

**AUSTRALIAN PRIMARY HEALTH CARE
RESEARCH INSTITUTE**

CENTRE FOR MENTAL HEALTH RESEARCH

**APHCRI LINKAGE & EXCHANGE TRAVELLING FELLOWSHIP
REPORT**

**Stream Four Report: Models of mental health delivery: efficacy,
support & policy**

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EXECUTIVE SUMMARY

E-health initiatives have been seen as a potential means of improving access to care for individuals with depression and other mental health disorders. In this fellowship we visited leading e-health care researchers and policy makers in the United Kingdom and the Netherlands to identify working models for the delivery of e-health services. We also met with leaders in the UK National Health Service (NHS) and the developers of the NHS Choices Consumer Portal to determine broader directions in consumer health in the UK. In addition, we sought information about research and development projects being undertaken in universities and supported by the NHS in order to understand the ways in which e-health might be implemented in the future. Major trials instigated and paid for by the Health Technology Assessment Program in the UK and the NHS were also examined. Finally, we visited Health On the Net in Geneva to examine and establish a linkage with the best known international initiative for certifying the quality of e-health websites.

FINDINGS

We identified five models of e-health care delivery in the UK and Netherlands. These were:

- General practice models
- Virtual clinics
- Integrated models
- Self-help models
- Consumer directed models

Australia has employed e-health general practice and e-health integrated and self-help models, but these are rudimentary in comparison with the models used in the two other countries. In contrast with Europe, there are no virtual clinics and no consumer directed e-health models in Australia. However, all five models of e-health delivery would be viable in the Australian context. Australia can learn from the methods used to drive change in e-health and the problems associated with the implementation of these programs in Europe.

We found that e-health research trials in mental health in the UK had a focus on the use of e-health tools within collaborative care models in a general practice setting. New funding in the

Netherlands has begun to target the development of integrated stepped care e-health models which provide direct access to the general population through a web portal.

The UK and the Netherlands are further advanced than Australia in the use of e-health, in their commitment to the provision of knowledge sources for consumers and doctors, and in their emphasis on direct access to health services through the telephone or internet.

POLICY IMPLICATIONS

USE E-HEALTH TO PROGRESS HEALTH CARE REFORM

In both the UK and the Netherlands, e-health models have been used to progress health care reform, particularly with respect to shifting care from acute to community settings and to providing direct-to-consumer and stepped care. E-health systems could also be used to forward this policy agenda in Australia. There is an opportunity to expand the range of e-health models in Australia including:

- *The expansion of self-help models to provide direct access to mental health information and automated therapy*
- *The development of virtual health care clinics that provide direct treatment through online services and telephone contact*
- *The expansion and refinement of fully integrated models*
- *The investigation of the current use of e-health programs in general practice*
- *The introduction of formal, consumer-driven services employing e-self-help models*

For e-health to flourish, there is a need to consider appropriate mechanisms for (i) ensuring the quality of e-health systems (for example, quality frameworks versus 'quality marks' for dissemination); (ii) disseminating high quality programs including strategies for promotion to the public and incentives to encourage uptake by health professionals; and (iii) remunerating e-health programs.

DEVELOP A KNOWLEDGE BASE FOR CONSUMERS & HEALTH PROFESSIONALS

There have been major developments in the provision of evidence-based information to health professionals and consumers in the UK and the Netherlands. A similar 'one-stop-shop' is required in Australia for mental health and other chronic health conditions. This could be created either by engaging mental health experts with training in systematic synthesis of scientific evidence or by purchasing existing knowledge bases from the NHS in the UK.

DEVELOP CAPACITY TO SYSTEMATICALLY INCORPORATE INNOVATION IN HEALTH CARE

A clear commitment to innovation in health care and technology in the UK is evidenced by their NHS Centre for Innovation which funds projects and health trials. A similar initiative would be beneficial in Australia.

ESTABLISH A MECHANISM FOR FUNDING PRAGMATIC TRIALS OF INNOVATIVE TECHNOLOGIES

The UK and the Netherlands have each established funding programs which provide grants that fund pragmatically-driven studies of e-technologies. A similar initiative is required in Australia, possibly under the auspices of a Centre for Innovation.

BACKGROUND

Depression is a leading cause of disease burden worldwide and an important risk factor for completed suicide. Despite the efficacy of both pharmacological and psychotherapeutic treatments for depression, most adults diagnosed with depression or anxiety related disorders do not receive evidence-based treatment.

In Australia, the management of depression is largely conducted in primary care settings. However, there is increasing interest in introducing depression management in other community settings to improve the uptake of treatments. Community settings include workplaces, schools, youth centres and nursing homes. There is also evidence that computer-assisted and internet based self-help and cognitive behaviour therapy programs are effective. The introduction of these services may also reduce costs and encourage treatment uptake. Internet and computerised treatments are seen as offering (i) effective forms of treatment, (ii) improved access, (iii) a preferred service for those who value anonymity, (iv) an alternative means of providing services in the context of limited health workforce numbers and (v) a means of disseminating a public health intervention on a mass scale.

To date there has been no systematic examination in Australia of the methods by which e-health interventions might be incorporated into health care systems, offered as adjuncts within health systems or provided in parallel with formal mental health services.

Two significant policy decisions have been implemented under the direction of the Council of Australian Governments (COAG) meeting held in February, 2006. Medicare now funds 12 sessions of psychology using the Better Outcomes in Mental Health Care Initiative (BOiMHCi) model. The uptake of this program has been three times greater than predicted – more than 10,000 people a month (SMH 27-02-07) have been reported as visiting a psychologist, referred through general practice. It is likely that Governments will be searching for alternative means to cope with the increased demand for these services. The February, 2006 COAG statement also recommended the delivery of evidence-based web resources and tele-interventions directly to those in the community. A total of \$56.9 million was allocated for this initiative. The Government continues to consider its options as to which providers, which types of resources, and which models of delivery will be funded under this item. The change in the Government from a conservative Coalition to a Labor party Government with a commitment to an evidence-based approach has also changed the policy context.

In the UK, the former Secretary of State for Health, Patricia Hewitt, announced that computerised cognitive behaviour therapy would be made available in all Primary Care Trust (PCTs) from March 2007. Licenses to use a number of e-health products have been purchased and the dissemination of these products has been effected in a number of UK PCTs. The UK has also shown an increased interest in free access websites, such as the Australian-developed MoodGYM. The MoodGYM program is currently under evaluation as part of The Health Technology Assessment Program (HTA) (Trial led by Professor Simon Gilbody, University of York). It also features in proposals submitted in response to HTA's most recent call for trials to examine the use of technology for the prevention of mental health conditions. The NHS Choices is also investigating support for evidence-based e-interventions for its consumer portal.

These recent policy changes within Australia and international developments in the UK point to the need for further research addressing the use and implementation of computer, web counselling and internet based models of mental health delivery.

METHOD

We undertook a series of structured interviews with high profile research/provider and policy groups within the UK and the Netherlands.

FINDINGS

CURRENT DIRECTIONS IN THE UK & NETHERLANDS

In both the UK and the Netherlands the emphasis for mental health care reform has consisted of: a shift of care from hospitals and acute settings into community settings (including primary care); a commitment to direct care rather than filtered care (that is, rather than care begin filtered through a gate keeper such as the general practitioner, direct care is care provided to the individual patients through access to a health professional, or through access to self-management programs on the web), an emphasis on early intervention and prevention and a commitment to a stepped care or clinical staging model.

POLICY IN THE UK FOR THE DELIVERY OF PSYCHOLOGICAL TREATMENTS

In addition to the policy shifts described in the Background, there have been other substantial policy developments in the UK that affect e-mental health provision. The *Improving access to Psychological Therapies (IAPT)* initiative is funded by the Department of Health through The Care Services Improvement Partnership (CSIP) to provide people with depression and anxiety disorders access to psychological therapy services on a national basis through every Primary Care Trust (PCT). As part of the program, the initiative has sought to train 1,000 new therapists. Two national IAPT demonstration sites have been established and evaluated with reported high success. These are in Newham (run by Ben Wright) and Doncaster (run by Heather Raistrick). An implementation plan was released in February 2008. A further 11 pathfinder sites have been commissioned to collect additional evidence regarding the effectiveness, affordability and efficiency of the IAPT program. Although the IAPT policy calls for the training of more therapists to deliver CBT programs, this program stipulates that low intensity treatment for patients with mental health problems can be provided using computerised or internet based CBT programs (cCBT programs).

www.mhchoice.csip.org.uk/psychological-therapies.html

www.csip.org.uk/about-us/about-us/improving-access-to-psychological-therapies-.html

Two NICE (National Institute for Clinical Excellence) approved computer-based programs are available for use within PCTs. (NICE is tasked with providing clinical practice guidelines for the treatment of health conditions and with providing guidance on the use of interventions including computer-based products within the National Health Service. It undertakes this work with the assistance of independent advisory groups comprising experts from the NHS, academia, and consumers and carers.) The two NICE approved cCBT programs are:

- *Beating the Blues* for people with mild to moderate depression;
- *FearFighter* for people with panic and phobia.

www.mhchoice.csip.org.uk/psychological-therapies/computerised-cognitive-behavioural-therapy-ccbtt.html

PCTs have also been informed of a report which has evaluated the evidence base for free-access cognitive behaviour therapy UK-based and international websites.

www.mhchoice.csip.org.uk/psychological-therapies/computerised-cognitive-behavioural-therapy-ccbtt/resources.html. Produced by The British Association for Behavioural and Cognitive Psychotherapies (BABCP) and commissioned by the IAPT Expert Reference Group, this report was compiled by Professor Kevin Gournay CBE, Institute of Psychiatry, King's College London www.mhchoice.csip.org.uk/silo/files/free-to-access-cbt.pdf. The report was compiled with the intention of assisting those charged with commissioning products for the delivery of cCBT to make an informed choice about programs that could complement the NICE technology appraised products. These sites were *MoodGYM*, *Living Life to the Full* and *Overcoming Depression*.

E-HEALTH MODELS

MODEL 1: GENERAL PRACTICE MODELS

These models involve the use of CBT and other computer or internet based therapy packages in the context of general practice.

How do they work?

As noted above, NICE and the HTA has approved a number of commercial products for use in PCTs. These are *FearFighter* [Isaac Marks, distributed by CCBT Limited; www.ccbt.co.uk/ccbt/CommercialContactall.htm] and *Beating the Blues* [Judy Proudfoot, commercialised by Ultrasis; www.ultrasis.com/products/product.jsp?product_id=1]. As noted above, the Government has stipulated that all PCTs should provide cCBT. PCTs pay a license to the developers of these products and then individuals within practices are eligible to access the programs through their GP. According to Isaac Marks, somewhere between 10 and 12 million people are covered by such PCT licenses, and this number is increasing. However, the uptake of the programs within the PCTs is not yet known.

What are the problems with the model?

- There is a belief that these services are promoted to doctors and to mental health professionals within the NHS, but that they are not promoted directly to consumers
- Some Primary Care Trusts have opted not to pay for licenses. Hence interviewees were concerned that cCBT was not available to individuals who may benefit from it
- A problem in locating space was identified within some practices for patients to undertake cCBT when it was linked to dedicated computers
- There are no clear models as to how to implement the cCBT or other computerised therapies within general practice (there was no agreed upon method for the delivery of these treatments – for example, whether they should be implemented with telephone support, with practice nurses or psychologists)
- There is a belief among some stakeholders that there are too few approved products and hence a sense that PCTs are being held to ‘ransom’
- There is a view that some psychologists hold a negative view of cCBT because it threatens their ‘core business’
- It was suggested that health provider gatekeepers have stifled the usefulness of the programs. Products such as FearFighter have been designed to be utilised directly by individuals in the community. However, the PCTs have instituted a compulsory assessment procedure which is instigated before the individual is provided with access to the program. This problem has been described as analogous to a man walking ahead with a flag before a motor car to warn of the risk. Yet, many researchers have argued that there is little risk in providing these tools directly to those with high prevalence mental health problems. To quote Simon Gilbody *“The general idea that risk assessment is the most important thing in mental health care is driven by health care professionals who base their model of care on looking after severe and enduring health problems. Risk assessment is less important when looking at high prevalence disorders like depression and anxiety”*
- The early implementation of the program was associated with some confusion. The PCTs negotiated individually with the companies. Later groups of PCTs negotiated cheaper rates as a consortium

In contrast to the UK, there is little regulation of products used by general practitioners in the Netherlands. However, according to Heleen Riper from the Trimbos Institute, there appears to be legal restrictions in the use of email by medical professionals in the Netherlands.

Are there general practice models in Australia?

Use of these e-health models in general practice in Australia (that is, the use of products such as *MoodGYM*, *BluePages*, *Panic Online*) is probably reasonably common but we could find no data on this specifically. Climate Modules are available for use, but the uptake of the program by GPs has been poor. In the Climate model, the GP purchases coupons which provide access for patients to educational and therapeutic programs. There is anecdotal evidence of the use of open access programs such as *MoodGYM* and *e-couch* in general practice.

Recommendations for implementation

- There is great scope for the use of e-health products in general practice in Australia
- More needs to be known about who uses these services at the moment and how they could be better used. A review of successful implementation or funding of pilot implementation programs may be worthwhile. A commissioned question on the BEACH (Bettering the Evaluation and Care of Health) Morbidity and Treatment survey may be useful (Britt et al, 2005). The use of these programs by psychologists through the BOiMHCi is not known
- It is unlikely that imposing a cost on the general practitioner or the consumer/patient would encourage uptake. Uptake is likely to be driven more by the consumer who knows of the programs than by the GP. A direct health promotion campaign to the general population alerting them to these services may be useful
- Introduce incentives to deliver these programs – for example, provision of mental health practice nurses trained for implementation in individual family practices
- Consider a “quality mark” for high quality programs or products in general practice
- Consider developing programs for general practice (or specialist practice) that incorporate a group focus

MODEL 2: VIRTUAL CLINICS

How do they work?

Virtual clinics provide direct treatment to patients through a website and with telephone support. There are a number of these clinics in the Netherlands. The first, and most successful, is *Interapy*, set up by Professor Freddie Lange about 10 years ago www.interapy.nl/template_home.php?id=0. Another operating in the Netherlands is known as Anna Zorg www.annazorg.nl/Publiek/Home.htm which offers face-to-face treatment in addition to web/internet treatment if requested by patients/consumers. Because it provides face-to-face as well as internet based services, Anna Zorg might be better classified as an integrated service (see below). There was no evidence of virtual clinics in the UK, although a previous report has described the functioning of a clinic that was subsequently closed (Marks et al, 2003).

Interapy operates an online mental health service in the Netherlands. It provides online therapy from a central location using prepared web materials, treatment manuals and telephone contact. There is no face-to-face contact. About 60-70 consumers commence treatment each month. Three quarters of users of the service are self referred. Interapy is a registered health care specialist organisation. Three senior psychologists in CBT supervise all treatments, delivered by about 40 part-time therapists around the country, many working from their own homes. They are paid directly by Interapy. These therapists are supervised and they also have contact through a secure forum. Counsellors are usually psychologists trained in CBT and online CBT. The therapies offered are all evidence-based and developed through research in conjunction with the University of Amsterdam.

Several financial models support the Interapy service. These include:

- Referrals made to the service by a mental health professional are paid for by the Dutch National Health Care system
- Funding from the health insurance companies for service delivery to individual consumers
- Interapy also receives income from about 60 private therapists who pay Interapy for the use of their web and telephone protocols
- Direct contact by individuals in the community who pay privately for the service

The cost of an Interapy program is about 1000 Euros and is a fixed price with treatment provided for as long as required.

Individuals undertake a brief screening instrument followed by a 10 minute telephone interview to determine suitability. Psychologists assess the screening questions and make a decision on whether to accept an individual into the clinic. Patients need to identify themselves to undertake treatment and they provide informed consent. All inquiries are responded to within 24 hours by the therapists concerned. Treatment is evaluated through compulsory completion of pre and post questionnaires.

What are the problems with the model?

- Therapists at Interapy note that online therapy does not suit all people
- They note the reluctance of GPs and doctors to refer to them despite their status and reputation for delivering good treatment outcomes
- Developing a sustainable business model has only recently been achieved, and success requires the recognition that the services provided are fundable by major health insurers. This requires that the service itself is registered and approved of by health authorities

Are there models in Australia?

There are no models of this type in Australia. However, The Australian National University (ANU) and CSIRO have jointly developed a model of a virtual clinic that could be applied in the Australian context.

Recommendations for implementation

Given the difficulty of providing mental health services to rural and remote areas, the potential for establishing a virtual clinic should be considered seriously. Such a clinic could be established for a closed community such as Veterans, or for a rural community such as remote NSW. The likely success of such a clinic would increase if there was direct promotion of the service to potential users. Another possibility as a pathfinder project would be to consider the creation of a virtual headspace clinic to cater for the health needs of youth, who do not visit general practice environments but have high levels of psychological distress.

MODEL 3: INTEGRATED MODELS OF E-HEALTH CARE

How do they work?

Integrated models combine e-health tools and websites with face-to-face care. They usually involve a staged clinical model, where initial contact is directly provided to the website visitor. Based on brief assessments, the individual is then progressed to a supported program where there may be telephone or email contact. Face-to-face assistance or tertiary transfer to a hospital or psychiatric clinic is arranged if needed.

These integrated models are currently being developed in the Netherlands. An example of a potential integrated service exists as a partnership between the University of Vrije, Amsterdam and the local mental health care institute.

In this model, web therapies (such as *Problem Solving* developed by Pim Cuijpers) are used as part of the treatment provided by health professionals in a specialist mental health institute. Individuals complete a screening instrument (based on Isaac Marks' screening tool) and based on symptom levels are encouraged to either undertake a web based program in conjunction with support – which is provided by email or telephone, or individually or in groups by mental health staff. This is the first step of a stepped care program with guided self-help as the first step. This program is funded by health insurance. If symptom levels are lower, then patients are encouraged to undertake the program on a self-help basis.

Another model that was also mentioned is one which involves a partnership between Vrije University and a private company that undertakes health care screening within companies or workforce environments. If individuals are identified as having mental health problems then they are either offered *Problem Solving* on the web, or referred to public sector health doctors.

Finally, partnerships have been set up between Trimbos Institute in Utrecht which has developed the *Colour Your Life* program, and eight mental health provider organisations. Individuals are screened and offered a program based on severity of symptoms – either minimal contact, or face-to-face therapy. Access to the treatment is direct. Individuals complete questionnaires and screening directly on the website. An automated response directs them to sources of help. The ultimate plan for this program is the development of an integrated system of stepped care which provides prevention modules for each stage of early intervention, treatment and recovery, which is also linked to the more formal face-to-face health system.

What are the problems with the models?

- The models are not yet established
- Success depends on support from health insurance
- The elements of the models to date have been 'cobbled together' and there is as yet no model to support the development and commercialisation of the websites
- There is uncertainty as to how e-mental health services will be funded
- There is lack of consideration of the transparency of e-mental health facilities, creating competition between suppliers, limited systematic implementation and limitations in monitoring the systems

Are there models in Australia?

Sentiens is a private integrated service led by psychiatrist Dennis Tannebaum. The service offers self-management education combined with individual and group psychotherapy programs. A major feature of the service is the development and delivery of web-based services. The service features:

- Psychological Assessment
- Mental health information (*InfraPsych*)
- Online mental health programs (*Recovery Road*)
- A range of health services in general practice

Recovery Road has been subject to research review. In one study patients (n=144) were referred to *Recovery Road* from clinics and private hospitals. Consultations were provided over the internet. Patients monitored their progress and clinicians were privy to the outcomes. Researchers reported large overall change from pre test to post test (effect size =1). *Recovery Road* consists of an e-health record, online consultations and monitoring of progress using online questionnaires.

Recommendations for implementation

- The model of integrated e-health models in a stepped care model is the preferred option if Australia is to follow the European model
- There is a role for additional integrative care health models like those of *Sentiens*

- The development of personalised records which are accessible to patients provides the opportunity to deliver customised preventive messages and to track and monitor change

MODEL 4: STAND ALONE SELF-HELP PROGRAMS

How do they work?

Websites provide automated therapy programs directly to the public. They provide email responses in some circumstances. They may collect data for research purposes.

A recent review undertaken by Riper et al at the Trimbos Institute identified 65 interventions for mental health and alcohol problems in the Netherlands. Most of these interventions were offered as stand alone websites. "The majority of these interventions were offered by regular mental health care institutions and national knowledge institutions (66% together), followed by independent aid agencies and new-comers to the market, including mental health care institutions operating nationally (25%). Currently, clients can participate free of charge and anonymously in roughly two-thirds of the facilities. Of these facilities, scientific research has proven the effectiveness of about one-in-seven interventions." [Riper et al, 2007, p. 12]

A number of the stand alone self-help programs available in the Netherlands are listed below. The following are examples of evidence-based programs, chat groups and a synchronous email service:

- *Colour your Life* (Trimbos Institute) – a program for depression
- *Mina Drinka* (Trimbos Institute) – a program to reduce harmful drinking
- *Problem Solving* (Vijje University) – problem solving for depression
- *Grip op je dij online* – an online group course conducted in a closed chat room. A report of this service is available [Gerrits et al, 2007]
- *Praten online* – a synchronous email service www.pratenonline.nl

Stand alone websites recommended to PCTs in the UK included the following:

- *MoodGYM* (<http://moodgym.anu.edu.au>)
- *Living Life to the Full* (www.livinglifetothefull.com)
- *Feel Better* (www.kpchr.org/feelbetter/)

What are the problems with them?

- Many of the websites are not evidence-based
- If a stepped care model is the ideal form of service provision, the websites are not integrated into more intensive services or into face-to-face services
- In the Netherlands, the financial support for these services is not well identified

Are there models in Australia?

These stand alone sites are similar in concept to those produced in Australia (e.g. *MoodGYM*, *e-couch*, *Online Anxiety Prevention Project*). The database development of Australian sites may be more advanced. *Grip op je dij online* services may be similar to Australia's *DepressioNet* and The Australian National University's *Blueboard*. *Praten online* is similar to Australia's *Kids Help Line*.

Recommendations for implementation

- Websites should be recommended on the basis of the quality of their evidence. The ANU is currently compiling a list of evidence-based websites (both free to access and other applications) internationally
- Providing incentives to integrate websites into other services is desirable
- Evidence based website interventions form the building blocks of integrated services

- More cost effectiveness studies are needed to support the value of these services
- Incentives for business need to be considered to promote investment in the development of these intervention

MODEL 5: CONSUMER DIRECTED RESEARCH

Self Help Services www.selfhelpservices.org.uk is an example of a consumer directed model for the delivery of cCBT.

How does it work?

The service is designed to assist consumers to undertake self-help initiatives including the use of cCBT. *Self Help Services* is a user-led mental health charity housed within Big Life Group – a collection of social businesses and charities. It is funded by a range of organisations including the NHS (via Manchester PCT, Salford PCT, Trafford PCT), the Care Services Improvement Partnership North West, The Department of Health, The Home Office, smaller local funding bodies including The Community Foundation for Greater Manchester and Award for All North West and through user donations. The organisation consists of two staff members (Nicky Lidbetter and Caroline Nuttall) and 70 volunteers. Many volunteers have both personal experience of mental health problems and are employed in the statutory sector as counsellors or psychologists. Access to cCBTs comprises access to *Beating the Blues* and *Living life to the Full* – depending on region and the type of support workers. (Manchester, Salford and Stockport have access to both, East Manchester only to *Beating the Blues*).

What are the problems with this model?

We were unable to interview the staff members.

Are there models in Australia?

Not to our knowledge.

Recommendations for implementation

This model is interesting. Support from other consumers may assist in the recovery process.

OTHER FINDINGS

Visits to the NHS Centre in Oxford and the central office in London were useful in identifying a number of developments in the NHS.

The development of a consumer portal: NHS Choices.

The development of this portal will have three phases.

- Phase One: Information
- Phase Two: Pathways
- Phase Three: Online self-management tools

Phase One has been established and includes the provision of magazine level content, access to the National Library for Health, including access to the *Map of Medicine* (a basic decision support tool about health), information about hospital performances, and a news service "*Behind the Headlines*" which evaluates media stories in the context of evidence based information.

Phase Two will offer information about health risks and enable consumers to track changes to their health risks for chronic health conditions. A typical pathway will have the following information: Overview of the condition, prevention, knowledge of symptoms, being diagnosed, treatment, and living with the condition.

Phase Three will involve the provision of automated self-help tools.

The development of a NHS National Knowledge Service (NKS)

The role of this service is to provide the best knowledge about health care and then to provide the means for doctors/consumers to translate that knowledge into practice. We spoke to Caroline De Brun, who manages the NLH Knowledge Management Specialist Library. The aim of the NKS is to manage health by sharing knowledge. The NKS is a Sir Muir Gray inspired initiative which is based on the premise that public health is important and that information is the key to combating disease. One of Sir Muir's central arguments is that one should "Do once and share" to avoid duplication.

The NKS is an online collection of materials designed for use by doctors and providers, although consumers can also gain access to the website. Information is developed by a multidisciplinary team and approved by an expert editorial committee to keep information up to date. Protocols have been established for identifying triggers for updating information. The information can be personalised, for example, to provide information about particular conditions and access to preferred journals. The service incorporates RSS (web feed) functionality, which enables users to receive relevant updates with a single click on the browser and allows information to be integrated. The site also includes a facility – Hitting the Headlines – which provides evidence-based commentary on media stories. The University of York has been commissioned to provide the latter service.

National Institute for Innovation and Improvement

The NHS has also established a National Institute for Innovation, which has the aim of improving care practices. According to our informants, this is similar to the Institute for Health Improvement (IHI) in Boston, USA.

Drivers for the development of e-health technologies

In addition to the public health drivers for the development of e-health technologies, we were informed that the development of cCBT and other technologies in the UK represents a conscious strategy by the Department of Health to stimulate national wealth creation.

By proactively rewarding the development of innovative health technologies, the Government is fostering the development of a health technology industry which can return economic rewards to the country.

These discussions led us to believe that Australia is falling behind developments in Europe in three crucial areas:

- Centralised knowledge repositories for clinicians, including decision support
- Capacity to provide evidence-based information to consumers
- Capacity to systematically develop and incorporate e-health tools in health care

Relative to Australia, e-health in the UK has a greater emphasis on evidence-based medicine, on upskilling providers and on improving the existing health system. The UK's response to e-interventions has to date been through the PCT trusts, which, as noted by Marks, prevents barriers to dissemination. The new NHS Choices site promises the vision of direct access to community based care.

SUGGESTIONS FOR E-HEALTH & E-MENTAL HEALTH DEVELOPMENT IN AUSTRALIA

Future directions for e-health and e-mental health in Australia might include:

- The provision of online information about evidence-based treatments and interventions directly to the public using social marketing techniques to recruit users
- Research focused on developing appropriate screening techniques as these are likely to be the backbone of appropriate referral

- The establishment of funded e-mental health clinics for specific underserved or at risk groups or within particular settings. Examples of priority groups or settings might include: schools (including a parent portal); Headspace facilities (employing a stepped care model); veterans; rural residents with limited access to timely mental health care; the Commonwealth Public service (use telecontacts and telescreening)
- A systematic examination of current provider bodies to ascertain their role in e-orientated services. Relevant current provider organisations include Reachout, Headspace, Lifeline, DepressioNet, Swinburne, ANU, and Kids Help Line. Establish linkages between these service providers with the aim of facilitating linkages between researchers and non-research based organisations to establish a culture of developing and implementing evidence-based web solutions and models based on appropriate research trials
- A consideration of mechanisms for funding consumers to access minimum levels of care (e.g. a minimum insurance package)
- The provision of e-health training for GPs and others
- The development of standards of care and minimum data sets for the domain of e-health

CONCLUSIONS

USE E-HEALTH TO PROGRESS HEALTH CARE REFORM

In both the UK and the Netherlands the emphasis in health care reform has been on: a shift of care from hospitals and acute settings into community settings (including primary care); a commitment to direct care rather than filtered care (that is, care provided directly to the patient rather than being filtered through a gatekeeper); an emphasis on early intervention and prevention; and a commitment to a stepped care or clinical staging model. E-health models have been used to forward this agenda in both countries. Both countries have seen strong policy support from Governments to drive these changes.

E-health systems could also be used to forward health care reform in Australia. Accordingly, there is an opportunity to expand the range of e-health models in Australia. This might include the following:

- *The expansion of self-help models to provide direct access to mental health information and automated therapy.* This might be driven by direct investment in research and development, the provision of Medicare rebates for health care providers who employ appropriate e-interventions in general practice, and /or incentives that encourage private development of these applications by industry through licenses and fees for their use (as in the UK)
- *The development of virtual health care clinics that provide direct treatment through online services and telephone contact.* These virtual clinics may offer the opportunity to create consumer-based e-health records. Such models currently operate in the Netherlands. The development of a virtual health care clinic for young people with troubled lives and poor access to health care might be considered in the context of the Headspace initiative
- *The expansion and refinement of fully integrated models* such as those developing in the Netherlands
- *The investigation of the current use of e-health programs and systems in general practice.* This would lead to the development and provision of materials that suit and reward practitioners
- *The introduction of formal, consumer-driven services employing e-self-help models* (as demonstrated by *Self Help Services* in the UK). Such a model holds promise as a cost effective and supportive service that may overcome critical barriers to help seeking

For e-health to flourish there is a need to consider the following factors

- Whether high quality e-health systems should be driven by the development of quality frameworks around the provision of e-health programs or through the imposition of 'quality marks' to indicate that products have reached readiness for dissemination
- The mechanisms to provide remuneration for e-health programs and to encourage the active uptake of these systems by health professionals
- The mechanism by which community members learn of these alternative treatment and early intervention methods, possibly through the development of active health promotion strategies

DEVELOP A KNOWLEDGE SOURCE FOR CONSUMERS & HEALTH PROFESSIONALS

Both the UK and the Netherlands have seen major developments in the provision of evidence-based information through websites to both health professionals and consumers. Accordingly, the Australian health care sector might consider the development of a 'one-stop-shop' for information about mental health and other chronic health conditions for both doctors and patients. Although Australia has HealthInsite as a health portal for consumers, the depth and breadth of this source is limited. For this knowledge base to develop in Australia there may be a need to commission mental health experts to provide evidence based information on common mental health problems. This should be provided by universities or organisations comprising staff with training in the interpretation of the evidence base. An alternative approach may be for the Australian Government to enter into an arrangement with the UK Government to purchase a license for access to the range and depth of health information provided to doctors and patients through the UK information portals. The depth of their knowledge base would be difficult to replicate here.

DEVELOP CAPACITY TO SYSTEMATICALLY INCORPORATE INNOVATION IN HEALTH CARE

There is a clear commitment to innovation in health care and technology in the UK. The NHS UK has established the NHS Centre for Innovation which provides extensive funding for demonstrator projects, and larger health trials. In some quarters, the use of e-health services is regarded as environmentally progressive (green) and this may be one of the drivers for this form of service in the future.

ESTABLISH A MECHANISM FOR FUNDING PRAGMATIC TRIALS OF INNOVATIVE TECHNOLOGIES

The UK and Holland have each established funding programs which provide grants that fund pragmatically-driven studies of e-technologies. A similar initiative is required in Australia to ensure that well conducted pragmatic research which would not normally be supported by the NHMRC is conducted to answer questions of relevance to health policy and the advancement of health services. Such a mechanism could be incorporated into a Centre for Innovation similar to that established in the NHS in the UK

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