tr>
<tr>
<td>Leg Ulcer</td>
<td>100.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Special Orthopaedics</td>
<td>77.8</td>
<td>22.2</td>
</tr>
<tr>
<td>Other</td>
<td>78.6</td>
<td>21.4</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>65.7</td>
<td>34.3</td>
</tr>
<tr>
<td>Emergency-Women's</td>
<td>18.3</td>
<td>81.7</td>
</tr>
<tr>
<td>Postnatal</td>
<td>66.9</td>
<td>33.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>73.0</td>
<td>27.0</td>
</tr>
</tbody>
</table>

**Note:** RPH Inner Metropolitan Psychiatric Service not included.
Source: HDWA (Arthur Andersen Report), 1996

Referrals
Referral to an outpatient clinic requires a GP referral or a direct referral from within the hospital. The highest overall proportion of outpatient clinic referrals to tertiary hospitals came from GPs and accounted for over one-third of new patients. Antenatal, dermatology and vascular surgery clinics had a GP referral rate of over 60%. Overall, there was a low level of referral back to GPs. In contrast, the majority of orthopaedic patients were referred from the emergency departments. Approximately one quarter (26%) of new orthopaedic patients were referred following a hospital admission.

Within the secondary hospitals, the largest source of referrals to antenatal (92%), medical and paediatric (100%), and geriatric care (56%) was from GPs. Other significant referrals were from emergency department for orthopaedics (100%), private specialists for anaesthesics (69%) and other outpatient clinics for psychiatry (67%).

**New and Return Patients**
A high number of patients (73%) had multiple visits to tertiary hospital outpatient clinics with approximately half (54%) having had four or more previous visits.

In 14 of the 33 outpatient clinics, over 75% of patients had previously attended the clinic. Most repeat attendances were in rheumatology (91%), psychiatry (93%), oncology (93%) and the leg ulcer clinic (100%).

The majority of new and repeat patients received outpatient services which were not directly related to inpatient admissions. The highest proportion of post discharge patients were seen in orthopaedics, plastic surgery, medicine, paediatrics, cardiology and renal.

In secondary hospitals there was also a high proportion of repeat visits and a low proportion of attendances directly related to an inpatient episode.

105 This section is based largely on a study by Arthur Andersen funded by the Ambulatory Care Reform Program and reported in the Review of Ambulatory Care Services Provided by Public Hospitals in Western Australia, Volume 3: Outpatient Departments. This report is based on annualised survey data of an estimated 1.6 million ambulatory care patient attendances to public hospitals in WA in 1994/95. This estimate of patient volumes is considerably lower than the outpatient HAD215 occasions of service data for the same period. HAD215 data includes all attendances to diagnostic services which have been bundled for the purpose of this report. There is concern as to the consistency and reliability of HAD215 data.
Procedures
On average, one in every three patients had a procedure performed while attending a tertiary hospital outpatient clinic. This is lower than reported in other studies which had a 50% procedure rate.\footnote{Ref: Lagaida & D Hindle, A Casemix Classification for Hospital Based Ambulatory Services, NSW Health Department, Sydney, 1992.}

### Table 19 Tertiary hospital outpatient clinics where >25% of patients attending the clinic had a procedure, 1994/95

<table>
<thead>
<tr>
<th>Clinic</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>77.2%</td>
</tr>
<tr>
<td>Emergency – Women’s</td>
<td>75.3%</td>
</tr>
<tr>
<td>Infectious Disease</td>
<td>50.9%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>50.0%</td>
</tr>
<tr>
<td>Anaesthetic</td>
<td>49.5%</td>
</tr>
<tr>
<td>Renal</td>
<td>43.7%</td>
</tr>
<tr>
<td>ENT</td>
<td>42.1%</td>
</tr>
<tr>
<td>Dermatology</td>
<td>35.9%</td>
</tr>
<tr>
<td>Haematology</td>
<td>33.1%</td>
</tr>
<tr>
<td>Plastic Surgery</td>
<td>32.6%</td>
</tr>
<tr>
<td>Oncology</td>
<td>28.8%</td>
</tr>
<tr>
<td>Antenatal</td>
<td>27.3%</td>
</tr>
<tr>
<td>Orthopaedics and Fracture</td>
<td>28.6%</td>
</tr>
<tr>
<td>All Patients in Sample</td>
<td>33.7%</td>
</tr>
</tbody>
</table>

Note: RPH Inner Metropolitan Psychiatric Service not included. Source: HDWA (Arthur Andersen Report), 1996.

Profile of Patient Characteristics
The age and gender distribution of patients varies according to the type of outpatient clinic.

People over the age of 65 were most prominent in cardiology, orthopaedics, ophthalmology, endocrinology, oncology and vascular surgery clinics. As would be expected, antenatal clinics and psychiatry clinics were almost exclusively attended by people in the 19-50 age group. After excluding specialist paediatric clinics, children were most prominent in general medicine, ENT and orthopaedic clinics.

Males were most highly represented in orthopaedics, cardiology and plastic surgery clinics. Females were most highly represented in oncology, general medicine and diabetes clinics.\footnote{Ref: Arthur Andersen, Review of Ambulatory Care Services Provided to Non-admitted Patients in a Large Metropolitan Teaching Hospital, Perth, 1997.}

In the secondary hospitals the age and gender distribution reflects the significant proportion of antenatal and geriatric services provided.

### Metropolitan Allied Health Outpatient Services

Allied health services account for approximately 40% of all non-emergency ambulatory patients attending tertiary hospitals.

#### Resource Consumption – Laboratory, Radiology and Pharmacy\footnote{Ref: This section is based on a report by Royal Perth Hospital, Outpatient Services Medical, Nursing and Technical Description, Classification and Costing of Services Provided to Non-admitted Patients in a Large Metropolitan Teaching Hospital, Perth, 1997.}

A study of outpatient services at Royal Perth Hospital during a four-month period in 1997 showed that the majority of outpatient services (92%) were provided by medical staff.\footnote{Ref: The study specifically excluded allied health outpatient services.} The study specifically examined the use of laboratory, radiology and outpatient pharmacy services associated with a particular outpatient occasion of service. Over three-quarters of medical outpatient visits have no laboratory requests (78%) with 10% having between one and four tests. Radiology utilisation was limited to 11% of medical occasions of service and drugs were prescribed and provided by the hospital’s outpatient dispensary on only 7% of medical consultations.

Profile of Services
Physiotherapy services accounted for 38% of total allied health costs and 52% of total services. Social work and speech pathology had relatively high costs per attendance, largely due to the type of service provided.

A similar range of allied health professions provided services at secondary hospitals, however, patient volumes were lower than volumes at tertiary hospitals.

### Referrals

The majority of patients referred to allied health clinics at tertiary hospitals do not attend directly after an inpatient episode but have an outpatient visit first or do not have an inpatient episode at all.

The most common source of referral for audiology (85%), podiatry (69%), dietetics (65%), physiotherapy (59%) and speech pathology (41%) was from another hospital outpatient clinic. There are three exceptions to this. For occupational
therapy (34%), the main source of referral was direct from an inpatient episode. For social work (28%) it was from self referrals. A completely different picture emerges for orthotics, with equal referrals from private specialists (42%) and other outpatient departments (42%).

In contrast, GPs were the main source of new referrals to secondary hospitals for social work (86%), physiotherapy (71%), occupational therapy (67%) and dietetics (50%). Secondary hospitals had fewer new patient referrals directly after an inpatient episode than tertiary hospitals.

**New and Return Patients**

The overall proportion of repeat visits to tertiary hospitals was higher in allied health clinics than in medical outpatient clinics. Over 80% of all patients had at least one previous visit for the same problem and over half had at least four previous visits. The highest rate of repeat appointments occurred in physiotherapy, speech pathology, dietetics and podiatry. All these allied health clinics had a low proportion of services directly related to an inpatient episode.

The distribution of new and repeat patients in the secondary hospitals followed a pattern similar to that for tertiary hospitals, with the exception of occupational therapy and dietetics which both had a lower proportion of repeat appointments than tertiary hospitals.

**Profile of Patient Characteristics**

Within tertiary hospitals, children and young people under 18 years accounted for the largest proportion of people seen by audiology (98%), dietetics (53%), speech pathology (50%), orthotics (40%) and social work (39%).

In contrast, for physiotherapy (47%) and occupational therapy (39%), people aged between 19 and 50 were most prominent in terms of service use within tertiary hospitals. Over 50% of podiatry attendances were for people over the age of 65 years.

The picture is markedly different in secondary hospitals. People over 65 years accounted for the largest proportion of people seen by social work (92%), clinical psychology (90%), occupational therapy (90%), podiatry (79%) and physiotherapy (51%). Data were not presented on audiology and orthotics.

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**Table 20** Tertiary hospital allied health non-emergency ambulatory care services, attendances based on annualised survey data, 1994/95

<table>
<thead>
<tr>
<th>Clinic</th>
<th>Number of Hospitals</th>
<th>Annual Number of Attendances</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiotherapy</td>
<td>5</td>
<td>119,884</td>
<td>47.5%</td>
</tr>
<tr>
<td>Social Work</td>
<td>5</td>
<td>50,910</td>
<td>20.2%</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>4</td>
<td>37,743</td>
<td>14.9%</td>
</tr>
<tr>
<td>Speech Pathology</td>
<td>4</td>
<td>10,474</td>
<td>4.1%</td>
</tr>
<tr>
<td>Dietetics</td>
<td>5</td>
<td>13,329</td>
<td>5.3%</td>
</tr>
<tr>
<td>Podiatry</td>
<td>3</td>
<td>9,701</td>
<td>3.8%</td>
</tr>
<tr>
<td>Orthotics</td>
<td>2</td>
<td>6,326</td>
<td>2.5%</td>
</tr>
<tr>
<td>Audiology</td>
<td>1</td>
<td>3,204</td>
<td>1.3%</td>
</tr>
<tr>
<td>Clinical Psychology</td>
<td>4</td>
<td>1,056</td>
<td>0.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>252,627</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Source: HDWA (Arthur Andersen Report), 1996
The Links Between Outpatients and Inpatients

As part of the Ambulatory Care Reform Program, research was undertaken to examine the relationship between use of outpatient, inpatient or emergency services at Fremantle Hospital during April to September 1992.110

The results showed that plastic surgery (66.9%), urology (60.9%) and general surgery (60.3%) had the greatest proportion of people who attended their specialty clinic having had a hospital admission which related to that specialty. The specialties which demonstrated the least link between an outpatient clinic attendance and an inpatient episode occurred in rheumatology (5.8%) and immunology (5.3%).

In the case of unbooked admissions, the largest number of patients attending the outpatient clinics was for orthopaedics (26.6%), general medicine (19.7%), general surgery (12.5%) and plastic surgery (7.5%).

Further work is required to examine whether the pattern which emerges at other tertiary hospitals is similar to that at Fremantle Hospital.

Cost of Outpatient Services

The WA Health Budget Reform Steering Committee has established a Model Refinement Working Group (MRWG) whose work agenda includes a refinement of the WA Cost Model in relation to outpatients. Cost data is not yet available from this group.

Table 21: The proportion of specialty patients attending outpatient clinics who had inpatient episodes by specialty

<table>
<thead>
<tr>
<th>Specialty</th>
<th>All Specialty Patients</th>
<th>Number With Inpatient Episodes</th>
<th>% With Inpatient Episode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic Surgery</td>
<td>676</td>
<td>452</td>
<td>66.9</td>
</tr>
<tr>
<td>Urology</td>
<td>759</td>
<td>462</td>
<td>60.9</td>
</tr>
<tr>
<td>General Surgery</td>
<td>1,391</td>
<td>839</td>
<td>60.3</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>206</td>
<td>111</td>
<td>53.9</td>
</tr>
<tr>
<td>Haematology</td>
<td>282</td>
<td>131</td>
<td>46.5</td>
</tr>
<tr>
<td>Orthopaedics</td>
<td>3,342</td>
<td>1,458</td>
<td>43.6</td>
</tr>
<tr>
<td>General Medicine</td>
<td>1,642</td>
<td>584</td>
<td>36.0</td>
</tr>
<tr>
<td>ENT</td>
<td>899</td>
<td>322</td>
<td>35.8</td>
</tr>
<tr>
<td>Oral Surgery</td>
<td>37</td>
<td>13</td>
<td>35.1</td>
</tr>
<tr>
<td>Paediatric Medicine</td>
<td>570</td>
<td>191</td>
<td>33.5</td>
</tr>
<tr>
<td>Oncology</td>
<td>399</td>
<td>132</td>
<td>33.1</td>
</tr>
<tr>
<td>Pain</td>
<td>137</td>
<td>45</td>
<td>32.8</td>
</tr>
<tr>
<td>Cardiology</td>
<td>343</td>
<td>112</td>
<td>32.7</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>186</td>
<td>60</td>
<td>32.3</td>
</tr>
<tr>
<td>Dermatology</td>
<td>469</td>
<td>122</td>
<td>26.0</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>1,406</td>
<td>327</td>
<td>23.3</td>
</tr>
<tr>
<td>Respiratory Medicine</td>
<td>202</td>
<td>41</td>
<td>20.3</td>
</tr>
<tr>
<td>Vascular Surgery</td>
<td>551</td>
<td>104</td>
<td>18.9</td>
</tr>
<tr>
<td>Neurology</td>
<td>221</td>
<td>28</td>
<td>12.7</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>310</td>
<td>18</td>
<td>5.8</td>
</tr>
<tr>
<td>Immunology</td>
<td>262</td>
<td>14</td>
<td>5.3</td>
</tr>
</tbody>
</table>

Total 14,272 5,566 39.0

Source: Department of Public Health: UWA, 1996

Overall Findings on Metropolitan Medical and Allied Health Outpatient Services

A large volume of data was presented on medical and allied health outpatient services in metropolitan tertiary and secondary hospitals. This was done because, in contrast with inpatient services, there is a dearth of information available to the wider health system on outpatient services. Major changes are signalled for the future delivery of outpatient services and the evidence highlights areas where shifts in service delivery could readily occur. The data shows:

- nearly three-quarters of all patients receiving medical outpatient services are seen in tertiary hospitals;
- 73% of patients have multiple visits to tertiary hospital outpatient clinics;
- the majority of new and repeat patients received outpatient services which were not directly related to inpatient admissions;
- over one-third of new patients attending outpatient clinics in tertiary hospitals were referred from GPs, however, there was a low level of referral back to GPs;
- allied health outpatient services account for nearly 40% of all non-emergency ambulatory patients attending tertiary hospitals; and
- metropolitan secondary hospitals provide relatively few medical outpatient services other than antenatal and aged care.

Issues for Discussion

Outpatient services have a long history of providing a safety net for the community, particularly for children, the aged and the chronically ill. There is a continuing role for outpatient services in providing free specialist medical and associated clinical services. However, the data supports the community view that outpatient services need to be recast.

Outpatient services will be delivered in the community in Health Centres unless there are compelling reasons for retaining the services on an inpatient site. These Health Centres will be located in major regional centres which are easily accessible by public transport to enhance access for the elderly, the chronically ill and the socioeconomically disadvantaged who are high users of outpatient services.

Where outpatient services are State funded they will be organised and provided through Integrated Clinical Services. The Integrated Clinical Services will have responsibility for ensuring that outpatient services are delivered in a way which promotes access, enhances links with other providers to achieve continuity of care and improves the distribution and availability of resources to provide services closer to where people live.

The move to include outpatient services as part of Integrated Clinical Services will:

- establish the mechanism to unlock outpatient services from traditional hospital settings in cases where there is no compelling clinical reason to provide the service within that particular setting;
- review the most appropriate range of services and mix of professionals required to achieve the best outcomes for their patient group;
- develop guidelines for access and priority for outpatient services which apply across all settings;
- examine the relationship with general practice to establish care pathways for referral to and from outpatient services and develop a range of complementary ways of working together; and
- maintain the capacity to teach medical and other health professionals in outpatient services delivered from the proposed Health Centres.
GENERAL PRACTICE

General practitioners are the first point of contact with the health system for most Western Australians. Through admissions to hospitals, referrals to medical specialist and allied health outpatient services and hospital emergency services, GPs have a major impact on State funded health services.

The split in funding responsibility in Australia between the Commonwealth government and State governments has fragmented the provision of clinical services. In spite of this, mechanisms must be developed to achieve clinical integration because, in many instances, multiple providers funded from various sources are delivering health services to the same patients.

Consultations

The pivotal role of GPs in the health care system was recognised by many of those consulted. However, they considered that the current roles and funding responsibilities of the State and Commonwealth governments were significant impediments to the establishment of a properly coordinated health system.

The view was held that the introduction of the Divisions of General Practice has provided an avenue for improved links between the State health system and GPs.

There were many ideas about expanding the role of GPs in areas such as:

- greater involvement in the planning and management of clinical services in the public sector;
- managed care and fund-holding by GPs;
- shared care between GPs and State health services across both hospital and community settings;
- upskilling GPs in specialised areas; and
- increased GP involvement in the delivery of acute primary care, including after hours emergency services.

A Profile of General Practice

Almost 80% of Western Australians consult their GP at least once a year, with an average of approximately five visits per head of population.111

There were 1,555 GPs, mainly working in private practice, in Western Australia in 1994/95 representing 9.5% of the Australian GP workforce. As in all other states, the number of male GPs in Western Australia (1,130) grossly exceeded the number of female GPs (435). Australia-wide data suggests this trend is correcting towards a gender balance in the under 35 year age group where the proportion of females (47%) to males (53%) is close to equal.

During an average working week in 1994/95, GPs had 132 patient consultations with 55% of GPs undertaking between 100 and 200 consultations. Approximately 75% of the work of GPs comprises surgery consultations. About one-third of GP practices are operated by solo practitioners.

Figure 10 General practitioners by State, Territory and gender, 1994/95

<table>
<thead>
<tr>
<th>State/Territory</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales</td>
<td>4,162</td>
<td>1,577</td>
</tr>
<tr>
<td>Victoria</td>
<td>2,966</td>
<td>1,041</td>
</tr>
<tr>
<td>Queensland</td>
<td>1,886</td>
<td>868</td>
</tr>
<tr>
<td>South Australia</td>
<td>1,018</td>
<td>418</td>
</tr>
<tr>
<td>Western Australia</td>
<td>1,130</td>
<td>425</td>
</tr>
<tr>
<td>Tasmania</td>
<td>276</td>
<td>188</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>170</td>
<td>30</td>
</tr>
<tr>
<td>Australia Capital Territory</td>
<td>160</td>
<td>126</td>
</tr>
<tr>
<td>Australia</td>
<td>11,677</td>
<td>4,701</td>
</tr>
</tbody>
</table>

Source: ABS, 1996

practitioners. There are large variations in arrangements between practices for the provision of after hours care.\textsuperscript{114}

In Western Australia, 85\% of the population consulted three or fewer GPs in a year; in many cases these GPs may have operated from a single practice.

The most common reason for consulting a GP, for both males and females, is for a respiratory condition, with 19\% of a GP’s workload taken up by these conditions. The second most common reason for males consulting a GP is injury, whereas for women it relates to reasons other than current disease and includes immunisation, care of normal pregnancy, and health screening services such as Pap smears. The third most frequent reason for consulting a GP for both men and women relates to diseases of the circulatory system.\textsuperscript{115} Prescribing medication is the most common form of treatment.\textsuperscript{114-115}

### Table 22 Medicare percentage of patients by number of general practitioners consulted in Western Australia and Australia for services rendered from 1 July 1995 to 30 June 1996.

<table>
<thead>
<tr>
<th>Number of GPs</th>
<th>WA</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>0</td>
<td>18.14</td>
<td>16.31</td>
</tr>
<tr>
<td>1</td>
<td>30.77</td>
<td>29.90</td>
</tr>
<tr>
<td>2</td>
<td>23.01</td>
<td>23.09</td>
</tr>
<tr>
<td>3</td>
<td>13.21</td>
<td>13.77</td>
</tr>
<tr>
<td>4</td>
<td>7.00</td>
<td>7.58</td>
</tr>
<tr>
<td>5</td>
<td>3.64</td>
<td>4.12</td>
</tr>
<tr>
<td>6</td>
<td>1.89</td>
<td>2.25</td>
</tr>
<tr>
<td>7</td>
<td>1.01</td>
<td>1.24</td>
</tr>
<tr>
<td>8</td>
<td>0.54</td>
<td>0.69</td>
</tr>
<tr>
<td>9</td>
<td>0.31</td>
<td>0.40</td>
</tr>
<tr>
<td>10</td>
<td>0.17</td>
<td>0.23</td>
</tr>
<tr>
<td>11+</td>
<td>0.30</td>
<td>0.42</td>
</tr>
<tr>
<td>Total</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Note: The figures for people who have not consulted a GP in any one year period may be inflated as recent work suggests that the Health Insurance Commission has been unable to identify all who have died to remove them from its files of enrolled people.\textsuperscript{116}

Source: Health Insurance Commission, 1997

**Clinical Integration and General Practice**

Improving clinical integration between GPs and the State funded health services has been widely endorsed with a recognition that integration will deliver important benefits to patients, GPs and the State health system.

As early as the 1930s, the growing gap between GPs and the rest of the health system was evident. It coincided with an increase in specialist colleges and associations, longer and more intense specialist training, the classification of medical staff into specialist disciplines by hospitals and technological advances which concentrated specialist practice in hospitals.

It is now possible to achieve clinical integration with general practice by taking advantage of information technology to link the health system and build on a series of developments, particularly those relating to registration, continuing medical education, quality assurance and the development of Divisions of General Practice. Integrating general practice more closely with other health services is seen as valuable for a variety of reasons. It improves continuity and consistency of care, promotes rapid integration of the patient back into the community and provides support for patients negotiating their care in complex health systems.

So how will the role of the GP change? National and international trends in health care indicate a blurring of traditional primary and secondary care roles. To accommodate this, a new understanding needs to be developed of the respective roles of service providers. Some services now provided within the inpatient and ambulatory care settings of hospitals could be delivered by GPs. Examples of work initiated in secondary care but being shifted to primary care include routine follow up for breast cancer, palliative care and earlier discharge from hospital.

As part of these changing roles some services currently provided by GPs could be provided by nurses working in the community.

While GPs will continue to perform frontline jobs, some will develop additional special areas of expertise. This will enable a broader involve-
ment of GPs in clinical programs of care. There is accumulating evidence that integrating general practice more closely with other health services is having successful outcomes. Some of this evidence includes a reduced risk of peri-operative morbidity through the involvement of GPs in pre-operative and post-operative care, reductions in re-admissions to hospitals, more appropriate use of tests for uncomplicated pregnancies by GPs working in obstetric shared care and improved glycaemic control when GPs are engaged in diabetes shared care.

There are a number of examples of successful clinical integration projects in Western Australia including shared care obstetrics and shared care early episode psychosis programs. These projects have been developed and supported by Divisions of General Practice in partnership with other health providers.

A further step towards achieving clinical integration came this year with the formation of a state-wide organisation of Divisions known as the General Practice Divisions of Western Australia. This organisation will provide the infrastructure to support collaborative ventures between groups of Divisions and the Health Department of Western Australia, including shared service development and population health initiatives.

Issues for Discussion
For GPs who may wish to participate, clinical integration holds the promise of developing special areas of clinical expertise and participating in broader issues of planning, service development and population health issues. For patients, improved continuity and consistency of care should be achieved. For the State funded health system there is the promise of enhanced quality of care and cost containment, including the reduction of unnecessary duplication.

Integrated Clinical Services
Under an Integrated Clinical Services model, GPs could elect to participate in one or more clinical service groupings where they have particular clinical expertise. Participation in an Integrated Clinical Service would expand the role of GPs by providing a focus for:
- greater involvement in the provision of clinical care in a full range of settings across prevention, acute and continuing care; and
- increased participation in the development of clinical pathways to care and clinical priority setting.

Funding
Any discussion on clinical integration invariably leads to issues inherent in the present Commonwealth/State funding arrangements. Structural issues that impede the integration of GP and State funded health services include:
- no commonly agreed strategy and different lines of accountability for Commonwealth and State funded services;
- funding structures which discourage integration, such as fee-for-service which allows payment for a restricted range of services; and
- issues relating to continuing education and quality assurance.

General Practitioners need to be remunerated appropriately for their involvement in integrated programs of care. Experience from successful local projects clearly shows that extra demands are made on the time of participating GPs. These range from time spent in team meetings to the additional training required to develop and enhance skills. The clear message is that incentives will need to be provided for GPs to take on a greater role in Western Australia’s public health system.

Possible funding arrangements to enhance integration include:
- pooled Commonwealth and State funding to provide specified services to a defined population such as has applied to Multi Purpose Services in rural areas or more recently to the Coordinated Care Trials;
- purchase of service arrangements with Divisions or groups of practices to produce identified outcomes within specific Integrated Clinical Services; and
- salary, sessional or contract employment of GPs to produce identified outcomes within Integrated Clinical Services.
To move beyond project funding to sustained funding for general practice within Integrated Clinical Services requires a demonstration that the investment is cost effective and produces a positive health outcome.

**Information**

For clinical integration to occur, it is an essential prerequisite that GPs be able to access and provide timely and accurate clinical information. When GPs and the State funded health services are treating the same patients it is vital to have available a common information system with integrated patient records, appointments and communications which can be accessed 24 hours a day. This is essential if system-wide links are to be developed between GPs and State funded health services.

Areas in which information management needs to take place include:

- development of systems for recording clinical information;
- information transfer; and,
- monitoring performance and health outcomes.
CANCER SERVICES

Cancer is one of the most important diseases of the twentieth century. One in 6 men and one in 10 women in Western Australia will die from cancer before they reach 75 years of age. In this State in 1996, prostate cancer was the leading cause of death for men followed by lung cancer and colorectal cancer, while for women, breast cancer was the most common cause of death, followed by lung cancer.117

Consumer Preferences

The experiences and insights of a group of patients with cancer, their carers and health service providers were canvassed recently to provide information and opinions as to how services for adult patients with cancer in Western Australia might be improved. The study, which involved both a postal survey and interviews, covered patients with various major cancers, from different ages and backgrounds.

The findings indicate that cancer patients, while generally satisfied with the quality of technical care they receive, are less satisfied with two major areas; convenience, access and availability of services, and the amount of information given at various stages of the management of their illness.

From the carer’s perspective, there was a degree of similarity in the responses. They were generally very satisfied with the medical care that the patient received and were less satisfied with three main areas; access and distance of services, the amount of information provided and waiting times. Unlike some patients, carers had fewer concerns about any aspect of the technical competence of staff dealing with patients, however, carers did raise concerns about the level of support they received from both the patient’s general practitioner and medical specialist.118

A Profile of Cancer

While diseases of the circulatory system (which include heart disease and stroke) remain the leading cause of death in Western Australia, cancer is the next most common cause of death, with 2,931 people dying from the disease in 1996, 1,697 men and 1,234 women, representing mortality rates of 152 per 100,000 males and 93 per 100,000 females. The age-standardised mortality rates for both males and females have been relatively stable throughout the 1990-1995 period. While the cancer age-standardised mortality rates for Western Australian females were very similar to that for Australia from 1990-1993, the Western Australian male age-standardised mortality rates for all-cancers were somewhat lower than the equivalent national rates.119

As can be seen from the mortality data, cancer occurs more commonly in men than women. In 1996, there were 6,556 new diagnoses of cancer in Western Australian residents, 3,674 in males and 2,882 in females, reflecting age-standardised cancer incidence rates of 343 per 100,000 males and 246 per 100,000 females.120

Cancer incidence varies between the States and Territories. Queensland reports the highest incidence rates for all cancers (excluding non-melanocytic skin cancer) among males (319.3 per 100,000) and females (245.9 per 100,000). The Northern Territory reports the lowest rates for males (255.1 per 100,000) and females (194.8 per 100,000), with the remaining States and Territories having similar rates of approximately 290 per 100,000 for males and approximately 230 per 100,000 for females. During the period 1986-1990 Western Australia and Victoria had the highest incidence rates of breast cancer (approximately 64 cases per 100,000) while Tasmania and the Northern Territory had the lowest rates (54 cases and 42.1 cases per 100,000 respectively).121

Based on 1996 Western Australian data, for men the estimated lifetime risk of cancer before age 75 years was one in three while for women the risk was one in four. The cumulative incidence of cancer – the proportion of persons in whom
cancer had been diagnosed by age 75 years — was 41% for males and 28% for females. The most common cancers in males were lung cancer (30%), prostate cancer (25%) and colorectal cancer (14%). In females, breast cancer continued to be the most common incident cancer (30%), followed by colorectal cancer (13%) and melanoma (10%). Cancer incidence increases with age as shown in Table 23.122

Previous estimates have suggested that by the twenty-first century, the number of new cancer cases in the state will increase by 45% to over 10,000 cases, while the number of people dying from the disease will increase by 21% to over 3,500 deaths, with the greatest increase in deaths expected for breast cancer and colorectal cancer.123 Since then, there has been a considerable fall in the numbers of cases of prostate cancer which will require downward revision of individual estimates, however the comments on area distribution remain relevant.

The estimates indicate that planning for cancer services in the northern metropolitan suburbs will need to take into account that, while the greatest total number of projected cases will be in the Lower North Metropolitan region, the greatest growth in population and number of cases will occur in the Wanneroo area, particularly for persons over 40 years of age.124

In the suburbs east of Perth, Swan is expected to have the most new cases, closely followed by Bentley and Inner City. While the total number of projected deaths will be greatest in the Bentley region, cancer mortality rates and numbers of cancer-related deaths are expected to increase more rapidly in the Swan health service area.125

In the southern suburbs, Armadale-Kelmscott is expected to have the greatest number of new cases, closely followed by Fremantle. However, while cancer rates are expected to remain similar in Fremantle and outer suburban areas, increases in cancer case numbers, and in cancer mortality rates, are expected to be substantially greater in the Armadale-Kelmscott and Rockingham-Kwinana areas than in the Fremantle area.126

### Cancer Management

Given the significance of lung cancer for men and breast cancer for women in Western Australia, preventative programs such as the Quit campaigns and screening have a major role to play in the management of cancer in the community. With the expansion in the absolute number of cases of cancer set to continue into the next century, the need for prevention in cancer control strategies will increase in importance.127

The main cancer treatments available at present are surgery, radio-therapy, chemotherapy, hormone therapy or a combination of these. Optimal care for the patient diagnosed with cancer involves an extensive multi-disciplinary team of medical practitioners as well as a range of health care professionals including dietitians, occupational therapists, physiotherapists, social workers, clinical psychologists, chaplains and nursing personnel.

Patients suffering from cancer may be admitted to hospital for a range of reasons. The administration of chemotherapy represents a significant component of the current metropolitan hospital (both public and private) inpatient workload with 16,328 separations in 1995/96 and 16,252 separations in 1996/97.128 The proportion of chemotherapy provided by the hospital sector is shown in Figure 11.

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124-126 Ibid.

### Table 23 Cancer Incidence in Western Australia, 1996

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>No of Cases</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 15</td>
<td>55</td>
<td>0.8</td>
</tr>
<tr>
<td>15 - 44</td>
<td>751</td>
<td>11.5</td>
</tr>
<tr>
<td>45 - 64</td>
<td>2,183</td>
<td>33.3</td>
</tr>
<tr>
<td>65 and over</td>
<td>3,567</td>
<td>54.4</td>
</tr>
<tr>
<td>Total</td>
<td>6,556</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: WA Cancer Registry
Examination of the pattern of chemotherapy provision by the tertiary hospitals is outlined in Figure 12. The increasing role of Sir Charles Gairdner Hospital is noted, as well as the fact that in 1996/97, Sir Charles Gairdner and Royal Perth Hospital were responsible for 66% of all public and private metropolitan hospital chemotherapy activity. However, this data should be interpreted with caution as some chemotherapy services promote outpatient and home chemotherapy which will not be recorded as a chemotherapy separation.

Radiation oncology, also known as radiotherapy or radiotherapy, involves the application of ionising radiation in the treatment of disease and has been used in the curative and palliative treatment of cancer for many decades. The two main forms of radiotherapy are external irradiation (external beam radiotherapy) and intracavitary and interstitial irradiation (brachytherapy).

As the name suggests, external beam radiotherapy delivers treatment from outside the body using high energy X-rays and electron beams while brachytherapy uses sealed radioactive sources inserted into tumours to deliver a high dose of irradiation locally without excessive exposure of the surrounding normal tissues. 129 Radiotherapy has been found to be a cost effective treatment for a number of cancer types, either used alone or in combination with surgery or chemotherapy. However, the treatment appears to be under-used in Australia, as a result of a number of issues, including a lack of understanding of the effectiveness of radiotherapy compared with other treatments, inadequate staffing levels as well as, in some areas, insufficient facilities, and problems with access to services for patients living outside metropolitan areas. 130

130 ibid.
131 C S Harper, Capital equipment planning for Western Australian radiation oncology services into the early part of the 21st century, Draft report prepared for the SCSPC, 1997.
133 Strategic Planning & Evaluation, HDWA, Allocation of health expenditure at the key output level, Report to Corporate Management Committee, HDWA, 1997
The first radiotherapy service in Western Australia was established at the Institute of Radiotherapy in 1963 on what is now the QEII Medical Centre site. The Institute was under the control of a board of management which was responsible to the Cancer Council of Western Australia. The Institute was subsequently transferred to Sir Charles Gairdner Hospital and its Director left to establish a private clinic which is now centred in Wembley. A private radiotherapy department at Royal Perth Hospital was commissioned in 1996 with a contract to provide radiation oncology services to public hospital patients.

All three departments (Sir Charles Gairdner Hospital, Royal Perth Hospital and the Perth Radiation Oncology Centre, Wembley) have megavoltage treatment facilities (linear accelerators or Cobalt-60 units). Fremantle Hospital has a kilovoltage unit suitable for treating superficial conditions such as skin cancers, while King Edward Memorial Hospital has an automatic remote afterloading brachytherapy treatment unit for the treatment of gynaecologic malignancies. It is noted that all three megavoltage treatment units are located at sites north of the river. In the main, patients requiring radiotherapy services attend as an outpatient with only a relatively small proportion of inpatients receiving the service. In 1994, 3,000 courses of treatment were provided at the various facilities, increasing to 3,035 in 1996 and 3,306 in 1997. Of the patients attending for treatment at the various megavoltage treatment centres, at least 40% travelled from suburbs south of the river, since no suitable treatment facility currently exists in the south of metropolitan Perth.

The cost of publicly funded cancer care in Western Australia in 1997 was estimated to be over $121m.

Promoting Best Practice

Although the literature on cancer services is extensive, care must be taken in interpreting the results of a number of studies, since in many cases the data are not comparable. Nevertheless the results indicate significant improvements in survival as a result of specialist care for a number of cancers. The literature supports the case for specialised cancer services although further work is needed to define exactly those aspects of the service which are critical for each cancer. The data suggests that the impact of specialised care for common cancers, and probably for many cancers, can increase long term survival by 5 - 10%.

Recent research in Western Australia examined trends in breast cancer surgery and found that while conservative surgery was occurring for women living in the metropolitan area, this was not the case for women living in rural areas. The reasons for this variation in practice require further investigation.

The State Cancer Services Planning Committee (SCSPC) which was established in 1996 has a leading role in the planning and provision of cancer services in Western Australia for both adults and children. The terms of reference of the committee include:

- the promotion of high quality, cost-effective services and ongoing evaluation of service quality and outcome, including the use of clinical trials;
- the promotion of collaboration among cancer service providers;
- the facilitation of strategic change to cancer services; and
- the evaluation of the need for, and cost of, change to services as the need or demand for new services occurs.

137 P Selby, Hospital based cancer services, The relevance of specialised care, in K Calman & D Hine, A policy framework for commissioning cancer services. A report by the expert advisory group on cancer to the Chief Medical Officers of England and Wales, Department of Health & Welsh Office, Annex B.
138 C D Holman, Outcomes research and health planning, Paper delivered to the Metropolitan Health Services Strategic Plan Options Development Workshop, 1997.
Since its establishment, the SCSPC has established a number of working parties to focus on such issues as primary prevention, the role of the general practitioner in the care of the cancer patient, hospital-based cancer registries, palliative care and patterns of cancer care.

In August 1996, the Western Australian Clinical Oncology Group (WACOG) was formed. The group comprises a multi-disciplinary ‘parliament’ of oncologists who meet regularly to tackle cancer issues of local importance. WACOG’s terms of reference include:

- the provision of advice to the Health Department of Western Australia and the Cancer Foundation of WA in all aspects of cancer and in particular issues surrounding prevention, screening, diagnosis, treatment and professional education; and
- the promotion of a range of co-operative measures (e.g. treatment guidelines, multi-disciplinary teams, hospital based cancer registries, patterns of care studies) to optimise cancer management in WA.

Both groups will have a key role to play in the proposed service configuration outlined below.

Issues for Discussion

All Western Australians with a cancer diagnosis must have access to high quality care delivered promptly and with humanity. In all cases, care should be provided as close to the patient’s home as is compatible with high quality, safe and effective treatment in keeping with the expressed views of consumers and carers.

Cancer management within an Integrated Clinical Service will comprise a network of expertise extending from primary care, through to specialist services. In this way, the benefits of specialised care will be available to all patients either close to their homes or, when necessary, by referral to specialist centres. The Integrated Clinical Service will be in an ideal position to promote continuity of care, provide free information regarding treatment options and ensure the necessary support for carers. Issues of credentialling and accreditation will need to be addressed to ensure that agreed best practice care, based on research findings and translated into care protocols, is available to all cancer patients and their families/carers.

Services designed to manage the commoner cancers will, in the future, be available at a variety of locations, depending on the needs of the patient. Such treatments will include the administration of chemotherapy and biological therapy and will be provided in suitable facilities by experienced multi-disciplinary clinical teams. The treatment sites could include a variety of settings including the patient’s home, a Health Centre, a general practitioner surgery or a hospital. Whatever the location, the site must be supported by an appropriate number of medical oncologists thus ensuring continuity of care and adequate back-up support to local services. The implementation of agreed clinical practice guidelines to ensure consistent best practice and optimal outcomes for patients will be a prerequisite for this dispersed medical oncology model.

Radiotherapy is a rapidly changing area and it can be expected that a number of current and future developments will alter the nature and structure of services and should improve both treatment and delivery outcomes. It is essential therefore that radiotherapy services are integrated with other treatment modalities to enable coordinated management of cancer patients for the development of best practice and service provision. Access to the service by all patients likely to benefit is also essential. On that basis, it is intended that radiotherapy services be developed at a location in the southern suburbs, with good transport access for people living in the south and south-east corridors. Concurrent with the phased establishment of this southern service will be the consolidation, over the medium term, of radiotherapy services for public patients on to a single site north of the river. Based on the estimated projections of cancer cases and growth rates, the need for a radiotherapy service located in the outer northern metropolitan area will need to be examined in the medium to long term.
Overall, the cancer service must include palliative medicine consultation and care, access to counselling and other forms of psychological help. Supportive care, prosthetics and stoma care, appropriate complementary therapies and the encouragement of local self-help groups are all important components in providing the best cancer care. Other services, such as physiotherapy, dietetics, speech therapy, occupational therapy, chaplaincy and social services must all be easily available.

The integration of the various cancer treatment modalities with each other and with non-cancer related services will provide a comprehensive cancer service for all Western Australians.
REHABILITATION SERVICES

For most people, the process of recovery after illness or injury is relatively straightforward, but for some the process may include an extensive rehabilitation program both in hospital and in the community.

Rehabilitation has been defined by the Faculty of Rehabilitation Medicine of the Royal Australian College of Physicians as:

The process that brings about the highest level of recovery following loss of function and ability from any cause. Often this is achieved through the development of physical compensatory mechanisms and psychological adjustment. This is achieved utilising medical, social, educational and vocational services. Rehabilitation Medicine is that part of the science of medicine involved with the prevention and reduction of disability and handicaps arising from impairments, and the management of disability from physical, psycho-social and vocational viewpoints. 140

Rehabilitation aims to maximise an individual's ability to function independently after injury or illness and often involves the dedicated support of family members and carers as well as a wide range of health care professionals in a variety of settings.

Rehabilitation plays an integral part in the treatment of injuries from fractures and burns to severe head and spinal injuries as well as in the treatment of a diverse group of disabling conditions including neurological, musculo-skeletal, cardiac and respiratory conditions as well as congenital and psychiatric conditions.141, 142 Two groups within the population with specific needs are children and adolescents including those with ongoing disabilities as a result of congenital diseases such as cerebral palsy and spina bifida, and the elderly who often have complex co-morbidities.

The pathway to rehabilitation services is in the main characterised by admission to an acute health service following the sudden onset of illness or injury and for many of these patients, rehabilitation is part of mainstream acute services with referral for specialist rehabilitation where appropriate.

Community Preferences

In developing a model for future rehabilitation services, consultations were held with a wide range of groups. Representatives from consumer organisations and community agencies voiced strong support for the provision of rehabilitation services in appropriate community settings closer to where people live, given that the numbers of people requiring services were sufficient to support the delivery of high quality services in several locations. For those clinical areas with low total numbers, the delivery of services from a single unit was supported.

It was emphasised that changes need to be adequately resourced and linked to existing tertiary services so that future rehabilitation services include equitable access to and liaison with tertiary services, the maintenance of high clinical standards and the provision of appropriate services to groups with specific needs such as adolescents and Aboriginal people.

Expert Views

Discussions with health experts identified limitations with current rehabilitation services, namely, gaps in services, limited access to specialist rehabilitation and insufficient staff in some disciplines, particularly the allied health professions. Coordination and networking of services was considered essential to improving the continuity of care for individuals as they move from acute to community care.

The need to upgrade or relocate Royal Perth Hospital-Shenton Park Campus was also raised because it was considered that the facility had not kept pace with modern rehabilitation models of care. The need for rehabilitation services to be linked to other specialty services in mainstream settings was also identified.

A review of rehabilitation services in Western Australia was commissioned by the Health Department of Western Australia in August 1997. The Working Party has undertaken extensive consultations as part of the review process.
History of Rehabilitation in Western Australia

Rehabilitation was first practiced in Europe, the United Kingdom and the United States following the First World War; however it was only after World War II that services received recognition by way of resources and funding.\(^{143}\)

Although rehabilitation services organised at the State level did not exist in Western Australia until the mid 1950s, repatriation services, particularly orthopaedic and facio-maxillary surgery and convalescent treatment were carried out at 110 Australian General Hospital which, in January 1947, became the Repatriation General Hospital, Hollywood.\(^{144}\)

Royal Perth Hospital-Shenton Park Campus was originally built as an infectious diseases hospital, hence its physical isolation from other health services, and it was only with the last of the poliomyelitis epidemics in the 1950s that beds and therapists became available for the provision of rehabilitation services.\(^{145,146}\) A decade later saw the opening of a new spinal unit for the rehabilitation of severe spinal injury.\(^{147}\)

More recently, rehabilitation services, especially geriatric and mental health services, have been developed in a range of secondary hospital and community settings.

A Profile of Rehabilitation in Western Australia

In Western Australia in 1996/97 there were 21,139 inpatient rehabilitation separations and of these, 12.1% were from the Royal Perth Hospital-Shenton Park Campus, 38.3% from tertiary hospitals, 10.9% from secondary hospitals and 38.8% from private hospitals.\(^{148}\)

Of this total number of separations for 1996/97, 18,579 separations (87.9%) were from public and private metropolitan hospitals, with the remainder from country hospitals. Of the metropolitan separations 16,601 (89.4%) were for residents of the metropolitan area and the remaining 1,973 (10.6%) for residents of country areas.\(^{149}\)

Of the total number of inpatient rehabilitation separations from metropolitan health services for 1996/97, 11,372 (61.2%) were from public hospitals and 7,207 (38.8%) were from private hospitals.\(^{150}\)

Planned same-day rehabilitation was the second highest separation, of which 1,958 (84.8%) were for people 65 years and over, which reflects the utilisation of geriatric day hospital services. Services for people aged 65 years and over were distributed across the metropolitan area, with 15.3% receiving services in tertiary hospitals, 53.9% from secondary hospitals and 30.8% from private hospitals in 1996/97.\(^{151}\)

While 9,847 (53%) of the total number of separations from metropolitan hospitals were for people over the age of 64 years, only 146 (0.8%) related to paediatric service utilisation, 64.4% being separations from Princess Margaret Hospital. Princess Margaret Hospital also provided outpatient rehabilitation services for cerebral palsy, spina bifida, spinal cord injury and acquired brain injury patients.\(^{152}\)

Clinical Specialties

Rehabilitation is an integral component of the treatment of a wide range of health conditions and in most cases is provided as part of the continuum of care in mainstream health services. However, in certain clinical areas specialist rehabilitation services need to be provided.

The following clinical areas were highlighted during consultations as requiring consideration in future planning for rehabilitation services.

Spinal Cord Injury

The majority of traumatic spinal cord injuries result from motor vehicle accidents, falls and accidents associated with water sports. The typical patient with traumatic spinal cord damage is male (80%) and aged between 18 and 35 years.\(^{153}\)

There were 262 cases of new spinal cord injury from traumatic causes in Australia in 1995/96 and, based on that figure, the population incidence rate of spinal cord injury was estimated

\(^{145}\) P J Martyr, West of Subiaco: A history of the Victoria Hospital (Infectious Disease) to the Royal Perth Rehabilitation Hospital 1893-1993, (to be published), 1996.
\(^{146}\) G C Bolton & P Joske, History of Royal Perth Hospital, Royal Perth Hospital, Perth, 1982.
\(^{147}\) Anon., ‘Development of the Paraplegic Service in Royal Perth Hospital’, Royal Perth Hospital Journal, September 1965.
\(^{148}\) Health Department of Western Australia, Hospital Morbidity Data System.
\(^{149-152}\) ibid.
\(^{153}\) Working Party of the Australasian Faculty of Rehabilitation Medicine, Rehabilitation into the 21st Century: A Vision for Victoria, Department of Human Services, Melbourne, 1997.
to be at least 14.7 per million population for that year.\footnote{Australian Institute of Health and Welfare, ‘Overview of spinal cord injury from traumatic causes’, National Injury Surveillance Unit Website, Bulletin 16, 1997.}

In Western Australia in 1996 there were 142 new admissions to the spinal unit at Royal Perth Hospital-Shenton Park Campus the majority of which (123 separations - 87%) were a consequence of trauma. Of these, 33 (27%) resulted in a degree of permanent disability.\footnote{P Goldswain, D Inglis & L MacLeod, Rehabilitation Plan for Western Australia (draft), HDWA, Perth, 1998.}

There has been an increase in the total number of cases admitted to the spinal unit over the years, however the number of traumatic injuries resulting in a deficit has remained relatively constant over a ten-year period, illustrated in Table 24.

<table>
<thead>
<tr>
<th>Year</th>
<th>Traumatic Deficit</th>
<th>Non Traumatic</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>34</td>
<td>33</td>
<td>22</td>
</tr>
<tr>
<td>1988</td>
<td>44</td>
<td>30</td>
<td>21</td>
</tr>
<tr>
<td>1989</td>
<td>36</td>
<td>43</td>
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<td>1990</td>
<td>36</td>
<td>51</td>
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<td>1991</td>
<td>31</td>
<td>69</td>
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<td>1992</td>
<td>41</td>
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<td>1993</td>
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<td>89</td>
<td>5</td>
</tr>
<tr>
<td>1995</td>
<td>32</td>
<td>78</td>
<td>4</td>
</tr>
<tr>
<td>1996</td>
<td>33</td>
<td>90</td>
<td>19</td>
</tr>
</tbody>
</table>

Note In addition to the above figures are readmissions (approximately 25% in 1996 due to pressure areas) and booked admissions.

Source Sir George Bedbrook Spinal Unit, Royal Perth Hospital—Shenton Park Campus, 1998

Acquired Brain Injury

Traumatic head injury is the largest cause of acquired brain injury for people under the age of 49 years with the estimated prevalence rate for acquired brain injury being 240-290 per 100,000\footnote{Ministerial Implementation Committee on Head Injury, Victoria, 1993.}.\footnote{Working Party of the Australasian Faculty of Rehabilitation Medicine, op. cit.} Following initial rehabilitation, people with head injury often need care in the transition phase between intensive rehabilitation and discharge to home or nursing home as well as ongoing care in the following years.

In Western Australia it is estimated that approximately 600 people receive significant brain injury each year, of whom around one-third do not survive and the remaining two-thirds require rehabilitation. It is projected that 30,204 people are likely to sustain head injuries in Western Australia by the year 2021.\footnote{J Stanton, M Jessop & J Henstridge, Acquired Brain Injury Accommodation and Support Needs, Disability Services Commission, Perth, April 1994.}

In 1996/97, 137 people were discharged from the Shenton Park Campus of Royal Perth Hospital following rehabilitation for head injury. The average length of stay was approximately three months and usually followed admission direct from an acute tertiary hospital.\footnote{J J Bascett (ed.), Life after stroke: New Zealand guidelines for best practice in rehabilitation after stroke, Stroke Foundation New Zealand Inc. Auckland. Ads International, 1996.} In Western Australia approximately 60% of people are discharged to their homes and the remaining 40% to nursing homes and other supported accommodation.\footnote{C S Anderson, K D Jamrozik, P W Burvill, T M H Chakera, G A Johnson & E G Stewart-Wynne, ‘Ascertainment the true incidence of stroke: experience from the Perth Community Stroke Survey, 1989-1990’, The Medical Journal of Australia, 158, January 1993.}

Stroke

Stroke is the third leading cause of death in Australia and the average age at which people experience stroke is 73 years. As people age, the risk of stroke increases dramatically from one in 10,000 in young adults to one in 100 in people in early retirement years. Stroke is one of the most common causes of disability in older people, with stroke patients using a disproportionate number of hospital bed days.\footnote{J Stanton, M Jessop & J Henstridge, op. cit.}

Every year around one in 600 people in Western Australia will suffer from stroke representing approximately 3,000 new stroke cases annually. Of these 25% will die as a direct result of the stroke within 28 days.\footnote{C S Anderson, K D Jamrozik, P W Burvill, T M H Chakera, G A Johnson & E G Stewart-Wynne, ‘Ascertainment the true incidence of stroke: experience from the Perth Community Stroke Survey, 1989-1990’, The Medical Journal of Australia, 158, January 1993.} It is generally agreed that following a stroke one-third will die within 12 months as a direct result of the illness, one-third will recover with minimal intervention and one-third will require rehabilitation to maximise their level of recovery.

In 1996/97, a total of 2,401 people were
discharged from hospitals in Western Australia following stroke, compared to 1,804 discharges in 1991/92. The total number of inpatient bed-days attributed to stroke treatment was 33,207 in 1996/97 compared to 43,795 in 1991/92.\textsuperscript{164}

**Chronic Neurological Diseases**

A small but significant number of people with chronic neurological diseases such as multiple sclerosis, motor neurone disease and Parkinson’s disease benefit from regular rehabilitation therapy.

The prevalence of motor neurone disease, a progressive degenerative disorder of the motor system, is 6-7 per 100,000, which equates to an average population of 100-120 people with motor neurone disease at any one time in Western Australia.\textsuperscript{165}

The incidence of multiple sclerosis, a disease of the central nervous system, is greatest among people in the 20-40 years age group and the loss of function that characterises the disease requires regular rehabilitative care. At the present time in Western Australia there are approximately 1,200 people with multiple sclerosis.

The progressive neurological disease, Parkinson’s disease, mainly affects people over the age of 50 years. Its prevalence has been estimated at 100 per 100,000 of the general population, rising to 1,000-2,000 per 100,000 of the population aged over 80 years.\textsuperscript{166}

**Orthopaedics**

Rehabilitation plays a major role in the care of people with orthopaedic problems as evidenced by the fact that in Western Australia in 1996/97 the highest number of inpatient rehabilitation discharges were for medical back problems, with 79\% of these being for people aged between 15 and 64 years.\textsuperscript{167}

Falls in the elderly are also a major problem and result in approximately 1,000 neck of femur fractures in Western Australia each year. With the ageing of the population this number is predicted to rise to 1,500 cases per annum by 2010.\textsuperscript{168} An emerging issue for orthopaedic services is the increasing number of patients requiring a revision of an initial hip replacement.

**Amputees**

The incidence of all new amputations is 21-25 per 100,000 and of these 80\% are due to peripheral vascular disease, 15\% are the result of accidents and the remainder the result of neoplastic disease.\textsuperscript{169} The incidence of lower limb amputations has been estimated at 12 per 100,000.\textsuperscript{170} The number of new amputees has remained relatively stable in recent years due mainly to increasingly successful limb salvage and vascular reconstructive surgery.

**Clinical Evidence**

Rehabilitation has the ability to improve functioning and prevent deterioration of function to achieve the highest possible level of independence and maximise quality of life.

Reviews of coordinated stroke rehabilitation indicate that coordinated multi-disciplinary care, education and training and specialisation of staff provide positive evidence of clinical effectiveness.\textsuperscript{171}

Comprehensive assessment of older people, generally a systematic process carried out by a multi-professional team, particularly in relation to common problems such as falls and immobility, has been shown to have major benefits in a variety of settings.\textsuperscript{172}

Educational approaches to care and prevention are also supported through positive research findings.\textsuperscript{173, 174}

**Issues for Discussion**

While the focus of the preceding clinical specialties section was limited to those areas specifically raised during consultations, an Integrated Clinical...
Within an Integrated Clinical Service, rehabilitation will be provided across the entire continuum of care. There will be a commitment to an expansion of services closer to where people live, such that a comprehensive range of rehabilitation services will be provided alongside general health services in hospitals and Health Centres. This mainstream approach will need to recognise the requirement for access to highly specialised, tertiary rehabilitation services for relatively low numbers of patients, often with complex clinical needs.

To ensure service coordination and enable people to access services from various entry points, the Integrated Clinical Service will promote:

- the role of general practitioners in the delivery of care;
- a system of case management and individual packages of care for people with complex needs;
- active involvement of community support organisations as an integral part of the system;
- participation and support of carers; and
- partnerships with other Integrated Clinical Services and agencies providing services to rehabilitation patients including Disabilities Services Commission, Commonwealth Rehabilitation Service and the wider post secondary education sector.

**Royal Perth Hospital-Shenton Park Campus**

The planned redevelopment of rehabilitation services in Western Australia will lead to the mainstreaming of services progressively over time and result in the relocation of services currently situated on the Royal Perth Hospital-Shenton Park Campus. It is vital that those people currently receiving services on the Royal Perth Hospital-Shenton Park Campus are fully involved in this process and that future services are developed which better respond to their needs.

While a number of services will be transferred to community settings, some will need to be relocated to central tertiary hospitals, due to their highly specialised nature and the small number of patients requiring these services.
PAEDIATRIC SERVICES

In its changing forms, the family remains the cornerstone of a child’s wellbeing and children and young people depend on their families and on the community to ensure that their special and sometimes unique health needs are met. Young people have many specific needs that are different from those of adults and these needs vary markedly as they progress through infancy, childhood and adolescence.

This section focuses primarily on the health needs of two age groups: children up to their fourteenth birthday and adolescents up to their eighteenth birthday. There are also a small number of young people beyond this age range who have special needs and who benefit from continued access to paediatric services.

Community Preferences

Consultations conducted as part of the planning process have revealed general agreement amongst community leaders that local paediatric services should increase in quality and scope. This view was supported by attendees at a recent community forum who strongly endorsed the view that paediatric services should be provided closer to where people live. One of the key conditions to this support was that local services should be available on a full-time, not ad-hoc, basis.

These views were reinforced in a recent survey of community attitudes to public health services. The survey found that, while a number of the respondent’s children attended or were admitted to Princess Margaret Hospital, over 70% of respondents would have preferred using a local hospital if the same service had been provided. Furthermore, 84% indicated that they were likely to use a local hospital rather than one of the larger central tertiary hospitals if the same specialists worked at both the local and specialist hospitals.

Expert Views

A number of concerns were expressed regarding the fragmentation of services and that, as a result of a number of structural system changes over recent years, paediatric service provision is currently characterised by significant numbers of health care professionals, often working as part of autonomous teams with limited links to each other and other service groups. This often results in variance in standards of practice and patient outcomes, as well as feelings of isolation for the clinicians themselves. Community nursing services were specifically mentioned as one group who had, over time, become disconnected from other paediatric providers.

History of Paediatric Services in Western Australia

The history of planning for an organised system of paediatric services extends back to May 1897, when a young girl named Myra Tebbutt, found that she was unable to recover her three pennies from a feature money box. When asked what she would like in lieu of them she replied, ‘Oh nothing, give them to the Children’s Hospital’. ‘But we have no Children’s Hospital’ said the owner of the money box. ‘Then why not have one?’ was the answer. Starting with threepence, The Children’s Hospital Perth, was eventually opened in July 1909, and was renamed Princess Margaret Hospital for Children in 1949.

Over the years, children’s services have grown and changed with some services opening in the community. An assessment clinic for multi-handicapped children was established at Princess Margaret Hospital in 1973 and it became the developmental paediatric clinic in 1978. The Child Development Centre, now known as the State Child Development Centre, was established in 1975 and regional/district child development units were subsequently established in 1976 at Koondoola, Southwell and Queens Park (later renamed Andrea Way). Armadale, Midland and Kwinana were set up later as were smaller units at Wanneroo and Lockridge.

A number of hospital-based services for children and adolescents and community-based child and adolescent mental health services have been established.
A Population Profile

Approximately one in five people in the metropolitan area are less than 15 years of age and people aged 15-24 years represent a further 15.6% of the population of the Perth-Peel region. In terms of population demographics, the recently developed outer metropolitan areas have the heaviest concentration of pre-school children, including Clarkson and Joondalup in the north, Stratton in the south and Warnbro south of Rockingham. The new suburbs around Mandurah also have high proportions of pre-school children.

The heaviest concentration of school aged children are in the outer suburbs which were developed in the past 5 to 15 years, including Kingsley and Woodvale in the north, Leeming in the south and Warnbro and Waikiki south of Rockingham. In contrast, 15-24 year olds have a greater diversity of living arrangements and tend to live close to the city, in suburbs near tertiary institutions, such as Crawley, Bentley and Murdoch, and the suburb of Northbridge.

Population projections for the period 1996-2021 reveal that the current patterns will continue with the largest increases in the population of children occurring in the outer suburbs. For example, it is estimated that by 2021, there will be over 44,000 children living in Mandurah, Kwinana, Cockburn and Armadale, 81,000 children in Wanneroo and almost 32,000 in Swan. By comparison, over the same 25-year period, the populations in a number of inner city areas including Bassendean, Victoria Park, South Perth, Vincent and Cambridge will decline, while in Cottesloe, Claremont, Subiaco, Nedlands, Mosman Park and Fremantle the small 0-14 populations will vary little in size. As a result of these population changes, it is evident there will be a significant growth in demand for paediatric services in the outer metropolitan suburbs, with declining demand in the inner and central suburbs.

A Health Profile

Western Australia has traditionally placed a high priority on the care and protection of children and adolescents. The findings of the 1995 Western Australian Child Health Survey reported that 81% of all children aged from 4 to 16 years were described as being in excellent health, and a further 15% were described as having good health. Injury was found to be a common cause of hospitalisation, with other leading physical health problems reported as including asthma, migraine/severe headache, deformity, developmental delay and epilepsy.

The health of children and adolescents in Western Australia compares well with national findings in terms of aged standardised death rates, disability/handicap and chronic illness. However, musculoskeletal deformities were 2.3 times more common in Western Australian girls than the national average and immunisation for polio was 40% less likely for girls.

Inpatient Service Patterns

There are a number of significant patterns in the use of inpatient services for children and adolescents in the metropolitan area. Services are provided by secondary public hospitals, certain private hospitals and Princess Margaret Hospital. As shown in Figure 13, 28.7% of children’s inpatient services were provided by the secondary hospitals, 23.6% by the private hospitals and the remainder by Princess Margaret Hospital in 1996/97.

While there was a small decrease in the total number of admissions (and market share) to Princess Margaret Hospital in 1993/94, this trend now appears to have been reversed with increasing numbers of admissions and a concomitant increase in market share. The increasing role of private hospitals in the provision of paediatric services is noted, as is the somewhat static role of the remaining public hospitals in the metropolitan area.

In the case of adolescents, services are also provided by the three sectors, namely, secondary public hospitals, certain private hospitals and Princess Margaret Hospital. As Figure 14 shows, in 1996/97, one-third of adolescent admissions were in the private sector, with over 38% to the
secondary hospitals and 28.6% to Princess Margaret Hospital.

It is worth noting that between 1991/92 and 1996/97 there has been almost a fourfold increase in the number of admissions to Princess Margaret Hospital with a general trend of reduced numbers of admissions to other public and private hospitals.

An analysis of hospitalisation episodes for 0-14 year olds shows a number of specific clinical trends in the period 1989/90 to 1996/97:

- the number of cases in public hospitals for most clinical service groups is fairly stable, with the exception of psychiatry;
- there has been a decrease in the average length of stay in public hospitals for most clinical services groups, except for respiratory, gynaecology and neonatology which remained fairly stable; and
- there has been a marked increase in the proportion of same day cases in public hospitals of all clinical services groups, particularly for psychiatry, cardiac, neurology/neurosurgery, oncology, orthopaedics, and general medicine.185

A review of clinical directions to the year 2006 noted that more children with chronic conditions are surviving longer and requiring long-term care, for example, cystic fibrosis, end-stage renal failure and major burns.184

184 C Mathers, Health differentials among young Australian adults, AIHW, 1996.
In the case of emergency medicine, Princess Margaret Hospital provides a 24-hour emergency paediatric service, with 42,314 presentations (representing 30,366 individuals) in 1997, compared with 41,915 presentations (30,314 individuals) in 1996.\(^{187}\) No data are currently available by age for children versus adolescents who present at Princess Margaret Hospital or other metropolitan emergency departments. Further work is required in this area, specifically in relation to the use of emergency/trauma services by adolescents.

**Issues for Discussion**

Hospital services represent only one, albeit important, part of health services for children. While childhood mortality, the risk of serious illness and lengths of hospital stay for children have all reduced, age-standardised hospital admission rates continue to increase.\(^{188}\) The reasons for this may be related to changes in demographics and social circumstances. However, given both the changing patterns of disease, with the emergence of the new morbidity associated with behavioural/learning problems and family stress, as well as significant advances in medical technology, the continued high rates of admission of children are of concern.

As part of an Integrated Clinical Service, paediatric services will, in the future, adopt a service model centred on ambulatory care with a focus on expansion of services into the community. Primary care is critical to paediatrics and indeed most paediatric care can be delivered on an ambulatory basis where children live, play and go to school. Future service delivery should be based on the premise that children will be cared for close to their family home and wherever possible in community settings.\(^{189}\)

Hospital services should only be used where there are sound clinical reasons for not pursuing a less restrictive alternative. This will see services such as day surgery, specialist outpatient services, as well as emergency consultations and clinics, which are currently provided in hospitals, being provided in future in a range of non-inpatient settings. Macro targets will be set for the transfer of services from public hospitals to Health Centres and other community settings.

Other key features of the future service will include:

- promotion of the role of general practitioners in the delivery of care;
- greater cooperation between the health sector and other sectors;
- a balanced approach which actively promotes good health and the provision of care and treatment for ill-health; and
- the active involvement of young people and their families in decision-making about health and health care.

Within an Integrated Clinical Service, there must be a commitment to strengthen and develop the range of specialist mental health services for children and adolescents, with the focus being the provision of services in the community. It will also be necessary to expand the diversity of services to youth through programs of change which actively engage at-risk youth, and which are delivered in their preferred environments.\(^{190}\)

If paediatric services are to fulfil their mandate to provide services across the entire continuum of care, it is essential that all services – child development and disability, community health nursing, child and adolescent mental health, hospital at home or acute inpatient care – are linked in a meaningful way as part of an Integrated Clinical Service.
PROMOTING HEALTH

When considering the question of what determines health and what is required to improve the health of the community, the focus of debate is usually on the provision of health care. However, health care alone does not equal good health.

There is overwhelming evidence that the health of the population is powerfully influenced by a nation’s economic prosperity and the distribution of its wealth. There is a strong link between the population’s health, socioeconomic status and the quality of the physical environment.192, 193

While improvements in health have resulted from advances in the diagnosis, treatment and rehabilitation of people who are at risk of or who have an illness or injury, they have also resulted from partnerships with other sectors whose services impact on the health of the population. This approach has been particularly effective in mental health where the provision of suitable accommodation by Homewest, in partnership with accommodation support provided by the health sector, has contributed to improved health outcomes for people with serious mental disorders.

Numerous organisations are funded from a variety of sources to engage in health promotion and preventative activities across the state in order to improve the health of the people of Western Australia. These organisations span such diverse areas as sport, education, local government and the arts. Within the health industry, health promotion and prevention services are provided by a range of non-government agencies including some major disease-specific organisations, public and private hospitals, community health, general practice, research bodies and the Health Department of Western Australia. Examples of the types of activities funded include drowning prevention, mouth guard promotion, the Respect Yourself campaigns, healthier eating such as the Kids in the Kitchen television series and anti-smoking campaigns including Be Smoke Free. Many of these health initiatives are funded to provide programs at the local level by a wide variety of community groups and organisations.

Consultation

The majority of people consulted supported the enhancement of health promotion and disease prevention programs targeted towards high-risk population groups with major health issues. People saw these services as having the potential to deliver significant health gains. The programs most often cited included immunisation, screening and health education for the community.

A number of factors were recognised as determinants of the health of the population, including employment, housing, education and socioeconomic status. As a consequence, there was support for a concerted effort to develop intersectoral links with organisations whose actions impact on the health of the population.

Health Promotion and Prevention

The primary objective of health promotion/prevention activities funded by the State health system is to prevent avoidable illness, injury and death.

While the Health Department of Western Australia will continue to have a state-wide role, Integrated Clinical Services will actively pursue the goal of health for the population, in addition to identifying, treating and rehabilitating those who are ill or injured. They will not only treat people when they are sick but work with other sectors to deliver lasting improvements in the public’s health and to reduce health inequalities.

This mandate is not a new concept. It applies to the National Health Priority Areas (NHPA) which have sought to bring to the public’s attention those areas which most contribute to ill health within the community, particularly areas where the burden of illness or health risk can be significantly reduced.196 The five NHPAs comprise cardiovascular health, cancer control, injury prevention and control, mental health and diabetes mellitus. Health promotion and
prevention strategies feature prominently among these programs. For example, within cardiovascular health, priority indicators include prevalence of smoking among 15-year-old secondary school students and the percentage of adults not engaged in physical activity in a two-week period.

**Issues for Discussion**

Integrated Clinical Services will provide the major mechanism for delivering health promotion and preventive strategies to at-risk populations and to groups with particular health conditions across the care continuum. Integrated Clinical Services will be required to align priorities, identify effective strategies which target inequalities in the health status of population subgroups, implement actions and report on their progress.

Integrated Clinical Services will:

- identify the scope of health promotion and prevention activities relevant to the Integrated Clinical Service being undertaken by the full range of providers;
- target those health promotion and prevention areas which are of greatest cost benefit;
- enter into partnerships with health providers and other sectors to align health promotion/prevention priorities between providers;
- ensure an appropriate balance between health promotion, prevention and treatment services within purchasing parameters;
- develop pathways to better health for those people who are at risk of becoming ill or injured;
- build in primary, secondary and tertiary preventive strategies to clinical pathways for people who are ill or injured; and
- involve those people (populations) who are the focus of the health promotion/prevention activities in the development, implementation and review of programs.

Health Centres will provide a convenient focus and location for the delivery of health promotion and prevention activities.
**TELEHEALTH**

The connection between telecommunications and health care is not new. Through necessity, people in outback Western Australia have used the telecommunications technology of the day to access health care. While the tyranny of distance remains a significant issue for rural and remote communities, the urban sprawl presents its own challenges.

In 1869, the Governor sent the first telegram in this State to the people of Fremantle to congratulate them on achieving “this annihilation of distance between the Port and the Capital”, a distance of 12 miles. Today, through the introduction of new telecommunications technologies, we have yet again to achieve the annihilation of distance created by the spread of the metropolitan area from Joondalup and beyond in the north to Mandurah in the south.

**Technology Assisted Communication**

Advanced telecommunications makes a geographically dispersed yet clinically connected health care system possible. It does this by enhancing or providing health related activities between two or more locations using technology assisted communications. Low earth satellite infrastructure is evolving rapidly and its capacity will open up additional applications for voice, data, video imaging and video conferencing.

Advanced telecommunications can be used for information access and communications, including access to records and other health data, medical image and data transfers such as X-rays and CT scans and voice and video communication including teaching.

There are many examples across Australia where telehealth, based on advances in telecommunications, is being trialed. Initiatives currently underway span telepsychiatry, teleradiology, telepathology and renal telemedicine.

What all these initiatives have in common is the rapid dissemination of expertise, on an as-needs basis, to services where this is currently not available because of irregular or insufficient need or limited availability of highly specialised clinicians. Sophisticated telecommunications offer the possibility of changing the way patient health information is held, that is, from the current fragmented, institutional-based, largely paper records to an electronic integrated health record. Integrated health records would eliminate the current process whereby information is often reinvented. It would reduce history taking and the duplication of tests and investigations at every change of health service provider.

**Issues for Discussion**

The delivery of health services into the next century will be dependent on significant investment in telecommunications infrastructure. This will enable clinical services in the metropolitan area to be delivered to the benefit of patients by creating health services that are free of bricks and mortar boundaries. A common information system for integrated patient records, appointments and communications will connect dispersed health services and facilitate clinical integration.

Some of the hurdles which need to be overcome if telehealth is to be widely implemented include:

- inadequate telecommunications infrastructure;
- skilling of clinicians in telehealth technology;
- patient confidentiality issues;
- impact on health budget and funding of additional forms of health service delivery; and
- changes to medical benefits payments to accommodate telehealth.

The Health Department of Western Australia has a key role to play in coordinating a modern telecommunications infrastructure to support telehealth. One option is for a new satellite-meshed telecommunications network infrastructure and technology platform which can provide modern communications and can be shared with a number of other government agencies.
TEACHING AND RESEARCH

Western Australian universities, research institutes and tertiary hospitals provide high quality teaching and research which underpin the provision of publicly funded health care services in this State.

One of the great contributions of the publicly funded health sector in Western Australia has been the nexus between research, teaching and health care. This has provided an avenue for stimulating the development and introduction of technical advances, keeping health practitioners abreast of the latest developments and encouraging the evaluation of clinical practice. To develop the next generation of health professionals capable of applying new knowledge and proven approaches to health and disease, requires a continuation of the critical interdependence between these three major areas of endeavour, that is teaching, research and health care delivery.

Nationally and internationally, health systems are facing unprecedented change as they move towards shorter hospital stays, increased same-day procedures and more care being provided in community settings. As patients are cared for in new ways and in different settings, the changes in health care delivery will inevitably impact on teaching and research.

Setting a Strategic Direction

The State Government is a significant funder of health research and teaching, either directly, through university appointments or through providing the staff and infrastructure of tertiary hospitals.

The role of the State health system in research and teaching should reflect its primary responsibility to promote, protect, maintain and restore the health of the people of Western Australia. The concept of investment for health gain will underlie the teaching and research investment approach of the Health Department of Western Australia and support its role.

The State health system will adopt a complementary approach, which does not seek to duplicate the mandate of the Commonwealth Government. In line with this position and to assist the State's research bodies to be competitive for national funding grants, the State Government recently established a Medical and Health Research Infrastructure Council to oversee the allocation of direct infrastructure support.

The challenge for the State health system is to:

- establish a strategic direction for teaching and research which recognises the vital place of teaching and research in the delivery of health care and reflects the role of the State Government and the priorities of the State health system;
- build an inclusive approach which encourages partnerships and the greater participation of all segments of the health care system;
- effectively disseminate the findings of health and medical research to encourage evidence based policy development and clinical practice;
- promote community and consumer information strategies to inform them about research results which will impact on the decisions they make about their own health care; and
- monitor the outcomes of State funded teaching and research to improve transparency and meet accountability requirements.

At present the allocation of funds from the Health Department of Western Australia to health and medical research activities lacks strategic direction and coordination. What emerges from this is a pattern of work which, although of a high standard, is not necessarily representative of health priorities as articulated by the State Government. A targeted approach would require the Health Department of Western Australia to investigate its teaching and research funding so that it can be directed towards producing a mix which better reflects the State's own priorities.

Historically, components of research, teaching and service delivery funding have been bundled together. In terms of the requirement for all agencies to be accountable for the efficient and effective spending of taxpayers' funds, an appropriate form of funding is to be devised for teaching and for research which is identified separately from the service delivery budget. There is an overwhelming case for improving the quality
of existing data in order to make it clear what outputs are being funded and what outcomes have been achieved. The funding implications will be highlighted when appropriate clinical services are moved from central city hospitals to the outer metropolitan area.

There is a vital role for the universities and research institutes, in partnership with the Health Department of Western Australia and health service providers, to encourage fresh insights which will address the pressing and emerging problems confronting health and health care delivery. These insights need to be reflected in innovative multi-professional research and teaching partnerships which will see academic endeavour permeate the health services of the future. New learning approaches need to be adopted to encourage health professionals to work together during their training as they will throughout their careers.

**Issues for Discussion**

The State's contribution to teaching and research and the direction for its future development need to be examined in collaboration with key stakeholders including universities, research institutes, professional bodies and health providers.

In line with the changes to the broader health system there is an urgent need to:

- review mechanisms for funding teaching and research and current resource allocation such that funding is aligned with and advances the objectives of the metropolitan health strategic plan;
- develop a process for establishing the future agenda for the Health Department of Western Australia for teaching and research, based on State health priorities;
- establish the scope of the Health Department of Western Australia funded teaching and research efforts and the profile of work being undertaken, including the cost of the activities;
- outline a comprehensive approach to the devolution of teaching to health services;
- examine the Health Department of Western Australia funded academic positions as they become vacant with a view to locating them in areas of special clinical need particularly in service growth areas in outer metropolitan Perth;
- identify ways to evaluate teaching and research outputs and outcomes; and
- establish a timetable for the implementation of these actions for teaching and for research.
Clinical site floor space is the Gross Floor Area defined as all of the floor area on a hospital or other clinical site. Land and residential buildings are included in the above values. The values are established by the Valuer General for Western Australia for annual Departmental financial reporting purposes using the market value or highest and best use valuation methodology. Clinical buildings, which include hospital and community facilities, are valued for annual financial reporting purposes using the Replacement Capital Value methodology, through an agreed quantity surveying process with Contract and Management Services. Replacement Capital Value is the current cost to provide a new building to deliver the same level of health services using a construction basis of a concrete slab, double brick walls and an iron roof on a greenfield site. Values for medical and other general equipment and furniture are not included in the above figures.
functional reallocation or reconstruction and the issue of whether or not a building is suitable for its present clinical function is an assessment which requires professional and technical judgements.

Taking these issues into consideration, age is nevertheless a useful indicator of future capital requirements and some generalisations are possible. It is likely that hospitals aged between 25 and 45 years will require a replacement of their mechanical, electrical and transportation systems and some functional refurbishments and upgrading of specialised clinical areas during the next 10 years. Whereas, buildings aged 45 years or more, approaching the end of their expected economic life as a hospital or health service, are likely to require replacement, substantial refurbishment or change of function unless these changes have already taken place.

Many metropolitan health buildings with individual current replacement costs in excess of $10 million have an age profile where major refurbishment or replacement will need to be considered. Figure 15 demonstrates the projected age profile for metropolitan health buildings up until the year 2020.

Buildings of significant age are scattered through the portfolio and, without appropriate action, the average age will increase so that by 2020 more than half of the building stock will be over 45 years of age.

By way of comparison, and using the same age categories for replacement and refurbishment expenditures, the percentage distribution of hospital buildings in Victoria in 1994, prior to their recent capital investment with their strategic hospitals plan, was:

- 25.2% aged 45 years or more;
- 20.3% aged between 25 and 45 years; and
- 54.5% under 25 years of age.

The age distribution for Victorian hospitals was very similar to that estimated for Australia in 1991. In a major report on capital investment in Victorian hospitals, the following assumptions were used for projecting the actual expenditure over the next 10 years:

- equipment, furniture and furnishings will be replaced in line with their expected economic lives which, averaged over all items, was about 11 years – with a small addition to casemix payments, equipment under $400,000 to be met from operating funds; and
- capital expenditures on building replacement and refurbishment will be on buildings aged:
  - less than 25 years old - nil, with routine plant replacement and cosmetic replacement to be met from operating funds;
  - between 25 and 45 years - refurbishment equal to 35% of replacement costs but in some instances could be as high as 50%; and
  - 45 years or more - half to be replaced and half refurbished at 35% of replacement cost assuming that the buildings which are retained and refurbished will not be used for inpatient services.

By way of example, the replacement costs of ageing buildings on two Western Australian hospital sites are explored further.

Royal Perth Hospital has a large proportion of buildings which are over 45 years old and two adjoining key health service delivery blocks which are 48 and 26 years old respectively, with a
combined replacement cost of some $105 million. On the Sir Charles Gairdner Hospital/QEI site, there are 10 buildings which are now 25 years old or more with individual replacement costs in excess of $10 million each and one building, a 21-year-old main patient services building, which has a replacement cost of $42.5 million.

Indications are that if the overall expenditure on building replacement and refurbishment falls below recommended industry standards, deterioration of the building portfolio results. The consumption of capital (depreciation) has been estimated at 3.73% of total asset value or 8.22% of estimated operating costs. Preliminary data from a deferred maintenance liability review of the maintenance backlog and capital costs of rectification for health buildings until 2007, if indeed these buildings are still required to deliver clinical services, indicates a liability estimated to be in excess of $69 million for the tertiary hospitals alone. This does not take into account the deferred liability for major equipment.

Heritage Buildings
A further complication arises with an ageing building stock in that many health buildings are listed on the Heritage Council's Register of Heritage Places. There are statutory implications under the Heritage of Western Australia Act 1990, for the Health Department of Western Australia as owners on behalf of the Crown, while the costs of operating, maintaining and converting such premises are far greater than the cost which would be incurred for an equivalent area of contemporary accommodation.

In the metropolitan area, 5% of the total clinical floor area has been listed and a further 3% has been identified for assessment and potential listing by the Heritage Council. At Fremantle Hospital, 2% of the floor area has been heritage listed, at Royal Perth Hospital, 4%, and at King Edward Memorial Hospital, 16%. There is the potential for heritage listing for a further 33% at King Edward Memorial Hospital and 97% at Lemnos Hospital. In addition to issues of clinical floor area, the location of the heritage listed buildings may constrain redevelopment options.

Changing Requirements
A further legacy of the past is the constraint that existing facilities place on flexibility to move to new models of clinical care. For example, the increasing use of ambulatory or day-care procedures is reducing reliance on beds in the provision of hospital care. The trend away from hospital wards was evident in a study of hospitals in Victoria which found that 44% of hospital floor space was used directly for patient services while the area occupied by wards was 19%.

The provision of hotel services such as catering, laundering and cleaning have in the past occupied significant areas of space, as have stores. These services should be located off site wherever possible.

The trend to shorter lengths of hospital stay has implications for rural residents requiring treatment in city hospitals. Whereas people who live in the metropolitan area will have access to an increasing range of post-acute community services, particular difficulties exist for people from rural and remote areas. Where it is not possible for people to return home to the country immediately because of their medical condition, a range of options needs to be explored to provide an appropriate level of care for patients recovering from treatment, other than in an acute hospital.

That hospitals can become considerably smaller in physical size and yet deliver as many, if not more, clinical services, has significant implications for future capital investment in health infrastructure and plant.

Capital Charging – An Issue Under Consideration
There is currently no capital user charge applied in the public sector in Western Australia, however, it has been applied in other countries across their public sector, including health. Within Australia, interest in capital charging arose in 1995 with the setting up of an inter-jurisdictional working group reporting to the Heads of Treasuries. This issue has also been under consideration by the Australian Health Ministers and is being actively considered in other States. The Western Australian Treasury is currently considering the desirability of adopting...
a capital user charging arrangement for the public sector.

Capital charging means different things to different people and may be used to achieve different ends. Apart from the general agreement that capital is not free and that it should be taken into account in decision making there is a wide range of stated objectives. The objectives may be grouped under two headings, namely, financial management and asset management. There are numerous models, and objectives determine the choice of model.

Financial management objectives
- performance comparison between publicly funded health services whether provided by the public or private sector;
- transparency of costing; and
- cost reduction.

Asset management objectives
- investment in new assets;
- monitoring value for money;
- maintenance of existing assets;
- utilisation of existing assets;
- pricing of services; and
- possible closure of existing facilities.

If the mechanism of capital charging is introduced it is vital that, whichever model is selected, it supports the delivery of better health services to the people of Western Australia. In line with this, capital charging should bring advantages and not become a bureaucratic paper-chase. To bring real flexibility to the publicly provided health sector would require Treasury to fully fund this initiative rather than pursue a notional capital charging system.

Future Directions

The fundamental principle is that clinical service needs will, in the future, drive capital investment. The national context within which capital will be managed requires that the public sector take account of National Competition Policy. Under this policy, public sector costs of providing services will be calculated to reflect full production costs so that competition can take place on the basis of a level playing field. The full implication of National Competition Policy for State funded and provided health services is under examination.

The State Government has significant amounts of money invested in health infrastructure. The Health Department of Western Australia, as owner of public assets on behalf of the Crown, will need to ensure both the integrity and performance of capital.

Capital planning will accompany the strategic service plans to be developed for each Integrated Clinical Service. These plans must take into account the above capital management issues. While capital investment must remain sensitive to the individual requirements of each Integrated Clinical Service, the Health Department of Western Australia will have an overall strategy for capital which will:
- set priorities in light of government policy, the metropolitan health strategic plan and resource allocation parameters set by the Health Department of Western Australia;
- assess the alternatives, taking into account full life cycle costs, benefits and risks of assets including the risks of investing in the wrong assets in the wrong locations;
- evaluate the impact of each capital investment option on recurrent service dollars; and
- consider the system-wide implications of the capital requirements which have been developed for individual Integrated Clinical Services and develop system level solutions.

In the immediate term the priority will be to invest in capital infrastructure in community settings to support the clinical agenda outlined in the metropolitan health strategic plan. Large acute hospital facilities do not represent the predominant future health service delivery model for metropolitan Perth, nevertheless, there is an ongoing need for well-targeted, strategic redevelopments to support selected tertiary and quaternary services in inner metropolitan locations within the parameters outlined below.

The following staged approach is intended to support the clinical agenda and to provide incentives for change. It is also designed to meet the dual objectives of investing in appropriate
future infrastructure and at the same time best managing our current capital assets.

Stage 1 Invest in community infrastructure, particularly Health Centres, to enable the planned and progressive transfer of nominated services currently provided in hospitals to community settings in line with macro targets specified in the metropolitan health strategic plan.

Stage 2 Transfer secondary services from tertiary hospitals wherever possible to buildings freed up by the transfer of services from the secondary hospitals to community settings.

Stage 3 Review infrastructure requirements of secondary hospitals and invest where appropriate in order that further identified services can be transferred from tertiary hospitals. The requirement to shift services to the community and to develop complementary secondary services based on population health needs must be demonstrated prior to any investment in infrastructure on secondary hospital sites. In addition, it must be demonstrated that best use has been made of all existing infrastructure. It is not the intention to substitute large hospitals in the centre of the city with physically large hospitals in the suburbs.

Stage 4 As tertiary hospitals make significant progress towards meeting their macro targets to both shift services and develop complementary tertiary and quaternary services, they will be progressively reviewed to determine which assets are surplus to their requirements. In addition, the review process will determine what infrastructure investment is necessary to support services where it has been demonstrated that consolidated and complementary tertiary and quaternary services have been achieved.

This process will take into consideration the option of transferring services between secondary hospitals or between tertiary hospitals where consolidation of services will potentially lead to better clinical outcomes or better match changing population health needs. This staged approach will be iterative as investment in the community continues. Priority access to infrastructure funds can be obtained by fast-tracking delivery on the macro service targets. The forward capital works program of the Health Department of Western Australia will be revised in light of these priorities. To aid this targeted investment the Health Department will:

- ensure the proper use of capital, including space and utilisation capacity, and the disposal of surplus or under-used fixed assets;
- make explicit the full cost of maintaining the capital investment;
- ensure that the prices for clinical services reflect the full production costs including the cost of capital so that comparisons between the cost of services of different providers is possible;
- develop and enforce standards which will require routine inspection of all facilities; and
- implement performance measures so that capital performance can be monitored and comparisons made between providers and with other States.
SUSTAINABLE FUNDING

The State Government is responsible for providing the majority of public sector health services for Western Australians. Funding for these services is appropriated annually through the State budget. State Government funds come from revenues raised through State taxes. With the impact of the recent High Court decision on franchise fees, the States now raise only 21% of all taxation revenue and only half of the funds required to meet their own outlays. This limits their capacity to respond in a timely way to community health needs.

The Commonwealth Government component comes from general purpose and specific purpose grants made to the States. The major specific purpose grant is the Hospital Funding Grant which is made under the Medicare Agreement. This Agreement, which is re-negotiated every five years, promotes free universal access to public hospital services.

In 1997/98, the Hospital Funding Grant to Western Australia met only 46% of the expenditure on public hospitals, while the State's share was 49%. Furthermore, the Hospital Funding Grant is capped so that the Commonwealth Government has been insulated from the large increases in demand for public hospital services (22%) which have occurred over the five-year period of the current Medicare Agreement.

Under the Medicare Agreement, people can elect to be treated as private patients in public hospitals. Most private patients have health insurance and pay for their services through a combination of claims made on their insurance and out-of-pocket expenses.

There has been a steady decline in private health insurance amongst Western Australians since the introduction of Medicare, from 60.5% in December 1983 to the current level of 34%. Over the period of the current Medicare Agreement, there has been a fall of 5.5% in health insurance coverage. The exclusion options which have recently been introduced by health insurers are further diminishing the actual private health coverage of the population.

The decline in private health insurance has had a major impact on hospital financing with more people being reliant on treatment in public hospitals. Moreover, there has been a significant fall in the numbers of people electing to be treated as private patients in public hospitals. Over the last five years the number of people treated in Western Australian public hospitals has grown by 10%, while the number treated as private patients has increased by 16.2%.

Under the terms of the current Medicare Agreement, Commonwealth funding was supposed to be reviewed each time the number of people with private health insurance decreased by 2%. There have been three reviews to date, but the Commonwealth has refused to adjust the grant. It has been estimated that each 2% fall in private insurance membership has increased State public hospital expenditure by $10 million per year. This has been identified as one of the major contributing factors to the financial pressures currently being experienced by the public hospital system.

Policy and Funding Reform

Over recent years, the public health services sector has suffered from a series of funding crises that have necessitated frequent ad hoc injections of funds. Such crises signal the inability of the health system to manage the growth in demand within the current health policy and funding settings. Faced with escalating demand and limited options for expenditure control, health purchasers and providers turn to the areas where they have good control in order to offset growth in areas where they do not yet have full control. Essentially, this means reducing expenditure in areas such as elective procedures in order to maintain acute admissions and other ‘non-optional’, demand-driven services.

What is required now is a comprehensive and coherent package of funding and policy initiatives to address the way that health services are funded and to address the pressures on demand as well as initiatives which have the potential to contain these pressures.

The Health Department of Western Australia will continue to pursue the development
and implementation of a sustainable Policy and Funding Reform Package containing the following elements:

- a predictable funding path;
- alignment of financial and clinical responsibility;
- the replacement of annual contracts with medium-term service agreements;
- continued development of the budget reform process; and
- the introduction of priority setting.

**Funding Policy**

The health budget has increased by an average of just over 4% per annum over the last seven years. However, there has been a lack of stability and predictability, with variations ranging from -0.5% to +11.2%. Funding increases have been linked primarily to price and wage movements and there has been insufficient allowance for the real growth pressure on expenditure, such as changes in demography, changing rates of private insurance and technological developments.

One-off supplementary funding at times of crisis helps solve the immediate problem, but they do little to resolve the underlying structural problems and send mixed messages about accountability to the health sector.

There is a clear need for the development of a predictable and credible medium-term funding path, ideally a three-year rolling budget cycle. Greater certainty about out-year funding would allow health service purchasers to plan ahead, develop clear medium-term purchasing intentions and enter into longer-term agreements. Health service providers would be better able to make longer-term investment decisions and to bring their service provision into line with strategic purchasing intentions.

Greater certainty about the budget would also allow the State to move away from the past pattern of frequent ad hoc additions to funding, which generally perform poorly against expectations. The one-off funding approach could be restricted to very exceptional circumstances, governed by strict criteria, where government considers a response to external events necessary.

As part of the package, a model for setting and reviewing the level of the budget would be developed in consultation with Treasury. The model would need to incorporate factors for growth in demographics, technology, intensity of service use and expected net movements in prices and efficiency. It would also need to take into account:

- changes in private insurance coverage;
- the fact that purchasers and providers cannot control all expenditure fully and that strong demand pressures will continue to be met by some service growth; and
- the need for growth in some areas to address significant health differentials in the population.

**Alignment of Clinical and Financial Responsibility**

Clinicians have command of many health resources through their treatment and referral decisions. They also have expert knowledge of the ways in which services could be changed or improved to enhance both patient outcomes and service efficiency. This capacity will be harnessed through the establishment of Integrated Clinical Services.

Integrated Clinical Services will provide a mechanism for clinicians to take operational responsibility for the delivery and management of clinical services across the metropolitan area and for aligning clinical and financial responsibility. In partnership with the Health Department of Western Australia, Integrated Clinical Services will have a pivotal role in the introduction of strategies aimed at reducing the pressure on health expenditure, including evidence-based practice, budget reform, reducing duplication, new and innovative patterns of care and health promotion and prevention.

**Medium-Term Service Agreements**

The introduction of health service purchasing in 1994 provided a mechanism for shifting the focus of health care planning and funding away from hospitals and health services and on to the needs of the community. Its potential for increased flexibility in anticipating and adapting to the changing needs of the population is gradually being realised, but the pace has been slower than at first anticipated. There have been a number of reasons
for this, not least the complexity of introducing such a major shift into a system as complex as the health system.

To date, purchasing has been based on the negotiation of annual contracts between the purchaser and service providers. These contracts are fundamental to the financial performance of the health system. The process is extremely resource intensive and the time has come to weigh the benefits gained from having an annual contracting cycle against the opportunities for the better use of these resources.

Consideration needs to be given by the Health Department of Western Australia to moving to three-year purchasing contracts or agreements or to an appropriate time horizon for implementing a program of development and change. These changes would provide the purchaser with the opportunity and resources to work more strategically and intensively with providers and communities, focusing on such key issues as quality and variations in practice, programs of care (rather than episodes of care), the needs of local communities and of high-risk groups, clinical pathways, performance monitoring and innovative models of care.

The need to make choices on the allocation of resources between competing demands exists in all health care systems. In most countries, including Australia, these choices are implicit rather than explicit. As a result, the public has no way of judging whether or not the decisions are reasonable or in the best interests of the individual and the general community.

The combination of constrained resources and increasing demand has led the health systems of a number of countries to address the issue of priority setting more systematically.

Many people consulted as part of the development of the metropolitan health strategic plan expressed the view that a dialogue needed to be held with the community about what the health system could realistically offer with the resources available.

**Eliminating Duplication**

The establishment of the Metropolitan Health Service Board was aimed at managing government health services in the metropolitan area as one system by eliminating the complexities of funding and statutory responsibilities that compel individual hospitals and services to focus on their own interests. One of the benefits the Metropolitan Health Service Board is expected to deliver is the elimination of unnecessary duplication in service, capital, building and equipment costs.211

**Budget Reform**

In recent years, budgeting within the Western Australian government health sector has undergone significant change both in its philosophy and its associated processes. Predominantly, the changes have been driven by an underlying philosophical shift from the historical practice of funding inputs to a focus on outputs and outcomes. In line with this shift, recent budget reform has been directed towards developing a clearer understanding of public hospital activity and costs.

As a platform for these changes, a purchaser/provider model was introduced during the 1994/95 financial year and separated the various roles and associated responsibilities of funder/owner, purchaser and provider. These reforms were designed to establish a clearer understanding of how each element of the health sector contributed to the achievement of health outcomes. In many respects, this functional separation has been a critical factor in facilitating the transition to an outcome-based resource management culture.

Casemix funding was introduced in Western Australia during 1995/96, with health service budgets being for the first time explicitly linked to the delivery of agreed service levels. Service level agreements for admitted patient activity were expressed in terms of weighted AN-DRG activity targets with the associated funding allocations based on a Western Australian cost study.

As an evolution of casemix funding, significant changes have occurred in the way funds are appropriated to the health sector and how they are in turn allocated to health services, including:

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211 Health Department of Western Australia, Establishment of a Metropolitan Health System: Summary of State Government Policy, HDWA, Perth, July 1997.
• allocations based on Health Conditions and Interventions;
• funding for admitted patient episodes based on standard prices for central scaled episodes and, where applicable, separate payments for additional costs incurred in respect of exceptional episodes; and
• continuing efforts to identify rationale for variances between casemix funding and historical budgets and, where necessary, redirect funds to the provision of additional services.

It has become clear in developing the budget reforms that 30% of public hospital costs are related to less than 10% of episodes, known as exceptional episodes of care. Within tertiary hospitals alone, during 1995/96, approximately 300 high exception episodes (out of a base of 190,000 episodes) were costed by the hospitals at over $24 million. High-exception episodes are difficult to predict both in their time of occurrence and in their hospital location, and a small proportion of such episodes can have a considerable impact on the financial stability of a particular hospital. A pool of money has been established to better manage the risk associated with these exceptional episodes. This pool will be jointly managed by the hospitals.

The budget reform process, initiated by the Operations Division of the Health Department of Western Australia, has brought a much clearer understanding of patient use and cost patterns of hospital care. This has provided a powerful tool for identifying individuals and groups of patients who are very high users of hospital resources. The introduction of the system of Integrated Clinical Services will provide the opportunity to realise the full potential of the budget reform process by shifting responsibility for the management of exceptional episodes of care away from hospitals and on to Integrated Clinical Services.

The alignment of clinical and financial responsibility will provide a powerful incentive for Integrated Clinical Services to examine more closely people who are very high users of hospital resources and to look at the appropriateness of their care. There will be many people for whom the treatment option chosen was appropriate, but there will be others where better or less expensive alternatives may have been available. The combination of the budget reform process and Integrated Clinical Services has the potential to stimulate new and innovative approaches for patient management.

The strategic directions proposed in this discussion paper signal the most significant changes in health service delivery in metropolitan Perth in the thirty years since the Stephenson Report saw the development of the outer metropolitan hospitals.

The proposed changes are designed with the needs of the people of Perth in mind to take their health system forward to the year 2020 by:

• creating a metropolitan health system with greater unity of purpose, driven by the needs of the community and with clinical services working together to meet those needs;
• increasing flexibility in the way that clinical services are delivered to make them better able to respond to the changing needs of the community;
• improving the clinical coordination of services across the metropolitan area in order to better match needs of patients to an appropriate level of treatment and to improve continuity of care;
• strengthening access to hospital and health services for the rapidly growing population of the outer suburban areas of Perth by enhancing the number and range of primary and secondary level services and, where possible, tertiary services available to them locally;
• effecting a corresponding reduction in the provision of primary and secondary level services within the inner metropolitan hospitals, while maintaining their capacity to provide highly specialised services that, for reasons of safety, quality and cost-effectiveness cannot be provided locally; and
• containing costs and maximising the resources available for services through elimination of unnecessary duplication of clinical services, buildings and equipment.

The proposed strategic directions have been informed by government policy, community preferences, evidence and expert advice. A large amount of evidence has been examined, expert advice obtained and community views canvassed, and this work will continue and will be further refined.
There is a wealth of ideas in this document coalesced into the following proposed strategic directions which are highlighted because they are most likely to influence the shape of the health system to the year 2020.

1. New partnerships of clinicians will be formed to create approximately twelve Integrated Clinical Services which will have joint financial and full clinical responsibility to provide comprehensive services across hospitals and community settings.

2. State-of-the-art Health Centres will be established near major regional retail centres where the maximum range of diagnostic and treatment services which can safely be provided in a community setting will be delivered by partnerships of expert clinicians (Integrated Clinical Services).

3. Macro targets will be set in consultation with clinicians to devolve services from inner metropolitan hospitals to outer metropolitan Perth, to transfer appropriate services from all metropolitan hospitals to community settings and to establish complementary rather than parallel services at Royal Perth Hospital and Sir Charles Gairdner Hospital where appropriate.

4. Services highlighted during consultations have been examined and most secondary services and outpatient services from the inner metropolitan hospitals, including adult, women’s and children’s services will be progressively devolved to population growth areas and located wherever possible in community settings. Rehabilitation services will be relocated from Shenton Park and redeveloped alongside general health services on hospital sites and in community settings.

5. Commonwealth/State funding arrangements should not impede clinical integration and GPs will be encouraged to participate more closely with State funded health services through the proposed Integrated Clinical Services.

6. Investment in modern telecommunications infrastructure will facilitate the development of Telehealth as a means whereby dispersed health services providing local care across the metropolitan area and in rural areas can be connected to deliver the best possible health care.

7. The devolution of teaching will parallel changes in health care delivery and will be undertaken in the wider range of health care settings where people will in the future receive services.

8. Clinical service needs will drive capital investment and, in line with the proposed service changes, a targeted four-stage capital investment strategy will be set down with the immediate priority being to invest in capital infrastructure in community settings.

9. A sustainable policy and funding package is proposed which includes a predictable funding path with an agreed approach for setting and reviewing the health budget, alignment of financial and clinical responsibility through Integrated Clinical Services, the replacement of annual with medium-term service agreements and the continued development of the Budget Reform process.

The development of the metropolitan health strategic plan will continue to be informed by evidence and by comments and debate from the community and health experts. The final phase of the planning process will culminate in the public release of the metropolitan health strategic plan later this year.

Your input will strengthen the development of the metropolitan health strategic plan. Please forward your comments by 31 August 1998 to:

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APPENDIX 1

Southern Health Care Network

Clinical Programs

Women’s Health
• Obstetrics
• Gynaecology
• Gynaecological Oncology
• Breast Services

Children’s Services
• Paediatric Medicine
• Paediatric Surgery
• Neonatology

General Practice, General Medicine And Emergency Care

Mental Health
• Adult Psychiatry
• Child and Adolescent Psychiatry

Cancer Services and Palliative Care
• Medical Oncology
• Radiotherapy
• Clinical Haematology
• Palliative Care

Neurosciences
• Neurology
• Neurosurgery

Heart and Chest
• Cardiology
• Cardiac Surgery
• Respiratory Medicine
• Thoracic Surgery

Musculo-Skeletal
• Orthopaedic Surgery
• Plastic and Facio-maxillary Surgery
• Oral Surgery and Dental

Acute Rehabilitation
(now a support program)

General Surgery, Gastro Services and Clinical Nutrition
• Endocrine Surgery
• Trauma Surgery
• Gastro-intestinal Surgery
• Gastroenterology
• Clinical Nutrition

Aged Care

ENT, Eyes and Urology

Special Medicine, Renal and Vascular
• Endocrinology
• Diabetes
• Rheumatology
• Dermatology
• Clinical Immunology
• Infectious Diseases
• Alcohol and Drug Service
• Renal Medicine
• Vascular Medicine
• Vascular Surgery
Central Sydney Area Health Service

Clinical Service

Cancer Services
- Medical Oncology
- Surgical Oncology
- Radiation Oncology
- Urology
- Gynaecological Oncology
- Clinical Haematology
- Head and Neck Surgery
- Dermatology
- Palliative Care
- Breast Cancer

Cardiovascular Services
- Cardiology
- Cardiac and Thoracic Surgery
- Renal
- Vascular
- Endocrine
- Molecular genetics

Women’s and Children’s Health
- Obstetrics (Maternal Foetal Medicine)
- Gynaecology
- Reproductive Endocrinology and Infertility
- Neonatal Medicine
- Paediatrics
- Reproductive Imaging

Mental Health Services
- Acute and Post-acute Services
- Mental Health Rehabilitation
- Psychiatric Services for the Elderly
- Child and Adolescent Mental Health
- Community Mental Health Services

Dental Services

Neurosciences
- Neurology
- Neurosurgery
- Ophthalmology
- ENT
- Pain Management

Bone, Joint Disease and Connective Tissue Disorders
- Orthopaedics
- Endocrine
- Rheumatology
- Sports Medicine
- Plastic and Reconstructive Surgery (including Burns)
- Facio-maxillary Surgery
- Trauma
- Immunology/AIDS

Gastroenterology and Liver Services
- Gastroenterology
- Upper GIT, Biliary Surgery, TPN
- Colon and Rectal Surgery
- Liver Transplantation
- General Surgery

Respiratory and Critical Care Services
- Respiratory Medicine (including Sleep Disorders)
- Thoracic Surgery
- Emergency Departments
- Intensive Care
- Anaesthesia
- Infectious Diseases

General/Geriatric and Rehabilitation Medicine
- General Medicine
- Geriatric Medicine/Aged Care
- Rehabilitation
- Cognitive and Behavioural Disorders of the Elderly

Primary Health Care Services
- Division of General Practice
- Division of Population Health
- Drug and Alcohol Services
- Health Promotion

Imaging Services
- Radiology
- Nuclear Medicine

Central Sydney Laboratory Service
PUBLICATIONS TO DATE

1 Developing the Metropolitan Health Services Plan. Strategic Planning & Evaluation, Health Department of Western Australia, September 1997.


4 Utilization Patterns: An Overview. Strategic Planning & Evaluation, Health Department of Western Australia, November 1997.


6 Preliminary Consultation with Clinicians: The Views of a Sample of Clinicians on Future Clinical Practice in Western Australia. Discussion Paper. Strategic Planning & Evaluation, Health Department of Western Australia, December 1997.

7 Preliminary Consultation with Community Leaders: The Views of a Sample of Community Leaders on Future Directions for the WA Health System. Discussion Paper. Strategic Planning & Evaluation, Health Department of Western Australia, January 1998.


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