# 'Telepsychiatry': keeping a link with an island

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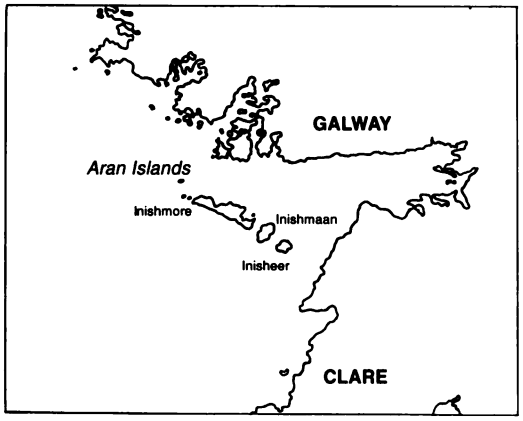


*Figure 1. Aran Islands.*

'Telemedicine' has been defined as the delivery of health care where the patient and health professional are at different locations (McLaren & Ball, 1995), and in recent years has come to be regarded as the use of telecommunications technology for medical applications. 'Telepsychiatry' is the branch of 'telemedicine' that focuses on mental health applications. Video-conferencing systems, as described by Kavanagh & Yellowlees (1995), provide effectively real-time, interactive audio and visual communication through ISDN (Integrated Services Digital Network) telephone lines. With personal computer-based video-conferencing units the requirements include a camera to capture the video image, a microphone to capture the sound, a television monitor to see and hear what is happening at each end, a coder and decoder to compress and decompress the data, and ISDN lines at both ends of the link. The quality of the received image is a function of the bandwidth of ISDN lines, with the quality of the image improving as the number of ISDN lines increases. However, the cost of transmission also increases with broadening of bandwidth; thus the consequence of this quality/cost relationship is that a balance needs to be met between sustainable cost and required quality. We report on the pilot phase of a video-conferencing link between a psychiatric department and an island located within its catchment area.

## The study

The three Aran Islands, Inishmore, Inisheer, and Inishmean, located off the west coast of Ireland, are included as part of a sector area of the West Galway Psychiatric Service. The population of these islands have been greatly affected by emigration. We have estimated that there are 53 psychiatric patients permanently resident on the three islands. The majority of this group suffer from major psychiatric disorders requiring continual monitoring. The population of the islands increases enormously during the summer months due to the influx of tourists. Medical care is provided by one general practitioner (GP), with a public health nurse resident on each island. Psychiatric care is provided by periodic visits by the community services team of the West Galway service. An out-patient clinic is held on the main island, Inishmore, every two months and every three to four months on the smaller islands. A community psychiatric nurse (CPN) visits Inishmore every month and each of the other islands on alternate months. Because of the shortage of medical and nursing staff, psychiatric emergencies on the islands can be difficult to contain, and often necessitate immediate admission, unlike emergencies on the mainland that can often be managed without resort to admission. If patients need to be reviewed urgently by the psychiatric services they must travel by sea or air to the mainland. This can often result in hospital admission because of the difficulties and uncertainties of return transport. Admission rates from the island are thus high in comparison to other similar sector areas.

The concept of an audiovisual link between the Aran Islands and University College Hospital Galway was proposed following discussions between the GP Unit of the Western Health Board and the Department of Psychiatry at the University College Hospital, Galway (UCHG). We

sourced the equipment required, and set up a one-day link between the GP's surgery and the mainland, as a feasibility exercise. Participants in this initial link included psychiatrists, nursing staff, management and technical staff, and the island GP. Four patients agreed to be interviewed via the link. Following this it was agreed that a link could be potentially beneficial to the service and thus the audiovisual link between Inishmore and the Department of Psychiatry in UCHG was established, as a pilot project. The system used is a six-line ISDN network linked with a computer-based video-conferencing system. Each link-up costs nine times the price of an ordinary telephone call for an equivalent length of time. Minimal training is required to operate the unit, which consists of a Window-based system with a remote control camera. The camera can be controlled by the user to produce a full length image of the patient or focused to allow for 'face-to-face' interaction. The quality of audio and visual reception has been good.

The link has been used by the sector psychiatrists, social worker, psychologist and community nurse. The link has mainly been used to facilitate emergency consultations between patients on the island and the duty psychiatrist, always at the request of the island GP. If the GP requires a psychiatric opinion on a patient, she telephones the duty doctor at the hospital, who arranges to set up the link at a time convenient for both parties. The practice nurse explains the procedure to the patient and places them in front of the television monitor and camera. The patient is interviewed on their own, but if they wish they can have a family member or a nurse present. Nine patients were referred for assessment in this manner over a period of eight months. Three patients had their first psychiatric contact and assessment through videolink, and were followed up as out-patients via the link to eventual resolution of the episode of illness and discharge at out-patients clinic.

One woman was referred as a first assessment three weeks after the birth of her third child by cesarean section. She was a 34-year-old woman who gave a history of significant depressive symptoms post-partum. She was originally from the mainland and felt quite isolated living on the island. She had a past history of untreated depression following the birth of her second child. She was diagnosed as having a post-partum depressive episode and was commenced on paroxetine. She was reviewed twice via videolink over the next month and showed significant improvement each time. She did not want to attend the out-patient clinic on the island, and so attended for subsequent review at the hospital clinic. At that stage her symptoms had resolved completely and she was discharged to the care of her GP.

Another patient, a single 26-year-old woman, was referred for emergency assessment as a new patient. She had presented to her GP with a six months' history of depressed mood. At interview she admitted having a death-wish and described fleeting suicidal ideation. At videolink assessment she was diagnosed as having a depressive illness. She did not wish to be admitted to hospital. She was reviewed via the link three days later and subsequently on two other occasions. She was then seen at the island out-patient clinic, and following further improvement was discharged to GP care. Further information as to the patients seen is shown in Table 1. None of the patients referred was admitted to hospital following video assessment. It is feasible to say that in-patient admission was avoided for at least three patients. The issue of certification or sectioning to hospital did not arise in any case. Each session lasted an average of 30–45 minutes. When initiation or adjustment of medication was required this was communicated to the patient and followed up by a phone call to the GP. The majority of the patients interviewed so far have had a diagnosis of depressive illness. Diagnostic stability has been maintained at later face-to-face clinic interview. The link was used on one occasion to obtain collateral history from an in-patient's relatives, where an elderly woman and her son were interviewed by a psychiatrist and a social worker. An arrangement is in place

Table 1. Patients referred for assessment

| Gender | Age | Diagnosis | No. of sessions | Reason for referral |
|---|---|---|---|---|
| F | 34 | Postnatal depression | 3 | First referral, death-wish |
| F | 26 | Depressive episode | 4 | First referral, depressed |
| F | 40 | Depressive illness | 3 | First referral, depressed |
| F | 28 | Depressive illness | 1 | Relapse of illness |
| F | 67 | Panic disorder | 3 | Anxiety symptoms |
| F | 30 | Depressive illness | 1 | Depressed |
| F | 43 | Bipolar affective disorder | 1 | Routine review |
| F | 54 | Schizophrenia | 1 | Routine review |
| M | 46 | Schizophrenia | 1 | Routine review |



https://doi.org/10.1192/pb.22.1.47 Published online by Cambridge University Press

whereby the CPN, following domiciliary visits, can contact the psychiatric unit to set up a link, if he deems this necessary. Though the number of patients involved has been small, the link has worked well and proved both acceptable and accessible to the patients concerned. All patients and staff who have used the link were questioned directly as to their response to the link. One woman was seen initially by a doctor and subsequently on two occasions by a psychologist. She expressed reservations about discussing personal issues on the videolink. In general, patients involved have been comfortable with the technology, and it has not proved a barrier to establishment of rapport. All health professionals who have used the link have found it satisfactory. We are investigating the possibility of the addition of software that would allow us to transmit documents, including prescriptions and clinical notes.

## Comments

As with other 'telepsychiatry' projects, this videoconferencing link is in no way envisaged as replacing the existing community service to the Aran Islands, but is viewed rather as a complementary or ancillary service. The number of patients involved initially has been very small, but in these individual cases use of the link avoided patient travel by sea or air for emergency consultation on the mainland. Three patients were reviewed at follow-up sessions on three to four occasions, again obviating the need for patient travel. However, the use of the link is limited by the geography of the area it serves. The equipment is expensive and the island itself is very small. The number of resident patients on one island alone means that the link is not cost effective if reserved for the use of psychiatry alone. This has been a pilot project, with the psychiatric services being the first speciality locally to investigate the possible uses of a video-conferencing link. Specialists in plastic surgery and dermatology have expressed interest in using the link and arrangements are being made to include these departments and hopefully others in the clinical service.

Our experience has been that video-conferencing systems are acceptable and satisfactory for patients and staff alike. While our video-conferencing link has had its limitations, we believe that further research into this area of 'telecare' would prove useful in psychiatry.

## References

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https://doi.org/10.1192/pb.22.1.47 Published online by Cambridge University Press