



# electronic information access report

*An assessment of access to and use of  
electronic resources on  
HIV/AIDS, Hepatitis C and  
other Blood Borne Viruses*

QADREC

Queensland Alcohol and Drug Research  
and Education Centre\*  
for the Commonwealth Department of Health  
and Aged Care

\*A collaborative initiative of Queensland Health  
and The University of Queensland



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## Executive Summary

In 2000, the Department of Health and Aged Care commissioned the Queensland Alcohol and Drug Research and Education Centre (QADREC), University of Queensland, to conduct the Electronic Information Access Project in order to inform the future development of education, training and information resources relating to HIV/AIDS, Hepatitis C and other blood borne viruses (BBVs).

The project involved an assessment of access to and use of electronic resources on BBVs by:

- organisations (ie. HIV/AIDS and Hepatitis C councils, drug user organisations and needle and syringe programs)
- workers and volunteers in the above organisations
- people who have HIV/AIDS, hepatitis C or who inject drugs.

A survey of these target populations was conducted over a three month time period. Together with a literature search and use of base line data, the results represent a qualitative 'snapshot' of current access to, and use of electronic resources, including information on BBVs, that exist in electronic formats at the organisational, staff and service user levels.

The key findings of this project are:

- Educational attainment, income over \$40,000 and being younger are the primary indicators of access to, and use of, electronic resources. Though gender and locality play a part in indicating access to and use of electronic resources, they are less important than these primary indicators
- The main barriers to the use of electronic resources are the lack of physical resources and infrastructure support, funding priorities and education and training issues
- Gaps in current access and use include: a low level of awareness of electronic resources and their usefulness in the workplace, no central directory of electronic information resources on BBVs, gaps in information provision around women and other target groups, and few online education and training resources on BBVs
- Nearly 75% of workers and volunteers had no training on using electronic information resources
- Very few staff rated highly their ability to locate and evaluate electronic information resources
- Time constraints were considered the main barrier to accessing and using electronic resources by workers and volunteers.

This project provides several recommendations on the issues of access, infrastructure and support, training, information provision dissemination and future research activities.

## Recommendations

### ACCESS

1. Provide service users with opportunities to interact with electronic resources at identified geographical sites (e.g., service providers' agencies in the BBV field, or other community agencies such as libraries). This could involve provision of free or minimal charge for use of personal computers with Internet access.
2. Ensure that physical design and layout issues are considered when providing electronic resources for services users. This may entail, for instance, ensuring that privacy is maintained in the physical placement of such resources.
3. Establish and implement a process of distributing redundant electronic resources (i.e., computers, printers etc) from government and other larger agencies, to smaller less well-funded agencies.
4. Develop workable incentives and support systems, and address key infrastructure and standard barriers as outlined in Health Online. This could include:
  - equipment supply as standard in provider contracts
  - supporting affordable access to telecommunication services.

### INFRASTRUCTURE SUPPORT

5. Develop support mechanisms for the initial uptake and continued use of electronic resources by organisations, their workers and service users. For instance:
  - encourage the sharing of electronic resources between organisations in the same region (for instance, in joint funding of an information technology support position)
  - become involved in the development of help desk facilities as outlined by Health Online.

### TRAINING

6. Support the development of education and training models that include knowledge transfer methods (such as online information searches and increase skill building in the area of communication technology and related electronic resources).
7. Support and promote the implementation of locally accessible training on the potential of information technology and related electronic resources.
8. Develop an online (Internet and CD ROM) version of a basic skills training program on locating and evaluating electronic information. Content should include:
  - quick ways to do searches
  - tips on searching
  - evaluating information
  - utilising information once it is located
  - relevant examples.

### INFORMATION PROVISION

9. Print format, face to face and other traditional methods of information provision and dissemination should be continued at this stage. Online information should mirror the type and quality of information available in print. Though utilisation of electronic resources should be encouraged, it should be recognised that workers and service users view them as an adjunct to current practices.
10. Instigate the development of a web site directory on electronic BBV information. This could occur through extending the Hepatitis C directory on the CEIDA web site.
11. Develop electronic resources for special target groups such as women, people of culturally and linguistically diverse backgrounds, indigenous community members and hard to reach populations.

## QUALITY ASSURANCE

12. Develop and promote brief standard criteria that can be used by information seekers to evaluate the quality of located resources. This tool should be linked to key agency websites.
13. Ensure that web sites of government and key service provider agencies are maintained and updated in a timely manner. Further, recognition of this requirement in performance agreements or accreditation systems is required.
14. Government and key service agencies should continue to actively encourage and maintain mailing lists such as the NSP Forum and ADCA Update. They are an important means of informal peer review of current research, interventions etc. They are also a means of networking and providing support for front line workers.

## PROMOTION OF INFORMATION, EDUCATION AND TRAINING RESOURCES

15. Develop a strategy and framework for promotion of community electronic resources in general, especially access to other sites such as libraries and TAFEs regarding issues such as chronic health issues including BBVs.
16. Promote the scope, potential and availability of electronic resources to service users and within organisations.
17. Identify and recognise information 'gatekeepers'. Gatekeepers are critical for the dissemination of accurate and appropriate information and resources for use throughout the entire agency. Actively encourage and support such roles by recognition in job descriptions and program planning.
18. That a dedicated function be funded to collect, evaluate and disseminate electronic information resources on BBVs. Such a function would formalise dissemination and resourcing processes.

## FUTURE RESEARCH

19. Research and evaluate the efficacy of online education and training activities within public health generally.
20. Conduct a pilot project to evaluate the effectiveness of information and interactive technology as a means of providing information and support to reduce harms associated with 'risky behaviours' to clients. This may include:
  - Providing electronic resources in a group of service users' homes
  - The use of touch-screens in agencies for service users
  - A campaign comprised of a series of web-based initiatives to capture non service users.

## Introduction

### BACKGROUND AND RATIONALE

The Australian health system is increasingly recognising the need for more effective and accessible health-related information for use by service providers, consumers and policy makers. This nationally recognised need is being realised through initiatives aimed at developing an environment conducive to:

- efficient access to up to date information by stakeholders
- enabling communication and the sharing of information between stakeholders
- the collection, collation and analysis of information across health services, settings and populations (Health Online, 1999: 8).

In response to the health information needs of Australian consumers and service providers, the National Health Information Management Advisory Council launched *Health Online: A health information action plan for Australia* in late 1999. The purpose of the plan is to provide "the basis for a national strategic approach to using information in the health system and to promote new ways of delivering health services, by harnessing the enormous potential of new technologies" (6). The expected outcomes of this plan include:

- achieving national collaboration on health information needs
- infrastructure support
- instigating national standards for health information management
- addressing key infrastructure and standards barriers
- 'empowering' consumers and communities.

During the same year, the Australian Institute of Health and Welfare, in collaboration with the National Public Health Information Working Group, launched the *National Public Health Information Development Plan*. This plan outlined the public health information needs of consumers, service providers and policy makers and identified areas requiring action to improve public health information in Australia. Of relevance to this current report, the plan contained recommendations for improving public health information in the areas of:

- analysis and presentation of material for lay audiences
- information delivery and access
- information marketing.

Concurrent to these national developments in health information, the Council of Australian Governments (COAG) approved a \$221 million package for measures under the National Illicit Drug Strategy. This package included a health promotion initiative aimed at increasing education, counselling and referral services provided through community based programs. This initiative is currently being implemented by the Hepatitis C Section of the Communicable Diseases and Environmental Health Branch of the Population Health Division within the Commonwealth Department of Health and Aged Care (DHAC).

Two reports commissioned by the DHAC on COAG-related initiatives have provided impetus for research on the availability and use of electronic resources for education and training purposes and for information dissemination.

Research conducted by the Australian Research Centre in Sex, Health, and Society (*Hepatitis C Prevention Education for Injecting Drug Users in Australia Report*, 1999) recommended the development of accessible reference tools for prevention education, counselling, care and support, along with maximising educational activity levels of needle and syringe programs. The aim of these recommendations was to improve the overall level of education provided to injecting drug users and to ensure better educational practices in the sector.

A recent report (*Consultation on Distribution of Commonwealth Hepatitis C Education and Prevention Funding*, 1998/9), contained a recommendation for the development of an adult learning web site targeting people affected by hepatitis C and health care workers. However, it noted that "whilst access to the Internet as an adult education device is increasing, there are still significant numbers of health care workers who do not have access to the Internet either at work or at home" (13).

It is generally agreed that electronic sources of information such as the Internet and CD-ROM could provide the opportunity for flexible and self-paced learning in the place of formal tuition and other learning methods. However, in terms of planning for the provision of information relating to BBVs, research was needed to identify the extent of access to, and use of, information currently available, and whether interested parties found using electronic resources convenient.

### **AIMS AND OBJECTIVES**

The aim of this research project was to inform the future development of education, training and information resources relating to HIV/AIDS, Hepatitis C and other blood borne viruses (BBVs) by the DHAC and its service providers. To this end, the project objectives were to identify:

- who has access to electronic information resources?
- who uses electronic information resources?
- what barriers exist, and how these can be overcome?
- where are the gaps and inaccuracies?

To meet these objectives, the Electronic Information Access Project involved an assessment of access to and use of electronic resources by:

- organisations (ie. HIV/AIDS and Hepatitis C councils, drug user organisations and needle and syringe programs)
- workers and volunteers in the above organisations
- people who have HIV/AIDS, hepatitis C or who inject drugs.

### **ADVISORY COMMITTEE**

An Advisory Committee consisting of representatives from the DHAC, State and Territory Health Departments and national organisations provided advice on the project activities. This committee was particularly involved in, and consulted about, the developmental and implementation phases of this project.

### **PREVIOUS RESEARCH**

Previous research suggests that access to, and use of, electronic resources needs to be understood within a context of organisational, training and educational issues, information awareness and socio-economic issues. Questions about quality of information resources and evaluation of resources also require consideration within this context.

Organisational issues influence access to and use of electronic resources (Herskovic et al, 2000; Crow, Howie and Thorpe, 1998). These issues include funding and infrastructure, organisational priorities, work place processes and relationships between organisations. Indeed, the Health Online plan recognises that there is need for growth in infrastructure and the development of incentives and support systems to increase access to online health services by organisations (Health Online, 1999: 34-36).

Possessing appropriate skills in locating information and applying that knowledge facilitates a health care worker's efficacy. As such, health care workers have education and training requirements in relation to accessing up to date information. Yet it is generally recognised that "the information skill base amongst many health care workers is low, and opportunities to enhance their knowledge [through] training and support ... is required to encourage uptake and use of information technology" (Health Online, 1999:39). Some features of education and training related to information access and use that need to be considered are those of resource awareness, perceptions of accessibility of resources, searching and evaluation skills, and identifying the types of education and training required by workers.

"Consumers access to information and the ability to make decisions about their own health and wellbeing are important rights" (Health Online, 1999:45). Research indicates that access to health information enables patients to be active participants in the treatment process. This in turn can lead to better medical outcomes (Brody, 1989; Greenfield, Kaplan and Ware, 1985; Mahler and Julik, 1990 in Kahn, 1993). However, understanding what influences someone to search for particular information, and then how they use it, is critical in identifying what strategies need to be developed for encouraging use of electronic resources.

As with a number of other areas of society, socio-economic status influences access to and use of electronic resources. Low income, educational attainment, locality and gender impinge upon individual and specific populations' involvement in the information revolution, and in any benefits derived from faster, more efficient, and democratic information dissemination and utilisation (McNutt, 1998; Hellwig and Lloyd, 2000; Holderness, 1998; Doctor, 1991; Reinecke, 1987 and Lyon, 1988).

O'Callaghan (1997) in White and Astbury (1998), found significant differences in information seeking strategies and preferences in information format and content between sexes and various "subgroups". It is also important to recognise that the literacy level and cultural background of the target audience also impinge upon effective dissemination and application of information (Health Online, 1999:46). As Hill (1998) states "if you are poor or disadvantaged in some way, are you likely to have the same opportunities to access information on health and disease as those better off? There are various concerns here including literacy, language of everyday use, social position and confidence to ask questions and exercise choice" (9).

Along with these contextual features of access to and use of electronic education, training and information resources, the resources themselves also need to be considered. Consumers and health providers have a variety of health information needs. These relate to:

- health promotion and illness prevention strategies
- information on availability, access, quality, cost of services, rights, complaints mechanisms and access to consumer support groups
- information for people living with long term illness, pain and disability (Health Online, 1999: 46).

Health providers in particular "are living in a world of ever expanding advances in new therapies, greater emphasis on evidence based health care, higher levels of consumer expectations, and better informed and more empowered consumers. There are a number of sources of information that health providers utilise to ensure they can offer services in the best interests of patients and to provide better communications between providers and their customers. However, access to information sources may be delayed and not accessible when needed" (Health Online, 1999:9-10).

At the commencement of the project, an initial examination of the literature revealed an increasing proliferation of articles on health information and the Internet, although little specifically relating to blood borne viruses and electronic resources. There is a lack of published information on the uses of electronic resources for information, education and training around hepatitis C and hepatitis B, and little in relation to specific populations, such as women and persons from culturally and linguistically diverse backgrounds.

However, there has been some research and evaluation in the literature on the use of electronic resources in relation to HIV/AIDS. Significantly, the October 2000 edition of the journal *AIDS: Education and Prevention* has published a supplementary edition on replicating HIV/AIDS interventions through the use of information and communication technology.

## PROJECT ACTIVITIES

A survey of three target populations was conducted over three months. Together with a literature search and use of base line data, the results represent a qualitative snapshot of current access to, and use of, electronic resources information on BBVs, within a context of organisational, education, training and resourcing issues.

## Methodology

In order to assess access to and use of electronic resources on BBVs, there was a need to capture information at the organisational, worker and volunteer, and service user levels. Additionally, the diversity of the blood borne virus field required an approach that considered and accounted for the following realities.

There are numerous services across the country that incorporate blood borne virus related issues into their sphere of activity. These organisations range from national peak agencies and user organisations to pharmacies and accident and emergency departments. Some of these organisations have relatively large paid workforces and others rely mainly on volunteers.

Initially, the inclusion of organisations was not a focus of the project. However, it became apparent that to 'capture' these workers and people who have HIV/AIDS, hepatitis C or who inject drugs, it would be necessary to view organisations as more than just gatekeepers. Indeed, organisations are a critical element in an individual's access to and use of electronic information resources, and in servicing the health and welfare related needs of people living with HIV/AIDS, hepatitis C or who inject drugs.

Workers and volunteers in the area of BBVs come from many different backgrounds. They also have a diverse range of skills, qualifications and experience. Their work roles are diverse and include peer educators, nurses, information and education officers, pharmacy assistants, and welfare workers. In some agencies, a worker has various roles. Workers and volunteers were included in this research project because, as 'front line' workers, their activities are influenced greatly by the availability of appropriate information on blood borne viruses, and by appropriate education and training opportunities.

Stigma is often attached to persons who inject drugs, and indeed, to people who have HIV/AIDS or Hepatitis C. Thus, dissemination of information and developing opportunities for interventions via innovative and accessible systems is essential. It was envisaged that survey response rates from this particular group were going to be quite low, as they would constitute a 'hard to reach' population. Therefore steps were taken to ensure that this information could also be obtained indirectly through other means.

To capture information on access to and use of electronic resources at several levels, a number of methods were employed. These methods included undertaking a literature search, utilising available data sets and surveying organisations, workers, volunteers and service users.

There were a number of benefits associated with the methodology employed, including:

- *a holistic perspective*
  - takes into consideration the current situation as a system that includes many levels
  - places access and use within a context – thus providing a framework
  - helps inform the development of future initiatives.
- *an audit of resources*
  - identifies relevant resources already in use
  - identifies gaps and inaccuracies in resources overall
  - informs what changes should be made systematically, rather than on an adhoc basis.
- *ownership over the process*
  - enables organisations, workers and target populations to be consulted on their needs
  - provides opportunities for participants to publicise solutions they have developed
  - encourages organisations, workers and target populations via self-reflection to indirectly consider how they seek information electronically, and how such practices could be improved.

Details of the methods employed in this project are presented below:

- **LITERATURE SEARCH**

To provide a framework for this report, and to locate prior instances of the use of electronic resources in information, education and training in relation to BBVs, a literature search was undertaken.

The literature search focused on the following topics:

- access and use
- health information
- quality
- barriers to access and use
- education and training issues.

"Winspurs", a computer program available through The University of Queensland, was used to search for literature on the above topics. Winspurs enables a search of several databases simultaneously on the one topic and is therefore a very efficient method of locating literature and previous research relevant to the current project.

The results of the literature search are presented as an annotated bibliography. This was considered by the Advisory Committee to be a useful format to inform the policy and program work of the DHAC and their service providers (Appendix One).

- **BASELINE DATA**

Australian Bureau of Statistics (ABS) data on household, adult and business use of electronic resources were identified as a relevant baseline for comparison with the project target groups. ABS data are a widely recognised source of accurate information on various issues. ABS data also have the benefit of being a national data set that surveys households, adults and businesses Australia-wide.

ABS data used were the most current available at 31 January, 2001.

It should be noted that the data covers three different time frames. Household and Adult data are derived from either the calendar year 1999, or the period May 1999 to May 2000. Business data utilised covers to the 1999-2000 financial year.

Other data sets that also informed the base line data included research undertaken by KPMG, the National Office for the Information Economy, and the August 2000 report by the National Centre for Social and Economic Modelling (NCSEM) for Telstra.

- **SURVEY**

To ensure a consultative process by engaging broadly across the possible BBV field, much effort was placed into developing the survey tools and an implementation strategy.

### **Survey Instruments**

The survey instruments were designed to incorporate organisational, worker and service-user perspectives on electronic information and education resources. The design of survey questions was informed by the literature review and by the variables used in the collation and collection of data by the ABS on households and businesses.

Three survey instruments were developed for:

- organisations
- workers and volunteers
- service users (people who have HIV/AIDS, hepatitis C or who inject drugs).

The information collected was based on the following areas:

- what electronic resources individuals and organisations had access to and used (including personal computers, e-mail, Web sites, search engines, mailing lists)
- what problems existed in accessing and using electronic resources
- types of information sought on blood borne viruses
- types of information on blood borne virus that could not be found
- training issues (workers and volunteers)
- benefits of electronic resources (organisations)
- demographics (age, gender, income & locality of workers, volunteers and service users).

The survey instruments included mainly closed questions and rating scales. A small number of open-ended questions were used to provide opportunities for broader input (Appendix Two).

### **Survey Implementation**

Organisations were recruited via publicly available lists of HIV/AIDS Councils, Hepatitis C Councils, drug user groups and needle and syringe programs. The Community Education Workforce and Training Project (CEWT) provided a complete list of contact details of these organisations. The CEWT study is an investigation of the community education workforce and how its members conduct their work in the areas of HIV/AIDS, hepatitis C and sexually transmitted diseases.

In the first instance, organisations were sent a letter outlining the project and requesting for participation in the project. Follow up telephone calls were made to the organisations' one week after the letter had been sent. This was to obtain the consent of organisations and their workers to participate in the project and, to arrange a time for a 10 minute telephone survey with them. Once the 10 minute interview had been undertaken, the organisations were asked to nominate three staff or volunteers (providing first name only, for anonymity) for participation in a five minute telephone survey. Staff nominated by their organisation were then contacted and asked to participate in a five minute telephone interview at their convenience.

Organisations were also asked when their next newsletter/magazine was due for publication. If this was within the data collection phase of the project, organisations were asked whether the Service User survey could be sent out either in the newsletter or magazine, or for it to be included in the mail out. How this aspect of the survey was administered was determined after discussion with the organisation.

### **Survey data collation**

Data was entered using Microsoft Access, and SPSS version 10 was used for data analysis.

## Results

The research results of the electronic information access project are summarised here. These results cover:

- Baseline data
- Organisation, Worker/Volunteers, and Service User Surveys
- Qualitative list of electronic resources.

### BASELINE DATA

The baseline data presented here on household, adult and business use of electronic resources comes from the Australian Bureau of Statistics, research undertaken by KPMG, the National Office for the Information Economy, and by the National Centre for Social and Economic Modelling (NCSEM) for Telstra.

The data are presented in three main sections:

- Access and use of electronic resources
- Barriers to access and use of electronic resources
- Other pertinent issues.

Within each of these sections, data are presented on households, adults and businesses.

### Access and Use of Electronic Resources

#### *Household Use of Electronic Resources*

According to the ABS data, 54% of households have a computer and a third of these households have Internet access. Of households that have internet access, 87% go 'online' daily, or two to six times a week (Table 1).

**Table 1: Household computer use and Internet access, in the twelve months to May 2000**

<b>Access</b>	<ul style="list-style-type: none"> <li>• 54% (3.8 million) had a computer</li> <li>• 33% (2.3 million) had Internet access</li> <li>• 75% of households with incomes of \$50,000 or more had a computer and 41% had Internet access</li> <li>• 37% of households with incomes less than \$50,000 had a computer and 18% had Internet access</li> <li>• At May 2001, a little over 60% of households are projected to have a home computer and almost 50% are expected to have Internet access.</li> </ul>
<b>Use (frequency)</b>	<ul style="list-style-type: none"> <li>• 47% accessed the Internet daily</li> <li>• 40% accessed two to six times a week</li> <li>• 8% went online once a week</li> <li>• 2% once every two weeks</li> <li>• 2% once a month or less.</li> </ul>

Sources: Communications and Information Technology: Household Use of Information Technology, ABS. Use of the Internet by Householders, ABS (8147).

The households more likely to have a home computer or to have Internet access are those with children under 18, have higher household incomes or located in metropolitan areas (Table 2).

**Table 2: Households with home computer and Internet access, 1999**

	Computer		Internet	
	N of households	Proportion	N of households	Proportion
	'000	%	'000	%
<b>Households</b>				
With children under 18	1 677	66	772	31
Without children under 18	1 652	37	764	17
<b>Household Income</b>				
\$0-24,999	412	21	116	6
\$25,000 - \$49,000	733	45	272	17
\$50,000 - \$74,999	786	64	385	31
\$75,000 - \$99,999	459	73	248	39
\$100,000 or more	452	81	289	52
Not stated	487	53	225	24
<b>Region</b>				
Metropolitan	2 308	52	1155	26
Non-Metropolitan	1 021	41	381	15

Source: Household Use of Information Technology, ABS (8146)

### *Adult Use of Electronic Resources*

In the 1999/2000 business year, 33% of the Australian population had not used a computer. Males, persons aged 18-24 years and those on higher salaries were more likely to have used a computer in this time period (Table 3).

**Table 3: Adult computer use, in the twelve months to May 2000**

Characteristic	%
<b>Population</b>	67% (9.2 million)
<b>Access Sites</b>	
Home	47
Work	43
Other Sites	38
<b>Age</b>	
18 to 24	90
25-39	83
40-54	72
55 years and over	31
<b>Sex</b>	
Males	70
Females	41
<b>Employment Status</b>	
Employed	81
Not Employed	41
<b>Salary</b>	
More than \$40,000	88
Less than \$40,000	61
<b>Region</b>	
Metropolitan	70
Non-Metropolitan	61

Source: Use of the Internet by Householders, Australia, May 2000 ABS (8147) in NOIE, November 2000.

Males, and employed persons were more likely to access the Internet. Persons aged 18 to 24 years were more likely to access the Internet from other sites than from home or work. The older the person was, it was less likely that they accessed the Internet (Table 4).

**Table 4: Accessing the Internet (a) (b), Main Characteristics – May 2000**

Characteristic	Sites of Internet Access (c)			
	Home %	Work %	Other Sites %	Any Site %
<b>Age (years)</b>				
18 to 24	38	20	63	77
25 to 39	34	30	29	60
40 to 54	33	26	13	45
55 and over	12	6	4	16
<b>Sex</b>				
Males	33	24	25	51
Females	24	19	20	41
<b>Employment Status</b>				
Employed	35	32	27	59
Not employed	15	--	15	23
<b>Region</b>				
Capital Cities	31	24	23	49
Rest of Australia	22	16	21	40
<b>Total</b>	<b>28</b>	<b>21</b>	<b>23</b>	<b>46</b>

- (a) Proportions are of all persons in each category
- (b) Internet access occurred during the preceding 12 months
- (c) Persons can nominate more than one site if applicable

Source: Use of the Internet by Householders, Australia, May 2000 (8147) in Communications and Information Technology: Household use of Information Technology, ABS.

The baseline data suggest that nearly three quarters of adults who use the Internet at work do so daily, or two to six times a week. Sites other than work were the leading locations for studying online. In the twelve months to May 2000, 8% of adults used the Internet to access government services (Table 5).

**Table 5: Adult use, including frequency of use of the Internet, in the twelve months to May 2000**

<b>Home</b>	<ul style="list-style-type: none"> <li>• 37% of adults accessed the Internet at home two to six times a week, 32% daily, 17% went Online once a week, 9% once a month or less, and 5% used the Internet once every two weeks.</li> </ul>
<b>Work</b>	<ul style="list-style-type: none"> <li>• 42% of adults accessed the Internet at work, did so daily, 28% two to six times a week, 15% once a month or less, 10% once a week, and 5% once every two weeks.</li> <li>• Between May 1999 and May 2000, the number of adults accessing the Internet at work two to six times a week nearly doubled.</li> </ul>
<b>Other Sites</b>	<ul style="list-style-type: none"> <li>• 61% of adults access the Internet at other sites, once a month or less, 16% two to six times a week, 10% once a week, 6% daily, and 5% once every two weeks.</li> </ul>
<b>Uses</b>	<ul style="list-style-type: none"> <li>• In the 12 months to May 2000, 8% of adults used the Internet to access government services.</li> <li>• Over 40% of adults report using a computer for learning/study</li> <li>• Online activities depend upon where they access the Internet. Sites other than work were the leading locations for adults studying Online. Australian adults browsed the Internet primarily from home and other sites.</li> </ul>

Source: Use of the Internet by Householders, ABS (8147).

*Business Use of Electronic Resources*

At June 2000, one in four businesses did not use a computer, nearly half of all businesses did not have access to the Internet and 84% of businesses did not have a Web site (ABS, 1999–2000 Report 8129). Smaller businesses (up to five employees) were less likely to have personal computers, Internet access or a Web site. Of businesses with a Web site, 2% had live ‘chat rooms’ for customer queries (Table 6).

**Table 6: Business access and use of computers, Internet and Web site**

Access	<ul style="list-style-type: none"> <li>• The proportion of Australian businesses using computers, accessing the Internet or using Web site increased with business size</li> <li>• 69% of small businesses (fewer than 5 persons) used a computer. Of these 50% had Internet access and 9% had a Web site</li> <li>• 68% of large businesses (100 or more persons) had IT staff compared with 13% of small businesses</li> <li>• 14% of health and community services (51 000 businesses) had IT staff, 83% had computers, 57% Internet access and 9% Web site.</li> </ul>
Uses	<ul style="list-style-type: none"> <li>• 20% of businesses used the Internet for e-mail and/or information searches</li> <li>• 25% of health and community services (29 000 with Internet access) use the Internet for e-mail and/or information searches only</li> <li>• 88% of businesses with Web sites used their site to display company information, 79% to advertise their goods or services, 37% had links to other Web sites and 2% had live chat for customer queries.</li> </ul>

Source: Business Use of Information Technology 1999-2000, ABS (8129).

• **Barriers to the access and use of electronic resources**

Households identified no use for a computer, cost and a lack of interest as the main barriers to personal computer acquisition and Internet access. Businesses identified suitability, cost and lack of skills/appropriate training as barriers for computer use, Internet access, and further development of Web sites (Table 7).

**Table 7: Household and Business barriers to computer use and the Internet**

	Computers	Internet Access
<b>Households</b>	<ol style="list-style-type: none"> <li>1. No use for a computer (37%)</li> <li>2. Costs are to high (24%)</li> <li>3. Lack of interest (23%)</li> </ol>	<ol style="list-style-type: none"> <li>1. Lack of interest/no use of the Internet 33%*</li> <li>2. Costs are to high (12%)</li> <li>3. Need to upgrade home computer (12%)</li> <li>4. Adequate access outside the home (8%)</li> </ol>
<b>Businesses</b>	<ol style="list-style-type: none"> <li>1. Not suited to the nature of the business (48%)</li> <li>2. Lack of skills or appropriate training (37%)</li> <li>3. Costs are to high (24%)</li> </ol>	<ol style="list-style-type: none"> <li>1. Not suited to the nature of the business (54%)</li> <li>2. Lack of interest (26%)</li> <li>3. Lack of skills or appropriate training (23%)</li> </ol> <p>Web Site page:</p> <ol style="list-style-type: none"> <li>1. Not suited to the nature of the business (53%)</li> <li>2. Lack of interest (22%)</li> <li>3. Lack of skills or appropriate training (14%)</li> <li>4. Costs are to high (14%)</li> </ol>

\* = The % includes 18% lack of interest in the Internet and 15% for the new category, no use for the Internet. Source: Business Use of Information Technology 1999-2000 (8129) and National Office for the Information Economy (NOIE) November, 2000.

- **Other Pertinent Issues**

In 2000, 526 Commonwealth government services were provided Online, with plans to deliver a further 188 (NOIE, Nov 2000).

"English is by far the most used language on the Internet, although its dominance has decreased in recent years as Internet access has spread throughout the globe. Nearly half of all global Internet users first language is one other than English. However, this growing linguistic diversity is not yet reflected in the content of web pages as 68% of total web pages (as of July 2000) were written in English (State of the Internet 2000 – United States Internet Council and ITAA Inc, Sep 2000, in NOIE, Nov 2000).

## ORGANISATION, WORKER/VOLUNTEER AND SERVICE USER SURVEY

The major results from the survey component of this project are covered below. These are:

- Organisations
- Workers and Volunteers
- Service Users.

The remaining results are presented in Appendix Three.

### Organisations

#### *Demographics*

Sixty-three organisations were approached to participate in the project, and 42 organisations completed the organisation survey. Nineteen organisations (46.3%) defined themselves as state or territory based, and the remaining organisations encompassed capital, regional, and rural areas.

A cross-section of organisations involved in the blood borne virus field are represented, including 15 organisations (36.6%) whose areas of service provision included more than one of the main areas under study (ie. HIV/AIDS, hepatitis C, hepatitis B or injecting drug use) (Table 8).

**Table 8: Type of organisations**

	N	%
HCV/AIDS Org	12	29.3
HCV Org	6	14.6
User Org	4	9.8
NSP Primary	3	7.3
NSP Secondary	1	2.4
Other	15	36.6
Total	41	100

One third (34.1% n=14) of the organisations surveyed comprised between five and 19 staff; and 27% (n=9) of organisations employed between 20-49 staff. Fifteen percent (n=6) of organisations who participated in the survey employed more than 50 staff. Importantly, more than one fifth (21% n=9) of organisations surveyed comprised fewer than four staff.

Twenty-five organisations (61%) cited provision of telephone information among their activities. Other resources included: publication of a magazine or newsletter (83% n=34) and a Web site (76% n=31). Seven organisations had a discussion list, whilst nine had their newsletter/magazine attached to their Web site. Notably, organisations indicated that the main users of Web site were target populations and other service providers.

*Electronic Resources*

Nearly all of the organisations surveyed owned one or more personal computers, with almost half (41.5% n=17) reporting use of 10 or more personal computers. As can be seen in the table below (Table 9), the number of organisations with e-mail and full Internet services on their personal computers varied.

**Table 9: E-mail & Internet Access**

	E-Mail		Full Internet	
	N	%	N	%
None	3	7.5	2	5
A Few	8	20	15	37.5
Most	7	17.5	5	12.5
All	22	55	18	45
Total	40	100	40	100
Missing	1		1	

In 55% of organisations, all computers had email access, and in 45% of organisations, all computers had full Internet access. That is, less than half of the organisations surveyed owned computers with full email and Internet access. Conversely, 7.5% (n=3) of organisations reported that none of their computers had email access, and 5% (n=2) reported that this was also the case for Internet access.

*Problems with Access and Use of Electronic Resources*

Organisations cited the following problems in accessing and using electronic resources: financial considerations (75.6% n=31 ), lack of skills/training (68.3% n=28), computer/network problems (53.7% n=22), and other (39% n=16 - this included problems with infrastructure, time constraints, resources and resource awareness, and access).

When survey respondents were asked to cite the main issue from this list of problems with access and use of electronic resources that confronted their organisation, financial concerns were nominated by approximately one third 34% (n=11) of respondents, followed closely by (lack of) skills/training (31.3% n=10).

*Overcoming Barriers to Access and Use of Electronic Resources*

In an open-ended question, participants were asked to indicate the main ways in which barriers to access and use of electronic information resources could be overcome. Table 10 indicates that respondents believe that barriers could be overcome through financial means (n=13), training (n=7) and improvements to organisational infrastructure (n=9).

**Table 10: Overcoming barriers for organisations**

Topic	N	Key Comments
Training	7	<ul style="list-style-type: none"> <li>• Training</li> </ul>
Financial	13	<ul style="list-style-type: none"> <li>• Free access</li> <li>• Government initiatives eq. equipment supply</li> <li>• More funds</li> <li>• Will is there, need finances</li> <li>• Should be automatic included in provider contracts</li> <li>• Funded positions</li> <li>• Dedicated funding</li> </ul>
Infrastructure	9	<ul style="list-style-type: none"> <li>• Support from funding bodies</li> <li>• Ongoing support</li> <li>• Perhaps sharing a site or person between organisations</li> <li>• Technical support</li> <li>• Ongoing maintenance and support</li> <li>• Commitment from above, especially in development stage</li> <li>• 'If not committed to maintaining a website should not set it up'</li> </ul>
Access	5	<ul style="list-style-type: none"> <li>• More access to computers</li> <li>• Identification of relevant sites and information</li> <li>• Designated strategy</li> <li>• Increase availability</li> <li>• Sharing of resources</li> </ul>
Other	4	<ul style="list-style-type: none"> <li>• Web sources for CALDB</li> <li>• Donated computers</li> <li>• Joint research</li> <li>• Outsourcing program and development</li> </ul>

#### *Benefits of Access to and Use of Electronic Resources*

Nearly all organisations indicated that their organisation would benefit from electronic resources. These benefits included: better communication (97.6% n=40); being able to access information (97.6% n=40); sharing knowledge (97.6% n=40); a wider distribution of resources (92.7% n=38); and greater visibility (90.2% n=37). Indeed, all respondents to this question perceived that implementing e-mail facilities within the next three years was essential. Interestingly, access within the next three years to full Internet services (78% n=31), research databases (57.5% n=23) and CD-ROMs (42.5% n=17) was not considered as important.

## Workers and Volunteers

### Demographics

One hundred and twenty-two workers and volunteers in BBV related fields across Australia completed the survey. Over half of the survey respondents (62.8% n=76) were female.

A breakdown of the respondents by age is presented in Table 11. As can be seen in this table, 91% of respondents were aged between 25 and 54.

**Table 11: Age**

	N	%
18-24	4	3.3
25-39	56	46.7
40-54	53	44.2
55+	7	5.8
Total	120	100
Missing	2	

Forty percent (n=47) of respondents reported an annual income of between \$20 000 - \$40 000, and an additional 41% (n=48) of respondents reported an income of between \$40 000 - \$60 000. Fourteen percent (n=16) of respondents indicated that they earned less than \$20 000 per annum.

Employment status of respondents is presented in Table 12. As can be seen, the majority of those interviewed were employed on a full time basis (69.4% n=84).

**Table 12: Employment status**

	N	%
Full time	84	69.4
Part time	28	23.1
Casual	4	3.4
Volunteer	5	4.1
Total	121	100
Missing	1	

As outlined in Table 13, the work style of workers and volunteers in the surveyed organisations varies widely.

**Table 13: Work style**

	N	%
Always Office	28	23.5
Mainly Office	45	37.8
From Home	1	.8
Always Field	3	2.5
Mainly Field	14	11.8
Equal Time	20	16.8
Other	8	6.8
Total	119	100
Missing	3	

Half of workers and volunteers surveyed (50.4% n=61) reported that they lived in a capital city, and the remaining respondents lived in regional cities (18.2% n=22), or rural/remote locations (24.8% n=12).

Respondents were asked about their primary work role. One quarter (n=30) of respondents indicated that their main work role was information and education. However, 49 respondents (41%) reported that they had multiple roles at work (these roles included: peer education, outreach, support, health worker, NSP primary, and NSP other).

*Electronic Resources*

As shown below in Table 14, nearly all of the worker and volunteer respondents had access to a telephone at home (96.7%) and at work (99% n=12). While 89% of workers and volunteers had access to a personal computer at work, less than 70% had home access. Similarly, 84% (n=103) of workers and volunteers had access to e-mail at work, and only 53% (n=63) had e-mail at home (Table 14).

**Table 14: Access to Electronic Resources at Work and Home**

	Work		Home	
	N	%	N	%
Telephone	121	99	116	96.7
PC	109	89.3	83	69.2
E-mail	103	84.4	63	52.5
Full Internet	91	74.6	57	47.5
CD-ROMS	66	54.1	44	36.0
Other	10	8.2	2	4.2
Total	122		120	
Missing	0		2	

Note: Multiple Answers Allowed

Table 15 indicates the type and frequency of electronic resources most commonly used by those workers and volunteers who participated in the survey. Respondents reported that the electronic resource most often used at work was e-mail (63.9% n=76 of respondents' always used it), while the least often used was e-groups (58.1% n=62) 'never' used them. Respondents reported frequent use of telephone information services (n=73 60%), web sites (n=73 63%), Internet search engines (n=68 60%) and mailing lists (n=50 45%).

**Table 15: Electronic Resources Used**

	Never		Occasionally		Sometimes		Always	
	N	%	N	%	N	%	N	%
Phone Info Services	11	9.1	37	30.6	25	20.7	48	39.7
E-mail	9	7.6	14	11.8	20	16.8	76	63.9
Mailing Lists	28	25.2	33	29.7	29	26.1	21	18.9
CD Roms	45	39.1	50	43.5	14	12.2	5	4.3
Websites	14	12.1	29	25.0	44	37.9	29	25.0
News Groups	44	38.9	39	34.5	17	15	13	11.5
Internet Search Engines	21	18.6	24	21.2	36	31.9	32	28.3
Egroups	62	58.1	27	25.7	7	6.7	10	9.5

*Problems with Access and Use of Electronic Resources*

Almost three-quarters (74.6% n=88) of respondents reported a total absence of training related to use of electronic resources. This was highlighted by respondents' perceptions about their own abilities in locating and evaluating electronic information. Nearly two thirds of respondents (63% n=75) considered their ability to locate information as 'poor' or 'moderate', and (60.7% n=72) considered their ability to evaluate information in the same way.

Despite these negative perceptions of their own abilities in using electronic resources, nearly three-quarters of respondents (72.5% n=74) indicated that they usually were successful in finding information when they searched for it electronically. Types of information most commonly sought by the workers and volunteers interviewed include: treatment (82.1% n=92), available resources (81.3% n=91) and agencies and services (71.4% n=80).

Participants were also asked about searches for information that had not been successful. Participants were less specific with these responses, but indicated that they had been unable to find information generally in the areas of: treatment, prevention and health resources. Additional information that respondents had not been able to locate included: resources in languages other than English; and new research studies and outcomes.

Over half of respondents (53.7% n=65) reported having experienced problems at work accessing electronic resources. The main problem cited was the lack of time (66% n=70). Other types of problems in accessing electronic resources at work include: computer or network problems (27.3% n=33), lack of skills or training (24.8% n=30) and infrastructure and general access issues (18.2% n=24).

### *Overcoming Barriers to Access and Use of Electronic Resources*

In an open ended question (that allowed more than one response), participants were asked to indicate the main ways in which barriers to access and use of electronic information resources could be overcome. Respondents indicated that barriers could be overcome through: skill development and training (n=45) development of a specific quality directory of electronic resources (n=18) responding to organisational issues (n=14) infrastructure development (n=9) and creating more time for workers (n=11) (Table 16).

**Table 16: Overcoming barriers for Workers and Volunteers**

Topic	N	Key Comments
Training	45	<ul style="list-style-type: none"> <li>• Specific training</li> </ul>
		<ul style="list-style-type: none"> <li>• Basic training</li> <li>• Acquisition and evaluation</li> <li>• Locating information</li> <li>• Quick ways to search</li> <li>• Awareness of what is available</li> <li>• Tips on searching</li> <li>• Interfacing with the computer</li> <li>• Understanding the potential of electronic resources</li> <li>• Hands on experience</li> </ul>
Directory	18	<ul style="list-style-type: none"> <li>• Comprehensive list of sites</li> <li>• Centralised, well promoted up to date lists</li> <li>• Vetting information</li> <li>• Keeping information current and up to date</li> <li>• Specific engine</li> <li>• Better classification system</li> <li>• Web rings</li> <li>• More information</li> <li>• A good index</li> <li>• Credible sites</li> <li>• Quality sites</li> <li>• Peer review</li> <li>• Reliable sites</li> </ul>
Organisations	14	<ul style="list-style-type: none"> <li>• Access (more open usage)</li> <li>• Having access on own computer</li> <li>• Better funding</li> <li>• Increase internal networking</li> <li>• Access to materials you normally would have to pay for e.g. full text journals</li> </ul>
Time	11	<ul style="list-style-type: none"> <li>• Limitations &amp; constraints</li> </ul>
Infrastructure	9	<ul style="list-style-type: none"> <li>• Consistent availability of appropriate technology</li> <li>• Better equipment</li> <li>• A printer, modem, more memory</li> <li>• Cheaper software</li> <li>• Better server</li> </ul>

## Service Users

Information on service users access to and use of electronic resources, the barriers that they face and how they can be overcome was obtained from two sources:

1. Thirty - nine organisations provided general information on their clients and clients' access to and use of electronic resources.
2. Ten organisations implemented the Service User's survey, yielding a response rate of 20.

Results from both sources will be presented together.

### *Demographics*

The demographics of the 20 service users who completed the survey are summarised below:

- Twelve service users were female
- Ten service users were between the ages of 25-39 yrs; and 9 were between the ages of 40-54 yrs
- Eleven service users reported an annual income of less than \$20,000
- Seven service users were employed full-time; 7 were on pensions and six either worked part time, on a casual basis or were unemployed
- Nine service users resided in a capital city; 7 in a regional city; and 4 in a rural or remote area.

### *Access to Electronic Resources*

According to organisations, 'most' or 'all' of their clients had access to telephone information services (78.1% n=32). Twenty-four organisations (58.5%) reported that a few of their clients had access to CD-ROMS and e-mail, whilst 23 organisations (56.1%) reported that a few of their clients had access to the Internet.

Almost one third of organisations (29.3% n=12) reported that most of their clients actually used telephone information services, and 39% (n=?) reported that a few of their clients had done so. Use of CD-ROMs by clients was reported by 18 organisations (43.9%), and over half of organisations reported that a 'few' of their clients would use e-mail and/or Internet.

Service user self reports indicated that 19 (out of 20) have access to a telephone, 15 have access to e-mail, 11 to personal computers and 12 to full Internet services. However, half of all service user respondents had problems accessing electronic resources.

Half of the service user participants indicated that they preferred to obtain information face to face or in printed formats (n=10), although one fifth (n=4) indicated that obtaining information over the Internet was preferential.

### *Problems with Access to and Use of Electronic Resources*

The main problems experienced by service users who participated in the survey include: not having a personal computer at home (n=6); and lack of skills/training (n=4). Similarly, the main barriers to access and use of electronic resources as perceived by service user participants were financial considerations, lack of hardware (e.g., computer at home), and lack of skills/training.

Service user participants reported that the main types of information sought were: health maintenance and treatment information. Organisations believed that the main types of information sought by service users include: testing and diagnosis (82.9% n=34) health maintenance (85.4% n= 35) and treatment information (82.9% n=34) (Table 17).

**Table 17: Main types of information required**

	Organisational Survey		Service User Survey	
	N	%	N	%
Testing & Diagnosis	34	82.9	7	35
Health Maintenance	35	85.4	16	80
Treatment Information	34	82.9	14	75
Agencies & Services	32	78	13	65
Support Groups	28	68.3	14	70
Available Resources	32	78.0	12	60
Other	10	24.1	2	10
Missing/ Did Not Know	5			

Note: Multiple answers allowed.

### Overcoming Barriers to Access to and Use of Electronic Resources

In an open ended question, service user participants were asked to indicate the main ways in which barriers to access and use of electronic information resources could be overcome. Respondents indicated that barriers could be overcome through: providing access to electronic resources either through organisations, in the home or other sites (n=27) education, training and encouraging people to use electronic resources (n=13) and promotion of electronic information (n=8).(Table 18)

**Table 18: Overcoming barriers – Service Users**

Area	N	Key Comments
Access and Use	27	<ul style="list-style-type: none"> <li>• Make computers available at selected, appropriate agencies</li> <li>• Access in own home</li> <li>• Have a computer available specifically for clients</li> <li>• Distribute redundant computers; provide cheap transport to existing resources</li> <li>• Basic training</li> <li>• Increased access to public use of computers and info sources; link to local libraries; TAFE</li> <li>• Provide personal computers</li> <li>• Legalise drug use</li> <li>• Consider design issues in providing access i.e., Discrete and subtle; increase credibility of sourcing of information; telephone information services are only good for short and sharp information</li> <li>• Peer education within the community</li> <li>• Installation of a personal computer in the service; networked</li> <li>• Touch screen to provide interaction</li> <li>• More places that have free access to walk in and use equipment</li> <li>• Promote community resources</li> </ul>
Education and Encouragement	7	<ul style="list-style-type: none"> <li>• Encourage takeup study grants around internet</li> <li>• Barriers especially for older and rural persons</li> <li>• Basic computer literacy is available now question of persons priorities</li> <li>• Gulf of people who have grown up without computers</li> <li>• Financial and basic training</li> <li>• Young more likely to use computers</li> <li>• Encourage access to public libraries, Internet and finances</li> <li>• Publicised community centres where anyone can have access</li> </ul>
Promotion	8	<ul style="list-style-type: none"> <li>• Advertise our service computer access and other public access outlets</li> <li>• Marketing of electronic resources</li> <li>• Main barrier: lack of awareness of computer resources</li> <li>• Educate people in the community to market organisations</li> <li>• More progressive and imaginative information that is sent out</li> <li>• More promotion of the net as an education and means of communication between people in similar situations; and in bringing people together</li> </ul>
Training	6	<ul style="list-style-type: none"> <li>• Funding for access to electronic resources, identified computers, access lines etc</li> <li>• Basic training, where possible; private section</li> <li>• Ones who don't use are much older and difficult to train; cheaper cost; required</li> <li>• Free training</li> <li>• Training and skills community development grassroots key to success</li> </ul>

## QUALITATIVE LIST OF ELECTRONIC INFORMATION RESOURCES

Qualitative lists of the electronic information resources (e.g. specific web sites, search engines and mailing lists) indicated by worker and volunteer and service user respondents were collated.

The results collated here are derived from questions pertaining specifically to the use of electronic resources from the Workers and Volunteers and Service Users Surveys. They cover:

- Search Engines
- Websites
- Mailing Lists
- Other online education, training and information resources on BBVs.

Details of responses to survey questions are also presented in Appendix Three.

### • Search Engines

The preferred search engine of respondents was Yahoo (n=15). Other popular search engines were: Netscape, Google and Altavista (n=4, respectively).

### • Web sites

Government and peak national and state organisation Web sites were the main types of web sites accessed. Table 19 presents the Web sites that participants listed in the Workers and Volunteers and the Service Users Surveys.

**Table 19: Web sites**

Organisation	Web site
<b>GOVERNMENT</b>	
Commonwealth	<a href="http://www.health.gov.au">http://www.health.gov.au</a>
NSW Government	<a href="http://www.health.nsw.gov.au">http://www.health.nsw.gov.au</a>
<b>NATIONAL ORGANISATIONS</b>	
Australian Federation of AIDS Organisations	<a href="http://www.afao.org.au/">http://www.afao.org.au/</a>
Australian Intravenous League	<a href="http://www.aivl.org.au/">http://www.aivl.org.au/</a> (under construction)
NAPWA	<a href="http://www.napwa.org.au/">http://www.napwa.org.au/</a>
ADCA	<a href="http://www.adca.org.au">http://www.adca.org.au</a>
Scarlet Alliance	<a href="http://freespeech.org/scarlet/">http://freespeech.org/scarlet/</a>
Australian Drug Foundation	<a href="http://www.adf.org.au/">http://www.adf.org.au/</a>
<b>HIV/AIDS ORGANISATIONS</b>	
AIDS Council of NSW (ACON)	<a href="http://www.acon.org.au/">http://www.acon.org.au/</a>
Western Australian AIDS Council	<a href="http://www.waids.asn.au/">http://www.waids.asn.au/</a>
Straight Arrows	<a href="http://www.users.bigpond.com/straightarrows/">http://www.users.bigpond.com/straightarrows/</a>
<b>HEPATITIS ORGANISATIONS</b>	
Hepatitis C council – NSW	<a href="http://www.hepatitisc.org">http://www.hepatitisc.org</a>
Hepatitis C Council - VIC	<a href="http://www.hepcvic.org.au/">http://www.hepcvic.org.au/</a>
Hepatitis C Council - QLD	<a href="http://www.powerup.com.au/~hepcq">http://www.powerup.com.au/~hepcq</a>
Hepatitis C Council – WA	<a href="http://hepcwa.highway1.com.au/">http://hepcwa.highway1.com.au/</a>
<b>DRUG USER ORGANISATIONS</b>	
VIVAIDS	<a href="http://home.vicnet.net.au/~vivaid/vivaid.htm">http://home.vicnet.net.au/~vivaid/vivaid.htm</a>
QUIVVA	<a href="http://www.quivva.org.au">http://www.quivva.org.au</a>
<b>RESEARCH TRAINING CENTRES</b>	
CEIDA	<a href="http://www.ceida.net.au">www.ceida.net.au</a>
National Centre for HIV Social Research	<a href="http://www.arts.unsw.edu.au/nchsr/">http://www.arts.unsw.edu.au/nchsr/</a>
Macfarlane Burnett Centre	<a href="http://www.burnet.edu.au">http://www.burnet.edu.au</a>

Table 19 continued over

**Table 19: Web sites/home pages continued**

Organisation	Web site
<b>RESEARCH TRAINING CENTRES continued</b>	
Australian Institute of Health and Welfare	<a href="http://www.aihw.gov.au">http://www.aihw.gov.au</a>
Centre for Disease Control concerned with all hepatitis viruses	<a href="http://www.cdc.gov/hepatitis">http://www.cdc.gov/hepatitis</a>
<b>MEDICAL DATABASES</b>	
Pubmed	<a href="http://www.ncbi.nlm.nih.gov/PubMed/">http://www.ncbi.nlm.nih.gov/PubMed/</a>
Gastroenterological Society of Australia	<a href="Http://www.gesa.org.au/">Http://www.gesa.org.au/</a>
	<a href="http://www.gastro.net.au/">http://www.gastro.net.au/</a>
Royal Australian College of General Practitioners	<a href="http://www.racgp.org.au/">http://www.racgp.org.au/</a>
Medscape	<a href="http://www.medscape.com/">http://www.medscape.com/</a>
Medline	<a href="http://www.medline.com/">http://www.medline.com/</a>
<b>INTERNATIONAL SITES</b>	
AVERT – AIDS Education & Research Trust	<a href="http://www.avert.org/">http://www.avert.org/</a>
British Liver Trust	<a href="http://www.britishlivertrust.org.uk/home.html">http://www.britishlivertrust.org.uk/home.html</a>
Immunisation Action Coalition	<a href="http://www.immunize.org/">http://www.immunize.org/</a>
World Health Organization	<a href="http://www.who.int/">http://www.who.int/</a>
Hepatitis Central	<a href="http://hepatitis-central.com/hcv/vets/toc.html">http://hepatitis-central.com/hcv/vets/toc.html</a>
Hepatitis Network	<a href="http://www.hepnet.com">http://www.hepnet.com</a>
LA AIDS Project	<a href="http://www.apla.org/">http://www.apla.org/</a>
San Francisco AIDS Foundation	<a href="http://www.sfaf.org/">http://www.sfaf.org/</a>
Terrence Higgins Trust (London Lighthouse)	<a href="http://www.tht.org.uk/">http://www.tht.org.uk/</a>
The body	<a href="http://www.thebody.com/">www.thebody.com/</a>
Vaults of Erowid	<a href="http://www.erowid.org">http://www.erowid.org</a>
Asian Harm Reduction	<a href="http://www.ahrn.net">http://www.ahrn.net</a>

• **Mailing Lists**

The mailing lists cited by workers/volunteers and service user respondents were: ADCA Update (n=22), NSP Forum (n=5) and Hep C Forum (n=6).

• **Other Online Education, Training and Information Resources on BBVs**

Only two online training resources on BBVs were found. These were at:

1. Hepatitis Network (<http://www.hepnet.com.>), contains Online modules and quizzes; and
2. US Communicable Diseases Centre (CDC), where there is an interactive web-based training program titled “Hepatitis C: What Clinicians and other Health Professionals Need to know”. The program is at <http://www.cdc.gov/hepatitis>.

Note that the website maintained by the Australian Federation of AIDS Organisation (<http://www.afao.org.au.>) provides a list of training available state by state.

In general there are few online electronic resources on BBVs. The ones listed below can be accessed from the CEIDA Website, under Hepatitis C Resources Manual:

- Australian Reference Centre for Hepatitis C Information (ARCHI)
- Living With Hepatitis C
- CD Rom; Videos 'Look Back, Look Forward: Coming to Terms with Hepatitis C'.

The National Hepatitis C Resource Manual was a Commonwealth funded project, and should contain most of what has been evaluated.

A Commonwealth sponsored TV broadcast on hepatitis C (through the Rural Health Education Foundation satellite network on 30 November 1999) is also available. The program, titled 'Hepatitis C: treatments and management' can be seen on video. Copies of this video are available by contacting the Rural Health Education Foundation, through the DHAC.

## Discussion

This discussion draws the report back to the initial objectives of this project, that is to determine who has access to and uses electronic resources; what barriers exist to this access and use; and where are do the gaps in electronic resourcing, and specifically in relation to BBVs exist.

### WHO HAS ACCESS TO AND USES ELECTRONIC RESOURCES?

#### Organisations

The baseline data used in this project indicate the main barrier for businesses not accessing or using electronic resources are cost, time and no use of electronic resources in the business. The issues of cost and time are also pertinent for organisations involved in this research project.

However, participant organisations in this project do recognise the importance of electronic resources to their activities. Participant organisations reported that the the main benefits of using electronic resources was better communication (97.6%), accessing information (97.6%), and sharing knowledge (97.6%). All organisations reported that possessing e-mail, and 75% of organisations, full Internet services as essential within the next three years. These results indicate organisations involved in the BBV related field recognise benefits of electronic resources to their activities. This provides a good basis for introducing and consolidating the use of electronic information, education and training tools in the BBV related areas.

#### Adult Access

The base line data sets show that socioeconomic factors are a key influence on adult access to and use of electronic resources. Educational attainment, income over \$40,000 and being younger are the primary indicators of access to and use of electronic resources, whilst gender and locality are secondary indicators.

The CEWT study of community-based HIV/Hepatitis C education workforce found that this workforce "is generally well educated, with over three-quarters having received some kind of post high-school qualification, and are significantly more likely to have a university degree than workers in the Health and Community Services sector generally". However, on "average these workers are not well paid for what they do". They "most commonly have income levels between \$32,000 and \$42,000, while many volunteers have incomes below \$10,400" and are significantly more likely to be aged between 25 and 44 than the rest of the workforce. Most also live in the inner suburbs of a capital city (CEWT Broadsheet #1, 2000). Paid workers in this sector are also significantly less likely to be in full-time employment than other workers.

Respondents to the worker and volunteer survey in this project reflect the CEWT profile. Nearly half of respondents (46.6%) were between the ages of 25 and 39, 53% had incomes under \$40,000. 69.4% of the workers were full-time and a further 23.1% part-time and almost 70% lived in a capital city.

The baseline data indicate that use of a personal computer and access to the Internet at work does not equate with having a personal computer or Internet access in the home. This has also been indicated by this project's results.

Indeed, worker and volunteer respondents' access to electronic resources at home was far below that for their access to these same resources at work. For instance, whilst 89% had access to a personal computer and 74.6% to full Internet services at work, in the home only 69.2% had access to a personal computer, and 47.5% to full Internet services. Whilst these figures are relatively high it cannot be expected that individuals possess and use electronic resources for the purposes of their paid employment or their voluntary activities in their home.

The base line data sets indicated that unemployed people have less opportunity to access personal computers or the Internet, and further, their access to these electronic resources is less frequent than paid workers. This may indicate that unemployed people and those who do not have easy access to electronic resources at work, are groups least likely to access information, or education and training activities through electronic means.

Based on the findings from this project, service users are also unlikely to have access to electronic resources. There is also an indication from the survey results that perhaps printed resources and face to face contact are preferred means of obtaining information for many service users. This means that traditional methods of information dissemination and provision are still required.

### **Adult uses of electronic resources**

The ABS data sets indicate that a substantial proportion of adults have used a personal computer for study purposes. However, very few adults have accessed government services via the Internet. This may be due to a reluctance to use electronic resources in this way or because the general public are unaware of this mechanism for accessing and using government services.

The findings from this research project relating to access and use issues mean that we need to be aware that there are groups within the sector whose access to and use of electronic resources is limited, both at work and at home. However, it is likely that given the appropriate organisation infrastructure and resource support, access to and use of electronic resources by organisations, workers, volunteers and service users would increase. Therefore, there is a need for attention to appropriate technology infrastructure in organisations and a need to increase awareness of electronic resources and information generally.

## WHAT BARRIERS EXIST IN ACCESSING AND USING ELECTRONIC RESOURCES?

Results from this project suggest that there are substantial barriers in access to and use of electronic resources by organisations, workers, volunteers and service users. These include the lack of physical resources and infrastructure support; funding priorities; and education and training issues.

### Funding and Infrastructure

It is generally accepted that needle and syringe programs and related agencies have few resources and are underfunded. It is therefore not surprising that one of the main barriers to accessing and using electronic information resources identified in this project is financial considerations (75.6% n=31). Other problems mentioned by respondents, computer or network problems (53.7% n=22) and skills and training issues (68.3% n=28), are also likely to be partly derived from inadequate funding directed to organisational infrastructure development.

An organisation's information technology resources mediate staff access and use of electronic resources (Herskovic et al, 2000; Crow, Howie and Thorpe, 1998). This is because without the physical electronic resources, staff and clients are effectively barred from online information and training. In the organisations that participated in the project, over half of all organisations surveyed had email access (53.7% n=22) on all personal computers. However, less than half of organisations surveyed had Internet access (43.9% n=18) on all personal computers.

The results from this project suggest that there is a need for infrastructure support to organisations to ensure that the physical barrier of using resources is removed. This could occur through equipment supply policies, or dedicated funding for both equipment and information technology positions or support in funding proposals.

### Training

A health care worker's efficacy is facilitated by possessing appropriate skills. In particular, being able to efficiently locate and evaluate information and subsequently adapting that information to locale or specific circumstances. However, in this study almost three quarters of respondents to the worker and volunteers' survey had never had any training on the use of electronic resources. Indeed, the lack of skills was cited by a quarter of workers and many organisations as a barrier to accessing or using electronic resources. This has been recognised nationally in the Health Online plan: "One of the major impediments... to accelerating the uptake of information technology in the clinical workplace is lack of support and training on the practical applications of computer software and hardware. The information skill base amongst many health care workers is low, as are the opportunities to enhance their knowledge in this area" (Health Online, 1999).

At both the organisational and worker/volunteer level, the majority of survey respondents considered that the main way of overcoming barriers was through skill development and training. Specifically, respondents cited a need for basic skill development and training, especially in the areas of locating information (e.g. quick ways of searching) and evaluating that information (e.g. a evaluation criteria) were required. Ideas for training also included developing a list of 'tips' on using electronic resources, and providing information on the potential of electronic resources.

#### *Locating Information*

Health care workers need to be aware of the good quality resources that exist, how to access them and subsequently, how to use them. Farmer and Richards' (1999) examination of access to information for nursing staff in remote areas showed that the Internet does have considerable potential to do this. However, there was a low awareness amongst nursing staff of important nursing information resources. They concluded creating awareness of resources was equally as important as enabling access to them. In the worker and volunteer survey, participants were asked their perceived skill level in locating information. Only 11% considered their skill level as 'excellent' and 63% of respondents considered their ability to locate information as 'poor' or 'moderate'. Therefore there is a need for training on how to use electronic resource tools to locate information.

### *Information evaluation skills*

Information technology users need to be able to distinguish between information and knowledge quality (Wootton, 1997). The comments of Heathfield, Pitty and Hanka (1998) are relevant to generalist health care workers: "it is important that clinicians have a knowledge of evaluation issues in order that they can assess the strengths and weaknesses of evaluation studies and thus interpret their results meaningfully". In this research project, 60% of respondents considered their ability to evaluate information as 'poor' or 'moderate'. Only 7% considered their ability as 'excellent'. Workers and service users need to know how to evaluate information so that they can use it appropriately. A means of overcoming this would be through the development of standard evaluation tools and training in how to evaluate internet information.

### **Work-related Priorities**

At present the use of electronic resources does not appear to be a work-related priority for workers and volunteers. Two thirds of workers and volunteers reported that their major problem in accessing electronic resources is time. Over 40% of respondents indicated that their work was comprised of multiple roles with competing agendas. Further, 49 respondents (40.5%) had more than one work role. These time constrictions would limit the uptake of opportunities for electronic resources related training.

In their case study of Internet usage and difficulties among medical practices in Britain, Howcroft and Mitev (2000) show that at a grassroots level, "the adoption and diffusion of information technology within general practice was highly varied with huge contrasts in the levels of commitment to information management. Non-fund holding general practices in socially deprived areas were far less willing to embrace information management and technology. One explanation for this was priorities, i.e. when faced with the option of cruising the information superhighway, as opposed to treating seriously ill patients living in socially deprived areas, the former may simply be relegated as less important (170)". Therefore, there is a need to recognise and demonstrate that accessing information and updating of knowledge is a legitimate activity that can lead to increased worker and volunteer effectiveness.

### **Awareness of Resources**

Individual beliefs about ease of use of electronic resources need also to be considered. Mary Culnans' (1985) study of user perceptions of information found that perceptions of accessibility encompass factors such as physical access to the source, the interface to the source, perceived ability to physically retrieve relevant information, and prior experience with these factors (302). Not surprisingly the more common resources used were the telephone, email and websites and search engines. The least common were CD ROMs and e-groups. Electronic resources generally tend to meet the user information needs 'occasionally' or 'sometimes'.

One of the key issues mentioned by workers and volunteers and organisations was a lack of awareness of the potential of electronic resources and consequently how they can be used in the workplace. The resources that are available need to be marketed more effectively. "Information, and especially public health information, only has value if it reaches and can be used by a range of public health decision makers, practitioners and consumers" (AIHW, 1999). The tools used to market and disseminate information also need to be fully appreciated and understood by those using and wanting to use them.

## Information seeking behaviours

Providing electronic information resources is not enough. Consideration is also required of how workers, volunteers and current/potential service users seek out answers to their questions. O'Callaghan (cited in White and Astbury, 1998) found significant differences in information seeking strategies and preferences in information format and content between sexes and various subgroups of women. In their review of women's use of health information, White and Astbury recommended "a distinct need for an understanding of the information seeking behaviours of women and women's preferred information dissemination systems" (1998:67). They concluded that "by far one of the most popular, currently available sources of health information for women appears to be telephone information lines" (White and Astbury, 1998:8). This was mainly due to telephone information services being more personalised and a sense of mutual trust and respect being developed (White and Astbury 1998:66). For women in rural and remote regions, this was mainly due to the anonymity afforded by the telephone. This is particularly important in the BBV arena. In a short survey of Hepatitis C workers, the majority of workers received their information from colleagues.

## Context of information

In providing information resources electronically, or otherwise, it is critical to consider not just content and delivery but also the process and context of that health care information (Hill, 1998). White and Astbury's findings indicate that "the lack of sensitivity to women's own opinions and their individual context (culture, language, sexual orientation etc) impacts negatively on how women's health information needs [are] addressed ... once a health issue is identified it must always remain in its context so that health information dissemination will not only be accurate and up to date, but also appropriately targeted" (White and Astbury 1998:43). This was also highlighted in the study, especially in the lack of culturally appropriate or specific information.

The AIHW in their report has recognised that introduction of new technologies in public health dissemination raises questions about the type and design of information that should be put together and disseminated. The shift to electronic delivery of information demands that many of the assumptions which underpin traditional reporting practices should be re-examined. Consideration needs to be given to issues such as the level of detail and whether electronic publications should be customised and targeted at very specific audiences, such as individual local government organisations or particular community or ethnic groups (AIHW, 1999).

## Learning Processes

Understanding what influences individuals to seek out information, and how they use it, is critical in identifying what strategies need to be developed for encouraging use of electronic resources.

An important component of education is the setting in which it is delivered. Kahn (1993) argues that if the setting itself is not conducive to teaching and learning it may lead to poor communication of information. Therefore, it is very important to consider the learning outcomes required from any education and training, and the environment in which these may be best achieved.

Consideration must also be given to the amount of control that the learner has over the learning process. The speed and depth of the learning process has been argued to be critical in achieving the behavioural and affective changes that computer based patient education is intended to produce (Kahn, 1993). On a very basic need level, inadequate health literacy may be an important barrier to consumers understanding their illness (Williams, Parker, Baker et al, 1995), let alone possessing the skills to be proficient in accessing and using electronic information resources. In their study undertaken in two urban public hospitals in the United States of America, Williams and colleagues found that many patients could not perform the basic reading tasks required to function in the health care environment (Williams, Parker, Baker et al, 1995). Therefore, in implementing programs and activities to increase consumer health information knowledge, there is also a need to be conscious of whether it can actually be read and understood by its target audiences in the first place.

## WHERE ARE THE GAPS IN ELECTRONIC INFORMATION RESOURCES?

### Information and Communication Technology

The results of this project survey indicate gaps in individuals' access to basic technology. Such as, printers, more memory and cheap software. It is possible that in these areas, cooperative arrangements could be made between organisations in the one geographical area, or those with similar philosophies. Whilst technology provision may not be within the current parameters of this project, this needs to be addressed, especially for government funded and non government agencies.

Results from this research project also suggest that there is a lack of awareness and underlying understanding of the potential of electronic resources and, therefore, how this technology can be used in the workplace. Yet electronic resources, such as e-groups and chat rooms have great potential for organisations that have staff or service users over large distances. These resources can serve as a means of support for individuals and a way of disseminating information cheaply and quickly.

There appears to be a problem in locating electronic resources. Whilst almost fifty web sites were listed from this research, there is no one central directory of electronic resources on BBVs. A number of respondents indicated that a centralised directory would increase their efficacy. The newly launched ADIN web site provides an example of a type of product that could be developed.

A directory of electronic resources on BBVs would have the advantage of being a centralised comprehensive list of sites. However, consideration would be required of issues such as a classification system, to provide criteria of how to vet web sites to ensure quality of content. This could occur through some means of peer review such as current quality accreditation systems being applied to this area.

Whilst a number of electronic resources do exist, there seems to be a lack of awareness about what they are and how to locate them. One solution provided by survey respondents was improved through better promotion. This could occur through consistent advertising by service providers of their information resources, and through ensuring that information on BBVs is effectively disseminated within organisations.

A number of mailing lists and forums exist within the field of BBVs. These could also be utilised more effectively to disseminate information. However, interaction between organisations and service users via electronic means is currently low. Of all the organisations with web sites, only seven had a linked discussion list and only nine had their publications linked to their web site. Once again, this may be a consequence of organisational limitations in time factors for staff to look after and maintain the web site. However, the evidence does suggest that utilisation of information and communication technology may be of benefit to service users and others in the field.

### Quality issues

Three quarters of organisational respondents have a web site. Whilst a number of organisations update their web site regularly, it is important that there is continual maintenance. As one respondent put it "if not committed to maintaining a web site, [they] shouldn't build it in the first place".

Some quality issues referring to this are:

- content accurately reflecting organisations current activities
- close, concise and accurate content
- regularly monitoring use patterns.

The literature review did establish that much research does pertain to the quality of websites and further, how to locate and evaluate information. Though some of this is concerned with health care, it is mainly relevant to areas outside of health (areas such as e-commerce etc). However as part of the literature review for this project, an evaluation criteria was developed that incorporates the key features of several studies that looked at quality of web sites. See Appendix Four for this criteria.

## Information content

In general, respondents to this project's surveys tended to find what they were looking for when they sought out information on BBVs. However, there is a gap in finding information in the areas of treatment prevention and health resources. In particular, the survey results suggest there is:

- difficulty in finding answers to specific questions
- few resources in languages other than english
- few resources designed
- little knowledge of current research being conducted.

Whilst the literature review did uncover a number of articles pertaining to electronic health information and the health consumer and provider, much of this was concerned with the doctor-patient relationship. The literature suggests that the accuracy of such information generally is in doubt, and there is little research on how individuals can use this information in their daily lives and in maintaining their own health and wellbeing.

## Online Training

The information search on online training on BBVs found few resources. However, it is noted that the National Hepatitis C Resource Manual is being placed online. Meanwhile, however, the only source of online training was Hepnet, an overseas web site. It is also noted that the AFAO web site lists face to face courses and training available in every state.

## Interventions using electronic resources

Evidence suggests that with the right human support, electronic resources can be a very good means of undertaking interventions, particularly into populations who do not see themselves at risk or are reluctant to speak to an agency in this field.

Based on the findings from the survey and from the national data sets, younger people are more likely to access and use electronic resources. This may be because they have had prior experience with the technology and are perhaps more comfortable with it. Therefore targeting harm reduction interventions via electronic resources at young people may be a worthwhile consideration. Other means of information dissemination may be needed for other populations.

Research indicates that access to health information enables patients to be more active participants in the treatment process which can in turn lead to better medical outcomes (Brody 1989; Greenfield, Kaplan and Ware 1985; Mahler and Julik 1990 in Kahn, 1993). This has been demonstrated in the interactive computer projects BARN – providing Online health information to adolescents (Hawkins, Gustafson, Chewing et al, 1987); and CHESS – a computer based education and social support system for people living with HIV/AIDS (Boberg, Gustafson, Hawkins et al, 1995). The evidence suggests that these concentrated programs have been successful in other countries, and would be effective in Australia. Further exploration on the potential of these interventions in Australia is needed.

## Appendices

### Appendix One: ANNOTATED BIBLIOGRAPHY

Allsop, S., Cormack, S., et al. (1998) Education and Training Programs for Front-line Professionals Responding to Drug Problems in Australia, National Centre for Education and Training on Addiction, for the Commonwealth Department of Health and Family Services.

The purpose of this research report was to inform the development of a national strategic approach to education and training for Australian frontline professionals. The report defines front line professionals and determines their training and education needs. This report provided an education and training context to the project. *Key words: identification front line professionals; education and training needs.*

Australian Institute of Health and Welfare (1999) National Public Health Information Development Plan. Canberra, Australian Institute of Health and Welfare.

This plan is for the development of public health information in Australia. Its purpose is to identify the action needed to improve public health information in Australia. Appropriate, timely and valid public health information is needed by public health policy makers, practitioners, researchers, analysts, advocates and consumers. The purpose being to monitor health status of the Australian population and to support the planning, implementation, and evaluation of health interventions and public health programs. The plan provided background to the project. *Key words: Public Health, Information Plan.*

American Medical Association (2000) "Guidelines for AMA Websites" Journal of the American Medical Association 283(12):1602-1606.

This article presents the American Medical Association (AMA) guidelines for their Website and affiliated sites (including links). These guidelines cover content, advertisement, sponsorship, privacy, confidentiality and electronic commerce. These guidelines provide a good starting point for the development of any health-related organisations' website. *Key words: guidelines; American Medical Association; web sites.*

Atkin, D., Jeffres, L., et al. (1998) "Understanding Internet Adoption as Telecommunications Behavior" Journal of Broadcasting and Electronic Media 42(4): 475-490.

This study used diffusion theory to examine who uses electronic resources first. The study outlined a young and educated profile of adopters of new technology. This study was useful in providing a context to who accesses and uses electronic resources. *Key words: diffusion theory; use of electronic resources.*

Australian Research Centre in Sex, Health and Society (2000) "Who are the community-based HIV/Hepatitis C education workforce?" CEWT Broadsheet 1.

This purpose of this broadsheet was to report the major findings of the Community Education and Workforce Training (CEWT) project. The broadsheet describes the social and employment characteristics and work history of HIV/AIDS and hepatitis C community educators. This broadsheet was good for providing current and relevant base line data for this research project. *Key words: community educators; employment characteristics; work history.*

Bailey, W. (1998) Searching the Internet for Drug Information: Strategies for Locating Accurate and Scientifically Accepted Information, Indiana Prevention Resource, Indiana University, <http://www.drugs.indiana.edu/pubs/newsline/searching.html>, (accessed 27 June, 2000).

This article outlines ways of searching for alcohol and drug related information on the Internet. The article argues that the key to exploiting the benefits of the Internet and World Wide Web is to utilise its many research tools. Though speaking of finding information in the alcohol and drug field, this paper provided a good brief introduction into Internet research tools. *Key words: Internet; search tools; alcohol and drug field.*

Barford, J. (1997) "Balance or Bias? Information selection for the researcher" Internet Research 7(1):53-58.

This paper discusses information selection. The author argues that the sheer amount of electronic information exacerbate the traditional problems inherent in research. The author concludes that planning and clearly defining what information is needed, is an essential first step in the research process. This paper is good for informing how individuals locate and select information. *Key words: information selection; electronic information resources; bias.*

Bauer, C. and A. Scharl (2000) "Quantitative evaluation of Web site content and structure" Internet Research 10(1): 31-43. This paper describes an approach that automatically classifies and evaluates publicly accessible world wide web sites. The paper was good for providing a criteria in evaluating the quality of web sites and electronic information resources. *Key words: evaluation criteria; quality; non-profit organisations.*

Boberg, E., Gustafson, D., et al. (1995) Development, Acceptance, and Use Patterns of a Computer-Based Education and Social Support System for People Living with AIDS/HIV Infection. Computers in Human Behavior 11(2):289-311.

This paper describes a computer-based support system for people living with HIV/AIDS. The Comprehensive Health Enhancement Support System (CHESS) uses personal computers placed in users homes and linked together via a modem through a central host computer to provide information, referrals, decision support, and social support. The researchers found that the system was heavily used by all segments of the study population. This report provides a good example of the potential application of electronic resources. *Key words: HIV/AIDS; interactive computer systems; intervention example; access; use.*

Binik, Y., Mah, K., et al. (1999) "Ethical Issues in Conducting Sex Research on the Internet" The Journal of Sex Research 36(1): Starting page 82.

This paper discusses ethical issues in using the Internet for conducting research on sexual behaviours. These issues include recruitment; informed consent; data collection, and record keeping. In particular, it examines concerns over obtaining data from children, and protection of sensitive data and records. This paper provides a good discussion on some ethical issues that need to be considered in undertaking any electronic resource based research. *Key words: computer based surveys; ethics.*

Bosworth, C., Gustafson, D., and R. Hawkins (1994) "The BARN System: Use and Impact of Adolescent Health Promotion via Computer" Computers in Human Behaviour 10(4):467-482.

This article reports on an evaluation of user acceptance and impact of the computer interactive program - Body Awareness Resource Network (BARN). The program provided health information and skill building activities on various topics including HIV/AIDS; alcohol and other drugs; smoking and stress management. The authors concluded that that a computer-based system may be a powerful tool for the reduction of risk taking behaviour in adolescents. This evaluation provides a good example of the potential application of electronic resources. *Key words: computer interactive systems; intervention example; adolescents; HIV/AIDS, alcohol and other drugs.*

Boyer, C., Selby, M., et al. (1998) "The Health on the Net Code of Conduct for medical and health Web sites" Medinfo 9(2):1163-1166.

This paper describes the development of Health on the Net Foundations (HON) Code of Conduct. Health on the Net is run by the World Health Organization. The Code covers content; confidentiality; design and ownership issues. Whilst this paper is not as detailed as the AMA guidelines, it is nevertheless still a useful document for informing the development of any health-related organisations' website. *Key words: Internet ethics, Internet information policy; quality; education.*

Bracken, S. (199?) "Consumer Health Information on the Internet" Health Issues 55:11-12.

This paper puts forward a criteria for evaluating health information on the Internet. The key elements in evaluating information are content, authorship, purpose and page aesthetics. The paper was good for providing a criteria in evaluating the quality of web sites and electronic information resources. *Key words: evaluation criteria; quality; consumer; health information; Internet.*

Briggs, J. and G. Early (1999) "Internet developments and their significance for health care" Medical Informatics and the Internet Medicine 24(3):149-164.

This paper reviews recent developments in information and communication technology. The paper also discusses the implications for the provision of health-care in the near future, in particular the patient and health-care professional relationship. This paper is useful for a run down of the technical aspects of the Internet and its future health care implications. *Key words: technology developments; healthcare.*

Bruce, C. (1999) "Workplace experiences of information literacy" International Journal of Information Management 19:33-47.

The paper is concerned with information literacy (the ability to recognise information needs and identify, evaluate and use information effectively) in the workplace. Several different ways of experiencing information literacy were identified. These experiences were related to workplace processes such as environmental scanning, information management, corporate memory, and research and development priorities. This paper was good for placing the influences on the use of information within a workplace. *Key words: information; literacy; information management.*

- Bruce, C. and P. Candy (1995) "Developing Information Literate Graduates: prompts for good practice" In D. Booker. Information Literacy in Practice Adelaide, Auslib Press:245-253.  
This guide is for teachers who need to develop strategies for developing information literate graduates. This outline is good for a guide for trainers and educationists in developing electronic based packages. *Key words: information literacy; good practice.*
- Carlile, S. and A. Sefton (1998) "Healthcare and the information age: implications for medical education" Medical Journal of Australia 168: 340-343.  
This paper discusses medical education in the context of recent information technology developments. The paper identified aspects of the medical curriculum that could incorporate information and communication technology. Further the paper goes on to argue that students need to be taught how seek out, locate and evaluate electronic resources within the learning. Whilst this paper was aimed at medical educationalists, it is relevant to the training of any health care professional. *Key words: education; medical; electronic information; training.*
- Coiera, E. (1996) "The Internet's challenge to health care provision: a free market in information will conflict with a controlled market in health care" British Medical Journal 312(7022):3-4.  
This editorial outlines the impact of the Internet on clinical practice. It is excellent for a brief outline of care provision issues. *Key words: clinical practice; health information.*
- Crowe, P., Howie, C., et al. (1998) "Self-reported computer literacy of medical students and staff: good facilities are not enough" Medical Teacher 20(3): Starting page 264.  
This paper reports on a study undertaken of medical student perceptions of their computer literacy. The survey indicated that 66% of medical students and staff considered that they had low computer literacy, a situation little changed by the provision of learning facilities. This study was useful in outlining some influences access to and use of electronic resources. *Key words: computer literacy; education and training; resources.*
- Culnan, M. (1985) "The Dimensions of Perceived Accessibility to Information: Implications for the Delivery of Information Systems and Services" Journal of the American Society for Information Science 36(5):302-308.  
This paper describes a study that measured end-user perceptions of three sources of information (computer-based, libraries, and individuals). The results suggested that accessibility is a multi-dimensional concept encompassing physical access to the source, the interface to the source and the ability to physically retrieve potentially relevant information and prior experience with the electronic resource tool. This study was useful in providing a context to who accesses and uses electronic resources. *Key words: information; accessibility.*
- Day, A. (1997) "A model for monitoring Web site effectiveness" Internet Research 7(2):109-115.  
This paper presents a model for monitoring web site effectiveness. The author suggests that traditional composition and communication philosophies should be applied to Web site design so as to ensure that a website is used and is useful. This paper is good for informing web site development. *Key words: effectiveness; web site; quality.*
- Dowsett, G., Turney, L., et al. (1999) Hepatitis C Prevention Education for Injecting Drug Users in Australia Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, Commonwealth Department of Health and Aged Care.  
This report is concerned with prevention education for hepatitis C in Australia. This report examines Australia's efforts to date in prevention education particularly among people who inject drugs. This report provided a background to the project. *Key words: hepatitis c; education and training.*
- Doctor, R. (1991) "Information Technologies and Social Equity: Confronting the Revolution" Journal of the American Society for Information Society 42(3):216-228.  
This article examines the nature and consequences of the gap between the information rich and the information poor. It discusses the concept of 'knowledge as power', and control over that knowledge in light of the information revolution. This study was useful in providing a context to access and use of information technology. *Key words: information technology; information poor; information as knowledge.*
- D'Souz, A. (2000) "A pilot study of an educational service for rural mental health practitioners in South Australia using telemedicine" Journal of Telemedicine and Telecare 6(Supplement 1):S1:187-189.  
This paper reports on a pilot project to provide an education service, via telemedicine for rural health practitioners in South Australia. High satisfaction was found with providing telemedicine in this form. This article provides a good example of the potential of electronic resources in developing better health and wellbeing for both service providers and consumers. *Key words: computer interactive systems; intervention example; telemedicine; mental health.*

Ebo, B. (1998) "Internet or Outernet?" in B. Ebo, Cyberghetto or cybertopia?: Race, class, and gender on the Internet Wesport, Greenwood Publishing Group:1-12.

This book is concerned with access and use of the Internet. It provides two opposed, idealised versions – cybertopia and cyberghetto. The book argues that the technology raises important questions about social justice. This book is good for outlining issues in access and equity in use of electronic resources. *Key words: social justice; equity; technology.*

Eng, T., Maxfield, A., et al. (1998) "Access to Health Information and Support" The Journal of the American Medical Association 280(15):Starting page1371.

This paper outlines barriers to accessing health information. The author argues that access to health information can increase knowledge, improve emotional state, and may reduce health care costs. The provision of low-costs or loaned computers to the needy, with discounted access to online sources, may increase health knowledge and reduce health inequalities. This paper provides a good perspective on equity and access to health and medical information in the context of public health. *Key words: informatics; Internet; use; access; medical use.*

Eysenbach, G. and T. Diepgen (1998) "Towards quality management of medical information on the internet: evaluation, labelling, and filtering information" British Medical Journal 317(28 November):1496-1502.

This paper reviews studies that have examined the issue of websites quality. The focus was on medical information provision. Though aimed at medical informatics, this is a widely referenced article in the literature. This paper is good for a summary of quality issues in medical informatics. *Key issues: quality; evaluation; medical informatics.*

Farmer, J., Richardson, A., et al. (1999) "Improving access to information for nursing staff in remote areas: the potential of the Internet and other networked information resources" International Journal of Information Management 19:49-62.

This paper reports on a research project that explored the potential of the Internet and other networked information resources to improve access to information for trained nurses working in the remote Western Isles of Scotland. The results of the project suggest that the Internet has considerable potential to improve access to information for nurses in remote areas. However, the results also revealed a low awareness amongst nursing staff of important nursing information resources and a lack of information seeking skills. The paper concludes by saying that creating awareness that information exists is both necessary and relevant. This paper highlights how important resource awareness is for the efficacy of health care professionals. *Key words: rural and regional; information provision; resource awareness.*

Fotheringham, M., Owies, D., et al. (2000) "Interactive Health Communication in Preventive Medicine-Internet-Based Strategies in Teaching and Research" American Journal of Preventive Medicine 19(2):113-120.

The article outlines aspects of computer-mediated communication as it applies to preventive medicine. The authors describe some of the work that they have undertaken in Australia. The authors argue that the information technology revolution is creating new opportunities for the delivery of professional education in preventive medicine and other health domains, as well as for delivering automated, self-instructional health behaviour-change programs through the Internet. This article provides examples of the potential applications of electronic resources. *Key words: computer interactive systems; intervention example; preventive medicine, research, teaching.*

Gustafson, D., Hawkins, R., et al. (1994) "The Use and Impact of a Computer-Base Support System for People living with AIDS and HIV Infection" Journal of the American Medical Informatics Association, Washington, Hanley and Belfus.

This article discusses the impact of the Comprehensive Health Enhancement Support System (CHESS) for people living with HIV/AIDS. The study found that the electronic resource system had many benefits for participants, and that all participants used and benefited from the system. This study was good for providing an example of the potential of electronic resources for improving consumers health and wellbeing. *Key words: computer interactive systems; intervention example; HIV/AIDS.*

Hellwig, O. and R. Lloyd (2000) Socio-demographic Barriers to Utilisation and Participation in Telecommunications Services and Their Regional Distribution: A Quantitative Analysis National Centre for Social and Economic Modelling, The University of Canberra, for Telstra.

This study examined barriers for the use of information and communication technology in Australia. The study also presented future models for the uptake and use of these technologies. The principal data used for the analysis was obtained from ABS surveys on the use of information technology and KPMG household surveys. This research was good for providing current base line data for this research project. *Key words: access; use; Australia; future modelling.*

Hern, M., Weitkamp, T., et al. (1998) "Promoting Women's Health Via the World Wide Web" Journal of Obstetrics, Gynecology and Neonatal Nursing 27(6):606-610.

This paper outlines the development of an electronic information resource for women. The electronic information resource project provides generalised and personalised expert information on health questions for women. This paper is good for providing an example of the potential applications of electronic resources. *Key words: Women; internet resources; electronic information.*

Hill, S. (1998) "Information and Inequality: Some Reflections on the Information-Led Reform of the Health System" Health Issues 56(September):8-10.

This paper discusses access to health care information. The author concludes that the process and context of information resources is just as important as content and delivery. This short paper is good for placing electronic health information within a larger context of information seeking behaviours and understanding of information provided. *Key words: health information; health system; access; use.*

Hill, T., Smith, N., et al. (1987) "Role of Efficacy Expectations in Predicting the Decision to Use Advance Technologies: The Case of Computers" Journal of Applied Psychology 72(2):307-313.

This study is based on Bandura's research on the personal efficacy construct. The paper argues that previous experience with computers is related to current beliefs about individuals efficacy in using and readiness to use a computer. This paper was good for providing a background to influences on access and use of electronic resources. *Key words: adoption; use; information technology.*

Holderness, M. (1998) "Who are the world's information poor?" in B.Loader, Cyberspace Divide: Equality, Agency, and Policy in the Information Society London, Routledge:35-56.

This chapter discusses access and equity in the provision of information technology. The author defines the information poor and the disparity in costs for obtaining electronic information throughout the world. This chapter was good for providing a background on access to and use of electronic resources. *Key words: equity; information poverty.*

Howcroft, D. and N. Mitev (2000) "An empirical study of Internet usage and difficulties among medical practice management in the UK" Internet Research 10(2):170-181.

This paper reports on a study of Internet usage by general practitioners in Britain working within the National Health Service. The study found significant differences amongst general practitioners in their use of the Internet. The authors concluded that this was likely due to individual perceptions of the technology and general practitioner priorities. This paper was very good for providing an example of Internet usage in a health care setting and influences on that use. *Key words: National Health Service; usage; electronic information resources; use.*

Jadad, A. and A. Gagliardi (1998) "Rating health information on the Internet: navigating to knowledge or to Babel?" Journal of the American Medical Association 279(8):611-614.

This paper reports a study of Internet search services to locate 47 different rating instruments. The authors concluded that there were many incomplete rating instruments to evaluate health information existing on the Internet. The article is good for pointing out that the evaluating criteria employed by online technologies, may in themselves not necessarily be accurate. *Key words: rating instruments; electronic information resources.*

Kapoun, J. (1998) "Teaching undergrads Web evaluation: A guide for Library Instruction" College and Research Libraries News 59 (July/August):522-523.

This brief article outlines how undergraduate students should be taught how to evaluate web sites. The author argues that the facilitator should remember their own difficulties when first trying to locate and evaluate website information. The articles provides a criteria for evaluating web sites. *Key words: web site evaluation; criteria.*

Keen, J., Ferguson, B., et al. (1998) "The Internet, other 'nets' and healthcare" in B. Loader, Cyberspace Divide: Equality, Agency, and Policy in the Information Society New York, Routledge:217-235.

The chapter examines the opportunities and problems associated with adopting Information and communications technologies (ICT) networks in the UK National Health Service. The paper considers the practical implications of networking in primary care and adopts an economic perspective to analyse current developments. The final section outlines the main economic issues that will influence the course of developments in the NHS over the next few years. This paper was very good for providing an example of Internet usage in a health care setting and influences on that use. *Key words: NHS; economics; information and communication technologies.*

Kraft, J., Mezoff, J., et al. (2000) "A technology transfer model for effective HIV/AIDS interventions: Science and practice" AIDS Education and Prevention 12:Starting page 7.

This paper is part of a series of articles on technology and HIV/AIDS interventions. This paper is about information dissemination through building capacity for interventions in field settings. A model for HIV interventions through the application of information technology. The authors also outline issues that need to be addressed before the implementation of any intervention. This paper is good for outlining key issues in the planning for interventions. *Key words: HIV/AIDS interventions; technology; process; capacity building.*

Lawrence, S. and C. Giles (1998) "Searching the World Wide Web" Science 280(5360):98-100.

This paper reviewed the coverage of the World Wide Web. The authors found that coverage of any one engine is significantly limited. This paper is a good study on search engines. *Key words: key engines; world wide web; coverage.*

Lomax, E. (1999) "Finding and Evaluating Medical and Health Information on the Internet: A Beginners Reference." Health Care on the Internet 3(3):41-51.

The purpose of this article is to provide consumers with the 'basics' needed to find quality health and medical information on the Internet. Fundamental searching techniques, and tips on information retrieval are provided. Five major criteria for evaluation of information are presented along with suggested questions for evolving a website. This article is good for providing information on how to locate and evaluate Internet materials. *Key words: basics of Internet searching; Internet; evaluation of sites.*

Lyon, D. (1988) The Information Society: Issues and Illusions Oxford, Basil Blackwell Inc.

This book argues that information technology has extensive social consequences, which raises questions about the future shaping of society. The book discusses underlying ideological undercurrents of the information revolution. This book was good for providing a background to access and use issues. *Key words: social consequences; information and communication technology; access; use.*

Mallory, C. (1997) "What's On The Internet? Services for women affected by HIV and AIDS" Health Care for Women International 18:315-322.

This article reported findings from a survey of Internet sites relating to HIV and AIDS with a special focus on women. The author argues that the Internet has become a part of many people's daily environment and has the potential to provide information and support for women affected by HIV. Findings from this study suggest that although a large number of Internet sites related to HIV exist, only a few are designed for women. Future research might investigate how these sites might be improved to meet their needs. A very key article, on electronic resources on HIV and women. *Key words: HIV/AIDS; Internet; women.*

McClung, H., Murray, R., et al. (1998) "The Internet as a source for current patient information" Pediatrics 101(96):2.

The purpose of this study was to assess the quality of information a lay person could obtain from Internet sources regarding the treatment of childhood diarrhoea. The author found that a number of the Information supplied on World Wide sites showed a low percentage of concurrence with AAP guidelines. The criteria used in the paper for evaluating web sites was good. *Key words: compliance; quality.*

McCallum & Young Consultants (1998) Consultation on Distribution of Commonwealth Hepatitis C Education and Prevention Funding 1998/9 Canberra, for the Commonwealth Department of Health and Aged Care.

This report contains the results of a consultation of stakeholders regarding the disbursement of Commonwealth funds for Hepatitis C education and prevention in 1998/9. This report provided an education and training context to the project. *Key words: hepatitis c; education.*

McKenzie, L. (1996) Virtual Worlds: using information technology to communicate alcohol and other drug information and education Reshaping the Future: Drugs and Young People Conference, Sydney.

This conference paper presents the 'basic' aspects to information technology and its usefulness for alcohol and other drug workers. This paper provides an excellent introduction to information technology for alcohol and other drug workers. *Key words: information technology tools; alcohol and drug.*

McNutt, J. (1998) "Ensuring Social Justice for the New Underclass: Community Interventions to meet the needs of the new poor" in B. Ebo, Cyberghetto or Cybertopia? Westport, Praeger Publishers:33-46.

This chapter discusses information poverty and the underclass in American society. The nature of information poverty, the factors that contribute to this problem, and the relationship between this problem and current types of poverty are discussed. This paper is good for examining access issues around information technology. *Key words: equity; access; community interventions.*

Milio, N. (1996) "Electronic networks, community intermediaries, and the public's health" Bulleting Medical Libraries Association 84(2):223-228.

The article discusses the role of community based organisations in the development of public health, particularly in the arena of electronic networks. The paper is good for outlining the role that community based networks may have in the development of health information networks and as intermediaries within health systems for consumers. *Key words: electronic networks; community intermediaries; public health.*

Morris, T., Guard, R., et al. (1997) "Approaching Equity in Consumer Health Information Delivery: NetWellness" Journal of the American Medical Informatics Association 4(1): 6-13.

This paper outlines an electronic information and communication system for women – NetWellness. It is used around Cincinnati in the United States. This paper is good for providing a practical application of new technology, especially focused on women. *Key words: example, Netwellness; women; health care information.*

Neumann, M. and E. Sogolow (2000) "Replicating effective programs: HIV/AIDS prevention technology transfer" AIDS Education and Prevention 12: starting page:35.

This paper presents an evaluation of HIV intervention using information and communication technology. It was found that interventions need to be adapted to local circumstances and that it is also necessary to have the appropriate support and infrastructure. This includes: written materials, training, and technical assistance. This paper was good for examining the potential of information technology. *Key words: intervention dissemination; technology; complexity.*

Nims, J. and L. Rich (1998) "How successfully do users search the Web? One real-time site allows you to "spy on searchers" College and Research Libraries Newsletter (March):155-158.

This paper provides a case study based on the Magellan's Web Voyeur. The authors found that the major mistakes that people make are: one word searches; inclusion of stop words; typing errors; inclusion of entire or partial URLs; and exclusion of "fine tuning" suggestions. This paper is good for highlighting the common mistakes that people make when trying to find information on the web. *Key words: information seeking; errors.*

National Health Information Management Advisory Council (1999). Health Online: A Health Information Action Plan for Australia. Canberra, National Health Information Management Advisory Council [www.health.gov.au/healthonline](http://www.health.gov.au/healthonline) accessed: August 2000.

Health is one of the ten priority areas outlined in the Strategic Framework for the Information Economy. The Health On-line strategy aims to provide the basis for a national approach to using information in the health system and to promote new ways of delivering health services, by harnessing the enormous potential of new technologies. This plan is useful for providing a national context to electronic information resource needs on blood borne viruses. *Key words: health; national action a plan; information.*

National Office for the Information Technology (2000) The Current State of Play <http://www.noie.gov.au/publications/index.htm> accessed: November 2000

Norris, B. (1999) Net Gains, Dissertation for the degree of Master of Professional Communication, University of Southern Queensland, unpublished.

This thesis provided an excellent starting point for this project. The thesis is very good for an introduction to electronic resources on information needs for alcohol and other drug workers in Australia. *Key words: alcohol/drugs; internet.*

NCexChange (1997) Making The NET Work, <http://www.noie.gov.au/projects/access/community/index.htm> accessed: August 2000.

This is an excellent guide for undertaking internal needs assessment on electronic resources needed by a non profit organisation. *Key words: needs assessment; electronic information needs; non profit organisations.*

O'Donnell, L., Scattergood, P., et al. (2000) "The role of technical assistance in the replication of effective HIV interventions" AIDS Education and Prevention 12:sp99.

This article describes a case study of an information and communication technology intervention in which technical assistance was provided to organisations who were implementing a particular intervention. Assistance was also provided through administrative support, identifying target audiences, recruiting groups for sessions, maintaining fidelity to the intervention's core elements, tailoring the intervention to meet clients needs, strengthening staff members facilitation skills, troubleshooting challenges, and devising strategies to sustain the intervention. This paper is good for outlining the issues that need to be considered in the implementation of any electronic based intervention. *Key words: technology; HIV/AIDS; interventions; support.*

Pingree, S., Hawkins, R., Gustafson, D., et al (1996) "Will the disadvantaged ride the information highway? Hopeful answers from a computer-based health crisis system." Journal of Broadcasting and Electronic Media 90:331-353.

This paper outlined the findings from a study on the use of a computer by people who had HIV/AIDS. The interactive computer system – Comprehensive Health Enhancement Support System (CHESS) was placed in homes of people living with HIV. The study found that the system was heavily used for the duration of the project, and that in most cases the system was used more by groups who it was assumed, would use these technologies less. Thus, they concluded that a case for subsidising access to overcome economic barriers can be made. This excellent article is good for demonstrating the practical application of computer and electronic information resources to a specific target group in the population. *Key words: HIV/AIDS; interactive computer; access; barriers.*

Prochaska, J., Zabinski, M., et al. (2000) "PACE+: Interactive Communication technology for Behaviour Change in Clinical Settings" American Journal of Preventive Medicine 19(2):127-131.

This paper describes the process of developing and evaluating interactive health communication programs for primary care settings. The Patient-centred Assessment and Counselling for Exercise plus Nutrition (PACE+) program is provided as an example. It was designed to promote physical activity and healthy nutrition with adolescents and adults. This paper was good for providing an example of the application of electronic resources. *Key words: interactive technologies; health; PACE+.*

Reinecke, I. (1987) "Wealth and Poverty in the Information Society" In S. Brenan, Challenges and Change: Australia's Information Society Melbourne, Oxford University Press, Australia:81-92.

This chapter examines the concept of 'information disparity' and its consequences, in the context of the paradigms of information rich and information poor. This study was useful in providing a context to access and use of electronic resources. *Key words: equity; information disparity.*

Roberts, C. (2000) "Email: Friend or Foe" Australian Hepatitis Chronicle November: 15-17.

An excellent article on accessing and using email and the Internet. A great starter guide for persons new to information technology. *Key words: Internet; email.*

Ross, M., Tikkanen, R., et al. (2000) "Differences between Internet samples and conventional samples of men who have sex with men: implications for research and HIV interventions" Social Science & Medicine 51:749-758.

This study compared differences in data samples taken from a number of sources, including a website and chat room. These results indicated that the data collection collected via Internet facilities is feasible. The results suggest that respondents who used the Internet facilities were likely to be more significantly oriented toward the young, geographically more isolated, and more behaviourally and self-identified bisexual respondents than traditional written questionnaires. This evaluation provides a good example of the potential application of electronic resources. *Key words: Internet samples; interventions.*

Schwartz, D. (1997) "Mozart versus Minsky: information bias on the Internet" Internet Research 7(4):263-268.

The paper discusses the use of the Internet by researchers. The paper identifies the potential misuse of the Internet as a source of biased information. Defines biased information as information not representative of the state of human knowledge. The paper is good for informing how individuals locate and evaluate information. *Key words: Internet; information; bias.*

Silberg, W., Lundberg, G., Musacchio, R., (1997) "Assessing, controlling and assuring the quality of medical information on the Internet: caveat lector et viewer - let the reader and viewer beware" (editorial) Journal of the American Medical Association 277(15):1244-1245.

This is a very short article. The paper provides a good criteria for evaluating web sites. *Key words: criteria; assessment; quality.*

Turner, C., Ku, L., et al. (1998) "Adolescent sexual behaviour, drug use and violence: increased reporting with computer survey technology" Science 280(5365):867-873.

This paper examines data reporting from the use computer survey technology. The survey found that estimates of the prevalence of male-male sex, injecting drug use, and sexual contact with intravenous drug users were higher by factors of 3 or more when audio-CASI was used. Increased reporting was also found for several other risk behaviours. This evaluation provides a good example of the potential application of electronic resources. *Key words: survey samples; possible interventions.*

Wang, H., Xie, M., et al. (1999) "Service quality of Internet search engines" Journal of Information Science 25(6): 499-507.

This paper reports on a study that examined the quality of search engines. The results suggest that improvements could be made to many search engines in how links are organised, an effective rating system, accuracy and in increasing user friendliness. *Key words: search engines: quality.*

White, D. & J. Astbury (1998) Addressing Women's Health Information Needs: The Adequacy of Current and Emerging Health Information Systems. Melbourne, The Key Centre for Women's Health in Society, The University of Melbourne, for the Department of Human Services, Victorian State Government, Australia.

This report is a literature and research review of health information needs of women. The report objectives were to evaluate the extent to which women's health information needs are being accurately identified, whether they are being appropriately met by current health information systems and to identify emerging technologies and service systems that could be used to improve women's access to accurate, up-to-date health information. This literature and research review was excellent in informing women's access to health information. *Key words: women; health information needs; health information technology.*

Winker, M., Flanagan, A. et al. (2000) "Guidelines for Medical and Health Information Sites on the Internet: principles governing AMA Web Sites" Journal of the American Medical Association 283(12):1600-490.

This paper outlines the principles underlying American Medicine Association websites. It covers content; confidentiality and security. This paper provides a list of factors that should be addressed in the development of any health related website. *Key words; AMA; guidelines; website.*

Wohlers, M. and D. Dinning (1998) "Women's Health Websites: increasing access to quality health information" Australian Journal of Primary Health - Interchange 4(3):139-145.

This paper outlines some of the problems facing women as Internet users. In the context of exponential growth of the Internet, issues of access and motivation, content and quality are examined. Recent studies on gender and equity and the relevance of the Internet to women, particularly rural and remote women, are considered. It concludes with practical guidelines for setting up a website. This paper provides a gender context of information on the Internet. *Key words Female; Access; Use.*

Yellowlees, P and P. Brooks (1999) "Health Online: The future isn't what it used to be" Medical Journal of Australia 171:522-525.

This article is concerned with changes in information technology that will effect the way medicine is produced. This effect will mean fewer doctors and a new class of home health care providers. This article is good for an exploration of the future of the health care system in Australia and globally. *Key words; Australian Health system; Information Technology.*

## Appendix Two: SURVEY FORMS

### **ELECTRONIC RESOURCES SURVEY: ORGANISATIONS PERSPECTIVES**

*To determine service provider and client access to and use of electronic information resources, we would greatly appreciate your assistance in completing this survey.*

#### **Who would we like to complete this survey?**

Managers/coordinators or their representative, to provide an agency perspective of access to and use of electronic resources in the workplace.

#### **What is this survey about?**

There have been many quality resources produced on HIV/AIDS, hepatitis C and other blood borne viruses. Consideration is now being given to how these resources can best be provided by electronic means and the efficacy of such information. However, to do this, it is important to identify organisational access to and use of electronic resources.

#### **What is in it for my organisation?**

The information obtained from this survey will inform the future development and distribution of education and training resources for organisations, workers and people with HIV/AIDS, hepatitis C and people who inject drugs.

#### **What does the survey entail?**

The survey consists of two parts:

Part One of the survey asks questions about your client's access to and use of electronic information resources (to the best of your knowledge);

Part Two of the survey is concerned with what electronic information resources your organisation possesses.

#### **How long should it take?**

It should take about 10 minutes of your time.

Your responses are anonymous and will remain confidential.

If you would like more information on the Electronic Information Access Project, please contact Jane Fischer.

Telephone: 07 3346 4710. Email on [j.fischer@spmed.uq.edu.au](mailto:j.fischer@spmed.uq.edu.au)

Address: QADREC, Social and Preventive Medicine Department, Public Health Building, The University of Queensland, Herston Road, Herston QLD 4006.

**PART ONE: YOUR CLIENTS**

**Q 1 What types of information on HIV/AIDS, hepatitis C and other blood borne viruses are your clients interested in?** Please tick all that apply.

- Testing & diagnosis
- Health maintenance
- Treatment information
- Agencies & services
- Support groups
- Other \_\_\_\_\_
- Do not know

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Q 2 How many of your clients would have ACCESS to the following telephone or electronic resources?** For each response, please circle the level of access on the following five point scale:

Resources	None	A Few	Most	All	Do not know
A telephone	1	2	3	4	5
A personal computer	1	2	3	4	5
E-mail	1	2	3	4	5
Full Internet services	1	2	3	4	5

**Q 3 How many of your clients would USE the following telephone and electronic information resources?** For each response, please circle the level of use on the following five point scale:

Resources	None	A Few	Most	All	Do not know
Telephone information services	1	2	3	4	5
CD Roms	1	2	3	4	5
E-mail	1	2	3	4	5
World Wide Web	1	2	3	4	5

**Q 4 Overall, what are the main barriers that your clients experience in utilising telephone or electronic information resources?** Please tick all that apply.

- Financial considerations
- Dislike of technology
- Time constraints
- Computer or network problems
- Lack of skills or appropriate training
- Other \_\_\_\_\_
- Do not know

**4.1 Which one of the above would be the main barrier?** \_\_\_\_\_

**Q 5 How could these barriers be overcome?** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**PART TWO: YOUR ORGANISATION**

**Q 1 Does your organisation have a web site (i.e. home page)?** Yes  No

Q 1.1 If yes, what is the web-site address? \_\_\_\_\_

Q 1.2 When was the site last updated? \_\_\_\_\_

Q 1.3 Who are the users of this web-site? \_\_\_\_\_

Q 1.4 Is there evidence to suggest this web-site is accessed widely? Yes  No

Q 1.5 Are your clients able to access specific discussion lists from your web-site? Yes  No

**Q 2 Does your organisation have a Telephone Information Service?** Yes  No

Q 2.1 At what times does it operate? \_\_\_\_\_

Q 2.2 Who are the main users of this service? \_\_\_\_\_

Q 2.3 Does this service provide information on blood borne viruses? Yes  No

Q 2.4 How many calls would be received weekly? \_\_\_\_\_

**Q 3 Does your organisation publish a Newsletter or Magazine?** Yes  No

Q 3.1 What is the newsletter/magazine's title? \_\_\_\_\_

Q 3.2 Does it contain information on blood borne viruses? Yes  No

Q 3.3 What is the distribution size? \_\_\_\_\_

Q 3.4 How many editions a year are published? \_\_\_\_\_

Q 3.5 When is the next edition due? \_\_\_\_\_

Q 3.6 Is it available online? Yes  No

Q 3.7 Would it be possible to insert a survey targeted at your readership, about their access to and use of electronic information resources with the newsletter or magazine? Yes  No

Q 3.7.1 if yes, to 3.7 Would you prefer the survey on Disk? Yes  No

**Q 4 Within the next three years, how important is it for your organisation to have each of the following electronic information resources?** For each resource, please circle the level of importance on the following five point scale, 1 being 'Unnecessary' and 5 being 'Essential':

	Unnecessary ←—————→ Essential				
	1	2	3	4	5
Email capabilities	1	2	3	4	5
Full Internet services	1	2	3	4	5
CD Roms	1	2	3	4	5
Access to research databases	1	2	3	4	5

**Q 5 How would using electronic information resources benefit your organisation?**

Tick one box for each of the following:

Better communication	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Unsure <input type="checkbox"/>
Accessing information	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Unsure <input type="checkbox"/>
More collaboration	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Unsure <input type="checkbox"/>
Achieving greater visibility	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Unsure <input type="checkbox"/>
Wider distribution of information and resources	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Unsure <input type="checkbox"/>
Sharing knowledge	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Unsure <input type="checkbox"/>

**Q 6 In general, what barriers get in the way of your organisation’s utilisation of electronic information resources?** Please tick all that apply.

- Financial considerations
- Lack of skills or appropriate training
- Other \_\_\_\_\_
- Computer or network problems
- Other \_\_\_\_\_

**6.1 Which one of the above would be the main barrier?** \_\_\_\_\_

**Q 7 How could these barriers be overcome?** \_\_\_\_\_

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*To enable comparison with Australian Bureau of Statistics data on access and use of electronic information we would like you to also provide responses to the following questions.*

**Q 8 How many personal computers does your organisation possess?** Please tick one response only.

- 0
- 1 - 4
- 5 - 9
- 10 or more

**Q 9 How many of your personal computers have E-mail access?** Please tick one response only.

- none
- few
- most
- all
- I don’t know

**Q 10 How many of your personal computers have full Internet services?** Please tick one response only.

- none
- few
- most
- all
- I don’t know

**Q 11 In total, how many staff (workers and volunteers) does your organisation have?**

Please tick one response only.

- 1 – 4
- 5 - 19
- 20 – 99
- 100 or more

**Q 12 What geographical area does your organisation cover?** Please tick one response only.

- Capital City
- Regional City
- Rural Area
- Remote Area
- Other \_\_\_\_\_

**Q 13 Which of the following, best describes your organisation's interest in blood borne viruses?**

Please tick one response only.

- HIV/AIDS organisation
- Hepatitis C organisation
- Drug User organisation

- NSP – Primary outlet
- NSP – Secondary outlet

Other \_\_\_\_\_

**Q 14 Could you please provide the first name of up to three workers or volunteers (e.g. peer, outreach, or NSP or generalist health worker) who may be willing to participate in a five minute telephone interview about their individual access and use of electronic resources? The information that they supply will be used to inform the health-care workers component of the project.**

Note down the first name and contact telephone number of up to three workers on a separate sheet of paper.

**THANK YOU FOR YOUR TIME AND ASSISTANCE**

**ELECTRONIC RESOURCES SURVEY: WORKERS AND VOLUNTEERS PERSPECTIVES**

There have been many quality resources produced on HIV/AIDS, hepatitis C and other blood borne viruses. Consideration is now being given to how these resources can best be provided by electronic means.

The purpose of this survey is to find out who has access to electronic information resources (such as the Internet), whether such resources are currently being used to obtain information on blood borne viruses, and the value of this information.

The survey findings will inform the future development and distribution of education and training resources. To determine workers access and use of electronic information resources we would greatly appreciate your assistance in completing this survey. It should take about 5 minutes of your time. Your responses are anonymous and will remain confidential.

**Please return the completed survey in an envelope (you do not need a stamp) to:**

Electronic Resources Survey  
 Q.A.D.R.E.C. S&P Med (298)  
 Public Health Building  
 Reply Paid 67074  
 UNIVERSITY OF QUEENSLAND QLD 4072

If you would like more information on the Electronic Information Access Project,  
 Please contact Jane Fischer.

Telephone: 07 3346 4710. Email on [j.fischer@spmed.uq.edu.au](mailto:j.fischer@spmed.uq.edu.au)  
 Address: QADREC, Social & Preventive Medicine Department, Public Health Building,  
 The University of Queensland, Herston Road, Herston QLD 4006.

**Q.1 Which of the following telephone and electronic information resources do you personally have ACCESS to in your work setting or work role? Please tick all that apply.**

- Telephone                       E-mail                       CD Roms
- A Personal Computer       Full Internet Services       Other \_\_\_\_\_
- If none of the above, how do you access information? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

If none, of the above, please go to question 3.

**Q. 2 Do you have any problems accessing electronic information resources in your work setting?**

- Yes       No      If no, please go to question 4.

**Q. 3 In general, what problems do you experience in utilising electronic information resources in your work setting?** Please tick all that apply.

- Computer or network problems     
  I am not office based     
  I dislike technology  
 I share a work station     
  Time constraints     
  Financial considerations  
 I lack the skills or appropriate training     
  Other \_\_\_\_\_

**3.1 Which one of the above would be the main problem?**

**Q. 4 How often do you USE the following electronic information resources in your work?**

For each resource, please circle your level of use on the following four point scale:

Resource	Never Use	Occasionally Use	Sometimes Use	Always Use
Telephone information services	1	2	3	4
E-mail 1	2	3	4	
Mailing lists	1	2	3	4
CD Roms	1	2	3	4
Websites	1	2	3	4
News groups	1	2	3	4
Internet search engines	1	2	3	4
Egroups	1	2	3	4

**Q. 4.1 If you use electronic mailing lists/list servers, what are they?**

1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_

**4.1.1 Which mailing list provides the most relevant information to you?** \_\_\_\_\_

**Q. 4.2 If you use Internet Search Engines, do you have a preferred one?** Yes  No

**4.2.1 If you ticked 'yes', what is it?** \_\_\_\_\_

**Q. 5 What types of information do you look for on BLOOD BORNE VIRUSES?** Please tick all that apply.

- Testing & diagnosis     
  Agencies & services     
  Other \_\_\_\_\_  
 Health maintenance     
  Support groups  
 Treatment information     
  Available resources

**Q. 6 When you seek information electronically on BLOOD BORNE VIRUSES, do you tend to find what you are looking for?** Yes  No

**Q. 7 What types of information on BLOOD BORNE VIRUSES have you tried to search for electronically and not found?**

- (I) \_\_\_\_\_  
 (II) \_\_\_\_\_  
 (III) \_\_\_\_\_

**Q. 8 To what extent do these telephone and electronic information tools meet your needs in finding information on BLOOD BORNE VIRUSES?** For each of the following tools, please circle the extent on the following five point scale:

Tools	No Access to	Never	Occasionally	Sometimes	Always
Telephone information services	1	2	3	4	5
E-mail	1	2	3	4	5
Mailing lists	1	2	3	4	5
CD Roms	1	2	3	4	5
Websites	1	2	3	4	5
News groups	1	2	3	4	5
Internet search engines	1	2	3	4	5
Egroups	1	2	3	4	5

**Q. 9 If you use the World Wide Web to obtain information on BLOOD BORNE VIRUSES, what are your current preferred sites, and how often would you use them?**

Web-site	Use: Daily, Weekly, Monthly or Other
1.	
2.	
3.	

**9.1 Why are these your preferred sites?** Please tick all that apply.

- Quality of the site     
  Site design     
  Up to date information  
 Site content     
  Accurate information     
  Other \_\_\_\_\_

**Q. 10 Have you had any training in seeking information electronically?** Yes  No

**Q. 11 What is your skill level in undertaking the following tasks?** For each skill, please circle your level on the following four point scale:

Skill	Poor	Moderate	Very Good	Excellent
Locating information electronically	1	2	3	4
Evaluating electronic information	1	2	3	4

**Q. 12 How could your access to and use of electronic information on blood borne viruses be improved?**

- (I) \_\_\_\_\_
- (II) \_\_\_\_\_
- (III) \_\_\_\_\_

**Q. 13 What is your main work role?** Please tick only one.

- Information & Education     
  Health Worker (Clinical)  
 Peer Education     
  NSP Worker – primary outlet  
 Outreach Worker     
  NSP Worker – secondary outlet  
 Support Care & Counselling     
  Other \_\_\_\_\_

**Q. 14 Where do you mainly work from?** Please tick only one.

- Always office based       Always field based       Time is equally divided  
 Mainly office based       Mainly field based       Other \_\_\_\_\_  
 From home

*To enable comparison with Australian Bureau of Statistics data on access and use of electronic information by the Australian population generally, we would like you to also provide responses to the following questions.*

**Q. 15 Which of the following telephone and electronic information resources do you personally have access to at home?** Please tick all that apply.

- Telephone       E-mail       CD Roms  
 A Personal Computer       Full Internet Services       Other \_\_\_\_\_

**Q. 16 Your Gender:**

- Male       Female       Transgender

**Q. 17 Please tick which age group you belong to:**

- 17 & under       18 – 24       25 – 39       40 – 54       55 and over

**Q. 18 Please tick which income bracket you fall within:**

- 0 - \$19,999       \$20, 000 - \$39,999       \$40 - \$59,999       > \$60,000

**Q. 19 Please tick your current employment status:**

- Full-time       Part-Time       Casual       Volunteer

**Q. 20 Where do you work?**

- Capital City       Regional City       Rural Area  
 Remote Area       Other \_\_\_\_\_

**Q. 21 Which of the following best describes your interest in Blood Borne Viruses?**

- You work for a HIV/AIDS organisation       You work in a primary NSP outlet  
 You work for a Hepatitis C organisation       You work in a secondary NSP outlet  
 You work for a User organisation       Other \_\_\_\_\_

**THANK YOU FOR YOUR TIME AND ASSISTANCE**

## **ELECTRONIC RESOURCES SURVEY: PERSPECTIVES OF PEOPLE WHO HAVE HIV/AIDS, HEPATITIS C OR WHO INJECT DRUGS**

*To determine access to and use of electronic information resources by people who have HIV/AIDS, hepatitis C or who inject drugs, we would greatly appreciate your assistance in completing this survey.*

### **Who we would like to complete this survey?**

People who have HIV/AIDS, hepatitis C or who inject drugs.

### **What is this survey about?**

There have been many quality resources produced on HIV/AIDS, hepatitis C and other blood borne viruses. Consideration is now being given to how these resources can best be provided by electronic means. This survey asks questions about your access and use of electronic information resources such as the Internet.

### **How could I benefit?**

The information obtained from this survey will inform the future development and distribution of resources for organisations, workers and people with HIV/AIDS, hepatitis C and people who inject.

### **How long should it take?**

It should take about 5 minutes of your time.

Your responses are anonymous and will remain confidential. You do not have to answer any questions you feel uncomfortable with.

If you would like more information on the Electronic Information Access Project,  
please contact Jane Fischer,  
Telephone: 07 3346 4710. Email on [j.fischer@spmed.uq.edu.au](mailto:j.fischer@spmed.uq.edu.au)  
Address: QADREC, Department of Social and Preventive Medicine, Public Health Building,  
The University of Queensland, Herston Road, Herston QLD, 4006.

**Q 1 Which of the following best describes your interest in blood borne viruses?**

Please tick all that apply.

- I am living with HIV/AIDS                       I am living with hepatitis C  
 I am a carer for someone who has HIV/AIDS or hepatitis C                       I am a health educator  
 Other \_\_\_\_\_  I am a person who injects drugs

**Q 2 What types of information on HIV/AIDS, hepatitis C and other blood borne viruses are you interested in?** Please tick all that apply.

- Testing & diagnosis                       Agencies & services                       Available resources  
 Health maintenance                       Support groups                       Other \_\_\_\_\_  
 Treatment information

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q 3 How do you prefer to obtain information?** Please tick one only.

- Face to Face contact                       Via telephone                       Via the Internet  
 Printed resources                       Radio/Television

**Q 4 Which of the following electronic information resources do you currently have access to:** Please tick all that apply.

- Telephone                       E-mail                       CD Roms  
 A Personal Computer                       Full Internet Services                       Other \_\_\_\_\_  
 If none of the above, how do you access information on blood borne viruses?  
\_\_\_\_\_

**Q 5 Do you have any problems accessing electronic information resources?**

Yes                       No                       If no, please go to question 7.

**Q 6 In general, what barriers do you experience in accessing electronic information resources?**

Please tick all that apply.

- Computer or network problems                       I do not use a computer at work  
 Financial considerations                       I do not have a computer at home  
 I lack the skills or appropriate training  
 Other (please comment below)

\_\_\_\_\_  
\_\_\_\_\_

**6.1 Which one of the above, is the main barrier?** \_\_\_\_\_

**Q 7 How could these barriers be overcome?** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q. 8 To what extent do these telephone and electronic information tools meet your needs in finding information on BLOOD BORNE VIRUSES?** For each of the following tools, please circle the extent on the following five point scale:

Tools	No Access to	Never	Occasionally	Sometimes	Always
Telephone information services	1	2	3	4	5
E-mail	1	2	3	4	5
Mailing lists	1	2	3	4	5
Content of CD Roms	1	2	3	4	5
The content of websites	1	2	3	4	5
News groups	1	2	3	4	5
Search engines results	1	2	3	4	5
Egroups	1	2	3	4	5

**Q. 9 If you use the World Wide Web to obtain information on blood borne viruses, what are your current preferred sites?**

- (I) \_\_\_\_\_
- (II) \_\_\_\_\_
- (III) \_\_\_\_\_

**Q. 10 Why are these your preferred sites?** Please tick all that apply.

- Quality of the site
- Site design
- Up to date information
- Site content
- Accurate information
- Other \_\_\_\_\_

*Please answer the following to enable comparison with Australian Bureau of Statistics data on access and use of electronic information by the Australian population generally.*

**Q. 11 Your Gender:**  Male  Female  Transgender

**Q. 12 Please tick which age group you belong to:**

- 13 – 17
- 18 – 24
- 25 – 39
- 40 – 54
- 55 and over

**Q. 13 Please tick which income bracket you fall within:**

- 0 - \$19,999
- \$20 - \$39,999
- \$40 - \$59,999
- \$60,000 <

**Q. 14 Please tick your current employment status:**

- Full-time
- Part-Time
- Casual
- Unemployed
- Pensioner
- Other \_\_\_\_\_

**Q. 15 Where do you live?**

- Capital City
- Regional City
- Rural Area
- Remote Area

**THANK YOU FOR YOUR TIME AND ASSISTANCE**

Please return the completed survey in an envelope (you do not need a stamp) to:  
 Electronic Resources Survey, Q.A.D.R.E.C. S&P Med, Public Health Building,  
 Reply Paid 67074, UNIVERSITY OF QUEENSLAND QLD 4072

## Appendix Three: SURVEY RESULTS

### 1. ORGANISATIONS SURVEY

#### Demographics

	N
HCV/AIDS Organisations	6
HCV Organisations	5
User Organisations	4
NSP Primary Outlets	4
NSP Secondary Outlets	4
Other	6
Multiple answers allowed	

	N	%
Capital City	6	14.6
Regional City	3	7.3
Rural City	4	9.8
State/Territory	19	46.3
Other - National	5	12.2
Other - Generally	4	9.8
Total	41	100

	N	%
1-4	9	22.5
5-19	14	35
20-49	11	27.5
50-99	4	10
100+	2	5
Total	40	100
Missing	1	

#### Electronic Resources

	N	%
0 PCs	1	2.5
1-4 PCs	11	27.5
5-9 PCs	11	27.5
10+ PCs	17	42.5
Total	40	100
Missing	1	

	N	%	Missing
Telephone Service	25	61.0	1
Magazine/Newsletter	34	82.9	1
Web Site	31	75.6	1

#### Telephone Services

	N	%
Business Hours	17	68
24 Hours	3	12
7 Days a Week	2	8
Other	3	12
Total	25	100

	N
Target Populations	22
Service Providers	5
General Public	8
Other	1
Multiple answers allowed	

#### Magazines/Newsletters

	N	%
0-100	4	12.9
101-500	9	29
501-1000	5	16.1
1001-5000	12	38.7
5001+	1	3.3
Total	31	100
Missing	10	

	N	%
Monthly	7	19.5
Bi-Monthly	10	27.7
Quarterly	14	38.9
Three per year	2	5.5
Six Monthly	3	8.4
Total	36	100
Missing	5	

## Web Sites

**Table 10: Last updated**

	N	%
Weekly	2	6.9
Fortnightly	1	3.5
Being Constructed	3	10.3
Recently	3	10.3
New Site	3	10.3
Regularly	2	6.9
In last 6 months	4	13.8
At least 6 mths ago	5	17.3
Other	2	6.9
Before 2000	3	10.4
Do not know	1	3.5
Total	29	100
Missing	12	

**Table 11: Interaction facilities**

	Yes		No		dnk
	N	%	N	%	
Discussion Lists	7	29	17	71	17
Publications	9	41	13	59	19

dnk: do not know or missing

**Table 12: Web site users**

	N
Do not know	5
General Public	3
Target Population	11
Service Providers	9
Missing	13

Multiple answers allowed

## Problems in accessing and using Electronic Resources

**Table 13: Types of problems**

	N	%
Financial Considerations	31	75.6
Computer/Network Problems	22	53.7
Skills or Training	28	68.3
Other	16	39.0

Multiple answers allowed

**Table 14: Problems "other"**

	N
Infrastructure	3
Time	5
Resource Awareness	2
Resources (Human & Other)	5
Access	3
Other	1

Multiple answers allowed

**Table 15: Main problem**

	N	%
Financial Considerations	11	34.3
Computer /Network Problems	2	6.3
Skills or Training	10	31.3
Other - Resources	2	6.3
Other - Access	3	9.4
Other - Time	2	6.2
Other Generally	2	6.2
Total	32	100
Missing	9	

## Benefits of Using Electronic Information Resources

**Table 16: Benefits of using electronic resources**

	Yes		No		Unsure		Total	Missing
	N	%	N	%	N	%		
Better Communication	40	100					40	1
Accessing Information	40	100					40	1
More Collaboration	34	85	1	2.5	5	12.5	40	1
Achieving Greater Visibility	37	92.5	1	2.5	2	5	40	1
Wider Distribution of Resources	38	95	1	2.5	1	2.5	40	1
Sharing Knowledge	40	100					40	1

## Essential for possessing the following Electronic Resources within three years

**Table 17: Importance of electronic resources**

	1		2		3		4		Essential		Total	Missing
	N	%	N	%	N	%	N	%	N	%		
E-mail Capabilities									39	100	39	2
Full Internet Services					1	2.5	8	20	31	77.5	40	1
CD Roms			6	15	12	30	5	12.5	17	42.5	40	1
Research Databases	1	2.5			5	12.5	11	27.5	23	57.5	40	1

## 2. WORKER & VOLUNTEERS

### Demographics

	N	%
Male	45	37.2
Female	76	62.8
Total	121	100
Missing	1	

	N	%
<\$19,999	16	13.8
\$20-39,999	47	40.5
\$40-59,999	48	41.4
>\$60,000	5	4.3
Total	116	100
Missing	6	

	N	%
Capital City	61	50.4
Regional City	22	18.2
Rural	26	21.5
Remote	4	3.3
Other	8	6.6
Total	121	100
Missing	1	

	N	%
HIV/AIDS	25	21.3
HCV	13	11
User	7	6
NSP Primary	11	9.4
NSP Secondary	8	6.2
Other	54	46.1
Total	118	100
Missing	4	

	N
HIV/AIDS	12
HCV	10
User	7
NSP Primary	11
NSP Secondary	6
Other - Hospitals	4
Other- AMS	3
Other - Health	12
Other	15
Multiple answers allowed	

	N	%
Information & Education	30	24.8
Peer Education	5	4.1
Outreach	3	2.5
Support	8	6.6
Health Worker	17	14
NSP Primary	7	5.8
NSP Other	2	1.7
Multiple Work Roles	49	40.5
Total	121	100
Missing	1	

### Access and Use of Electronic Resources at Work

	N	%
Yes	65	53.7
No	56	46.3
Total	121	100
Missing	1	

	N	%
Computer or Network	33	27.3
Financial Considerations	15	12.4
Not Office Based	12	9.9
Share a Work Station	17	14.0
Dislike Technology	2	.8
Lack Skills or Training	30	24.8
Time Constraints	33	26.4
Other	24	18.2
Total	122	
Multiple answers allowed		

	N
Infrastructure	15
Access	11
The "Unknown" Factor	5
Multiple answers allowed	

	N	%
Computer or Network	11	10.2
Financial Considerations	3	2.4
Not Office Based	1	.9
Share a Work Station	3	2.4
Dislike Technology	0	0
Lack Skills or Training	10	10.6
Time Constraints	70	66
Other	8	7.5
Total	106	100
Missing	16	

## Electronic Resources Used

**Table 28: Electronic Resources that meet staff needs**

	No Access To		Never		Occasionally		Sometimes		Always	
	N	%	N	%	N	%	N	%	N	%
Phone Info Services	10	9.9	11	10.8	25	24.8	31	30.7	24	23.8
E-mail	7	6.9	7	6.9	22	21.5	41	40.2	25	24.5
Mailing Lists	25	25.8	11	11.3	29	29.9	26	26.8	6	6.2
CD Roms	36	37.9	21	22.1	25	26.3	11	11.6	2	2.1
Websites	11	11.0	4	4.0	26	26.0	51	51.0	8	8.0
News Groups	29	31.9	17	18.7	25	27.5	15	16.5	5	5.5
Internet Search Engines	12	13.0	9	9.8	19	20.7	42	45.7	10	10.9
Egroups	43	50.0	17	19.8	12	14.0	12	14.0	2	2.2

**Table 29: Web site preferences**

	N	%
Site Quality	46	70.8
Site Content	55	84.7
Site Design	23	35.4
Accurate Information	56	86.2
Up to Date Information	58	89.2
Other	13	20.0
Total	65	
Missing	57	
Multiple answers allowed		

## Information

**Table 30: Information searched for**

	N	%
Testing & Diagnosis	61	54.5
Health Maintenance	80	71.4
Treatment Information	92	82.1
Agencies & Services	80	71.4
Support Groups	63	56.3
Available Resources	91	81.25
Other	29	25.9
Total	112	
Missing	10	
Multiple answers allowed		

**Table 31: 'Other' information searched for**

	N
Children	2
Education/Prevention	2
CALDB	2
Epidemiology	3
Chronic illness/medications	3
New Studies/Research	7
Lifestyle/Social Justice	1
Other	1
Multiple answers allowed	

## Information continued

**Table 32: Ability to locate information**

	N	%
Yes	74	73.3
No	27	26.7
Total	101	100
Missing	21	

**Table 33: Types of information not found**

	N
Treatment Issues	10
Transmission Issues	4
Statistics	5
Support	5
Prevention/Health resources	7
Consistency/Consensus	3
Children	2
Other	11
Multiple answers allowed	

**Table 34: Previous training undertaken**

	N	%
Yes	30	25.4
No	88	74.6
Total	118	100
Missing	4	

## Respondents perceptions of their own skill levels

**Table 35: Skill Level**

	Poor		Moderate		Very Good		Excellent		Total
	N	%	N	%	N	%	N	%	
Locating Information	20	16.8	55	46.2	31	26.1	13	10.9	119
Evaluating Information	28	24	43	37.1	36	31	9	7.8	116

### 3. SERVICE USERS

#### 3.1 SERVICE USERS SURVEY INFORMATION

##### Demographics

**Table 36: Gender**

	N	%
Male	8	40
Female	12	60
Total	20	100

**Table 37: Age**

	N	%
18-24	1	5
25-39	10	50
40-54	9	45
Total	20	100

**Table 38: Income**

	N	%
<\$20 000	12	60
\$20 – 39 999	5	25
\$40 – 59 999	3	15
Total	20	100

**Table 39: Employment**

	N	%
Full time	7	35
Part time	4	20
Casual	1	5
Unemployed	1	5
Pensioner	7	35
Total	20	100

**Table 40: Locality**

	N	%
Capital City	9	45
Regional City	7	35
Rural Area	3	15
Remote Area	1	5
Total	20	100

##### Access to electronic Information Resources

**Table 41: Electronic resources access**

	N	%
Telephone	19	90
Personal Computer	11	60
E-mail	15	75
Full Internet Services	12	60
CD Roms	5	25

##### Problems accessing electronic resources

**Table 42: Problems accessing**

	N	%
Yes	10	50
No	10	50
Total	20	100

##### Barriers to access and use of electronic resources

**Table 43: Types of problems**

	N	%
Computer/Network Problems	3	15
Financial Considerations	2	10
Do not use a computer – at work	0	0
Do not have a computer – at home	6	30
Skills or Training	4	20
Other	1	5
Multiple answers allowed		

**Table 44: Main barrier cited by respondents**

	N	%
Computer/Network Problems	0	0
Financial Considerations	2	25
Do not use a computer – at work	0	0
Do not have a computer – at home	2	25
Skills or Training	2	25
Other	2	25
Total	8	100
Missing	12	

## Electronic Resources meeting needs

**Table 45: Electronic resources that meet needs**

	No Access To		Never		Occasion		S/times		Always		Missing	
	N	%	N	%	N	%	N	%	N	%	N	%
Phone Info Services	0	0	2	10	9	45	5	25	3	15	1	5
E-mail	4	20	1	5	4	20	7	35	4	20	0	0
Mailing Lists	0	0	3	15	4	20	4	20	8	40	1	5
Content of CD Roms	7	35	3	15	3	15	1	5	1	5	5	25
Content of Websites	2	10	1	5	6	30	5	25	5	25	1	5
Newsgroups	0	0	4	20	3	15	5	25	4	20	4	20
Search Engine Groups	4	20	3	15	2	10	5	25	2	10	4	20
Egroups	6	30	3	15	2	10	3	15	2	10	4	20

## Information

**Table 46: Preferred information format**

	N	%
Face to Face Contact	10	50
Via Telephone	2	10
Via the Internet	4	20
Printed Resources	10	50
Radio/television	0	0
multiple answers allowed		

## 3.2 SERVICE USERS – RESULTS FROM ORGANISATION SURVEY

### Service User Access to Electronic Information Resources

**Table 47: Service Users' access to electronic resources**

	None		A Few		Most		All		DNK		Missing
	N	%	N	%	N	%	N	%	N	%	N
Phone Info Services			2	5.6	25	9.4	7	19.4	2	5.6	5
CD Roms	2	5.6	24	66.6	2	5.6	2	5.6	6	16.6	5
E-mail	2	5.6	24	66.6	2	5.6	1	2.8	7	19.4	5
World Wide Webs			23	63.8	2	5.6	2	5.6	9	25	5
Multiple answers allowed											

### Service Users would use Electronic Information Resources

**Table 48: Service Users' use of electronic resources**

	None		A Few		Most		All		DNK		Missing
	N	%	N	%	N	%	N	%	N	%	N
Phone Info Services			16	44.4	12	33.4	2	5.6	6	16.6	5
CD Roms	3	8.3	18	50	2	5.6			13	36.1	5
E-mail	1	2.8	24	66.6	3	8.3	1	2.8	7	19.4	5
World Wide Webs			24	66.6	3	8.3	2	5.6	7	19.4	5
Multiple answers allowed											

## 4. QUALITATIVE LIST OF ELECTRONIC RESOURCES

The following data was collated from Worker and Volunteer Surveys, Service Users Survey

### Web sites

Note that numbers are based on all web sites accessed. Respondents could list up to three web sites. A number of respondents could not name the web sites that they used.

	N
Daily	4
Weekly	34
Monthly	26
Other	8
Missing	21

Type of Web sites	N
Medical databases (pubmed, medline, medscape)	7
Hepatitis network (www.hepnet.com)	6
Commonwealth Dept Health	7
Hepatitis C Council – NSW	4
NSW Health Department	5
None preferred	5
CEIDA	4
The Body	4
AIDS Council of NSW	4
ADCA	2
Terrence Higgins Trust (London Lighthouse)	2
British Liver Trust	2
Lindesmith Cente	2
Department Human Services - VIC	2
Hepatitis Councils	8
HIV/AIDS Councils/organisations	3
Drug User Organisations	1
Medical	4
Peak Organisations	6
Other	8
International (HIV/AIDS)	6

### Search Engines

	N
Yes	44
No	57
Missing	21
Total	122

### Search Engines continued

	N
Yahoo	13
Netscape	5
google	5
altavista	5
excite	4
metacrawler	2
ninemsn	3
Eureka	3
infoxchange	2
Hotmail	2
Other	13
Depends	2

### Mailing Lists

	N
ADCA update	22
NSP Forum	5
Hep C Forum	6
HIV FORUM	1
AIVL List	1
Drug Talk	1
Other	10
Missing	69

Note: AIVL mailing list is only available to drug user groups.

	N
ADCA update	10
NSP Forum	4
Varies	4
Other	9
Missing	91

## Appendix 4: A CRITERIA FOR EVALUATING A WEBSITE

### ✓ CURRENCY

Does the website have a date? If "yes", when was the site last updated?

Are there any links? If "yes", are any of these invalid?

### ✓ CONTENT

Who owns the website? (government, non-government, university, individual, profit org)

What are the main areas of content?

Is there a list of references for the information presented?

### ✓ APPROPRIATE

Is any information specifically provided for:

- Women
- People living with HIV/AIDS
- People from non-English speaking backgrounds
- People living with Hepatitis C
- Front-line Workers
- People who inject drugs

### ✓ DESIGN

Are there contact details for the organisation (including email)?

Is there:

- Opportunity for web-based discussion?
- A search mechanism?
- A help function?
- Support for languages other than English?

This criteria is based upon the guidelines and evaluation criteria used by the following:

American Medical Association (2000) "Guidelines for AMA Web Sites" JAMA March 22/29, 282(12):1602-1606.

Bailey, W (1998) "Searching the Internet for Drug Information" Indiana Prevention Resource Center,  
<http://www.drugs.indiana.edu/pubs/newslinesearching.html>

Bauer, C and Scharl, A (2000) "Quantitative evaluation of Web site content and Structure" Internet Research: Electronic Networking Applications and Policy 10(1):31-43.

Bracken, S (199?) "Consumer Health Information on the Internet" Health Issues 11-12.

Boyer, C, Selby, M and Appel, R (1998) "The Health On the Net Code of Conduct for medical and health Web Sites" Medinfo 98:1163-1166.

Kapoun, J (1998) "Teaching Undergrads WEB Evaluation: A Guide for Library Instruction" College and Research Libraries News 59 (July/August):522-3.

Lomax, E (1999) "Finding and Evaluating Medical and Health Information on the Internet: A Beginner's Reference" Health Care on the Internet 3(3):41-51.

Sandvik, H (1999) "Health information and interaction on the internet: a survey of female urinary incontinence" BMJ 319: 29-32 (3 July).

Silberg, W, Lundberg, G and Musacchio, R (1997) "Assessing, controlling, and assuring the quality of medical information on the Internet: caveant lector et viewor – let the reader and viewer beware" JAMA 277(15):1244(2).

Further information on  
Electronic Access Information  
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