



**PUBLIC ACCOUNTS COMMITTEE**

**REPORT ON THE ROLE  
OF THE GOVERNMENT IN  
AN ONLINE ENVIRONMENT**

**Report No. 42**

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**PUBLIC ACCOUNTS COMMITTEE**

**REPORT ON THE ROLE  
OF THE GOVERNMENT IN  
AN ONLINE ENVIRONMENT**

**Report No. 42**

Presented by:

**Mr M. W. Trenorden, MLA**

Laid on the Table of the Legislative Assembly  
on Thursday, 18 November 1999

**ORDERED TO BE PRINTED**



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## **Committee's Functions and Powers**

The Committee obtains its powers and functions from the trial Standing Orders of the Legislative Assembly. Trial Standing Order 299 states that the functions of the Committee are -

... to inquire into and report to the Assembly on any proposal, matter or thing it considers necessary, connected with the receipt and expenditure of public moneys, including moneys allocated under the annual Appropriation bills and Loan Fund.

Moreover the Committee is empowered by trial Standing Order 300 to -

- (1) Examine the financial affairs and accounts of government agencies of the State which includes any statutory board, commission, authority, committee, or trust established or appointed pursuant to any rule, regulation, by-law, order, order in Council, proclamation, ministerial direction or any other like means.
- (2) Inquire into and report to the Assembly on any question which -
  - (a) it deems necessary to investigate;
  - (b) is referred to it by resolution of the Assembly;
  - (c) is referred to it by a Minister; or
  - (d) is referred to it by the Auditor General.
- (3) Consider any papers on public expenditure presented to the Assembly and such of the expenditure as it sees fit to examine.
- (4) Consider whether the objectives of public expenditure are being achieved, or may be achieved more economically.

To assist the Committee in carrying out these functions, trial Standing Order 264 states -

A committee has power to send for persons, papers and records.





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## **CHAIRMAN'S PREFACE**

Technological advances in telecommunications, multimedia and information technology are revolutionising the way in which businesses, governments and the community communicate and interact with each other every day. This is the online environment.

The impetus for this inquiry stemmed from the Committee's concern about how the Western Australian Government was responding to the opportunities and benefits provided by advances in information technology and communications. The opportunities and benefits are already being exploited in many parts of Australia and overseas by governments and businesses that provide information and services online.

The advent of electronic service delivery means that there is a convergence of information and services from state, federal and local government and the private sector. However, the Committee found, particularly when it commenced its investigation in 1997, that the Western Australian Government had been slow to progress getting government services and the State online.

It is vital that the Government continue its recent campaign of making the State and government services online a priority. The Committee found that the implementation of government and the State online will enhance and extend government's ability to provide core services, such as health and education, to all Western Australians, regardless of their geographical location.

Electronic service delivery has the potential to bring benefits to both the metropolitan and rural and remote areas. However, without electronic service delivery many rural and remote communities will continue to be without many core services, such as education and health care.

The Committee examined the delivery of online services in the public and private sectors in different parts of the world. Submissions were received from metropolitan and regionally-based groups throughout Western Australia. Formal evidence was received from a range of government agencies, including the Office of Information and Communications.

As a result of its investigations the Committee has concluded that the benefits of electronic service delivery — particularly effective, efficient and equitable service delivery — are significant, but they are not achievable without leadership and financial commitment.

I would like to commend my Committee colleagues for taking on and completing such a complex issue, but nonetheless an issue with wide ramifications for the effectiveness of government and equity of opportunity for all Western Australians.

Finally, I would like to thank Committee Research Officers, Ms Stefanie Dobro, Ms Kirsten Robinson and Ms Amanda Millsom-May and Senior Research Officer, Mr Andrew Young for their contribution to this report.

**MAX TRENORDEN, MLA**  
**CHAIRMAN**

## ABBREVIATIONS & ACRONYMS

ACT	Australian Capital Territory
BEV	Blacksburg Electronic Village
CAMS	Department of Contract and Management Services
CEO	Chief Executive Officer
CIO	Chief Information Officer
CSO	Community Service Obligation
Committee	The Public Accounts Committee
DCT	Department of Commerce and Trade
DOLA	Department of Land Administration
E-Commerce	electronic commerce
EDWA	Education Department of Western Australia
ESD	electronic service delivery
FOI	freedom of information
FTE	full time equivalent
GDP	gross domestic product
GP	general practitioner
GWN	Golden West Network
ICAB	Information and Communications Access Branch
ICPAC	Information and Communications Policy Advisory Council
ICT	Information and Communications Technology
IPAC	Industry Policy Advisory Council
IPC	Information Policy Council
ISDN	Integrated Services Digital Network
ISP	Internet service provider

## **ABBREVIATIONS & ACRONYMS (cont'd)**

IT	Information Technology
ITOL	Information Technology Online Program
LOTE	Language other than English
MBS	Medicare Benefits Schedule
MLA	Member of the Legislative Assembly
MLC	Member of the Legislative Council
MOU	memorandum of understanding
NOIE	National Office of the Information Economy
NSW	New South Wales
OIC	Office of Information and Communications
PAC	Public Accounts Committee
PATS	Patients Assisted Travel Scheme
PC	personal computer
RFDS	Royal Flying Doctor Service
RTIF	Regional Telecommunications Infrastructure Fund
SIDE	School of Isolated and Distance Education
STEP	Statewide Telecommunications Enhancement Program
TAFE	Colleges of Technical and Further Education
UWA	University of Western Australia
VET	Vocational Education Training
WA	Western Australia
WALIS	Western Australian Land Information Systems

## **SUMMARY OF FINDINGS**

### **CHAPTER ONE**

#### **Finding 1**

**The Government has been slow to progress getting government and the State online.**

#### **Finding 2:**

**The implementation of government and the State online will enhance and extend government's ability to provide core services to all Western Australians, regardless of their geographical location.**

### **CHAPTER TWO**

#### **Finding 3:**

**Western Australia does not currently have a Minister for Information and Communications Technology. It is imperative that one be appointed.**

#### **Finding 4:**

**The Cabinet Standing Committee on Information and Communications, the Information and Communications Policy Advisory Council and the CEOs Online Services Consultation Group all lack a public profile and have not provided an adequate public profile to the issues of online service delivery and online communications in the State.**

**Finding 5:**

**Getting Western Australia and government online in an effective manner requires:**

**Leadership**

**a commitment to getting the State and government online.**

**Strategy**

**legislative review, which provides a regulatory framework conducive to electronic services and guidelines for users and service providers.**

**co-ordination, so that duplication is minimised.**

**ongoing monitoring, updating and reporting of online services and information.**

**Resourcing**

**providing adequate resources and funding to get agencies across government online.**

**training, education and support that enables people to make the transition to, and take advantage of, the benefits of electronic service delivery.**

**Finding 6:**

**Without electronic service delivery many rural and remote communities will continue to be without many core services.**

**CHAPTER THREE**

**Finding 7:**

**Electronic service delivery is a viable avenue for addressing the lack of services in non-metropolitan areas.**

**Government has failed to implement electronic service delivery solutions to poorly serviced non-metropolitan areas of Western Australia.**

**Equity of access will require major funding commitments by Government to ensure that affordable online technology is available to all parts of the State and that the quality of bandwidth is sound.**

## **CHAPTER FOUR**

### **Finding 8:**

**The shift from paper-based information and records to electronic information and records will not diminish records and accountability standards.**



## **SUMMARY OF RECOMMENDATIONS**

### **CHAPTER ONE**

#### **Recommendation 1:**

**That the Government provide leadership and guidance which will foster a sense of confidence in online technology, including electronic service delivery and the electronic marketplace, in support of the Information and Communications Technology Industry.**

### **CHAPTER TWO**

#### **Recommendation 2:**

**That the State Government appoint a Minister with sole responsibility for information and communications technology.**

#### **Recommendation 3:**

**That all agencies embrace the Department of Contract and Management Services initiative of an Internet-based e-commerce system for use across government to provide online functions, including cataloguing, ordering, invoicing, payment and management reporting.**

#### **Recommendation 4:**

**Individual agencies construct their business plans around a Government strategy of core services being made available online in an equitable manner.**

### **CHAPTER THREE**

#### **Recommendation 5:**

**Telehealth and tele-education initiatives should be embraced, funded and implemented immediately as best practice initiatives for other agencies to follow.**

### **CHAPTER FOUR**

#### **Recommendation 6:**

**That the Western Australian Minister for Health make pursuing amendments to the Medicare Benefits Schedule a priority.**

#### **Recommendation 7:**

**Funding for online services should include provisions for maintaining the currency of information provided online.**

## **MINISTERIAL RESPONSE**

Standing Order 277 (1) of the trial Standing Orders of the Legislative Assembly<sup>1</sup> states that -

A report may include a direction that a Minister in the Assembly is required, within not more than three months, or at the earliest opportunity after that time if the Assembly is adjourned or in recess, to report to the Assembly as to the action, if any, proposed to be taken by the Government with respect to the recommendations of the committee.

Accordingly, the Public Accounts Committee requests that the following responsible Ministers respond to the Committee's recommendations:

The Hon. Premier  
The Hon. Minister for Commerce and Trade  
The Hon. Minister for Education  
The Hon. Minister for Health

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<sup>1</sup> Trial Standing Orders of the Legislative Assembly were agreed to by the Legislative Assembly on 7 September 1999.



## **INTRODUCTION**

### **BACKGROUND TO THE INQUIRY**

1. In May 1997, the Committee undertook to inquire into the issue of Government in an online environment. The impetus for this inquiry stemmed from a concern about information management and the delivery of, and access to, government services and online technology in Western Australia.
2. In 1997, the State did not have a strategy for getting government online. The Committee was concerned that the State was not recognising, and taking advantage of, the opportunities presented by technological innovation to get the State and government online.

### **TERMS OF REFERENCE**

3. The terms of reference for the inquiry require the Committee to inquire into and report on the -
  - (a) existence or otherwise of a Government strategy for Western Australia's future in an online environment;
  - (b) role of Government in managing the convergence of information technology, telecommunications and intellectual property;
  - (c) effectiveness and equity of access to online services and online work for all Western Australians;
  - (d) implications of an online environment for Western Australia;
  - (e) economic and social implications for Western Australia in an online world;
  - (f) accountability of Government in an online environment.

### **BRIEFINGS AND HEARINGS**

4. The Committee held informal briefings as well as a number of formal hearings with experts in the area of electronic service delivery (ESD). (See Appendix 1).

## DISCUSSION PAPERS AND SUBMISSIONS

5. The Committee tabled two discussion papers on telehealth and tele-education and solicited submissions in response to the issues contained in them. The Committee received a combined total of 60 submissions and took oral evidence from 13 people in relation to these issues. (See Appendices 1 and 2). (For discussion of telehealth, see Appendix 6. For a discussion of Tele-education see Appendix 7).

## GOVERNMENT ONLINE

### 6. Definitions

- # **government online** can be broadly defined as the electronic delivery and enhancement of government services.<sup>2</sup>
- # **the State online** refers to providing access to online technologies and infrastructure to citizens throughout the State.
- # **electronic service delivery (ESD)** refers to the provision of services, in this case government services, through the use of electronic forms of communication.
- # **e-commerce** or electronic commerce refers to business transactions conducted electronically.
- # **telehealth** and **tele-education** refer to technology-assisted provision of health services and education respectively.
- # **telecentres** are regional centres that are community-owned, managed and incorporated. A typical telecentre has computers, photocopiers, facsimile machines, modems, printers, TV-video machines, decoders, scanners and access to the Internet. Each telecentre has a satellite receiver dish which allows for video-conferencing intrastate, interstate and internationally.
- # **bandwidth** refers to the amount of data that can be sent through a given communication circuit per second.<sup>3</sup>

7. This report is primarily concerned with getting the State and government online, including electronic service delivery and e-commerce.

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<sup>2</sup> Office of Information and Communications' definition.

<sup>3</sup> Office of the Auditor General for Western Australia, *Send me no paper!* Report No. 10, November 1998, p.61

## CHAPTER ONE

### CORE ISSUES

*Despite the hype and scepticism that surround such new technologies, it is vital for us to be aware that they are already being used as serious 'tools of trade' by major business organisations, governments and communities throughout the world.<sup>4</sup>*

The Hon. Premier Richard Court, MLA  
July 1997

8. This report is about Western Australia and the Government's role in the online environment. The core issues of this inquiry are -

the opportunities for enhanced delivery of, and access to, government services through electronic service delivery (making it easier and more convenient for individuals and business to work with government);

the efficiencies achievable by government and the State going online in a coordinated manner (including infrastructure and resources);

the need for the Government to act to get the State online;

equity of access to electronic service delivery for citizens throughout the State;

the ability for Western Australia and its citizens to take advantage of the opportunities presented by the online world.

### IMPERATIVE THAT THE STATE AND GOVERNMENT GET ONLINE

9. Online technology is already being used extensively in Australia and around the world. In August 1999, Asia Pacific Information Technology reported that '1.27 million households in Australia were online last year, a jump of almost 50 percent in the 12 months to November, giving 4.2 million adults access to the web.'<sup>5</sup> It was also reported that Australia is the third highest per capita Internet user after Finland and the US.

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<sup>4</sup> The Hon. R.F. Court, WA in a *Digital Era*, July 1997

<sup>5</sup> Asia Pacific Information Technology, Vol. 1:8, July/August 1999, p.25

10. Global electronic commerce is expected to grow to more than \$300 billion annually in just a few years. By 2001, the value of global Internet commerce is expected to range from 1.3 to 3.3 per cent of global gross domestic product.<sup>6</sup>
11. Online technology facilitates the provision of government services to all users, and particularly remote users, at significantly reduced recurrent costs. Getting the State online and the provision of statewide access to electronic service delivery (ESD) means that government will be able to supply services to people in remote areas where cost has traditionally impeded the provision of services.
12. Community expectations of how services can be and are provided are rapidly changing as technological innovation provides new options for service delivery. People now expect that basic government services should be available electronically to all Western Australians, regardless of their geographical location, because the technological capability now exists.
13. Most importantly, the installation of online technology can enable more efficient, convenient and expanded access to government services to users throughout the State at lower costs.
14. Taken together, the efficiency gains, the cost-effectiveness and the expanded reach of access to services along with the community demand for online technology and ESD, make it imperative that the State and government get online.

## **BENEFITS OF GOING ONLINE**

### **Improved Government Services**

15. There are significant benefits — economic, social, efficiency, competitive positioning, informational, etc. — that are achievable by getting government online.
16. One of the most significant benefits of getting government online is the ability for electronic service delivery. ESD will provide greater access to government services and will result in a more effective use of taxpayers' money as it will provide more services and better quality services at reduced long-term costs to more people throughout the State.
17. Some of the benefits that will result from the immediate introduction of ESD include -
  - expanded reach of access to services to people in remote and rural WA;
  - better quality services;
  - more efficient use of resources (eg. information could be obtained from websites);
  - the ability for government to post and maintain more up-to-date information; and
  - greater flexibility and more convenient access to information.

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<sup>6</sup> *ibid.*



18. The introduction of ESD is a logical extension of the way that services are currently being delivered. This shift is a necessary step in improving the way government operates. Online services are intended to complement, not replace, more traditional methods of service delivery, including over the counter and telephone service.

### **Benefits to Government**

19. In addition to the enormous benefits to the community and business from the ability to access and use ESD, immense gains will accrue to government.
20. As the largest user and provider of services in the State, there is tremendous potential benefit to the government from the provision of ESD.
21. The Western Australian Government consolidated fund sector was estimated to expend \$8.565 billion in 1998-99. Of this amount, \$5.647 billion was to be expended on the purchase of outputs.
22. Government collects revenue to finance the delivery of services. The Western Australian government was estimated to collect \$2.379.1 billion from taxation and \$964.1 million in other regulatory fees and fines in 1998-99. The collection of revenue is one of the single biggest activities of government. The Government's development and implementation of ESD (eg. enabling electronic payment of taxes, licences and charges) will not only save millions of dollars in administrative costs, but it will also considerably reduce processing times, hence helping government to function more efficiently.

### **Industry Development**

23. Western Australia does not have an industry policy.
24. Getting government online will provide the impetus for the development of an industry policy. In its 1996 report *Western Australian Government Financial Assistance to Industry*, the Public Accounts and Expenditure Review Committee recommended that -  

The implementation of an industry policy should be a priority for the Government and be tabled by the Premier in the Parliament at the earliest opportunity.<sup>7</sup>
25. The Office of Information and Communications (OIC) has commenced consultation with Industry and other peak body representatives to develop an Information and Communications Technology (ICT) industry strategy. The results of a recently published

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<sup>7</sup> Public Accounts and Expenditure Review Committee, Legislative Assembly, Western Australia, *Western Australian Government Financial Assistance to Industry, Report No.31*, 17 October 1996

survey of the ICT industry conducted by the OIC, *Envisioning the Future for the Western Australian Information and Communication Industry*, state that well over half the respondents indicated 'lack of government support' as one of the major problems in the industry.<sup>8</sup>

26. The experience of other States and countries is that a coordinated strategy to get government services online is linked to the State's overall industry strategy. States such as Victoria have demonstrated that a strategy focused on attracting new, high growth ICT industries is interdependent with the Government taking a lead role in setting the precedent, getting its own services online and successfully managing the cultural change necessary in the public sector.
27. In New South Wales, the Government identified the importance of the ICT and online industries to the State and realised that it was imperative that a coordinated strategy to get government services online be implemented.

NSW IT exports are worth \$2 billion annually;  
several major IT companies, including IBM, Microsoft and Compaq, have chosen to locate in NSW;  
40% of Australia's \$15 billion telecommunications market is located in NSW.
28. Western Australia's economy, with its wealth based significantly in the resources sector, did not experience the same pressures in the 1980s and 90s as the economies of States, such as New South Wales, Victoria and South Australia. During that period, the industry base of these States, comprising textiles, automotive and other manufacturing, came under severe attack, prompting a strategic approach to new industry development in those States.
29. In the absence of similar pressures, Western Australia did not seek to develop the information technology industry. As a result, the Western Australian Government has not shown the same leadership, commitment and sense of urgency to getting government and the State online as has been shown in other States.
30. The Committee found that the Government initially displayed inertia in getting government online. This report argues that the Government must provide leadership and guidance which will foster a sense of confidence in online technology, electronic service delivery and in the electronic marketplace.

## Finding 1

**The Government has been slow to progress getting government and the State online.**

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<sup>8</sup> *Envisioning the Future for the Western Australian Information and Communication Industry*, Office of Information and Communications, July 1999, (<http://www.commerce.wa.gov.au/technology/oic/survey/conclus.htm>, 11/08/99)

## Competitive Industry

31. Some of the ways in which the Government can foster and support competitive industry include -
- leadership that demonstrates the Government's commitment to online technology and to the business sector;  
acknowledgment of the widespread use and success, throughout the world, of online activity;  
recognition of the opportunities that being online provide the State, industry and the community.
32. In the ICT industry survey, respondents indicated that one of the central issues that needed addressing was that Government demonstrate that it places a high priority on the industry.<sup>9</sup>
33. Implementing a strategy to get government online and to provide ESD represents a commitment by the Government to the ICT industry, business and the community. Moreover, it represents a recognition of the significant benefits resulting from the delivery of services online, conducting business and accessing information online.
34. While there are an ever increasing number of small and medium businesses getting online, many others have been hesitant to move online and have been looking for leadership that confirms that the technology is sound, efficient and effective.
35. Getting the State online opens endless opportunities for e-commerce and for promotion of Western Australia. It creates opportunities for Western Australian businesses to compete in the electronic marketplace throughout the world.

### **Recommendation 1:**

**That the Government provide leadership and guidance which will foster a sense of confidence in online technology, including electronic service delivery and the electronic marketplace, in support of the Information and Communications Technology Industry.**

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<sup>9</sup> *ibid.*

## **CONSEQUENCES OF NOT GETTING ONLINE**

36. The Committee identified a number of consequences of not getting government and the State online in a timely and co-ordinated manner.

### **Inefficiencies and Duplication**

37. Efficiencies cannot be maximised and effectiveness cannot be achieved unless the Government takes a stronger leadership role in getting the State online in a systematic and coordinated manner.
38. At present, many government agencies have started to get online. This has been done in an uncoordinated and haphazard manner which has resulted in higher costs and duplication of effort.
39. Inefficiencies and duplication of effort will persist if the Government does not implement a public sector-wide approach to getting government and the State online.

### **Regional Western Australia — The Digital Divide**

40. Western Australia already suffers from the ‘tyranny of distance’. The tyranny of distance will be exacerbated if government and the State do not get online.
41. Many government and non-government services have not been available or have increasingly disappeared from regional areas of Western Australia. The ability to provide government services online is the only viable and cost-effective option for these communities. By the Government not getting its services and the State online, there is a risk of creating a digital divide between those who are service and information rich and those who remain service and information poor.

### **Investment in the State**

42. As e-commerce continues to grow at an exponential rate, Western Australia will become less attractive to investors and business if the State is not online and electronic service delivery and e-commerce are not an integral part of daily life in Western Australia. Business will choose to take its investment and services elsewhere. Not going online will jeopardise the State’s status as a desirable location for investment.

## THE WAY AHEAD

43. With respect to getting government and the State online, the choices for government are quite clear — the Government can either adopt an incremental approach to implementation or it can put the whole State online.
44. The Committee observed internationally, that Governments that chose an incremental system generally failed to maximise the benefits to the State, business and the community. The Committee also observed that in Victoria, where the Government took a holistic and universal approach to getting online, the consequential benefits were considerably greater.

### Finding 2:

**The implementation of government and the State online will enhance and extend government's ability to provide core services to all Western Australians, regardless of their geographical location.**



## **CHAPTER TWO**

### **THE GOVERNMENT'S ROLE IN GETTING THE STATE AND GOVERNMENT ONLINE**

45. The Government has an obligation to provide services to its citizens in an efficient and equitable manner. In many instances, cost has prohibited the efficient provision of many services, particularly in areas of rural and remote Western Australia. Electronic service delivery (ESD) technology now provides the Government with the ability to provide country Western Australians with access to many government services that are currently not available.
46. The Committee examined what role Governments have played in jurisdictions around Australia and overseas to develop a best practice model for Western Australia. A summary of those studies is provided in Appendices 3, 4 and 5. Similarly, the Committee examined in detail what action the WA Government had taken to get the State and government online, commencing in mid-1997.

#### **WESTERN AUSTRALIA IN MID-1997**

##### **Background**

47. When the Committee commenced its inquiry in May 1997, the Government's primary tool for developing and implementing information and communications policy was the Information Policy Council (IPC). The IPC was administratively supported and resourced by the Information and Communications Access Branch (ICAB). Both IPC and ICAB were part of the administrative jurisdiction of the Ministry of the Premier and Cabinet. Though these groups existed, there was no government strategy for getting online and no leadership from the Government in the area of information technology.
48. At the commencement of the Committee's inquiry, the Western Australian Government had contracted to Comswest the purchase and management of all telecommunications services on behalf of the Government. The Government commissioned a review of the Agreement and, in July 1997, Cabinet decided not to extend the Agreement with Comswest beyond 31 January 1998.
49. The early problems with the Comswest service provider were a cause for concern in relation to information technology management in government.

50. Responsibility for information technology and communications matters resided with the Premier but did not constitute a ministerial portfolio. In July 1997, the Deputy Premier, the Hon. Hendy Cowan, MLA, along with his other Ministerial duties of Commerce and Trade, Regional Development and Small Business, was given responsibility for the information technology area.
51. The Committee found, in the initial stages of its inquiry, that the Government was moving slowly to establish the roles required to drive online policy and had no publicly-proclaimed strategy for getting government online.

### **Finding 3:**

**Western Australia does not currently have a Minister for Information and Communications Technology. It is imperative that one be appointed.**

52. With the rapid pace of development and technological innovation, the Committee has continued to monitor changes and advances being made in Western Australia. Following are the developments that have occurred since the Committee began its inquiry.

### **Establishment of the OIC — Mission and Budget**

53. In the second half of 1997, the Western Australian IPC and ICAB were abolished. In February 1998, the Office of Information and Communications (OIC), within the Department of Commerce and Trade (DCT), was established, following the transfer of ICAB functions and personnel. The OIC currently reports through DCT management to the Cabinet Standing Committee on Information and Communications issues. The Office is staffed by approximately 23 FTEs and has been allocated a budget of \$18,664 million over four years (1999-1998 to 2001-2002).
54. The stated mission of the OIC is -

*To make a difference to the economy, lifestyle and living standards of Western Australians, by world-class use of the advantages of the Information Age.*

and its role is to -

*....lead, facilitate, coordinate and work with agencies, businesses and communities, in order to maximise Western Australia's transformation to the Information Age.<sup>10</sup>*

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<sup>10</sup> [Http://www.commerce.wa.gov.au/technology/oic/oicst.htm](http://www.commerce.wa.gov.au/technology/oic/oicst.htm)



## **Cabinet Standing Committee on Information and Communications**

55. The Cabinet Standing Committee on Information and Communications consists of the Deputy Premier, the Minister for Works, the Minister for Education, the Minister for the Arts and the Minister for Employment and Training. It is the peak body for dealing with all information and communications issues in government. The role of the committee is to deal with all information and communications issues affecting the State in a coordinated manner. This includes broadcasting, telecommunications, communications in its broadest sense, information in its broadest sense and information technology.

## **Information and Communications Policy Advisory Council**

56. In March 1998, the Committee was informed by the former Executive Director of the OIC, Mr Stephen Collins, of the establishment of the Information and Communications Policy Advisory Council (ICPAC).<sup>11</sup> ICPAC was set up to provide feedback to Government through the Chairman of the Cabinet Standing Committee on issues relating to information and communications and on strategic policies developed by the OIC. The group comprises representatives from business and the community as well as academia. ICPAC did not have its inaugural meeting until 20 August 1998.<sup>12</sup>

## **Chief Executive Officers Online Services Consultative Group**

57. A CEOs Online Services Consultative Group was established in August 1998. Its aim is to facilitate the adoption of online services for the State. The Group's focus is to provide input to the OIC in relation to policy development and implementation as well as to provide feedback to the Cabinet Standing Committee. Membership of the Group is primarily public sector CEOs but also includes some local government representation.

### **Finding 4:**

**The Cabinet Standing Committee on Information and Communications, the Information and Communications Policy Advisory Council and the CEOs Online Services Consultation Group all lack a public profile and have not provided an adequate public profile to the issues of online service delivery and online communications in the State.**

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<sup>11</sup> Transcript of Evidence, 11 March 1998, p.3

<sup>12</sup> Transcript of Evidence, 9 September 1998, p.17

## Funding Commitments

58. The 1998-99 budget papers contained a funding allocation of \$18,664 million over four years for the creation of the Office of Information and Communications.

59. The major achievements for 1998-99 were listed in the 1999-2000 budget papers as follows -

A Statewide Telecommunications Enhancement Program (STEP) has been initiated, with tenders called and under evaluation, which will result in major improvements in telecommunications infrastructure and services throughout the State. Twelve State agencies have aggregated a portion of their present and forecast telecommunications requirements to encourage carrier infrastructure investment and to facilitate the development of new online services for rural WA.

Provided leadership by negotiating a number of strategic partnerships with Commonwealth, State and Local Government agencies, Universities, business and the community for implementing Online Service delivery and e-commerce into Western Australia.

Researched issues and agreed specific project plans for progressing technology rationalisation initiatives within the Western Australian State public sector.

Awareness of the benefits of the information age has increased following activities encompassing seminars, training, publications and support of demonstration projects.

Commenced development of the State's first Industry Development Strategy for the Information, Communications and Technology Industry in Western Australia. The development of the ICT industry in Western Australia, both as a separate industry sector and within the context of its potential to act as an enabling tool to develop other Western Australian industry sectors.

Organised a major display "Smart Business E-Commerce 99" introducing electronic commerce to many Western Australian business [sic].

60. In 1998-99, the total estimated actual of expenditure on this output was just over \$6 million. The forward estimate for 1999-2000 is now \$7.8 million.

61. Some of the major initiatives listed for 1999-2000 include -

The Statewide Telecommunications Enhancement Program (STEP) will be rolled out to enable agencies to provide enhanced data services to their regional offices, and to deliver new services to some of the State's most isolated communities. These will include Telehealth, new education and training programs, video-conferencing, affordable Internet access and greater use of electronic commerce.

A number of key Online Service delivery demonstration projects will be implemented including phase one of the "Single Window to Government" and progression of an action plan to eliminate and reduce the barriers to electronic business.

Implementation of technology rationalisation initiatives such as a standard business case, information technology standards and guidelines and a Total Cost of Ownership model into the Western Australian State public sector.

62. Major initiatives in the Regional Development Services area for 1999-2000 include “Continue to work closely with government, promoting the use and advantages of information and communications technologies, including expanding the Telecentre network to 76 by December 1999.”<sup>13</sup>
63. Since the establishment of the OIC, the Government has increased its commitment to getting the State and government online; however, in formal evidence in September 1998, former Executive Director, Mr Collins revealed that there were funding “gaps” that needed to be addressed to enhance the work of the OIC.

We have identified in the current year that we need \$1.3m followed by \$1.1m in the next year to complete the year 2000 plan; and that is a finite project. Therefore, we have identified that \$1.3m and \$1.1m as a gap. If we are to progress our single window to Government, our electronic commerce and technology rationalisation strategies, we will need probably about \$1m next year.<sup>14</sup>

64. The 1998-99 State Budget allocated \$100 million for computers in schools, which is a significant commitment to an important area, this allocation contrasts with the lack of financial support for other areas, such as Telehealth. In evidence to the Committee, Mr Collins stated that -

What differentiates us from Victoria is that this is not a State that is given to funding in quite the same way as Victoria. WA's philosophy is to take many small things and make them work, rather than a big-bang approach. That is the way I differentiate us from Victoria.<sup>15</sup>

65. The 1998-99 Budget also provided \$10 million for communications in the form of a two year program — \$5 million in 1998-99 and \$5 million in 1999-2000 — to facilitate a number of specific infrastructure initiatives. Mr Collins explained the purpose of the funds to the Committee -

If we need to plug gaps in the public infrastructure to places to which it is not economic to go in the short term, or where we can do it more quickly in advance of any other roll out, that is what it will be used for. A number of projects are being identified. Where it will go precisely will depend on the response to our request for proposal to industry. In broad terms, we would see it going into data, into mobile and into voice.<sup>16</sup>

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<sup>13</sup> *Budget Papers 1999-2000*, Budget Paper No.2, Vol. 1, p.201

<sup>14</sup> Transcript of Evidence, 9 September 1998, p.18

<sup>15</sup> Transcript of Evidence, 11 March 1998, p.4

<sup>16</sup> Transcript of Evidence, 9 September 1998, p.5

## E-COMMERCE AS A KEY ESD INITIATIVE

66. E-commerce initiatives are crucial to promoting ESD. E-commerce enables the public service and the private sector to conduct supply and purchasing electronically. E-commerce is an important first step to promoting a culture of conducting the business of the agency online and ultimately providing services online.
67. E-commerce is an important aspect of government's ability and efforts to go online because -
- almost all agencies are involved in some form of commercial activity, even if it is only the purchasing of their own supplies;
  - purchasing is a relatively discrete function and one in which the results are measurable in terms of efficiencies; and
  - the business sector is a key stakeholder in government purchasing and related activities, enabling government to encourage business to become online capable.
68. In June 1996, the Western Australian Government commissioned a report on *Electronic Commerce in the Western Australian Public Sector*, also known as the 'Laburnum report'. The report found that -
- e-commerce is integral to the future of the Government's business environment; and
  - e-commerce has been obscured by bureaucracy and not fully understood.
69. Further, the report recommended that the Western Australian Government should seize the opportunity to harness the supporting technology to conduct business more effectively and to improve service delivery.
70. In evidence to the Committee, Mr Arthur Wilson, Manager of the Electronic Business Task Force<sup>17</sup>, confirmed that the business case for buying online demonstrated that the elimination of paper from purchasing and tendering would save agencies significant amounts of money.<sup>18</sup>
71. In further evidence to the Committee, Mr Wilson expressed the view that electronic trading would be a practical first step in Government getting its services online and raising business awareness of online business opportunities. This view was repeated to the Committee by government strategists visited overseas.
72. Since October 1997, an electronic commerce gateway, 'The Gateway', has been administered by the Department of Contract and Management Services (CAMS). The

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<sup>17</sup> The functions of the Electronic Business Task Force were absorbed by the Office of Information and Communications.

<sup>18</sup> Transcript of Evidence, 30 July 1997, p.26

Gateway allows electronic purchase orders to be placed by agencies, which are in turn converted to a form that can be accepted by the supplier of the good or service.

73. The Auditor General's Report No. 10, *Send me no paper!*, tabled in November 1998,<sup>19</sup> highlights the value of e-commerce and makes recommendations that encourage the Government, through OIC and CAMS, to help agencies participate in e-commerce by providing them with the tools and the training to facilitate the transition to online activity.
74. The Committee endorses the recommendations of the Auditor General's Report, which recognised both the efficiency gains from e-commerce and its role in promoting a business and culture change in public sector service delivery.
75. E-commerce is also taking a prominent role in the activities of the OIC. As government is one of the biggest purchasers and providers of goods and services, it has a tremendous amount to gain by establishing, using and promoting e-commerce. Western Australia recently hosted a Smart Business '99 — Electronic Commerce Expo that was heavily patronised — demonstrating both the initiative of the Government in this area and the interest of business and the community in the ever-expanding opportunities provided by e-commerce.

## **WESTERN AUSTRALIAN AGENCIES ONLINE**

76. Positive examples of Western Australian government services online were identified by the Committee in the early stages of its inquiry. However, there appeared to be a lack of co-ordination and integration of such efforts.
77. Examples of the diversity of these developments included -

WA Land Information System (WALIS). WALIS is a conglomerate of 26 agencies and stakeholders, including Department of Land Administration, Planning, Department of Minerals and Energy, and Department of Resources Development, who link up to provide 'spatial' information for users. Users include farmers, mining companies, developers, planners, government agencies, local government, overseas interests.

The Department of Transport has been developing online information services covering a wide variety of transport, from maritime to bicycle. It has also established a phone payment and information service for vehicle transfer and registration matters.

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<sup>19</sup> Office of the Auditor General, *Send Me No Paper! Electronic Commerce - purchasing of goods and services by the Western Australian public sector, Report No. 10*, November 1998

WorkSafe WA was one of the first government agencies in WA to establish an Internet presence with the SafetyLine information service being operational in April 1995. A SafetyLine Institute, launched in 1998 provides access to approximately 100 “virtual” lectures focussed on the management of occupational safety and health in workplaces.

The School of Isolated and Distance Education, includes five ‘Schools of the Air’ and the use of online tools, such as satellite television and the Internet, to teach almost 3,000 students who are either isolated or located in schools that have only a very limited subject range.

78. While the Committee commends these agencies for the advances that they have made in getting some of their services online, there is still more to do.

### **STATEWIDE TELECOMMUNICATIONS ENHANCEMENT PROGRAM (STEP)**

79. In 1998 the OIC developed the Statewide Telecommunications Enhancement Program (STEP). STEP’s objective is to establish telecommunications infrastructure throughout country Western Australia, to carry managed data network services to government and to enable regional areas to gain access to the broadest range of telecommunications-based services. STEP itself is not a network. The Government is not going to be a carrier or owner. Rather, the Government’s aim is to foster communications and online carrier competition.

80. STEP’s targeted outcomes include -

to support electronic commerce and electronic service delivery by government; a broad range of services including video, imaging and multimedia; and develop high-quality and secure services for the State, business and communities.

81. The ‘request for proposal’ documentation authorised by CAMS stated that -

STEP is designed, by aggregating present and forecast Agency data needs, to facilitate increased bandwidth availability in country Western Australia.<sup>20</sup>.

82. The ‘request for proposal’ documentation also outlined the capital contributions that the Government has committed to facilitate the process -

\$3.0 million is to be committed to meet the infrastructure needs of Agencies and communities.....Principal amongst the needs at those locations are the Western Australian Police Service whose Priority 1 needs must be met first.

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<sup>20</sup> Request for Proposal for the Statewide Telecommunications Enhancement Program, Department of Contract and Management Services, p.5

A further sum of \$1.5 million is to be committed specifically to meet needs of the Health Department of Western Australia, in the Telehealth project at 20 regional and 7 related urban sites.

An additional sum of approximately \$3.5 million will be available for the remainder of the STEP rollout.<sup>21</sup>

83. In early 1999, CAMS called for tenders in support of STEP, which were to be submitted by 20 April 1999. The OIC has carriage of the STEP proposal and is currently conducting negotiations with prospective providers.

## ANALYSIS

84. A number of reports in 1997-98 criticised the pace of change and adoption of online technologies in Australia. Of equally great concern to the Committee, however, was that within Australia, Western Australia had been comparatively slow to redesign service delivery and develop and implement online policies.

85. When Goldsworthy reported to the Federal Minister for Industry, Science and Tourism in July 1997<sup>22</sup>, Western Australia did not compare well with other States in terms of the level of strategic approach to creating the online environment. The Goldsworthy report cited the findings of Allen and Buckeridge's comparative analysis of States' and Territories' information industries development strategies.

86. Key elements of the interstate comparison concluded that -

States, such as South Australia (IT 2000 Strategy) and Victoria (Victoria 21 Plan), had a strategic policy with major Government backing, identifying target industries; and

States, such as Victoria, ACT and Queensland had set online government service and infrastructure goals to achieve greater government service efficiencies.<sup>23</sup>

87. Western Australia has lingered in developing an ICT industry policy and a strategic, whole-of-government level approach to getting its services and the State online. Comparative analysis with other States shows that -

unlike Victoria, Western Australian has been slow to set a target to get government services online, and has now suggested that date is 2003, while Victoria is aiming for all government services to be online by 2001;

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<sup>21</sup> *ibid.*, p.7

<sup>22</sup> *The Global Information Economy - The Way Ahead*, The Information Industries Taskforce report to the Minister for Industry Science and Tourism, July 1997

<sup>23</sup> *Spectator or Player? Competitiveness of Australia's Information Industries*, Allen. D and Buckeridge. R of The Allen Consulting Group P/L, and Allen & Buckeridge P/L, March 1997, pp.120-121

the absence of a Western Australian ICT industry policy and online industry strategy has meant that there has not been a publicly understood link between government going online and the place of Western Australia in the global information economy.

88. The Committee is concerned that though there has been progress, the pace of change in getting the State and government services online has not been sufficient.
89. Impediments to progress include lack of leadership, lack of funding and lack of commitment to implementing core services, such as Telehealth. This has been exacerbated by the absence of a widespread public awareness campaign.
90. The introduction of STEP has the potential to redress this lack of progress. However STEP's success at getting the State and government online may hinge on the OIC's ability to work collaboratively with agencies and communities and its willingness to implement a whole-of-State approach to getting online, rather than an incremental approach.

#### **Findings 5:**

**Getting Western Australia and government online in an effective manner requires:**

**Leadership**

**a commitment to getting the State and government online.**

**Strategy**

**legislative review, which provides a regulatory framework conducive to electronic services and guidelines for users and service providers. co-ordination, so that duplication is minimised. ongoing monitoring, updating and reporting of online services and information.**

**Resourcing**

**providing adequate resources and funding to get agencies across government online. training, education and support that enables people to make the transition to, and take advantage of, the benefits of electronic service delivery.**



**Finding 6:**

**Without electronic service delivery many rural and remote communities will continue to be without many core services.**

**Recommendation 2:**

**That the State Government appoint a Minister with sole responsibility for information and communications technology.**

**Recommendation 3:**

**That all agencies embrace the Department of Contract and Management Services initiative of an Internet-based e-commerce system for use across government to provide online functions, including cataloguing, ordering, invoicing, payment and management reporting.**

**Recommendation 4:**

**Individual agencies construct their business plans around a Government strategy of core services being made available online in an equitable manner.**



## CHAPTER THREE

### EQUITABLE, EFFICIENT AND EFFECTIVE ACCESS FOR ALL WESTERN AUSTRALIANS

*In almost every respect, the residents and businesses in regional areas are provided with a lower standard of communications services and have fewer services from which to choose, or simply have none available.<sup>24</sup>*

91. Technological and management solutions are available to achieve online access for all Western Australians that is equitable, efficient and effective. The key to the solution, from a technological perspective, is bandwidth. From the management point of view, part of the solution lies in aggregating demand for government and non-government services.

#### BANDWIDTH

92. ‘Bandwidth’ refers to the amount of data that can be sent through a given communication circuit per second or the speed at which electronic information can be transmitted. Because bandwidth is about the speed and volume of information that can be transmitted, bandwidth determines the quality of access.
93. ‘Equity of bandwidth’ is central to all Western Australians having an equal opportunity to take advantage of electronic service delivery (ESD).

#### GOING THE DISTANCE

94. Western Australia covers 2.5 million square kilometres and has a population of approximately 1.8 million, with more than two-thirds of the population living in the Perth metropolitan area. Only nine centres outside the Perth-Mandurah corridor have populations over 10,000.<sup>25</sup> The Western Australian Government has stated that -

A manifestation of the State’s scattered population is the inordinate number of “unviable” areas. GDP figures may indicate that a region is rich, but the population is not large enough to provide a commercial return for providers considering regional investment in telecommunications.<sup>26</sup>

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<sup>24</sup> Quoted in the Digital Data Review Submission, op. cit., p.4

<sup>25</sup> Digital Data Review Submission, op. cit., p.3

<sup>26</sup> ibid., p.4

95. For other services, such as water and power, lack of commercial return in 'unviable' areas is compensated for by a community service obligation (CSO). The difficulty in any consideration of a CSO for online access, relative to other CSOs, is to define the service. For example, what does online access mean in terms of communications infrastructure, standard or speed of access, type of access and the like?

*If effective communications services are not provided to remote and rural communities a schism will be created between those who have reasonably priced access and those who do not.<sup>27</sup>*

96. The key to maximising the benefits of getting government services online is equity of access. Equity of access means ensuring that individuals in all parts of the State have convenient access to government services. Methods of accessing online services include -  
personal computers;  
publicly-owned computers (public libraries);  
telecentres;  
tele kiosks; and  
phones.
97. The quality and effectiveness of access will be determined by the bandwidth - where the bandwidth is poor, the quality of service will be slow and the service will be considerably less effective; high quality bandwidth will provide efficient and more effective service.
98. For remote and regional Western Australia, access is particularly affected by poor bandwidth and in many cases no infrastructure at all.

## **AGGREGATION**

99. Aggregation of electronic service or online demand can occur across government agencies and across sectors of society — government, business and the community.
100. A potential benefit of aggregating electronic service or online traffic of a number of agencies or sectors is increased affordability of ESD.
101. It was proposed to the Committee that public and private providers could come together to establish central servers with adequate bandwidth throughout the State to minimise the maximum distance that remote and rural users would have to go (or to link up to) to access online services. The central servers would have to be of substantial quality to allow for interactivity required by services such as video-conferencing.

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<sup>27</sup>

Submission to the Telehealth Discussion Paper, Ms Cheryl Vardon, Director General, Education Department of WA, 16 June 1998

102. The creation of a partnership with the private sector in this regard would help minimise the cost to both users and providers. The Government has called for tenders from the private sector for the provision of online infrastructure (see STEP in Chapter Two).
103. Aggregation can entail the rationalisation of government networks. Some agencies operate unique wide area networks, whilst one agency, the Health Department, has previously proposed the establishment of a communications network to operate telehealth.
104. Whilst the benefits of aggregation and rationalisation of networks should be pursued, the process should not stifle the implementation of technically viable and affordable ESD initiatives of individual agencies. Agencies should not be penalised for proposing network and ESD solutions in advance of other agencies who have failed to make ESD a priority.

## **TELEHEALTH AND TELE-EDUCATION**

105. Health and education are two core services that have not achieved statewide effectiveness, due to inequality of access and cost of service delivery to rural and remote parts of the State.
106. Telehealth and tele-education represent two major areas where the evidence indicates that major improvements in efficiency, effectiveness and equity can be readily achieved by use of online technology.
107. The State Government has not moved to implement telehealth. There is evidence to indicate that plans were completed and funding partners were ready and able to implement telehealth over two years ago. The Government needs to implement and fund the telehealth system as a priority.
108. The Committee undertook detailed examinations of telehealth and tele-education as key services and initiatives which could provide the opportunity for integration with other government and non-government services. Following is an overview of the Health Department's Telehealth proposal and the delays it has experienced for the past two years. (For a detailed summary of telehealth and tele-education see Appendices 6 and 7). The experience of the telehealth proposal illustrates the Committee's concern that online service solutions exist but have not been implemented.

## TELEHEALTH PLAN

### Proposed Telehealth Network

#### *The application to Networking the Nation made by the Health Department of Western Australia, January 1998*

109. In January 1998, the Health Department of Western Australia submitted an application entitled *Telecommunication Network Infrastructure For Multipurpose Community And Telehealth Needs* to the Regional Telecommunications Infrastructure Fund (RTIF) / Networking the Nation. The RTIF is a Federal Government scheme to which applications can be made for funding to improve telecommunications in regional areas.
110. The telehealth project was described as a pilot implementation involving 20 regional, rural and remote communities in Western Australia, which would provide the information required prior to the installation of a statewide telecommunication and telehealth network.
111. The basic infrastructure proposed for the pilot was a satellite-meshed network with a central hub in Perth for management and systems integrations. As a minimum the infrastructure was to provide a system which integrates fixed and mobile phones, fax, data, Internet, video services, broadcast TV and radio media, and network management.
112. The telehealth services that could be provided included consultations, counselling, education, medical image and data transfer. Other services that could access the infrastructure included legal advice, education/training, government agencies, banking, meteorology, and agriculture.
113. In summary, the applications stated that health services would be improved by providing-
  - increased availability;
  - increased accessibility;
  - increased acceptability; and
  - increased affordability.
114. The claims of these benefits were supported by a plan to use satellite technology at a fixed, upfront cost, with the capability to increase bandwidth, as needs and demand increased.

115. The total cost of implementation over 1998-99 and 1999-2000 was calculated at \$ 16,787,300.
116. The RTIF funds sought were \$8,393,650 — half the total cost of implementation — with matched funding of \$8 million from the State Government. The application stated that the proposal had a commitment of matched funding from the State.<sup>28</sup>

### **Independent Audit of the Health Department's Proposed Telehealth Network**

117. In 1997, prior to the Health Department's application to the RTIF, an independent technical audit of the proposal was conducted by GR Technologies.<sup>29</sup>
118. The audit judged whether the proposed network could be successfully implemented on the following criteria -
- whether the network would operate and perform to users' expectations;
  - whether the network would be too complicated for users to use effectively and efficiently; and
  - whether the network could be implemented, maintained and continue to operate under normal budgetary constraints.
119. GR Technologies expressed the opinion that -
- the network proposed by the Health Department of Western Australia can be implemented successfully, will have benefits to the remote and rural communities as a whole as the system will meet the needs for the telehealth system and carry other community services as required. The concept is bandwidth efficient and will provide an economic service that can be funded in an ongoing manner to deliver the benefits of modern medical health services to the rural and remote areas that are needed in Western Australia.<sup>30</sup>
120. Further, the audit recommended that the implementation of the network proceed immediately -
- GR Technologies recommends that the implementation of the network proceed immediately as any delay in implementation will simply delay the delivery of benefits to patients in communities in Western Australia.<sup>31</sup>

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<sup>28</sup> Health Department applications to RTIF, *Telecommunication Network Infrastructure For Multipurpose Community And Telehealth Needs*, January 1998, p.13

<sup>29</sup> 'Health Department of WA Telehealth Network System Concept Review Technical Audit Report', GR Technologies, 30 September 1997.

<sup>30</sup> *ibid.*, Executive Summary

<sup>31</sup> *ibid.*, p.55

## **Delays in Funding Agreement**

121. There was no final funding decision by the RTIF in 1998. There appears to have been ambiguity about the State Government's commitment to matching the RTIF funding. Concerns were expressed by the OIC, which were confirmed in evidence from former Acting Director of the OIC, Mr Jo Blignaut, about the scope, ownership and management of the proposed telehealth network infrastructure.<sup>32</sup>

## **Further Independent Audits**

122. In May 1999, after the application to the RTIF, a further independent assessment of the proposed network was carried out by Lane Telecommunications. The assessment was generally positive; however, it highlighted the ambiguity of the purpose of the proposal and broader Government commitment. Amongst other things, the assessment concluded -

The Health Department of Western Australia's application for RTIF funding for the implementation of a Telecommunications Network infrastructure as a delivery mechanism for the provisioning of Telehealth services is on the surface an innovative proposition.

We had some difficulty in understanding whether the network as proposed was purely a Telehealth Network or that it had the imprimatur of the West Australian State Government to form the basis of some form of Whole of Government network.

Overall, the project will have a positive impact on the telecommunications industry, creating opportunities in a number of sectors.<sup>33</sup>

123. A financial review of the applications was performed by Price Waterhouse in May 1998. Price Waterhouse advised the RTIF Board of the soundness of the proposal, but with certain qualifications and conditions. In its findings, Price Waterhouse stated -

In our opinion, based on the information provided, we advise that the application and supporting information supplied appears to support the financial eligibility criteria for Networking the Nation funding subject to clarification of weaknesses and matters for the attention of the board outlined below.<sup>34</sup>

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<sup>32</sup> Transcript of Evidence, 4 October 1999, p.2

<sup>33</sup> 'Department of Communications and the Arts Western Australia Health Department RTIF Funding Application', Lane Telecommunications, 15 May 1998, pp. 5-6

<sup>34</sup> Correspondence from Price Waterhouse to Department of Communications and the Arts, 'Financial Review of Networking the Nation Applications. Applicant: Health Department of WA - Telecommunications Network Infrastructure for Multi-purpose Community and Telehealth Needs', 12 May 1998



### **The Statewide Telecommunications Enhancement Program (STEP)**

124. In early 1999, the Department of Contract and Management Services (CAMS) called for tenders in support of the Statewide Telecommunications Enhancement Program (STEP) to be submitted by 20 April 1999. The Office of Information and Communications (OIC) has carriage of the proposal.
125. The request for proposal from CAMS sought bids from companies prepared to provide country Western Australia with telecommunications infrastructure that provides managed data services to government agencies and broad benefits to communities.
126. The basic strategy of STEP is to aggregate present and forecast agency data needs, in order to facilitate increased bandwidth availability in country Western Australia.<sup>35</sup>
127. The provision of infrastructure to facilitate telehealth was just one component of the statewide, multi-purpose and multi-agency approach of STEP.

### **RTIF Decision to Fund Telehealth**

128. In May 1999, the RTIF/Networking the Nation Board announced that the Western Australian Health Department's Telehealth proposal would receive funding. It was not until 20 September 1999 that the Memorandum of Understanding (MOU) between the Health Department and the Department of Communications, Information Technology and the Arts was signed.
129. The MOU provides for Commonwealth funding of \$8 million with \$8 million matched State funding. The 20 pilot sites proposed in the Health Department submission are prescribed by the MOU; however, the procurement of telecommunications infrastructure for the sites is required, by the MOU, to be part of the STEP process.<sup>36</sup> The Committee will continue to monitor whether the infrastructure and costing models provided under STEP deliver the benefits of accessibility and affordability promised by the Health Department's Telehealth application to the RTIF.

### **Committee to Continue to Monitor Telehealth**

130. The Committee is concerned at the delays and bureaucratic conflict over ownership of initiatives, such as telehealth. These are indicative of the ineffective response of the Government to getting government services online. As the Committee has commented, many of these services are core or essential services, which people in non-metropolitan areas do not receive or receive at a lower standard than those in metropolitan areas.

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<sup>35</sup> Request for Proposal for the Statewide Telecommunications Enhancement Program, Department of Contract and Management Services, p.5

<sup>36</sup> Memorandum of Understanding, 20 September 1999, p.7

131. The Committee conducted a hearing with the OIC on 4 October 1999, after the signing of the MOU. The Committee will continue to monitor the performance of those charged with improving online services to all Western Australians.

**Finding 7:**

**Electronic service delivery is a viable avenue for addressing the lack of services in non-metropolitan areas.**

**Government has failed to implement electronic service delivery solutions to poorly serviced non-metropolitan areas of Western Australia.**

**Equity of access will require major funding commitments by Government to ensure that affordable online technology is available to all parts of the State and that the quality of bandwidth is sound.**

**Recommendation 5:**

**Telehealth and tele-education initiatives should be embraced, funded and implemented immediately as best practice initiatives for other agencies to follow.**

## CHAPTER FOUR

### MANAGING ELECTRONIC SERVICE DELIVERY: ISSUES FOR GOVERNMENT

#### ELECTRONIC SERVICE DELIVERY (ESD) — CHANGE MANAGEMENT STRATEGY

132. Government going online will change the way services are delivered and measured. The efficient and effective introduction of ESD requires a fundamental transformation of attitude. In the past, government departments have been the visible provider of a service, and they have often put many resources into distinguishing themselves from other agencies as the provider of the service.
133. In an online environment, the service becomes more visible and the department less visible. Departments will continue to exist, however, the digital delivery of services will increasingly become the first point of contact with the service.
134. The *Victoria 21* strategy identifies as one of its primary objectives, the ‘transformation’ of public services. It does this within the context of another important objective of the strategy, making Victoria an ‘information society’.
135. The transformation of public services is contingent upon both the service provider and public users changing their attitudes and work practices to optimise the benefits of ESD.
136. For some years now, people have been transforming their work environment by using -
  - e-mail to communicate within the agency and the wider community;
  - e-commerce to order supplies for the agency;
  - the Internet — world wide web to provide information to customers and to access information.
137. Staff have embraced these changes in the organisations in which they have been introduced. The provision of services online is a natural extension of these work processes.
138. For change to be successful, managers will be required to develop and implement a change management strategy. The essential features of such a strategy should include -
  - providing education and training in the area of technology;
  - redesigning job processes; and
  - changing the service delivery culture through the active participation of people.

## THE SINGLE WINDOW TO GOVERNMENT

139. The single window to government means that users can enter the entire range of services provided by all three levels of government through one access point. The development of the single window to government places the service ahead of the agency providing the service.
140. Government needs to structure and define its online services according to the requirements of customers, not according to the agency that ‘controls’ the information or service. If Government fails in this regard, the community and business will leave government behind in their search for services and information.
141. A co-operative approach with the private sector is necessary to ensure that the many links between public and private sector services are compatible. Private and public sector services are interwoven in many areas, including for example -
- the settlement of real estate;
  - the registration of mining titles; and
  - the registration and insurance of a motor vehicle.
142. It would be inefficient for the public and private sectors to duplicate systems.

## CHIEF INFORMATION OFFICER

143. Information and communications technology management should be an integral part of every agency in the Western Australian public sector.
144. Alberta, Canada has a Chief Information Officer (CIO) at senior executive level in each agency. A Chief Information Officer at a whole-of-government level coordinates the activities of these officers and their agencies by setting broad strategic goals.
145. In Western Australia, the duties of a chief information officer should be vested in Chief Executive Officers and agency directors. The officer should be fully informed of the State’s electronic service delivery strategy and be responsible for the agency’s online service implementation.

## REGIONAL DEVELOPMENT PLANS, DECENTRALISATION vs CENTRALISATION

*Failure to provide equity of access is likely to drive population[s] to the larger centres and contribute to the decline of rural Australia<sup>37</sup>*

146. Equity of access to online technology and services should lead to increased access to jobs, in the form of online work, for those in regional Western Australia.

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<sup>37</sup> Digital Data Review Submission, op. cit., p.4

147. The Commonwealth Government has used information and telecommunications technology (ICT) to establish 22 Centrelink call centres in regional centres, including Bunbury, Western Australia. The ability of the technology to provide a rural emphasis and lower costs was a factor in Centrelink's decision. The result of the new regional call centres has been shorter wait times for callers, the ability to process more calls, more flexible hours and the creation of rural employment.
148. Private companies are also seeing the benefits of using technology to establish business in the regions. Ansett Australia established its call centre for Australia in Launceston, Tasmania and has thus created jobs in that State.
149. At the State level, Western Australia's *Telecommunications Strategy* supports online services to rural and remote areas and decentralisation. It aims to achieve '... Statewide service provision through the promotion of investment in public infrastructure and services and aggregation and rationalisation of government networks.'<sup>38</sup>
150. Government needs to put this strategy into practice by taking advantage of the increased opportunities for cost-effective, regionally-based service centres in the State. The opportunities have increased because the Federal Government has announced that it is committed to providing convenient and affordable bandwidth to all Australians, regardless of where they live or work.<sup>39</sup>

## REGULATORY ISSUES

151. Regulatory and legislative developments have not kept pace with the advances of electronic service delivery and Internet use. Areas that will need to be addressed expeditiously include -
  - financial administration legislation and regulations;
  - security; privacy; intellectual property;
  - accreditation and jurisdictional issues;
  - records management,
  - Medicare; and
  - a range of statutes.

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<sup>38</sup> Submission to the Telehealth Discussion Paper, Hon. Hendy Cowan MLA, Deputy Premier; Minister for Commerce and Trade; Regional Development; Small Business, 13 August 1998

<sup>39</sup> *ibid.*, p.4

## Patient Fees and Medicare

152. The Western Australian Treasury Department's 1997 Submission to the Commonwealth Grants Commission highlighted problems with the current Medicare fee structure, which it claimed had not yet been addressed by governments -

Currently, the basic rule to claim medical benefits is that the patient has to be physically in the same place as the doctor.<sup>40</sup>

153. Likewise, the House of Representatives Standing Committee on Family and Community Affairs Report, *Health on Line*, stressed the importance of resolving this issue -

Telehealth will not go beyond the pilot trial ... if it is not reimbursed through the MBS [Medicare Benefits Schedule]. As health technologies become increasingly part of the process of delivering health care, the question of payment will become more critical.<sup>41</sup>

154. The Hon. Kevin Prince, MLA, advised that a number of issues were being addressed at a national level by the Australian Health Ministers' Advisory Council, including Medicare payments.<sup>42</sup> Addressing the Medicare repayments schedule at the State level needs to occur in order for telehealth to be effective and accessible. There must be a certainty of remuneration for those health professionals who are prepared to offer telehealth services, and there must be an equitable outcome for those people who will rely on telehealth services.

### Recommendation 6:

**That the Western Australian Minister for Health make pursuing amendments to the Medicare Benefits Schedule a priority.**

## Financial Administration Legislation and Regulations

155. The *Financial Administration and Audit Act 1985* does not allow for an electronic mode of business in the public sector because it is premised on a paper system of signatures and paper trails of expenditure approval. In his report *Send me no paper!*, the Auditor General referred to the need for change in this area to allow for electronic transactions.

<sup>40</sup> Treasury Department Submission, op. cit., p.190

<sup>41</sup> House of Representatives, Standing Committee on Family and Community Affairs, *Health on Line - Report into Health Information Management and Telemedicine*, October 1997, AGPS - Canberra, p.109

<sup>42</sup> Submission, Hon. Kevin Prince, MLA, op. cit.

156. The Commonwealth Government's introduction of the *Electronic Transactions Bill 1999* seeks to overcome the barriers to electronic transactions contained in various legislation. The proposal for national uniform electronic transactions legislation, when taken up, will similarly overcome the impediments currently posed by Western Australia's *Financial Administration and Audit Act 1985*.

## ACCOUNTABILITY AND RECORD-KEEPING

157. The Committee was informed by people in Australia and overseas that the principles of accountability can be improved by Government going online.
158. The 1992 Royal Commission into Commercial Activities of Government and Other Matters stated that -

Proper record keeping serves two purposes. First, it is a prerequisite to effective accountability. Without it, the end purpose of FOI legislation can be thwarted. Without it, critical scrutiny by the Parliament, the Auditor General and the Ombudsman can be blunted. Secondly, records themselves form an integral part of the historical memory of the State itself. A record keeping regime which does not address both of these requirements is inadequate.<sup>43</sup>

159. The information economy will provide even more information and increased records management capability which the legislature and Auditor General can use to scrutinise government and hold government accountable.

### Finding 8:

**The shift from paper-based information and records to electronic information and records will not diminish records and accountability standards.**

## INFORMATION AS AN ASSET

160. The convergence of information technology, telecommunications and information means that the 'stored knowledge', or 'information repositories' of agencies could be accessed very efficiently. The information held by an agency may include -

public awareness/education information;  
regulatory, licensing, standards information;  
customer files; and  
industry and statistical information.

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<sup>43</sup> Report of the Royal Commission Into Commercial Activities Of Government and Other Matters, 12 November 1992, Part II, pp. 4-6, paragraph 4.3.2

161. Some types of information have long been publicly available via over-the-counter service, phone, or printed information. Online technology will increase the amount of information held by government. Additionally, it will increase the accessibility and value of information, where previously it was not thought to be of value.
162. Private sector organisations or individuals may decide that they can add value to the information held by a government agency. Consequently, Government will need to determine -
- what information should be accessible;
  - what the value of the information is; and
  - whether a fee should be charged to the entity or person wishing to access the information.

### **CURRENCY OF ONLINE INFORMATION**

163. Record-keeping is an important aspect of accountability. The currency of information is equally crucial. The widely held view is that out of date information is worse than no information at all. Moreover, Government may be held legally liable for incorrect information. Agencies will not only need to provide resources to put information online, but they will also need to provide the resources to ensure that the information is kept current.

#### **Recommendation 7:**

**Funding for online services should include provisions for maintaining the currency of information provided online.**



# APPENDIX 1

## INFORMAL BRIEFINGS AND FORMAL HEARINGS

DATE	
14 May 1997	<b>Informal Briefings</b> Prof. Dennis Moore, Chairman, Information Policy Council Mr Colin Gilbert, A/Director, Information and Communications Access Branch, Public Sector Management Office (PSMO) Mr Rod Smith, Project Director, Strategic Management and Evaluations Branch, PSMO
28 May 1997	<b>Informal Briefing</b> Mr Gary Ellis, Comswest
11 June 1997	<b>Informal Briefing</b> Mr Ivan Gustavino, Industry Development Strategist, IMAGO Multimedia Centre
12 June 1997	<b>Informal Briefing</b> Mr Alan Piper, Executive Director, Department of Contract and Management Services (CAMS)
14 July 1997	<b>Informal Briefing</b> Mr Arthur Wilson, Electronic Business Taskforce, Department of Commerce and Trade (DCT)
22 July 1997	<b>Informal Briefing</b> at Department of Land Administration (DOLA) Ms Jo Bryson
30 July 1997	<b>Formal Hearings</b> Mr Paul Houghton, Department of Transport Mr Arthur Wilson, Electronic Business Taskforce Mr Martin Roberts, Health Department of Western Australia Mr Mike Grant, IMAGO Multimedia Centre Mr Ivan Gustavino, Industry Development Strategist, IMAGO Multimedia Centre
31 July 1997	<b>Formal Hearings</b> Ms Gayle Short, Telecentres Team Leader, DCT Mr Chris Fitzhardinge, DCT Mr Colin Gilbert, Office of Information and Communications (OIC), DCT Mr Warwick Smith, OIC, DCT Mr Andrew Burke, Western Australian Land Information Systems (WALIS) Mr Mark Taylor, WALIS, DOLA
20 August 1997	<b>Formal Hearings</b> Mr Des Pearson, Auditor General for Western Australia Mr Mike Blake, Deputy Auditor General Dr Gordon Robertson, Deputy Auditor General Mr Andy Yukick, Assistant Auditor General

<p>17 September to 3 October 1997</p>	<p><b>Investigative Tour - Informal Briefings</b></p> <p><b><i>Edmonton, Alberta:</i></b></p> <p><i>Office of the Chief Information Officer:</i> Mr George Samoil, Chief Information Officer Ms Lisa Bowes, Director Policy Co-ordination</p> <p><i>Office of the Auditor General:</i> Mr Dave Henderson, Principal Mr Ken Hoffman, Assistant Auditor General - Performance Measures Mr Merwan Saher, Assistant Auditor General - Professional Practice Mr Nick Shandro, Assistant Auditor General - Health and Advanced Education</p> <p><i>University of Alberta:</i> Dr Lili Liu, Assistant Professor, School of Medicine, University of Alberta</p> <p><i>Alberta Education:</i> Mr John Travers, Chairman, School Technology Task Group</p> <p><b><i>Juneau, Alaska:</i></b> Mr David Blevins - Alaska Data Centre Manager, Government of Alaska Mr Mark Badger, Director, Information Services, Government of Alaska Video conference with Alaska Public Utilities Commission (Mr Phillip Treuer and Mr Bob Lohr) Mr Russ Webb, Deputy Commissioner of Health and Social Services Ms Pat Carr, Manager - Primary Care &amp; Health Promotion Unit Department of Education Senator Sean Parnell Lieutenant Governor Fran Ulmer</p> <p><b><i>Olympia, Washington:</i></b> Mr Todd Sander, Deputy Director, Department of Information Services Ms Rhonda Polidori, Operations Manager, Department of Information Services Mr Ralph Munro, Secretary of State Ms Linda Mackintosh, Director, Corporation, Trademark and Limited Partnership Mr Fred Kiga, Director, Department of Revenue Mr Steve Kolodney, Director, Department of Information Services Ms Clare Donahue, Chief Deputy Director, Department of Information Services Mr Joh Anderson, Assistant Director, Telecommunications Services Division, Department of Information Services</p> <p><b><i>Seattle, Washington</i></b> Ms Rona Zevin, Project Manager, City of Seattle</p> <p><b><i>Blacksburg, Virginia</i></b> Dr Andrew Cohill, Director, Blacksburg Electronic Village</p>
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11 March 1998	<b>Formal Hearing</b> Mr Stephen Collins, Executive Director, OIC, DCT
12 March 1998	<b>Formal Hearings</b> Ms Blanche Holzman, Computer Learning Centre Director Mr Kenneth Holzman, Computer Learning Centre Director Ms Jennifer Ligtermoet, FutureKids Computer Learning Manager
19 March 1998	<b>Formal Hearing</b> Dr Jann Marshall, Senior Professional Consultant, Health Department of Western Australia
9 April 1998	<b>Formal Hearing</b> Ms Cheryl Vardon - CEO, Education Department (EDWA) Mr Ron Mance - Executive Director, Business and Resource Management, EDWA Mr Neil Jarvis, Executive Director, Strategic Planning and Direction, EDWA
6 May 1998	<b>Formal Hearing</b> Mr Don Boyd, Acting Executive Principal, School of Isolated and Distance Education (SIDE) Mr Steve Salamon, Manager, Education Technology, SIDE
2 June 1998	<b>Formal Hearing</b> Mr Kim Snowball, Principal, Rural Health Development, Health Department
9 September 1998	<b>Formal Hearing</b> Mr Stephen Collins, Executive Director, OIC, DCT Mr Jo Blignaut, Team Leader, Industry Development, OIC, DCT
4 October 1999	<b>Formal Hearing</b> Mr Jo Blignaut, Acting Executive Officer, OIC, DCT Mr Tony Dean, Acting Team Leader, OIC Mr Mark Stevens, Officer, DCT



## APPENDIX 2

SUBMISSIONS				
No.	Date	Representative	Organisation	Subject
1.	21/07/99	Malcolm Mummery, Managing Partner	Jarvis Software	Telehealth
2.	29/09/97	Zak Zreikat, Senior Account Manager	GE Information Services	Telehealth
3.	03/09/97	Rick Finney		Telehealth
4.	07/05/98	Gerry Burns, General Manager	Murchison Health Service	Telehealth
5.	11/05/98	D J Fenwick, General Manager	Great Central Southern Health Service	Telehealth
6.	21/05/98	Wendy Trow, Telecentre Coordinator	Greenbushes Telecentre	Telehealth
7.	22/05/98	Dr Greg Down, Director	Western Australian Centre for Remote and Rural Medicine	Telehealth
8.	25/05/98	EJ Styants, Director	Peel Development Commission	Telehealth
9.	25/05/98	Prof. Louis Landau, Executive Dean	Faculty of Medicine and Dentistry, QEII Medical Centre, UWA	Telehealth
10.	27/05/98	Colin Morrison, Executive Officer Telecommunications Working Party	Wheatbelt Regional Development Commission	Telehealth
11.	25/05/98	T.M.H. Chakera, Assoc. Clinical Professor, Director Imaging Services	Royal Perth Hospital	Telehealth
12.	28/05/98	Pat J. Martin, Acting CEO	Sir Charles Gairdner Hospital	Telehealth
13.	02/06/98	Dr D. Russell-Weisz, Pilbara Representative	Rural Doctors' Association of WA	Telehealth
14.	undated	Marie McAllan, Remote Area Nurse Practitioner	Silver Chain	Telehealth

<b>SUBMISSIONS</b>				
<b>No.</b>	<b>Date</b>	<b>Representative</b>	<b>Organisation</b>	<b>Subject</b>
15.	16/05/98	Jane Mouritz, President	Hyden Resource and Telecentre Inc.	Telehealth
16.	02/06/98	Don Boyd, Acting Director	School of Isolated and Distance Learning	Distance Education
17.	03/06/98	Shane Matthews, General Manager	Avon Health Service	Telehealth
18.	04/06/98	Michele Kosky, Executive Director	Health Consumers' Council	Telehealth
19.	08/06/98	R.B. Hitchens, CEO	Nurses Board of WA	Telehealth
20.	08/06/98	Bret Hart, Director	Coastal and Wheatbelt Public Health Unit	Telehealth
21.	09/06/98	Des Hutchinson, Secretary Radiological Council	Health Department of WA	Telehealth
22.	09/06/98	Maynard Rye, Acting CEO	Great Southern Development Commission	Telehealth
23.	09/06/98	Mr Ernest Krogdahl, Ms Monica Mullane, Registered Nurse	Albany Regional Hospital Board Health Centre, Bremer Bay	Telehealth
24.	09/06/98	Wayne Morgan, CEO	Mid-West Development Commission	Telehealth
25.	09/06/98	Susan Henderson, Chairperson	Bremer Bay Community Resource Centre	Telehealth
26.	10/06/98	Dr Ralph Cooper	Hopetoun Telecentre	Telehealth
27.	10/06/98	Desmond Williams, Managing Director	Healthcare Asia Pty Ltd	Telehealth
28.	11/06/98	Neville Davidson, Deputy CEO	Shire of Meekathara	Telehealth
29.	11/06/98	Steve Halligan, Information Systems Consultant	Eastern and Central Wheatbelt Health Services	Telehealth
30.	11/06/98	Hon. Norm Kelly, MLC	Australian Democrats	Telehealth
31.	11/06/98	Richard Muirhead, CEO	Department of Commerce and Trade	Telehealth

<b>SUBMISSIONS</b>				
<b>No.</b>	<b>Date</b>	<b>Representative</b>	<b>Organisation</b>	<b>Subject</b>
32.	June 98	Robyn McCrane, Acting CEO	Pilbara Development Commission	Telehealth
33.	12/06/98	Dr E. Olszewski, WA Chair, National Informatics Committee	Royal Australian College of General Practitioners	Telehealth
34.	12/06/98	Roger Forte	Perenjori Telecommunications and Recourse Centre Inc.	Telehealth
35.	12/06/98	Anne Riordan, Senior Policy Officer	Kimberley Health Service	Telehealth
36.	12/06/98	J.V. Burns, Chairperson	Government Health Supply Council	Telehealth
37.	16/06/98	Lillias Bovell, Policy Manager	Western Australian Municipal Association	Telehealth
38.	16/06/98	Ian Satchwell, CEO	The Chamber of Minerals and Energy of WA Inc.	Telehealth
39.	16/06/98	Cheryl Vardon, Director-General	Education Department of Western Australia	Telehealth
40.	16/06/98	David N. Adamthwaite, Specialist Surgeon	St John of God Hospital, Bunbury	Telehealth
41.	17/06/98	Peter Newby, Telepsychiatry Project Officer	Mental Health Division	Telehealth
42.	17/06/98	Prof. Ian Constable, Director	Lions Eye Institute	Telehealth
43.	18/06/98	The Hon. Mike Board, MLA	Minister for Works; Services; Youth and Multicultural Affairs	Telehealth
44.	19/06/98	The Hon. Kevin Prince, MLA	Minister for Health	Telehealth
45.	22/06/98	G.J. Baesjou, Regional Manager	Goldfields Esperance Development Commission	Telehealth
46.	25/06/98	Dr Johnny Walker, Diagnostic Imaging Specialist	Imaging the South	Telehealth
47.	13/07/98	The Hon. Mike Board, MLA	Minister for Works; Services	Tele-education
48.	04/08/98	The Hon. Simon O'Brien, MLC	Member for South Metropolitan Region	Tele-education

<b>SUBMISSIONS</b>				
<b>No.</b>	<b>Date</b>	<b>Representative</b>	<b>Organisation</b>	<b>Subject</b>
49.	06/08/98	Prof. Millicent E. Poole, Vice-Chancellor	Edith Cowan University, Perth	Tele-education
50.	06/08/98	Bianca James, Co-ordinator	WA Telecentres	Westlink, TAFE Communication Network
51.	10/08/98	Alan Bansemer, Commissioner of Health	Health Department of Western Australia	Tele-education
52.	11/08/98	Kelly Edwards, Project Manager - Virtual Campus	Central West College of Tafe	Tele-education
53.	13/08/98	Graham Wilks, Chairman	Mid West Communications Working Group	Tele-education
54.	13/08/98	The Hon. Hendy Cowan, MLA	Deputy Premier, Minister for Commerce and Trade; Regional Development; Small Business	Telehealth
55.	14/08/98	Chris White, Director - Information	WorkSafe Western Australia	Tele-education
56.	20/08/98	Prof. Alan Robson, Acting Vice-Chancellor	The University of Western Australia	Tele-education
57.	25/08/98	The Hon. Graham Kierath, MLA	Minister for Employment and Training	Tele-education
58.	Aug 1998	Cheryl Vardon, Director-General	Education Department of Western Australia	Tele-education
59.	02/09/98	T.M.H. Chakera, Director of Imaging Services	Royal Perth Hospital	Telehealth
60.	25/08/98	David G. Carey, CEO	Shire of Asburton	Online in general



## APPENDIX 3

### AUSTRALIA: FEDERAL GOVERNMENT ACTION AND REPORTS

#### *Reports affecting Australia's position in the online information economy*

Various reports and task groups commissioned by the Federal Government and the Parliament have identified the need for a strategic and structural level approach to the online economy.

#### *Goldsworthy Report*

The *Goldsworthy Report*<sup>44</sup> (1997) called for the Federal Government to appoint a Cabinet level Minister for information industries, stating that,

The effective use of information technology will underpin the international competitiveness of almost every business and industry. It will be central to education, health care, leisure, entertainment, government and daily living...<sup>45</sup>

#### *Information Policy Advisory Council*

The *Information Policy Advisory Council* (IPAC) was established by the Minister for Communications and the Arts in August 1996, to advise the Commonwealth Government on all the social, technological and regulatory issues emerging from the rapid development of online services.

In IPAC's *Report on Online Infrastructure And Services Development in Regional And Rural Australia*, key recommendations were based on a number of objectives, including -

- ▶ *defeating the tyranny of distance* — whereby government was encouraged to have a vision of giving regional Australia the opportunity to go online and become “location independent”;
- ▶ *developing a services-driven approach* — targeting support to what people really want; and
- ▶ *putting government online* — recognising the scope for online delivery to enhance the quality and reach of government services, and the considerable leverage government usage provides in shaping the demand environment.<sup>46</sup>

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<sup>44</sup> Professor Ashley Goldsworthy, Chairman, Information Industries Taskforce, 24 August 1997

<sup>45</sup> Chairman's forward to Minister for Industry, Science and Tourism, p.I

<sup>46</sup> Information Policy Advisory Council (IPAC), *Report on Online Infrastructure And Services Development in Regional And Rural Australia*, May 1997

Acknowledging that individuals and businesses in rural areas face tyrannies of distance, isolation, high costs and second-rate services, the members of the IPAC believed that the “communications revolution” could change this. Their vision was to make all Australians “location independent” in terms of access to affordable services, closeness to each other and to the worlds of learning, commerce, healthy living and entertainment. They saw rural communities, government agencies, service providers and industry working together to break down the barriers between metropolitan and country Australia.

### ***National Office of Information Economy (NOIE)***

On 17 September 1997, the Federal Government appointed a Minister for the Information Economy (Senator The Hon. Richard Alston). The National Office of Information Economy (NOIE) was established following this appointment. NOIE is the government body responsible for developing strategies to address the key issues arising from the convergence of the information economy, information technology and telecommunications.<sup>47</sup>

The Commonwealth Government proclaimed 1999 Online Australia Year and has developed an awareness raising campaign and a number of other initiatives, including the creation of a national program of events for the months March through November 1999. The programs have themes relating to key issues developed in the Government’s Strategic Framework for the Information Economy (launched on 7 January 1999).<sup>48</sup> Online Australia Year is being co-ordinated in conjunction with the states and territories.

### ***Ministerial Online Council***

Chaired by the National Office of the Information Economy, the Ministerial Online Council was established following agreement by the states, territories and local government that co-operation on online issues is needed to promote consistency at a national level. Senior ministers from the states, territories and local governments meet twice a year to discuss policy issues related to the information economy. Western Australia is represented by the Deputy Premier. The Ministerial Council brings jurisdictional representatives together to consider -

strategies from the electronic services delivery working group;  
interoperability;  
legal and operational issues of how States can work together; and  
electronic commerce.

The Ministerial Online Council is an opportunity for Western Australia to increase the pace of implementation of online services knowing that issues of legal concern and interoperability across State borders are being considered and addressed.

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<sup>47</sup> See NOIE website: <http://www.noie.gov.au>

<sup>48</sup> See website: <http://onlineaustralia.net.au/about.html>

### ***Regional Telecommunications Infrastructure Fund (RTIF)***

The Federal Government's "Networking the Nation" Regional Telecommunications Infrastructure Fund (RTIF) has committed a pool of funds for "community-based projects" such as Telehealth that can be tapped into by states, including Western Australia. The Federal Government committed \$26.5 million of the RTIF to Western Australia; notably, almost twice that amount was allocated to Tasmania.

The RTIF is a positive initiative by the Federal Government. Western Australia has been slow to take advantage of the financial assistance on offer as a result of its delay in developing an online strategy and prioritising State funding commitments.

### ***Government Information Technology Online Program (ITOL)***

The Federal Government has also set up an annual grants program to encourage small and medium businesses to get online. In March 1999, the Federal Government announced \$950,000 worth of grants to 13 successful projects. ITOL matches funding from industry consortia to support innovative electronic commerce projects. The grants provide catalytic seed funding to support collaborative ventures that accelerate the adoption of online solutions across the business community.<sup>49</sup>

### ***Electronic Transactions Bill 1999***

Introduced to the House of Representatives on 30 June 1999, the *Electronic Transactions Bill 1999* seeks to provide a regulatory framework that -

- (a) recognises the importance of the information economy to the future economic and social prosperity of Australia; and
- (b) facilitates the use of electronic transactions; and
- (c) promotes business and community confidence in the use of electronic transactions; and
- (d) enables business and the community to use electronic communications in their deals with government.<sup>50</sup>

The essence of the Bill recognises the need for flexibility for business and the community that electronic transactions offer and therefore removes legal impediments to electronic transactions and facilitates the growth of electronic commerce in Australia.

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<sup>49</sup> [Http://www.dca.gov.au/nsapi-text/](http://www.dca.gov.au/nsapi-text/)

<sup>50</sup> *Electronic Transactions Bill 1999*, clause 3, p.2

Attorney General Darryl Williams, in his second reading speech, said that the Bill -

is based on two fundamental principles. The first is 'media neutrality', which means that paper based commerce and electronic commerce should be treated equally by the law. Secondly, the principle of 'technology neutrality' ensures that the law does not discriminate between different forms of technology.<sup>51</sup>

The Commonwealth Government recognised the need for consistency both internationally and nationally in relation to electronic transactions. At the international level, the *Electronic Transactions Bill 1999* is based on the Model Law on Electronic Commerce prepared by the United Nations Commission on International Trade Law. At the State level, "this Bill is the blueprint for national uniform legislation for electronic transactions."<sup>52</sup>

### **Conclusion**

Though many of these initiatives are new, the Federal Government is acting quickly to lead the country in getting online. Through both the leadership that is being shown by the Minister for the Information Economy and through the programs that his office and other departments have been implementing, it is clear that the Federal Government is demonstrating its commitment to, and fostering a sense of confidence in, online technology.

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<sup>51</sup> Mr Williams. *Hansard*. 30/06/99. [Http -//each.aph.gov.au/search/ParlInf...999/Budget/30+June+1999&action=view&WCU](http://each.aph.gov.au/search/ParlInf...999/Budget/30+June+1999&action=view&WCU)

<sup>52</sup> *ibid.*

## APPENDIX 4

### AUSTRALIAN STATES

The Committee found that strategic responses to the online environment were adopted by some States of Australia more than three years ago. In most of these strategies there has been a priority for Government to get its own services online.

#### *Victoria*

In Victoria, the Government's online and multimedia policy, *Victoria 21*, was launched in 1995. The objectives of the policy include -

- to have all Government services online by 2001; and
- to attract information, online technology industries, multimedia industries.

Responsibility for achieving the policy objectives rests with every agency, but the driver for change and co-ordination is the Office of Multimedia Victoria. An important feature of the Office is that it reports directly to the Minister for Multimedia, who was also the Treasurer of Victoria.

In 1996, the Victorian Government committed \$32m to multimedia initiatives. The objective was to attract information and technology industries. This has been achieved in part by commissioning projects such as the tele-kiosk project, which puts suburban and rural communities online to government and private sector businesses. The Government has used its leverage as a purchaser of online technologies to promote new industry in the State. Other initiatives, at a legislative level, include the issues of privacy and data protection.

#### *South Australia*

The South Australian Government has created 'South Australia Central', a comprehensive index of South Australian information, websites and online resources from business, community and Government, currently indexing over 3000 websites.<sup>53</sup> In 1993, the Government announced its *IT 2000 Strategy*, making South Australia the first state to identify information technology and the information economy as a key economic driver. As part of this commitment, a Minister for the Internet was appointed and subsequently replaced with a Minister assisting the Premier on the Information Economy.

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<sup>53</sup> [Http:// www.sacentral.sa.gov.au](http://www.sacentral.sa.gov.au), 29/7/99

### ***Queensland***

The *Information Queensland* policy was launched by the Government on 11 August 1997. It was a three year strategic plan to improve IT&T infrastructure and service delivery. The policy emphasised -

- improving rural and regional telecommunications services;
- transforming government service delivery; and
- developing new IT&T skills within government departments.

A significant feature of the policy was the Government's efforts to boost exports of IT/health care exports. The Government spent \$53 million on a digital infrastructure across the State. A major achievement has been the establishment of a large number of telemedicine sites in rural and remote areas providing online access to specialists in areas such as psychiatry, pathology and oncology.

### ***Tasmania***

For approximately two years Tasmania has been implementing a high speed digital infrastructure strategy in tandem with an industry attraction program. One of the outcomes of this strategy has been Ansett Australia's decision to locate its Australian call centre in Launceston, generating 200 jobs.

More recently the State Government established the 'Service Tasmania Shop' initiative, which has a web presence as well as several shop-fronts in regional areas. The initiative provides customers with access to a one-stop-shop of many government services, reducing the duplication of transactions. The service is supplemented by the Government's virtual shop on the Internet and the Interactive Voice Response telephone service, which enables customers to pay various registrations, licences and fines online.<sup>54</sup>

### ***New South Wales***

In late December 1997, the NSW Government released a comprehensive document entitled *connect.nsw*, which is described as the 'vision for an on line State'. The *connect.nsw* strategy details four interlinked strategies -

- Integrated Government — ensuring greater information sharing between local, state and federal governments;
- Electronic Service Delivery — delivering customer-focused government services and information throughout NSW;
- Electronic Commerce — implementing electronic commerce throughout NSW;
- Networked communities — improving the quality of life in regional, rural and metropolitan NSW.

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<sup>54</sup> [Http://www.servicetasmania.tas.gov.au](http://www.servicetasmania.tas.gov.au), 29/7/99

The driver of the strategies was a standing committee of CEOs, which was chaired by the Director General of the Premier's Department and whose role was to oversee the implementation of 'connect.nsw'.

Recent initiatives of note include the ability to access real time streaming video of sittings of the Parliament, transport timetables and an automobile 'Trip Time Calculator'. In February 1999, the Government announced an extension to 61 the number of telemedicine sites in the State. At the time of the announcement there were 41 telemedicine sites providing ophthalmology, oncology, radiology, ultrasound and pathology services.

### ***Australian Capital Territory***

The Australian Capital Territory has established a web page which includes community and business links. The ACT Government's policy is for the majority of government-business transactions to be available online by 2001.<sup>55</sup>

Presently, 'AUSTOUCH' kiosks enable customers to pay utilities' bills, taxes and fines electronically using EFTPOS cards. In addition to this service, the Government has made a number of applications and other forms available electronically, in areas such as conveyancing and property sale declarations.

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<sup>55</sup> <http://www.business.gateway.act.gov.au>, 29/7/99





## **APPENDIX 5**

### **INTERNATIONAL EXPERIENCE**

The Committee witnessed many examples of government services online in North America. The Canadian province of Alberta and the American state of Alaska were visited because of their advanced status of government online and their environmental similarities to Western Australia, including -

- large geographic areas, with many remote and isolated communities;
- a history of economic reliance on the natural resources sector; and
- federal structures of government, where some issues, such as telecommunications, are regulated by the federal government, whilst other responsibilities, such as health care and education, are the responsibility of the states/provinces.

#### **Alberta, Canada**

The Committee was impressed by the health service being developed and delivered by the Telehealth Technology Research Institute and Faculty of Medicine at the University of Alberta, Edmonton. The Committee viewed a telehealth system in action in which the University was online with video and audio with a remote nursing station in a remote town in the north of Alberta. The nurse practitioner and patient in the remote nursing station were able to communicate with the specialists at the University, download medical data from the testing done by the nurse and undertake real time diagnosis.

The benefits of this system include -

- overcoming the chronic shortages of general practitioners and specialists in rural and remote areas;
- improvement of medical services;
- savings in patient travel costs; and
- savings in medical evacuation costs.

Alberta further demonstrated its commitment to getting core services online by the Education Department putting its curriculum and administration online.

At a strategic government level, Alberta impressed the Committee because of the emphasis placed on the role of the 'Chief Information Officer' in each government agency and the co-ordinating role played by the Chief Information Officer of the province.

According to the 1997-2000 Business Plan from the Alberta Office of the Chief Information Officer, the Alberta Government is that province's largest consumer of information technology and telecommunications.<sup>56</sup> That in itself provides an impetus for efficiencies; however, the Committee noted that, in Alberta, the desire for efficiencies was not the sole factor driving the provision of government services online. The drivers of change in Alberta, according to the Chief Information Officer, have largely been -

better delivery of services;  
opportunities for economies; and  
shortage of funds and threat that some services would not be delivered at all without alternative means of delivery.

### **Alaska, USA**

In Alaska, where regional infrastructure, the provision of online services to regional areas and telecommunications issues are paramount, the Government has responded to the sorts of challenges also faced by the Western Australian Government. One of the basic aims of the Government's strategy is to change the way agencies see technology and the way in which government services are viewed. This has been reflected in the way the Alaskan Government has encouraged co-operative partnerships with the private sector, such as with telecommunications providers, which has been expressed as the "building of consortiums".

Underpinning this process is the Alaskan Government's *Telecommunications and Information Technology Plan*,<sup>57</sup> which has an emphasis on -

planning — the objective of a single window of online services;  
public/private responsibilities — the interoperability of systems across economic sectors for the benefit of all; and  
bandwidth and access — the pursuit of infrastructure solutions based on a flexible approach to the type of technologies used and aggregation of demand across sectors.

### **Virginia, USA**

The Committee also visited the Blacksburg Electronic Village (BEV) in south-western Virginia, which is a project designed to link an entire town with a 21st century telecommunications infrastructure. In 1991, the local university, Virginia Tech, which had a campus-wide voice/data network available to faculty, staff and students, brokered a partnership with Bell Atlantic, a local telephone company, to offer Internet access to every citizen in town. By 1997, more than 60

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<sup>56</sup> Office of the Chief Information Officer, Alberta, *Business Plan 1997-2000* (<http://www.gov.ab.ca/~cio/irm/bizplan.html>) 26/8/97

<sup>57</sup> Lt Governor Fran Ulmer, Chair, Telecommunications Information Council, *State of Alaska Telecommunications and Information Technology Plan*, undated

percent of Blacksburg's 36,000 citizens were using the Internet on a regular basis. In addition, more than 70 percent of all businesses in the Blacksburg area advertised online, taking advantage of the town's intranet. The development of the intranet was said to have helped in retaining the sense of community and the viability of local businesses in tandem with the people's ability to access global information and businesses.

### **Washington State, USA**

The Committee found different motives for government going online in Washington State, primarily relating to the goal of increasing service efficiency. In Washington State, the Government and legislature have to rise to respond to the challenge of providing increased services for the fourth fastest growing economy in the USA.

The State of Washington expects continued strong growth and cannot afford to keep building more and more classrooms to meet increasing education demands. With a high computer ownership rate (35 percent of households and growing in 1997) the cost-effective solution has been to provide more online education.

A further example of the efficient application of online services was the process of accessing and submitting tax returns online. This has reduced compliance costs for businesses in Washington State.

### **City of Seattle**

The City of Seattle has placed much of its information online, including licensing forms for citizens and businesses. Other significant features include extensive online transport services, including vision of 'real time freeway traffic flow' in the Seattle and Tacoma areas. Other practical information, such as lists of city email addresses and phone numbers and employment notice boards are services that further reduce administrative pressures on the City whilst providing 24 hour a day access for citizens.



## APPENDIX 6

### THE CASE FOR TELEHEALTH

#### Introduction

In pursuing its inquiry, the Committee examined in considerable depth two important services that could be delivered online — health and education — to see what the Western Australian Government had done in relation to online service provision and what the expert advice in the field was in relation to the status quo and the potential benefits of telehealth and tele-education. Having witnessed successful examples of telehealth and tele-education services overseas, the Committee produced discussion papers on telehealth and tele-education in 1998 and called for submissions. What follows is the outcome of that process.

#### Telehealth

On 30 April 1998, the Committee tabled a Telehealth Discussion Paper and sought feedback from the public on a range of issues relating to the provision of health services online. The Discussion Paper highlighted a number of key issues and challenges which the Committee argues need to be addressed if telehealth is to be given the opportunity to deliver health services efficiently, effectively and equitably. The Committee received a total of 43 submissions from a range of individuals and organisations and took oral evidence from five people in relation to this topic (see Appendices 1 and 2). The majority of respondents were generally supportive of the implementation of telehealth.

#### What is Telehealth?

Telehealth is a way of providing health services using technology. Dr Jann Marshall describes telehealth as ‘health-related activities between two or more locations at a distance using technology assisted communication.’<sup>58</sup> Its aim should be threefold — to improve the quality of health care; to improve the efficiency of health service delivery; and to provide services where none currently exist.

A combination of technical advances in telecommunications, multimedia and medical equipment have vastly increased the potential range and quality of health service provision, especially to rural and remote areas. Not only does this create unparalleled opportunities for the State, but it also enables Western Australia to access and deliver online health services, both nationally and internationally.

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<sup>58</sup> Transcript of Evidence, 19 March 1998, p.1

Telehealth uses a variety of technologies to deliver health services and information, such as land-line and microwave links, satellite, wireless telephone and the Internet. Through these applications, telehealth facilitates the delivery of a wide range of services to health providers and consumers, including -

- consultations;
- patient support and advice;
- doctor support and advice;
- remote patient management and follow-up;
- medical image and data transfers;
- counselling;
- teaching and training;
- administration and meetings; and
- access to databases and information.<sup>59</sup>

Telehealth incorporates a range of disciplines, including maternal and child care, speech therapy, cancer management, psychiatry, dermatology, radiology, alcohol and drug services, cardiology and renal medicine. It can be used in a variety of settings, including community centres, remote industrial/mining sites, general practices, regional and teaching hospitals, universities and other teaching centres, prisons and in the home.<sup>60</sup>

In short, telehealth aims to improve access to, and equity in, health services by increasing the availability, accessibility, efficiency, adaptability and affordability of services and reducing social dislocation for those in rural and remote communities.<sup>61</sup>

The Western Australian Department of Health has had a Telehealth strategy in place since 1997. The strategy has been independently audited with positive findings on at least two occasions (*see Chapter 2*). However, the strategy is yet to be implemented. In 1999, the Office of Information and Communications (OIC) took carriage of the telehealth pilot initiative with the transfer of staff and budget from the Health Department. The initiative received financial support from the federally funded Regional Telecommunications Infrastructure Fund (RTIF), conditional upon matching funding from the State Government. When the Committee released its *Telehealth Discussion Paper* in April 1998, no decision had been made. In 1999, RTIF funding was awarded to the Health Department and a Memorandum of Understanding (MOU) was signed between the RTIF and the Commissioner for Health on 20 September 1999 (see Chapter 3).

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<sup>59</sup> Health Department of Western Australia (May 1997) *Telehealth Expo Success* (<http://www.health.wa.gov.au/healthv/autumn97/telexpo.html>)

<sup>60</sup> Dr Jann Marshall 'Telehealth in Western Australia' *Connection*, 2 February 1997, p.4

<sup>61</sup> Health Department of Western Australia (March 1997) *Uses of Telehealth* (<http://www.health.wa.gov.au/telehealth/uses.html>)

## The Case for Telehealth

The case for Telehealth in Western Australia — a State characterised by its immense size, geographic isolation and dispersed population — is readily apparent. These factors have contributed to a lower standard of health services in Western Australia than those experienced by residents in most other Australian States and with concomitantly higher health costs.

The Western Australian Government, as with other State governments, is required under the Medicare Agreement to provide a full range of public hospital inpatient and outpatient services to people living in all parts of the State.<sup>62</sup> The Western Australian Treasury Department's 1997 submission to the Commonwealth Grants Commission noted that -

... meeting these obligations requires significantly greater expenditure than is the case for other States. The key reason is the extra cost borne in providing services to people who are spread across a huge geographic area in many small towns and Aboriginal communities and outstations.<sup>63</sup>

According to the Treasury Department submission, Western Australia lags behind the other States in many areas of health service delivery. For example, Western Australia has a much lower number of general practitioners (GPs) in the State's rural and remote areas than elsewhere in Australia. Statistics taken from the 1991 Census reveal that Western Australia had six of the ten regions in Australia with the lowest per capita number of GPs.<sup>64</sup>

It was also shown in another study that Western Australia had a lower provision of specialist services than other States, which was especially acute in rural and remote areas.<sup>65</sup> For example, while Perth had 79.1 specialists per 100,000 population, specialists in the rest of the State only numbered 15.9 per 100,000 population.<sup>66</sup> Moreover, the Treasury Department noted that '... there are no private specialists in any speciality in Western Australia located north of the 26th parallel.'<sup>67</sup>

The town of Perenjori is an example of a town suffering from a lack of general and medical services. Mr Roger Forte, Chairperson of the Perenjori Telecentre, explained in a submission to the Committee that, '... from June 30, 1998, the total number of medical facilities in Perenjori will reduce from one to zero, as the part time general practitioner operating two mornings per

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<sup>62</sup> Treasury Department (1997) *Western Australia's Submission to the Commonwealth Grants Commission 1999 Review*, p.181

<sup>63</sup> *ibid.*

<sup>64</sup> *ibid.*, p.152

<sup>65</sup> Quoted in Treasury Department submission, *ibid.*, p.156

<sup>66</sup> *ibid.*, p.157

<sup>67</sup> *ibid.*, p.156

week is withdrawing all services based in Perenjori.<sup>68</sup> In addition, as specialist medical services do not exist, residents have to travel to Geraldton or Perth whenever these services are required.

Coupled with a shortage of doctors and specialists in rural and remote Western Australia is the related problem of retaining health professionals in these areas. Many small towns and communities are unable to support a GP, let alone specialists, because of population size. Similarly, many health professionals are reluctant to establish a practice in a rural or remote area because of professional and social isolation and lack of amenities.<sup>69</sup> The consequence of this is that, as the Treasury Department noted, significant costs are borne by Western Australia in transporting medical staff around the State. For example, it was estimated that the total cost of staff transport to and within remote areas in 1994-95 was in excess of \$5.3 million.<sup>70</sup>

Transporting patients was also a significant expense, given the distances of some remote parts of the State to Perth and other major regional centres. The Treasury Department pointed out that '[i]t is not feasible, due to small population size, to deliver the most complex procedures outside of Perth.'<sup>71</sup> Transporting patients included the cost of travel by the Royal Flying Doctor Service (RFDS), commercial airline or road, plus any accommodation costs incurred by patients and escorts.

<b>WA State Funding for Patient Transport and Accommodation, 1995-96</b>	
<b>SERVICE</b>	<b>COST</b>
<b>Royal Flying Doctor Service<sup>72</sup></b>	<b>\$6.5m</b>
<b>Patients Assisted Travel Scheme<sup>73</sup></b>	<b>\$5.1m</b>
<b>St John's Ambulance<sup>74</sup></b>	<b>\$9.5m</b>
<b>Intrastate Hospital Transfers</b>	<b>\$2.2m</b>
<b>TOTAL COST</b>	<b>\$23.3m</b>

<sup>68</sup> Submission, Mr Roger Forte, Chairperson, Perenjori Telecommunications and Resource Centre Inc., 12 June 1998

<sup>69</sup> Treasury Department submission, op.cit., p.153

<sup>70</sup> *ibid.*, p.186

<sup>71</sup> *ibid.*, p.184

<sup>72</sup> Of the total RFDS funding, the contribution breakdown is - WA Government 45%, Commonwealth 45% and RFDS 10%.

<sup>73</sup> Implemented in 1987, PATS provides assistance to country residents who need to access specialist medical services not available locally. Financial assistance is available for travel and accommodation expenses, both for patient and escort, when required.

<sup>74</sup> Represents only part of the total funding.



## Benefits of Telehealth

Many submissions to the Committee commented on the potential benefits of telehealth.

In relation to the RFDS and Telehealth, Mr Kim Snowball, Principal, Rural Health Development, Health Department of Western Australia, commented in evidence - 'It should improve the service. RFDS clinicians would be enormously assisted by the system. ... With this sort of technology available, they will be able to do more of the diagnostic-type activities from elsewhere and will be better equipped.'<sup>75</sup>

Mr Snowball estimated that if the 50 percent reduction in evacuations experienced by Alberta, Canada was applied to Western Australia, then the expected cost reduction would be roughly \$2 million to \$2.5 million to the State per annum.<sup>76</sup>

In relation to the Patients Assisted Travel Scheme (PATs), Mr Snowball commented in evidence that '[i]t would reduce the costs because PATs is all about outpatient visits to specialists. In that respect, you would expect telehealth will be able to provide that service as opposed to sending people to Perth especially for that consultation service.'<sup>77</sup>

In supplementary correspondence, Mr Snowball claimed that while it would be difficult to quantify expected savings from PATs, it was possible to expect some significant savings. Out of a total expenditure of around \$6.8 million, the largest portion of this was represented by expenditure in the north west of Western Australia, where most people travelled by air at significant cost. Using the same outcome for PATs as he used for the RFDS, Mr Snowball estimated savings between \$3.5 million and \$4 million could be achieved.<sup>78</sup>

While the two examples above relate to the potential for cost savings through the use of Telehealth, it would be unrealistic not to acknowledge that Telehealth would be expensive in other areas. As Mr Snowball admitted, '... it is dangerous to expect it to be a cost-reduction measure in its own right.'<sup>79</sup>

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<sup>75</sup> Transcript of Evidence, 2 June 1998, p.5

<sup>76</sup> Supplementary information, Mr Kim Snowball, Principal, Rural Health Development, Health Department of WA to Mr Andrew Young, Senior Research Officer, PAERC, 7 July 1998

<sup>77</sup> Transcript of Evidence, 2 June 1998, p.6

<sup>78</sup> Supplementary information, Mr Kim Snowball, op.cit.

<sup>79</sup> Transcript of Evidence, 2 June 1998, p.6

For these reasons, telehealth should be seen as an adjunct or enhancement to existing health services, not as a replacement. As the Treasury Department acknowledged, 'Telehealth supplements, but does not substitute for, face-to-face medicine.'<sup>80</sup> Ms Michele Kosky echoed this concern in her submission 'There is great concern expressed by communities that video screens will replace the doctor/patient, nurse/patient and or health worker/patient relationship.'<sup>81</sup>

Mr Richard Muirhead, Chief Executive Officer of the Department of Commerce and Trade, highlighted the following benefits of a telehealth service -

health services provided at a rural and remote level;  
cost savings through numbers of patients not being required to relocate to a suitable treatment point;  
social benefits through enabling seriously ill persons to retain family support; and  
possible willingness of more people and industry moving to remote locations if such services were evident.<sup>82</sup>

Ms Anne Riordan, Senior Policy Officer at the Kimberley Health Service, claimed that problems in health care delivery in the region that would be addressed by telehealth included -

recruitment and retention of quality staff;  
professional isolation;  
professional development;  
recreational diversity and personal development;  
orientation and training of new remote staff;  
access to specialists; and  
access to diagnostic technology.<sup>83</sup>

Mr G. Baesjou, Regional Manager, Southern Region, Goldfields Esperance Development Commission, highlighted a number of benefits of telehealth -

telehealth would encourage general practitioners to take up practice in regional areas, as it would enable them to maintain their currency by providing access to specialist advice and services and immediate online support for routine and non-routine occurrences;  
telehealth would reduce travel and accommodation costs and avoid possible losses of income incurred through absences from work;  
people in remote areas would be more encouraged to seek immediate help, rather than wait until the next journey to a regional centre or resort to self help;

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<sup>80</sup> Treasury Department submission, op.cit., p.189

<sup>81</sup> Submission, Ms Michele Kosky, Executive Director, Health Consumers' Council, 4 June 1998

<sup>82</sup> Submission, Mr Richard Muirhead, Chief Executive Officer, Department of Commerce and Trade, 11 June 1998

<sup>83</sup> Submission, Ms Anne Riordan, Senior Policy Officer, Kimberley Health Service, 12 June 1998

costs to employers through time lost through injury or sickness may be reduced; and online services may reduce demand on the patient assisted travel scheme and Royal Flying Doctors' Service resources.<sup>84</sup>

Ms Lillias Bovell, Policy Manager, Western Australian Municipal Association, wrote that telehealth could play a role in -

- health education to schools;
- clinics within a district for those unable to travel;
- clinics within schools;
- specialist services from GP surgeries;
- professional development;
- notifiable disease reports;
- remote onsite liaison with Aboriginal Environmental Health Workers; and
- actioning food recall notification.<sup>85</sup>

The City of Stirling pointed out that telehealth could enable -

- prompt laboratory notification of infectious diseases, resulting in reduced lag time between the notification of the illness and the required identification;
- prompt laboratory notification of the results of environmental waters testing and cooling tower sampling;
- valuable for receiving and actioning food recall notification;
- colleague collaboration allowing for regular discussions on public and environmental health matters; and
- access to information, especially epidemiology data.<sup>86</sup>

A number of submissions suggested that telehealth could assist in retaining doctors in regional and rural centres. For example, Dr Greg Down, Director of the Western Australian Centre for Remote and Rural Medicine, felt that telehealth '... has immense potential to improve retention of doctors in rural areas and to enable them to maintain their expertise and skills.'<sup>87</sup> They would also have the ability to get second opinions and to review cases.

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<sup>84</sup> Submission, Mr G.J. Baesjou, Regional Manager - Southern Region, Goldfields Esperance Development Commission, 22 June 1998

<sup>85</sup> Submission, Ms Lillias Bovell, Policy Manager, Western Australian Municipal Association, 16 June 1998

<sup>86</sup> *ibid.*

<sup>87</sup> Submission, Dr Greg Down, Director, Western Australian Centre for Remote and Rural Medicine, 22 May 1998

Likewise, Mr Ian Satchwell, Chief Executive Officer of The Chamber of Minerals and Energy, stated that -

The ability to access comprehensive and up to date health information and advice will assist the health professional and patient located at the remote end of the system. To the extent that the health professional is therefore less isolated professionally this proposal will encourage such professionals to locate to, or remain in, a remote area.<sup>88</sup>

In relation to telepsychiatry, Mr Peter Newby, Telepsychiatry Project Officer - Mental Health Division, Health Department of Western Australia, outlined some of the envisaged scenarios -

the creation of a 'virtual outpatient' service with the ability for rural and remote professionals to book psychiatrist time slots for patients where such services were not locally available temporarily or permanently; and  
emergency daytime and after hours 'virtual' assessments utilising metropolitan hospital based Psychiatric Registrars, Consultants and others to outlying centres.<sup>89</sup>

Mr Newby also pointed out that reducing the professional and physical isolation of mental health professionals could help in retaining staff locally. In addition, education, support and administrative functions could be carried out without the need for expensive and time-consuming intrastate travel.

Mr Shane Matthews, General Manager of the Avon Health Service, also commented on telepsychiatry, explaining that the establishment of such a service, initially in Northam, would benefit that town, as it would complement the "face-to-face" service provided by a visiting psychiatrist and would be useful in emergency situations. It would also provide continuity of service during periods of recruitment and leave.<sup>90</sup>

In addition, Mr Matthews noted that if teleradiology was introduced in Northam, it would greatly reduce the turnaround time with respect to the off-site radiologist's reports. There would be a substantial reduction in courier costs to transport films to Perth.

Dr Swithin Song from Royal Perth Hospital explained the current situation and the potential problems it caused -

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<sup>88</sup> Submission, Mr Ian Satchwell, Chief Executive Officer, The Chamber of Minerals and Energy of WA Inc., 16 June 1998

<sup>89</sup> Submission, Mr Peter Newby, Telepsychiatry Project Officer - Mental Health Division, Health Department of WA, 17 June 1998

<sup>90</sup> Submission, Mr Shane Matthews, General Manager, Avon Health Service, 3 June 1998

Currently a radiograph done in a rural area such as Esperance or Carnarvon may not be reviewed by a radiologist for 2 days because of the time it takes to courier the images to Perth. During this period, treatment that may need to be instituted based on the radiographic findings may be delayed resulting in detriment to the patient. Teleradiology will ensure a prompt review of the patient's radiographs by a radiologist and hence help expedite and initiate a patient's treatment.<sup>91</sup>

Dr Song highlighted the potential benefits of teleradiology -

Teleradiology has the potential to decrease the cost of the delivery of radiology services to country areas in Western Australia as it will provide timely reporting of examinations, thus promoting efficient patient care, prompt patient management and reduction in hospital stay.<sup>92</sup>

### **Costs of Implementing a Telehealth Strategy**

In his submission, the Hon. Hendy Cowan MLA, Deputy Premier, estimated that the total project cost for telehealth would be \$100 million. This was based on a phased approach by the Health Department of Western Australia to purchase and operate a satellite-meshed network, comprising a central hub and 20 remote satellite earth stations (the total Telehealth Implementation Plan would comprise the hub plus 178 health sites).<sup>93</sup>

The cost of implementing the telehealth strategy included two components -

specialised telehealth equipment and applications (hardware and software); and telecommunications services (transmission/reception equipment and bandwidth).<sup>94</sup>

Each of these involved a capital cost and recurrent operating cost, with the first component costing \$4.35 million in capital expenditure and \$1.29 million per year in operating costs (in establishing a pilot program covering 20 towns). The second component — telecommunications services — was estimated to cost \$8.75 million (capital) and \$2.26 million (recurrent). It should be noted that these costs only related to Phase 1 of the staged implementation plan and were expected to increase in subsequent phases. Priority would be given in the implementation phase to those towns that had participated in the Health Department's trial/demonstration phase.

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<sup>91</sup> Submission, Dr Swithin Song, Royal Perth Hospital, 2 September 1998

<sup>92</sup> *ibid.*

<sup>93</sup> Submission, Hon. Hendy Cowan MLA, Deputy Premier; Minister for Commerce and Trade; Regional Development; Small Business, 13 August 1998

<sup>94</sup> *ibid.*

The Deputy Premier informed that the preparation of a Cabinet submission had commenced, which sought approval for the implementation plan and funding to match the conditional Commonwealth grant from the Regional Telecommunications Infrastructure Fund.<sup>95</sup>

The Deputy Premier noted that the business case supporting the statewide telehealth proposal was yet to be completed by the Health Department, which would include costs and benefits, along with the revenue stream, which still needed to be clearly articulated and identified (see Chapter Three).

### ***Reduction in Costs?***

The Hon. Hendy Cowan, MLA, suggested it was difficult to predict whether telehealth would result in a reduction in costs in delivering health services in Western Australia. However, he noted that -

As many case studies cite savings in travel time by both doctors and patients, it would be reasonable to assume that the potential savings in Western Australia are equal to, if not greater than, many other parts of the world ... as the distances between doctors and patients are, on the whole, generally much longer.<sup>96</sup>

Nevertheless, although there appeared to be a demand for telehealth from regional consumers and health providers, the Deputy Premier stated that many of the benefits needed to be quantified and realised - 'Conceptually Telehealth has wide support, but the costs and the benefits remain to be demonstrated, and alternative solutions evaluated.'<sup>97</sup>

Likewise, the then Minister for Health, the Hon. Kevin Prince, MLA, was equivocal as to whether telehealth would lead to a reduction in costs -

Telehealth introduces new costs in some areas and reduces costs in others. ...The main areas of cost savings result from the decrease in inter-hospital transfers for specialist consultation; reduction of travelling costs of patients and providers; reduction in length of stay in hospitals; and improved efficiency and productivity.<sup>98</sup>

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<sup>95</sup> According to the submission from the Minister for Health, the Hon. Kevin Prince MLA, dated 19 June 1998, the Health Department of Western Australia was notified on 28 May 1998 that the Commonwealth Rural Telecommunication Infrastructure Fund had offered \$8 million for the implementation of Phase 1 of the HDWA Telehealth proposal, with the funding being conditional on the State Government matching that amount. The Minister noted that negotiations were currently underway with the Deputy Premier regarding the State Government's matching component.

<sup>96</sup> Submission, Hon. Hendy Cowan MLA, op.cit.

<sup>97</sup> ibid.

<sup>98</sup> Submission, Hon. Kevin Prince MLA, op.cit.

Taking a more pessimistic stance, Professor Louis Landau, Executive Dean, Faculty of Medicine and Dentistry at the Queen Elizabeth II Medical Centre, thought it was unlikely that telehealth would lead to a substantial cut in costs. As he explained, '[a]ny resourcing will be offset by decreased patient transport to centres but this decrease is unlikely to be able to cover the funding needs for Telehealth.'<sup>99</sup>

### **Cost of Not Implementing Telehealth**

- *Western Australia is the ideal place for such a system to operate because of its size and remoteness. For us to pass up this opportunity would lead to the risk of being left behind, not only in the area of technology, but in the quality of the care we offer remote patients and the support we can provide to our rural colleagues.*<sup>100</sup>

The former Minister for Health, the Hon. Kevin Prince MLA, warned that -

There will be significant social and monetary costs if Telehealth is not implemented. Health differences between those in the rural and remote areas (both Aboriginal and non-Aboriginal) and the metropolitan area are likely to continue. Cost efficiencies ... will not be realised and the opportunity to provide more comprehensive, timely and less disruptive care will be lost.

Most importantly, the opportunity to take a truly leadership role and position Western Australia globally as a provider of a practical, innovative and effective Telehealth service application will be lost.<sup>101</sup>

The Deputy Premier claimed there were social, service and economic costs to Western Australia by not adopting a telehealth strategy. The social costs included -

patient and family disruption due to the need to travel long distances for specialist diagnosis; and public confidence in the health system could be eroded, especially in rural and remote WA, if the technology were not integrated into the health system.

The costs to service delivery included -

failure to maintain the leading edge in medical research and development; the erosion of skills of medical practitioners in new advances; and the opportunity to influence national and international policy, practice and standards for Telehealth would be lost.<sup>102</sup>

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<sup>99</sup> Submission, Professor Louis I. Landau, Executive Dean, Faculty of Medicine and Dentistry, Queen Elizabeth II Medical Centre, 25 May 1998

<sup>100</sup> Submission, Ms Pat J. Martin, A/Chief Executive Officer, Sir Charles Gairdner Hospital, 28 May 1998

<sup>101</sup> Submission, Hon. Kevin Prince MLA, op.cit.

<sup>102</sup> Submission, Hon. Hendy Cowan MLA, op.cit.

In terms of the economic cost, the Deputy Premier warned that other States would bypass Western Australia to support countries in Asia and elsewhere. As he explained, ‘This could have a long term impact on the perception of Western Australian health care in the region, as well as denying Western Australians access to such services.’<sup>103</sup>

Professor Ian Constable, Director of the Lions Eye Institute, thought that telehealth would happen anyway but in a fragmented fashion -

There would appear to be no doubt that if this new technology is not embraced by the WA government it will happen piecemeal anyhow but only in terms of locally based applications driven by individual enthusiasm and commercial gain.<sup>104</sup>

Ms Pat Martin wrote in her submission that failure to implement the proposed infrastructure would leave Western Australia disadvantaged from a technology perspective and would exacerbate the loss of health professionals from rural areas. Additionally, she pointed out the risks involved in not adopting telehealth -

The State risks a “brain drain” of expertise that will move to other states who have invested more resources in Telehealth. There will be a corresponding loss of status both nationally and internationally.<sup>105</sup>

Taking a different perspective, the City of Stirling warned that if Western Australia did not embrace this technology, clients would seek the information from practitioners outside Australia.<sup>106</sup>

In relation to teleradiology, Dr Swithin Song from Royal Perth Hospital wrote that -

[n]ot implementing a teleradiology service will inevitably result in suboptimal delivery of radiology services to country areas that do not have easy geographical access to such services.’<sup>107</sup>

## Evaluation of Government Response

There was some criticism amongst the submissions relating to the Government’s lack of initiative in implementing the telehealth strategy. Mrs Susan Henderson, Chairperson of the Bremer Bay Community Resource Centre, commented -

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<sup>103</sup>        *ibid.*

<sup>104</sup>        Submission, Professor Ian Constable, Director, Lions Eye Institute, 17 June 1998

<sup>105</sup>        Submission, Ms Pat Martin, *op.cit.*

<sup>106</sup>        Submission, City of Stirling, *op.cit.*

<sup>107</sup>        Submission, Dr Swithin Song, *op.cit.*



Given that the technology for a Telehealth Network in Western Australia has been available for some considerable time, it is deplorable that the Government has not moved faster and with more commitment to getting this much needed and valuable resource to Rural WA.<sup>108</sup>

Similarly, Mr Maynard Rye, Acting Chief Executive Officer, Great Southern Development Commission, pointed out that -

This proposal has been in the pipeline for over two years, has successfully undergone an independent technical audit, received widespread community support throughout Western Australia and been well received in Commonwealth quarters, but unfortunately the project has not progressed.<sup>109</sup>

Further, he warned that the ‘... understandable desire to achieve the wider benefits could well produce the unwanted side effect of inhibiting the implementation of a service which appears to be ready to embrace the challenges of the online world.’

## **Obstacles**

### ***Infrastructure and Funding Issues***

The Deputy Premier noted in his submission that a major obstacle to the implementation of the telehealth strategy had been the inadequate telecommunications network infrastructure in regional and remote Western Australia and the high costs of leasing capacity on the network where it was available. In addition, he questioned the commitment of the Health Department of Western Australia -

The proposed telehealth strategy does not seem to have received funding support within Health WA and appears entirely reliant on extra-ordinary external funding from the Commonwealth and State Governments.<sup>110</sup>

The 1998-99 Budget Statements for the Health Department did not make reference to a funding allocation for telehealth.

Mr Steve Halligan, Information Systems Consultant at the Eastern and Central Wheatbelt Health Services listed a range of potential obstacles to implementing telehealth, including -

that the current communications capacity of the Health Department of Western Australia’s Wide Area Network (WAN) into rural areas is extremely limited; and

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<sup>108</sup> Submission, Mrs Susan Henderson, Chairperson, Bremer Bay Community Resource Centre, 9 June 1998

<sup>109</sup> Submission, Mr Maynard Rye, A/Chief Executive Officer, Great Southern Development Commission, 9 June 1998

<sup>110</sup> Submission, Hon. Hendy Cowan MLA, op.cit.

that although the Health Department has provided and funded an ISDN link to each health service at the location deemed the major centre for that health service, this is far from satisfactory for many geographically dispersed health services.<sup>111</sup>

Dr Russell-Weisz, Pilbara Representative of the Rural Doctors' Association of Western Australia, submitted to the Committee that telehealth infrastructure suffered from having been "hijacked" by certain specialities. There needed to be a clear understanding that the technology was publicly-owned and universally accessible to all providers.<sup>112</sup>

### ***Online Awareness Within the Health Profession***

Submissions from Dr Greg Down, Director of the Western Australian Centre for Remote and Rural Medicine<sup>113</sup> and from Ms Michele Kosky, Executive Director, Health Consumers' Council,<sup>114</sup> highlighted the problem of a lack of awareness about online technology amongst health professionals. Dr Russell-Weisz<sup>115</sup> and Mr Colin Morrison<sup>116</sup> also joined in the call for health professionals to receive increased education and awareness of online telehealth technologies.

### **Other Issues**

#### ***Public Sector Integration***

The Committee's discussion paper on telehealth raised the question of whether it was necessary to integrate telehealth into a statewide communications network to be truly effective. The Deputy Premier was unequivocal in his response, stating that - '[a] separate network for telehealth alone, at a cost of around \$100 million, is not value for money.'<sup>117</sup> Part of the Government's Telecommunications Strategy involved taking an integrated approach to enable economical access to a range of services for remote and regional areas, such as education, policing and community services, as well as providing opportunities for local businesses. The Deputy Premier suggested that much of the infrastructure could be linked with telecentres.

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<sup>111</sup> Submission, Mr Steve Halligan, Information Systems Consultant, Eastern and Central Wheatbelt Health Services, 11 June 1998

<sup>112</sup> Submission, Dr D. Russell-Weisz, Pilbara Representative, Rural Doctors' Association of WA Inc., 2 June 1998

<sup>113</sup> Submission, Dr Greg Down, op.cit.

<sup>114</sup> Submission, Ms Michele Kosky, op.cit.

<sup>115</sup> Submission, Dr D. Russell-Weisz, op.cit.

<sup>116</sup> Submission, Mr Colin Morrison, Executive Officer, Telecommunications Working Party, Wheatbelt Region Development Commission, 27 May 1998

<sup>117</sup> Submission, Hon. Hendy Cowan, MLA, op.cit.

Ms Cheryl Vardon, former Director General of the Education Department of Western Australia,<sup>118</sup> and Ms Jane Mouritz<sup>119</sup> encouraged the goal of integrating other government services and private sector services with telehealth.

By contrast, Mrs Susan Henderson<sup>120</sup> and Mr Maynard Rye<sup>121</sup> thought that the telehealth proposal was sufficiently well developed such that its implementation should not be compromised while the rest of the State's online needs were analysed and rehashed.

### ***Public and Private Sector Integration***

A number of private sector telehealth services already operate in Western Australia. For example, Dr Johnny Walker, who is a Diagnostic Imaging Specialist, has established his own teleradiology practice which is linked closely with regional and district hospitals in the southwest and goldfields of Western Australia. Dr Walker submitted to the Committee that -

... it is very important, that private enterprises such as my own group can work very closely in parallel and not in conflict with the Government, so that we can avoid duplication of resources and assist each other in areas that the other may be deficient in.<sup>122</sup>

Dr Desmond Williams, Managing Director, Healthcare Asia/HealthWest, commented that the role of the Health Department should be as a co-ordinator and facilitator of telehealth, rather than being a sole provider of telehealth.<sup>123</sup> This view was supported by Professor Ian Constable, Director, Lions Eye Institute, who highlighted the work undertaken by the Institute, which had established a significant role for technology in ophthalmology and eye care generally.<sup>124</sup>

The Western Australian Chair of the National Informatics Committee of the Royal Australian College of General Practitioners, Dr Olszewski, reported that the College had been using online technologies for some time. This included accessing online information and consulting with remote patients over the Internet. As an example of the increasing use of technology, Dr Olszewski explained that one National Informatics Committee member had recently developed a low cost Medic Alert chip. The chip provides instant details of the patient's relevant history to those authorised to use the device.<sup>125</sup>

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<sup>118</sup> Submission, Ms Cheryl Vardon, Director General, Education Department of WA, 16 June 1998

<sup>119</sup> Submission, Ms Jane Mouritz, President, Hyden Resource and Telecentre Inc., 16 May 1998

<sup>120</sup> Submission, Mrs Susan Henderson, op.cit.

<sup>121</sup> Submission, Mr Maynard Rye, op.cit.

<sup>122</sup> Submission, Dr Johnny Walker, Director, Imaging the South, 25 June 1998

<sup>123</sup> Submission, Mr Desmond Williams, Managing Director, Healthcare Asia/HealthWest, 10 June 1998

<sup>124</sup> Submission, Professor Ian Constable, op.cit.

<sup>125</sup> Submission, Dr Ed Olszewski, WA Chair, National Informatics Committee, Royal Australian College of General Practitioners, 12 June 1998

### *Buying Health Services Outside of Western Australia*

The potential for consumers to access interstate or international online health services has existed for some time. Perhaps the best known example of this is the United States-based Mayo clinic, which allows consumers to access its health services via local health providers. This access raises certain issues, as highlighted in the Discussion Paper.

### *Legal and Legislative Issues*

The Deputy Premier reflected that the States and Commonwealth had to address and clarify legislative issues, such as which State had authority over disciplinary matters and under what circumstances health professionals needed to be registered in other States. Other legislative issues included -

unauthorised access and disclosure;  
records tampering and destruction; and  
liability for telehealth participants.<sup>126</sup>

Ms Anne Riordan, Senior Policy Officer, Kimberley Health Service wrote of the need to have clarification about the legal situation between patient and doctor when conferencing.<sup>127</sup> The Hon. Norm Kelly MLC raised the issue of access to personal records, supporting greater consumer involvement in the collection, management, use and disclosure of personal health information. He highlighted the -

... need to grant consumers a right of access to their own health information. Ideally ...  
copies of health records should, in the majority of cases, be portable by the patient.<sup>128</sup>

### *Verification, Reliability and Legitimacy of Online Health Information*

The Deputy Premier emphasised that in an online environment, it was essential that consumers and medical practitioners are able to distinguish if a practitioner is really a professional in that field and if the services being provided online are creditable. The Deputy Premier suggested that a potential solution was to establish a Telepractitioner Registration Program, which would require the registrant to meet minimum qualifications.<sup>129</sup>

Ms Rhea Hitchins, Chief Executive Officer, Nurses Board of Western Australia, wrote that as telehealth would involve cross border practice, the issue for the regulation of nursing practice would be in which jurisdiction the nurse should be registered.<sup>130</sup>

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<sup>126</sup> Submission, Hon. Hendy Cowan MLA, op.cit.

<sup>127</sup> Submission, Ms Anne Riordan, op.cit.

<sup>128</sup> Submission, Hon. Norm Kelly MLC, Australian Democrats, East Metropolitan Region, 11 June 1998

<sup>129</sup> Submission, Hon. Hendy Cowan, MLA, op.cit.

<sup>130</sup> Submission, Ms R.B. Hitchins, Chief Executive Officer, Nurses Board of WA, 8 June 1998

Mr Des Hutchinson, Secretary of the Radiological Council, noted that one of the obstacles to implementing telehealth included the suitability of the regulatory structure in Western Australia, and its incompatibility with regulatory structures elsewhere. He submitted that -

At the root of the issues and potential problems ... is the inevitability that technology will always progress more quickly than the regulatory framework to control its possible detriments.<sup>131</sup>

Mr Hutchinson explained that new draft guidelines had been developed for teleradiology regulation. The principal regulatory objective was to ensure that a licensed person could be held responsible in any jurisdiction where an x-ray examination was performed for a teleradiology interpretation that may be taken inside or outside the jurisdiction.

#### *Medical Accreditation*

The Deputy Premier noted that accreditation was a difficult issue because health care organisations could have to deal with an unlimited number of outside physicians, thus creating an administrative burden which could become a substantial barrier to telehealth. The Deputy Premier believed that the Health Department should co-ordinate licensing, accreditation and reimbursement policies with neighbouring States and should indicate in what circumstances, if any, a hospital must accredit a remote physician.<sup>132</sup>

#### *Confidentiality*

A number of the submissions received by the Committee raised the issues of confidentiality and privacy. Both the former Minister for Health, the Hon. Kevin Prince MLA<sup>133</sup> and the Deputy Premier saw concerns about confidentiality as obstacles to telehealth. The Deputy Premier described the critical issue as one of ‘... engendering and maintaining public confidence and trust in the way that personal health information is handled’.<sup>134</sup>

He went on to outline the approach to be taken -

the use of a code of practice that embodies the fair handling of personal health information;  
an appropriate structure for handling complaints and dispute resolution where potential breaches are identified;  
education and training for health information handlers;  
the use of appropriate security, encryption and authentication processes and tools;  
creating an awareness in health consumers of the processes put in place to ensure confidentiality as well as their rights and responsibilities;

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<sup>131</sup> Submission, Mr Des Hutchinson, Secretary, Radiological Council, Health Department of WA, 9 June 1998

<sup>132</sup> Submission, Hon. Hendy Cowan MLA, op.cit.

<sup>133</sup> Submission, Hon. Kevin Prince MLA, op.cit.

<sup>134</sup> Submission, Hon. Hendy Cowan MLA, op.cit.

the use of contractual arrangements and confidentiality agreements by third parties; and the use of computer information systems that support a systematic approach to confidentiality eg by audit trailing of all access and updates, automatic notification of potential abuses and well-defined policies and procedures on data retention and destruction.<sup>135</sup>

## SUMMARY

This inquiry has highlighted many of the key issues and challenges which need to be addressed if telehealth is to deliver health services efficiently, effectively and equitably. It has also focussed attention on the areas where the public and private sector representatives believe more work needs to be done to expedite the widespread implementation of telehealth.

The evidence reveals that the implementation of telehealth appears to be taking an unnecessarily long time. At the moment, estimates for when telehealth will be fully implemented range between three to 10 years. Mr Kim Snowball stated in evidence that - 'We see Telehealth's application in place in five or 10 years' time if it is allowed to develop.'<sup>136</sup> Contradicting this, Mr Stephen Collins, former Executive Director, Office of Information and Communications, noted in evidence that the implementation of Phase 1 was to be in early 1999, although it still needed Cabinet approval and Treasury agreement, while the full plan was expected in 2000 or 2001.<sup>137</sup>

If the benefits of online technologies are not taken advantage of then the State risks missing out, not merely on 'enhanced' medical services, but on the provision of many basic medical services to numerous rural and remote areas.

In the Committee's view, there has been an overcautious approach taken by the Government in promoting telehealth in this State. As Mr Kim Snowball admitted in evidence -

We have known that Telehealth is on its way, but we have been hesitant to leap into it on the proposed scale. It is a big price to pay and a big risk to roll out a statewide system to find the technology was not what it was cracked up to be. We have a cautionary approach to stage one.<sup>138</sup>

Likewise, Mr Collins commented that -

We need to satisfy the State Government about the matter because it is committing funds to what could be an extremely expensive exercise. ... We have a great deal of information on costs which we need to balance against quantifiable and articulated benefits.'<sup>139</sup>

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<sup>135</sup>        *ibid.*

<sup>136</sup>        Transcript of Evidence, 2 June 1998, p.9

<sup>137</sup>        Transcript of Evidence, 9 September 1998, p.8

<sup>138</sup>        Transcript of Evidence, 2 June 1998, p.10

<sup>139</sup>        Transcript of Evidence, 9 September 1998, p.10

While the Committee recognises that it is necessary to properly cost, assess and evaluate programs, it believes that the time to implement telehealth is upon us. This was also the conclusion of the House of Representatives Standing Committee on Family and Community Affairs in the *Health on Line* Report, which stated that -

The Committee supports the full introduction of Telehealth but rejects the continuation of pilot trials. Many projects did not go beyond the trial stage once funds ran out leading to a great deal of wasted resources, particularly as the information and knowledge gained from them was never disseminated.<sup>140</sup>

In Western Australia, the telehealth strategy has undergone a number of rigorous evaluations which have found it to be a viable proposal. For example, in 1997 a Technical Audit was commissioned by the Department of Commerce and Trade into the proposed Telehealth Telecommunications Network Infrastructure. One of the Audit's recommendations was that -

... the implementation of the network proceed immediately as any delay in implementation will simply delay the delivery of benefits to patients in communities in Western Australia.<sup>141</sup>

In addition, as part of its funding evaluation, the Regional Telecommunications Infrastructure Fund Board had the telehealth proposal evaluated for its business case by Price Waterhouse, and for its technical accuracy by Ericsson Consulting. Given these favourable evaluations, the Committee believes that the time for implementation is upon us. Indeed, the Treasury Department's own submission to the Commonwealth Grants Commission acknowledged that 'Western Australia has already conducted a number of projects in this area, which have proven successful as a supplement to existing health services.'<sup>142</sup>

Despite the evidence of these reviews, and the fact that Western Australia is comparatively disadvantaged financially and in public health terms, the Committee was disappointed to see a lack of financial support for telehealth in the 1998-99 State Budget. Limited commitment was made to telehealth under the Health Department heading *Significant Issues and Trends* -

Developments in telehealth communications provide an opportunity to make significant improvements to access in rural and remote WA and other infrastructure developments will be advanced as opportunities arise.<sup>143</sup>

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<sup>140</sup> *Health on Line* Report, op.cit., p.xiii

<sup>141</sup> Quoted in Submission, Hon. Kevin Prince MLA, op.cit.

<sup>142</sup> Treasury Department submission, op.cit., p.189

<sup>143</sup> *Budget Statements 1998-99*, Budget Paper No.2, Vol.1, p.544

A passing reference was also made to telepsychiatry under the Mental Health section *Major Initiatives for 1998-99*, in which the telepsychiatry program was to be expanded to 11 country and six metropolitan sites.<sup>144</sup>

It is dangerous to lose sight of the main objective, which is to enhance the health status of the citizens of this State. From the submissions received, it was obvious that telehealth is accepted as an essential delivery mechanism for essential services. While it is necessary to address issues such as the registration of health professionals, confidentiality, privacy etc, consideration and resolution of these matters should not impede the implementation of telehealth.

The State Government should make a priority of encouraging a review of Medicare and the Medicare Benefits Schedule. The effectiveness of and equitable access to telehealth will be significantly affected by Medicare recognition of telehealth services. Given that Western Australia has more to gain from telehealth than any other State, the issue is one of urgency. The definition of the doctor/health professional—patient consultation must move beyond the notion of being physically present in the same location.

The Committee is concerned that the longer it takes to fully embrace and implement Telehealth throughout this State, the more likely it is to become a discriminatory or an elitist form of service provision. While the Committee is aware that it will take some time to have equity of access, universal access must be the target outcome.

By failing to fully embrace telehealth, Western Australia not only risks falling behind the rest of the world in the technology stakes, but also risks the health status of its citizens.

In particular, the following issues should be addressed -

Western Australia must meet its Medicare Agreement Obligations by providing quality, efficient and equitable access to online health services.

Western Australians, particularly in many rural and remote areas, will continue to miss out, not merely on 'enhanced' medical services, but on any medical services if the benefits of online technologies are not taken advantage of.

By failing to embrace telehealth, Western Australia is risking the health status of its citizens.

Rural and remote communities will suffer from the digital divide if they are not provided with adequate access to communications infrastructure .

Telehealth will not only lead to such tangible benefits as reduced costs and demand on services such as medical staff and patient transport, but will also encourage the retention of health professionals in rural and remote locations.

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<sup>144</sup> ibid., p.546



In order to be cost-effective, telehealth needs to be integrated into a statewide telecommunications infrastructure, but not to the detriment of the timely implementation of telehealth.

Telehealth tests have been audited and proven successful on at least two occasions. While the Committee recognises that it is necessary to properly cost, assess and evaluate programs, it believes that the time for trials and reviews is over.

Government needs to co-operate with the private sector and combine resources and knowledge in order to develop the most efficient and effective telehealth programs to best serve the population of Western Australia.

Consideration and resolution of such issues as the registration of health professionals, accreditation, confidentiality and privacy etc. should not impede the implementation of telehealth.

Government should continue to encourage public sector agencies to purchase goods and services online.

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## APPENDIX 7

### THE CASE FOR TELE-EDUCATION

- *The role of the teacher is changing; the boundaries between home and school are changing ... and the barriers of distance and disadvantage are slowly being overcome.*<sup>145</sup>

In June 1998, the Committee tabled a Discussion Paper on Tele-education and sought submissions in response to that Paper. Like the Telehealth Discussion Paper, the Tele-education Discussion Paper highlighted a number of key issues and challenges which the Committee believed needed to be addressed if tele-education was to enable education to be delivered efficiently, effectively and equitably.

The Committee received 10 submissions from a range of individuals and organisations and took oral evidence from eight people in relation to this topic (see Appendices 1 and 2).

#### What is Tele-education?

Whilst the notion of telehealth is assisted by the many images of medical technology that we have become used to, tele-education is not so readily apparent. This basic difference between the use of technology by the medical and the teaching professions is highlighted by the following -

If a doctor from 75 years ago suddenly traveled [sic] by time capsule and arrived in today's hospital, would that doctor be able to function? Not a chance. But how about a teacher from that same era in a contemporary classroom? The chalkboard, desks and multiplication tables would probably look all too familiar.<sup>146</sup>

Tele-education can be a revolution in the way education is delivered and accessed. Tele-education has two important features -

it allows the student to access information from beyond the four walls of the classroom, and from the world of knowledge that exists online; and

it allows the student to learn by accessing tuition and information online without being physically present in a classroom.

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<sup>145</sup> Ms Cheryl Vardon, Director General, Education Department of WA, Transcript of Evidence, 9 April 1998, pp.1-2

<sup>146</sup> Tapscott Don (1996) *The Digital Economy - Promise And Peril In The Age Of Networked Intelligence*, McGraw-Hill - New York, p.201

Technology in schools or in the hands of the student at home does not automatically make either feature possible. A computer in the classroom is not capable of giving the student access to the world of knowledge without a modem, adequate communications infrastructure and a curriculum and teacher that empowers the student to use these tools.

The importance of highlighting both the above features is that tele-education is not just of benefit to the remote and isolated student, but also to the student in the local metropolitan classroom. In this way, tele-education is not simply portrayed as the 'next best thing' to being in the traditional school and classroom setting. Rather, tele-education is an opportunity to increase the access to, and effectiveness and efficiency of, education for all students and teachers.

### **Current Situation - Enrolments in Tele-education**

Whilst there is not a tele-education strategy in Western Australia that addresses the fundamentals such as whole-of-State aims, integration with other services and sectors and costings, the School of Isolated and Distance Education (SIDE) has been offering a tele-education service. The School's operation demonstrates that tele-education can be a solution to the problem of people having no access to education, and also the problem of those with limited or restricted access. Hence, SIDE not only has full-time enrolments, but also part-time enrolments for those who have access to a local school, but with limited subject availability.

<b>Profile of School of Isolated and Distance Education, 1998</b>	
<i>Year Level</i>	<i>Enrolments</i>
Pre-primary to Year 5	190 students
Years 6 and 7	65 students (9 in the Languages Other Than English (LOTE) program)
Years 8 to 10	1,587 subject enrolments (equates to approx. 500 full time students)
Post-compulsory	2,000 subject enrolments (equates to approx. 885 full time students) <sup>147</sup>

In evidence to the Committee, Mr Donald Boyd, Acting Executive Principal of Isolated and Distance Education, noted that around 60 primary schools were also picking up the language other than English (LOTE) program and the Education Department had resourced SIDE with some additional teachers to meet the needs of these schools.<sup>148</sup>

<sup>147</sup> Mr Donald Boyd, Acting Executive Principal, Isolated and Distance Education, Transcript of Evidence, 6 May 1998, pp.2-3

<sup>148</sup> *ibid.*

The School of the Air is another distance education program demonstrating the variety of telecommunications solutions available. The enrolment numbers for the School are made up of - Carnarvon (77 students), Kalgoorlie (39 students), Meekatharra (82 students), Kimberley (77 students) and Port Hedland (30 students).<sup>149</sup>

### **The Case for Tele-education**

According to the Treasury Department's 1997 Submission to the Commonwealth Grants Commission, the Western Australian Education Department provides education for 251,000 students in 766 government schools (excluding 93 community pre-schools). This equates to 68 percent of students in the Perth metropolitan area (in 55 percent of schools), 31 percent in country areas (41 percent of schools) and one percent in extremely remote locations (4 percent of schools).<sup>150</sup>

The provision of education services in Western Australia, particularly to rural and remote locations, suffers similar problems as those experienced by the health sector. These problems, which include lack of access to infrastructure, higher costs for non-metropolitan education service delivery and lack of retention of educational staff highlight the need for tele-education.

For example, the Treasury submission noted that communication costs were much higher on a per capita basis for non-metropolitan schools as opposed to metropolitan ones.<sup>151</sup> Metropolitan schools gain Internet access through a local service provider for the price of a local call, while country schools have to pay timed STD rates to a service provider, usually located in Perth.

Likewise, it was difficult to retain teaching staff in remote locations. To combat this, the Education Department introduced Remote Teaching Service Individual Workplace Agreements, offering such incentives as salary allowances, free rent and leave entitlements, in return for teachers staying for at least three years in one location.<sup>152</sup>

Another problem faced by students in the State's remote areas, and compounded by the lack of adequate infrastructure, is the reliance on traditional mail delivery for their correspondence. According to the Western Australian Government's Digital Data Review submission to the Australian Communications Authority in June 1998, '[i]n excess of 3,000 primary and secondary students in Western Australia complete their studies by correspondence.'<sup>153</sup> For these students,

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<sup>149</sup>        *ibid.*

<sup>150</sup>        Treasury Department (1997) *Western Australia's Submission to the Commonwealth Grants Commission 1999 Review*, p.91

<sup>151</sup>        *ibid.*, p.93

<sup>152</sup>        *ibid.*, p.94

<sup>153</sup>        Digital Data Review Submission to the Australian Communications Authority by the Government of Western Australia, June 1998, p.9

‘[t]he delivery of correspondence course material and return of assignments is predominantly mail-based. The areas served by correspondence are normally remote and mail deliveries infrequent.’<sup>154</sup>

In its submission, the Western Australian Government recognised the efficacy and necessity of Online delivery to solve this problem, noting that -

The delivery and return of course material and assignments by electronic means would be highly effective for both the student and the educational institution. The lack of even moderate speeds in the bush prevents the introduction of what is clearly a more effective mechanism.<sup>155</sup>

Mr Graham Wilks, Chairman of the MidWest Communications Working Group, MidWest Development Commission, commented that -

For many rural and remote students, tele-education is a necessity for completing their education and training. Many have already been using remote aids such as facsimiles, radio, telephone and Australia Post for completing their studies. However, as technology improves and provides greater access for metropolitan students to knowledge and information on an international level, rural and remote students must have the equivalent access.<sup>156</sup>

### **The Benefits of Tele-education**

Ms Kelly Edwards, Project Manager - Virtual Campus, Central West College of TAFE, wrote of the positive benefits of online enrolments -

College research suggests enrolment numbers are limitless depending on the structure and course requirements. Teachers may facilitate many more learner[s] than in a class situation in a flexible environment where learning is independent of time and place. Teachers will be able to respond to individual learning needs in a more efficient manner.<sup>157</sup>

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<sup>154</sup>        *ibid.*

<sup>155</sup>        *ibid.*

<sup>156</sup>        Submission, Mr Graham Wilks, Chairman, MidWest Communications Working Group, MidWest Development Commission, 13 August 1998

<sup>157</sup>        Submission, Ms Kelly Edwards, Project Manager - Virtual Campus, Central West College of TAFE, 11 August 1998

### ***The Future Classroom***

In describing the future classroom in an online education world, Ms Edwards commented that the learner would be able to access a variety of learning resources via Internet and CD ROM. She noted that '[e]fficiencies will be realised by being able to use one lecturer to facilitate many learners in a flexible environment that is independent of time and place.'<sup>158</sup>

In supplementary information to the Committee, Mr Boyd wrote of the role of the teacher in the new era of tele-education. He explained how the role of a SIDE teacher differs from the traditional classroom teacher, in that the SIDE teacher must additionally possess the capacity to -

- develop one to one relationships with students from a wide variety of backgrounds;
- engage students at a distance using a variety of media including telephone, audiographics, electronic mail and interactive television and HF radio;
- modify existing curriculum materials to meet the instructional design requirements of various delivery media;
- involve parents as equal partners in the education process;
- provide professional development and support to parents as home tutors to ensure quality education provision; and
- travel to homesteads and live short term with parents and students in remote areas.<sup>159</sup>

### ***Changing role of Information in Education***

Information has always been a significant part of education. Tele-education has the potential to dramatically increase access to information, to enable that information to remain current and to dramatically alter the way education is delivered.

Curricula, traditionally delivered by teachers and books, will become more dynamic as it is increasingly able to be delivered by video and audio capable online tools. The publishing of books has long carried implications for the cost of education and the ability to keep information current. The role of teachers and publishing will change, prompting the need for Government to address issues, such as -

- intellectual property;
- accreditation of information; and
- opportunities for dramatically reduced costs of information.

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<sup>158</sup>        *ibid.*

<sup>159</sup>        Supplementary information, Mr Don Boyd, Acting Director, Isolated and Distance Education to Mr Max Trenorden MLA, Chairman, PAERC, 2 June 1998

## **The Cost of Technology in Education**

Under its Technology 2000 plan, the Education Department has planned a number of technology-related projects over the next few years, such as the provision of satellite and land-line services to country and remote centres, a major increase in the provision of educational and administrative computers, training and support services and the establishment of a Statewide network linking all schools, districts and the central office.<sup>160</sup> The cost of implementing these initiatives has been estimated at \$200 million over the next four years.

To fully implement tele-education in Western Australia will require significant expenditure, and the Committee was pleased to note in the 1998-99 State Budget a commitment of \$20.2 million and a further \$60 million from 1999-2000 to 2000-01 for the extension of the computers in schools program.<sup>161</sup> Technology on its own, however, will not guarantee effective access. Combined with an investment in computer hardware and software, will also need to be computer literate staff and an adequate student curriculum.<sup>162</sup>

## **Cost of Not Implementing Tele-education**

A number of submissions pointed out the costs involved in not implementing a comprehensive Tele-education strategy. For example, the Education Department focussed on the reliance of rural and remote students, in particular, on online services -

It is important to recognise that the rationale for use of online services is similar for both metropolitan and rural students, but the imperative is stronger for rural and remote students. All students use online services to access information, communication and curriculum services but rural and remote students are becoming more disadvantaged as they are denied access to the technological developments that can meet their heightened needs.<sup>163</sup>

Ms Meryl P. Cruickshank, Coordinator, Vocational Training and Education, Health Workforce Reform Division of the Health Department of Western Australia, warned that -

If Western Australia is not positioned to benefit from the work which is occurring nationally or given the support of a comprehensive tele-education strategy it will be both socially and economically disadvantaged. The people of WA will not have the same

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<sup>160</sup> Treasury Department Submission to the Commonwealth Grants Commission, op.cit., p.93

<sup>161</sup> *Budget Statements 1998-98*, Budget Paper No.2, Vol.1, p.344

<sup>162</sup> Mr Kenneth Holzman, Computer Learning Centre Director, FutureKids, Transcript of Evidence, 12 March 1998, p.6

<sup>163</sup> Submission, Ms Cheryl Vardon, Director General, Education Department of WA, 19 August 1998



opportunities of access to education or choice of education as their counterparts in other States/Territories of Australia. Competition will see a shift in international education and training markets currently enjoyed by WA to other States/Territories of Australia.<sup>164</sup>

Ms Edwards, Project Manager - Virtual Campus, Central West College of TAFE, wrote of the dangers of education without technology -

The cost will be immense. Currently learners are interacting with technology in the home and a[t] school from an early age. The learners that grow up in a technological age will not accept tertiary education that fails to draw upon the available information resources available in an online environment.<sup>165</sup>

### **Obstacles and Issues**

Like telehealth, there are a number of obstacles which potentially stand in the way of tele-education and a number of issues that must be resolved in tandem with its introduction. Mr Don Boyd cited a number of these obstacles and issues, including -

Existing infrastructures and limited bandwidth together with high online costs reduce the capacity to maximise the use of online services.

A lack of access to basic public utilities such as a power supply that does not fluctuate limits the capacity for SIDE to develop a universal approach that maximises the use of technology.

The remote locations of some of the Schools of the Air ensure that the Education Department is forced to appoint newly graduated teachers to these schools. The provision of the necessary professional development and training requirements is difficult and expensive. This is especially important as pre-service training does not take account of the distance learning requirements of SIDE.

Technical support for individual families is expensive and often not readily available locally.

The Government's plan to have the student computer ratio at 1:5 for secondary students and 1:10 for primary age students will not be satisfactory for those SIDE students who are not school based. Without access to this equipment their existing disadvantage in accessing information will be increased.<sup>166</sup>

### ***Equity of Access and Quality of Access***

The Education Department stressed it was quality of opportunity, not uniformity of education, that was important in making the best choices on the learning process for students and teachers.<sup>167</sup> Currently, the Education Department's network, EdNet, does not reach all schools in the State because of the limitations of telecommunications infrastructure in some areas. The

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<sup>164</sup> Submission, Ms Meryl P. Cruickshank, Coordinator, Vocational Training and Education, Health Workforce Reform, Health Department of WA, 5 August 1998

<sup>165</sup> Submission, Ms Kelly Edwards, op.cit.

<sup>166</sup> Supplementary information, Mr Don Boyd, op.cit.

<sup>167</sup> Submission, Ms Cheryl Vardon, op.cit.

Department estimated that 125 schools, or 15 percent of public schools, did not have a reliable or effective data communications service.<sup>168</sup>

In the Education Department's submission, Ms Vardon noted that the Department was aiming at broadband services being available to all students and staff, wherever and whenever they needed it. The Department recognised that no single technological solution would work for all communities, as each location was unique in its curriculum needs and technology issues.

Ms Vardon also noted that the Education Department was working towards improving digital communications with remote schools. An example of this was the "Internet in the Curriculum" project, which has funded each school for at least one computer with Internet access with five hours per school day Internet access. So far, 96 percent of schools have at least one Internet connection. The Department is also researching satellite options, and installing satellite receiving equipment into all country schools and country district offices, so they can receive digital television transmissions from the School of Isolated and Distance Education.<sup>169</sup>

Mr Boyd, however, cautioned that the changeover to digital transmission by remote broadcasters was often beyond the affordability of many families and had added new difficulties for rural and remote families. He pointed out that two decoders and two dishes had to be purchased to receive all transmissions.<sup>170</sup>

Some submissions pointed out the importance of quality of access for rural and remote areas. For example, Mr Wilks, Chairman of the MidWest Communications Working Group, noted -

The provision of Tele-education to some rural and remote areas may be hindered by the poor telecommunications infrastructure and lack of service, technical support and training. ... This must be a commitment at government level.<sup>171</sup>

Mr Boyd noted some concerns in relation to communications limitations impacting on the delivery of education to rural and remote students -

The DRSS, the digital radio service system, which is available to many remote families, cannot guarantee quality voice transmission. Data transmission over the system is not probable in many instances. They are very important concerns. Another is that the high cost of accessing information at STD rates is constraining for our students.<sup>172</sup>

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<sup>168</sup>        *ibid.*

<sup>169</sup>        *ibid.*

<sup>170</sup>        Transcript of Evidence, 6 May 1998, p.6

<sup>171</sup>        Submission, Mr Graham Wilks, *op.cit.*

<sup>172</sup>        Transcript of Evidence, 6 May 1998, p.4

### ***Funding and Resource Models***

The Education Department noted that additional funding or a preferential tariff was needed to allow the government school sector to effectively utilise the new digital communications services to deliver enhanced education and training. As Ms Vardon explained -

If the tariffing and capacity issues are not addressed there will be increasing disparity between the education and training opportunities available in rural and remote communities compared with the opportunities available in our cities. This will lead to both social problems and a loss of economic opportunities.<sup>173</sup>

Mr Wilks raised the issue of cost for rural and remote areas - 'It must be a high priority for government to ensure that delivery of Tele-education is not at a higher cost to rural and remote students than it is for metropolitan students.'<sup>174</sup> He supported the Committee's call for an impact analysis of technology and infrastructure changes in remote communities, particularly because of the expense imposed on rural and remote families every time there was a change in technology.

Ms Edwards also commented on the cost of delivery, claiming that '... educational agencies will need to consider some integral shifts in funding models such as a change in 'Student Contact Hour' models to 'Credit for Interaction' type models.'<sup>175</sup>

### ***Integration of Tele-education***

- *Communications services are an integral part of the emerging information economy and an informed community. Individuals need to communicate for a wide range of reasons including social and business activities. This encompasses such activities as emergency assistance, financial transactions, education and training, health, entertainment, marketing and access to general or specific information from either Government or business.*<sup>176</sup>

The Discussion Paper on Tele-education asked whether the Government's tele-education plans and funding integrated with other online strategies. In his submission to the Committee on the Telehealth Discussion Paper, the Hon. Hendy Cowan, MLA, emphasised that efficient networks need to be technology-independent, integrated and upgradeable. Not to do so meant that -

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<sup>173</sup> Submission, Ms Cheryl Vardon, op.cit.

<sup>174</sup> Submission, Mr Graham Wilks, op.cit.

<sup>175</sup> Submission, Ms Kelly Edwards, op.cit.

<sup>176</sup> Submission, Hon. Mike Board MLA, Minister for Works; Services, 13 July 1998

It would be a sub-optimal use of funds given the equally important needs of the community for telecommunications-dependent improved service delivery of other aspects of health services, agriculture, education, justice and so on. Aggregation of the forecast traffic generated by all the agencies delivering services to regional and remote areas is the basis of affordable electronic service delivery.<sup>177</sup>

The Deputy Premier also advised that a Telecommunications Infrastructure Working Group, comprising the Departments of Health, Education, Police, Justice, Agriculture, Family and Children's Services, Commerce and Trade, and CAMS, was currently examining infrastructure requirements.<sup>178</sup> This group was responsible for developing a series of options to provide better delivery of government services throughout the State, in addition to community benefits from access to better telecommunications services. It had already identified a range of opportunities for partnerships, such as universities, private sector providers, the Department of Training and the Education Department.<sup>179</sup>

Despite the push for aggregation, the Education Department has developed its own wide area network. Mr Ronald Mance, Executive Director of Resources, Education Department of Western Australia, explained that should the Government decide to run with a common digital network, the Department would then '... migrate it onto a whole of government system.'<sup>180</sup>

### ***Private Sector***

Ms Edwards highlighted two areas in which the private sector could contribute to an effective education system in an online world — infrastructure and learning resources. In relation to the former, she noted that the 'Central West College has a unique arrangement with a private Internet Service Provider to lay infrastructure to ensure the provision of information systems to people within the MidWest and Gascoyne region.'<sup>181</sup>

In terms of learning resources, Ms Edwards thought that -

Skills such as Multimedia development and Graphic Design will be required for the development of quality educational materials. These skills may be accessed by providers to develop the visual aspects of educational resources. The multimedia industry thus has a role to play in the development of resources but the integral component of development of interactive resources should be designed by educational providers to ensure learning outcomes are addressed effectively.<sup>182</sup>

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<sup>177</sup> Submission to the Telehealth Discussion Paper, Hon. Hendy Cowan MLA, Deputy Premier; Minister for Commerce and Trade; Regional Development; Small Business, 13 August 1998

<sup>178</sup> *ibid.*

<sup>179</sup> Submission, Hon. Mike Board, MLA, *op.cit.*

<sup>180</sup> Transcript of Evidence, 9 April 1998, p.6

<sup>181</sup> Submission, Ms Kelly Edwards, *op.cit.*

<sup>182</sup> *ibid.*

The Committee met with a private sector education organisation, FutureKids, which is providing online education needs to both government and non-government schools. It has provided computer education for children and adults for over 14 years and operates in several countries. According to Mr Holzman, FutureKids' Computer Learning Centre Director, many educators around the world have formed strategic partnerships with FutureKids to help them integrate computer technology in their schools.<sup>183</sup>

### ***Socialisation***

Those submissions which commented on this issue did not appear to see any incongruity between tele-education and socialisation. As Ms Meryl Cruickshank noted, '[t]he young do not appear to have a problem with "talking" to one another via the Net.'<sup>184</sup> She also thought that while socialisation was important, it did not necessarily have to be in a traditional form -

Given that learning does require a certain degree of interaction between the parties involved it would seem that some form of socialisation is essential. This however, does not have to comply with what could be termed traditional social structures but could quite easily be achieved through the use of "chat" lines which provide opportunities for informal conversation with "class mates" and allow for interactive learning.<sup>185</sup>

Similarly, Ms Edwards noted that -

The College is in agreement with the paper regarding the importance of not diminishing the needs of socialisation in an educational setting. It is however, possible to introduce socialisation into the learning situation by utilising a variety of media. With the use of e-mail, computer conferencing, news groups, Internet Relay Chat a variety of synchronous and asynchronous situations can be experienced by the learner and should not be seen as diminishing socialisation.<sup>186</sup>

Mr Wilks highlighted the fact that although children can socialize with other students via the Internet, e-mail, chat lines etc, there still needed to be an element of face-to-face contact with peers and teachers. He noted that the School of the Air currently ran special camps and sports events for its isolated and remote students.<sup>187</sup>

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<sup>183</sup> Transcript of Evidence, 12 March 1998, pp1-2

<sup>184</sup> Submission, Ms Meryl Cruickshank, op.cit.

<sup>185</sup> *ibid.*

<sup>186</sup> Submission, Ms Kelly Edwards, op.cit.

<sup>187</sup> Submission, Mr Graham Wilks, op.cit.

Ms Vardon highlighted the benefits of online socialisation -

There is evidence to suggest that effective use of learning technologies, and in particular online services, makes students more socially aware, more confident and able to work collaboratively in a local and global context. Online services offer a unique state, national and international socialisation opportunity to rural and remote students.

The nature of the communication, i.e. electronic mail, chat and video conferencing allows interaction which prepares students to contribute, in later life, to the global community.<sup>188</sup>

### ***Support for Teachers***

In relation to the Education Department requiring IT and other management decisions to be made at the individual school level, and the associated level of support required for teachers, staff and school communities, Ms Edwards recommended that -

Although the Tele-Education Discussion Paper suggest[s] remote teachers are capable with regard to technology, College research indicates otherwise. ... Significant investment is required for upskilling teachers in the appropriate use of technology and the development of technology based courseware.<sup>189</sup>

Ms Cruickshank offered the following suggestion -

The practice of decentralisation throughout Government is moving the responsibility for decision making in many instances to people who do not have the necessary knowledge and skills to effectively make these decisions. Central policy units are able to establish policy guidelines on which to base decisions but it is believed there would be benefit in establishing an independent IT unit comprising people with knowledge of IT, Government operation and the needs of health, education and commerce. This unit could be responsible for research into IT and assume an advisory role to support decision making bodies.<sup>190</sup>

In evidence to the Committee, Ms Vardon commented that Victoria was making it compulsory for teachers to have information and technology competency in their training.<sup>191</sup>

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<sup>188</sup> Submission, Ms Cheryl Vardon, op.cit.

<sup>189</sup> Submission, Ms Kelly Edwards, op.cit.

<sup>190</sup> Submission, Ms Meryl Cruickshank, op.cit.

<sup>191</sup> Transcript of Evidence, 9 April 1998, p.17

### ***Education Standards, Qualifications and Accreditation***

The Discussion Paper on Tele-education stated that the potential exists to access online education services wherever they were in the world. The Paper questioned how the issues of education standards, qualifications and accreditation should be addressed in a seamless online world. Responses varied as to the likelihood of attaining uniformity amongst the States and overseas.

Mr Donald Boyd, Acting Executive Principal of the School of Isolated and Distance Education, thought that -

Given that currently we do not have a national curriculum, a number of far reaching local policy issues arise ... for which accountability and achievement of student outcomes, particularly in the area of literacy and numeracy, could become major issues.<sup>192</sup>

By contrast, Ms Kelly Edwards noted - '[t]o all intents and purposes the same structures that exist currently to manage education standards, qualifications and accreditation can be very simply modified.'<sup>193</sup>

A number of submissions highlighted how Western Australia was already cooperating with other jurisdictions in terms of sharing curricula material and resources. Ms Cheryl Vardon explained that the Education Department was '... participating with discussion with other Australian school education systems to establish parameters to increase the sharing of curriculum materials developed by each state and territory.'<sup>194</sup>

Ms Vardon also highlighted the fact that the current education strategy lent itself to cross-jurisdictional sharing of resources -

The electronic curriculum environment provides heightened opportunities for sharing and accessing educational resources between states and territories and global information. This is not restricted by the absence of a national curriculum. Outcomes based learning encourages teachers and students to utilise a range of strategies and resources to achieve student outcomes and does not require specific labelling of resources in terms of curriculum structures. Online technologies actively support the outcomes approach to learning as students and teachers can find and share information based on their personal needs.<sup>195</sup>

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<sup>192</sup> Transcript of Evidence, 6 May 1998, p.7

<sup>193</sup> Submission, Ms Kelly Edwards, op.cit.

<sup>194</sup> Submission, Ms Cheryl Vardon, op.cit.

<sup>195</sup> *ibid.*

Mr Boyd outlined some examples of how SIDE was cooperating with other states -

There has been some exchange of teaching expertise in English as a second language with teachers in Western Australia delivering programs to students in the Northern Territory. That has been fairly successful. Television programs for the teaching of Indonesian were purchased from Victoria and transmitted through our Leederville television station to support the teaching of Indonesian in Western Australia.<sup>196</sup>

In addition, Mr Boyd mentioned that in relation to cooperation amongst Australian distance learning institutions, a committee had been established to consider ways to share the cost of producing materials. 'For example, if Queensland has some materials that we can use, say, on a LOTE program, and it fits our syllabus, why not purchase it from them? Likewise, if we have something Queensland can use, why not let them take it from us?'<sup>197</sup>

The Hon. Graham Kierath, MLA, Minister for Employment and Training, discussed the progress made by the Vocational Education and Training (VET) sector, which was also State-funded. The VET sector had implemented mutual recognition of all courses delivered by Registered Training Organisations, which was supported by the National Training Framework. In addition, all courses had to be consistent with the Australian Qualifications Framework. As a result of these developments '... the VET sector has greater national consistency than the schools sector and does not face many of the impediments to curriculum development that a State-based curriculum faces.'<sup>198</sup>

## Summary

This section on tele-education has highlighted some of the key issues and challenges raised in the submissions received in response to the Committee's Tele-education Discussion Paper. The need for tele-education, like telehealth, is obvious, although it appears that more needs to be done, both by the Education Department and the Government, to make it happen.

Without committing the necessary resources to providing adequate infrastructure and access, many Western Australian students, particularly those in rural and remote areas, will lack quality education. This will not only affect them in their future lives, but will also have an impact on the future development of this State.

The Committee is aware that equity in Tele-education will not happen immediately, but the underlying aim should be to allow non-metropolitan students the equivalent access as for metropolitan students. Geographical location should not be a factor in defining the quality of education. As with telehealth, tele-education should be accessible, affordable and available.

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<sup>196</sup> Transcript of Evidence, 6 May 1998, pp.7-8

<sup>197</sup> *ibid.*

<sup>198</sup> Submission, Hon. Graham Kierath MLA, Minister for Employment and Training, 25 August 1998



In particular, the following issues should be addressed -

Geographical location should not be a factor in defining the quality of education.

Rural and remote communities will continue to suffer from a second class education status if they are not provided with adequate and affordable access to communications infrastructure.

It is imperative that adequate funding is devoted to the widespread implementation of tele-education services in Western Australia.

Significant investment is also required to train teachers in the appropriate use of the technology and enable them to adapt to the new Online environment and culture.

The role of teachers and publishing will change, as curricula is increasingly able to be delivered by video and audio capable online tools. This will necessitate the need to address such issues as intellectual property, accreditation of information and opportunities for dramatically reduced costs of information.

Government should conduct an impact analysis of technology and infrastructure changes in remote communities, particularly because of the expense imposed on rural and remote families every time there is a change in technology.