



# e-Mental Health in Australia: Implications of the Internet and Related Technologies for Policy



Helen Christensen | Kathleen M Griffiths | Kimberley Evans

CENTRE FOR MENTAL HEALTH RESEARCH  
THE AUSTRALIAN NATIONAL UNIVERSITY





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May 2002

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ISBN 0 642 82186 0

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Suggested citation:

Christensen H, Griffiths KM, Evans K. 2002. e-Mental Health in Australia: Implications of the Internet and Related Technologies for Policy. ISC Discussion Paper No 3. Commonwealth Department of Health and Ageing, Canberra.

Additional copies of the report can be obtained from:

Mental Health and Special Programs Branch  
Commonwealth Department of Health and Ageing  
GPO Box 9848  
Canberra ACT 2601  
Phone: 1800 066 247  
Facsimile: 1800 634 400  
Website: <http://www.mentalhealth.gov.au>

Previously published ISC Discussion papers

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Local Area Information Systems for Mental Health Services:  
General Principles and Guidelines

**Discussion Paper No.2** (Out of Print)

Report of the National Indigenous Mental Health Data  
Workshop (1998)

Designed by Fusebox Design

Printed by National Capital Printing

Publications Approval number: 3184

# Foreword



This report revives the ISC Discussion Paper series issued under the auspices of the Information Strategy Committee of the AHMAC National Mental Health Working Group. Access to quality information is essential to achieve the objectives of the National Mental Health Strategy. The series provides a vehicle for generating debate about how quality information may be defined, gained and used. As such, the series takes a broad view of the term information, similar to that in the report, *Mental Health Information Development: National Information Priorities and Strategies under the Second National Mental Health Plan 1998-2003 (First Edition June 1999)*, where it is used in a management intelligence sense enabling effective planning, resourcing, management and delivery of mental health services that best meet community need. Innovations in information and communications technology provide compelling opportunities to underpin improvements in information management and service delivery.

As the third paper in the ISC Discussion Paper series, this report addresses the important emerging area of electronic mental health and aims to generate discussion about these developments as well as highlighting possible strategic areas for action by governments and other interested parties.

Rapid developments are occurring in the broad field of electronic health, including the use of new and emerging information and communications technologies to provide better health services to Australians who require them. Electronic mental health service provision is at the leading edge of these developments.

Within Australia, national activity in electronic health is being guided by *Health Online: A Health Information Action Plan for Australia*, endorsed by Australian Health Ministers, and the *National Telehealth Plan for Australia and New Zealand*. Under these plans, governments, consumers, health care providers and others are working on a range of projects and activities to harness the new technologies to improve the range and quality of health services and information available to the Australian public.

Activity in the area of electronic mental health needs to take account of the wider electronic health agenda, but also contribute to and extend that agenda. This report, accompanied by a targeted consultation process, is an important step in this direction, and will help inform the mental health policy agenda and strategic ways forward.

Dr Peggy Brown  
Chair, Information Strategy Committee  
Australian Health Ministers' Advisory Council  
National Mental Health Working Group

Dermot Casey  
Assistant Secretary  
Mental Health and Special Programs Branch  
Department of Health and Ageing

# Acknowledgments

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Special thanks are due to Professor Tony Jorm who chaired the 26 June 2001 meeting in Canberra, to Ms Claire Kelly for producing the reference list and for organisation, research and secretariat support and to Dr Ruth Parslow and Ms Chloe Groves for their assistance with the report. We also wish to thank Ms Helen Catchatoor for her many helpful comments on the manuscript.

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# Executive summary



The Internet and other technologies have the potential for delivering better mental health information, improved and cost effective mental health services and greater opportunities for prevention of mental health disorders. There is now a need to take stock of the impact of the technology, to consider the advantages and difficulties associated with its use and to develop strategies and policies to improve the practice of Internet mental health.

In recognition of this need, under the National Mental Health Strategy, the Mental Health and Special Programs Branch of the Commonwealth Department of Health and Aged Care (now the Commonwealth Department of Health and Ageing) commissioned the Centre for Mental Health Research at the Australian National University to convene a national workshop to provide input about the use and national policy implications of Internet technology in mental health. The workshop, which was held on 26 June 2001, involved a range of stakeholders including consumers, researchers, e-mental health service providers, policy makers, technology experts, mental health practitioners, and representatives from rural and culturally diverse backgrounds from around Australia.

The aim of the workshop was to identify:

- the advantages of Internet based technologies;
- the key obstacles to the use of Internet technology in mental health;
- possible means by which these obstacles could be overcome;
- the roles of government, the private sector, universities, health professional groups, consumers and affiliated organisations; and
- ways in which consultation among the participants and with the Commonwealth could continue.

## The content and scope of the report

This report is based on lectures delivered by experts and tasks completed by participants at the workshop, a subsequent online survey of participants and other interested stakeholders who were unable to attend the workshop, and a review of the current literature on Internet mental health. The report summarises the outcome of these activities and presents a total of ten suggestions and associated strategies aimed at assisting policy makers to frame future national mental health policy.

In this report we use the term 'e-mental health' to refer to mental health services and information delivered or enhanced through the Internet and related technologies. The focus in the report is on the use of the Internet in mental health delivery, education and health promotion and illness prevention. In particular, it focuses on the use of World Wide Web technologies, the exchange of information via email, and the use of chat groups and data transfer. However, many of the suggestions and issues addressed in the report are relevant to other technologies (eg call centres). In addition, although the report is explicitly

concerned with mental health policy, we acknowledge that any work in the area must be considered and implemented in the context of national e-health developments and plans, particularly those relating to Health Online (NHIMAC, 2001).

## Outcomes

### Advantages of the Internet in mental health

Workshop participants identified five main advantages of the Internet in mental health:

#### a) **Cost reduction**

The Internet can reach a wide audience cost effectively and may thereby help manage health delivery costs. Targeting consumers at an early stage using the Internet may prevent symptoms from developing into disorders that require more expensive treatment. Technology may also decrease the burden associated with routine procedures. Consistent with this suggestion, there is some evidence from the literature that technology based disease management designed to improve self management of health is cost effective.

#### b) **Facilitation of conventional service delivery**

Services, particularly those relating to prevention strategies, could be integrated within the established health and community sectors, community groups could be linked to e-mental health services and e-mental health resources could be developed through partnerships between the traditional health sector and the community sector. Recent evidence suggests that the Internet is acceptable to patients, doctors and the general community, and that online support groups are popular and associated with a high degree of participant satisfaction.

#### c) **Introduction of innovative services**

The Internet is able to offer individually tailored (customised) help that may not be achievable in the timeframe provided in typical service delivery. It can facilitate the development of new networks and partnerships that would be impossible without a suitable communication infrastructure. Information can also be delivered consistently, accurately and comprehensively, treatments can be delivered with fidelity, and the Internet can facilitate the storage and rapid location of relevant information. Information delivery is inherently self paced and available at all times, and the user can obtain confidential access to a broad range of treatment and services.

#### d) **Democratisation of health care and facilitation of consumer empowerment**

The Internet makes possible the widespread dissemination of accurate mental health information. It leads to a more informed and hence a more empowered community. This increased mental health literacy may improve health outcomes for the entire society. The technology also increases the capacity of the broader community to be involved in the development of mental health services. There is evidence that self help on the Internet is prevalent overseas. It is likely that self help on the Internet is also prevalent in Australia.

**e) Improved access**

There is growing use of the Internet for the delivery of mental health interventions in Australia and a recognition that the Internet may be a useful means of providing for 'unmet' need. Arguably, Australia is one of the leading countries in the development of e-health and e-mental health initiatives. The workshop participants were confident that the Internet could assist in addressing some critical issues of relevance to certain disadvantaged groups, particularly those living in rural and remote areas. It was also felt that the level of computer literacy in the community, and particularly among young people, is growing and that over time the accessibility of Internet mental health programs will increase.

## Barriers to the use of Internet technology in mental health

Workshop participants identified five main barriers to the implementation of e-mental health initiatives. These included:

**a) The lack of established funding models in conjunction with high development and continuing maintenance costs**

Participants expressed considerable concern over the high cost of the new technologies, both with respect to development and maintenance costs. It was felt that some areas (eg telepsychiatry, 'Web counselling') were likely to develop more quickly than others (eg community education, consumer to consumer support) due to differences in the potential for putting funding models in place.

**b) Increased short term costs associated with increased uptake of conventional and other services**

There was concern that increased awareness due to Internet promotion might lead to an increased demand on an already overburdened health system. There is no systematic empirical evidence relevant to this question.

**c) Issues relating to ethical responsibility and liability**

It was felt that some health provider resistance to the use of the Internet may arise from fear of legal liability. Problems might arise if information offered over the Internet is misconstrued or used inappropriately. Liability issues also concern non professional practice and information posted on the Internet. It is unclear if professionals and Web developers are ethically or legally obliged to respond to requests for help on their Websites. International evidence suggests that professional and non professional e-mental health practice is inconsistent and unstructured.

**d) Privacy issues**

The perception that privacy is protected is crucial to the uptake and use of e-mental health services. However, there is a basic tension between the need for access to health records and the need for security of those records. The new technologies raise important questions in relation to regulation and control of record access and the authentication of users in situations where it is not easy for each party to verify the identity of the other. The issue of the possible inappropriate use of data collected on information, prevention and consumer sites was also raised.

**e) Poor quality of information**

There were concerns that information may be inaccurate, that it is often not referenced, and that sponsors or potential conflicts of interest are often not declared. It was noted that there is no external regulation of Internet sites, and that there are no intelligent search engines that can retrieve only information that is accurate and consistent with evidence based standards. Consumers are not necessarily in a position to judge the validity of Internet material. Consistent with these views, there is research evidence that the quality of information on the Web is variable and that many mental health Websites produce low quality information for mental health consumers.

**f) Lack of evidence of efficacy or effectiveness**

Although participants believed that the Internet could and should play an important role in the delivery of mental health services, there was a concern about the lack of evidence about the effectiveness of Internet delivered services. Our own review of the literature on e-health and e-mental health sites largely supports these concerns. However, there is some evidence in support of the use of health care education, treatment and prevention of eating disorders, professionally mediated support groups, and the use of the Internet for the collection of data in epidemiological surveys.

**g) Lack of uniformity of access**

Australians do not have equal access to the Internet. Those who most need access to health care are often those least equipped to bridge the digital divide. In our community there is a self perpetuating cycle of low education, low health literacy, low income, and poor health. In addition, many sites are designed without sufficient input from the end user. Websites are therefore less accessible to the groups for whom they are primarily intended.

**h) Limitations to the availability of optimal technologies**

Despite the government policy of universal service obligation, few Australians have access to high bandwidth. This can result in a frustratingly slow service. It places serious limits on the use of state of the art technology by the majority of Australians and on the provision of Internet based psychiatry services into the home. In addition, the current telecommunication pricing structure (which depends on distance) limits technological take up. A further barrier is the lack of a suitably trained workforce for creating applications (eg hypertext, streaming, and multimedia) and failure to use the full potential of the Internet in designing applications.

## **Moving forward: Overcoming barriers and capitalising on advantages**

From the workshop discussion, five major areas requiring action were identified. These are described below:

**a) Access**

It was felt that government should play an important role in implementing strategies to bridge the information divide.

Suggested schemes for facilitating access to Internet terminals included the use of resources of commercial and public organisations 'out of hours'; the more effective subsidisation of access by disadvantaged Australians; and seeking deals with Internet Service Providers to gain discounted rates for viewing health sites. It was also considered that access would be improved if all members of the community are sufficiently 'information literate' to use the new technologies, and if the end users (both professionals and consumers from different backgrounds) are involved in the design of the sites. It is also important to understand consumer needs, values and preferences so that we know what information is most desired and useful to consumers. Finally, there is a need to invest in service supply and remote system technology in Australia.

**b) Ethical issues**

There is an urgent need to develop a position on the role of professionals and others in e-mental health service delivery in Australia (eg to develop procedures for conducting professional to consumer relationships using the Internet). These procedures should be developed by professional organisations in consultation with government and consumers.

Confidentiality and privacy guidelines need to be developed with the involvement of all relevant stakeholders: providers of e-mental health services including consumer providers; mental health

consumer and carer representatives; research bodies, including NHMRC; and relevant statutory authorities. Some respondents felt that it was possible to rely on the provisions of the *Privacy Amendment (Private Sector) Act 2000* to protect patient information. Other participants advocated the gradual introduction of e-mental health services, and the associated generation of online data on consumers, to allow time to understand and develop solutions to confidentiality and privacy issues.

It was felt that there must be the capacity with any medical record database to mask and unmask components of the record depending on who logs on. Policies, and administrative, technological and legal infrastructures must also be established that ensure that any security breaches are detected and penalties applied. The use of passwords, fingerprints, smart cards, or biometrics were some possible solutions to the need for authentication of users. In addition, some information might be made available only when the patient and the doctor act jointly.

**c) Quality and effectiveness**

Workshop participants considered that the duty of care and the standards of care afforded across the Internet should not differ from more traditional service provider models. Sites providing consumer information needed to meet appropriate standards, to make explicit their basis for advice and endorsements, and to identify site authors and note the dates of revisions. Another strategy may be to educate the consumer to become more discerning. However, there is a need to identify valid indicators of site or service quality that do not require content expertise. The government could play an important role in promoting quality assurance. In the future, initiatives such as the MedCERTAIN project (Griffiths, Lecture 2.5) may prove helpful in providing consumers with evaluative information about the quality of Websites. The development of intelligent search engines which automatically return high quality mental health sites also offer a potential means for facilitating consumer access to high quality information.

Workshop participants and the online survey respondents considered it imperative that e-mental health services be evaluated, and that the nature of consumer interactions with e-mental health services be examined empirically.

**d) Technology**

If all Australians are to have access to health services over the Internet, prices must be capped at a reasonable level. Current pricing appears to reflect pricing policy rather than the real costs incurred by the communication carriers.

In addition to a greater expansion of digital technology, more people must be trained to use the technology and to produce software and applications for the technology. Sites and software must be designed that go beyond the linear text sites currently favoured, and target a wider range of users. Collaborative projects and skills sharing should be encouraged. The role of government might be to facilitate partnerships and an open process and to fund demonstration projects.

**e) Funding**

It was felt that models of funding for some Internet health care technologies could be developed within the Medicare Benefits Scheme and through the health funds. Health promotion and prevention were not considered to be sustainable through private or Medicare sources and might therefore require government funding. Possible funding arrangements include grants, industry support, and user pay arrangements. An e-mental health Cooperative Research Centre may be viable and partnership grants through industry and the Commonwealth may be a suitable model for funding. There is a need to fund e-expertise infrastructure both technologically and in mental health areas.

## Towards an e-mental health policy

The Commonwealth is positioned to take a leading role in developing e-mental health policy. The suggestions and strategies outlined below are intended to provide a basis for developing a coherent e-mental health plan for Australia. A number of these strategies should be implemented immediately (eg Suggestion 1). Other strategies can be implemented once e-mental health is established as a priority area in the Third National Mental Health Plan. Suggested timing for implementing the strategies appears at the end of this report (section 4.2).

### GENERAL

#### **Suggestion 1: e-Mental health should be a priority area in mental health policy planning.**

Strategies:

- Establish a national Reference Group comprising representatives from key stakeholder groups to:
  - advise on e-mental health policy issues;
  - convene, establish the terms of reference for, and oversee relevant working parties;
  - provide input into the consultation process for developing the Third National Mental Health Plan; and
  - present the case that e-mental health should be a priority area within the Plan.

#### **Suggestion 2: e-Mental health initiatives should be integrated effectively into current mental health programs.**

Strategies:

- Undertake a comprehensive review of what e-mental health services are currently available. To avoid duplication, this review should take into account other initiatives currently in progress and coordinated by the National Health Information Management Advisory Council and other key groups. The review should document:
  - current Internet mental health information sites as a function of type of intervention strategy and funding source, including a description of services, who provides them, the modes of delivery, the target groups and the users of such services;
  - telemedicine mental health services including Web-counselling, Web-psychiatry and Internet and other e-technology assisted therapy, in particular, Web based ‘call centres’ which offer online advice and counselling;
  - available and emerging e-mental health technologies;
  - Internet crisis services, support groups and chat groups in Australia;
  - initiatives that aim to provide physical access to the Internet and to other e-mental health services for those with mental health symptoms;
  - the attitudes and expectations of consumers and doctors about the role of e-mental health; and
  - the full range of different types of interactions that occur online. This may also include a review of interactions that occur via electronic technology.

- Undertake an analysis of potential methods for integrating Internet services into current mental health programs. Without proactive analysis, Internet services may be disproportionately driven by market forces rather than by consumer or national needs. Delivery systems other than the Internet should also be considered. This analysis of potential methods should draw on:
  - strategies adopted overseas and in Australia;
  - the views of experts in e-mental health and mental health;
  - work in progress occurring at the national level in relation to improving the practice and outcomes in other health areas. Strategies include the use of e-technologies for improving and speeding up communications, coordinating and integrating communication between people within and between disciplines and sectors, and providing more effective diagnostic and prescribing tools;
  - results from prototypical interventions and test cases;
  - the funding and development of demonstration models for how the new technology might work. The latter will depend to some extent on which models are funded under Networking the Nation program and the National Communications Fund, two initiatives set up by the Commonwealth Department of Communications, Information Technology and the Arts; and
  - develop training and continuing education programs targeting medical schools and existing health care provider services to encourage and educate future and existing practitioners to integrate e-mental health initiatives into their practices.

## ACCESS

**Suggestion 3: Investigate strategies for improving access to information on the Internet for those not currently served by the technology.**

Strategies:

Taking into account relevant national strategies developed under the auspices of the National Health Information Management Advisory Council:

- Identify the factors such as lack of physical access, lack of interest and lack of information literacy that contribute to the 'digital divide' among mental health stakeholders and serve as barriers to Internet use within Australia. Include in this strategy current literature on the nature of the 'digital divide' in Australia. A relevant publication may be that of Hellwig and Lloyd (2000).
- Together with relevant government, non government and practitioner organisations, plan and devise strategies for education and training of mental health consumers, carers and providers in mental health technologies.
- At a national level, identify methods for removing barriers and increasing equity of access to the Internet. Improve Internet content for communities not yet served through the development of local content, catering for lower levels of literacy, and through the involvement of local communities, consumers and carers. Individuals with mental health problems who are older, from a culturally or linguistically diverse background or of Aboriginal and Torres Strait Islander

background should be provided with the opportunity to contribute to the content of mental health sites. Moreover, these individuals should be supported in these endeavours through the development of appropriate guidelines.

- Ensure that health professionals and consumers are given the opportunity to provide input to all government mental health information sites.

## QUALITY AND EFFECTIVENESS

### **Suggestion 4: Develop guidelines that encourage and promote high quality mental health information on the Internet in Australia.**

Strategies:

- Under the direction of the proposed e-mental health Reference Group, establish a national working party with representation from major stakeholders with responsibility for:
  - developing a protocol for evaluating mental health Websites;
  - reviewing and ratifying mental health Websites with representation from major stakeholders;
  - reviewing the strategy used by *HealthInsite* to develop high quality information;
  - developing strategies to educate consumers about evaluating the quality of information on mental health Websites; and
  - developing strategies for educating mental health Web producers about the importance of high quality information.

### **Suggestion 5: Promote the development of useful and effective mental health Websites.**

Strategies:

- Assess all submissions and tenders for Commonwealth/State/Territory/local government funded Websites against an agreed assessment protocol and agreed standards.
- Assess all submissions and tenders for government funded Websites for inclusion of an appropriate evaluation protocol.
- Ensure that government funding of Internet applications is contingent on these sites developing suitable process and outcome evaluations.

**Suggestion 6:** Under the auspices of the National Health and Medical Research Council (NHMRC), develop and implement guidelines for mental health research activity on the Internet in Australia

Strategies:

- Establish a mechanism by which the research community in cooperation with the NHMRC can develop guidelines for conducting ethical research on the Internet.
- Develop strategies for implementing the guidelines, ensuring particularly that other ethical guidelines both within and outside the NHMRC are upgraded to incorporate guidelines for Web based research.

**Suggestion 7:** Develop guidelines for the professional practice of online therapy and other e-mental health therapy.

Strategies:

- Encourage professional organisations to develop guidelines and future training and accreditation requirements for the practice of professional online therapy and other e-mental health therapy.
- Use available service guidelines and standards to assist in this process and in the development of future guidelines and standards.
- Extend current initiatives to develop training and support activities for general practitioners, as outlined in Health Outline (NHIMAC, 2001), to psychiatrists, clinical psychologists and psychiatric nurses.

**Suggestion 8:** Promote the highest standard and ethical code of conduct in all e-mental health interactions.

Strategies:

- Under the direction of the proposed e-mental health Reference Group, establish a national working party to:
  - facilitate the development, implementation and monitoring of ethical guidelines and standards for e-mental health intervention; and
  - identify and examine relevant legal issues, and in particular, professional liability issues associated with online delivery.
- Use developments in broader areas of health (eg from Health Online (NHIMAC, 2001)) to inform this process.
- As part of the guideline implementation process, encourage relevant health professional bodies to integrate guidelines with the existing codes of professional behaviour that govern the conduct of their members.

**Suggestion 9: Protect confidentiality and privacy of e-mental health interactions while improving accessibility and continuity of care through the use of e-records.**

Strategies:

- Continue current initiatives with respect to medical records (*HealthConnect*), and include and be informed by current developments in the broader health sector.
- Identify any legal issues associated with confidentiality and privacy that are specific to the area of mental health.

## FUNDING MODELS

**Suggestion 10: Identify means by which the development and provision of innovative e-mental health applications and infrastructure can be funded.**

Strategies:

- Review the roles of industry, community and government stakeholders in funding innovative e-technologies. In particular, review:
  - current initiatives in broader areas, such as developments in establishing a research and development agenda by the Office of Rural Health of the Commonwealth Department of Health and Ageing, and findings of a working party set up by the New South Wales Department of Health to investigate telehealth financing;
  - the suitability of different levels of intervention (prevention, early intervention, raising mental health literacy, treatment) to funding from each sector. For example, the former interventions are likely to be highly suitable to the new technologies and cost effective. However, they may not prosper without government funding due to the absence of alternative funding mechanisms. Treatment such as psychotherapeutic interventions may be more amenable to a fee for service approach and may therefore be more suitable to private sector funding;
  - the costs and benefits of funding innovative e-health technologies for each level of intervention and conduct an economic analysis of the costs of the Web interventions and counselling relative to face to face service delivery;
  - the means by which existing public funding arrangements for mental health could be changed to integrate the new technologies;
  - mechanisms for joint State and Territory funding of nationally accessible e-mental health developments; and
  - strategies to develop e-mental health infrastructure and in particular to encourage the development of e-mental health technologies and e-mental health expertise. It is clear that high quality sites and useful health information require input from mental health professionals and consumers with expertise in e-mental health.

# Section 1: Background



## 1.1 Background to the report

The Internet is the fastest growing technology in the world, with 50 million users achieved in only four years. It has been estimated that there are 20,000 Websites dedicated to medical care worldwide (Dyer, 2001) and that over 36% of Australians have Internet access in their homes (ABS, 2000). Many more have access from work.

This rapid growth, combined with the potential of the Internet to impact broadly, will affect increasingly the everyday lives of all Australians. In particular, the Internet and other health technologies provide a new platform with the potential of delivering better mental health information, improved and cost effective mental health services and greater opportunities for prevention. However, there are many challenges associated with the use of this technology. The rapid expansion in technology has outpaced the development of standards and guidelines for Internet use, and there is now a need to take stock of the impact of the technology, to consider the advantages and difficulties associated with its use and to develop strategies to improve the practice of Internet mental health.

The Mental Health and Special Programs Branch of the Commonwealth Department of Health and Aged Care (now the Department of Health and Ageing) sought advice about the use of and national policy implications for Internet technology in mental health. Accordingly, a national e-mental health workshop was convened in conjunction with the Centre for Mental Health Research at the Australian National University in June, 2001. The workshop involved a range of stakeholders including consumers, researchers, e-mental health service providers, policy makers, technology experts, mental health practitioners, and representatives from rural and culturally diverse backgrounds from around Australia. Although the workshop focused on the effect of the Internet and Internet supported technologies in the delivery of mental health services, other forms of electronic communication were also considered. The workshop was chaired and facilitated by Professor Tony Jorm from the Centre for Mental Health Research.

This short report is based on three activities that occurred as part or as a consequence of this workshop. These activities were:

- a series of lectures delivered at the workshop by experts involved in developing or evaluating Website developments in Australia;
- tasks completed by stakeholders at the workshop; and
- an online survey of researchers, consumers and developers of Websites from within Australia including attendees at the workshop and other interested stakeholders who had been unable to attend the workshop.

These activities and this report were funded by the Mental Health and Special Programs Branch of the Commonwealth Department of Health and Ageing.

## The lectures

Each of the experts was asked to speak on an Internet issue of relevance to a particular area of mental health delivery. The areas of interest were prevention (Dr Helen Christensen), community education (Professor Gavin Andrews), primary care (Professor Ian Hickie), specialist care (Professor Ken Kirkby), the private sector (Dr Dennis Tannenbaum); and international perspectives on Website quality (Dr Kathy Griffiths). John Payne from the Department of Health and Aged Care described a Commonwealth initiative in the area. Edited versions of these talks are presented in Section 2.

## The workshop

Appendix A lists the attendees at the workshop. The aim of the workshop was to:

- identify the advantages of Internet based technologies;
- identify the key obstacles to the use of Internet technology in mental health; and
- consider possible means by which these key obstacles could be overcome.

In particular, the workshop attendees were asked to consider the roles of government, the private sector, the universities, health professional groups, consumers and affiliated organisations in this process. The workshop also aimed to develop ways in which consultation among the participants and with the Commonwealth could continue. The present report is an attempt to give forward momentum to this process.

## The online survey

Following the workshop, attendees and those who had earlier expressed an interest in attending the event but who had been unable to come, were asked to complete an open ended survey conducted by email. The survey participants are listed in Appendix B.

Survey questions were based on issues identified as important by the workshop attendees and were as follows:

1. Do you believe that e-mental health should be integrated into future mental health policy planning?
2. Can you specify one important means of overcoming barriers and moving the e-mental agenda forward in each of the following areas: (a) resources, (b) quality assurance, (c) privacy/confidentiality, (d) technology, and (e) access.

Responses to this online survey, input from the workshop itself and a review of the literature form the basis for Section 3.3 which addresses how the e-mental health agenda can be moved forward.

## Recommendations

The final section of this report contains a list of suggestions and strategies of relevance to mental health policy and strategic planning. These suggestions are based on the outcomes of the workshop and online survey, and on an analysis of the e-mental health literature. These recommendations consider the roles of government, Web developers, professional organisations and consumers in the development of e-mental health policy. A critical success factor is likely to be the interest, commitment and participation of a range of stakeholders.

## 1.2 The context

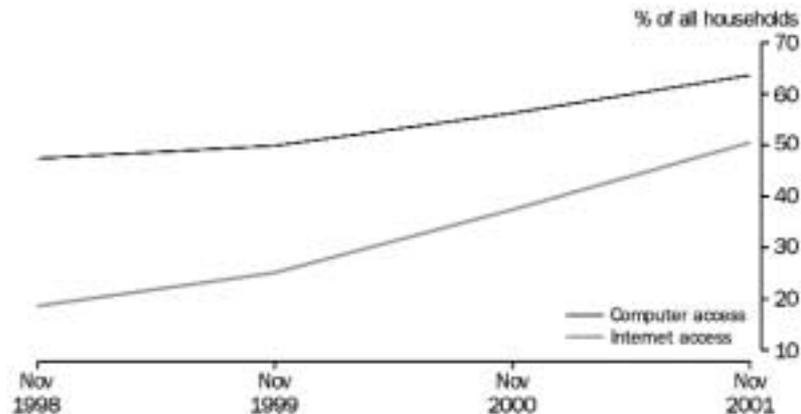
Before describing the lectures, the workshop outcomes and responses to the survey, it is appropriate to briefly outline the growth of the Internet in Australia, to provide definitions and descriptions of the Internet and of e-mental health, to sketch a useful way of conceptualising mental health delivery, and to outline some of the e-mental health initiatives in Australia.

### The growth of the Internet in Australia

A new study released on 20 November 2001 from the UN Conference on Trade and Development (<http://zdnet.com/zdnn/stories/news>) (Last accessed 22 November, 2001) reported that even the suicidal airliner attacks on New York on 11 September had made little impact on Internet usage. The report noted that there were 513 million Internet users, likely to reach a billion by the end of 2004. This future growth is predicted to occur mainly in Asia, where, for example, now, patient records are being transcribed in Bangladesh from voice files for US doctors.

Closer to home, in Australia, recent Australian Bureau of Statistics figures (ABS, 2001) indicate that over half (56%) of all Australian homes have a computer, and the number with access to the Internet has risen to 2.7 million (37% of all homes). The rate at which Australians are taking up the Internet is increasing relative to the rate at which computers are entering Australian households (see Figure 1).

**Figure 1: Increasing rates of computer and Internet use in Australian households**



(Source: ABS 2001. Reprinted by permission)

There is now clearly a need to develop models as to how Internet and other technologies will fit in or produce departures from the normal health service delivery arrangements, to identify the advantages and disadvantages of the Internet, and to explore how barriers to the use of this technology might be overcome. These models need to take into account differences in legal, regulatory and accountability requirements in different states and countries.

## e-Health policy context in Australia

In 1998, the Australian Health Ministers established the National Health Information Management Advisory Council (NHIMAC) to advise on options to promote more effective information management (including the application of information and related technology) within the health sector. NHIMAC first released *Health Online: A Health Information Action Plan for Australia* in November 1999 to provide a national strategic framework and action plans for better management and use of health information. The second edition of Health Online was released in September 2001 (NHIMAC, 2001). As part of the Health Online strategy, NHIMAC produced the action paper, *National Telehealth Plan for Australia and New Zealand*, December 2001 (NHIMAC, 2002).

NHIMAC currently has two subcommittees which address specific aspects of health information policy. The National Health Information Standards Advisory Committee (NHISAC) has been established as a national coordinating body for health information standards. The National Electronic Decision Support Taskforce has recently been established to provide advice to Health Ministers on how to achieve a nationally coordinated approach to the development of electronic decision support systems for clinicians in Australia.

Other relevant national policy groups report to the Australian Health Ministers' Advisory Council (AHMAC). These are: the National Health Information Management Group, the HealthConnect Board, the AHMAC Privacy Working Group, the Australian New Zealand Chief Information Officers Forum, and the National Health Supply Chain Reform Taskforce. Another key national group is the General Practice Computing Group.

## Scope of the report

In this report, we focus on the use of the Internet in mental health delivery, education and health promotion. We consider the use of World Wide Web technologies, the exchange of information via email, and the use of chat groups and data transfer. We focus less on older technologies such as interactive video and telephones. The definitions used in the present report are narrower than those employed in some other policy papers concerned with e-health (eg NHIMAC, 2002; Mitchell, 1999). Nevertheless, many of the recommendations of the report are relevant to the use of older technologies. Moreover, they are also of relevance to emerging technologies which will pose related policy and service challenges.

## Definitions

In this section we define the term 'Internet', examine the definition and attributes of e-mental health, and attempt to establish a framework for examining the role of the Internet in mental health services and delivery.

### The Internet

The Internet has been defined as:

*a worldwide network of computer networks that use the TCP/IP network protocols to facilitate data transmission and exchange*

(Source: WordNet)

Initially, use of the Internet was confined primarily to universities, but since the introduction of the World Wide Web in 1990, it has rapidly expanded its reach to become:

*an almost-ubiquitous aspect of modern information system... Its original spirit of cooperation and freedom have, to a great extent, survived this explosive transformation with the result that the vast majority of information available on the Internet is free of charge.*

*While the Web (primarily in the form of HTML and HTTP) is the best known aspect of the Internet, there are many other protocols in use, supporting applications such as electronic mail, Usenet, chat, remote login, and file transfer.*

(Source: Free Online Dictionary of Computing)

The Internet is 'governed' by standards set out by the World Wide Web Consortium (W3C) (<http://www.w3.org/>) and the Internet Engineering Task Force (IETF) (<http://www.ietf.org>).

### **e-Mental health**

The term e-mental health is yet to enter the scientific literature. The recently coined term e-health, however, has been listed 87 times in PubMed, the major international database of medical research abstracts (<<http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?CMD=search&DB=PubMed>>; searched 14 November 2001).

Gunther Eysenbach, editor of the *Journal of Medical Internet Research* has defined e-health as follows:

*e-health is an emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterises not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care locally, regionally, and worldwide by using information and communication technology.*

(Source: Eysenbach, 2001)

Directly based on this definition, we define e-mental health as that form of e-health which deals with mental health and mental health disorders. Thus, the term e-mental health refers to mental health services and information delivered or enhanced through the Internet and related technologies.

Eysenbach describes the characteristics of e-health, and these are outlined in Box 1. This conceptualisation acknowledges the importance of the Internet (and other related technologies) in improving access to evidence based information and decision making by professionals and consumers. It also highlights the importance of promoting equal access, an issue that is raised later in this report.

## BOX 1: EYSENBACH'S CONCEPTUALISATION OF E-HEALTH

1. **Efficiency** – one of the promises of e-health is to increase efficiency in health care, thereby decreasing costs. One possible way of decreasing costs would be by avoiding duplicative or unnecessary diagnostic or therapeutic interventions, through enhanced communication possibilities between health care establishments, and through patient involvement.
2. **Enhancing quality of care** – increasing efficiency involves not only reducing costs, but at the same time improving quality. e-health may enhance the quality of health care for example by allowing comparisons between different providers, involving consumers as additional power for quality assurance, and directing patient streams to the best quality providers.
3. **Evidence based** – e-health interventions should be evidence based in a sense that their effectiveness and efficiency should not be assumed but proven by rigorous scientific evaluation. Much work still has to be done in this area.
4. **Empowerment of consumers and patients** – by making the knowledge bases of medicine and personal electronic records accessible to consumers over the Internet, e-health opens new avenues for patient-centered medicine, and enables evidence-based patient choice.
5. **Encouragement of a new relationship between the patient and health professional**, towards a true partnership, where decisions are made in a shared manner.
6. **Education of physicians** through online sources (continuing medical education) and consumers (health education, tailored preventive information for consumers).
7. **Enabling information exchange and communication** in a standardized way between health care establishments.
8. **Extending** the scope of health care beyond its conventional boundaries. This is meant in both a geographical sense as well as in a conceptual sense. e-health enables consumers to easily obtain health services online from global providers. These services can range from simple advice to more complex interventions or products such as pharmaceuticals.
9. **Ethics** – e-health involves new forms of patient-physician interaction and poses new challenges and threats to ethical issues such as online professional practice, informed consent, privacy and equity issues.
10. **Equity** – to make health care more equitable is one of the promises of e-health, but at the same time there is a considerable threat that e-health may deepen the gap between the “haves” and “have-nots”. People, who do not have the money, skills, and access to computers and networks, cannot use computers effectively. As a result, these patient populations (which would actually benefit the most from health information) are those who are the least likely to benefit from advances in information technology, unless political measures ensure equitable access for all. The digital divide currently runs between rural vs urban populations, rich vs poor, young vs old, male vs female people, and between neglected/rare vs common diseases.

Source: Eysenbach 2001. Reprinted by permission

## Mental health delivery

The role of the Internet is likely to be very different for different levels and sectors of mental health delivery. The role of government and each of the stakeholder groups is also likely to vary as a function of the service delivery sector, as is the case now in nonInternet supported service delivery. We predict that there will be a disproportionate growth in consumer driven Internet interventions such as chat groups, Web counselling and consumer sites. It is also likely that expert system or technology supported interventions which facilitate self help will be growth areas. This growth in consumer driven interventions is likely to extend the scope of health care, produce more informed patients and clients, enable the more efficient use of health care provider time and expertise, and encourage the development of more sophisticated health communication systems.

A number of useful distinctions may provide a framework for discussion about e-mental health services using the Internet (see Box 2). The role of the Internet will vary depending on the *type of intervention*. It may also vary as a function of *volume and cost*. Compared to hospital and specialist care, prevention and promotion is less expensive per individual and directed at a mass audience. Public health interventions are therefore well suited to Internet delivery. A third distinction, overlapping to some extent with the first two, is based on the *type of interaction* between communicators, whether this is between consumer and health care provider (eg doctor, psychologist, social worker) or between consumers and consumers or between health care provider and health care provider (eg GP and specialists). A final distinction relates to the timeliness of the intervention and in particular, whether mental health care is required urgently or whether it is a longer term need. Because the Internet is accessible 24 hours a day, the Internet may be a first point of call in emergencies.

### BOX 2: USEFUL DISTINCTIONS FOR MENTAL HEALTH DELIVERY USING THE INTERNET

#### Type of mental health intervention

(Mrazek & Haggerty, 1994)

- Promotion
- Prevention
- Early intervention
- Treatment
- Relapse prevention
- Rehabilitation

#### Volume and cost structure for these sorts of delivery services

- Prevention and promotion
- Community care
- Primary care
- Specialist care
- Hospital care

#### Type of interaction

- Consumer/Professional: interactions using email, Web counselling
- Consumer/Consumer: interactions using email, chat groups, bulletin boards
- Consumer/other: advice from non professionals
- Professional/Professional: interactions for peer review, specialist consultation
- Consumer/information: the download of information from the Internet
- Consumer/interactive technology: interactions with a computer program/system
- Professional/information: information targeted at professionals
- Professional/interactive technology: training/ continuing education using interactive systems

#### Urgency of interaction

- Crisis intervention
- Routine information and care

Clearly, many more sub-distinctions can be made within each of these categories. For example, a further distinction for the type of interaction has been clearly articulated by the International Society for Mental Health Online (<http://ismho.org>) which listed the following types of interventions that are possible using the Internet:

- face to face therapy cases in which contact with the client via the Internet played a significant role (eg email between sessions, the use of Websites as resources);
- short and long term clinical encounters with people that occurred primarily via the Internet (eg therapy via email or chat);
- professional consultations that occurred via the Internet, including, for example, giving advice and/or information to people who contact an online professional and supervision via the Internet (eg via email or message boards);
- face to face therapy cases in which the client's activities in cyberspace were a significant issue in the therapy; and
- online groups and communities in which the mental health professional acts as an organiser, facilitator, or consultant.

## e-Mental health services and products in Australia

The National Telehealth Plan for Australia and New Zealand (NHIMAC, 2002) noted that the following services and products were being developed in conjunction with clinicians and health care providers, using telecommunications and information technology (p1):

- Patient services including:
  - patient management consultations
  - second opinions
  - face to face appointments or management of patient referrals
  - diagnostic support, eg radiology
  - clinical information transfer
  - remote patient monitoring
- Continuing professional education
- Collaborative support and training
- Community health information access and education

In the mental health sphere, a number of services are provided by consumers for each other, and these form a part of the use of the Internet in mental health care.

In this report, we classify Internet based interventions for consumers into the following four broad areas:

### **1. Interventions initiated by doctors/other mental health professionals for patients/clients (Web counselling and email)**

In these interactions, there is involvement by the health professional with a patient and the Internet is used to facilitate therapy or medical practice. These include: patient consultations via email or video (Web psychology or Web psychiatry, Web nursing); use of the Internet to provide referrals to hospitals; and Internet based exchange between GPs and specialists. Many of these activities are

included under the Patient services category of the National Telehealth Plan for Australia and New Zealand. Because conventional health care delivery is the defining characteristic of this class of services, it also encompasses activities used by the health practitioners to facilitate communication or knowledge and includes access to scientific information systems, and electronic records. Examples within Australia and New Zealand include:

- Infrapsych (<http://www.infrapsych.com.au>)
- DoctorGlobal (NZ) (<http://www.doctorglobal.com/index.asp>)
- Global Doctor (<http://www.eglobaldoctor.com/>)
- Panic on Line (<http://www.ballarat.edu.au/ruralhealth/panic/>)
- SPHERE (<http://www.spheregp.com.au/sphere.htm>)
- University of Queensland: Cognitive Behaviour Therapy interventions for young people [not publicly available].

These interventions can be highly developed and technically sophisticated, and are capable of extending and reshaping the nature of conventional health care delivery.

## **2. Interventions designed by organisations to help people manage and improve health through self help**

These initiatives do not involve direct contact between health professionals and consumers. These technologies are systematically developed programs that provide interactive services to individuals, and may include Internet, email, Web or video downloading. Examples of these programs overseas for general health include One Health Plan (see Gomaa et al, 2001), and the PA Web (see Fotheringham et al, 2000). Most of these programs aim to prevent disorders and intervene broadly. In Australia, the closest to this form of intervention in mental health is a site that has been launched but is still under development. This site, MoodGYM™ (<http://moodgym.anu.edu.au>), delivers cognitive behaviour therapy to young people. Outcome data on the use and popularity of the site are now available (Christensen, Griffiths & Korten, 2002).

## **3. Information sites designed by governments, universities, non government organisations, and private individuals and bodies to provide information about mental disorders and their treatment**

These sites are designed largely for consumers and carers, but, particularly in the case of clearinghouse sites, may be of use to students for training and professionals for continuing education. Information Websites may encourage mental health literacy and prevention. Examples within Australia include:

- Evidence based information sites developed by universities: BluePages (<http://bluepages.anu.edu.au>), Crufad (<http://crufad.com/hompage.html>), Mood Disorders Unit (<http://www.mdu.unsw.edu.au>).
- Sites describing government and non government initiatives: beyondblue (<http://www.beyondblue.org.au>).
- Government Websites that provide vetted information about mental health issues for both consumers and professionals: for example, Health*Insite* (<http://www.healthinsite.gov.au>), Auseinet (<http://auseinet.finders.edu.au>).

A review of Australian depression Websites has recently been published in the Medical Journal of Australia (Griffiths & Christensen, 2002).

This category also includes sites for professionals such as the Cochrane Collaboration, Medical Prescriber, and PubMed sites and access to and use of diagnostic and decision tools.

#### **4. Sites developed to provide support to those in need**

These include Websites for offering support through email, counselling and chat groups. The Internet has seen a proliferation of bulletin boards and chat rooms targeted specifically at health consumers and resulting in increased facilitation of informal communication between health consumers. This development of a worldwide patient to patient network may lead to more effective health lobby groups and may educate health professionals more effectively about the public's perceptions of illness. These sites might also provide Internet call centre services. Examples of Australian mental health sites with these facilities include:

- DepressioNet (<http://www.depressionet.com.au>)
- Reachout (<http://www.reachout.asn.au/home.jsp>)
- Lifeline (<http://www.lifeline.org.au>)
- Kids Help Line (<http://www.kidshelp.com.au/>)

The above classification is useful but imprecise since many sites target both medical health professionals and consumers and offer a range of services. Some sites targeted at consumers have an educational as well as a crisis intervention or call centre function. Because of the potential public health impact of Internet developments and the growth of consumerism and the consumer perspective, we predict that information, support and self help technologies will be those areas that will grow disproportionately faster than other e-mental health sectors in the next decade. These sectors are largely unregulated due to the relatively standard free and egalitarian nature of the Internet. While this lack of regulation has many advantages, there is a need to develop guidelines that will facilitate safe and useful developments on the Internet.

## Section 2: The lectures



This section contains edited versions of seven lectures delivered at the 26 June 2001 workshop on e-mental health held in Canberra.

The lectures deal with:

- prevention
- community education
- primary care
- specialist care
- the private sector
- international perspectives on Website quality
- a Commonwealth Government initiative

## 2.1 ‘Fearful, Worried, Anxious, Depressed? This is the site for you.’ Websites, and the education of the people about mental disorders

**Gavin Andrews, MD**

Director, Clinical Research Unit for Anxiety and Depression (CRUFAD),  
University of New South Wales at St Vincent’s Hospital, Sydney

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In this paper, Gavin Andrews examines the issues involved in *community education using Websites*. In particular, he outlines the development of his own Website at CRUFAD. This paper is an excellent beginning to the series because it provides an introduction to issues of funding, liability and authentication. These are issues that will be returned to in later sections of the report.

Three issues are of particular importance in this paper. The funding model is one that involves consumers purchasing information from the Website. The second issue is the extent of the interaction between the site developers and the site visitors. In this case, the authors of the site only respond in exceptional circumstances to the consumers who put messages on the bulletin boards. A final point concerns the purpose of the site, which is to provide a service to consumers. There is no intention to evaluate the site using randomised controlled trial techniques.

Gavin Andrews is Professor of Psychiatry at the University of NSW. He is an expert in the treatment of anxiety disorders and the common mental disorders and has a major interest in models of service provision in specialist and primary care.

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**T**he excitement of the Web is that it is free, or can be. It is free to the user once they are connected. It is essentially free to the provider. Once the set up and server costs are paid, 200,000 people using the site cost no more than 200 using the site. This paper is an account of the development of the Website <[www.crufad.org](http://www.crufad.org)> which has the alternate URLs of <[www.dfordepression.com](http://www.dfordepression.com)> and <[www.aforanxiety.com](http://www.aforanxiety.com)>.

In June 2000 we decided to revamp our traditional academic Website <[www.crufad.unsw.edu.au](http://www.crufad.unsw.edu.au)> to provide information to people about anxiety and depression, our core business. We resolved to provide information about symptoms so that people could find information quickly to answer ‘What is happening to me now?’; information about disorders so that people could be informed about the way that clinicians think and categorise these states to aid their interactions with clinicians; and information about self help strategies so that people unable to access clinical services would know what to do to help themselves.

We did begin with some resources. We had 20 years experience running a clinic that specialised in cognitive behaviour therapy for anxiety and depressive disorders. We had edited and published the *Management of Mental Disorders*, a text for primary care staff that is widely used throughout the world; and we had been teaching a masters course in psychological medicine for general practitioners for seven years and had the teaching materials from that course. We had also written a standard text on the *Treatment of Anxiety Disorders* that contained ‘patient treatment manuals’ that were very close to the type of material required for self help pages.

## The plan for the Website

We divided the site into four components: a self help component for consumers, a clinician support segment, an account of our research activities, and a shop. We budgeted \$50,000 for the development and first year of operation of the site and we aimed to get that back by increased sales of our books, videotapes and CD ROMs from the shop. This paper is about the self help component of the site.

## Methods to establish trust

The first problem is how do you enable the visitor to trust the site. We decided no advertising, no cookies, no requests for data from the visitors, just some need to be passively helpful. We did ensure that we were appropriately branded: A World Health Organization Collaborating Centre, St Vincent's Hospital, and the University of New South Wales were all good credentials. The Health on the Net Foundation Code of Conduct (HONcode) was a useful addition. All appear on the home page.

## Determining content

Content was not the problem, organising it so that people could use what they wanted was the difficulty. We decided to have three levels of information. The index listed four symptoms and a larger number of disorders separated by the offer of a free test, the K10 developed by Kessler. If people touched the symptom or the disorder then a 100 word 'quick fix' flag was displayed overlaying the existing text. It defined the symptom or disorder and offered pithy advice. We could think of no quick fix for trauma and said so. If they clicked on the symptom or disorder then they got a 300 - 1000 word description that again defined the issue and offered more advice. At the bottom of that there was the invitation to read more. If they clicked on that invitation then the relevant pages of the Management of Mental Disorders would be displayed. The amount of material offered for each keyword/disorder ranged considerably, from a low of 5 pages for Trauma to a high of nearly 100 pages for Depression. The site is little more than an indexed electronic book.

On the top bar there is a discussion button which is labelled as being for people to share experiences and specifically noted as not being for medical advice (although we sometimes do offer advice). There is a button for a list of frequently asked questions and a button for the shop. We had hoped that increased sales of our books, videotapes and CD ROM would offset the cost of the Website, but in addition we did offer complete 'patient treatment manuals' as used in the clinic, saying that the Adobe files could be downloaded for free.

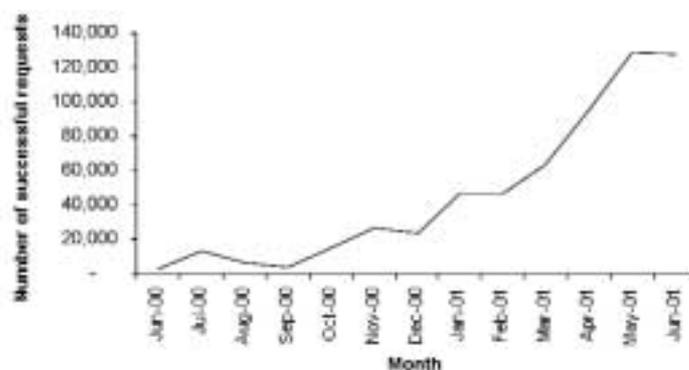
## Controlling interactions

The major problem with many Websites is the acute neediness of many people. There is some evidence that meeting manifest needs is not always helpful and we resolved not to emulate 'Lifeline'. On our original CRUFAD Website we had listed the names and email addresses of our staff. Female clinicians especially got a number of emails from desperate people (and some horrifying ones from people simulating desperate people) the needs of whom could not be met over the Web. In this revision of the site we resolved not to provide a crisis helpline but to moderate the discussion board, removing messages we took to be counterproductive, and replying anonymously to messages that seemed to need urgent specific advice. Mostly we let the users care for each other, reasoning that by helping others they learn themselves.

## Usage and outcomes from the site

The Website has been used. We spent June to December building the site and throughout that time it had a cover on the front saying that people could enter but they must realise that the site was still being built. In January we removed the cover but did not deliberately let the search engines know we were open for business. In the table below we list the growth in hits over the first six months, a growth rate that averages 30% increase over the previous month. Downloads followed a similar pattern so that at the end of June 120,000 hits were being recorded and 500 MB of downloads were being taken. Comparable figures are difficult to obtain but there is every reason to believe that the site is or will be a success.

Figure 1a: Successful requests per month, CRUFAD Website



## Shop sales

We estimate that the increased sales of the books and videotapes probably now net us an extra \$1,500 a month so that we are probably \$20,000 out of pocket to date. We know that income is currently exceeding expenditure by about \$500 per month so that we should eventually pay for the development costs.

Was all this worth it? Probably. The number of referrals to the clinic is falling and whereas we have had a waiting list for many years we now have no waiting list for a first assessment. Perhaps the Website is curing the sick or else they are learning sufficient to avoid having to be treated at a tertiary referral clinic. In the clinician support and research areas we know that enquirers are now better informed so that less time is spent educating the caller. The most amazing thing is that one is impervious to the number of people using the site. Scaling was always said to be one of the advantages of the Web. It certainly is – the work involved in maintaining the site has stayed constant and we have no sense that 20,000 people per month are visiting our site. Next month we will not notice the increase to 200,000 people.

## Liability

We are offering advice exactly as one does through a printed book, indeed much of what we offer is direct from our published books. The K10 psychological distress scale is the best available screening instrument and we are explicit in telling people who score in the high range to make every effort to seek professional advice. The sad fact is that more than half of the people who meet criteria for an anxiety or depressive disorder in Australia do not seek professional help and we doubt that exhorting them to see a doctor will change this. Hopefully, they will get information from the site to ameliorate their condition or to let them see that beneficial help is available.

## Future Development

Our goal was to develop a self funded sustainable site. This means that we only have a small amount of money to invest in future development of the self help section. Nevertheless there are a number of changes in hand. We are in the process of alerting the search engines that we exist. We are developing interactive advice panels so that instead of reading about Structured Problem Solving we can show an example, and then invite the person to try for themselves, pacing the display of screens to match their reported progress. We will add some audio streaming for people who learn better that way. In this way the site will be an electronic book that has apparently interactive programmed segments.

We have been very cautious about developing links to other sites in part because of the variable quality of people who want to link to us and in part because of an inherent conservatism. We are developing a list of reliable links that offer things that we do not. We will establish a link button so that leaving the site is a deliberate choice and people will be reminded of our URL when they leave. We are not evaluating the efficacy of the advice offered on the site and have no plans to do so. Evaluation means recruiting people into pre-post or randomised controlled trials of efficacy. Many funders demand such evidence as a condition of continued funding. Being self funded we are saved such pressures and think that the anonymity of the user on the site is an important drawcard. We know, because of external evidence in other situations, that the content is appropriate and based on research. <[www.dfordepression.com](http://www.dfordepression.com)>, <[www.aforanxiety.com](http://www.aforanxiety.com)> and <[www.crufad.org](http://www.crufad.org)> will aim to serve the needs of people in the wider community who are fearful, worried, anxious, depressed. The self help section is a service site, not a research site.

## 2.2 Web based prevention of depression

### Helen Christensen

Senior Fellow, The Centre for Mental Health Research,  
The Australian National University

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This paper examines the use of the Internet in the prevention of depression. There are three major issues of relevance to the development of e-mental health policy in the area of prevention. The first is the use of the Internet and associated technologies to develop customised programs, the second is the identification of ethical issues in prevention, and the third is the importance of scientific evaluation of the effectiveness of Websites.

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This paper outlines recent developments in the design of prevention programs and the relevance of these developments to the delivery of mental health interventions using the Internet. Recent developments in prevention research emphasise the importance of customising the message delivered to individuals in the community. One approach to the challenge of providing customised prevention is an approach which harnesses the capabilities of the Internet (and Internet technologies, including its associated software) to deliver such prevention programs. The Internet has the capacity to extend the nature of prevention programmes in a way that is not facilitated by other technologies nor prohibitively expensive if done through traditional public health programmes.

Recent research has indicated that conventionally delivered prevention programmes can be effective when individuals 'at risk' for depression are targeted. In the area of youth depression there have been successful interventions directed towards 'at risk' school age individuals (Jaycox et al, 1994) and undergraduates at university (Seligman et al, 1999). These interventions have used cognitive behaviour therapy (CBT), a form of therapy that is effective when delivered face to face by a therapist, via self help books (bibliotherapy) and through computer administration.

In areas other than mental health, a wide range of conventionally delivered prevention programs have been conducted in the last decades directed at worksites, communities and schools to change risk factors such as smoking and high fat diet consumption, and thus prevent diseases such as cardiovascular disease and cancer. Sorensen et al (1998) reviewed these findings and noted that the next 'generation of community based interventions' (p 379) should be tailored to the needs of individuals, involve communities in the planning of the intervention and be targeted at multiple levels. They noted that different disciplines brought knowledge that could be used at a range of levels from the micro (biomedical) through to the macro (society and health) level. The focus of these levels suggests different but complementary mechanisms for implementing prevention programs.

'New generation' prevention programs in mental health (and in the area of depression specifically) will need to take into account these considerations. Incorporating customised tailoring and targeting multiple levels will be challenging. Customised tailoring for depression intervention may require an understanding of an individual's belief system (for example, the person's preferences for medical

compared to alternative or lifestyle interventions, see Jorm et al, 1997) and his or her motivation for change (whether he or she is 'ready' to make lifestyle changes). The person's immediate circumstances and level and type of vulnerability also require assessment. In addiction research, Prochaska et al (1992) demonstrated that successful interventions may require messages customised to a person's motivation to change. Although a number of studies have applied this transtheoretical model to psychotherapy (see Rosen, 2000), a major task will be to examine the relevance of models such as these to the prevention of depression.

One approach to the challenge of providing customised prevention may be to harness the capabilities of the Internet (and Internet technologies, including its associated software) to deliver such prevention programs. The Internet may be a preferred method to deliver prevention programs because it provides 24 hour, self paced access to mental health interventions, has the capability of supporting software that can be tailored for individual needs and is informed by medical informatics (Eysenbach, 2000). The latter discipline is likely to provide specific information about the types of approaches that will lead to faster knowledge uptake and satisfaction by users. For example, there is evidence suggesting that information and self help programs provide the greatest benefit to those with the least previous knowledge. Current work on decision aids will be of use in helping the user clarify their values on the site. The net is already established as a major source of health related information, suggesting that Web based prevention of mental health problems will be well accepted. Marcus et al (2000) report that one half of all US Internet users have used the Internet to obtain health information. Information about the person's experience of the program and their responses to assessment questions can be recorded and used to evaluate the effectiveness of the programs. The recognition that interactive communication strategies will be of use in the development of universal physical activity promotion is growing (see Marcus et al, 2000) and the development of such programs for exercise and diet has commenced (Prochaska et al, 2000).

Although there are now outcomes showing the effectiveness of using the Internet as a means of delivering effective prevention in a number of areas including diet, smoking and exercise (see Tate, Wing & Winette, 2001), there are very few mental health prevention programs. Stanford University's *Student Bodies* program is an example of a successful prevention program using the Internet to change risk for eating disorders. Educational content, a newsgroup, and structured weekly readings, assignments and postings improved body dissatisfaction (Winzelberg et al, 2000).

A number of potential ethical issues arise in connection with the development of prevention sites, including:

- the violation of confidentiality and privacy, which includes taking records of personal details;
- the use of data for purposes other than that intended;
- the failure to identify those needing more help;
- the provision of non evidence based information; and
- the provision of material that may upset some users.

In our view, none of these problems are unique to the Internet and can be resolved using previous guidelines established for epidemiological research.

The Centre for Mental Health at the Australian National University has recently developed an Internet prevention program for depression in young people. The program uses cognitive behaviour therapy (CBT), and aims to increase the accessibility of this proven prevention intervention. Young adults are an age group not easily reached by existing services. They are dispersed across a multiplicity of home, work,

recreational and learning settings. The Internet provides a practical solution to the problem of disseminating preventive CBT programs. To our knowledge, MoodGYM™ is the only CBT depression prevention program on the Web.

MoodGYM™ consists of five modules, an interactive game, anxiety and depression assessments, downloadable relaxation audio, a workbook and feedback assessment. It includes individualised assessments of anxiety and depression, dysfunctional thinking, life event stress, parental relationships and the scheduling of activities, for which we have collected community norms. The graphics of MoodGYM™ have been professionally designed to appeal to this age group. Users register on the site, complete anxiety and depression ‘quizzes’, meet the site characters (Noproblemos, Elle, Cyberman and others), and start Module 1. Module 1 is an introduction to the principles of CBT, and demonstrates through flashed diagrams and online exercises the relationship between emotions and thoughts. There are a number of exercises where users can come to grips with their own emotions and the ‘warpy’ thoughts that might accompany them. Module 2 continues the theme with the recognition of thoughts and their consequences. Module 3 introduces users to techniques other than thought contesting to gain perspective on their emotions and how to handle them. Module 4 deals with stress, pleasant events, scheduling, relaxation and meditation. Because of the significance of interpersonal relationships to people of this age, Module 5 deals with separations and break ups.

The initial development of the package was based on action research involving input and feedback from young people, mental health professionals with expertise in CBT, and a formal advisory board comprising relevant experts and stakeholders. An initial pilot test of the program evaluation was conducted in April to August 2001 using students from the Australian National University and the University of Canberra. In 2002, a randomised controlled trial will be undertaken in the community to determine MoodGYM™’s effectiveness.

Although MoodGYM™ was launched officially by the ACT Minister for Health, Housing and Community Care, Mr Michael Moore in July, the site has been active since late April 2001. Using Webstats and other site databases, we calculate that approximately 7,200 individuals have reached the front page of MoodGYM™ in the last three months, with about half being supported by North American servers. Approximately 30% remain on the site for 15 minutes or more. Of those who register, 25% complete the online assessments of mental health functioning. The demographic and mental health profile of these individuals is currently being investigated.

At present the site is listed on the mental health pages of a number of major portals including Netscape, Yahoo and America OnLine. It is currently ranked fourth in the category of Mood on Google’s Page Rank index, a measure of site authority. The uptake of the site suggests that there is recognition of the importance of prevention sites on the Internet. The major challenge for sites such as MoodGYM™ is sustainability. Because these sites are directed at prevention, and can be accessed free of charge by the community, they are unlikely to be funded by businesses that provide medical support to doctors in primary or specialist care. As a result, sites like MoodGYM™ will require universities and governments to provide funding and maintenance, at least initially.

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**Note:** Some parts of this presentation and paper were published in the *Auseinet* Newsletter, October, 2001.

## 2.3 e-Health responses to common mental health problems in primary care

*Experiences with 'beyondblue: the national depression initiative' and 'SPHERE: A National Depression Project'*

### Ian Hickie

Professor of Community Psychiatry, School of Psychiatry, University of New South Wales; and, CEO, 'beyondblue: the national depression initiative'

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This paper describes work done with Tracey Davenport, Senior Research Officer, School of Psychiatry, University of New South Wales at St George Hospital; Elizabeth Scott, Conjoint Lecturer, School of Psychiatry, University of New South Wales; and Hugh Morgan, Clinical Psychiatrist, Southview Clinic, St George Private Hospital. The paper summarises developments in Web based interventions and information sites in Australia, provides a structure for how these developments might be viewed, looks at ways in which the needs of Australians who do not reach mental health services might be met using Internet technologies, and examines an initiative designed to provide support to general practitioners.

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### Background

The National Survey of Mental Health and Wellbeing (McLennan, 1998) described the size of the challenge facing those who wish to provide high quality and accessible mental health services in Australia. Over two million Australians suffer from depression, anxiety or substance abuse every year. Almost two thirds do not present for medical care, and of the medical care that is provided, over two thirds occurs in the primary care sector. There are considerable deficits in the primary care provision of services, with a great lack of adequate assessment, non pharmacological treatment options, specialist support and integration with other aspects of medical care (Hickie, Davenport, Scott et al, 2001; Hickie, Davenport, Naismith, Scott, Hadzi-Pavlovic & Koschera, 2001; Hickie, Davenport, Naismith & Scott, 2001).

### Potential e-health roles in primary care

Despite the obvious difficulties delivering mental health interventions in primary care environments, there are substantial reasons to continue to promote the development of more effective service delivery models. These include that:

- over 80% of the adult population visit a general practitioner in any 12 month period;
- most common mental disorders are recurrent or chronic disorders which are associated with a lifetime need for adequate care;
- primary care environments can provide information and treatment services at a relatively low cost per person;

- primary care services are essential for the ongoing management of persons who have received specialist mental health interventions; and
- medical forms of primary care provide the ideal environment for integrated medical and psychological care.

When considering the style of possible service responses to the very large degree of ‘unmet need’ for psychological treatments, it has become important to consider how such services may be provided efficiently to the largest number of persons, how such developments may be integrated into developing primary care systems and how the quality of such services may be enhanced over time. In the context of designing improved primary care systems (Hickie, Davenport, Naismith, & Scott, 2001), we have given consideration to some key structural factors.

These factors have included our capacity to:

- enhance clinical support for general practitioners who provide mental health services;
- provide high quality information to consumers of primary care based mental health services (such information promotes consumer choice at a critical phase of the illness);
- bring the wide range of specialist psychiatrist and clinical psychologist expertise closer to primary care providers;
- provide non pharmacological forms of treatment via improved information technology in primary care environments;
- screen for psychological disorder and/or risk of self harm;
- provide access to services such as clinical guidelines that promote quality practices in primary care;
- monitor responses to treatment in primary care; and
- promote ongoing interaction between professional groups involved in the delivery of mental health services.

### beyondblue’s role

‘beyondblue’ was established in 2000 as a national response to the size and impact of depressive disorders in the Australian community. It operates as a not for profit private company with the Commonwealth and Victorian governments as the major shareholders. It seeks to raise additional capital from the corporate sector to enhance its activities. However, the company does not accept support from the pharmaceutical industry. At a program level, beyondblue focuses on increasing community awareness and destigmatisation of persons with depression. Additionally, it targets development of prevention and early intervention programs. Hence, the development of methods for increasing community knowledge of symptoms and signs of depression, pathways to care, treatment choices, consumers and carers experiences of depression, stigma and barriers to participation are central to its mission. Our previous research in primary care (Hickie, Davenport, Scott et al, 2001) has highlighted the ways in which females, those with higher education status, those who are literate in English and those with greater specific psychological knowledge access better mental health care in general practice. If we are to see a further increase in quality, then it is essential that persons attending primary care can access information both prior to and following consultations with general practitioners (and specialist providers).

In April 2001, an information based Website (<http://www.beyondblue.org.au>) was launched and then revised in October 2001 to include a variety of more interactive features. The development recognises

both the lack of number of such sites, the lack of quality of mental health sites generally (Christensen, Griffiths & Medway, 2000) and that many of the international sites are supported directly by the pharmaceutical industry. A more active attempt to market the Website was undertaken in October 2001, and this was associated with considerable increase in traffic to the site. The site also seeks to promote the program activities of 'beyondblue' and a wide range of other mental health Websites and organisations.

Such information based Websites can form an important part of the medical information system, particularly for persons who suffer from disorders that are poorly understood, highly stigmatised and/or are largely dealt with by practitioners who do not have access to highly specialised information. They also assist to overcome the limitations imposed by geographical isolation. Primary care practitioners need to be able to refer patients to such expert and independent sites. Additionally, such sites can increase the consumer's sense of involvement with others who have experienced similar illnesses. Mental health specialists have an important role to play in supporting the development, content and utilisation of such sites. To date, there is little evidence that primary care practitioners or mental health specialists actively promote such information resources to consumers or carers.

Information based Websites, however, have a limited capacity to promote the style of specific skills training that an individual may require to decrease their long term vulnerability to depression or anxiety. Such Websites are under development elsewhere (<http://www.moodgym.anu.edu.au>) and the support and expansion of such activities may be seen to be part of beyondblue's wider population health role.

## Web based support systems for general practitioners

General practitioners who take on increasing mental health roles identify a wide variety of needs. Some of these may be enhanced by Web based systems and include:

- provision of rapid responses from experts on individual clinical issues;
- access to mental health specialists who have particular interests in working with general practitioners and/or patients with comorbid medical and mental health problems;
- integration of decision support systems with other ongoing educational activities;
- provision of direct and ongoing feedback to individual practitioners, thereby, meeting their specific educational and support requirements.

During the course of development of 'SPHERE: A National Depression Project', it was clear that there was an urgent need for a clinical support system that had the capacity to respond to some of these issues. The SPHERE Project has provided basic training in issues related to depression and anxiety to over 1,200 general practitioners nationally (Naismith et al, 2001) and has provided additional skills training, focusing largely on cognitive and behavioural strategies to over 200 doctors (Morgan et al, 1999). Such cognitive and behavioural skills are, however, unlikely to be maintained and developed unless they are underpinned by ongoing contact with mental health specialists. Web based systems have the capacity to encourage supervision of individual case work and to promote the sharing of key difficulties while introducing such procedures into regular medical practice.

Consequently, a prototype of the 'Doctor-Support Network' of the SPHERE Project was developed and introduced into limited circulation in 2001 (<http://www.doctorsupport.com.au>). It utilises mental health specialists who have specific interests in working with general practitioners to develop better integrated mental health systems. Additionally, the network is designed to supplement the SPHERE training programs. Such systems are costly to develop and sustain. Mental health specialists are paid for their

time. To date, there are no other payment systems available for specialists in private practice to provide such ongoing clinical support to their general practitioner colleagues. Initial development of the service required considerable investment from the pharmaceutical industry and other private providers. The current system is sustained by ongoing support from Pfizer Inc.

The evaluation of this process is in its early phase but appears to meet several general practitioner needs. It is timely, provides access to specialists with genuine expertise and does not cost the primary care provider. Additionally, the service does not cost the consumer and is not tied to the provision of any specific pharmaceutical agent.

## Conclusion

Future development of mental health systems will need to focus more on ways of:

- meeting the challenge highlighted by the epidemiology of and burden due to common mental disorders such as depression, anxiety and substance abuse;
- placing a greater emphasis on provision of information to consumers of such services;
- providing information in a manner that promotes choice, ease of access and confidentiality;
- improving service delivery through direct use of new technologies; and
- promoting improved quality of primary care based practice through greater real time support of practitioners working in these settings.

While developments in Australia are already headed in this direction, they are largely outside the government services sector. At some point government funded services will need to respond to such developments in a constructive and supportive manner.

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## 2.4 The Internet and specialist practice

**Kenneth C Kirkby**

Professor of Psychiatry, University of Tasmania

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Professor Kirkby was asked to speak on the role of the Internet and specialist practice. In this insightful paper, Kirkby describes vividly the means by which the Internet has altered the dyadic relationship between psychiatrist and patient, the impact of the explosion of sources of information that is now available to both psychiatrist and patient and the greater means of interactive communication through chat groups and bulletin boards. The policy implications of this may be threefold: (i) the need to evaluate the quality of material on the Internet and to provide high quality information by professional organisations; (ii) the need to raise community skills in locating and appraising material to create discerning Web users; and (iii) the increased scope provided by the Internet to allow specialists to ‘engage in population health, health promotion and early intervention approaches’.

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Specialist psychiatric practice has existed in a recognisably modern form for around two centuries, the Internet for little more than 5 years. Already the interface between the two has been substantial and the Internet is arguably of the same level of importance to mental health and the nature of specialist practice as have been deinstitutionalisation or the development of psychotropic medications.

While there are many ways and settings in which psychiatry is practised, the predominant model is that the patient and psychiatrist meet in private in a consulting room, referred to in this article as ‘dyadic office practice’. This is so everyday and well established a model that the defining features of such practice are little discussed or debated. However, doing so throws into sharp relief how the Internet irrevocably alters the dynamics of the dyadic office practice model.

It is instructive to follow the path of the patient through a typical episode of specialist care. There are many steps before reaching the psychiatrist, for example feeling distressed or unwell, being noted as such by others, developing an awareness of symptoms or formulating specific complaints and acting on this by initiating change or seeking help. This is informed by input from relatives and acquaintances in the context of culture specific notions of illness causation and treatments, derived in part from books or magazines, radio and television. Help seeking is commonly a consultation with a general practitioner, which may lead to recognition or confirmation of a mental condition, institution of further assessment or management, and in a minority of cases the suggestion of referral to a psychiatrist. If referral is accepted there is typically a waiting list for non urgent referrals, then the day of first attendance at the office practice arrives. The psychiatrist’s office typically contains diplomas on the wall, journals on the shelf, and provides an interruption free confidential setting conducive to providing assessment and delivering aspects of treatment. To varying degrees the psychiatrist is in the role of expert or oracle, the patient is a supplicant seeking some reassurance, wise advice or prescription.

For many patients their experience of psychiatric treatment is conducted in isolation from other individuals with similar problems. Few other domains of their life afford the confidentiality and willingness to work through their difficult issues that the psychiatrist can offer. Some patients may discuss the detail of consultations and treatment with relatives or other confidants; often they will not or cannot comfortably discuss the issues at hand in this way.

The psychiatrist on the other hand has access to many professional resources. They will typically attend conferences or meetings where visiting experts from around the country and around the globe share their knowledge, clinical experience and enthusiasm. They have access to professional journals, textbooks, peer review activities and opportunities to talk shop with colleagues. Their professional activities are fostered and supported by professional colleges, from training right through their professional lifetime.

Typically there is little overlap between the professional networks and learning resources of the psychiatrist and those of the patient. Rather the specialist is the conduit, gatekeeper and interpreter who mediates between the professional domain and the individual patient. This has some inherent strengths. For example, the specialist through their training, breadth of experience, participation in maintenance of professional standards activities, and often their enthusiasm for their vocation, is well placed to guide and advise the patient. The patient has the reassurance that the specialist has undergone extensive training and ongoing professional development. The accoutrements of professional titles, diplomas on the wall and a full bookshelf reinforce this.

However, most individuals with mental problems never see a specialist. Services are effectively rationed at around one psychiatrist per 10,000 people across Australia, more in specific areas within large cities, generally fewer and often distant in regional areas. Further, most mental problems are extant for some months, not infrequently years, before the specialist is seen.

The Internet has irrevocably altered these dynamics. All the information available to professionals is steadily migrating to the Internet, where most of it is available to anyone with sufficient searching skills, literacy and perseverance. For example, Medline searches are available to all; clinical practice guidelines are available for common conditions, including guidelines written for consumers with little jargon. A proliferation of health related sites discuss every manner of illness and treatment. Lectures are available online, treatment modules, such as for cognitive behaviour therapy, are available and are being evaluated in research. Increasingly sites are being appraised in terms of accuracy and conformity with evidence-based practice. Healthcare provider sites offer links to sites they approve of. At every step of the pathway to specialist care the patient has ready access through the Internet to more information than the specialist could possibly keep abreast of. Further, the information providers have a worldwide audience, rather than one person at a time. The specialist is no longer the principal portal to information; this role has been assumed by Internet health portals and sites. Furthermore, this information can be accessed with greater anonymity than is afforded by attending the psychiatrist's office, and is available both prior to specialist consultation and in the absence of specialist consultation. Further, this information is available both to the patient and to members of their social network and can be accessed, for example, together with a relative, as well as alone.

The specialist has not been usurped; rather the one to one information conduit of dyadic office practice has been supplemented by access to vast amounts of information from around the world. The specialist is no longer the gatekeeper but has a continuing and arguably increased role as interpreter and guide, working with an increasingly sophisticated patient population. As such, the specialist is a stakeholder in the information economy, interested in the provision of high quality Internet delivered information and learning packages by health agencies, industry, professional colleges and consumer organisations. The rationing inherent in the individual consultation model does not apply to this supplementation through

Internet delivered material. The access costs of the Internet are born by the recipient or their community infrastructure. Recurrent costs to the provider of running a file server and developing materials are not insignificant but are traded off against economies of scale on sites with high hit rates, and by the international pooling of material. The specialist as an individual can participate in the Internet mental health information sector but public, private, professional and voluntary organisations have an important role to play. These organisations also have the financial, voluntary or marketing resources to develop, deliver and evaluate Internet content and outcomes. Similar forces are working in primary care, where the majority of mental health assessment, diagnosis and treatment occurs.

The ready access of the patient to information prior to reaching the specialist's office has a number of other implications. It frames how the individual discerns and conceptualises their health concerns. Through Internet material, the individual acquires schemas to understand their difficulties, ranging from lifestyle and life cycle explanations to specific psychological and biological theories. Symptoms may become reified; increasingly the individual will arrive at their own diagnosis and prognosis of their problems, based on information acquired from the Internet. They may present asking for specific forms of medication or other treatment. Much information on the Internet does not conform to evidence based criteria. This should come as no surprise given that the market in Australia for alternative medicines such as herbs and vitamins, is a similar dollar volume to all PBS listed drugs.

The other key change wrought by the Internet thus far is as a means of interactive communication. Through bulletin boards, chat rooms, email and other contact details, individual patients can now communicate freely with other interested individuals throughout the world. The discourse using these means, unlike most specialist shoptalk is predominantly neither technical nor symptom focused. Rather, common themes include problems in relationships or at work, acceptance and understanding from the community, what can help, where to access it and what is new or happening at a research level. A range of levels of engagement from complete anonymity, to joining an organisation, to inviting personal correspondence is available. Membership based consumer organisations, special interest and advocacy groups are greatly enabled by this technology. It also substantially increases the contribution of the voluntary sector in mental health, by marshalling the input and enthusiasm of many people. These patient to patient networks in many ways replicate what specialists have valued for many years in their own professional development and support networks, except that they are far more extensive. In the numbers game, the level of Internet and email driven interconnectivity amongst patients already dwarfs the one in ten thousand of the population engaged in psychiatrist networks.

With Internet material developing apace the agenda for specialists, whether individually, collectively or in broader partnerships, is to promote and provide high quality material through the Internet and critically appraise the appropriateness and utility of what is on offer. Further the specialist can assist in raising community skills in locating, appraising and applying Internet material as an integral part of the overall health system. The Internet provides increased scope for specialists to engage in population health, health promotion and early intervention approaches. Various tele treatment options are also available using Internet and mobile communications technology. These have substantial implications for delivery of specialist services outside of the physical location of the consulting room, whether in other countries, at home, or out and about.

Overall the changes identified are complementary to the eclectic nature of specialist practice. Although dyadic office practice remains a dominant model, considerable energy in mental health care is devoted to areas such as family and group therapies, rehabilitation, delivering care into the community, promoting greater autonomy and self help, and helping build social networks. The Internet is a vehicle that can enhance this spectrum of interventions and broaden their reach.

## 2.5 e-Psych issues in the private sector or from the private sector: Is there an Internet private sector? Is it a universal sector with private and public revenue streams?

**Dennis Tannenbaum**

Private Practice, Perth, Western Australia

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In this paper, Dennis Tannenbaum explores the implications of the Internet for medical and health delivery. He raises questions about the role of the Internet in accommodating 'unmet' need, as a means of extending traditional services, and as a means to augment the consumer's knowledge of services as well as facilitating more efficient data management practices. Tannenbaum believes the Internet may reduce high costs of health service delivery, and that it should be used to advantage in both public and private health systems.

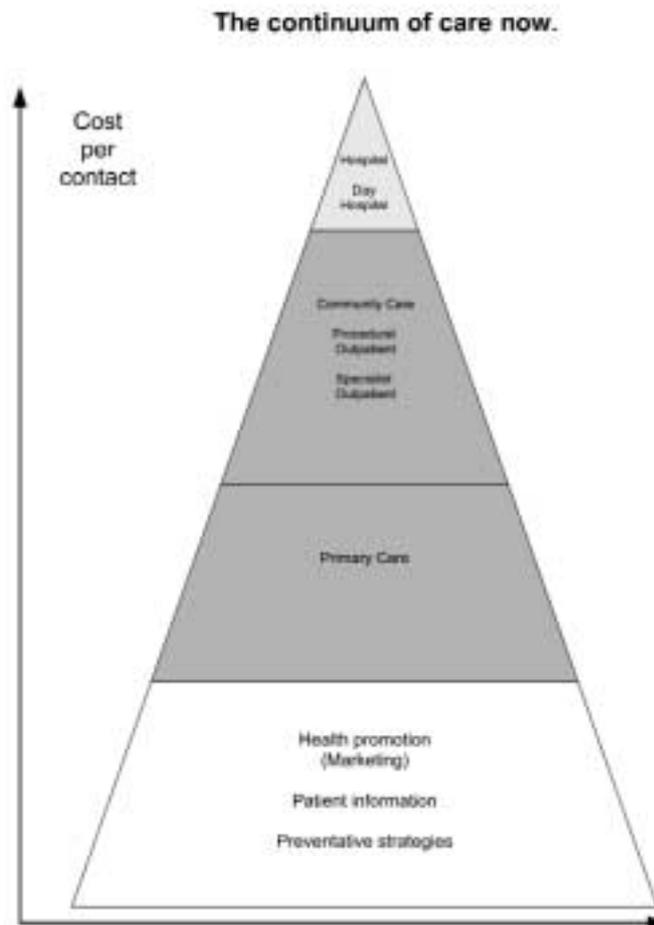
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**T**he Internet and related technologies will have a major impact on medical service delivery: The new technology offers a greater potential for meaningful integration of health services than any other technology. The Internet will play a major role in the entire continuum of care: from the less expensive health promotion, right through to the most expensive health hospital care (see Figure 2). We are only just beginning to understand the future potential of the new technologies in our lives and in the delivery of health services, and in particular, its potential in the delivery of psychiatric services.

We are moving towards a society that will be dominated by the Internet and mobile devices. It is predicted that by the end of 2001 10 million Australians will have mobile devices. The tremendous take up of Internet devices will create huge market place opportunities for incumbent service providers and content providers, as well as completely new breeds of companies.

It is important that the Internet be understood not as a disembodied entity, but rather as a powerful medium providing a set of tools which will enable a business or group of businesses to do their business more efficiently. Internet systems will be developed to assist in micro and macro management, and their introduction will both speed up transactions and reduce the cost of transactions. This capacity to facilitate the management of massive amounts of data will have substantial, and surprising implications for the medical system.

Figure 2: The role of the Internet in the continuum of care



### The current problem – continuum of care

There are substantial pressures on the health system, particularly with respect to the imperative to reduce the costs in health delivery while improving the quality of care for the whole community. Health costs are increasing inexorably, due to population age increase, the costs of new technologies and medications and changes in illness prevalence while the health systems are under increasing pressure to manage the ever increasing cost drivers. The health system faces the ambivalence of promoting knowledge about a particular illness, and then having to meet the corresponding/resulting demand on their resources.

The goal of decreasing costs while raising the quality of the health system and thus the health of the community is extremely ambitious, and it is made more complicated by the differing agendas or incentives between the private and public sectors. In the current health system there are considerable differences in the pressures on, and roles played by the private and public sectors (see Figure 3). In the public system the greatest incentive is to reduce expensive intervention, in particular hospital treatment, and to focus the taxpayers' dollars more on health promotion and preventative strategies. By contrast, the desire for profit leads the private sector into focusing on expensive treatment interventions, and to market hospitals and hospital systems rather than health promotion.

Figure 3: Differences between the public and private sectors in the current health system

**What are the current health system sectoral differences - a simplified view?**

Private	Public
Infrastructure paid for out of profits. Profits necessary to provide investor incentives to invest.	Infrastructure paid for out of the taxpayers dollar.
When margins are tight profits fall leading to service cost pressure and inability to replace infrastructure.	When pressure for services is high infrastructure often suffers. Pressure to reduce service present. More pressure on some areas where benefit not clearly visible.
Incentives are highest to do procedures and not to drive patients from the hospital end of the continuum of care.	Incentives are highest to move patients to the base of the continuum of care ie away from hospitals.
There are unclear incentives for health promotion but clear incentives to market hospitals and hospital systems. Prospective payments ie casemix funding promotes selected efficiency. Few drivers for moving down the continuum of care.	Conflicted major incentives to reduce disability and to contain costs. Pressures for efficiency but with limited outcome and health measurements. If those with disorder move into system, the system cannot cope.
Insurers note cost increases and can only respond by preventing services, refusing services, and increasing fees.	Response to cost pressure is by rationing (wait lists) and developing methods of managing costs better. Managed care without managed care.
High activity is positive if payment type is fee for service	High activity is negative for health but may be positive for disability
The Internet offers more integration of service possibilities than any other technology. Emphasis on private and public sector customer more than on the sector where the capital originated. Sustainability is the issue. "Then is it of value?" is the question. Value will be clearer in time.	

With current health care delivery systems stretched to their limits, no country can cope with serving even a small fraction of the unmet need should it manifest itself as a demand for current service delivery systems. The question then to arise is whether the Internet can provide practical, innovative service delivery including information, health screening, evaluation of disorder severity, service direction capacities and treatment management tools which augment current health service delivery capabilities, in a cost effective way. In particular:

- Can the Internet facilitate effective health promotion and then augment the processing of the demand for effective education, screening, diagnosis and treatment from the unmet need market?
- Will it significantly extend the productive capacity of current health delivery systems that are required to deal with increased demand for services?
- Will it increase the quality, uptake and improve outcomes of treatment for those in existing systems?

## Psychiatric illness: the use of the Internet to augment existing services

The size of the current problem of psychiatric illness in Australia is massive. It is second only to heart disease as the most disabling and costly health problem, affecting one in five people. This estimate equates to 3.6 million people. Left untreated, psychiatric illness can lead to a deterioration in quality of life, loss of productivity, hospitalisation and even suicide. In productivity alone, sick leave absenteeism driven by psychiatric illness costs Australian organisations A \$7 billion per year: over 50 times more than the cost of lost time due to industrial action.

Clearly an Internet opportunity arises from both the large hidden pool of undiagnosed illness and the significant numbers who receive suboptimal treatment for psychiatric illness and existing cost pressures (see Figure 4).

## The Web service concept

The Web service concept is made up of a number of key elements. These elements support the core relationship between the doctor, other treatment providers, hospitals and the patient and their families or carers to enhance diagnosis and treatment (see Figure 5).

## Some concerns to be addressed in the use of the Internet in the delivery of health services

**Information, security, privacy and credibility:** There are potentially serious concerns resulting from consumer concerns about data security and privacy: consumers may provide inaccurate data or withhold relevant information. It is crucial that data is protected from unauthorised access or alteration and that a credible audit trail of access to personal information is instituted. Consumers must be able to trust the security and accuracy of the information accessed online. It is crucial to the credibility of e-health that the privacy concerns of consumers be addressed.

**Capacity for e-health businesses to fail:** The history of e-commerce business has seen many small companies grow rapidly and then fail. This pattern, if it is repeated in the e-health arena would have serious implications for the continuity of care. When the revenue streams are known and the value of the business is clarified, the market will stratify and consolidate rapidly. It is crucial that e-health business develops into sustainable, viable business.

**Who pays?:** The question of who pays for the development of e-health is critical: is there an Internet private sector; or is it a universal sector with public and private revenue streams? The Internet offers more integration of service possibilities than any other technology. One way to conceptualise the situation is to consider users or customers as private or public sector users rather than in terms of private and public capital streams.

Figure 4: The use of the Internet to augment existing services

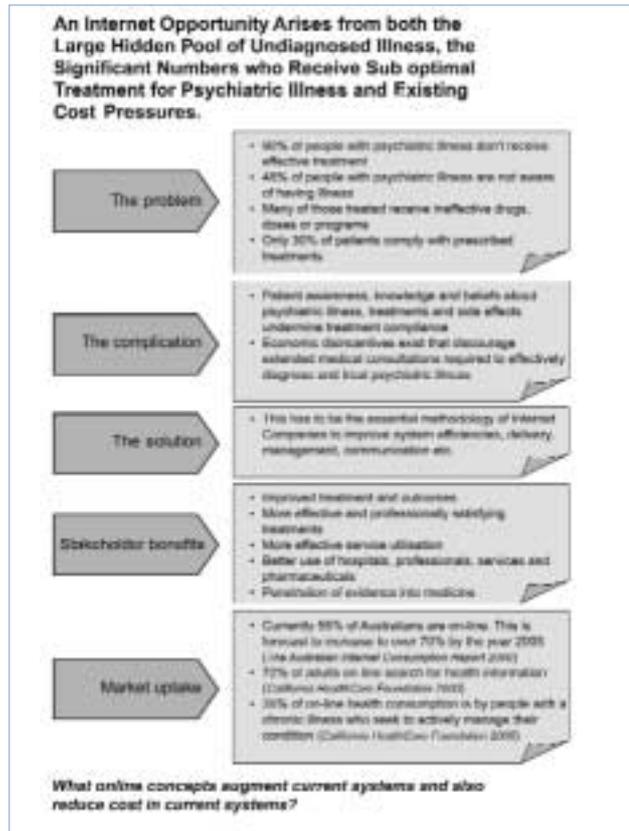
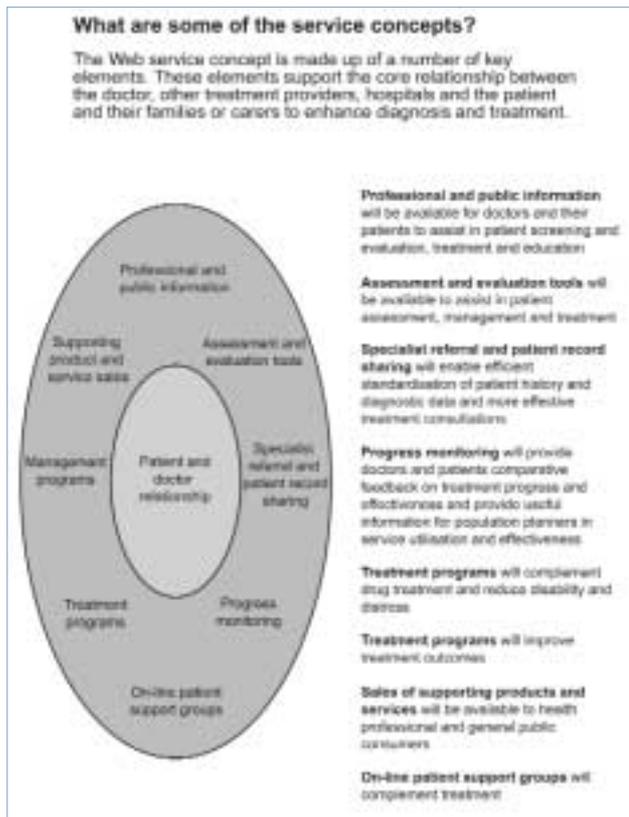


Figure 5: The key Web service concepts



### BOX 3: AN EXAMPLE

#### *Intermountain Health care implemented a Web based quality care tracking system to reduce costs and improve quality of care*

Intermountain Health Care (IHC) is a nonprofit integrated delivery system (IDS) of 23 hospitals, more than 70 clinics and nearly 22,000 employees with an annual operating budget of approximately two billion dollars. Its health plan covers approximately one million people and the organisation provides approximately 55% of the health care services for its regional market.

In an effort to reduce costs while concurrently improving the quality of care, IHC recently e-business-enabled a client server application it calls its Quality Care Tracking System (QCTS). The new Web enabled QCTS works by seamlessly linking quality improvement teams with IHC's data warehouse through its intranet. The new QCTS tracks goals, treatment outcomes, and improvements across the enterprise, enabling quality improvement teams to efficiently leverage knowledge and innovation throughout the organisation.

The business value created by the e-business initiative has been substantial. The new Web based QCTS allows IHC's users to share project information, reduce rework and waste, improve quality, benchmark best practice models, and archive projects and activities. Several efficiency gains have already been made while using the new system. For instance, via the new QCTS IHC has reduced costs at six surgical sites by \$1.8 million per year. Additionally, several other IHC facilities have reduced STAT testing by more than 40%. Most importantly to the end consumer/patient though, the new QCTS has enable the development of better clinical care practices that save and/or extend the lives of patients. Finally, having moved QCTS to its intranet, IHC will save almost \$800 on software licensing and training costs per new user, allowing it to QCTS-enable 30% of its employees without incurring a significant cost.

## Conclusion

It is becoming clearer to us all that the Internet will play a major role in the future of health service delivery. The technology is suitable to both augment the consumer's knowledge and access to services, as well as to facilitate more efficient data management practices. There is the potential to assist in meeting the enormous area of unmet need in the community, as well as reducing the ever increasing costs inherent in health service delivery. The Internet must be seen as an unique tool with an unrivalled capacity to enable effective integration across sectors. It is critical that the Internet be understood as an universal enabler, for both the public and private sectors.

## 2.6 e-Mental health quality: Global perspectives

**Kathleen M Griffiths**

Fellow, The Centre for Mental Health Research, Australian National University

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In this paper, Kathy Griffiths discusses some international initiatives aimed at assisting consumers to identify high quality Websites. In particular, she describes in some detail, a collaborative project designed to provide a global infrastructure that will permit content experts and agencies to label sites in such a way that consumers and search engines can access their ratings. Since only the infrastructure and not the assignment of ratings are centrally controlled, this proposal provides a means by which quality of Internet content can be regulated using a distributed, bottom up approach.

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**T**he Internet and the World Wide Web (WWW) provide an unprecedented opportunity to increase mental health literacy in the community, to prevent mental health problems and to provide mental health services.

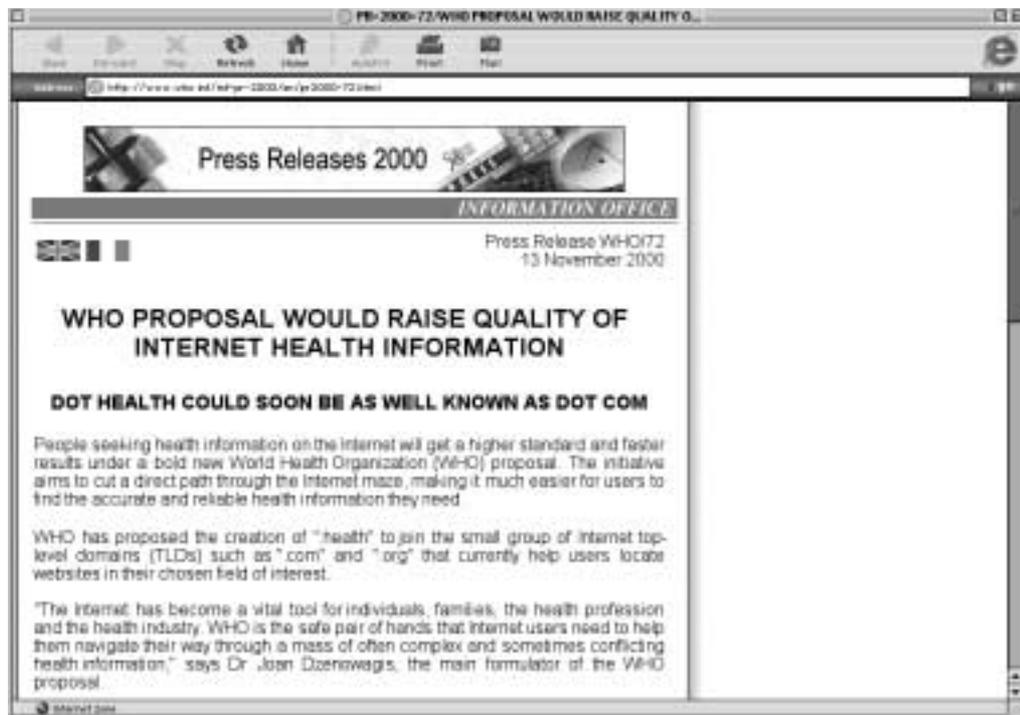
Unfortunately, there is evidence that the quality of the content of mental health information on the Web is poor (Griffiths & Christensen, 2000; Berland et al, 2001; Lissman & Boehnlein, 2001). Of course, as anyone who has visited the CRUFAD site (<http://www.crufad.org>) might tell you, there are high quality mental health information sites around! But how are consumers to tell which sites are of high quality and which sites are best avoided?

Some rating agencies claim to provide a guide to good quality health sites and there are over 40 different scales for measuring the quality of health sites (Jadad & Gagliardi, 1998). However, it is not clear what these agencies or scales really measure. Sites may be 'cool', 'cooler' or 'coolest' or even 'hot', but to my knowledge there are not any e-health rating systems out there that have been appropriately validated against quality, and in particular, the accuracy of site content.

A second problem is that health Websites may use an agency rating to which they are not entitled. For example, it was recently reported that one site that claimed to cure almost everything carried the Health on the Net Foundation (HON) rating (<http://www.hon.ch>), a code that is intended to signify that the site developer adheres to high standards in producing the site (Eysenbach, 2000). Special health portals which claim to link only to sites of high quality could potentially assist the user to locate quality information (eg HealthInsite). However, to my knowledge, the validity of the inclusion criteria that quality health portals use has not yet been established. In addition, most people searching for health information on the Web use public search engines. Obviously, portals do not assist this type of user.

Not surprisingly, the issue of quality assurance has been the subject of considerable international interest. In November 2001, the WHO proposed that a restricted 'dot.health' top level domain should be established that would signify a quality health care site (WHO, 2000) (see Figure 6). Such a proposal raises questions as to who should vet health sites for their suitability for registration and how this might

Figure 6: World Health Organization proposal to ICANN for a dot health top level domain



be done. However, such questions may be of little more than theoretical interest since The Internet Corporation for Assigned Names and Numbers (ICANN), the agency that assigns to level domain names, rejected WHO's application for the top level domain.

Today I would like to talk about another interesting proposal for filtering quality health information on the net: MedCERTAIN (or MedPICS Certification and Rating of Trustworthy health information on the net). The MedCERTAIN initiative is part funded by the European Union under the auspices of their Action Plan for safe use of the Internet. Although funded by the European Union, MedCERTAIN is intended to be an international initiative. It is based in Heidelberg and is also referred to as the Heidelberg collaboration.

The overall aim of MedCERTAIN is to assist consumers to assess the quality of health information and identify trustworthy information on the Internet. Eysenbach and his collaborators (2000), the originators of the project, liken MedCERTAIN to the Cochrane collaboration where the aim is to provide high quality information for consumers rather than for health professionals (see Figure 7).

The MedCERTAIN project identifies four specific strategies for improving health information quality. These are: (1) to educate the public; (2) to encourage high ethical standards among Website providers; (3) to evaluate sites; and (4) to enforce the MedCERTAIN standards. Today, I would like to briefly describe the first three of these aims.

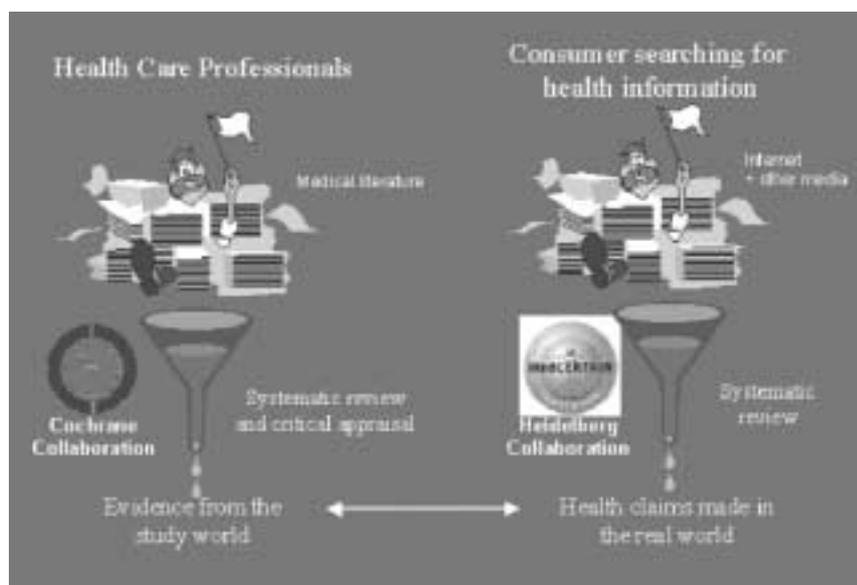
The first aim is to educate the public about quality health information and how it can be recognised or found. For example, MedCERTAIN promotes the consumer use of the instrument DISCERN which has been developed by the Oxford Evidence Based Medicine Unit (Charnock et al, 1999). This tool is intended to assist consumers assess the quality of written consumer health information and it has been

suggested that it might be suitable for assessing information on the Web. DISCERN covers such aspects as whether the material in a health publication is balanced, whether it is supported by evidence, and whether different treatment alternatives are considered, and their benefits and risks described. There are a total of 16 different questions on the DISCERN scale and these are accompanied by a training manual of somewhat daunting size. The suitability of such a rating system for the typical Internet health information seeker must at least be questioned. It is not clear that consumers would take the time to familiarise themselves with the rating system or even to routinely sit down and rate each health site they visit according to the DISCERN criteria. The other problem is that the validity of DISCERN as a measure of content quality has not been established<sup>1</sup>.

The second aim of the MedCERTAIN project is to encourage site owners to adhere to the highest possible ethical standards, as reflected in the International e-health code (2000). The e-health code was developed as a result of an e-health Ethics Summit held in Washington early in 2000, and hosted by the WHO/Pan-American Health Organisation. Fifty experts from around the world attended the summit. They drafted standards, which after public consultation, were modified to produce the final code of ethics. The code comprises eight main guiding principles including candour, honesty, quality, informed consent, privacy, professionalism in online health care, responsible partnering, and accountability.

The final and arguably most important and innovative aim of the MedCERTAIN project is to provide an infrastructure for the standardised evaluation and dissemination of information about the quality of individual Websites (Box 4). Evaluations would be made by content experts such as doctors and medical organisations. Although evaluative information would be stored in a central MedCERTAIN database,

**Figure 7: DISCERN aims to assist consumers to identify high quality information on Websites just as the Cochrane Collaboration assists health professionals to filter the published medical literature**



(Source: G Eysenbach. Journal of Medical Internet Research 2000, 2(suppl 2):e1. Reprinted by permission)

1 Since June, 2001 when this talk was delivered, Griffiths and Christensen (2002) have reported some preliminary data that suggests that DISCERN may be a valid indicator of content quality.

## BOX 4: MEDCERTAIN

A basic idea of MedCERTAIN is to foster cooperation and interoperability... If all health information rating services on the Internet would use a common, standardized 'language' (evaluative metadata) to describe and rate health information on the net and if this data can be exchanged and communicated to the consumer in a standardized way, then the user will have a huge resource of meta-information at his fingertips, helping him to assess the credibility of any health information he finds.

(Eysenbach et al, 2000, p 7)

the system would not involve a centralised rating agency. Rather, the system would involve a decentralised global collaboration in which ratings would be assigned by third parties around the world. For example, a site might be rated by a number of agencies, and then consumers, portals, search engines and others would be able to access the ratings, as well as the identity of the rating organisations and filter this information according to their needs. This would be achieved by means of a standardised meta-tag language.

As most people are aware, meta-tags contain meta-information and meta-information is information about information. Eysenbach et al (2000) has pointed out that meta-information can be either 'descriptive' or 'evaluative'. In this context, descriptive information might include such items as the author's name, the date, the subject of the site, the name of the sponsor and whether there are any conflicts of interest. Evaluative data on the other hand, would for example, describe the accuracy of the site content, the completeness of the site information, and the degree to which the site is biased.

Currently, a site owner can place some descriptive information in meta-tags but other descriptive information, such as sponsorship and conflicts of interest cannot be accommodated within existing meta-tag frameworks. More importantly, there is no standard means of incorporating evaluative data. Eysenbach and his collaborators have therefore proposed that a standardised vocabulary be developed to allow evaluative data to be included in a meta-tag system.

The MedCERTAIN concept requires that reviewers independent of the author attach meta-tags. Eysenbach and his collaborators propose that the metadata vocabulary be based on a standard called medPICS (Platform for Internet Content Selection),<sup>2</sup> which would allow evaluators to attach their ratings.

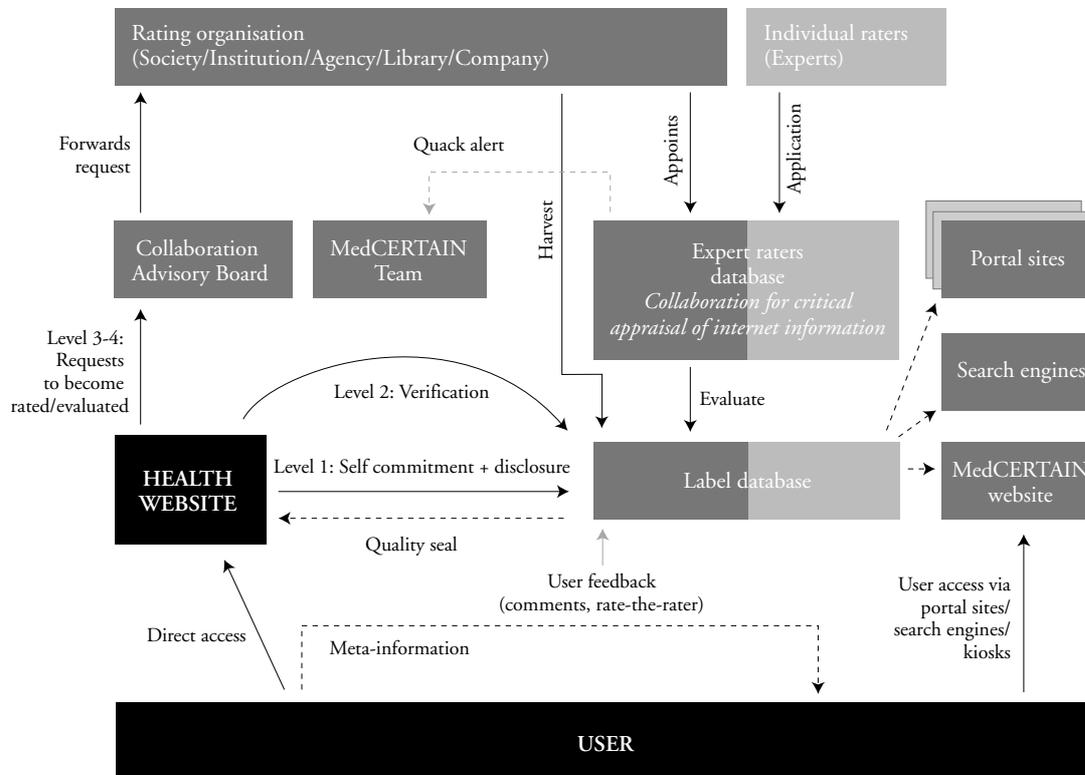
The aim is to enable Web users to search by descriptive and evaluative data to find the information that they want. But how would this actually work? According to the Eysenbach team, this metadata could be made available through special software or plug ins. By means of this software, a user who accessed a site, would simultaneously access the MedCERTAIN database to obtain certification information (Figure 8). I understand from my IT contacts that this aspect of the project is highly ambitious and presents major technical, practical and logistical challenges.

Nevertheless, the idea of a common metadata language is very exciting. It would mean that a specially tailored search engine on a health portal, such as the bluepages search engine (<http://bluepages.anu.edu.au/search.html>) could filter information according to MedCERTAIN criteria.

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<sup>2</sup> Now referred to as HIDDEL (Health Information Disclosure, Description and Evaluation Language)

Figure 8: The MedCERTAIN infrastructure for Website evaluation



(Source: Eysenbach et al, 2000. Reprinted by permission)

For example, the search engine could be programmed to retrieve only those health sites achieving a certain level of MedCERTAIN rating or only those sites conforming to a particular user requirement such as sites written for a consumer, or by a university centre without pharmaceutical company sponsorship.

Whether or not the Heidelberg collaboration is a suitable model for moving forward in the area of quality assurance, it is clear that move forward we must and that working towards some sort of standardised system of coding evaluative information has much to recommend it. Is this suggestion tantamount to calling in the 'thought police'? On the contrary. Since only the infrastructure and not the assignment of ratings are centrally controlled, this proposal provides a means by which quality of Internet content might be 'regulated' using a distributed, bottom up approach (Eysenbach et al, 2000). Consumers can still choose to ignore evaluative information and to visit the sites of their choice. However, like health professionals they are entitled to receive the best possible guidance about the quality of available health information.

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## 2.7 Outline of HIRaD (Health Information Research and Development) project

**John Payne**

Department of Health and Aged Care

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This paper describes one of the Commonwealth Government's initiatives to advance the role of Internet and related technologies in health care. The HIRaD project is one of several research and development projects under the IT Integration initiative announced in the 1999 Federal budget under the Enhanced Primary Care Package. HIRaD is based on the premise that the efficient and effective coordination of care for individuals across different services and locations relies on the timely and relevant communication of confidential information about those individuals between different health and community care service settings. The Commonwealth encourages the involvement of consumers in their health care, and the development of partnerships. The Commonwealth also emphasises the importance of privacy and security in Internet usage for patient related communications between providers, and emphasises the importance of evaluating such innovative projects.

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The focus of the Commonwealth is in improving health outcomes for individuals and in the delivery of health services to the community as a whole. The Internet and related technologies bring with them the potential for meaningful advancements in primary and coordinated care. It is crucial that the new technologies and the possibilities they bring be integrated into future health policies. The Commonwealth is currently involved with the HIRaD project. This project has been established to seek tenders for information technology assisted service delivery projects. The Commonwealth is keen to understand, demonstrate and evaluate the contribution that the use of secure Internet technologies can make to the Australian health delivery services.

### Goals

The key goal that the Commonwealth has articulated is to ensure that each proposal, or proposed solution that it will contribute to, will assist in improving the health outcomes for individuals and for the whole community. The Commonwealth anticipates that technological advancements in primary care to individuals will be combined with efficient and effective solutions in delivering health services to the broader community. The Commonwealth is interested in exploiting the capacity of the new technologies to draw together all the stakeholders in the health, information management and in the technology arenas to form an integrated and more efficient health community.

The HIRaD project has distinct goals in three critical areas: health records, coordinated care, and in future policy development. The Commonwealth is committed to the development of secure Internet technologies to record personal health information. We believe that such records can significantly contribute to the effective coordination of an individual's care between different health and community care service providers. It is anticipated that the integration and coordination of patient care can be enhanced by encouraging the development of innovative approaches in the use of secure Internet technology. The third, and equally important, goal is to use the knowledge we gain, through an

appropriate evaluation of the projects, to inform future policy development on the use of Internet technology in health service delivery. It is critical to integrate future mental health policies with the exciting possibilities opened up by the new technologies.

## Principles

The Commonwealth has developed a number of guiding principles for information technology assisted service delivery projects. They are as follows:

- **Integrated health community:** It is essential that the technological solution proposed be based on supporting service delivery objectives for a health community (in this setting, a community may be defined by physical location, clinical service or by service commitments). This means that collaborative partnerships with stakeholders in service delivery are identified and formed. The solution design must be accessible to all the stakeholders, it must minimise the burden on consumers as well as individual health service providers and administrative staff.
- **Consumer centric:** The design of information technology assisted health delivery services must be consumer centric and incorporate the consumer perspective wherever appropriate. It is critical for the success of any proposals put forward to the Commonwealth that the design encompass adequate and secure protection of both patient and health provider information. The design of the health delivery service must be readily accessible by consumers, and must allow consumers to easily access information about themselves. It is essential too that the issue of gaining consumer consent to the confidential exchange of information (about them) be addressed.
- **Privacy protection:** The protection and accuracy of patient related information records are critical. It is envisioned that patient related information will either be captured and maintained at its source, or held under appropriate data management and security rules. Nationally agreed security, data definitions and communications standards, as maintained by the Australian Institute of Health and Welfare and Standards Australia, are to be used wherever available and applicable. Technological solutions are to include Security Management Plans and Security Policy Documents in accordance with AS4444 – Information. In addition to the protection of data it is essential where Internet sessions are to be conducted in ‘real time’ that proponents identify and justify their approach to the authentication of external users, and the allocation of privileges to ensure the protection of both the link and the data holdings.
- **The technology:** The service delivery project proposals must encompass the notion of flexibility. They must not be proprietary or bound by platform dependencies. They must have potential for scalability, or use in other health service delivery locations or communities.

## Evaluation

It is crucial that all projects the Commonwealth is involved in be appropriately evaluated. The Commonwealth believes that the Telehealth Evaluation Methodology is sufficiently generic to contribute to the development of evaluation plans for information technology assisted service delivery projects. The methodology is available from <[www.telehealth.org.au](http://www.telehealth.org.au)>.

There are a number of factors to consider in an evaluation of any proposal. It is clear that the perspective of consumers and clinicians are relevant, as is the effectiveness of the data management. The success of service delivery can be measured, in part, by the confidence expressed by the consumer in the technology: patients and clinicians must feel secure that their privacy is adequately protected. The impact on privacy, data security and the related issue of duty of care will need to be evaluated. Another area critical to the success of any proposed health delivery service is the perception by the

stakeholders of observable clinical benefits. In particular, it would be important to ask if the new delivery service will lead to the better use of clinical information. This would assist with the provision of care, compliance with care management plans, and an improved understanding of the consumer's condition by the consumer, or their carer.

In addition to the user's perspective, the information data management and information infrastructure must also be addressed in any future evaluation. It would be important to examine the information and data management through an evaluation of availability, access, agreed definitions, quality and accuracy, consumer participation, and wider compliance with national initiatives such as the Health Online and HealthConnect plans. The information infrastructure too must be evaluated, through an examination of information management practice, training and skill levels, change management, agreed and maintained service levels and again, consumer confidence.

### How will the Commonwealth know if they are successful in attracting the right proposals?

The Commonwealth has a number of key points that are believed to be critically important in an electronic service delivery system. As we have emphasised throughout this paper, it is essential to the success of any health delivery system proposal that the consumer perspective be incorporated into the proposals. The important issues such as consumer consent to information exchanges; the protection of patient/provider information and consumer access to information held about themselves must be addressed in any proposal. The extent to which the proposal demonstrates a commitment to the confidentiality, integrity and availability of consumer and clinician information is extremely important to the Commonwealth.

In addition, the Commonwealth is keen to build a health community by fully exploiting the reach capacity of electronic health service delivery. We would like to see a high level of collaboration and commitment from all the stakeholder organisations in the development and implementation of the proposed solution. The technology must address the service delivery needs of different components of the health sectors, in particular rural, remote and urban communities as well as the community sector. It is crucial that any proposed solution demonstrates a high level of understanding of the roles and responsibilities of the various service providers and the relationships between service providers and the organisations providing health care to individual consumers.

In conclusion, any proposal must be capable of contributing to the wider health sector. We are keen for any proposed solution to contribute to the understanding, development, and clarification/classification of national HealthConnect and Health Online. The design of the health delivery system must be capable of being scaled and applied to other organisations delivering health services.

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**Added note:** Two projects have since been funded under HIRaD and commenced in June 2002. The Tasmanian General Practice Divisions (in conjunction with the Tasmanian Department of Health and Human Services) will use Internet technologies to create an electronic interface between general practitioners and the departments of emergency medicine in the three major public hospitals within Tasmania. It will enable the generation of secure email between these health care provider groups to enhance primary health care.

The NSW Rural Doctors Network Pty Ltd will use Internet technologies to provide timely access to, and enable updating of, patient related information in the form of a comprehensive electronic health care record. This will assist clinicians manage multi disciplinary treatment, or care plans, in a remote region of NSW. (Advice received from John Payne on 30 July 2002)

## Section 3: The workshop



This section summarises the views of workshop participants on three issues:

- the perceived advantages of the Internet (Section 3.1)
- the barriers of the Internet for mental health (Section 3.2)
- the methods for overcoming these barriers (Section 3.3)

### 3.1 Advantages of the Internet in the delivery of health prevention, promotion, education, and treatment

Workshop participants identified a large number of advantages of the Internet in the delivery of mental health 'services' (Appendix C). These advantages can be broadly categorised as (a) cost reduction; (b) facilitation of conventional service delivery; (c) introduction of innovative services; (d) democratisation of health care and facilitation of consumer empowerment; and (e) improved access. Each of these advantages is discussed below together with relevant evidence from the literature.

#### a) Internet delivery could lower medical health costs

There is recognition worldwide that mental illness is a major cause of disability and burden and a major contributor to the costs of health services in Australia. Mental health services are currently stretched to their limits.

Many individuals with mental health problems do not receive help. It is likely that already burdened health services would not be able to cope if these individuals did seek help. This finding also suggests that current services may not appeal to many individuals with mental health problems.

Attendees at the workshop agreed that lowering the cost of providing mental health services was an advantage of Internet technologies. In particular:

- the cost of current services may be reduced if technology could be used to decrease the burden of routine procedures and processes; and
- the ability of the new technology to reach a large audience relatively cheaply and to deliver an alternative, complementary, targeted program could help manage service delivery and health costs. Web based preventative programs, aimed at educating consumers, alerting them to possible symptoms and offering a degree of treatment to prevent the development of mental health symptoms, may decrease the need for more expensive medical treatment.

Evidence from the health literature supports these suggestions. For example, it has been found that technology based disease management that is designed to improve self management of health may be very cost effective. Goma et al (2001) reported that using personalized feedback and an education campaign results in improved clinical outcomes and cost saving. The ONE HEALTH PLAN, a subsidiary of a large US insurance company, provided evidence for both improved clinical outcomes and savings of between \$US300 to \$US1000 per member using the intervention, depending on the type of disease.

The evidence also suggests that telemedicine may be cost effective (Wootton, 2001). However, although call centres, which provide emergency as well as routine help, have been found to be safe (for example, NHS Direct in the United Kingdom) there is no direct evidence that they reduce demand on other aspects of the National Health Service (Wootton, 2001).

#### b) Internet technology could facilitate conventional service delivery

While the workshop recognised the enormous potential for e-mental health, it was a theme throughout the day that e-mental health must complement and expand existing services, and not seek to replace them<sup>1</sup>. It was envisaged that the provision of services, particularly those relating to prevention strategies, should be linked to, and integrated within, the established health and community sectors. Explicitly

fostering linkages with a range of relevant community groups would make e-mental health services far more accessible and attractive to (targeted) populations. In addition, the Internet was considered to bring with it an increased opportunity for the development of partnerships between the traditional health sector and the community sector in the development of e-mental health resources.

There is certainly evidence to support the proposition that Internet technology is acceptable to patients. Most patients find the use of email and Internet technologies in their relationship with doctors highly acceptable. For example, patients from a range of settings including those from outpatient radiology settings (Horton et al, 2000), genetics clinics (Taylor et al, 2001), genitourinary clinics (Ross et al, 2000) and gastroenterology clinics (O'Connor and Johanson, 2000) have been found to search for medical information on the Web. In the latter study, over 25% of patients reported searching for information from the Web in the previous 12 months. In a small controlled trial, Demiris et al (2001) demonstrated that patients provided with TeleHomeCare (videoconferencing using the Internet) perceived the system in a positive light and believed that their medical problems could be understood by nursing staff using the system. This finding was interpreted as indicating that TeleHomeCare is likely to enjoy wide patient acceptance.

The acceptability of the Internet to doctors and other providers also seems to be high. Doctors reply spontaneously to email from patients (Eysenbach & Diegpen, 1998) and general practitioners use online groups for continuing education (Marshall et al, 2001).

### c) Internet technology could offer capacities that may be difficult or impossible to achieve in normal service delivery or education

- The Internet is able to offer *individually tailored (customised)* help that may not be achievable in the timeframe provided in normal service delivery. Customisation refers to the development of individually targeted help that is provided to people on the basis of need. Technology can elicit people's individual needs and provide specific help in response to that need. This alternative health delivery medium is unique in its ability to deliver tailored information and advice at low cost. The technology facilitating customisation is developing rapidly and is changing traditional approaches to the delivery of mental health services. The technology could be especially useful in the delivery of mental health prevention programs, particularly to young people, who are adept at using Internet technology. The Internet also provides the opportunity to deliver up to date and relevant mental health information (eg locally relevant resource information).
- Internet technology creates *new networks and partnerships* that would not be possible without a suitable communication infrastructure. These networks and partnerships may be between individuals, among organisations, and across and within sectors and levels (consumer to consumer, peer to peer, client to doctor, general practitioner to specialist, service provider to service funder).
- Information can be delivered consistently and this may be of benefit in ensuring that information provided is both accurate and comprehensive. Although it is difficult to control how the user interprets or acts upon the information, there is potential for information to be delivered accurately and for treatments to be delivered with fidelity.
- Internet technologies make the task of storing and locating information easier, for example, through the use of distributed networks and *powerful search capacity*.
- e-Mental health can provide a unique opportunity for confidential access to a broad range of services and treatment options. This may be an issue of particular relevance in mental health: it is likely that

many people avoid accessing information and treatment from traditional sources due to the stigma associated with mental illness. The development of Web based prevention programs and information sites may reduce the barriers (shame and embarrassment) that prevent some people from accessing information by traditional means<sup>2</sup>.

- The Internet has the advantage of being inherently self paced and available twenty four hours a day, seven days a week.

#### d) Internet technology may contribute to the democratisation of health care and to consumer empowerment

The growth of Internet technology represents a fundamental paradigm shift in health delivery, and has the capacity to dramatically alter the relationship between the health expert and the consumer. It is generally accepted that an increased access by the community to knowledge, once the preserve of experts, empowers that community. The Internet makes possible the widespread dissemination of accurate mental health information. It leads to a more informed and educated community. This is especially desirable in the arena of mental health because an increased generalised mental health literacy may improve the health outcomes for the entire society.

The technology may empower the consumer in another way as well: it extends the possibilities as to who can be involved in the delivery of mental health preventive strategies. Not only does the technology facilitate the integration of health services into the community sector, it also facilitates the development of partnerships between members of the community and health professional sectors. This means that the Internet technologies may increase the capacity of the broader community to be involved in the development of mental health services.

There is evidence that *'more Americans try to change their health behaviors through self help than through all other forms of professionally designed programs'* (p. 205, Davison et al, 2000). These same authors report that the 12 month prevalence of self help is approximately 3-4% of the American population. In a review of online activity the researchers examined for two weeks all postings on two online domains (America OnLine and the Internet) for 20 disease conditions. Thirty seven virtual support groups were identified from AOL, and 40,000 newsgroups from the Internet. The third highest rate of postings on AOL was found for depression (after multiple sclerosis and diabetes). The highest for the broader Internet, were chronic fatigue, diabetes, and breast cancer followed by depression in fourth place. Although this research was not specifically focused on Australia, it is likely that self help on the Internet is also prevalent in Australia.

#### e) Internet technology allows greater access to mental health services

One clear advantage of the new technologies is the potential for universal access to information and services to assist in meeting the huge (unmet) need for mental health services in our community. The workshop participants were confident that the expansion of technology and the ever increasing computer literacy in Australia could assist in addressing some critical issues of relevance to certain disadvantaged groups, particularly those living in rural and remote areas. The new technologies can facilitate greater access to mental health services and other forms of social support for all Australians<sup>3</sup>.

It was agreed by some participants that progressive developments in the telecommunications area will provide all Australians with the opportunity to access and utilise the new technologies<sup>4</sup>. It was felt that people generally, particularly young people, are becoming more computer literate and that as time goes by more people would have access to e-mental health applications<sup>5</sup>.

## 3.2 Barriers to the implementation of the Internet in the delivery of health prevention, promotion, education, and treatment

Despite its many advantages, workshop participants agreed that the Internet is not without its challenges (Appendix C). Barriers to the implementation of e-mental health initiatives include: (a) the lack of established funding models in conjunction with high development and continuing maintenance costs; (b) increased short term costs associated with increased uptake of conventional and other services; (c) issues relating to ethical responsibility and liability; (d) privacy issues; (e) poor quality of information; (f) lack of evidence of efficacy or effectiveness; (g) lack of uniformity of access; and (h) limitations to the availability of optimal technologies. Each of these barriers is discussed below together with relevant evidence from the literature.

### a) Internet technologies and systems are expensive to develop, require maintenance and have no demonstrated funding models

One common theme raised at the workshop was a concern over the high cost of the new technologies. Participants raised the issues of the enormous start up costs, and the need for ongoing funding to ensure the sustainability of e-mental health programs. It was unclear how the funding for these developments was to be achieved but participants acknowledged that the costs would need to be shared by government, the telecommunications industry, the private (health) sector and individuals such as consumers and professionals.

At present, the most highly developed funding models were those involving primary care and specialist care, where Internet services such as telepsychiatry and 'Web counselling' were likely to be paid directly by the medical provider, or by the person's insurer and underwritten by the Health Insurance Commission. Other areas are likely to develop less quickly or less carefully because the funding models are not present. These might include community education, Web counselling by non professionals, or counselling by Commonwealth and Foundation supported sites such as Reachout. Funding models for consumer to consumer support were much less developed, as attested by the owners of sites such as depressionNet.

However, it is clear that current mental health resources are stretched, and it is difficult in the short term, to see how additional Internet based services can be provided without reducing funds elsewhere.

### b) The uptake of the Internet may lead to short and long term increased costs because previous non users begin to use conventional and other services

An additional concern was that the widespread expansion of e-mental health and the increased promotion of a disorder may lead to an increased demand on the health system. This would further burden an already exhausted system. To our knowledge, there are no systematic studies of the impact of increased mental health literacy on the health system, but it is interesting that Gavin Andrews (see Lecture 2.1) reports a reduction in waiting times since the development of the CRUFAD site.

### c) The transfer of information or help over the Internet creates issues of ethical responsibility and liability

The issue of the nature of legal liability for treatment or information disseminated over the Internet is a critical issue in the development of policy on e-mental health. Some of the participants considered that the resistance to the use of the Internet for providing treatment and disseminating information can be

explained in part by the professions' fear of liability. In particular, there was concern that information offered over the Internet may be misconstrued or used in an inappropriate way.

While the fears of professionals must be addressed it is also critical to remember the rights of consumers when addressing issues of liability. Arguably, the high standards of accountability demanded of health professionals have developed (in large part) as a response to the increasing willingness of courts to find that liability exists in a professional/client relationship. It is critical that these standards of accountability be maintained in the Internet environment, and the consumer be afforded adequate protection. Clearly, the issue of legal liability is closely related to quality assurance.

While liability is an issue that can be addressed with professional groups, liability issues also concern non professional practice and information that is posted on the Internet – for example, for prevention sites and information sites. Are professionals and Web developers ethically or legally obliged to respond to cries for help on their Websites?

International evidence suggests that professional and non professional e-mental health practice is inconsistent and unstructured. There is evidence that doctors and other mental health professionals have inconsistent practices with respect to, for example, unsolicited emails from 'patients'. Eysenbach and Diegpen (1998) described the responses of doctors to a fictitious email sent by a 'patient' with a dermatological problem to 58 physicians and Web masters. Over 50% responded to the unsolicited mail, but the response varied and Eysenbach suggested that appropriate standards were required for such communications. A survey by Neinstein (2000) of 99 health care centres confirmed that although e-communication was common, the centres typically did not have a policy to guide electronic communication between patients and their staff.

Moreover, evidence from the literature suggests that doctors are not aware of the ethical implications of establishing email contact with patients. At the same time, email consultations do not necessarily compromise patient care. For example, Eysenbach and Diegpen (1999) found that many emails sent by dermatologic patients seeking teleadvice from physicians could have been answered by a librarian or by a physician without consultation.

#### d) Information about Internet users may be stored and the privacy of individuals may be compromised

The perception that privacy is protected is crucial to the uptake and utilisation of e-mental health services. Concerns about privacy frequently focused on the issue of personal health records. There is an underlying assumption that it is desirable for people to have access to their own records. There is a basic tension between the need for access to health records and the need for security of those records. The new technologies raise important questions in relation to access to patient records: who should have access to what records, how should that access be regulated and can patient privacy be protected. In addition, the new technology raises important questions of authentication. While in the traditional doctor/patient relationship it is easy for each party to verify the identity of the other, this is not the case with Internet based consultations or records access.

While the majority of discussion focused on the protection of personal health records another issue raised was protection of the data gathered on information, prevention, and consumer sites. It is critical to the success of e-mental health preventive strategies that consumers feel assured that any identifying data gathered on them will not be used, or conveyed to third parties, inappropriately.

An interesting issue was raised by one participant who argued that privacy in modern life was redundant: there is no privacy. Many public institutions have access to so much of our lives – credit ratings are readily accessible, video cameras in public places are ubiquitous, and what was once regarded as personal information is freely available. Thus, the participant argued that excessive concern with privacy is out dated<sup>6</sup>.

e) The quality of the information on the Internet is not uniform and in many cases may be poor or false

The quality of information on the Web is of major concern to consumers, governments and professional bodies internationally and in Australia. The workshop focused on the problems associated with poor quality information on Websites for the public. There were concerns that information may be inaccurate and even dangerous; that the information is often not referenced; that it is sometimes not possible to tell if a Website is endorsed or sponsored by a particular group or company, nor to know what effect a developer's potential conflicts of interest may have on the quality of the information. It was noted that there is no external regulation of Internet sites, and that there are no intelligent search engines that can retrieve only information that is accurate and consistent with evidence based standards. Consumers are not necessarily in a position to judge the validity of Internet material. In these circumstances, it was felt that health consumers could not feel confident about the accuracy of currently available Web based mental health information. Quality assurance is also important when technology is used as an alternative to or adjunct to traditional face to face treatment, for example email communication between a psychiatrist or counsellor and a patient.

Consistent with the views of workshop participants, there is evidence that the quality of information on the Web is variable and that many mental health Websites produce low quality information for mental health consumers (Griffiths & Christensen, 2000). Some may even produce misleading or potentially dangerous information. There have been a number of attempts to address this issue (see Risk & Dzenowagis, 2001). Although some of these offer promise (see Griffiths, Lecture 1.5; Griffiths & Christensen, 2002), there are as yet no currently available appropriately validated methods by which consumers can assess the quality of Web based information.

f) There is little evidence to suggest that treatment, counselling or information on the Internet improves mental health symptoms or mental health literacy

While participants clearly believed that the Internet could and should play an important role in the delivery of mental health services, there was a concern about the lack of evidence about the effectiveness of Internet delivered services. In addition to the need to evaluate the efficacy of e-mental health services it is imperative to develop an evidence base for their effectiveness and to understand how consumers use and interact with e-mental health services.

A review of the literature on e-health and e-mental health sites supports these concerns. Although 20,000 Internet health sites and many health technologies are available to users, there is as yet little evaluation of the information and interventions that are offered on the Internet. It is crucial that mental health and other technologies are evaluated if they are to be fully recommended and supported (Wootton, 2001).

For this report, we examined the international literature to see if health technologies, telemedicine interventions, support groups, email lists, and other Internet technologies produce good outcomes in both the health and mental health areas. We found few research reports on the outcomes of Internet interventions. Those that were located tended to report positive outcomes.

We concluded from our review that:

- It is too early to comment on the effectiveness of telemedicine interventions (Currell et al, 2001; Wootton, 2001).
- Health care education, which involves the patient in self management but is supervised by mental health care professionals, has been reported to be associated with good outcomes (Lewis & Behana, 2001).
- There is evidence from randomised controlled trials that Internet delivered treatment and prevention for eating disorders is effective (Winzelberg et al, 2000).
- Professionally mediated support groups are popular, may be effective, and are used more by individuals with stigmatising illnesses, such as depression than by individuals with other less stigmatising disorders (Zrebiec & Jacobson, 2001; Davison et al, 2000; Witt, 2000; Muncer et al, 2000).
- There is evidence that epidemiological surveys can be conducted on the Web. The Internet has been used to collect epidemiological data on menopause (Comboy et al, 2001), risk taking (Pealer et al, 2001) and depression (Houston et al, 2001). Results from these surveys tend to correspond with data collected by standard survey or telephone methods pointing to the validity of these techniques in collecting epidemiological data. However, there is some evidence that Web based questionnaires result in fewer 'socially desirable' responses suggesting that respondents may be more honest in the context of Web delivered surveys.
- There is some evidence to suggest that young adults are as likely to use a Web based survey as a postal mail survey and that they are more likely to answer 'socially threatening' items when the electronic medium is used (see Pealer et al, 2001). However, older individuals and those from minority backgrounds may be less likely to complete questionnaires on a community Website (Houston et al, 2001).

#### g) While the Internet can improve access, access may not be uniform for all groups

The issue of access was identified by many participants as a major barrier that must be addressed in future policy development on e-mental health. There is clearly a disparity of access to the technology necessary for e-mental health in Australia – a technology divide based on education, income, language, region, age and computer ability. It appears that those who most need access to health care are those least likely to be able to effectively bridge the digital divide. In our community there is a self perpetuating cycle of low education, low health literacy, low income, and poor health (Eysenbach, 2001). To adequately exploit the new technology, consumers not only need access to the physical technology, they must also have the research skills and general and computer literacy to use that technology.

Another access issue identified was in the design of the services. Currently many sites are designed by computer experts without sufficient input from the people for whom the site is intended. This lack of involvement from the targeted group in the design of the services makes the Website less accessible to the target group<sup>7</sup>.

Certainly in Australia, research suggests that although access to the Internet is increasing more rapidly than the uptake of any other technology, there are inequities in the use of Internet technologies (Parent et al, 2001; Bernhardt, 2000). In Australia, higher income families, families with children and people living in cities rather than rural areas are more likely to have computer and Internet access (ABS, 2000). Apart from work and home, other access points are libraries and places of education. Internet usage is much less frequent in those aged over 55 years. Similarly, New Zealand and US studies indicate the digital divide differentially affects the less well educated, and older and minority groups.

It would appear that the very ‘groups that are arguably disadvantaged in traditional medical healthcare’ may also be those who would benefit most from Internet delivered health services (Brebner et al, 2001). However, lack of access among these groups may serve to further widen disparities in health outcomes and the full potential of the Internet as a medium for health delivery, illness prevention and health promotion (see Bernhardt, 2000) may not be realised.

#### h) The technology to use the Internet maximally is not universally available and limits the extent to which Internet technologies can be used

The workshop discussion focused on the issue of bandwidth and government policy, and more specifically the desirability for a high bandwidth rollout. It appears that despite the government policy of universal service obligation few Australians have access to high bandwidth since it is considered too costly for Telstra to provide high bandwidth services. This can result in a frustratingly slow service, and places serious limits on the use of state of the art technology by the majority of Australians. The basic technological standard needed to practice psychiatry over the Internet in people’s homes cannot be met. In addition, the current pricing structure used by the telecommunication companies depends on distance, and this too limits technological take up.

A further technology barrier identified is the insufficient number of people trained to use the technology for creating applications (hypertext, streaming, multimedia etc). Sites and software must be designed that go beyond the linear text sites currently favoured, and which target and engage a wider range of users.

### 3.3 Moving forward: Overcoming barriers and capitalising on advantages

From the workshop discussion, five major areas where barriers might be overcome were identified. These are summarised in Box 5.

#### BOX 5: MAJOR AREAS REQUIRING ACTION

##### Access

The means by which access to the opportunities of the Internet could be made available to those on the other side of the ‘digital divide’.

##### Ethical issues

The means by which ethical issues which impact on Internet mental health provision could be understood and overcome. A number of issues were identified:

- How the ethical responsibilities and legal liabilities associated with online relationships might be understood; and
- How confidentiality and privacy might be protected.

##### Quality and effectiveness

The means by which quality of information and positive health outcomes might be ensured. This involves two important issues:

- How the quality (eg accuracy) of information on the net could be optimised; and
- How the effectiveness of Internet services could be maximised.

**Technology**

The means by which technology could be developed quickly and equitably.

**Funding**

The means by which costly mental health Internet applications might be funded, and who might provide the funding.

In the following sections we summarise (with reference to the literature) the views of the workshop participants and the results from the online survey (Appendix C) about how these issues might be advanced.

### a) How access to the opportunities of the Internet could be made available to those on the other side of the 'digital divide'

In Australia, the information divide parallels socioeconomic and demographic divides. The workshop recognised the important role of government in seeking to establish strategies to bridge this information divide. Leaving to market forces the task of ensuring equal access to information is unlikely to improve equity of access.

Several participants suggested schemes to facilitate access to Internet terminals. These included:

- to use resources of commercial and public organisations 'out of hours';
- to more effectively subsidise access by disadvantaged Australians; and
- to seek deals with Internet Service Providers to gain discounted rates for viewing health sites.

In addition to physical access to the technology, access will be improved if all members of the community are sufficiently 'information literate' to use the new technologies. Regardless of the attractiveness, and apparent simplicity of a site, users need a basic level of computer literacy and research skills. While a growing percentage of people, especially the young, are comfortable with the new technologies, there is still a group of marginalised Australians without physical and educational access to Internet technology. If e-mental health initiatives are to be successful, this cycle of inadequate information and health literacy, and low income and poor health must be broken.

It was also suggested that access could be improved if the end users (both professionals and consumers) were involved in the design of the sites. Consumer users, including young people, older people, Australians from rural and remote regions, indigenous peoples and people from culturally and linguistically diverse backgrounds, need to be involved in the design of the services, and to identify what will work for them<sup>8</sup>. Related to this is a need to understand how consumers understand and use the information they are accessing. An understanding of the consumer's needs, values and preferences will lead to a greater understanding of what information is most desired and useful to consumers (Eysenbach, 2001).

Respondents to the online survey also pointed out that there is a need to invest in service supply and remote system technology, and that there seems to be considerable variability in the technology available within Australia.

## b) How ethical issues which impact on Internet mental health provision could be understood and overcome

Currently, there are international efforts underway to examine the ethical responsibilities and liabilities involved in mental health and other professional contact on the Internet (Dyer, 2001). However, given the pace at which e-mental health counselling is developing, there is an urgent need to develop a position on the role of professionals and others in mental health service delivery in Australia. Dyer (2001) notes that basic questions such as 'What is an online relationship – does the person need to be spoken to in order for a relationship to involve an ethical obligation?' and 'Is e-therapy different from traditional forms of therapy?' have not been comprehensively addressed. However, some organisations, including the International Society for Mental Health Online (<http://www.ismho.org>) and the American Medical Informatics Association Internet Working Group (Karen & Sands, 1998) have made a start in examining these complex issues.

There is a clear need to develop procedures for conducting professional to consumer relationships using the Internet. These procedures should be developed by professional organisations in consultation with the government and with consumers. The aim of guidelines should be to ensure that individuals and organisations who use the Internet to deliver health services take responsibility for their content and ethical provision according to agreed conditions and procedures.

### **Confidentiality and privacy**

Patient (and professional) privacy is clearly a critical issue in e-mental health. It is imperative that there is nationally consistent privacy protection that spans both the private and public sectors. There is a need to establish a secure e-mental health network which would facilitate appropriate access by consumers to their health records and the sharing of relevant health information among authorised clinicians<sup>9</sup>. Confidentiality and privacy guidelines need to be developed with the involvement of all relevant stakeholders: providers of e-mental health services including consumer providers; mental health consumer and carer representatives; research bodies, including NHMRC; and relevant statutory authorities. The aim of the guidelines would be to clearly indicate where responsibility rests for ensuring the privacy, confidentiality and security of all e-mental health related information.

The relevance of the *Privacy Amendment (Private Sector) Act 2000* was discussed at the workshop. This Act, which came into force in December 2001, amended the Privacy Act 1988, and its provisions apply to all health service providers in the private sector. The effect of this Act is (in part) to ensure that all the health information that these organisations hold is treated responsibly and complies with the National Privacy Principles (NPPs). The NPPs located at Schedule 3 of the Act apply to conventional, electronic and digital environments. The explicit inclusion of the new technologies recognises the importance of e-health in the Australian health sector. Some respondents to the online survey emphasised that it was possible to rely on these provisions to protect patient information. Other workshop participants advocated initially retaining some functions, especially those relating to individual health records, within the traditional health delivery system. They favoured the gradual introduction of e-mental health services, and the associated generation of online data on consumers, to allow time to understand and develop solutions to confidentiality and privacy issues.

In relation to personal health records there must be the capacity with any medical record database to mask and unmask components of the record depending on who logs on. This means, for example, that a patient could specify that particular information on their record could be available to their psychiatrist but not to their general practitioner. In addition, while it was important that patients were able to access

their health records it was equally important, particularly in emergencies, that health providers could do so. It is crucial that policies and administrative and technological infrastructures are established that ensure a powerful audit trail, with all logins being recorded. In addition, appropriate penalties need to be imposed for any security breaches.

While there are certain structural barriers still in relation to authentication, important questions must still be asked: how should someone seeking to access a record be identified; and what level of access should be granted according to the identifier? It is important that appropriate qualifiers are recognised by the new technologies. These could be numbers, fingerprints, smart cards, or biometrics. Some information might be made available only when the patient and the doctor act jointly.

A further area of concern was the possibility that identifying data might be collected and aggregated when consumers visited e-mental health prevention sites. One participant suggested that the level of privacy that is appropriate depends in part on the level of the intervention. According to this argument, health records should be afforded a higher level of protection than those found when merely accessing a Website designed as a preventive strategy. However, others recognised that the perception of privacy by consumers would affect peoples' willingness to use a particular service, especially in the area of mental health. Clearly, this raises a number of ethical and technical issues for site designers and researchers. It may be appropriate to delete the information provider number of the computer visiting an e-mental health site from the database. Privacy and confidentiality issues are also highly relevant to the area of mental health research on the Internet where the need to conduct research for the public good must be balanced against the right of individual consumers to privacy and confidentiality in their online interactions.

### c) How the quality of e-mental health services might be improved

Workshop participants considered that the duty of care and the standards of care afforded across the Internet should not differ from more traditional service provider models. Sites providing consumer information needed to meet standards, to make explicit their basis for advice and endorsements, and to identify site authors and note the dates of revisions. However, it was recognised that the regulation of non government or non university sites is more complicated, and one strategy may be to educate the consumer to become more discerning. However, there is a need to identify valid indicators of site or service quality that do not require content expertise.

There is clearly an important role for government in the ongoing development of the notion of quality assurance, since this is arguably one of the core areas of the government's role. While an initial attraction of the Internet was its very lack of restrictions, there are now Commonwealth initiatives for government departments to implement common standards. All sites that have a relation with government will need to meet these standards.

In the future, initiatives such as the MedCERTAIN project (Griffiths, Lecture 2.5) may prove helpful in providing consumers with evaluative information about the quality of Websites. It may be appropriate for Australia to become involved in, or at least explore the potential relevance of the MedCERTAIN collaboration to the Australian context. The development of intelligent search engines which automatically return high quality mental health sites also offer a potential means for facilitating consumer access to high quality information.

### Effectiveness of Internet services

Both the workshop participants and the online survey responders pointed to the lack of evidence in the area of e-mental health services and the importance of evaluation. They considered it imperative that these services be evaluated, and that the nature of consumers' interactions with e-mental health services be examined empirically.

### d) The means by which technology could be developed quickly and equitably

The issue of bandwidth attracted a great deal of attention at the workshop. It was generally assumed that speeding up the high bandwidth rollout was desirable because it would allow individuals to access the Internet more efficiently. However, the simple assumption that greater bandwidth would facilitate the development of e-mental health was challenged to some extent. One participant pointed out that the broadband technology was currently not sufficiently advanced that it mattered<sup>10</sup>, and another queried the simple assumption that greater bandwidth would necessarily lead to improved health outcomes<sup>11</sup>. Wootton (2001) supports this view suggesting that the main problem in telemedicine is not a lack of technology but rather the organisational problem of knowing how to take advantage of the technology. He asks, for example, 'how health services change their delivery practices to take advantage of what the technology can do?'

The issue of the telecommunication pricing structure must be addressed. It is crucial if all Australians are to have access to health services over the Internet that prices are capped at a reasonable level. While this is a task for the Australian Competition and Consumer Commission (ACCC), it would appear that current pricing reflects pricing policy rather than real costs incurred by the communication carriers.

In addition to a greater expansion of digital technology, it is crucial that more people be trained to use the technology, and to learn hypertext markup language, streaming, multimedia and other skills. Sites and software must be designed that go beyond the linear text sites currently favoured, and target a wider range of users. There is a need to nurture technological skills and for these to be integrated with mental health knowledge. People should be brought together, working in competition but also in collaboration, to design appropriate technology. The role of government might be to facilitate partnerships and an open process and to fund demonstration projects.

### e) Resources and costs

Both participants and online responders pointed to the need to develop models of funding for Internet health care technologies within the Medicare Benefits Scheme and through the health funds. In particular, it was suggested that there should be a determination of the resources that were sustainable by private resources and those that were not. Health promotion and prevention were not considered to be sustainable through private or Medicare sources and it was considered that they might need to be funded by the government. Possible funding arrangements were mentioned, including grants and industry support. User pay arrangements were also mentioned. An e-mental health Cooperative Research Centre may be viable and partnership grants through industry and the Commonwealth may be a suitable model for funding. There was a need to develop e-expertise infrastructure both technologically and in mental health areas.

## f) Conclusions

All the workshop participants who responded to the followup survey were adamant that e-mental health should be integrated into future mental health policy planning. The general consensus was that Commonwealth involvement was essential because there is a rapidly increasing use of the Internet in the delivery of mental health services, and the new technologies will increasingly be used for the provision of information, assessment, diagnosis, and counselling and treatment<sup>12</sup>. Indeed it was felt by Kirkby that because of the strength of the impact of the Internet on mental health treatment that e-mental health should be a special initiative or an identified priority area (Kirkby, Lecture 2.4).

In this report, a distinction has been made between the use of Internet resources in facilitating normal services and the development of the Internet in bringing new methods to solving mental health programs. Many of the barriers to e-mental health are not unique to the Internet but extend across the whole service delivery sector in mental health.

It would therefore seem reasonable to explore ways of extending the usual standards for face to face services to those involving professional contact between Internet users and general practice and specialist individuals and organisations. The extension of e-mental health services to the professional sector may be difficult to negotiate because of ethical responsibilities and concerns about the quality of interventions. Nevertheless, there are many international precedents that can provide a starting point for developing ethical guidelines and quality assurance guidelines. Professional organisations, mental health professionals, consumers and government agencies should be involved in this process. It is in areas that provide new models of how mental health services can be delivered that there may be more difficulty and where the challenges will be greatest. These include areas of community education, chat groups, mediated chat groups and peer to peer support groups.

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### ENDNOTES

- 1 Nicholas J, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University
- 2 Pethick L, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University
- 3 Graham D, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University
- 4 *ibid*
- 5 *ibid* and Nicholas J, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University
- 6 Martin G, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University
- 7 BIGNAULT I, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University
- 8 BIGNAULT I, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University
- 9 Kirkby K, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University
- 10 Pethick L, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University
- 11 Kenardy J, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University
- 12 Richards J, Response to survey stemming from the e-mental Health Workshop, 26 June, Centre for Mental Health Research, Australian National University

# Section 4: Towards an e-mental health policy



## 4.1 Policy suggestions

It is increasingly clear that e-mental health needs to be integrated into future mental health policy planning. There is a strong case for e-mental health to be established as an identified priority area given its importance in the delivery of mental health services. The Internet will play a major role in the future delivery of programs aimed at increasing community awareness and in providing prevention, assessment, diagnosis, counselling and treatment programs. The Commonwealth Government is positioned to take a leading role in developing policy in e-mental health. The following suggestions and strategies are intended to provide a basis for developing a coherent e-mental health plan for Australia.

### General

A more systematic and informed approach is required to realise the potential of the Internet to contribute to better mental health services, prevention and improved community awareness. At present, there are no national e-mental health policies and little is known about the use of the Internet by mental health professionals and by members of the community in Australia.

#### **Suggestion 1: e-Mental health should be a priority area in mental health policy planning.**

Strategies:

- Establish a national Reference Group comprising representatives from key stakeholder groups to:
  - advise on e-mental health policy issues;
  - convene, establish the terms of reference for, and oversee relevant working parties;
  - provide input into the consultation process for developing the Third National Mental Health Plan; and
  - present the case that e-mental health should be a priority area within the Plan.

#### **Suggestion 2: e-Mental health initiatives should be integrated effectively into current mental health programs.**

Strategies:

- Undertake a comprehensive review of what e-mental health services are currently available. To avoid duplication, this review should take into account other initiatives currently in progress and coordinated by the National Health Information Management Advisory Council and other key groups. The review document should examine:
  - current Internet mental health information sites as a function of type of intervention strategy and funding source, including a description of services, who provides them, the modes of delivery, the target groups and the users of such services;

- telemedicine mental health services including Web counselling, Web psychiatry and Internet and other e-technology assisted therapy, in particular, Web based ‘call centres’ which offer online advice and counselling;
  - available and emerging e-mental health technologies;
  - Internet crisis services, support groups and chat groups in Australia;
  - initiatives that aim to provide physical access to the Internet and to other e-mental health services for those with mental health symptoms;
  - the attitudes and expectations of consumers and doctors about the role of e-mental health; and
  - the full range of different types of interactions that occur online. This may also include a review of interactions that occur via electronic technology.
- Undertake an analysis of potential methods for integrating Internet services into current mental health programs. Without proactive analysis, Internet services may be disproportionately driven by market forces rather than by consumer or national needs. Delivery systems other than the Internet should also be considered. This analysis of potential methods should draw on:
    - strategies adopted overseas and in Australia;
    - the views of experts in e-mental health and mental health;
    - work in progress occurring at the national level in relation to improving the practice and outcomes in other health areas. Strategies include the use of e-technologies for improving and speeding up communications, coordinating and integrating communication between people within and between disciplines and sectors, and providing more effective diagnostic and prescribing tools;
    - results from prototypical interventions and test cases; and
    - the funding and development of demonstration models for how the new technology might work. The latter will depend to some extent on which models are funded under Networking the Nation program and the National Communications Fund, two initiatives set up by the Commonwealth Department of Communications, Information Technology and the Arts.
  - Develop training and continuing education programs targeting medical schools and existing health care provider services to encourage and educate future and existing practitioners to integrate e-mental health initiatives into their practices.

## Access

Access to Internet technologies should be improved for those communities which are not currently served. Initiatives currently underway to improve Internet access for all Australians should continue. However, there is a need to develop specific access strategies for those with mental health symptoms since mental health may differ qualitatively from other areas of health. In particular, there is greater stigma and less openness about mental health problems and the evidence suggests that mental health consumers are taking to the Internet very quickly.

**Suggestion 3:** Investigate strategies for improving access to information on the Internet for those not currently served by the technology.

Strategies:

Taking into account relevant national strategies developed under the auspices of the National Health Information Management Advisory Council:

- Identify the factors such as lack of physical access, lack of interest and lack of information literacy that contribute to the 'digital divide' among mental health stakeholders and serve as barriers to Internet use within Australia. Include in this strategy current literature on the nature of the 'digital divide' in Australia. A relevant publication may be that of Hellwig and Lloyd (2000).
- Together with relevant government, non government and practitioner organisations, plan and devise strategies for education and training of mental health consumers, carers and providers in mental health technologies.
- At a national level, identify methods for removing barriers and increasing equity of access to the Internet. Improve Internet content for communities not yet served through the development of local content, catering for lower levels of literacy, and through the involvement of local communities, consumers and carers. Individuals with mental health problems who are older, from a culturally or linguistically diverse background or of Aboriginal and Torres Strait Islander background should be provided with the opportunity to contribute to the content of mental health sites. Moreover, these individuals should be supported in these endeavours through the development of appropriate guidelines.
- Ensure that health professionals and consumers are given the opportunity to provide input to all government mental health information sites.

### The quality of information

The Commonwealth Government is positioned to play a lead role in developing quality assurance standards for the use of the Internet in mental health. The Commonwealth could also play a key role in educating providers and consumers of the importance of the quality of Web information. Support groups are proliferating and there is a need to develop guidelines for both providers and users on standards for the operation of these sites. Although the Internet is essentially unregulated, guidelines will help to encourage good practice.

#### **Suggestion 4: Develop guidelines that encourage and promote high quality mental health information on the Internet in Australia.**

Strategies:

- Under the direction of the proposed e-mental health Reference Group, establish a national working party with representation from major stakeholders with responsibility for:
  - developing a protocol for evaluating mental health Websites;
  - reviewing and ratifying mental health Websites with representation from major stakeholders;
  - reviewing the strategy used by HealthInsite to develop high quality information;
  - developing strategies to educate consumers about evaluating the quality of information on mental health Websites; and
  - developing strategies for educating mental health Web producers about the importance of high quality information.

## Guidelines with respect to evaluating the effectiveness of Internet sites

Although many mental health sites are available on the Web, very few are evaluated. Without such evaluation it is difficult to know whether they are useful, satisfying for consumers and mental health professionals, or even harmful. Internet interventions and information sites in mental health should be evaluated for their effectiveness. There is a special need to evaluate the effectiveness of support groups in mental health since these are growing, popular and often cater for specific needs.

### **Suggestion 5: Promote the development of useful and effective mental health Websites.**

Strategies:

- Assess all submissions and tenders for Commonwealth/State/Territory/local government funded Websites against an agreed assessment protocol and agreed standards.
- Assess all submissions and tenders for government funded Websites for inclusion of an appropriate evaluation protocol.
- Ensure that government funding of Internet applications is contingent on these sites developing suitable process and outcome evaluations.

## Guidelines with respect to ethical principles and liabilities

There is a need to develop guidelines for professional and non professional practice on the Internet. Societies and professional organisations need to educate their members about the ethical and legal implications of interacting with patients on the Internet. Community centres, mental health services and other organisations within the mental health community need to identify procedures for handling Internet inquiries and requests. Without clear practices and protocols, mental health professionals may be at risk and patients may develop unrealistic expectations. Guidelines to determine professional practice on the Internet are urgently needed.

### **Suggestion 6: Under the auspices of the National Health and Medical Research Council (NHMRC), develop and implement guidelines for mental health research activity on the Internet in Australia.**

Strategies:

- Establish a mechanism by which the research community in cooperation with the NHMRC can develop guidelines for conducting ethical research on the Internet.
- Develop strategies for implementing the guidelines, ensuring particularly that other ethical guidelines both within and outside the NHMRC are upgraded to incorporate guidelines for Web based research.

### **Suggestion 7: Develop guidelines for the professional practice of online therapy and other e-mental health therapy.**

Strategies:

- Encourage professional organisations to develop guidelines and future training and accreditation requirements for the practice of professional online therapy and other e-mental health therapy.
- Use available service guidelines and standards to assist in this process and in the development of future guidelines and standards.
- Extend current initiatives to develop training and support activities for general practitioners, as outlined in Health Outline (NHIMAC, 2001), to psychiatrists, clinical psychologists and psychiatric nurses.

**Suggestion 8: Promote the highest standard ethical code of conduct in all e-mental health interactions.**

Strategies:

- Under the direction of the proposed e-mental health Reference Group, establish a national working party to:
  - facilitate the development, implementation and monitoring of ethical guidelines and standards for e-mental health intervention;
  - identify and examine relevant legal issues, and in particular, professional liability issues associated with online delivery;
  - use developments in broader areas of health (eg from Health Online, NHIMAC, 2001) to inform this process; and
  - as part of the guideline implementation process, encourage relevant health professional bodies to integrate guidelines with the existing codes of professional behaviour that govern the conduct of their members.

## Confidentiality and privacy

**Suggestion 9: Protect confidentiality and privacy of e-mental health interactions while improving accessibility and continuity of care through the use of e-records.**

Strategies:

- Continue current initiatives with respect to medical records (*HealthConnect*), and include and be informed by current developments in the broader health sector.
- Identify any legal issues associated with confidentiality and privacy that are specific to the area of mental health.

## Guidelines with respect to funding models

There is little evidence available in Australia to determine how the development of applications is funded, and further information is required to assist in policy developments.

**Suggestion 10: Identify means by which the development and provision of innovative e-mental health applications and infrastructure can be funded.**

Strategies:

- Review the roles of industry, community and government stakeholders in funding innovative e-technologies. In particular, review:
  - current initiatives in broader areas, such as developments in establishing a research and development agenda by the Office of Rural Health of the Commonwealth Department of Health and Ageing, and findings of a working party set up by the New South Wales Department of Health to investigate telehealth financing;
  - the suitability of different levels of intervention (prevention, early intervention, raising mental health literacy, treatment) to funding from each sector. For example, the former interventions are likely to be highly suitable to the new technologies and cost effective. However, they may not prosper without government funding due to the absence of alternative funding mechanisms. Treatment such as psychotherapeutic interventions may be more amenable to a fee for service approach and may therefore be more suitable to private sector funding;

- the costs and benefits of funding innovative e-health technologies for each level of intervention and conduct an economic analysis of the costs of the Web interventions and counselling relative to face to face service delivery;
- the means by which existing public funding arrangements for mental health could be changed to integrate the new technologies;
- mechanisms for joint State and Territory funding of nationally accessible e-mental health developments; and
- strategies to develop e-mental health infrastructure and in particular to encourage the development of e-mental health technologies and e-mental health expertise. It is clear that high quality sites and useful health information require input from mental health professionals and consumers with expertise in e-mental health.

## 4.2 Timing of the implementation of the strategies

Clearly a number of these strategies could be implemented immediately. Indeed it may be crucial that work towards including e-mental health as a priority topic in a Third National Mental Health Plan commences without delay. Other strategies can be implemented once e-mental health is established as a priority area in the Third National Mental Health Plan.

### Immediate strategies

- Convene a reference group to provide input into the consultation process for developing the Third National Mental Health Plan, to advise on e-mental health policy issues and to oversee key review activities (Suggestion 1).
- Review e-mental health services (Suggestion 2).
- Review potential strategies for integrating Internet services into current mental health programs (Suggestion 2).
- Review strategies which promote high standards and ethical conduct in e-mental health (Suggestion 8).

### Short term strategies

- Identify the means by which the development of innovative e-mental health applications and infrastructure can be funded (Suggestion 10).
- Investigate strategies to improve access to information on the Internet (Suggestion 3).
- Plan and devise strategies to improve access to local content (Suggestion 3).
- Develop protocols for evaluating mental health sites (Suggestion 3).
- Develop strategies for educating consumers and Web producers about the quality of information (Suggestion 3).

## Strategies once e-mental health becomes a priority area under the Third Mental Health Plan

- Re-form the Reference group into a Steering Committee to oversee the planning, implementation and evaluation of key developments in e-mental health (Suggestion 1).
- Establish a consumer representative working party to provide input into the Steering group (Suggestions 1 and 4).
- Implement strategies to overcome the digital divide, including the development of local content for communities not yet served (Suggestion 3).
- Test protocols and evaluate education campaigns to improve quality of Websites (Suggestion 4).
- Put into place evaluation protocols for all government funded Websites (Suggestion 5).
- Facilitate and implement guidelines for mental health research using the Internet (Suggestion 6).
- Develop guidelines for professional practice of online therapy (Suggestion 7).
- Put into place strategies that encourage adherence to relevant standards (Suggestions 7, 8 and 9).

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# Appendices



## Appendix A: List of workshop participants

Name	Organisation
Tony Jorm (facilitator)	Centre for Mental Health Research (CMHR), The Australian National University
Helen Christensen	Centre for Mental Health Research (CMHR), The Australian National University
Kathy Griffiths	Centre for Mental Health Research (CMHR), The Australian National University
Jonathon Nicholas	ReachOUT!
Leanne Pethick	DepressioNet
Tony Hill	Internet Society of Australia
Gavin Andrews	Clinical Research Unit for Anxiety and Depression
Ken Kirkby	University of Tasmania
Justin Kenardy	University of Queensland
Philip Chynoweth	Microsoft, Canberra
Craig Rochfort	110 Design_Logic
Dennis Tannenbaum	Psychiatrist
Ian Hickie	beyondblue
David Hawking	CSIRO Mathematical & Information Sciences
Mick Sam	ACT Department of Health, Housing & Community Care
Richard Bromhead	ACT Department of Health, Housing & Community Care
John Payne	Commonwealth Department of Health & Aged Care*
Mick O'Hara	Commonwealth Department of Health & Aged Care
Suzy Saw	Commonwealth Department of Health & Aged Care
Dermot Casey	Commonwealth Department of Health & Aged Care
Stephen Castle	Commonwealth Department of Health & Aged Care
Sheila Holcombe	Commonwealth Department of Health & Aged Care
Irene Krauss	Commonwealth Department of Health & Aged Care
Allen Morris-Yates	Strategic Planning Group for Private Psychiatric Services (SPGPPS)
Ilse Blignault	Queensland Division of General Practice
Phillip Taylor	Australian Medical Association (AMA)
Des Graham	Mental Health Council of Australia
Abby Patterson	Australian Early Intervention Network (AusEINet)
Jeff Crumpton	Royal North Shore Hospital
Claire Kelly	Centre for Mental Health Research (CMHR), The Australian National University

Name	Organisation
<i>Apologies:</i>	
Jeff Richards	University of Ballarat
Peter Conroy	110 Design Logic
Graham Martin	Flinders University, AusEINet
Nick Kowalenko	Royal North Shore Hospital
Peter Yellowlees	University of Queensland
Judy Proudfoot	Beating the Blues
Elizabeth Scott	Southview Clinic
Michael Kidd	University of Sydney
Julie Marr	Commonwealth Department of Health & Aged Care
Kim Walker	Commonwealth Department of Health & Aged Care
Peter MacIsaac	Commonwealth Department of Health & Aged Care
Judith Davis-Lee	Commonwealth Department of Health & Aged Care
Penny Farnsworth	ACT Department of Health, Housing & Community Care
Chess Krawczyk	Approved Systems
Bill Buckingham	Buckingham & Associates
Stephen Rosenman	Psychiatrist

\* Now the Commonwealth Department of Health and Ageing

## Appendix B: Respondents to the online survey

Name	Organisation
Helen Christensen	Centre for Mental Health Research (CMHR), The Australian National University
Jonathon Nicholas	ReachOUT!
Leanne Pethick	DepressioNet
Ken Kirkby	University of Tasmania
Justin Kenardy	University of Queensland
Dennis Tannenbaum	Psychiatrist
David Hawking	CSIRO Mathematical & Information Sciences
John Payne	Commonwealth Department of Health & Aged Care
Peter MacIsaac	Commonwealth Department of Health & Aged Care
Ilse Blignault	Queensland Division of General Practice
Des Graham	Mental Health Council of Australia

## Appendix C: Perceived advantages and disadvantages of the Internet

Each participant at the workshop was asked to write down on separate sheets of paper, three advantages and three disadvantages of the Internet in the area of mental health. The responses were then clustered into themes on workshop whiteboards. These themes and individual responses are reproduced in Box C.1 (Advantages) and Box C.2 (Disadvantages).

### BOX C.1: ADVANTAGES OF THE INTERNET AS DESCRIBED BY WORKSHOP ATTENDEES

#### Power of the technology:

- Dissolves traditional boundaries
- Can do technology
- Powerful search
- Opportunity for interactive communication
- Information exchange/increased equity
- Ability to communicate a common message (consistency)

#### Increased potential for combined services:

- Linking
- Universal
- Potential for combined service provision
- Increased opportunities for integration of health care (within health sector, across sectors – community etc)
- Partnerships
- Potential for sectors to work together
- Potential for partnerships ie – culturally specific groups, young people
- Peer/network contact
- Partnership with widely accepted young people's site providing professional support. <ReachOut>
- Partnership with young people in developing resources

#### Consumer empowerment:

- Selection of information based on want
- Empower – all users
- Increase currency + relevance of mental health information (localise, personalise)
- Lends itself to 'consumer' control
- Increased mental health literacy
- Potential for universal service adapted to user requirements
- More informed/educated culture
- Informal decision making by empowering consumers (more information, timely

information, accurate/referenced information)

- Greater access to 'experts' and informed individuals in specific areas
- Certificate vs network of trust

#### Customisation:

- Improve health outcomes – individual & population
- Self paced access
- Customised delivery
- Ability to collaborate (consumers + professionals)
- Alternative way of providing treatment – increase options
- Allows new ways of doing things
- Customised
- Technology moving fast
- Prime emergent phenomena
- Potential for interactive and tailored information provision and advice
- Promotion of treatments (ALTERNATIVES) that may not have been considered
- Changing traditional approaches to the delivery of mental health to youth
- Attractive to young people
- Way of communicating

#### Flexibility:

- Flexibility
- Prevention delivery

#### Improved consumer privacy/reduced stigma:

- Main mode of information gathering for young people → low stigma
- Consumer privacy
- Lack of stigma compared to current services
- Private
- Overcoming stigma – acceptable anonymity
- Anonymity

**Economic advantage:**

- Low cost
- Efficiency
- Can reach large audience at low cost
- Cost savings for consumers + providers
- Efficient delivery systems cost effective
- Improved mental health outcomes with reduced cost
- Cost/resource efficient
- Low cost delivery

**Increased access:**

- e-health access for all Australians
- Improved access to information for providers and consumers
- Broad population impact possible
- Potential for universal access to information and services
- Access
- Access to resources
- Meet unmet need

- Export (international access)
- Very wide access
- Wherever I am
- Access – All can access no matter where they live
- Information accessibility
- Good access for rural and remote
- Access for disadvantaged communities
- Access to more info than by 'traditional' means ie range of alternatives
- Individual access – no need to disclose if not appropriate
- Increased access
- Accessibility to information + services
- Gets to cover current unmet need
- Integration of mental health into just young people's lives
- Increase access to mental health services + information to underserved populations
- Potential to reach many quickly
- 24 hours a day 'someone there'
- Ability to reach new market

## BOX C.2: DISADVANTAGES OF THE INTERNET FOR MENTAL HEALTH AS DESCRIBED BY PARTICIPANTS

**Cost:**

- Revenue models
- Lack of start up money
- Sustainability: financial
- Other measures of sustainability
- Cost – high – development, infrastructure, maintenance
- Funding (Development & maintenance)
- Branch economy
- How is e-treatment funded?
- Resources, scalability, tension

**Lack of quality assurance:**

- Authority of information/treatments
- Lack of national coordination of disparate efforts
- GIGO: Garbage In Garbage Out = difficulty of quality assurance
- Identifying and branding quality information
- Governance marketing
- Quality assurance

- Quality assurance – Information not referenced
  - How do you know evidence of information
  - Not local information eg US drugs not approved in Australia
- Endorsement by whom
- Unofficial endorsement – by association or linkage
- Censorship potential
- Lack of quality assurance/standards – what is best practice?
- Information verification
- Establishing common standards
- Impact constrained by (vested interests) external factors
- Inconsistent quality of information
- Government regulation
- Overcontrol
- Achieving agreement regarding standards (is it the role of government to coordinate this)
- Concepts & models – regulatory framework

#### Will e-mental health models work?

- Lack of evidence on effectiveness
- Lack of evidence base for effectiveness
- Lack of evaluation
- Evaluation

#### Lack of confidentiality and privacy:

- Confidentiality issues with local system administrators
- Access vs security
- Achieving a trusted environment – privacy, security
- Privacy/confidentiality
- Confidentiality and security of personal information
- Record access:
  - patients } not the same
  - carers } not the same
  - families } not the same
- Confidence in use – consumer, provider, funder

#### Technology:

- Killer applications and links
- The Disney expectation
- Browser/platform variations
- Bandwidth (speed of data transmission)
- Reliance on levels of technology that only few people have
- Technology moving too fast
- Technology changes too quickly
- Achieving workable consensus
- Technology is vulnerable – virus

#### Access:

- Access to groups with low education, NESB etc
- Lack of access by marginalised (eg homeless)
- Access issues – ie rural/remote; older adults; lack of computer familiarity

- Access – availability, affordability, appropriateness
- Digital divide
- Reaching everyone – scalability
- Integration with traditional services
- Ensuring accessibility – cost, languages other than English, physical disability, low level browsers
- Demand outstrips supply → scalability
- Scalability of current models of use
- Professionals lack skills of younger people in net use

#### Infrastructure:

- Lack of local area support
- Lack of facilitation
- Inertia
- Risk aversion (unjustified)
- Risk aversion (justified)
- How to identify who benefits from e-solutions vs face to face
- Moving from early adopter to majority
- Risk of failure or disaster → rejection of – change management
- Lack of overarching framework/models – how it fits/ departs from modes of service and information delivery
- Professional resistance

#### Outliers:

- Empire strikes back mine
- Limited use of e-health advantages and methods
- What you want isn't always what you need