



Scottish Centre  
for **Telehealth**

# **Telemental Health In Scotland**

**Prepared for**

**The Scottish Centre for Telehealth**

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# **1 Executive Summary**

## **Chapter 2**

1. Telemental Health is the use of communications technology to provide mental health services from a distance.
2. The three main areas of activity are clinical, educational and administrative.
3. Telecare applications involve the use of electronic aids in the patient's home and have been developed in large scale national programmes.
4. Web based and telephone systems have been the subject of national and academic projects in Scotland. These mainly cater for those who are not ill or who are mildly to moderately unwell, who mostly do not require specialist services.
5. There has been no national initiative in Scotland on the use of videoconferencing for clinical purposes in mental health services. This is the main focus of this review.

## **Chapter 3**

6. Videoconferencing has been extensively used in mental health services across the world, notably in the USA, Canada and Australia.
7. Clinical applications include the complete patient age range and a very broad range of clinical settings. These include emergency and mental health act assessments, standardised psychological testing and a variety of therapies and treatments.
8. There is a substantial literature but there are few high quality, randomised controlled trials.
9. Feasibility and acceptability (to clinicians and patients) ratings are high.
10. Other things being equal, most patients prefer face to face contact but some prefer video consultations, which seem to give them a greater sense of control and empowerment.
11. If there are significant savings in travel, time, child care costs and time off work etc many patients prefer video to face to face.
12. Clinicians worry more than patients about the possible limitations of videoconferencing.

## **Chapter 4**

13. Scotland has a highly developed, locally responsive system of mental health services in which most of the population has ready access to generic mental health services.
14. Some areas of Scotland, e.g. the island communities have limited access to generic mental health services.
15. Much of Scotland has limited or remote access to more specialised services, notably forensic services, advanced treatments, some psychological treatments, some child and adolescent services, eating disorders services and perinatal services.
16. National and regional services and clinical networks are developing to help ensure access to these services but they will remain geographically remote from many patients

## **Chapter 5**

17. In Scotland experience of using videoconferencing for patient care is very limited but in a few places it is in routine use on a small scale.
18. The poor current infrastructure and limited training available is contributing to negative views of videoconferencing and stifling development.
19. Despite these problems a number of services and senior clinicians are keen to see expansion in the use of videoconferencing.

## **Chapter 6**

20. Policy over many years has identified mental health services as a priority for development.
21. Equity of access to services is emphasised in many policy statements.
22. Patients in non urban areas do not enjoy equity of access to services.
23. Videoconferencing and other eHealth applications can help to ensure equity of access.

## **Chapter 7**

24. Cost benefit analysis of the use of videoconferencing needs to consider costs to the patient, not just costs to service providers.

25. Travel costs, costs of clinician time in travel and carbon footprint costs need to be considered when comparing videoconferencing with visiting clinician clinics.
26. Multi service use and high volume of consultations reduce unit costs of videoconferencing.
27. Some specialist services such as weekly therapy can only be provided to remote communities by the use of videoconferencing.

## **Chapter 8**

28. Installation of videoconferencing facilities should be considered for all new developments.
29. All developments in videoconferencing must ensure compatibility across Scotland
30. A national training resource should be established for the use of videoconferencing in mental health services.
31. National and regional services and networks require state of the art videoconferencing, project management and technical support.
32. These include, (a) The State Hospital, Medium Secure services and the Forensic Care Network, (b) National and Regional Child and Adolescent services, (c) National Advanced Intervention Service, (d) Proposed National Service for the Deaf and (e) Regional services for Eating Disorders and Perinatal mental health services.
33. Relevant Central Government Departments, National and Regional Networks, Regional Planning Groups and the Scottish Centre for Telehealth should collaborate in more detailed specification and provision of the necessary resources for national and regional services and networks.
34. There is very limited provision of psychological services and psychological treatments to the Island Health Boards.
35. The North of Scotland Planning Group, its constituent Health Boards, and the Scottish Centre for Telehealth should consider how to address this through the provision of services from staff based on the mainland. Obligate network arrangements may provide an appropriate model to manage this.
36. For general psychiatric services to remote and rural areas, demonstrator projects should be funded to support out patient, in-patient liaison and out of hours emergency services provided using videoconferencing.

37. The Scottish Centre for Telehealth and the Scottish Government should collaborate to cost and identify the resources needed for these demonstrators and to identify appropriate sites.
38. All the recommendations will require additional staff for project management, technical support, training and administration, as well as improved technical infrastructure.
39. A national conference on telemental health would help to give impetus for change.

## **2 Introduction**

The Australian and New Zealand College of Psychiatrists defined telepsychiatry as “the use of communication technology to provide psychiatric services from a distance.” (RANZCP, 1999). Telemental health is a broader term including the provision a variety of mental health services from a broader range of professional and other expertise than just psychiatry. Various forms of telecommunications may be used, including email, fax, telephone, internet, still images and videoconferencing. In Scottish health and social services there is usually a distinction drawn between telehealth, which is predominantly involving healthcare delivered by specialist staff, often in hospitals, to remote locations and telecare which is care delivered in the home and often has an emphasis on social care provision but which can include remotely connected technical medical devices provided in the home. The boundaries between these different types of application of technology are not clear cut but this review is mainly concerned with telehealth in the mental health field, ie, Telemental Health, and within that context the use of videoconferencing for patient care purposes.

Telemental Health can cover three main areas of activity, namely 1) patient care, 2) educational and 3) administrative. Occasionally there are others such as research activities.

### **1 Patient Care Applications in Telemental Health**

- a) Telecare – a number of telecare applications used in the elderly or learning disabled populations are relevant to mental health. In the case of the elderly, many patients with home-based electronic aids have a diagnosis of dementia. A variety of technological aids can be used such as movement sensors, smoke, carbon monoxide, heat and flooding alarms, tagging devices for patients who wander and pressure devices which can indicate, for example, how long a patient spends in bed.

- b) Telephone – is a technology which is used routinely but not always in an organised or planned way. It has been used in more systematic organised clinics and it can be used in conjunction with other technological approaches such as internet, email and videoconferencing.
  
- c) Email and Texting – have been used sometimes as the main therapeutic approach and sometimes along with face to face therapeutic approaches.
  
- d) The Internet – internet systems have been used mainly for self-help or guided self-help for the general population or for those with mild symptoms. In some settings these programmes are seen as the first step in a stepped care approach before providing more targeted and specialist professional services for those who have mental disorders. Many web-based systems basically provide information but others provide more structured help based on therapeutic techniques such as cognitive behaviour therapy (CBT). Help for carers is also often provided in this way.
  
- e) Videoconferencing – this is potentially the most powerful modality which most closely resembles face to face work. It can take a number of forms.
  - 1) Direct clinical work with patients and/or families – this has been used for individual assessment and therapy with adults and with children and their families.
  
  - 2) Case discussion and case-conferencing involving groups of clinical staff, patients and relatives in more than one location. In mental health work this kind of clinical case discussion is central to routine clinical practice to an extent which might not be found in other medical specialties. It is particularly important in more highly specialised services such as the State Hospital and the national child psychiatry in patient service which are not

readily accessible to large numbers of patients, their families and local clinicians.

- 3) Clinical Supervision – this is partly educational in nature but may involve very direct individual case management discussion between supervisor and supervisee and is thus integral to clinical care.

Some of the above may include Mental Health Act and legal procedures which, well as including a variety of health disciplines, include other agencies such as local authorities, voluntary organisations and forensic establishments.

### Box 1 Patient Care Applications in Telemental Health

Type of technology	Comment
Telecare	Mostly used for the elderly
Telephone	Dementia a common co-morbidity Remains important More systematic use should be considered
E-mail and texting	Usually along with face to face treatment
The internet	Evidence base for efficacy in milder and sub clinical conditions
Videoconferencing	Closest to face to face assessment and treatment Multiprofessional, multi-agency case discussion Clinical supervision (can also be telephone)

## **2 Education and Training**

Videoconferencing is used routinely to give people access to educational events from remote locations. There are also computer-based distant access learning possibilities, such as web-casting. In addition to day to day clinical supervision for clinical management, supervision is a very central part of training, especially psychotherapy training. In some areas accessing suitable supervision is very difficult and can be provided by videoconferencing.

## **3 Administrative and Managerial**

A variety of administrative and managerial functions can be supported by videoconferencing reducing the time, cost and carbon footprint which result from people travelling to meet in one location. Often videoconferencing equipment has been installed for administrative needs but might not be suitably placed or managed for clinical use.

### **3 Literature Review**

The first report of the use of telemedicine was the Nebraska in the 1950's where two-way close circuit television system was used mainly in psychiatry (American Academy of Child and Adolescent Psychiatry 2008). In 1973, a report from Massachusetts General Hospital used the term telepsychiatry for the first time to describe the consultation services provided from the hospital to another site in Boston. However, presumably due to technological limitations and cost, it was not until the 1990's that significant numbers of publications began to appear.

In recent years there have been a number of detailed reviews of the literature. These have included a systematic review of telephone-based interventions, general reviews of the literature, reviews relating particularly to child and adolescent mental health services and a book on telepsychiatry has been published. (Leach and Christensen 2006, Norman 2006, Institute of Health Economics Alberta 2007, American Academy of Child and Adolescent Psychiatry 2007, Pesamaa et al 2004, Monnier et al 2003 and Wootton et al 2003). Some key conclusions from the literature are in Box 2.

One systematic review of 106 studies across the whole of medicine concluded that "telemedicine is most effective for verbal interactions e.g. videoconferencing for diagnosis and treatment in specialties like neurology and psychiatry." (Hersh et al 2006)

I did not undertake a systematic review but I found 113 publications relating to telemental health. Some were reviews, or discussion papers rather than original studies or reports. I have focussed on those which were systematic reviews or controlled studies.

## **Geographical Distribution of Publications**

75% of the publications relate to services in the USA, Canada and Australia, 19% were from the UK and the rest were from various countries, mostly in Europe. Most services have developed where there are centres of population with specialist services linking to a large hinterland with a dispersed population having little or no access to these services without the benefit of videoconferencing or other technological links.

## **Patient Age Range**

58 % of publications relate to services for the general adult or working age range, or systems where patients of any age can access the service. 13% of publications related specifically to child and adolescent mental health services (American Academy of Child and Adolescent Psychiatry 2007, Pesaama et al 2004 Myers et al 2007, Yellowlees et al 2008, Starling and Foley 2006, Mitchell et al 2009) and 9% to services for the elderly including those with dementia (e.g. Montani et al 1998, Ball et al 1998, Tang et al 2001)..

## **Clinical Settings**

Telemental Health Services have developed in a very broad range of clinical settings ranging from pure self-help to highly specialised work.

### Self Help

There are a number publications about computer self-help services (Andersson et al 2005, Christensen et al 2004, Clarke et al 2005, Lauder et al 2007, NICE 2006). They are predominantly aimed at those with mild non-psychotic conditions or even at those with psychological troubles which do not reach a clinical threshold. Some of these are pure self-help systems in which subjects only obtain their help through interaction with a computer programme. Other systems back this up with some guidance from support

staff or clinicians. One study described the use of email as the primary therapeutic mode of communication (Robinson and Serfaty 2001). The National Institute for Health and Clinical Excellence in England (NICE) undertook a technology appraisal on computerised cognitive behaviour therapy for depression and anxiety (NICE 2006). They recommended Beating the Blues as an option for delivering cognitive behaviour therapy (CBT) in the management of mild and moderate depression and FearFighter as an option for delivering CBT in the management of panic and phobia.

### Telephone-based Systems

Some systems use the telephone and an interactive voice response (IVR) system including BT Steps, (now called OCFighter). This uses an IVR system plus a workbook but this has not been recommended by NICE. It seems that this technology has been superseded by the wider availability of personal computers and fast internet access. COPE was developed as an IVR plus workbook based system which is now also available as a network version but there is insufficient evidence to recommend the use of COPE in the NICE appraisal. Overcoming Depression is a CD-ROM based CBT system for people with depression and the NICE conclusion was that there wasn't sufficient evidence to recommend its use.

Other telephone-based systems have been used for substance misuse (Mckay et al 2005) and to enhance the care of depression in primary care in Pittsburg (Rollmann et al 2005). In addition there are other published studies in depression, anxiety, eating disorders and schizophrenia and the general conclusion in a recent review was that this was an attractive method of service delivery but most of the research evidence was small scale (Leach and Christensen 2006).

### General Psychiatric Services

Nearly 60% of the literature relates to the use of videoconferencing in general psychiatric work including assessment and treatment. There are few randomised

controlled trials but most studies confirm the feasibility and acceptability of videoconferencing for general psychiatric work and the few that have studied outcomes have not identified any significant difference in outcome (O'Reilly et al 2007, Hersch 2006, Ruskin et al 2004). Emergency general psychiatric assessments have been demonstrated to be acceptable and feasible (Sorvaniemi et al 2005, Yellowlees 2008). If there is sufficiently high bandwidth, these assessments are safe, they produce a reliable diagnosis and there is also some evidence of reduction of admission of patients from remote areas. Assessments for legal detention procedures have also been undertaken by videoconferencing and found to be acceptable to the relevant legal authorities (Yellowlees 1997). A large study undertaken by the Department of Veterans Affairs (Godleski et al 2008) found that suicide risk assessments using videoconferencing were equivalent to face-to-face treatment although in the American medical system this raised some complex legal issues, such as licensing requirements for remote delivery of care.

In mental health work there is usually a strong emphasis on multidisciplinary working, often across organisational boundaries and frequently involving not just a variety of clinical disciplines, but also patients, relatives and others representing the patient's interests. The use of videoconferencing for care planning meetings and other types of case conference around admission and discharge to hospital from remote locations has been demonstrated to be satisfactory to 90% of the participants (Mielonen et al 2000) in a Scandinavian study. Case conferences of this type were the most common use in a Scottish Child Psychiatry study (Mitchell et al 2009).

### Clinical Psychology and Psychological Treatments

About 20% of studies have looked at the application of videoconferencing to clinical psychology services, including psychological assessments and treatments. Regarding the use of standard psychological assessment tools, they have generally found that the results of tests were equivalent to face-to-face testing (Capner 2000, Baer et al, 1995, Kirkwood et al, 2000, Kobak 2004). Some studies have looked at the use of

videoconferencing for psychological treatments, particularly cognitive behaviour therapy (CBT) which is generally the best researched psychological treatment modality. This has included treatments for a variety of conditions and studies of the therapeutic alliance have found that, for the majority of patients, there is a satisfactory therapeutic alliance. In some cases there is a preference expressed for the video format of treatment (Day and Schneider 2002, Capner 2000, Simpson 2001). An essential part of psychological treatment is the provision of supervision for therapists and when the primary therapist is remote from a supervisor this can successfully be provided using videoconferencing (Gammon et al 1998).

### Special settings

Deaf people can need highly specialist input such as access to experienced clinicians who also have extra skills in assessing hearing impaired patients or access to signing translators. They value visual means of communication such as videophones and videoconferencing. Specialist services for the deaf cover very large geographical areas and there are reports of use of videoconferencing in the UK in York (Davidson 2005), and S Carolina in the USA (Craft 1996) but Austen et al (2006) found the use of the technology in the 3 general and 2 forensic services in the UK was limited.

The US Military have developed a dedicated telepsychiatry service to support a remote military medical clinic (Grady 2002).

While most studies focus on the use of videoconferencing or other technologies in health care settings the technology has also been used in residential care homes and other facilities for the elderly population where mobility is often impaired (Weiner et al 2003).

The prison population are an underserved group with very high prevalence of psychiatric disorder, who have been able to successfully access services using videoconferencing (Zaylor et al 2000, Brodey et al 2000). In the Texas prison system there are over 60,000

eHealth consultations per year, mostly primary care, but also allowing access to a range of specialists (Yellowlees 2008). This overcomes problems of travel, and the time consuming and sometimes staff intensive arrangements for patients to access specialist staff either by patients going out from the prison under escort or clinical staff being cleared to access the prison.

### **Feasibility and Acceptability**

Although many publications are fairly small scale and lack controls, the overwhelming evidence is that the use of videoconferencing is a feasible option for patients in remote settings who would not otherwise be able to access specialist mental health services.

Patients report satisfaction in excess of 90% (Cruze et al 2005, Norman 2006). Clinicians report slightly lower levels of satisfaction than patients in some studies and this may reflect clinician anxiety about picking up non-verbal communication such as eye contact, facial expressions and subtle changes in voice quality which may be important in communicating the patient's emotional state. On the other hand, some patients report a sense of security, and a greater control of the situation, feeling less threatened and less inhibited (Norman, 2006, Simpson et al 2005).

One systematic review of 57 studies looking at doctor-patient communication in telepsychiatry identified 23 communication categories such as patient understanding, patient comfort, and patient anxiety (Miller 2003). In all but one of the 23 categories, i.e. non-verbal behaviour there were more positive than negative results.

One crucial element in the clinical interaction is the question of whether or not a clinician or other form of support is with the patient at the remote site. The presence of such a clinician, often from a primary care background, can enhance the interaction both in terms of providing support for the patient and information for the specialist clinician at the other end of the video consultation. Furthermore, the presence of another clinician provides an opportunity to provide some real life education and up-skilling through the

videoconference link which can enhance the ongoing care from the local clinician . The absence of another clinician at the other end is obviously a simpler and cheaper arrangement. It may often be the preferred modality when formal therapy is being undertaken but it raises technical questions regarding the management of any crisis or distress in the patient which needs to be thought through when setting up a telemental health link.

In one study of psychotherapy using distance technology the patient's activity level, initiative, trust, spontaneity and dis-inhibition were not affected by the distance technology (Day and Schneider 2002). This suggests that patients were taking on more responsibility for the interaction than the face-to-face therapy or that somehow the distance made openness seem safer.

### **Clinical Conditions Effectively Treated Using Telemental Health**

Much of the literature is descriptive, subjective or small scale and few studies provide more objective, comparative and/or randomised data. In Alberta, the Institute of Health Economics undertook a detailed review of the harder evidence of benefits from telemental health (Alberta Institute for Health Economics, 2007). They reviewed the literature up to June 2006 excluding satisfaction only outcome studies and care giver outcome studies. They found 95 relevant papers of which 69% had fair, good or high quality ratings. They included internet and telephone based studies which tended to have a higher quality than the video studies. Most of the studies had a comparator and the overall finding was that 80% of the papers showed potentially successful or successful outcomes.

In 14 out of 22 studies in general mental health services the telemental health service was found to be potentially successful or successful. 2 out of 4 child psychiatry studies were found to be successful.

## Depression

Three internet studies of depression and eight telephone studies were found to be successful in the treatment of depression. The internet based programmes were a Swedish self-help programme (Andersson et al, 2005), an Australian study using “Blue Pages” and “MOOD GYM”, (Christensen et al, 2004) and “ODIN” a programme run by the Kaiser Permanente organisation (Clarke et al 2005). The ODIN programme produced statistically significant changes but these were modest. For individual patients this may not be clinically significant but its potential use on a population basis could be effective. In addition NICE have endorsed the “Beating the Blues” programme for computerised cognitive behaviour therapy. (NICE Technology Appraisal, 2006).

The Alberta Review also found evidence of benefit for the use of videoconferencing in the treatment of depression, one study being in children (Nelson et al, 2003) and the other being a substantial randomised controlled trial for the treatment of depression (Ruskin et al, 2004), obsessive compulsive disorder and anxiety disorders.

## Anxiety and Obsessive Compulsive Disorder (OCD)

The Alberta Review found potential benefit from telephone support self-therapy or computer-guided telephone-based self-help therapy (Bachofen et al 1999, Greist et al 2002, and Kenwright et al 2005). There were seven telephone or internet based programmes supporting treatment of anxiety disorders. One successful randomised trial in Pittsburg (Rollmann et al 2005) produced evidence of benefit for telephone based collaborative care for panic disorder and generalised anxiety disorder. This was a means of enhancing primary care treatment. NICE did not recommend the use of OC Fighter (previously known as BT Steps) as an option for the management of OCD but did recommend Fear Fighter as an option for delivering CBT in the management of panic and phobia (NICE 2006).

A small study found that CBT delivered by videoconference was as effective as CBT delivered face-to-face for panic disorder (Bouchard et al 2004). Patients with agoraphobia may have very great difficulty in attending for regular therapy particularly if it involves a lot of travel. As home based technology develops, videoconferencing may become an even more attractive option for these patients

### Eating Disorders

Three studies on bulimia nervosa were included in the Alberta Review. These included two telephone studies which demonstrated definite or potential benefit (Palmer et al 2002, Paul et al 1986). The third study was a virtual reality enhanced treatment which showed some benefit but further study was indicated (Riva et al 2004). A more recent randomised trial found that CBT for bulimia nervosa delivered via telemedicine was both acceptable to participants and roughly equivalent in outcome to therapy delivered in person (Mitchell et al 2008). A small study in Scotland demonstrated effectiveness and acceptability for CBT based video therapy for bulimic disorders (Simpson et al 2006).

### Schizophrenia

There is very little published work on the management of psychosis using remote technology. Three studies in the Alberta Review included two telephone-based interventions one of which reduced the number and length of re-hospitalisations (Beebe et al 2001) and the other improved medication adherence and service use (Frangou et al 2005). There are no controlled studies on the use of videoconferencing.

### Substance misuse

An internet study of binge drinking prevention showed positive results (Moore et al 2005) and there is evidence of benefit from a telephone based programme on continuing care for alcohol and drug dependent individuals (McKay et al, 2005). There are no published studies using videoconferencing for substance misuse.

## Dementia

Some studies have been undertaken on patients with dementia or potential cognitive disability. A brief telephone screening for cognitive impairment was found to be effective (Hill et al 2005) and three studies found possible benefit from video-conference assessments of patients with varying degrees of cognitive impairment or dementia (Loh et al 2005 and Schopp et al 2000).

### **Box 2 Clinical Literature**

Many publications – Few provide high quality evidence

Majority show feasibility and acceptability

Computer web based treatments exist for mild and sub clinical conditions

Telehealth is routine in some parts of the world, viz Canada, Australia and USA

If offered a straight choice, most patients prefer face to face to video

Some patients prefer video to face to face

Patients prefer video to face to face if there are savings in time, travel, child care etc

Clinicians are more worried than patients about possible limitations of video

Technical problems put clinicians off

Training and technical support gives clinicians confidence

## **4 Mental Health Services in Scotland**

Scotland has a well developed range of community based mental health services. These include provision by voluntary organisations, Local Authorities and the Health Service. In addition, there are statutory bodies namely the Mental Welfare Commission and Mental Health Tribunal for Scotland which have key responsibilities in some aspects of the provision of care and treatment for people with mental disorders. This review focuses primarily on health service provision.

### **Local Health Board Mental Health Services**

#### **General mental health services**

All Health Boards provide community based mental health services with outreach, crisis and out-patient services provided close to where patients live. These services are often provided in GP surgeries, local resource centres or even in the patient's home.

Clinicians providing these services generally value close working relationships within a locally based multidisciplinary team and close liaison with primary care, even if this requires regular travel by some of the multidisciplinary team to achieve these ends.

Most areas support general age related services, firstly, for children and adolescents, secondly, for adults of working age and thirdly for older age patients. However, in the smaller island health boards, i.e., Orkney, Shetland and the Western Isles their small population base makes it difficult to provide even general mental health services across the whole age range.

In the year to 31 March 2008 there were 238,250 psychiatric out-patient attendances in Scotland (ISD Scotland 2009). 61% of the population lives outside the large urban areas and 32% live outside all urban areas (Scottish Executive 2006). Although there is evidence that there is a higher morbidity in urban than in rural areas, this figure of 32% gives a rough estimate of the proportion of mental health service work which should be

covering rural areas, e.g..76,240 OP consultations per annum. Many of these could be replaced by video therapy clinics.

In 2006/2007 there were 24,294 mental illness admissions (ISD Scotland 2009), and an estimated 7774 (32% of 24,294) admissions and discharges requiring close liaison with rurally based GP's and community mental health teams (CMHTs) at some distance from the base hospital. Setting up suitable meetings particularly around admission and discharge between the in-patient unit and the CMHT involving all relevant clinicians and others would be greatly enhanced, and travel could be reduced, with ready access to videoconferencing

### **Specialist mental health services**

Most of the mainland health boards and all the larger health boards provide, in addition to the general services noted above, a range of more specialised services including clinical psychology, psychotherapy, forensic services, substance misuse services, services for learning disability, general hospital liaison services, eating disorders, rehabilitation and assertive outreach. However, in most of these larger health boards there is at least some geographical spread which makes it difficult for many patients to access some of these specialist services. In forensic services for mentally abnormal offenders, patients are seen in secure psychiatric units, in prisons and for the courts. Sometimes accessing patients in custody or secure units is difficult and/or time consuming.

### **A and E liaison and out of hours work**

In general hospitals there is a high incidence of psychiatric disorder which is assessed and treated by the mental health liaison service. A significant part of this clinical work concerns those presenting to A and E departments with deliberate self harm. A and E departments have 4 hour waiting time targets and provision of specialist psychiatric assessment within this time frame is difficult in some areas.

The Scottish Liaison Psychiatry section of the Royal College of Psychiatrists is currently reviewing this area of work but as yet available data is very limited. Dr Potts, Consultant Liaison Psychiatrist has kindly provided some figures available for part of Lothian activity which show that, in the 4 weeks to 6<sup>th</sup> Feb 2009, there were 202 emergency presentations to the Royal Infirmary of Edinburgh requiring psychiatric assessment, There was an estimated 15% underreporting ie giving 238 as the estimated 4 week number and 3094 per annum. The majority were presenting with drug overdoses, other deliberate self harm or alcohol problems. Only 10% required psychiatric admission. 25% required no treatment and would have been assessable as an emergency but even in a well staffed city service were either admitted overnight or had a prolonged wait in the A and E department before they could have a psychiatric assessment. Dr Potts estimated that over the 4 week period more ready access to 24 hour psychiatric assessment would save 15 bed days and 19 avoidable overnight stays. Over a year over all of Scotland this would mean 1950 bed days and 2470 avoidable overnight stays and a much improved quality of service for patients and A and E departments.

### **Clinical psychology and psychological treatments**

Many psychological treatments are offered as weekly sessions with a therapist on a regular basis over many weeks, commonly in the region of 15 to 20 weeks and sometimes longer term and more frequently. This is obviously disruptive of a normal life pattern if time off work is needed, if there are child care responsibilities and other regular commitments. Such difficulties are compounded by travel distance and time and for the more remote areas where there are no local therapists available access to treatment is only possible using distance technology.

There have been substantial increases in clinical psychologists in recent years, 8% in 2005-2006, 10% in 2006-2007 and 11% in 2007-2008 (ISD Scotland 2009), but it is not clear that this is matched by increased access to therapies by those in remote areas of Scotland. It will be difficult to persuade therapists to move to remote areas but access to therapy could be provided by videoconferencing.

A UK national morbidity study (Psychiatric morbidity among adults living in private households 2000) found that 164 per 1000 adults suffered from neurotic disorders. 24% of these people were receiving some kind of treatment. 20% were taking medication, 9% were having counselling or therapy, and 4% were having both. In the literature review in the NICE guideline on treatment of depression (NICE 2004) there is an estimate that just 5% of those with depression are referred to specialist mental health services. These figures imply a very high level of unmet need.

In the Layard report (London School of Economics 2006), which included an economic assessment of the cost of untreated neurotic illness, the conclusion was that psychological treatment should be provided for 800,000 patients per year in England, and this has been incorporated into national policy. Estimates of what this would mean for the Scottish population are given in Table 1.

**Table 1 Estimates of unmet need for CBT for neurotic disorder**

	<i>Layard Estimate for England</i>	<i>Scottish estimate based on 9.5% of England</i>
Untreated neurotic illness	800,000	76,000
Number of extra therapists needed		
Clinical Psychologists	5000	475
Psychological therapists	5000	475
Population outwith urban areas		32% of 76,000
		24,320
If 50% suitable for videotherapy		12,160
No of Videotherapists needed		
Clinical Psychologists		76
Psychological Therapists		76

If Scotland is going to address this unmet need it will need to take account of the fact that 32% of patients live outwith urban areas (Scottish Executive – 6 fold urban rural classification 2006) and may have difficulty accessing regular weekly therapy appointments. Estimates are calculated on the conservative estimate that 50% of non urban patients would be suitable for videotherapy, with the caveat that the lower reported morbidity in rural areas might mean a reduction in the estimated need.

### **Regional Mental Health Services**

In Scotland there are three regional planning groups namely, the North, South East and West and there is an emerging structure for more highly specialised regional service provision which cannot be supported by the population of just one health board. These include in-patient services for adolescent psychiatry, eating disorders, perinatal psychiatry, regional forensic medium-secure units and some learning disability services.

### **National Mental Health Services**

In Scotland there are a few national services. These include: the maximum security forensic provision at the State Hospital; the In-patient Child Psychiatry Unit at the Royal Hospital for Sick Children (Yorkhill), Glasgow and its associated Managed Clinical Network for complex cases; and, in Dundee, there is a national unit for very specialised treatments such as neurosurgery for mental disorder.

### **The State Hospital, Carstairs and the Forensic Care Network**

The State Hospital currently has 193 beds with a planned reduction to 128. There were 112 admissions and 169 discharges from April 2006 to March 2009 (Vivienne Gration, personal communication), i.e. about 37 admissions and 56 discharges per annum. All patients are now involved in the Care Programme Approach (CPA) with many requiring enhanced CPA procedures. These are multi-agency procedures which involve not just the State Hospital multidisciplinary team, but also the Patients Advocacy Service, legal adviser, family and other carers, named persons, and professional staff working outwith

the State Hospital including local mental health teams or prison mental health teams, social work and housing and occasionally police or members of voluntary organisations. (The State Hospitals Board for Scotland 2008).

Peter Clarke CPA co-ordinator kindly provided information on CPA meetings. For the year to 31<sup>st</sup> March 2008 there were 106 CPA meetings and 87 in the year to 31<sup>st</sup> March 2009 (Peter Clark, personal communication). Peter Clarke estimates that staff time savings alone in travelling from Edinburgh or Glasgow to meetings could amount to £525 per meeting with much greater costs for more distant locations. 38% of the Scottish population live north of Edinburgh and Glasgow. Meetings for patients from Northern Ireland may generate £2500 staff time cost savings if replaced by videoconferencing not counting overnight accommodation or travel costs. Arranging a quorate CPA meeting can be very difficult but access of key personnel to meetings can be enhanced with the use of videoconferencing. Use is currently curtailed by limited access to facilities and the lack of more than 2 way video links.

Patients in the State Hospital are also subject to Mental Health Act tribunal procedures and in a review of the implementation of the Mental Health Act, published in June 2008, (PricewaterhouseCoopers and NHS Scotland, June 2008) it was found that in the first two years of the Act, ie, 2006 and 2007, consultants in the State Hospital attended 262 tribunals. As with the CPA procedures, a large number of professional and other people may be invited to these tribunals, and they could be coming from anywhere in the country. In particular, Local Authority appointed Mental Health Officers need to be involved in these reviews and it is difficult to see how adequate attendance at tribunals can be achieved if the expectation is that all participants have to travel to the State Hospital. Clearly, the use of videoconferencing could greatly widen the access to interested parties.

The Forensic Care Network is involved in supporting regional and local services in many ways and has established the School of Forensic Mental Health. This aims to assist in the teaching, training and research needs in forensic mental health across Scotland with

the use of distance learning technology being one of its key activities. This is clearly dependent on the provision of adequate infrastructure.

### **The National Child Psychiatry In Patient Unit and Scottish MCN for Children with Complex Mental Health Needs**

The Royal Hospital for Sick Children (RHSC) (Yorkhill), in Glasgow hosts the 9 bed National in patient psychiatry unit for patients under 12. The highly skilled multidisciplinary team provides treatment for very complex psychiatric disorders and support to families and carers. The need for multidisciplinary and multi-agency management which is common in psychiatric practice is even more important and complex in child psychiatry when educational, social and family aspects of management are often central. Thus there is an essential requirement to involve a wide range of professional and other participants in case discussion meetings, but it can be very difficult to bring relevant people together for meetings from around the country.

### **The National Advanced Intervention Service (AIT)**

In addition to provision of assessment and neurosurgery for a very small number of patients this service provides advice and other complex treatments for patients who are extremely resistant to conventional treatment. The AIT was designated a national service in April 2006. It is a small multi-professional team offering multi-disciplinary assessment and treatment for severe, chronic and treatment refractory depression (TRD) and for obsessive compulsive disorder (OCD). It includes ablative neurosurgery such as anterior cingulotomy. It also includes vagus nerve stimulation. In 2007/2008, 35 assessments were conducted, 28 from Scotland of which 22 (79%) were from Tayside and the two neighbouring health boards namely Fife and Grampian. The combined populations of these 3 Health Boards comprise 25% of the population of Scotland which suggests that there is serious inequity of access to this service from most of the rest of Scotland. Although the current numbers are small, equivalent referral rates across the whole of Scotland would increase the number of referrals to 88 per annum (in addition to a few from England and Northern Ireland). It has also been found that the DEPCAT deprivation scores indicate a population that is more affluent than the

psychiatric in-patients and the community mental health team patients seen in Dundee. This suggests that this service is not being equally accessed by the less affluent parts of the population.

Nationally there is also recognition of unmet need for the 30,000 to 80,000 people with OCD in Scotland. Linked to the AIT there is a proposal to address this by developing a national Managed Clinical Network for OCD and this would require videoconferencing facilities to underpin it.

Some patients of the AIT require highly specialised psychological treatment. The cognitive behavioural analytic system of psychotherapy (CBASP) is the only evidence based psychological treatment for chronic depression and the only accredited therapists in the UK work within the AIT in Dundee. In order to make this therapeutic option available across the country, provision by video-link is feasible (Dundee Advanced Intervention Team Annual Report 2007-2008). Also, any development of expertise across the country might be best provided with the use of videoconference supervision.

### **Proposed National Service for the Deaf**

It is estimated that 1,600 deaf people in Scotland will experience mild to moderate mental health problems, 65-130 will experience severe mental health problems and that 4-6 specialist in-patient beds for deaf people will be required (Draft Business Case for Mental Health Deaf Services, 2009. Unpublished communication). A draft business case proposes a hub and spoke model of care which envisages a small national in-patient unit and small regional teams who, being regionally based will still be relatively distant from patients in more rural areas across the country. Video, with the important extra component of staff skilled in signing, will offer a key mechanism to link clinicians and patients in this proposed model of service. For those complex cases admitted to hospital there will be the need for the widest possible involvement of local clinicians and others in key case discussions supported by videoconferencing.

Any development of tele-mental health services within Scotland should be seen in the context of these existing and proposed services with due acknowledgement of the relationship they have with other organisations. These include the two key statutory national organisations, the Mental Welfare Commission for Scotland and the Mental Health Tribunal for Scotland.

### **The Mental Welfare Commission for Scotland**

The Mental Welfare Commission for Scotland is an independent organisation working to safeguard the rights and welfare of everyone with a mental illness, learning disability or other mental disorder. It has the responsibility to visit and check that people are receiving appropriate care and treatment and to investigate where there is seen to be any potential deficiency of care. It also has important responsibilities within sections of the Mental Health (Care and Treatment) (Scotland) Act 2003 and parts of the Adults with Incapacity Act 2000. They have to be informed regarding patients detained under Mental Health Act procedures and provide second opinions for treatments given without the patient's consent within the procedures of the Mental Health Act. The Mental Welfare Commission has produced guidance on the use of videoconferencing which is reproduced in appendix 3.

### **The Mental Health Tribunal for Scotland**

The Mental Health Tribunal was formed in 2005 as a result of the Mental Health (Care and Treatment) (Scotland) Act 2003. The Tribunal is a non-departmental public body (NDPB) and it has responsibility for making decisions on the compulsory care and treatment of people with mental disorders. Tribunals are convened by a lawyer and there is, in addition, a medical and a lay member of each tribunal. The tribunal makes decisions based on the submission of recommendations and reports by mental health officers (MHOs, specially approved social workers) and approved medical practitioners (AMPs, essentially psychiatrists). Decisions can include the approval of hospital based

or community based compulsory treatment orders. There were 4176 tribunal hearings in the year from April 2008 to March 2009 (Mental Health Tribunal 2009)

### Box 3 NHS Scotland Mental Health Services

<b>Local services</b>	
<i>Island Boards</i>	Generic Services with limited specialisation
<i>Most Mainland Health Boards</i>	
• Age Related Generic Services	Child and Adolescent Adults of Working age Old Age
• Specialist Services	Psychotherapy  Clinical Psychology Forensic Learning Disability Rehabilitation and Assertive Outreach Addictions General Hospital Liaison Eating Disorders
<b>Regional services and networks</b>	
In patient units	Adolescent Psychiatry Eating Disorders (N Scotland) Perinatal Psychiatry (SE and W Scotland) Forensic medium secure Some Learning disability
Networks	Eating Disorders (N and SE) Learning Disability (SE)

### Box 3 NHS Scotland Mental Health Services

<b>National services</b>	State Hospital (Maximum Security) and Forensic Care Network In Patient Child Psychiatry and MCN for Complex Cases Advanced Treatment Service (Includes neurosurgery for mental disorder) Service for deaf (proposed)
<b>Other Statutory bodies</b>	Mental Welfare Commission for Scotland Mental Health Tribunal for Scotland

## **5 Tele-Mental Health Applications in Scotland**

Telecare in Scotland has been well supported by a national Telecare Development Programme (York Health Economics Consortium 2009) and is becoming part of mainstream services in many areas, particularly for the elderly, many of whom have dementia. Regarding the use of telephone, a national helpline service is in place in Scotland for those in mental distress (Breathing Space), and a pilot project on telephone based CBT has been initiated with central support (Living Life). At Glasgow University there is an active programme of research on internet applications of therapeutic help for mental disorders and the development of life skills using sites such as Living life to the full.

There has been no national health service or academic initiative in Scotland investigating the role of videoconferencing in the provision of mental health services which is one reason for focussing this review on videoconferencing. In undertaking the review I sought information on current and proposed applications of videoconferencing using a number of approaches.

- 1 I networked with a large number of people known personally and others recommended to me by colleagues and members of the Scottish Centre for Telehealth. A summary of the individuals contacted is listed in Appendix 1.
- 2 The Royal College of Psychiatrists enabled me to make an announcement at the Autumn Scottish meeting inviting anyone with information or interest to make contact with me.
- 3 The Royal College of Psychiatrists kindly placed a note about the review on the news part of the Scottish website.

- 4 Via The Royal College Scottish email lists I was able to invite psychiatrists to contribute to a brief survey giving their experience of using videoconferencing. Unfortunately a similar attempt to make contact with clinical psychologists in Scotland was unsuccessful

### Survey of Psychiatrists

A summary of the responses to the survey is set out in Appendix 2.

The number of responses was very small indeed, with only 42 replies out of over 1000 doctors working in psychiatry in Scotland (Audit Scotland 2009). Of responders, 42% had taken part in a videoconference in the previous year, and of those 29%, i.e. 12% of the total had participated in a videoconference for clinical purposes. It is reasonable to assume that the non responders were not any more likely to be using videoconferencing for clinical purposes.

The general experience of videoconferencing was mixed (see table 2) and free text responses confirmed a number of problems. These included inadequate access in psychiatric clinical areas, technical problems in setting up and maintaining a connection, lack of bridging facilities for multiple sites, lack of availability of technical support and lack of training in the use of video conferencing.

**Table 2 Psychiatrists' Experience of Videoconferencing**

<i>What is your general experience of videoconferencing in Scotland? (n =26)</i>	
<b>Very poor (avoid at all costs)</b>	7.7%
<b>Poor</b>	15.4%
<b>Usable</b>	34.6%
<b>Good</b>	26.9%
<b>Excellent (a valuable clinical tool)</b>	15.4%

Within Scotland there is already in place some good quality equipment but some equipment is out of date, for example, not allowing more than one-to-one connections, or not being compatible with other newer equipment.. There are limited bridging facilities for multi-site conferences, some equipment is not close to where clinical psychiatric activity takes place and technical administrative support is limited in many places although it is excellent and improving in others. Because individual Health Boards have autonomously developed their own videoconferencing facilities there is a legacy of equipment and systems which do not connect well with each other.

Looking at the overall picture in Scotland we can distinguish between, on the one hand, administrative and educational uses of videoconferencing and, on the other, clinical applications, which are the main subject of this review. It is also helpful to consider whether the technology is being used in a local, regional or national context.

### **Educational and Administrative Uses**

In the survey, 81% reported that the main purpose of their use of videoconferencing was for educational or administrative purposes. Even though the response rate was low this demonstrates that, compared with clinical applications, these are much more common uses for videoconferencing. Assuming maintenance of sufficient quality and technical support it is likely that these non clinical uses will continue to develop. In a few responses there was a tendency for those nearer the centres of population (and power) in Scotland to not appreciate the value of videoconferencing to the same extent as those placed further from the centre.

Educational uses include the provision of Continuing Professional Development (CPD) programmes for consultant staff and postgraduate academic programmes for psychiatrists in training. For example, the North of Scotland postgraduate trainees' programme involves trainees from Highland, Tayside and Grampian in a monthly programme supported by videoconferencing across the region, supplemented by local programmes in the intervening weeks.

## **Clinical Uses**

This is a summary of current or proposed uses of videoconferencing in mental health services in NHS Scotland

### Local Services

1            *The Grampian Eating Disorder Service* - For the past seven years the Grampian Eating Disorder Service (clinical lead Dr Philip Crockett) has been providing assessment and treatment to patients from across Grampian, Orkney and Shetland using videoconferencing. Currently there are about 10-20 video consultations per month. This service provides access for patients to specialist treatment on a regular basis, often weekly, and involving more than one professional discipline. This level of access would not be feasible on a face to face basis. This service was evaluated in its early years (Simpson et al 2006).

2            *Arran.* - For about 5 years there has been a video therapy service providing 4 patients per week with counselling sessions provided by Carol Holtom in the adult Psychological Therapies Department using a videolink from Irvine to Arran.

3            *The Western Isles* - A Consultant Psychiatrist Dr Elaine Anderson has weekly meetings between herself based in Stornoway and Community Psychiatric Nurses based in Uist and Barra. Also, a family therapist based in Stornoway undertakes direct face to face family work with patients in remote settings.

4            *Highland Psychotherapy Department* (clinical lead Dr Yvonne Edmonstone) – This service based in Inverness undertakes some therapeutic work with a small number of patients in remote settings who would not otherwise be able to access the Psychotherapy Department in Inverness.

5                    *Dumfries and Galloway* - There are proposals initiated by Dr Leuvennink to install videoconferencing equipment in the Acute Psychiatric in patient setting in Dumfries. The proposal is to link case management and discharge planning meetings with Community Mental Health staff in sites distant from the hospital. This proposal has run into some uncertainties about funding linked to future proposals for moving the location of the acute In-patient Unit.

6                    *Fife* - There is a proposal to provide on call consultant cover using videoconferencing from home. There is enthusiastic support from the Medical Director and local eHealth Lead, Dr Stella Clark and one of the General Psychiatrists based in Cooper, Dr Steven Carey. The project has been delayed because of uncertainties about the technical specification of video equipment and whether it can be of satisfactory quality.

7                    *Tayside Mental Health Services* – A review has been set up to look at the feasibility of developing videoconferencing. It is probable that this will be based on a similar model to that proposed for Dumfries and Galloway in 5 above.

8                    *Orkney* - A new Consultant Psychiatrist, Dr Sam Wilson has recently been appointed for Orkney. He will be based in Aberdeen three days a week and Orkney two days a week. In his office he has videoconferencing equipment in Aberdeen which will be readily accessible to him and which could be used, firstly, to link with the locally based mental health team workers in relation to patients admitted to the in-patient unit in Aberdeen and, secondly, to provide urgent assessment and advice for patients in Orkney when decisions cannot wait until he is due to visit. This service has the potential to reduce admissions from Orkney and reduce the need for very expensive air ambulances.

9                    *Craiginches Prison, Aberdeen* The prison medical service (clinical manager Susan Stewart) has an arrangement to access the Aberdeen Royal Infirmary A

and E department support by video link, an advisory service which the A and E department has pioneered around the North of Scotland. In addition discussions are underway to investigate the feasibility of an enhanced Forensic Psychiatric service to the prison using video conferencing.

### Regional Services

1           The North of Scotland Eating Disorder In-Patient Unit (locum consultant Dr Phillip Crockett) opened in February 2009 and has videoconferencing equipment installed within the Unit. This will enable close liaison between the clinicians in the In-patient Unit and local clinicians in Highland, Tayside, Western Isles, Orkney and Shetland who will be admitting patients to the Unit as well as those in Grampian. It will also be accessible to patients and it will be used to arrange tele-visiting for patients' families able to access remote videoconferencing suites.

2           *The Adolescent In-Patient Units in Lothian (Consultant Dr Jane Morris), Tayside and Glasgow.* These units, which serve the 3 regions of Scotland have videoconferencing equipment installed. The equipment will be used for patient meetings for those who come from a long distance from the hospital; for family and carer groups, involving contributions from professionals and carers for whom the Unit is not accessible; for teaching; and for supervisors' meetings for Scottish child and adolescent CBT training.

3           *The Regional Secure Unit at the Orchard Clinic in Edinburgh.* In this unit there is an enthusiastic, technically sophisticated consultant, Dr Fionnbar Lenihan who was instrumental in having equipment installed. The intention is to use the equipment for clinical as well as administrative and educational purposes. The clinical usage could include the assessment of patients in secure units including the State Hospital and prisons and the provision of evidence to courts and Mental Health Act work linking into tribunals. In addition, Dr Lenihan and colleagues plan patient, relative and clinician

interaction with those in remote sites who would have difficulty accessing the regional unit.

4            *The North of Scotland secure unit.* This will be based in Perth and is in the advanced stages of planning. It will incorporate videoconferencing facilities for uses similar to those described for the South East Scotland unit at the Orchard Clinic in Edinburgh, above.

### National Services

1.            *The Child Psychiatry In-patient Unit (Lead clinician Dr Michael Morton) and national Managed Clinical Network (MCN) for complex child psychiatry cases.* These services based at the Royal Hospital for Sick Children (Yorkhill), Glasgow have been regularly using videoconferencing for a number of years. This is the only psychiatric in-patient unit for young children in Scotland and Yorkhill Hospital also hosts a number of other national paediatric services. A well resourced videoconferencing unit for paediatric services at Yorkhill was set up a few years ago and this is supported by a Project Manager and two technicians. This provides a high quality service and the child psychiatry service has been the heaviest user. They use the service for a variety of clinical case related discussions which often involve families and a variety of different professional contributors who may be based anywhere in Scotland.

2.            *The State Hospital in Carstairs.* This has videoconferencing equipment which is used for clinical case discussions including Care Programme Approach (CPA) meetings, and has the potential to be used more widely. In addition there is a national Managed Care Network for forensic services which involves not only health service staff but also relevant professionals from the local authorities and penal system. It has established a School of Forensic Mental Health to develop educational activities.

3. The *Mental Health Tribunal for Scotland* has videoconferencing facilities within its headquarters in Hamilton and has used these for mental health tribunals. At these tribunals the patients, their carers, named persons, patient advocates and legal representatives as well as the psychiatrists and social workers involved in the care of the patients are all invited to attend. If the patient or any of the relevant participants are not local to where the tribunal is held (usually in the hospital where the patient is currently admitted) then this can impair the work of the tribunal. The Deputy President of the tribunal, Mr Ian Kennedy, is supportive of the use of videoconferencing and foresees that this usage will increase. He also does not foresee any difficulty about medical assessments being undertaken for Mental Health Act purposes with the use of videoconferencing and the use of videoconferencing has been subject to guidance issued by the Mental Welfare Commission for Scotland. (See Appendix 3).

<b>Box 4 Current Use of Clinical Videoconferencing in NHS Scotland</b>	
Grampian Eating Disorder Service	10-20 consultations each month
Arran Counselling Psychology	Weekly clinic
Highland Psychotherapy	Occasional use
National Child Psychiatry IP and MCN	Regular use for case management
State Hospital	Occasional use especially for CPA meetings
Western Isles Generic Service	Weekly case management discussions
Regional Adolescent IP units	Case discussion for patients from a distance
Mental Health Tribunal	Occasional use (also telephone conference)

## **6 Policy Context**

### **Delivering for Health**

Following an undertaking in “Delivering for Health (2005)” the Scottish Executive produced a national mental health delivery plan “Delivering for Mental Health” in 2006. This document underlined the importance of equality, non-discrimination and social inclusion and the importance of making services available to everyone in Scotland. This clearly must include those in remote and rural areas who have difficulty accessing specialist services.

There were a number of clear commitments including commitment 4:2 “increase the availability of evidence-based psychological therapies for all age groups in a range of settings and through a range of providers”. Currently the provision of such therapies is patchy and very difficult to access in remote and rural areas. In commitment 6, NHS Boards were to “develop and implement integrated care pathways” and commitment 8 set out to “ensure that people are managed and cared for more effectively in the community and avoid inappropriate admissions”. These commitments entailed, where appropriate, the provision of rapid same-day response times and the provision of intensive specialist input to assessment, treatment and risk management including that for self-harm, in a community setting and focussed on those people who might otherwise require admission to hospital. For those patients distant from specialist centres this is extremely difficult to provide.

### **Better Health Better Care**

Following on from “Delivering for Mental Health”, the new SNP Scottish Government, in “Better Health, Better Care – Action Plan” (2007), confirmed its full commitment to “Delivering for Mental Health” and the continuing place of mental health as one of the national priorities. In addition, dementia was identified as a national priority from 2008.

“Better Health Better Care” included commitments to reduce the NHS carbon footprint, to develop telehealth, to ensure people in care homes have appropriate access to both primary and secondary care services and to review health care for prisoners and ex-offenders who have problems accessing care. A programme to develop mental health integrated care pathways has been launched and, in 2008, the Government set up a mental health collaborative programme to support the achievement of NHS performance (HEAT) targets for mental health.

### **Delivering for Remote and Rural Health Care**

For patients in remote and rural areas who have difficulty accessing specialist services, it is obvious that the use of technology has to be considered and this is clearly identified as a necessary development in “Delivering for Remote and Rural Health Care” published by the Scottish Government in 2008. In this document it was noted that most NHS Boards have remote and rural areas and some patients have to travel very long distances to receive care. Differences in morbidity in rural areas were also identified including higher rates of suicide and alcohol related diseases. Also, focus groups looking at the provision of services consistently reported difficulty in managing patients with mental health crises, particularly out of hours.

In “Delivering for Remote and Rural Health Care” a number of relevant commitments were made including the statement that “patients should receive the same standards of care for common procedures irrespective of where they live”. It was noted that remote community hospitals have responsibility for out of hours, unscheduled care which can include mental health unscheduled care and they are designated as places of safety for mental health crises. “Delivering for Remote and Rural Health Care” included “mental health” amongst the main service areas provided in remote and rural hospitals and one of the six themes identified in the report was the provision of telehealth. The report noted that there is a clear need to be able to access specialist opinion which might not be available on site and certain services could only be provided on the basis of network arrangements. In relation to mental health crises, it recommended that there must be

contingencies in place to support practitioners in remote and rural areas in the management of mental health crises to ensure that individuals receive a response which will meet their needs appropriately.

“Delivering for Remote and Rural Health Care” recommended the development of “Obligate Networks” to underpin robust care pathways and 24/7 support. Such networks need to ensure access to expert opinion and enable timely and appropriate admission arrangements, discharge planning etc for those requiring hospital admission. The Remote and Rural Implementation Group of NHS Scotland is developing a strategic agreement between Health Boards to set up an obligate network for Mental Health and Learning Disability Services in Orkney, Shetland and Grampian. In draft papers (Remote and rural implementation group 2008) it is clearly recognised that there will be a need for strong eHealth links including videoconferencing.

In relation to eHealth three principles are identified in “Delivering for Remote and Rural Health Care”. These are, firstly, the provision of specialist advice from a distance, secondly, the avoidance of travel and, thirdly, the ability to transfer digital data. There is a clear need to have satisfactory infrastructure not only at the remote locations but also centrally and that the provision of a good eHealth infrastructure “must permeate every aspect of service planning.”

### **The Care Programme Approach (CPA)**

The CPA was first introduced in 1992 as a centrally driven policy to improve care for the mentally ill. In Scottish Office guidance SWSG 1/1992, the main aims were summarised as follows,

“The aim of the CPA is to ensure that individuals with severe and enduring mental illness (including dementia) who also have complex health and social care needs, receive on-going care and supervision. This should incorporate appropriate

packages of services and accommodation to meet their needs, which are fully coordinated by the agencies and professionals involved.”

Although it was slow to start it became established and continues as a national policy. The requirement for better multidisciplinary working confirmed the need for regular, well documented multidisciplinary clinical review meetings and in further guidance from the Scottish Office in 1998 (Implementing the Care Programme Approach) it was stated,

“ People on the CPA and their carers should receive copies of their care plans and where at all possible, be involved in meetings about their own care. “

To fulfill these aims the CPA structures require regular review meetings with very wide participation and these became established practice throughout Scotland. At the State Hospital Carstairs, clear structures have been established following a thorough review in 2006 (The State Hospitals Board for Scotland CPA review 2008) with increasing rigour in arranging and documenting CPA meetings including the use of videoconferencing.

### **E-health Strategy, Targets and Standards**

In the eHealth Strategy 2008-2011 “Better eHealth, Better Care”, published in 2008, there is further recognition of the need for developments in the area of telehealth.

In the NHS Scotland performance targets for 2009/2010 (The Scottish Government 2009) there is a target to reduce the increase in prescription of anti-depressant drugs with the clear implication that the provision of psychological treatments will aid in achieving this. Training in clinical psychology and other professionals providing psychological treatments has been increased in recent years amounting to an increase in 8% in 2005/2006, 10% in 2006/ 2007 and 11% in 2007/2008 in clinical and other applied psychologists. However, it is not clear that this increased provision of service is reaching all those in need of psychological treatments, particularly those in remote and rural areas.

A summary paper (December 2008) from the Scottish Government and Mental Health in Scotland – Anxiety and Depression: A National Approach, confirms “there is an on-going commitment across every NHS Board to expand and improve access to psychological therapies for all ages”. Standards for integrated care pathways for depression included “offer of depression focussed brief psychological therapies within six weeks (significant symptoms)”. This document also noted that the Breathing Space Telephone Advice and Signposting service was in place for those experiencing low mood, depression or anxiety and was receiving 4,000 calls per month. In addition, the NHS24 “Living Life” pilot was launched in August 2008 to provide telephone based cognitive behaviour therapy and guided self-help and Greater Glasgow and Clyde were piloting multiple ways of accessing CBT self-help for those facing mild to moderate depression/anxiety.

In summary there are many policy statements which commit to the following,

1. Mental Health as a national priority (with dementia now also specifically identified as a priority).
2. Equity of access to services including those on remote and rural areas.
3. The provision of e-health and telehealth links to achieve these and other objectives.

## **7 The Economics of Telemental Health Using Videoconferencing**

### **Literature Review**

There is a dearth of good studies on the economics of telemental health. In a review paper Hyler and Gangure (2003) found only 12 studies with samples of more than 10 persons in programmes focussed specifically on the cost of telepsychiatry. They emphasise the importance of comprehensively reviewing all costs, including direct costs, indirect costs and hidden costs. Others structure the costs into fixed costs and variable costs (Persaud et al 2005) and note the importance of identifying costs to the provider, costs to the patients and an overarching societal cost in taking account of both (Persaud et al 2005) and Hailey et al (1999).

In the Hyler and Gangure review, they found that seven studies reported telepsychiatry was worth the cost, one study found telepsychiatry was not financially viable and three studies reported on break even numbers of consultations which made telepsychiatry comparable to the cost of in-person psychiatry.

In some studies the comparison of a telepsychiatry service is made with the cost of providing a visiting psychiatrist service. For example, Ruskin et al (2004) found that once the psychiatrist had to travel more than 22 miles, the time and travel cost to the provider made staying at the base hospital and providing telepsychiatry cheaper. This is quite an old study and current costs are likely to be significantly less for telepsychiatry and thus the threshold number of consultations would be lower. In a large, well controlled study in Ontario (O'Reilly et al 2007) in Ontario found that the telepsychiatry service was 10% less expensive than the provision of a visiting psychiatrist when all provider costs were compared. Another Canadian service in Alberta (Simpson et al 2001), comparing video consultations with face to face consultations by a visiting psychiatrist found a financial break even point of 244 consultations per year when the additional use of the video equipment for administrative meetings was factored into the

financial calculation. A Hong Kong study (Tang et al 2001) in an urban psychogeriatric service found that the cost per consultation was reduced by 13.2% when comparing video with face to face. This was unusual in that it was in an urban setting with the service being provided to a care home only 3 Km from the base hospital. The high volume of use and the extensive parallel use by other services (the 149 psychiatric consultations in the study comprised 8.3% of all videoconsultations) kept the unit cost per psychiatric videoconsultation low. .

Shore et al (2007) in a more complex modelling, trying to take account of changes over time and the difference between established clinics and setting up new clinics, produced a number of different scenarios. There was a clear finding that starting up a clinic in 2003 was more expensive than providing conventional treatment but in established clinics, over time with higher volume, there were substantial and increasing savings.

In other settings the comparison is made with the cost of transferring patients with an escort. For example in Labrador, Jong (2004), estimated that the provision of videoconference assessment for 71 patients in Northern Labrador resulted in estimated savings of \$104,088 Canadian dollars. In a study published by Harley (2006) on the provision of a videoconferencing service to Jersey from the specialist psychiatrist at the South London and Maudsley NHS Trust produced an estimated annual saving of £18,984 based on just 11 videoconferencing events in six months. Most of the saving related to savings in the cost of transfer of patients and escorts from Jersey to London.

Not many studies look at the cost to patients, but there is some evidence of reduced costs to patients if a visit to a central hospital is replaced by a videoconference appointment (Monnier et al 2003). In one study of child and adolescent psychiatry assessments in Newfoundland (Elford et al 2000) the estimated travel and accommodation costs to the patient and family was \$428 for an assessment done at the central hospital while the videoconferencing cost was \$419 per assessment

Box 5 summarises the main variables that have to be taken into account in any cost estimation, comparing videoconference clinics with face to face clinics by a visiting psychiatrist

<b>Box 5 Cost Variables in Telemental Health</b>	
<b>Clinician peripheral clinics in person</b>	<b>Effect</b>
Distance travelled by patient	Increased distance increased cost to patient
Distance travelled by clinician	Increased distance increased cost to provider
Type of travel	Air expensive but saves time costs on longer journeys Ferry only option for many journeys Car most convenient and time efficient on mainland Public transport too time consuming on most mainland journeys
Clinician travel time	Increased time increased cost to provider Overnight subsistence costs if return journey and clinic not possible in 1 day
<b>Video-clinic</b>	
Sharing equipment with other services	Reduces clinic costs
Equipment already installed	Reduces clinic costs
Research Funding	Can reduce costs
Volume of clinical activity	High volume reduces unit costs
Costs of line rental and calls	High volume reduces unit costs
Cost of maintenance and technical support	High volume reduces unit costs

### **Costs in a Scottish Context**

There is no published literature on the costs of providing telemental health services within Scotland. In the Grampian Eating Disorder Service (EDS) which has used teleconferencing clinically for about eight years, the initial costs of equipment within the service were funded by grant monies. The costs at peripheral sites were borne by other

services sharing the facilities, and the line rental and call costs are lost in other large telecommunications budgets. So they were not separately identifiable as a direct cost to the Grampian EDS.

Looking forward at the potential development of the use of videoconferencing, it is possible to estimate some potential costs and savings in the context of the Scottish NHS. Three examples are considered. Firstly, general psychiatry visiting clinics, secondly, the provision of clinical psychology services to the 3 island Health Boards and , thirdly, use of videoconferencing for CPA meetings at the State Hospital.

### **Visiting General Psychiatry clinics in rural areas.**

Conventionally, many psychiatric clinics are provided in peripheral settings, usually general practice health centres with psychiatrists and other clinicians travelling by car and providing a face-to-face clinic in the remote setting. Table 3 shows some estimated costs for three scenarios in different parts of Scotland using distances rounded to the nearest five miles, car mileage costs provided by the AA in 2008 for cars worth £13,000 – £20,000, averaging 15,000 miles per year. The consultant time cost on travel is taken from the 2009/10 pay review settlement for a consultant at the top of the scale but with no discretionary point or merit award payment. This is calculated on the basis of 44 working weeks in the year (six being taken for annual leave and two for study leave) and working a 40 hour week. Estimates of carbon footprint costs in kilograms of CO<sub>2</sub> equivalents are also set out in the table. For longer journeys overnight subsistence would also be required.

Clinics are also provided in Orkney by a visiting psychiatrist and previously there had been a counselling psychology clinic in Arran which has now been replaced by a weekly tele-counselling clinic. The travel and time costs for these two scenarios are also provided.

**Table 3 - Costs of Consultants conducting visiting clinics – Scottish examples**

<b>Example</b>	<b>Distance Miles (return)</b>	<b>Car Mileage (AA 2008)</b>	<b>Travel Time</b>	<b>Consultant time cost *</b>	<b>Overnight subsistence</b>	<b>Carbon Footprint kg of CO<sub>2</sub></b>	<b>Annual cost saving**</b>
Aberdeen to Fraserburgh	80	£38	2hrs	£114		28	£5061
Dumfries to Stranraer	140	£66	4hrs	£228		50	£9702
Inverness to Portree	250	£118	6hrs	£342	£100	78	£18,480
		<b>Plane Fare</b>					
Aberdeen to Kirkwall		£310	4hrs	£228	£100	86	£21054
		<b>Ferry Fare</b>					
Ardrossan to Brodick	26.4	£91	3hrs	£171		48	£8646

\*Top of scale for NHS consultant psychiatrist 2009/2010. No discretionary points or merit award

\*\*If 3 out of 4 clinics replaced by tele-clinics and 44 clinics a year in total, to take account of 6 weeks annual leave and 2 weeks study leave

Other potential cost benefits include avoidance of admission to hospital. If patients in remote localities cannot access specialist psychiatric assessment, it may be that they will be transferred for admission which subsequently turns out to be unnecessary. From the Northern Isles this can involve the use of an air ambulance with an escort. This is currently costed at £3,136 per mission (ISD Scotland 2008) for the air ambulance with escort costs on top of that. One week in a psychiatric hospital currently costs £2,004 (ISD Scotland 2008). It is clear that the prevention of very few air ambulance admissions would provide substantial savings.

### **Clinical Psychology Services to Islands (Orkney, Shetland and Western Isles)**

Recent workforce planning data in the NHS in Scotland (2008) from ISD Scotland and NES show that there is a significant shortfall of clinical psychology services for the Island communities (see table 4)

**Table 4 Distribution of Clinical psychologists**

	<i>Scotland</i>	<i>Island communities Orkney, Shetland, W Isles</i>
Population	5,144,200	68,100
Number of clinical psychologists	542.6	2.2
Population per 1 wte psychologist	9495	30,955
Number of additional psychologists needed to meet national average		5

It is very unlikely that island communities will be able to recruit resident clinical psychologists to cover the range of expertise available in the rest of Scotland. This includes expertise in adult mental health, children's psychology, the elderly, learning disability, physical health, neuropsychology, forensic and substance misuse. One way of meeting the range of needs would be to have team based with a mainland Health Board where it is easier to recruit. This team could either provide a visiting service, a videoconferencing based service or a mixture of the two. Estimated costs for one model of visiting service are in Table 5

**Table 5 Additional Costs for 5 visiting psychologists based on mainland**

		<b>Cost</b>
Number of days visiting islands each week	3	
Number of weeks each year for visits	44 (excludes 6 weeks annual leave and 2 weeks study leave)	
Number of return flights	5 x 44 = 220	£310 x 220 = £68,200
Number of nights subsistence, 2 per visit	5 x 2 x 44 = 440	£100 x 440 = £44,000
Clinician time, 5 hours travel each trip	5 x 220 = 1100 hrs	£22.31* x 1100 = £25,541
<b>Total Additional Cost</b>		<b>£136,741</b>

\* Based on Agenda for Change point 35, 44 working weeks and 40 hours/week

If this service is totally replaced by a videoconference based service the saving (minus the cost of the video service) would be £136,741, but it is more likely that, say one in four appointments would be offered in person, saving £102,555 per annum. Any costing of a proposed videoconference based clinical psychology service will need to take account of these costs attributable to the alternative of a visiting service

### **State Hospital CPA Meetings**

From April 2007 to March 2008 there were 106 CPA meetings at the State Hospital Carstairs. On 7 occasions videoconferencing was used. The CPA manager, Peter Clarke, estimates that even from central Scotland there would be a saving of 2.5 hours per person attending the meeting, if videoconferencing facilities close to home could be used. Also for those resident further away, attending a meeting at all may only be possible by video link.

Even simple meetings might require around 6 people from outside the State Hospital to attend a meeting, and if the savings in clinician time are scaled up for say 50 meetings per annum the cost savings are as outlined in the table.

This only addresses one of the types of meetings and other clinical interactions which could be further developed using videoconferencing at the State Hospital. There are about 40 to 50 admissions and discharges per annum, there were 144 appeals against excessive security from October 2006 to March 2009, and there were 220 tribunals in 2007. 95% of the patients have Mental Health Officers outside the State Hospital who have ongoing responsibility for patients, requiring them to communicate regularly with patients and clinicians in the State Hospital.

**Table 6 CPA Meetings at the State Hospital**

<b><i>CPA Meetings at the State Hospital</i></b>	
Total number of CPA meetings per annum	106
Proposed number of video meetings	50
Minimum number of attendees from outside State Hospital	6
Saving in attendee time if video meeting	2.5 hours
Average hourly cost of attendee	£30
Total annual saving, staff costs	$£30 \times 50 \times 6 \times 2.5$ =£22,500
Travel costs, say £25 per person per meeting	$£25 \times 6 \times 50$ = £7,500
<b>Total cost savings</b>	<b>£30.000</b>

## **8 Conclusions and Recommendations**

### **Conclusions**

- 1 Given a straight choice between face-to-face access to specialist services and videoconferencing most patients prefer face-to-face.
- 2 Some patients express a preference for video-consultations because this gives them an increased sense of power and control in the clinician/patient relationship.
- 3 For those unable, because of geography, the nature of their condition or for other reasons, to access specialist mental health services, the use of videoconferencing often offers a very satisfactory alternative to face-to-face contact with clinicians.
- 4 When there are significant travel costs, time off work, childcare costs and other personal costs and disruptions to the normal routine suffered by the patient or carers, they often express a preference for telemental health offered close to home.
- 5 Visiting specialist services to outlying localities can be replaced, at least in part, by the use of videoconferencing. The cost benefit calculation depends on several variables. These include the numbers of patients seen in remote locations, clinicians travel time costs, the costs of travel, the cost of alternative videoconferencing facilities and whether they are being used by other services.
- 6 Scotland's remote and rural population does not have equity of access to specialist mental health services. This is particularly true of more specialised regional or national services, particularly when taking account of the need to

involve local clinicians, relatives and others in the complex case discussions which are central to good mental health practice.

- 7 Increased use of videoconferencing can enhance access to specialist services.
- 8 The current infrastructure in Scotland is inadequate to support development of the use of videoconferencing. The connections break down too frequently, the equipment is often not close enough to clinical areas (having been installed to meet management or educational requirements) and there is insufficient immediate technical support when there is a breakdown.
- 9 Lack of adequate training in the use of videoconferencing can add to the negative experience of clinicians.
- 10 It is likely that experience of unsatisfactory videoconferencing has put clinicians off making more use of these facilities. Also, there is some conservatism and anxiety that the use of video will be seen as second best rather than a positive option to address an unmet need cost-effectively (for the patient, not just the NHS provider).
- 11 Despite these problems there are, firstly, a few examples of on-going successful use of videoconferencing in day to day clinical practice and, secondly, a number of services and senior clinicians showing serious interest in significant expansion of clinical use of video.

## Recommendations

- 1) All new accommodation developments and refurbishments for mental health services should consider whether installation of videoconferencing equipment and networks can enhance services and/or improve efficiency.
- 2) Because the purpose of videoconferencing is to connect people over distance this often means making links across Health Board boundaries. Therefore any developments must ensure compatibility across Scotland.
- 3) All use of videoconferencing should be underpinned by appropriate training. For example, there has to be consideration of room design, support systems for patients at remote sites, attention to lighting, timetabling and etiquette. A national training resource for those working in the mental health services should be provided. The Scottish Centre for Telehealth should clarify with the Scottish Government how best to resource this.
- 4) National and regional services and networks require high quality videoconferencing facilities to ensure equity of access across the country. Relevant Central Government Departments, National and Regional Networks, Regional Planning Groups, and the Scottish Centre for Telehealth should collaborate in more detailed specification and provision of the necessary resources

In particular,

- a) The State Hospital Carstairs, Regional Medium Secure services and the Forensic Care Network.
  - i) A project manager and administrative support should be appointed to review in detail current provision and make proposals for development of the infrastructure to a satisfactory standard.

- ii) As a minimum, there will need to be readily clinically accessible video-conference equipment in the State Hospital and medium secure units, the ability to provide bridging for multi-site meetings, and readily accessible technical support.
  - iii) The project manager will require the support of a steering group to ensure engagement of key stakeholders which should include representation from the prisons and the courts who are also developing videoconferencing capacity.
  - iv) The Forensic Care Network may provide a structure within which appropriate management and networking arrangements could take this forward in collaboration with the Scottish Centre for Telehealth.
- b) The National Child Psychiatry In-Patient Unit, the National MCN for Children with Complex Mental Health Needs and Regional Adolescent In-Patient units.
- i) These require further development which could be based on the existing infrastructure of a project manager and technical support currently available within Yorkhill Hospital.
  - ii) There will need to be additional project management and technical support for the adolescent in-patient units and enhanced provision of videoconferencing equipment within the Department of Child and Family Psychiatry at Yorkhill Hospital.
- c) The National Advanced Intervention Service (AIT). If this is to develop to a truly national service being accessed from all parts of the country then it will require to have in-house videoconferencing equipment with some project management and technical support.

- d) Proposed National Mental Health Service for the Deaf. Although this is still at a discussion stage it will be very important to take account of the particular need for sophisticated visual means of communication for these patients and the obvious role that videoconferencing will play in this.
  
- e) Regional Eating Disorders Services and Networks and Regional Perinatal Services. Different models of service and networking have developed in different parts of the country, but these services all share the need to be accessible to patients from several Health Boards, some at substantial distance from the service base. The clinical bases for these services and networks should all have in-house good quality videoconferencing equipment with project management and technical support.

#### 5) Local Health Board Services

The following local generic services have the most pressing case for development because of supporting literature or experience in relation to improving efficiency and/or access to service.

- a) Psychological treatments and Clinical Psychology.
  - i) In Chapter 3, the unmet need in relation to psychological treatment was set out and an illustrative case for developing psychological services to the island communities was set out in Chapter 6.
  
  - ii) It would be appropriate set up a demonstrator service to remote areas such as Orkney, Shetland or the Western Isles. This will require not only the technical infrastructure, some of which is quite well developed in some of the island locations, but also the development of a base clinical psychology team in a mainland location where recruitment of such a team would be feasible. This

would essentially be a new service with a novel design aiming to address a chronic deficiency of provision to underprivileged areas.

- iii) The North of Scotland Planning Group should be asked to consider how to take this forward with the Scottish Centre for Telehealth, perhaps in the context of Obligate Network arrangements between mainland Health Boards and Island Boards.

#### b) General Psychiatric Services

- i) Out-patients. If 32% of 238,250 outpatients seen in the year to 31 March 2008 were from rural areas and half of these had videoconferencing clinics rather than a visiting psychiatrists this gives a potential for 38,120 consultations to be provided using videoconferencing..
- ii) An estimated 7774 admissions and discharges requiring close liaison with rurally based GP's and community mental health teams (CMHTs) at some distance from the base hospital. Setting up suitable meetings, particularly around admission and discharge between the in-patient unit and the CMHT involving all relevant clinicians and others would be greatly enhanced, and travel could be reduced, with ready access to videoconferencing.
- iii) Out of Hours Emergency Services. Some Health Boards are having difficulty providing medical cover for assessments out of hours. This can include cover to locations in psychiatric hospitals and A&E departments. While some of this could be provided by psychiatrists being available to go into A&E departments, remote access to expert opinion over wider geographical areas could be provided by fewer psychiatrists with the aid of videoconferencing
- iv) Central support should be provided for those services for rural areas which wish to start implementing the provision of enhanced services using

videoconferencing. There should be preference for those proposing multi-use arrangements i.e. for outpatients, in patient liaison meetings, out of hours assessments and any other parallel use of the resource.

- v) The Scottish Centre for Telehealth should advise the Scottish Government on costing of the necessary resources for demonstrator projects and collaborate in identifying appropriate services to support.

## 6) Summary – Resource Implications

- a) It is beyond the scope of this review to provide detailed costings of the videoconferencing equipment, bridging, line rental and other technical costs, but these would have to be considered as an on-going mainstream requirement for many services with recognition of the need to upgrade and replace the equipment as it becomes obsolete.
- b) Staffing requirements include the need for skills in project management, communications technology, the ability to train others in the use of videoconferencing and secretarial support. A large clinical system such as the forensic network would require dedicated staff while other smaller systems such as the eating disorders and perinatal services and networks could jointly be supported by full-time staff.
- c) Other proposals such as initiating the provision of psychological services to the islands will need short term full-time project management and technical support but in the longer term, once the service was established, the need would be significantly less. There will also be a need for the provision of the clinicians to provide this service as set out in the example in Chapter 6.

7) Key Stakeholders in the use of videoconferencing in mental health services should be brought together, perhaps in the setting of a national conference. This could focus on particular areas highlighted in the recommendations, e.g., the national and regional provision of videoconferencing in forensic and child and adolescent services and the provision of psychological services to island communities.

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## **Appendix 1**

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## Appendix 2

### Survey of Scottish Psychiatrists

Grade of staff	No of responses (%)	Specialty
Consultant	24 (57%)	12 General Adult 6 Child and Adolescent 3 Old Age 1 Psychotherapy 1 Substance misuse 1 Learning Disability
Associate specialist	4 (10%)	
Training grades	14 (33%)	

Health Board	
Ayrshire and Arran	2
Borders	1
Dumfries and Galloway	2
Fife	2
Forth Valley	3
Grampian	5
Greater Glasgow and Clyde	7
Highland	1
Lanarkshire	1
Lothian	12
Tayside	4

What is your general experience of videoconferencing in Scotland? (n =26)	
Very poor (avoid at all costs)	7.7%
Poor	15.4%
Usable	34.6%
Good	26.9%
Excellent (a valuable clinical tool)	15.4%

### When did you most recently take part in a videoconference? (n=43)

In the previous,	
week	9.3%
month	14%
3 months	4.7%
6 months	9.3%
year	4.7%
None in the previous year	58.1

### What was the main purpose? (n=21)

Clinical	28.6%
Educational	42.9%
Administrative/managerial	38.1%
Other	19%

### Free text responses

#### Please comment on your experience of videoconferencing in Scotland

Lines still slow

Difficult to book, often technical hitches

Generally good, though equipment can be problematic

We struggle to get good NHS facilities in Health Board X

National Children's IP psychiatry unit relies on videoconferencing for case conferences and for therapeutic work with families at a distance. The only difficulty occurs when main suite is in use as mobile units are less reliable

NHS Board Y does not provide this facility

Good if set up properly but slots are difficult to obtain

Would be invaluable if it were more readily available

.  
It is excellent, but the availability is less than ideal. We do not have nodes in the in-patient wards or the CMHT offices. I have asked for such nodes, but they have not been provided.

In general good and used for clinical, academic and managerial tasks. Occasional errors with equipment which tend to be human in nature.

Can be really good. Still need quite a bit of expertise to set up.

Difficulty connecting main problem but useful for management meetings

Can be difficult to interact with other sites. If conversation one way, more straightforward. Seems very complex.

Not enough around

Should be a good way to link geographically distant sites, but at present just isn't up to scratch. Not available in my hospital at all.

Difficult to operate due to technical problems. Limited number of video facilities. Poor sound qualities. Hard to read people's expressions

Poor access to facilities

**What could be done to improve videoconferencing in future or encourage you to use it more often?**

Better bridging for multiple sites

We are getting our own - more convenient and available and useable for clinical need

Increase availability of facilities for clinical supervision and for educational seminars where distance is a factor

Some technical difficulties connecting to both sites

More reliable and more widely available

Not keen on meetings not held face-to-face

On site facilities at work base, high quality support

Availability of technical support

Could improve technical support at other sites, technical support at RHSC is excellent. Some parts of Scotland have limited access to videoconferencing facilities. I would like us to have our own facilities for the ward as this would allow better communication with colleagues around Scotland as well as allowing 'video visits' with extended family and friends to enable our children to feel more connected to their homes particularly those who remain in hospital for prolonged periods.

I would be happy to use videoconferencing if it were made available

Seems like it would be very helpful for remote regions. In my location not really necessary.

Better Internet connection

More slots

More events - haven't seen any advertised near me.

More videoconferencing facilities

Facilities in the in-patients' unit and CMHT offices would make remote ward rounds, patient assessments etc possible.

Increase availability of facilities

Good facility, encouragement

Greater training for those using it in how to do so successfully. Also wider applications could be sought such as for mental health tribunals, trainee performance review and royal college meetings.

Good quality audio-visual link, ability to post / ask questions

Availability of equipment and adequate support in its use.

More experience, more traffic gridlock

Time and practice. Also, equipment in mental health premises

More availability, better connections, more support, newer equipment is better regarding sound lags.

I use it in a research context for training, supervision and meetings. Availability of quality kit and lack of familiarity, I believe is the main issue

Being shown how to use it properly.

Easier access to facilities and training/information

Allow watching the conference at any time.

More availability of facilities in hospital sites

I really don't know. I prefer to go to meetings

Either, better quality, easier use and accessibility, or looking towards using more mobile technologies such as Skype or Second Life, which can be accessed from any computer with an internet connection and microphone.

1. Better technology. 2. Greater ease of access.

Local centres with good facilities

## Appendix 3

### Mental Welfare Commission Guidance

#### What considerations need to be taken into account for a psychiatric assessment by remote video link?

People living in remote communities can benefit from 'tele-psychiatry'. This involves psychiatric examination by remote video-link. It can make more efficient use of the psychiatric practitioner's time and may save the service user a long journey to an out-patient clinic. Psychiatric consultation uses tele-psychiatry in some remote parts of Scotland. It is commonly used in remote parts of North America and in Australia. The Mental Welfare Commission for Scotland has been asked for advice on the use of medical examination by remote video-link under mental health and incapacity legislation. We have been asked whether it is appropriate to use remote examination of this type in order to conduct examinations under the Mental Health (Care & Treatment) (Scotland) Act 2003 and the Adults with Incapacity Act Scotland Act 2000. As there are, to our knowledge, no legal cases in Scotland that set a precedent as to this form of examination, we cannot give a definite answer on this. However, we have researched the literature and have found some information that might be helpful for anyone considering this course of action. Definition: 'Tele-psychiatry' is the term most commonly used in the literature. This is defined as an electronic transmission of psychiatric consultation, advice or services in digital form from one location to another using a data communication link provided by a third party carrier or carriers. This is achieved by 'videoconferencing' ie using a live, two-way interactive video and audio communication. It can be described as 'telephone with pictures'. Technology is rapidly developing that aids this form of communication. It is usually achieved by a secure broadband internet link. Acceptability: There have been several studies carried out on the views of service users on consultation by tele-psychiatry. However, this research has largely been performed using people who were wishing psychiatric consultation. Studies show that service users are generally satisfied with consultations undertaken remotely. People usually, given the choice, would opt for a face-to-face 'in person' interview to interview by remote link. However, most people preferred a remote consultation with a trained psychiatrist to an in person consultation with a less trained clinician. Also,

people preferred remote interview from a place near to their own homes to an in person interview at a distance from their homes. Reliability of psychiatric diagnosis by video-link: Several studies have shown that psychiatric diagnosis can be made reliably through remote telecommunication. Again however, this is based on research using willing service users. Legal issues: Both the 2003 and 2000 Acts envisage direct, in person interviews as being the expected method for medical examination. While neither Act specifies that such an assessment cannot be made by remote video-link, the Code of Practice for the 2003 Act states 'it would be expected that an examination would always include a direct face-to-face person examination of the patient' for assessment for a short term detention certificate. For medical examinations relating to a Compulsory Treatment Order, the Code of Practice appears to refer to 'in person' interviews. Importantly, if the user refuses to consent to the examination, 'the medical practitioners and the MHO will need to decide whether they have each been able to carry out a good enough assessment'. There is little in mental health literature on using remote video-link to perform psychiatric assessments for mental health legal procedures. However, there are reports from Australia on tele-psychiatry consultations for Mental Health Act purposes. Such consultations have been accepted under Australian mental health law for the purposes of detention and for medical recommendations for benefits purposes. In the case reports we have studied, the use of tele-psychiatry was not challenged by legal representatives. It is not possible to say what the outcome would have been had these assessments been challenged. In these cases, it appeared that either the user was previously known to the psychiatrist or that the user agreed to the interview by remote link (or both). Under the 2000 Act, both the Act and the Code of Practice appear to require 'in person' consultation. The Code of Practice particularly refers to the importance of the interview situation and of maximising the ambience of the interview situation for the adult. Therefore, our view on tele-psychiatry by remote link for Mental Health or Incapacity Act consultation is as follows. There are precedents from other jurisdictions for such interviews to take place. It is not clear, under Scottish mental health or incapacity law, that the medical practitioner or mental health officer has to be in the same room as the patient. While the Acts and Codes of Practice appear to envisage this, it is unlikely that interview by remote link was considered. Therefore, an interview in person must be considered to be the envisaged method of examination. An interview by remote video-link must be regarded as an exceptional situation. It would be a matter for the Tribunal or Court to decide whether evidence based on a remote interview is

acceptable. Exceptional circumstances could be construed as a need for a face-to-face interview but where:

- there are transport difficulties and/or
- there are time restrictions and/or
- it is impracticable for the patient or health care worker to travel.

In any event, we recommend that any such interview is followed by a face-to-face interview as soon as possible. Best practice: An interview conducted by video-link would be more likely to be accepted for legal purposes if best practice is observed in carrying out the consultation. In our review of literature and existing guidance, we have noted some good practice points that we would recommend to anybody considering interview by remote video-link:

- Technology must be of a high enough standard to provide the link. This must include a coder and decoder for security and confidentiality. There must be a monitor, camera and microphone. Picture and sound quality must be of a high enough standard to provide the service user and the interviewer with the same quality of visual and auditory information as would an 'in person' interview. Frozen and 'block type' movements may seriously impair communication and might result in a less reliable and acceptable interview. The clinician must be satisfied that the picture and sound quality is adequate to enable them to make the required clinical assessment.
- The clinician should have reasonable proficiency in the use of video conferencing equipment and must have back-up support should any difficulty occur. We would recommend some training and experience in the use of video consultation by remote link before any clinician undertakes this procedure for legal purposes.
- The clinician must give the service user a full explanation of the purpose and process of the interview by remote link. The patient should provide consent for the interview. The interview should not proceed if the user is actively refusing. If the user is compliant but not able to consent, the clinician should consult with others including care staff, relatives and advocates as to whether the interview should proceed by video-link.
- There should be a locally based health care professional with the user during the session. Also, if the user wishes, he/she could have an advocacy worker, family member or friend present.
- The clinician must provide assurances of confidentiality of the session. If the session is to be recorded, the user must be informed of this and of how that recording will be used.
- If any person other than the interviewing clinician is to be present with the clinician the service user should be informed of this and should give consent.
- The clinician must keep a written record of the content of the interview. This record must state that the interview was undertaken by video-link.
- For medical examination, there should be liaison with a local medical practitioner over the person's physical health. It would be important to know if there are any physical

health problems that could have a bearing on the person's mental state at the time.

- It is preferable that the clinician and the service user have previously met in person. We would urge caution in conducting a remote examination for legal purposes where the clinician and service user are meeting for the first time.
- Where the interview results in an application or determination under mental health or incapacity law, we would recommend that it is accompanied by a statement to the effect that the interview was : 1. conducted by video-link; 2. undertaken because of exceptional circumstances that made direct in person contact impracticable (we would recommend a description of these circumstances); 3. of sufficient quality to allow an appropriate clinical judgement to be made.

## **Appendix 4**

### **Potential Stakeholders**

#### **Patients and Carers**

Voices of experience (VOX) – a mental health service user network.  
Scottish Association for Mental Health – this organisation also provides services.  
The Scottish Recovery Network  
National Schizophrenia Fellowship (Scotland)  
Alzheimer's Scotland  
The Scottish Eating Disorder Interest Group  
Bi-polar Fellowship Scotland

There are likely to be others

#### **Clinical Professions**

The Royal College of Nursing  
The Royal College of Psychiatrists Scottish Division  
The Association of Directors of Social Work  
The Royal College of General Practitioners  
Scottish Branch of the British Psychological Society.  
Professions Allied to Medicine (e.g. Dietitians, Occupational Therapists and Physiotherapists)

#### **National Government and NHS bodies**

National Services Scotland  
NHS 24  
NHS Education for Scotland (NES)  
Quality Improvement Scotland (QIS)  
The Chief Medical Officers Directorate – Principal Psychiatric Adviser: Dr Denise Coia  
The eHealth Directorate  
The Mental Health Division  
Mental Health Collaborative  
Scottish Centre for Telehealth  
Forensic Care Network  
Courts and Prisons

### **NHS Regional Planning Groups**

North  
West  
South East

### **Health Boards**

Chief Executives  
eHealth Leads  
eHealth Clinical Leads  
Mental Health Service Managers  
Mental Health Service Clinical Managers  
Community Health Partnerships

### **Non Governmental Organisations (QUANGOs)**

The Mental Welfare Commission for Scotland  
The Mental Health Tribunal for Scotland

### **Other National Independent and Voluntary Organisations**

Penumbra  
The Scottish Development Centre for Mental Health  
The Richmond Fellowship  
The Glasgow Institute for Psychosocial Interventions  
The Mental Health Foundation  
The Scottish Institute for Human Relations  
The Institute for Group Analysis