Innovating for Improvement

Introducing Telepsychiatry into Routine Practice in an Emergency Department Psychiatric Service

Oxford Health NHS Foundation Trust

The Health Foundation

About the project

Project title: Introducing Telepsychiatry into Routine Practice in an Emergency Department Psychiatric Service

Lead organisation: Oxford Health NHS Foundation Trust

Partner organisation: Oxford University Hospitals NHS Foundation Trust

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Part 1: Abstract

Introduction

Currently there is research evidence of clinical effectiveness, cost effectiveness and acceptability of telepsychiatry (the delivery of psychiatric assessment or care via videoconferencing) among both patients and providers. It has been adopted increasingly in Australia and the USA, but has yet to be widely adopted in the UK despite the potential benefits. The most regularly identified barrier to introduction of telepsychiatry is staff reluctance.

Project aims

The Emergency Department Psychiatric Service (EDPS) is based in Oxford but also covers a regional emergency department (ED) 27 miles away. There can be significant delays in assessing patients at the distant ED due to travel times. We also offer follow-up appointments but struggle to get out-patient rooms, or offer convenient appointments. With our Innovating for Improvement grant from the Health Foundation, we have introduced the use of telepsychiatry in three ways: to get easy access to senior medical opinion on complex cases, to offer patients at the at the distant ED the choice of an immediate specialist assessment via videoconferencing, and to provide follow-up appointments using the patients' own phone, tablet or computer at a convenient time.

Project progress

We undertook baseline surveys of mental health staff, ED staff and patients. As expected, there was a degree of scepticism that this approach would be effective and acceptable (with mental health staff proving most concerned). EDPS staff were given the opportunity to practice video-conferencing calls and to discuss concerns on an away-day, but also in individual sessions with our project assistant. Once the fixed video-kiosk was in place at the remote hospital, staff were encouraged to discuss each case with a consultant or peer via the video-link. We also started to 'attend' multidisciplinary meetings via videoconferencing.

During this period our clinical project assistant based herself at the remote hospital in order to facilitate initial assessments, gather feedback and engage the ED staff. Our project benefitted from input from a patient expert by experience who reviewed our information and protocols and made helpful suggestions about the set-up at the remote hospital. Our clinical research assistant started to facilitate new assessments which allowed us to test the technology, patient and staff feedback forms and to refine our protocols.

Challenges

Our biggest initial challenge was the stability and reliability of the internet connection but changing to another videoconferencing platform provided a more stable connection. Resourcing our assessment room appropriately, sourcing kit (such as a ligature-free tablet holder), setting up the tablets and installation took longer than

expected.

Another challenge was staff shortage in our own team which meant that we had fewer clinicians regularly available, severely affecting our ability to accept patients into our follow-up clinics and recruitment into that arm of this project.

We refined and agreed protocols with ED staff and found solutions to their most pressing concern: that their workload would actually increase by facilitating these assessments.

Outcomes

We 'went live' on 31 October 2016, offering new assessments using telepsychiatry at the remote hospital ED , and stopped collecting data on 22 January 2017, a period of 12 weeks. During this period there were 103 referrals from the remote ED, of which 13 self-discharged prior to being seen and five were transferred to another ward. Of the remaining 85, 44 new assessments (52%) were undertaken by telepsychiatry. This was far more than we expected (we had estimated we would complete 6 new assessments in the project). Although only 20 patients provided feedback, 90% of those rated their overall experience as either excellent or good and only three patients did not feel they would want to use telepsychiatry again or recommend its use.

Only ten follow-up sessions, using patients' own technology, were done during the study, but these were all rated excellent or good. Staff feedback was similarly positive: 50 responses were received and 92% said they were extremely likely or likely to use this type of technology again.

One of the key drivers of this project was to reduce the amount of time, and expense involved, in clinicians driving between the main and remote hospital. During the three month 'go live' period, 44 assessments were undertaken saving 88 hours of clinician travel time and £975.92 in expenses.

Impact

On the basis of the previous year's numbers, if 50% of these were to be done by telepsychiatry in the next year, the Trust would save almost £5,000 in travel costs and over 400 hours of clinician time. Our main aim is to persuade other teams to start incorporating telepsychiatry into their routine practice and we are developing a short video, illustrating our initial concerns, experience and success, which is aimed at tackling staff's concerns and reluctance to use this type of technology. There is a clear commitment from the Trust to expand this project to other teams.

Most importantly, the team has recognised the benefits to patients and ED in new assessments being done promptly, and this has led to the use of telepsychiatry becoming a routine 'offer' for new assessments at the remote ED, and to patients being offered follow-up appointments.

Part 2: Progress and outcomes

The following data was collected during this project:

1. Initial surveys of attitudes to telepsychiatry, asking similar questions to mental health staff, ED staff and patients. Questions were based on published literature and existing patient satisfaction questionnaires.

2. Feedback questionnaires were designed for clinicians and patients who had undertaken a telepsychiatry session. We benefitted from input from a patient expert by experience and circulating the drafts widely for comment.

3. Patient demographics were collected, as they are routinely for all assessments undertaken by our team.

Initial surveys

Surveys were undertaken of mental health staff both within our team and more broadly amongst community mental health teams (n=66), as well as the Emergency Department staff (n=36) and patients (n=51). As expected, there was a degree of scepticism that this approach would be effective and acceptable (with mental health staff proving most concerned), and an unexpected theme of 'moral outrage' appeared from a minority:

"I cannot imagine that this will be perceived by individual patients and patient groups as anything but an attempt to cut costs at the expense of therapeutic relationships. Frankly this is a disgraceful proposition."

Mental health staff were most concerned about how to manage a distressed patient while using telepsychiatry but 40/47 free text comments from staff mentioned savings in terms of time and efficiency. Some patients were similarly enthusiastic about potential benefits:

"Makes the service more accessible."

How likely are you to recommend using this sort of technology to patients?

Legend:
- Extremely unlikely
- Unlikely
- Neither likely nor unlikely
- Don't know
- Likely
- Extremely likely

Categories: Patients, MH staff, ED staff
Axis: 0%, 50%, 100%
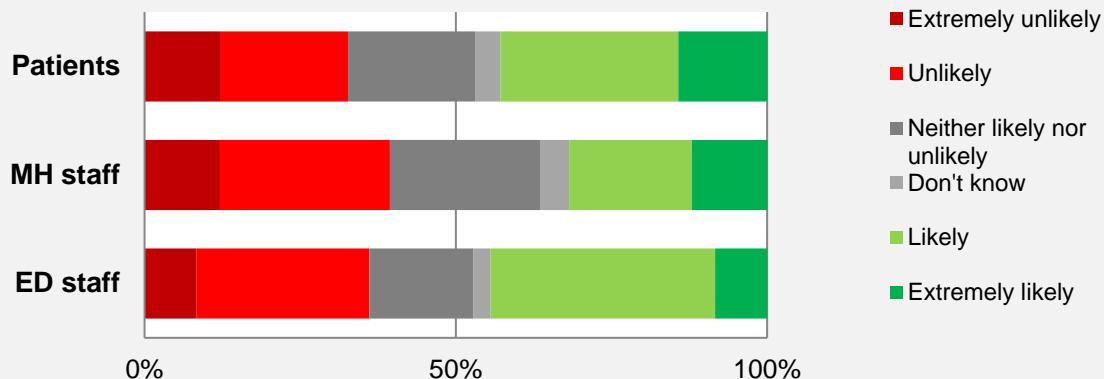
How confident do you think you would be that the EDPS clinician had gathered sufficient information from the video assessment, as compared to a face-to-face assessment?

Legend:
- Not at all confident
- Not very confident
- Quite confident
- Very confident

Categories: Patients, MH staff, ED staff
Axis: 0%, 50%, 100%
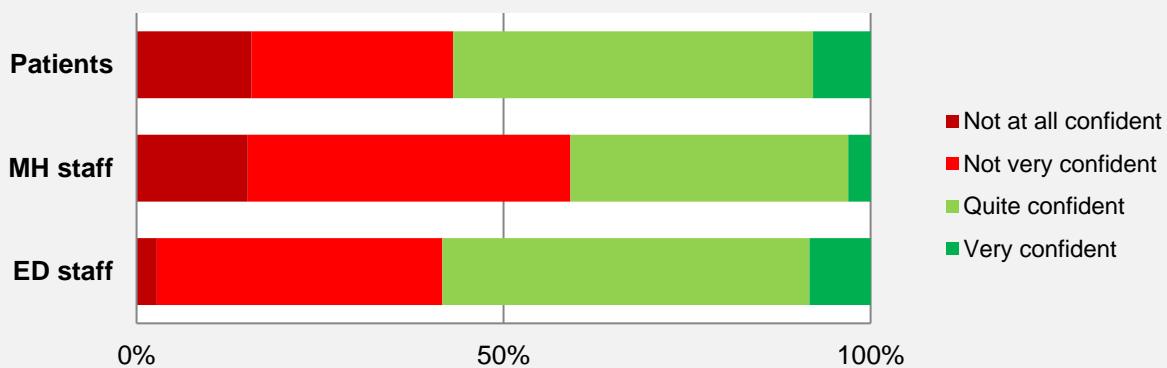
Familiarisation

Staff in the team were given the opportunity to practice telepsychiatry and to discuss concerns on an away-day, but also in individual sessions with our project assistant. Once the fixed video-kiosk was in place at the remote hospital, staff were encouraged to discuss each case with a consultant or peer and to 'attend' multidisciplinary meetings via video-conference.

Clinician comments during this period included:

"Saved a lot of time and very helpful to be able to see the other clinician when discussing a case - much better than over the phone" and *"So much better to see the person whilst we were discussing a case. I interrupted her less as I could see when she was coming to the end of her sentence. I could see how concerned and anxious she was about the suicide risk in the patient. I could also see if she felt reassured about the risk of the patient as I made suggestions for management."*
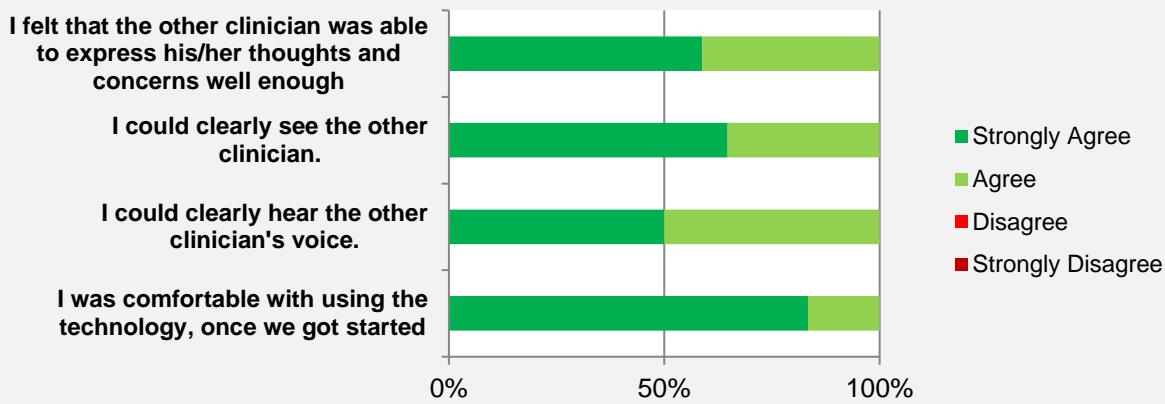
New assessments

We 'went live' on 31 October 2016, offering new assessments using telepsychiatry at the remote hospital ED , and stopped collecting data on 22 January 2017, a period of 12 weeks. During this period there were 103 referrals from the remote ED, of which 13 self-discharged prior to being seen and five were transferred. Of the remaining 85, 44 new assessments were undertaken by telepsychiatry. Of these, 27 were female and 17 male (ratio of 1.59:1).

Age distribution of new assessment patients seen via telepsychiatry (n=44)
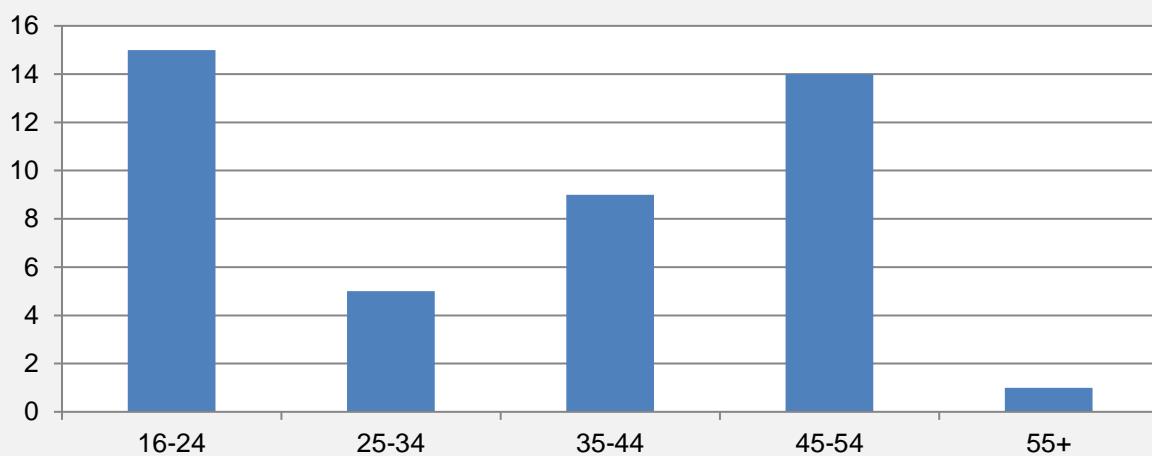
Reason for referral: new assessment patients seen via telepsychiatry (n=44)

A bar chart with the following approximate values:

Reason	Count
Anxiety	1
Eating disorder	1
Low mood	1
Psychosis	4
Suicidal ideation	18
Self-harm	19
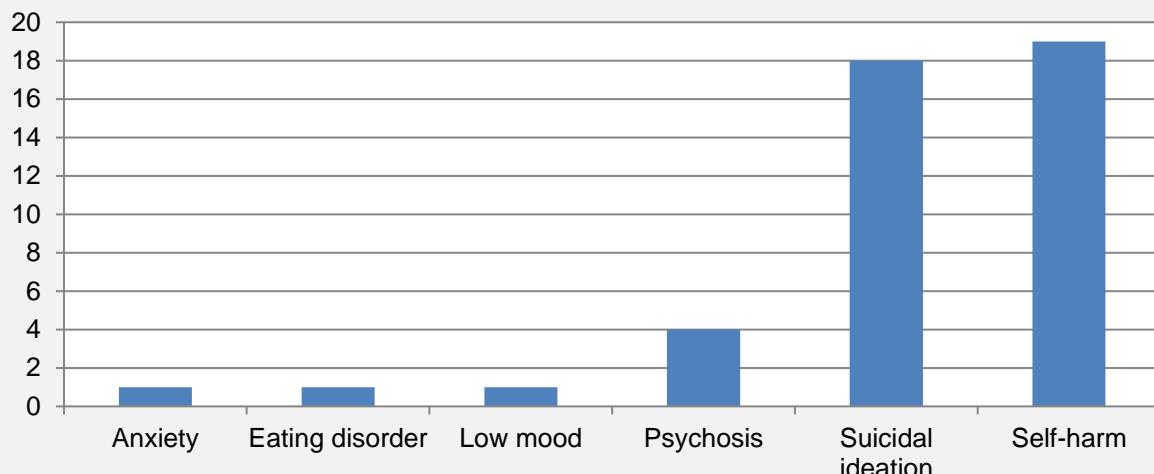
New assessment patient feedback

Patient feedback (n=20) was overwhelmingly positive with 90% rating their overall experience as excellent or good. Only 3 patients did not feel they would want to use telepsychiatry again or recommend its use.

How would you rate your overall experience of using telepsychiatry?

Pie chart with the following values:

- Excellent: 30%
- Good: 60%
- Fair: 5%
- Poor: 5%
- Extremely Poor: 0%

Chart legend:
- Extremely Likely
- Likely
- Neither Likely Nor Unlikely
- Don't know
- Unlikely
- Extremely Unlikely

Categories:
- How likely would you be willing to use telepsychiatry in a mental health setting again?
- How likely are you to recommend using this sort of technique to friends and family?
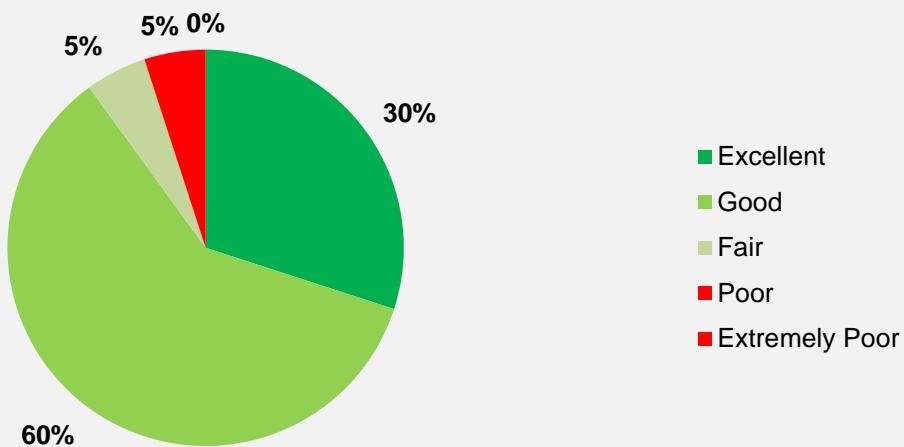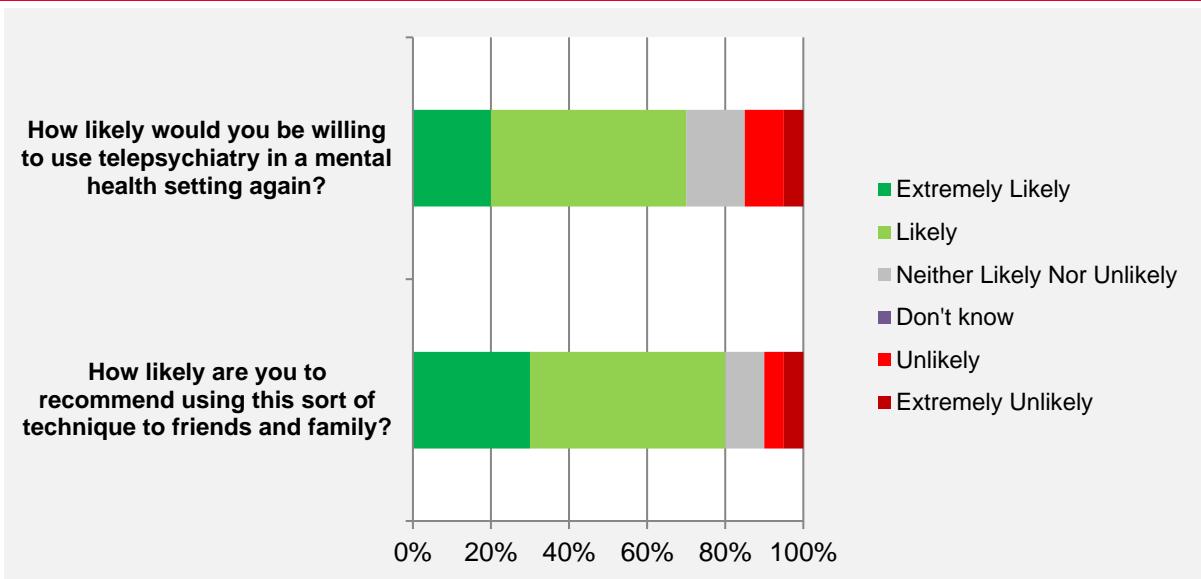
Comments from patients include:

- *It's brilliant that there is no travel or expense involved. I was nervous as to how this would be but I was really surprised as to how effective it was and how you almost forget that the other person isn't in the same room as you.*
- *Just that it was a great new experience!*
- *Was generally 'good' & image & audio were both clear.*
- *I found this extremely useful, convenient and actually enjoyed my session. Thank you.*
- *Communication was clear*
- *It really helped me cope with my emotions better*
- *None, really just surprised how personal the experience, was. I was very sceptical when the Doctor told me how they were going to conduct the assessment.*

Some patients did find it difficult, but these were in the minority:

- *I found it hard to really trust talking to the person as I find you need to be in person to open up.*

Follow-up clinic patient feedback

Only 10 follow-up clinic sessions (2 patients) were done by telepsychiatry, but again patient feedback was very positive with all sessions rated either excellent or very good. One patient was able to have her last session while on holiday in Europe.

How would you rate your overall experience of using telepsychiatry?

0%

36%

64%

- ■ Excellent
- ■ Good
- ■ Fair
- ■ Poor
- ■ Extremely Poor
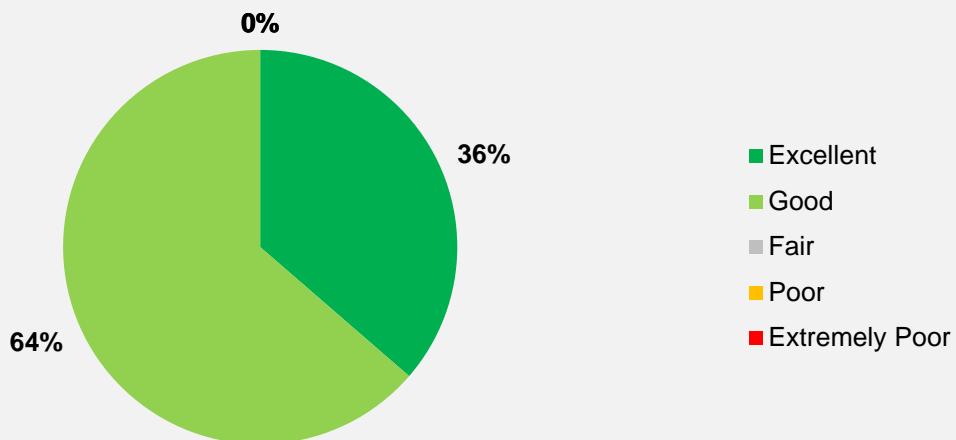
Staff feedback

Clinician feedback for the new assessment trial period, combined with feedback on follow-up sessions (n=50 feedback received), was very positive. Only one clinician felt that doing the assessment via telepsychiatry hampered their ability to sufficiently assess patient risk, and 7 (14%) felt that it hampered their ability to manage patient distress. However, 92% felt that they would be willing to use this sort of technology again.

Clincian feedback new assessments and follow-ups n=50

Chart legend:
- Strongly agree (dark green)
- Agree (light green)
- Disagree (red)
- Strongly disagree (dark red)

Categories (top to bottom):
- The use of telepsychiatry hampered my ability to sufficiently assess patient risk
- The use of telepsychiatry hampered my ability to manage patient distress
- The use of telepsychiatry hampered my ability to establish a good rapport with the patient
- I felt that the patient was able to express his/her feelings and concerns well enough
- I could clearly see the patient to detect subtle changes in facial expressions, gestures and posture
- I could clearly hear the patient's voice enough to detect any changes in tone and inflection
- I was comfortable with using the technology. once we got started

Clinician feedback new assessments and follow-ups
n=50

Chart legend:
- Extremely likely (dark green)
- Likely (light green)
- Neither likely nor unlikely/Don't know (grey)
- Unlikely (red)
- Extremely unlikely (dark red)

Categories:
- How likely would you be willing to use this technology again?
- How likely are you to recommend using this technique to friends and family?

Clinician comments include:

- *Overall, though, I thought it was effective and I think it was definitely possible to build a rapport - much more so than a telephone conversation.*
- *I was really anxious about my assessment as it was my first TAP one and I am not a lover of FaceTime. However, the vision was great and despite the sound issues we managed well. The patient was not fazed by it at all! I was able to still establish a good rapport with her, which had been one of my concerns.*
- *Efficient system; well thought out and convenient.*

- *This was the first time I really felt comfortable with using this technology, before this I had to brace myself a bit before starting, but this time it felt completely comfortable and easy (I think I am used to it now!) and felt like it was just as good as a face-to-face assessment. It saved me over 2 hours of driving time (when I can't do any other work) and the patient was seen far more quickly, and discharged promptly from ED. Many thanks to the ED staff who facilitated the interview.*
- *I do not understand why we are not using more of this technology.*

Part 3: Cost impact

One of the key drivers of this project is to reduce the amount of time, and expense involved, in clinicians driving between the main and remote hospital. The distance between the two hospitals is 27.72 miles and the average time it takes (including finding parking) is an hour each way. The cost of each return journey (40p/mile) is £22.18.

During the three month 'go live' period, 44 assessments were undertaken saving 88 hours of clinician time and £975.92 in travel expenses. Using a carbon footprint calculator (www.carbonfootprint.com) and an average petrol car, the total CO_2e saving was 0.75 tonnes.

Between June 2015 and June 2016, 444 assessments took place at the Horton. During the trial period 52% of assessments were undertaken by telepsychiatry. If 50% of assessments were done annually (222 assessments), the savings would amount to 444 hours of clinician time, £4,924 in travel expenses and 3.80 tonnes of CO_2e.

Due to the small number of follow-up patients seen, we did not calculate their savings accrued by not having to come to the hospital, organise childcare, pay for parking etc. Patient feedback regarding savings was sought from those doing follow-up appointments:

- *Yes, saved on petrol money to Oxford & about 30-40 mins driving/travel time. Also meant there was less of a delay in seeing the therapist*

- *Yes 20 minutes, £20. A lot less pressure.*

- *Traveling time and cost, 2 hours maybe taxi drive depending on location*

- *I saved time and the cost of travel because I work weekdays 9-5*

- *It's brilliant that there is no travel or expense involved.*

EDPS is commissioned via a three way contract with Oxford Health Foundation Trust, Oxford University Hospitals NHS FT and the Oxfordshire CCG. A key performance indicator is 'breach time' – that all assessments at the remote ED should start within 90 minutes of referral. In time, we will monitor if using telepsychiatry has reduced the number of breaches which have, in the past, been due to the time it took to travel to the ED. There are unlikely to be any on-going spend needed to sustain this project in our team, and it has already been embedded in our routine practice. We will continue to monitor how many assessments are done in the coming financial year, and the savings accrued.

The majority of the costs of this project were the spend on the project manager and clinical research assistant. Technology spend was relatively small, and the costs of the familiarisation training were not as high as we expected (see budget). The Trust

has already supplied tablet computers to all clinical staff, and there would be relatively small additional costs in supplying tablet holders, fixed 'kiosks' in some locations and familiarisation training to staff.

Part 4: Learning from your project

Getting an award for an innovative project is both exciting and daunting – we were unsure that it would prove a success, but overall we are hugely pleased with the result of the project. Our staff have found using telepsychiatry not as awful as expected, and in fact very positive for both patients and the service, and it is now part of our routine clinical offer to patients. Our hope, now, is to persuade other teams to start using this sort of technology.

Our initial prediction was that we would mostly do 'second opinions' rather than new assessments via the fixed video kiosk at the remote hospital. However, we found very quickly that although second opinions were useful as a familiarisation technique for staff, they were not frequently necessary in routine clinical work. Our excellent clinical project assistant was very helpful in facilitating new assessments in the early phases of the project, and this gave clinicians confidence in using the technique. It was also helpful to have input from a patient expert by experience. We were, however, very surprised at how keen both staff (including the junior doctors on-call) and patients were to 'give it a go' and to complete 44 new assessments in 12 weeks after 'going live' was hugely exciting.

Our biggest challenge, and ultimate disappointment, was failing to recruit a significant number of patients for follow-up clinics via telepsychiatry. The main reason for this was that the staffing of the team was reduced significantly for a period, and this meant that very few follow-up appointments were offered for almost the whole of the project. Both of the patients who did complete their follow-up sessions via telepsychiatry were very positive about their experience, and the clinician involved has become a strong advocate for the use of this technology We hope to expand this area of our practice significantly in the following year.

Other challenges were not as unexpected, although frustrating: procurement, estates and IT set-up times took much longer than expected. The initial videoconferencing platform we trialled was not a success and swapping over to an alternative significantly improved the stability of the connection, and staff and patient satisfaction. We found it difficult to get patients to respond to our initial baseline survey despite publicising it widely on social media and local patient support groups, and our project manager and clinical project assistant both worked very hard to gather feedback in community clinics. This resulted eventually in getting a good sample of opinion. We also found it difficult to get patients to do feedback questionnaires after they had their assessment. We felt this was due to a combination of factors, particularly patients wanting to leave promptly and clinicians not remembering to ask the ED staff to hand out the forms. We put reminders in the protocols for both clinicians and ED staff, offered a voucher to patients for completing the feedback and attempted to contact patients after their assessment to complete the feedback. Despite these strategies, only 20/44 new assessment patients completed feedback forms.

One area which we thought would be very difficult was engaging the staff in the ED in the remote hospital – they would be the ones who would have to explain the project to patients and facilitate the assessment and there were understandable concerns that this might add to their workload. Our clinical project assistant based

herself in the ED for several days a week and got to know the staff well, and the support of the matron for the ED was invaluable: she was an outstanding advocate for the project, which would not have been such a success without her input and enthusiasm.

Senior management in the Trust have expressed interest in the project being spread more widely and we think that it is a low-cost, low-risk option which is acceptable to patients and can be used to enhance patient care and reduce costs, particularly for Trusts covering large rural areas where travel is a major time and financial cost. It is interesting that we have also been approached by a number of other organisations, who are not mental health Trusts, who are interested in our experience of using this technology.

We have learned a huge amount from doing this project. We discovered that health services evaluation is much less rigid than research and a 'give it a go' attitude is necessary. We learned to be flexible and to adapt to issues as they arose, and not to be afraid to adjust protocols as needed. If we were to do this project again, the only thing we would change would be to build in clinical cover for the consultants leading the project. The project would have moved more quickly, and run more smoothly, if the clinical leads had clear time allocated to the project, instead of simply fitting it in around all their other responsibilities.

We learned that our team is innovative and excited about new opportunities, and not afraid of change. Doing this project has made our team more confident, and proud to be leading change in the NHS.

Part 5: Sustainability and spread

The offer of a telepsychiatry assessment for patients at the remote ED is now entirely routine, and since the end of the initial 12-week period, where we collected data for this report, we appear to be running at a similar level of telepsychiatry assessments, around 50% of eligible referrals. We are also offering follow-up sessions by telepsychiatry and one further patient has taken this up, although this is an area we hope to expand significantly on in the coming year as we recruit permanent staff again.

With the agreement of the Health Foundation, we decided to replace the tablet at the remote hospital with a larger unit, to enhance patients' experience (one patient had, in fact commented that they would have preferred a larger screen). We have agreed with the Trust to install the original unit on an in-patient ward so that community clinicians based some distance away from the ward can have discussions with their patients when they are admitted to hospital, and attend ward rounds remotely. The aim is to reduce travel time and costs, and increase the likelihood that community staff will be able to continue to engage with their patients who are admitted. During the project we discovered a number of ways to help set up this sort of link: how to set-up the tablet computers (for example so that the patient cannot access other features, so that the computer does not turn off etc), how to familiarise staff with using this technology, and low-cost solutions such as 'sticks' which keep the clinician's tablet in a fixed position, allowing a better picture and the clinician is able to take notes during a consultation. Our team hopes to be able to meet with some of the community teams to share their experiences and support them in using the link to the ward. We will be applying for a small-scale spreading improvement award in order to do this work more efficiently and to reach most of the community teams in the Trust.

There are few technological barriers to spreading the use of telepsychiatry in our Trust – all clinicians have been supplied with tablet computers already. However, as expected from the background literature, we identified staff reluctance as a major barrier to introducing the use of this technology. We are using the underspend in our budget, as agreed, to develop a short video, illustrating our team's initial concerns, experience and success. This will be used to help staff to think about their reluctance to use telepsychiatry with their own patients.

We have had interest expressed in the project from the local ambulance service who would like to trial using it for patients with mental health difficulties so that paramedics can link with the ambulance conrol mental health worker, who may also be able to interview the patient directly. The aim is to reduce the rate of unnecessary attendances at ED. We have had a number of organisations contact us for information about our experiences, including private providers of neuro-rehabilitation services and forensic services.

A poster has been accepted at the Psychiatric Liaison Accreditation Network conference, a presentation of the project has been accepted at the King's Fund Digital Healthcare Congress in July 2017 and we will be contributing to a masterclass in telepsychiatry at the Royal College of Psychiatrists International

Conference in June 2017. We hope to write up the project for publication in the Health Services Journal.

Appendix 1: Resources and appendices

Patient information leaflet:

telepsychiatry-leaflet
final.pdf