



Advanced Interventions Service

Annual Report 2018/19



University
of Dundee



University College London Hospitals 
NHS Foundation Trust

Host Board: NHS Tayside

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Executive summary

This report covers the period between 1 April 2018 and 31 March 2019; and is presented in NSD's new reporting format.

Summary of activity for year ending March 2019

	Actual	Predicted
Assessments	30	24
Neurosurgical procedures	2	3-5
Follow-up	5	12
Intensive OCD treatment	4	3-5
OCD Outreach	2	-

Referrals

Forty-one referrals (20 men and 21 women) were received during the reporting period. The M:F ratio was 1:1. The mean (\pm SD) age of referrals was 46.3 ± 16.3 years.

Assessments (Section 2.3)

Thirty assessments were conducted during the 2018-19 financial year for 25 patients. Thirteen men and twelve women were seen, with a mean age of 46.3 years (range 17.8 – 73.8 years). Most (80%) assessments were for Scottish patients. Four assessments were conducted outwith the SLA.

The location for assessments was as follows: 63.3% of assessments took place at Ninewells Hospital; and 26.7% took place in the patient's home. Another hospital was the location of assessment for 10% of assessments.

The percentage of people seen with OCD was 36%, with 16% having major depression. Twelve percent of assessments had an autism spectrum disorder. Other disorders were also seen. These reflect the diagnosis made by the AIS (rather than the referrer) and indicate the nature of complex and comorbid mental disorders reaching tertiary and quaternary services.

Procedures (Section 2.4)

Two neurosurgical procedures were performed during 2018-19. Both were cingulotomies and both were for chronic, severe, depression.

Intensive treatment for OCD (Section 2.5)

Four individuals underwent intensive treatment for OCD and two people were assessed as part of the outreach programme. Two of the intensive treatment programmes were delivered entirely in the patient's own home.

Mortality data & adverse effects (Section 3.5)

There continue to have been no deaths and no post-operative infections during the reporting year. Rates of adverse effects are unchanged from previous years and are consistent with the published literature on the procedures undertaken. Consistent and widespread effects on neuropsychological functioning continue to be undetectable.

Waiting times (Section 3.3)

The average (\pm SD) waiting time (from referral to assessment) for Scottish patients was 11.7 \pm 10.6 weeks. Overall, 50% of Scottish patients waited less than 8.7 weeks to be seen and the shortest waiting time was 5.1 weeks. Seventy-five percent of people waited less than 10.5 weeks to be seen. Only three people waited longer than 12 weeks but there were documented reasons for the delay (*e.g.* awaiting further investigations) in all cases.

Quality of care (Section 5.4)

Formal complaints

There was only one piece of negative feedback that was managed under the formal complaints process. It related to a breakdown in communication that the service apologised for and it provided a full written explanation.

Improving the patient experience – patient satisfaction

Patient satisfaction for outpatient assessment and inpatient admission continues to be high, with the overwhelming majority reporting positive experiences of the service.

Best value healthcare – clinical audit and outcomes (Section 3.4)

Outcome data for cingulotomy

The following table only includes those patients undergoing cingulotomy reviewed in 2018-19. It is not possible to generalise to all patients undergoing the procedure. Those undergoing other procedures (*e.g.* VNS, ACAPS) are not included here.

Indication for surgery	Size of change in symptom scores (categories are exclusive)			
	≤20%	≥20%	≥35%	≥50%
Depression (N=3)	-	-	1	2
OCD (N=0)	-	-	-	-

Intensive OCD treatment

Four patients have been treated as part of the intensive OCD treatment programme, although one was admitted for extended assessment. Three out of four patients experienced an improvement in symptoms of greater than 50% and would be considered 'responders' to treatment. More details on treatment response are in section 2.5.2 below.

Teaching and research activities (Section 7)

This year, the service contributed to the hosting of the Congress of the European Society for Stereotactic and Functional Neurosurgery (ESSFN) and many members of AIS staff presented at the conference.

The service continues to publish on a regular basis and all staff members (including nursing staff) have presented posters at International conferences.

Summary and conclusions

The service meets a relatively niche but important need in Scottish mental health services, and we recognise that we operate in a rapidly changing landscape where mental health services continue to be under increasing stress. Further, services are under-developed at a tertiary level.

Despite this, the outcomes from neurosurgical treatment and intensive OCD treatment are comparable to other expert centres worldwide and represent meaningful outcomes for patients who do not respond to conventional treatments. The service ensures that patients with OCD can access specialist treatment in their own country and at a much lower cost than accessing it south of the border.

We continue to explore opportunities for further developing the service with our commissioners so that we can meet the future needs of NHS Scotland and patients with difficult-to-treat mood disorders and OCD. Some of these possible developments are discussed in Section 8 below.

1 Service delivery

1.1 Overview of the service

The Dundee Advanced Interventions Service provides comprehensive, multidisciplinary clinical assessments for patients with chronic, treatment-refractory depression (TRD) and Obsessive-Compulsive Disorder (OCD).

The service represents one of only a few clinical teams internationally who provide neurosurgical interventions for psychiatric disorders. The provision of psychiatric neurosurgery by a multidisciplinary/ multi-professional team with members drawn from psychiatry, neurosurgery, and mental health nursing is, to our knowledge, entirely unique internationally. However, it is only by drawing on such multidisciplinary expertise within an integrated clinical team that patients with such disabling, long-term, healthcare needs can be provided with comprehensive, bespoke, treatment plans that best meet those needs.

Since April 2013 we have also been able to provide intensive (often inpatient) treatment programmes for people with chronic and severe OCD for whom other treatment options have been tried and failed. We also provide outreach to community mental health teams who are treating patients with OCD.

1.2 What is Neurosurgery for Mental Disorder (NMD)?

The standard definition of Neurosurgery for Mental Disorder (NMD) is that provided by The Royal College of Psychiatrists:

“...a surgical procedure for the destruction of brain tissue for the purposes of alleviating specific mental disorders carried out by a stereotactic or other method capable of making an accurate placement of the lesion” (Royal College of Psychiatrists, 2000)

This definition is most relevant to ablative (lesion-based) neurosurgery procedures (for example, Anterior Cingulotomy). However, although the term ‘NMD’ is often used to refer to non-lesion based neurosurgical procedures such as Vagus Nerve Stimulation (VNS) and Deep Brain Stimulation (DBS), these latter treatments are more accurately referred to as ‘neuromodulation’. Similarly, other treatments such as Transcranial Magnetic Stimulation (TMS/ rTMS)¹ or Direct Current Stimulation (DCS)² are considered to be neuromodulatory

¹ https://en.wikipedia.org/wiki/Transcranial_magnetic_stimulation

² https://en.wikipedia.org/wiki/Transcranial_direct-current_stimulation

and are not currently provided by the Service. More information on TMS can be found below in Section 8.1.

1.3 The current status of neurosurgical treatment

The Royal College of Psychiatrists has issued a position statement on psychiatric neurosurgery. The College position is:

“The Royal College of Psychiatrists considers that the delivery of safe and effective neurosurgical interventions represents an important element of the ethical and optimised management of patients with chronic, otherwise treatment refractory mental disorder – specifically mood disorders (Major Depression and Bipolar Disorder) and Obsessive-Compulsive Disorder (OCD). The evidence base to support this College position is derived from an accumulated literature comprising open case series evaluations, some of prolonged duration and high quality.” (Committee on ECT and Related Treatments, 2017)

1.4 Designation as a National Service

The Dundee Advanced Interventions (Neurosurgery for Mental Disorder) Service was first designated as a National Specialist Service in April 2006 and became fully staffed in the first quarter of 2007. We have now been operating as a full service for over ten years (2007-2018).

1.5 Description of the patient pathway – neurosurgical treatment

1.5.1 Target group for service

The service exists to provide specialist assessment and treatment options for patients with severe, chronic, treatment-refractory depression and OCD. Although ‘chronic’ depression is usually defined as unremitting symptoms for at least two years (American Psychiatric Association, 1994), the patients we see are defined not only by prolonged periods of illness, but also by having not responded to a range of pharmacological (*e.g.* antidepressants), physical (*e.g.* ECT), and psychological (*e.g.* Cognitive-Behavioural Therapy) treatments.

It should be noted that tertiary-level services for patients with mood disorders (*e.g.* depression), and anxiety disorders (*e.g.* OCD) do not exist in Scotland. Dundee AIS, whilst operating to some extent as a quaternary service, will often assess patients with complex mood and anxiety disorders for whom there is uncertainty about diagnosis or management.

We consider this to be an essential part of delivering a useful service to clinicians and the people of Scotland.

Whilst this means that some patients referred to the AIS might be at low likelihood of progressing to neurosurgical intervention, it does mean that: *a)* Patients for whom future treatment options are uncertain are able to benefit from a specialist, multi-disciplinary assessment; and *b)* we may become involved with patients at an earlier stage who may later enter a neurosurgical treatment pathway. This improves communication between clinical services, provides improved continuity and clinical care for patients, and facilitates decision-making later.

1.5.2 Referral

Referrals to the AIS come from consultant psychiatrists who are asked to retain clinical responsibility for the coordination and delivery of patient care in the patient's locality throughout the assessment process. We are unable to accept referrals from psychiatrists working in the private sector but would instead make recommendations for transfer of care to the NHS and subsequent onward referral if clinically indicated.

Referrals are accepted on the understanding that the referring consultant retains overall clinical responsibility for the ongoing care of the patient, including the implementation of any treatment recommendations made by the service. The patient's own psychiatrist and team has a clear accountable role for the overseeing of ongoing treatment and the coordination of relevant clinicians and organisations.

Referrals are accepted from throughout the UK and Eire. We recommend that referrals from outside of the UK are only made following detailed prior discussion. In some cases, we can advise on accessing comparative services within the referring country.

1.5.3 Assessment

We anticipate that patients will normally be able to travel to Dundee for assessment. However, it is acknowledged that there are some clinical circumstances where it is better for us to travel to conduct the assessment:

- 1) Where the patient is currently a hospital inpatient and travel to Dundee may be impractical. Patients who are detained under the respective mental health act will usually be assessed locally;
- 2) Where the patient cannot attend for reasons such as: infirmity; concerns over mental state; legal status; or inability to leave home (due to symptom severity, for example);
- 3) Where it is considered of additional importance to assess the patient at home. For example: in the case of severe obsessive-compulsive disorder where symptoms

may manifest most prominently within the home environment, and it is important to observe and understand the nature of the symptoms.

Assessments will usually take place over the course of a full day. Prior to the patient's attendance, we will have endeavoured to have reviewed all available case notes so that we have as much information as possible on previous treatments, response, and adverse effects. This means that when we see the patient we can focus on presenting difficulties and structured assessment.

In the morning, the patient will undergo an extensive diagnostic psychiatric assessment, using diagnostic interviews and standard rating scales to quantify the severity of symptoms and associated disability.

We will also meet with relatives/ carers/ friends so that we can get a comprehensive understanding of the patient's difficulties. This is often done as a separate interview (with the permission of the patient) so that we can also get important information about the individual's premorbid functioning and the effects of illness over time. Many carers or family members tell us that this is often the first time that anyone has spent time with them.

In the afternoon, an experienced psychological therapist will focus on the previous psychological therapies that the patient has received and explore the patient's experiences of these. After review of all relevant information, we meet with the patient (and carers) to provide feedback on our clinical opinions and to summarise and explain the treatment recommendations we are likely to make. This is an opportunity for the patient and accompanying carer or relative to ask questions and to seek further clarification.

For referrals of patients with severe, disabling OCD, it is often helpful to conduct the evaluation at home or elsewhere in their local environment. This may, therefore, require a series of visits by several members of the AIS team.

Following assessment, the referrer is provided with a detailed clinical report on diagnosis, and advice on future management that will commonly include the combination of evidence-based pharmacological (drug) and psychological therapies. For some patients, the treatment recommendations may also include neurosurgical intervention.

It is our standard practice to provide the patient with a copy of the report so that recommendations (and the rationale for making them) can be considered and discussed as part of collaborative care planning.

1.6 Neurosurgical treatment pathway

Since patient histories and their journeys through healthcare are almost always complex, and illnesses present with a range of diagnostic issues, the service will aim to review the

patient on several occasions before settled agreement is reached to proceed with neurosurgery. Further care planning may involve additional visits with the patient and/or the local psychiatric services. Since patients and their families may require considerable time to consider treatment options, the time from initial assessment to neurosurgery may be extensive. We continue to be guided by our patients regarding the pace of progression through the pathway.

Since we have partnered with neurosurgeons at the National Hospital for Neurology and Neurosurgery in London, we would routinely arrange for the patient (and carers) to meet with members of the AIS team along with the neurosurgical team to discuss treatment prior to referral to the Care Quality Commission (CQC); the statutory body overseeing psychiatric neurosurgery in England and Wales.

1.7 Neurosurgical follow-up

All patients who have undergone neurosurgical intervention are reviewed by the service at one year, two years, and five years after surgery. In addition, the team retain contact with the patient's own clinical service, and rating scales completed prospectively help to provide complementary information on the patient's progress.

Whilst scheduled follow-up only extends to five years, our relationships with patients and referrers make it easy to ensure that we retain contact with all neurosurgical patients indefinitely.³ Given the nature of the interventions, we believe that it is important to observe outcomes for as long as possible.

1.8 Intensive OCD treatment – outreach

1.8.1 Overview

The OCD outreach step is likely to be applicable to most people referred to the service with OCD. It has several features:

- 1) It will provide support to local treating teams to optimise the delivery of psychological and pharmacological treatments. Although the AIS won't deliver the majority of the treatment, such support will accelerate the rate at which patients can progress through the most effective treatment options;
- 2) It will increase the prospective contact that the AIS has with the local teams. This will have the advantage of making treatment planning more efficient should the patient require intensive/inpatient treatment;

³ This might not necessarily involve full review assessments in Dundee but may involve telephone/email contact with patients and referrers, or the collection of rating scale data.

- 3) It will provide knowledge and skills to local teams with regards to behavioural treatments for OCD. This will have wider benefits for people with OCD throughout NHS Boards in Scotland.⁴
- 4) It will 'front-load' assessment so that the AIS will be better placed to make decisions about more intensive treatment at an earlier stage.

Key steps are summarized below in Table 1.

⁴ There is already evidence that a number of local teams have accumulated greater skills in managing OCD.

TABLE 1. OVERVIEW OF OCD OUTREACH PROGRAMME

Step	Objectives	Location	Duration (weeks)	Pharmacological treatment steps	Therapy treatment steps
1	<ul style="list-style-type: none"> Where applicable, communicate recommendation to change medication to consultant & GP. Liaise with local team to set up a community-based treatment programme. 	N/A	12	1. If patient has not responded to current medication, a further trial will be recommended.	None.
2	<ul style="list-style-type: none"> Team to develop community-based treatment programme, with input from AIS to set up programme. Family assessment by AIS (may be considered in step 1, depending on circumstances). 	Community / Dundee	4-12 (depending on response to treatment)	2. Review response to treatment and determine total duration of current trial. 3. Recommendations regarding augmentation.	<ul style="list-style-type: none"> Hierarchy building: clear end point and beginning; the use of SUDS in treatment-delivery. Establishing response prevention. Test/demonstration of ERP trial. Does habituation take place?
3	<ul style="list-style-type: none"> Review patient and if no evidence of response, start planning for intensive treatment. 	Community / Dundee	4-8	4. Review tolerability and response. 5. Ensure optimisation of therapy before intensive treatment.	<ul style="list-style-type: none"> Supporting local team / troubleshooting
4	<ul style="list-style-type: none"> Intensive treatment in Dundee 	Inpatient (Dundee)	4	6. Maintenance of existing drug treatment.	<ul style="list-style-type: none"> Intensive inpatient ERP (15 hours/week).
5	<ul style="list-style-type: none"> Home-based treatment 	Community	1	7. Maintenance of existing drug treatment.	<ul style="list-style-type: none"> Transfer treatment gains to home. Work with family.
6	<ul style="list-style-type: none"> Six-month review. 	Community / Dundee	0	8. Consider additional augmentation strategies.	<ul style="list-style-type: none"> Relapse prevention.
7	<ul style="list-style-type: none"> Exploration of 4-line and higher medication trials Discussion of next-step options 	Community / Dundee	26-104	9. Less evidentiary and more complex psychopharmacology	<ul style="list-style-type: none"> Troubleshooting and optimisation. Consideration of alternate modalities (<i>e.g.</i> cognitive focus > behavioural focus)

1.9 Intensive OCD programme and inpatient treatment

Patients will only progress to intensive treatment if they fail to get clinically significant benefit from enhanced community-based treatment and optimised pharmacological therapy; both delivered by their local team.

1.9.1 Duration of treatment

Intensive treatment programmes will be tailored to the individual. In most cases, intensive treatment will aim to deliver 30-50 hours of therapist-guided exposure therapy (excluding self-directed sessions by the patient). For most people receiving inpatient treatment, this will take between 3-5 weeks (not including assessment/ pre-treatment).

1.9.2 Interventions

The following describes the range of interventions that can be provided.

1.9.2.1 *Exposure and Response Prevention (ERP)*

Typically, patients will receive 3-4 hours of therapist-guided ERP per day, for five days each week. The target 'dose' will be ≥ 15 hours of ERP per week. Patients will be expected to engage with homework tasks, *i.e.* the patient will have additional self-directed exposure tasks to complete outside of the therapist-guided treatment sessions. These are often supported by the inpatient nursing team.

1.9.2.2 *Family work/ work with carers*

It is recognised that OCD does not occur in isolation, and families and carers are invariably affected by the illness. Their engagement and involvement are a vital part of treatment and the AIS is committed to working with them as part of the intensive treatment programme. Importantly, the involvement of family is related to assessments of service quality and satisfaction (Mavrogiorgou, Siebers, Juckel, *et al*, 2013).

The assessment process will involve families and carers, and the discharge planning process will usually involve those with close contact with the patient. We recognise that attempting to reduce symptoms without wider environmental change is less effective.

2 Activity Levels

2.1 Overall activity

Three years of activity levels are shown below in Table 2. Due to the most recent changes to the annual report format and the need to align different treatment pathways along the same terminology over the last three years of activity (which has adapted over time), it is not always

possible to ensure that activity is being counted in the same way in previous years. Please refer to previous annual reports for more information.

TABLE 2. ACTIVITY LEVELS (2016-2019)

	SA Level [†]	2018/19	2017/18	2016/17
New referrals	40	41	45	43
Assessments	24	30	26	20
OCD pathway	10			
Outreach programme	-	2	-	-
Intensive treatment programmes	-	4	2	3
Neurosurgical pathway	1-3			
Anterior cingulotomy	-	2	0	0
Anterior capsulotomy	-	0	0	0
Long-term follow-up	10-15	5	7	10

[†] Please note that some of these figures represent maximum capacity.

2.2 Referrals

Between 1 April 2018 and 31 March 2019, the total number of referrals received was 41.

2.2.1 Demographics of referrals

There were 20 men and 21 females referred. The M:F ratio was 1. The mean age of all referrals (\pm SD) was 46.3 ± 16.3 . The percentage of referrals from each country was as follows: Scotland (80.5%); England (12.2%); Eire (0%); Northern Ireland (7.3%).

2.2.2 Reason for referral

The reason (diagnosis) for referral, based on the information in the referral letter, is shown below in Table 3. The most common reasons for referral were OCD (54%) and depression (27%).

Often, illnesses are concurrent, and the service is being asked to assess with a view to helping with diagnostic uncertainty and identifying opportunities for treatment. For example, a patient may be referred with a long history of schizophrenia who has developed apparent obsessions and compulsions. The recorded reason for referral is the individual's primary disorder (schizophrenia) but the questions being asked may not always be about treatment for that condition.

TABLE 3. REFERRAL REASON

Referral reason	N	%
OCD	22	53.7%
Depression	11	26.8%
Bipolar Disorder	2	4.9%

Referral reason	N	%
Attention-deficit hyperactivity disorders	1	2.4%
Depersonalization-derealization syndrome	1	2.4%
Other anxiety disorders	1	2.4%
Psychotic disorders	1	2.4%
PTSD	1	2.4%
Unclear - Assessment requested	1	2.4%

2.2.3 Outcome from referral

All referrals are given an outcome code to reflect the initial response to the request for assessment. These are summarised below in Table 4. In many cases, referrals where further information is needed will be allocated an appointment once information is received. Similarly, referrals requiring funding to be confirmed will be allocated once this is available. Therefore, many of the referrals below who were not initially appointed went on to be assessed.

TABLE 4. OUTCOMES FROM REFERRALS

Status	N	%
Referral Accepted - Appointment given	18	43.9%
Referral not accepted - Outwith remit of AIS (give details)	6	14.6%
Referral unclear - Further information requested	6	14.6%
Not appointed - funding awaited/required	5	12.2%
Referral not accepted - Advice given on treatment	2	4.9%
Referral unclear - referrer invited to present to AIS	2	4.9%
Did not meet criteria - Casenote review offered	1	2.4%
Referral not accepted - Diagnosis not appropriate	1	2.4%

At the current time, it is not considered necessary to track every step that all referrals take; only the initial one.

2.3 Assessments

The total number of appointments offered was 30. In a small number of cases, patients were re-appointed because they were unable to attend the first offered appointment. In some cases, further assessments were scheduled in order to obtain enough information to complete the assessment.

2.3.1 Demographics of assessments

The percentage of assessments from each country was as follows: Scotland (80%); England (12%); Eire (4%); Northern Ireland (4%).

There were 13 men (52%) and 12 (48%) women assessed. The M:F ratio was 1.1:1. The mean age of all assessments (mean \pm SD) was 46.3 \pm 12.4. The lowest age was 17.8 and the highest age was 73.8. The age distribution is shown below in Figure 1.

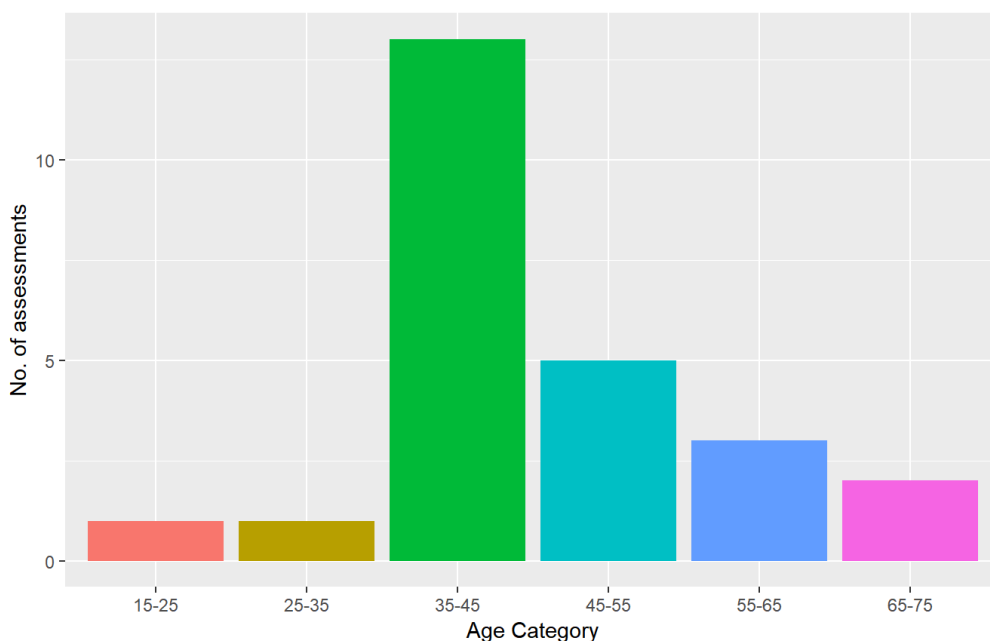


FIGURE 1. AGE DISTRIBUTION OF ASSESSMENTS

2.3.2 Ethnicity of assessments

The ethnicity (where known) is shown below in Table 5.

TABLE 5. ETHNICITY OF ASSESSMENTS

Ethnicity	%
1A White - Scottish	56%
1B White - British	16%
1C White - Irish	8%
3F Asian - Pakistani, Pakistani Scottish or Pakistani British	8%
1D White - English	4%
4D African - African, African Scottish or African British	4%
99 Not Known	4%

2.3.3 Socioeconomic status of assessments

The SIMD decile scores for the 18 patients where the postcode could be matched to a SIMD 2012 scores is shown below in Figure 2. The total size of the Scottish dataset was 20 which means that 2 postcodes could not be matched.

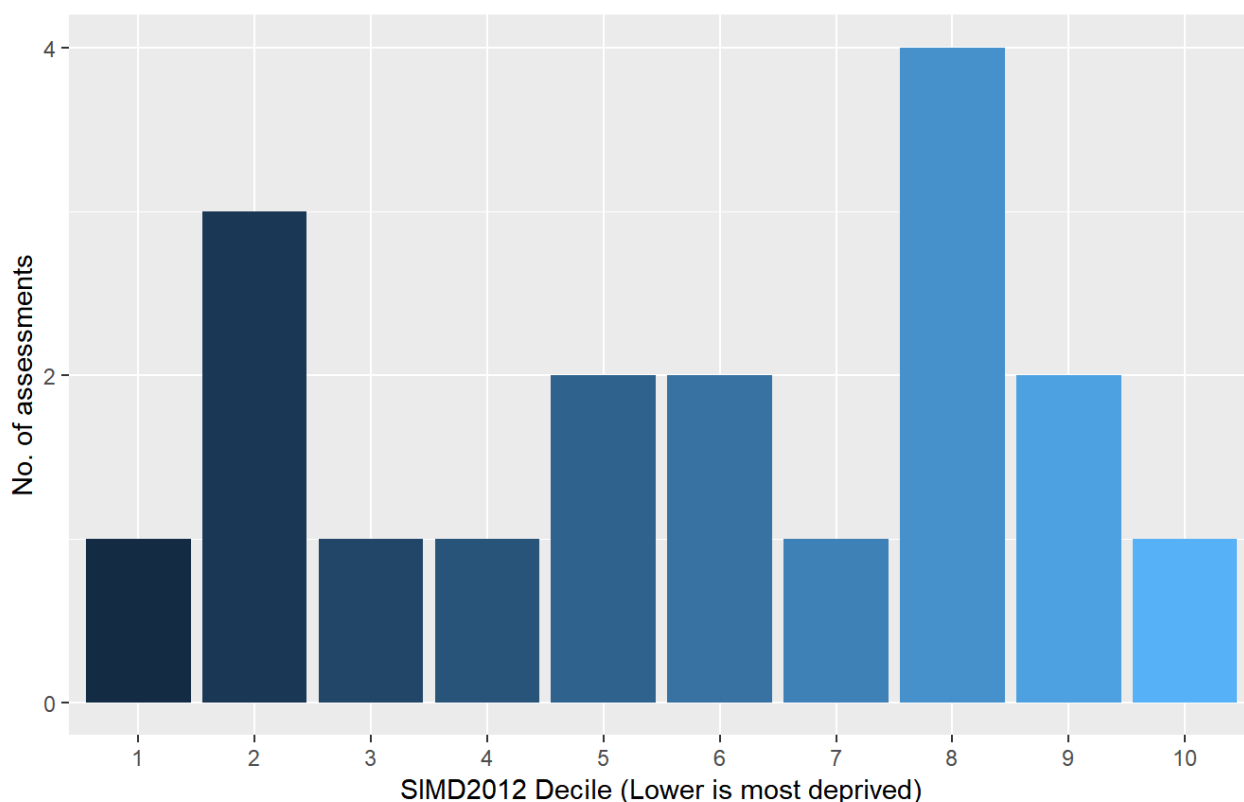


FIGURE 2. SIMD SCORES FOR ASSESSMENTS

Please note that lower decile scores represent greater socioeconomic deprivation. The distribution for the whole of Scotland can be found in Section 9.1 below - this allows confirmation that the SIMD profile for patients seen by the AIS is representative of Scotland as a whole.

2.3.4 Location of assessments

The location for assessments was as follows: 63.3% of assessments took place at Ninewells Hospital; and 26.7% took place in the patient’s home. Another hospital was the location of assessment for 10% of assessments.

2.3.5 Assessment outcomes

The following table shows the categorical outcomes for each of the assessment appointments offered.

TABLE 6. OUTCOMES FROM ASSESSMENTS

Outcome	N	%
Discharged with treatment recommendations (Drug & Therapy)	14	46.7%
Further appointment given	7	23.3%
Discharged with treatment recommendations (Medication only)	4	13.3%
Assessment cancelled/rescheduled	2	6.7%

Outcome	N	%
Intensive OCD Treatment pathway Under consideration	2	6.7%
Neurosurgical pathway (Ongoing discussions)	1	3.3%

2.3.6 Diagnosis following assessment

The diagnosis for assessments is given below. All diagnoses are sorted by ICD-10 code.

TABLE 7. DIAGNOSIS FOLLOWING ASSESSMENT

Diagnosis	N	%
F06.4 Organic anxiety disorder	1	4%
F21 Schizotypal disorder	1	4%
F31.5 Bipolar affective disorder, current episode severe depression with psychotic symptoms	1	4%
F31.7 Bipolar affective disorder, currently in remission	2	8%
F32.1 Moderate depressive episode	1	4%
F33.1 Recurrent depressive disorder, current episode moderate	1	4%
F33.2 Recurrent depressive disorder, current episode severe without psychotic symptoms	2	8%
F34.1 Dysthymia	1	4%
F42.2 Obsessive compulsive disorder, mixed obsessional thoughts and acts	9	36%
F43.1 Post-traumatic stress disorder	1	4%
F45.2 Hypochondriacal disorder	1	4%
F84.5 Asperger's syndrome	3	12%
F94.9 Childhood disorder of social functioning, unspecified	1	4%

General categories for assessments are shown below in Table 8. Categories are sorted by the most common diagnostic category.

TABLE 8. DIAGNOSTIC CATEGORY

Diagnostic Category	N	%
OCD	9	36%
Depression	4	16%
Autism Spectrum Disorders	3	12%
Bipolar Disorder	3	12%
Other anxiety disorders	2	8%
Disorders of social functioning (childhood and adolescence)	1	4%
Organic conditions	1	4%
Persistent Mood Disorder	1	4%
Psychotic disorders	1	4%

2.4 Procedures

This year, two procedures were undertaken. Brief details are given below.

TABLE 9. PROCEDURES UNDERTAKEN IN 2018-19

Procedure	Procedure type	Indication for surgery	NHS Board
Anterior Cingulotomy	Second	Depression	NHS Borders
Anterior Cingulotomy	First	Depression	NHS Dumfries and Galloway

2.5 Treatment programmes for OCD

2.5.1 OCD Outreach

OCD outreach, as described above, serves several functions: it primarily allows us to support local teams to optimise community-based therapy prior to further involvement of the AIS but it also enables us to undertake extended assessment.

In the last twelve months, there have been two periods of prolonged community-based assessment, which have allowed us to determine the preferred treatment approaches. These two outreach programmes are summarised below in Table 10.

TABLE 10. OUTREACH ACTIVITY 2018-2019

ID	NHS Board	Total community contact hours	Outcome
615	NHS Lothian	10	No further recommendation for OCD-specific psychological therapy.
747	NHS Greater Glasgow and Clyde	15	Onward progression to intensive treatment.

2.5.2 Intensive treatment programmes

The following intensive treatment programmes were delivered.

TABLE 11. INTENSIVE TREATMENT PROGRAMME SUMMARY

ID	NHS Board	Location	Status
499	NHS Lothian	Home	Phase 1, 2, and 3 completed as planned
629	NHS Lanarkshire	Inpatient	Phase 1, 2, and 3 completed as planned
697	NHS Lothian	Inpatient	Phase 1 (Assessment only)
748	NHS Grampian	Home	Phase 1, 2, and 3 completed as planned

The total number of treatment sessions, treatment hours, and Occupied Bed Days used for the above intensive treatment programmes is listed below in Table 12.

TABLE 12. TREATMENT RESOURCES USED FOR INTENSIVE TREATMENT PROGRAMMES

ID	NHS Board	Total contact hours	Total ERP hours	Occupied Bed Days	Comments
499	NHS Lothian	32	12	0	Treatment programme was delivered in the community
629	NHS Lanarkshire	62.5	49.5	54	-
697	NHS Lothian	39.0	16.0	12	After intensive, inpatient assessment, it was not felt that further prolonged treatment would be helpful.
748	NHS Grampian	97.0	56.0	2	Only a short period of inpatient stay was utilised before treatment moved to the patient's home where most of the therapy was delivered.
	TOTAL	230.5	133.5	68	

3 Performance and clinical outcomes

3.1 Equitable

The breakdown of activity by NHS Board is shown below in Table 13.

TABLE 13. BREAKDOWN OF ACTIVITY BY NHS ORGANISATION

	NHS Board or Trust	Referrals			Assessments			Procedures		
		2018/19	2017/18	2016/17	2018/19	2017/18	2016/17	2018/19	2017/18	2016/17
SCOTLAND	NHS Ayrshire & Arran	1	0	1	0	0	0	0	0	0
	NHS Borders	1	0	0	1	0	0	1	0	0
	NHS Dumfries and Galloway	3	2	3	2	3	2	1	0	0
	NHS Eilean Siar (Western Isles)	1	4	2	0	0	2	0	0	0
	NHS Fife	4	3	4	2	1	2	0	0	0
	NHS Grampian	1	5	5	2	6	2	0	0	0
	NHS Greater Glasgow and Clyde	3	3	7	5	4	1	0	0	0
	NHS Highland	2	3	1	1	1	0	0	0	0
	NHS Lanarkshire	0	1	2	1	1	2	0	0	0
	NHS Lothian	7	6	4	8	2	4	0	0	0
	NHS Orkney	0	0	0	0	0	0	0	0	0
	NHS Shetland	0	0	0	0	0	0	0	0	0
NHS Tayside	10	10	11	3	2	2	0	0	0	
ENGLAND and NORTHERN IRELAND	Cornwall Partnership NHS Foundation Trust	0	0	1	0	0	0	0	0	0
	Hertfordshire Partnership NHS Trust	1	2	0	0	0	0	0	0	0
	Midlands Partnership NHS Foundation Trust	1	0	0	1	0	0	0	0	0
	North Cumbria Mental Health and Learning Disabilities NHS Trust	0	0	0	0	0	1	0	0	0
	Northumberland, Tyne and Wear NHS Trust	0	0	0	0	0	1	0	0	0
	Pennine Care NHS Foundation Trust	1	0	1	0	0	1	0	0	0
	Private Provider Bupa	0	1	0	0	0	0	0	0	0
	Private Provider The Priory	1	0	1	1	0	0	0	0	0
	South West London and St George's Mental Health NHS Trust	0	1	0	0	0	0	0	0	0
	West London Mental Health NHS Trust	1	2	0	1	0	0	0	0	0
Southern Health and Social Care Trust	1	0	0	0	0	0	0	0	0	

	NHS Board or Trust	Referrals			Assessments			Procedures		
		2018/19	2017/18	2016/17	2018/19	2017/18	2016/17	2018/19	2017/18	2016/17
	Ulster Community & Hospitals Trust	2	0	0	1	0	0	0	0	0
EIRE	Health Service Executive, Western Area	0	1	0	1	1	0	0	0	0
WALES	Cwm Taf University Health Board	0	1	0	0	1	0	0	0	0
	TOTALS	41	45	43	30	22	20	2	0	0

3.2 Efficient

3.2.1 Efficiencies in care delivery

The service tailors all care pathways to the individual. Where it is possible to deliver an intensive treatment programme without an inpatient admission, we will endeavour to do this. Similarly, we will constantly explore the option of delivering treatment on an outpatient/ day-case basis. By doing this, we can keep the costs of inpatient admission to a minimum whilst delivering an optimal treatment programme.

Whilst someone is currently in a treatment programme, we monitor response on a weekly basis and track the time being spent in treatment. This enables us to identify opportunities for modifying the programme and reduce expenditure in non-beneficial activities. An example of this is shown below in Figure 3.

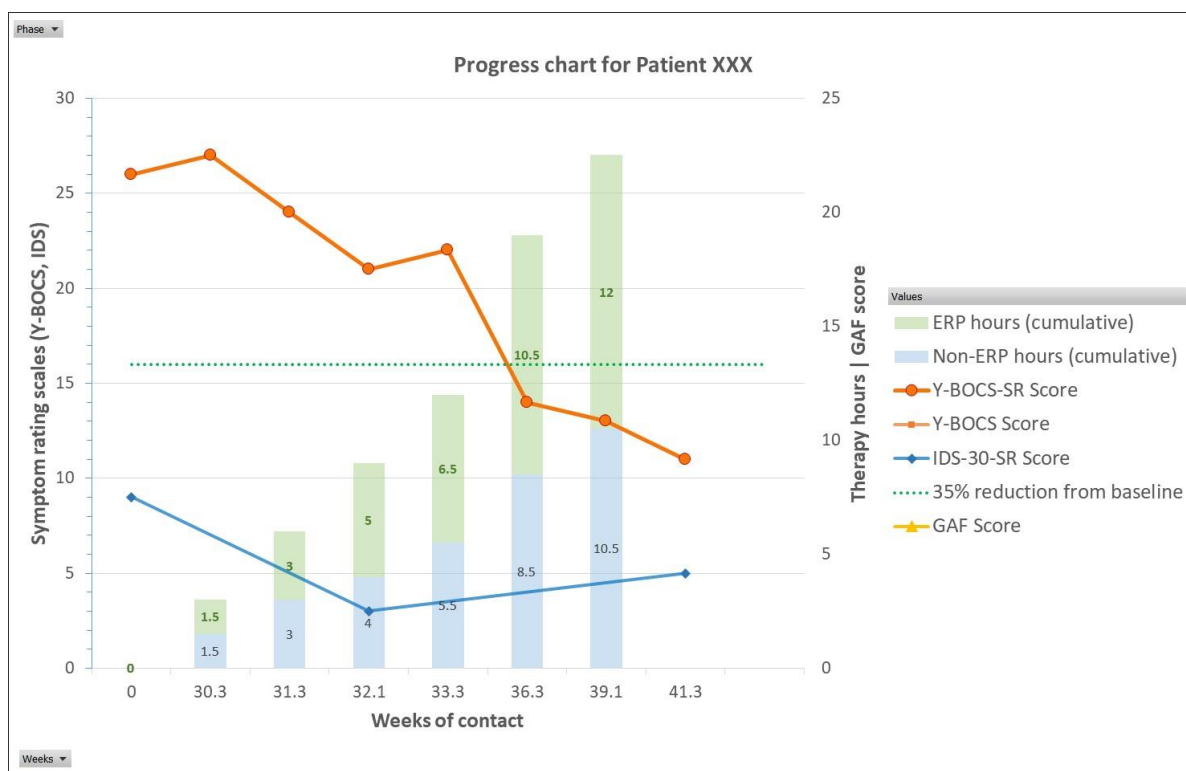


FIGURE 3. PROGRESS CHART FOR INTENSIVE TREATMENT/ OUTREACH PROGRAMME

The target for classification of ‘response’ is always shown and it is possible to understand the relationships between treatment and response. In the example above, treatment started sometime after initial assessment (baseline).

3.3 Timely

The mean (\pm SD) waiting time for Scottish patients was 11.7 ± 10.6 weeks. The shortest waiting time was 5.1 weeks and the longest waiting time was 46.7 weeks, although reasons for delay are listed in the table. The median waiting time was 8.7 weeks; which means that 50% of people waited less than 8.7 weeks to be seen. Seventy-five percent of people waited less than 10.5 weeks to be seen.

In total, there were 3 individuals who waited longer than 12 weeks to be seen. Reasons for this delay (where available) are listed in Table 14 below.

TABLE 14. WAITING TIMES - REASONS FOR DELAY

Reason for Delay	No. of cases
Clinical reasons (<i>e.g.</i> patient unwell / admitted)	1
Further information requested	1
Awaiting investigations / other assessments	1

In most cases, the service has little control over such delays, but we work with local services (and patients) to minimise delays wherever possible.

3.4 Effectiveness

3.4.1 Neurosurgery for Mental Disorder

Outcomes from follow-ups undertaken during this financial year are summarised below in Table 15. All three patients were seen five years after their most recent procedure. One patient met criteria for both response and remission five-years after surgery, whilst another met criteria for response. The third patient did not meet criteria for response but had experienced a reduction of 30-40% in depressive symptoms.

TABLE 15. OUTCOMES FROM NMD PROCEDURES (FOLLOW-UP PERFORMED IN 2018-19)

ID	Procedure	Indication for surgery	Procedure No.	Weeks post-op	% Change in HRSD-17	% Change in MADRS	% Change in Y-BOCS	Response ?	Remission ?
189	ACING	F33.2 Recurrent depressive disorder, current episode severe without psychotic symptoms	3	265	-90.5	-92.1	-	YES	YES
276	ACING	F33.2 Recurrent depressive disorder, current episode severe without psychotic symptoms	2	261	-41.4	-35.2	-	NO	NO
441	ACING	F32.2 Severe depressive episode, without psychotic symptoms	1	335	-58.6	-56.8	-	YES	NO

HRSD-17 = 17-item Hamilton Rating Scale for Depression; **MADRS** = Montgomery-Åsberg Depression Rating Scale; **YBOCS** = Yale-Brown Obsessive-Compulsive Scale.
Depression Criteria: *Response* is defined as a $\geq 50\%$ improvement in baseline score on the HRSD-17 OR $\geq 50\%$ improvement in baseline score on the MADRS. *Remission* is defined as HRSD ≤ 7 , or MADRS ≤ 10 .
OCD Criteria: *Response* is defined as $\geq 35\%$ improvement in baseline Y-BOCS. *Remission* is a Y-BOCS score ≤ 10 .

3.4.2 Intensive treatment for OCD

Outcomes for the four patients receiving intensive treatment for OCD are shown below in Table 16 and Figure 4. The scores in Table 16 represent changes on the Y-BOCS rating scale.

TABLE 16. OUTCOMES FROM INTENSIVE TREATMENT PROGRAMME

ID	Baseline	Mid-treatment	Exit	%Change	Responder	Comments
499	27	14	11	-59%	YES	-
629	40	29	13	-68%	YES	-
697	29	-	-	0%	NO	Assessment only.
748	27	14	10	-63%	YES	-

All the patients completing treatment (one admission was assessment only) were at least 35% improved at discharge from home treatment and would be classified as responders.

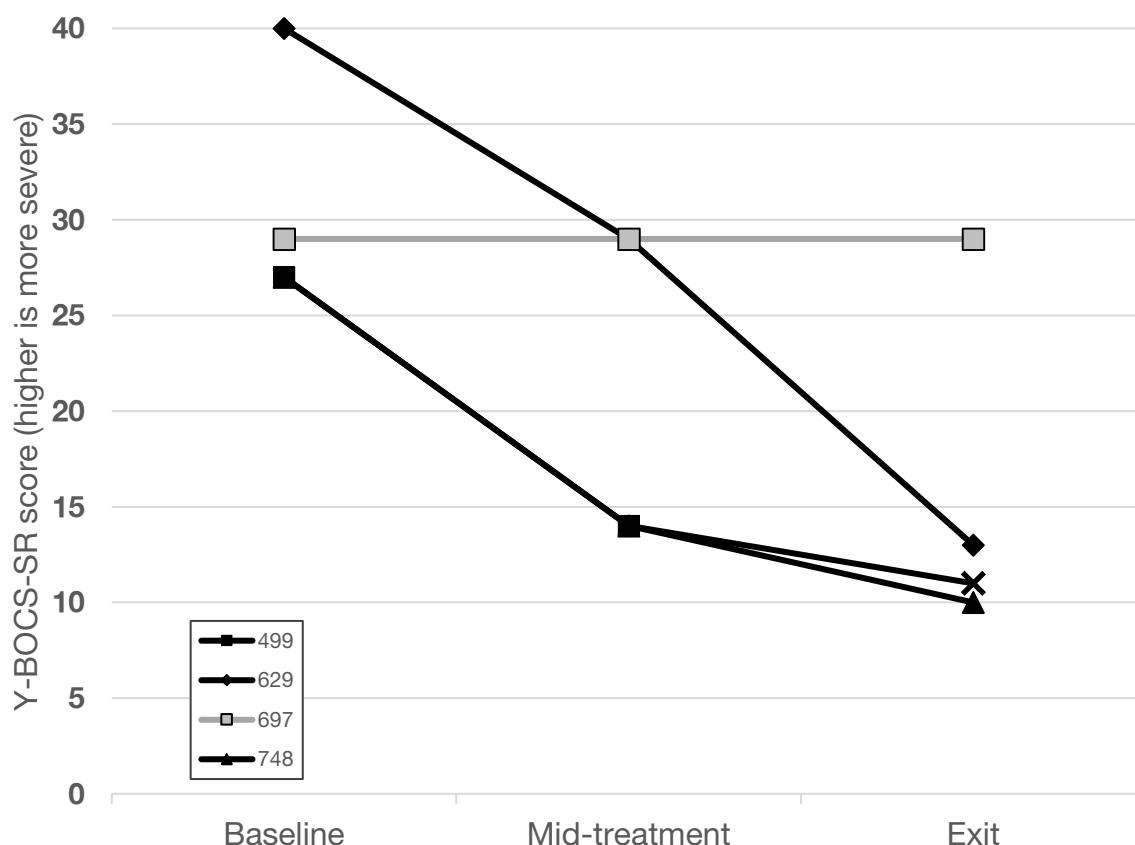


FIGURE 4. OUTCOMES FROM INTENSIVE TREATMENT PROGRAMME

3.5 Safe

3.5.1 Healthcare Associated Infections

There have been no HAIs reported during this year.

3.5.2 Survival data

Survival following neurosurgical intervention continues to be 100%.

3.5.3 Number of critical incidents

There were no critical incidents in the last 12 months of activity.

3.5.4 Number of deaths

No deaths have occurred because of neurosurgical intervention since such interventions were first offered in 1992. In 2011, a patient who underwent neurosurgery in the early 1990s died from an unrelated cause.

3.5.5 Adverse events

Attributing adverse effects to neurosurgery is challenging, since some potential adverse effects (such as lack of energy and/ or motivation) are common symptoms of the underlying disorder and/ or some treatments (*e.g.* antidepressants). We continue to attempt to attribute patient complaints to neurosurgical intervention, adverse effects from medication, or symptoms of the underlying disorder, maintaining a low threshold for attributing adverse effects to neurosurgery.

The most common adverse effects in the first 2-3 weeks after surgery are: Headache (40.9%) Tiredness (40.9%); Nausea (27.3%); Concentration problems (27.3%); Dizziness (18.2%); and Incontinence (13.6%). These are expected to have resolved in the first 2-4 weeks after surgery. The adverse effect profile of Anterior Cingulotomy continues to be relatively benign, with few effects persisting beyond the immediate post-operative period. At 12 months, the most common problems reported are: Memory problems (36.85%); Concentration problems (26.3%); Weight gain (26.3%); and Headache, Nausea, Tiredness (each 15.8%). The confidence that we have in attributing these effects to the procedure is relatively low, since depressive symptoms will explain many of them. Similarly, weight gain is relatively small and is frequently due to medication effects.

The service continues to collect data on adverse effects using the Systematic Assessment for Treatment Emergent Effects (SAFTEE; Levine & Schooler, 1986) and it is used pre-operatively and post-operatively. However, due to its recent introduction, baseline data are unavailable for many patients currently being followed-up, so it will be a little time before we are able to report in detail.

3.5.6 Neuropsychological performance

The service has used the CANTAB neuropsychological test battery for many years. A summary of the key tests is as follows:

TABLE 17. SUMMARY OF CANTAB TESTS

Test name	Cognitive domain tested
ID-ED shift	Tests the ability to learn new rules and employ attentional set shifting
Spatial Working Memory	Tests working memory and the ability to develop strategies to solve learning problems
Stockings of Cambridge	Tests spatial planning, motor control
Paired Associates Learning	Tests episodic memory and learning – a version of the 'pairs' game
Reaction Time	Measures time to respond to a stimulus
Spatial Recognition Memory	Tests memory for spatial locations
Pattern Recognition Memory	Tests memory for patterns
Delayed Matching to Sample	Tests memory relating to matching patterns immediately and after a delay
Spatial Span	A test of working memory capacity
Rapid Visual Processing	Measures ability to sustain visual attention

The following table reports everyone who was followed-up this year and whether there were clinically significant⁵ changes in neuropsychological performance on the CANTAB computerised test battery. The code used is:

Imp = Improvement in performance NC = No significant change SD = Slight deterioration, but unlikely to be clinically significant D = Deterioration in performance and corroborated by impaired functioning

⁵ 'Clinically-significant' means changes that are not only measurable on formal testing, but which correspond to reports from the patient and/or others relating to performance in a range of tasks. The magnitude of change must be large enough to impact on functioning to qualify for this criterion.

TABLE 18. SUMMARY OF NEUROPSYCHOLOGICAL CHANGES AFTER SURGERY

ID	Procedure	Weeks post-op	ID-ED Shift	Spatial Working Memory	Stockings of Cambridge	Paired Associated Learning	Reaction Time	Spatial Recognition Memory	Pattern Recognition Memory	Delayed Matching to Sample	Spatial Span	Rapid Visual Processing
189	ACING	265	Imp	Imp	SD	SD	NC	NC	NC	NC	NC	NC
276	ACING	261	Imp	Imp	Imp	Imp	NC	SD	NC	NC	Imp	NC
441	ACING	335	SD	NC	SD	SD	NC	NC	Imp	SD	NC	NC

The summary above does not consider changes in symptom severity or changes in medication which could affect performance on neuropsychological testing. For example, medication can affect reaction time.

It is important to note that these scores compare current testing to baseline testing. In many cases, there has been improvement in recent years (*e.g.* between years 3 and 5) that are not reflected in this summary table. Similarly, evidence of reductions in performance may have occurred later than the effects of surgery and probably reflect the effect of symptoms.

Overall, however, we have been unable to detect a consistent pattern of neuropsychological impairment. Many of the tests measuring ‘executive’ functions (*e.g.* *ID-ED shift*, *SWM*, *SOC*, *PAL*) show improvements or no change in most people. Where there may be measurable reductions in performance, these are not widespread and in the majority of cases, other tests of similar functioning are unchanged or improved. We are unable to find consistent impairments in functioning at an individual level, or at a test level.

3.6 Person centred

3.6.1 Patient satisfaction questionnaires

We continue to collect patient satisfaction data on a regular basis. Patients are asked to complete and return a questionnaire after outpatient assessments and inpatient admissions. As in previous years, we will present cumulative summaries of responses received. Responses are categorised as follows and averaged.

TABLE 19. SCORING FOR PATIENT SATISFACTION QUESTIONNAIRES

Score	Represents	
1	Strongly Disagree	Much worse
2	Disagree	Worse
3	Neutral	Neutral
4	Agree	Better
5	Strongly Agree	Much better

3.6.2 Demographics of respondents

The demographics of the sample are shown in Table 20. The mean scores, for each question are given below in Table 21.

TABLE 20. DEMOGRAPHICS OF PATIENT SATISFACTION QUESTIONNAIRE SAMPLE (N=112)

Characteristic	N	%
<i>Gender</i>		
Male	50	45%
Female	61	54%
Not answered	1	1%
<i>Age Group</i>		
18-29	10	9%
30-39	23	21%
40-49	28	25%
50-59	33	29%
60 and above	18	18%
<i>Country of Residence</i>		
Eire	1	1%
England/ Wales/ NI	10	9%
Norway	1	1%
Scotland	100	89%

Characteristic	N	%
<i>Reason for referral</i>		
Depression	53	47%
OCD	31	28%
Depression + OCD	17	15%
Other	8	7%
Anxiety	3	3%

3.6.3 Results from satisfaction questionnaires

TABLE 21. RESULTS OF OUTPATIENT SATISFACTION QUESTIONNAIRE

Question	Mean Score	Description of Scale
Explained to me what would happen during the day	4.4	Strongly Disagree... Strongly Agree
Easy to complete questionnaires	3.7	Strongly Disagree... Strongly Agree
Helpful for partner/relatives/friend to come	4.5	Strongly Disagree... Strongly Agree
Pleased that partner/relatives/friend were also seen	4.6	Strongly Disagree... Strongly Agree
Helpful to be seen by two people	4.4	Strongly Disagree... Strongly Agree
Good to meet at end to discuss recommendations	4.6	Strongly Disagree... Strongly Agree
Information given at feedback was helpful	4.4	Strongly Disagree... Strongly Agree
Staff were interested in me and not just my illness	4.4	Strongly Disagree... Strongly Agree
Felt staff listened to what I had to say	4.6	Strongly Disagree... Strongly Agree
Felt staff were honest and open with me	4.6	Strongly Disagree... Strongly Agree
Felt I could talk freely with those meeting with me	4.5	Strongly Disagree... Strongly Agree
Had confidence in doctors and nurses who assessed me	4.6	Strongly Disagree... Strongly Agree
Staff seemed knowledgeable about my condition	4.6	Strongly Disagree... Strongly Agree
Felt staff involved me in decision-making about my care	4.4	Strongly Disagree... Strongly Agree
Staff seemed to respect my decisions about my treatment	4.4	Strongly Disagree... Strongly Agree
Overall, I am satisfied with care I received	4.6	Strongly Disagree... Strongly Agree
I found it helpful to be seen by the service	4.6	Strongly Disagree... Strongly Agree
I learned something new about my problems and available treatments	4.3	Strongly Disagree... Strongly Agree
After attending I feel more optimistic about treatment	4.0	Strongly Disagree... Strongly Agree
Compared to attendance at other outpatient assessments, my attendance at AIS was:	4.3	Much Worse... Much Better

These scores are broadly unchanged from previous years and the comparisons performed every few years looking at trends over time continue to indicate that high levels of satisfaction have been maintained.

3.6.4 Free-text responses since last report

The following are free-text comments from patient-satisfaction questionnaires that we received since these were last reported in our 2017-18 report. The number in parenthesis represents the order in which the questionnaire was received.

- *“This outpatient service was one of the best I have attended, because it was quite in depth.”* (#110)
- *“The unit was quiet and calm which helped me and the staff were excellent...”* (#111)
- *“Better in that more time was spent with the patient and Dr A, Nurse B and Nurse C...all seemed to be very interested and above all took time to listen. Thank you for that.”* (#112)
- *“To sum up: all in all I was very pleased with how the sessions over the two days went. Tests were thoroughly explained and every effort taken to put me at ease. It was a privilege to be given an appointment at Ninewells... Thank you for all your kindness.”* (#112)

4 Quality and service improvement

4.1 Outreach programme

The outreach programme continues to develop and adapt to the needs of patients, the service, and referrers. Whilst the core purpose of the outreach programme remains unchanged, we have incorporated the possibility of extended community-based assessment into the outreach component of the service.

This allows us to conduct more extensive assessment in the patient’s own home or community, considering information from family, friends, and carers. This enables the service to determine, for example, whether home-based intensive treatment would be preferable to a period of inpatient admission. It also provides a more flexible approach to diagnostic assessment since some aspects of symptoms can only be adequately assessed in the environment where they are most problematic.

4.2 Improved reporting of neuropsychological outcomes

People are understandably concerned about the possibility of adverse effects of neurosurgery on neuropsychological performance. Although we do not believe that we see this, we wish to be able to report these outcomes in a more meaningful way for larger series of patients.

One challenge is that normative data for the populations that we are treating do not exist and it is misleading to compare the performance of someone who has been chronically depressed for more than a decade to age- and sex-matched controls without such a history.

We have therefore built a normative dataset for chronically depressed patients who are on a neurosurgical pathway that will allow us to calculate the performance at a specific time point to a reasonably large control group; rather than relying on comparisons over time and within only a single individual.

We would hope to be able to report this in the next year or two.

4.3 Development of rating tools and assessments

The service continues to develop rating scales and assessment tools that enhance our ability to provide detailed assessment and meaningful treatment recommendations. For example, we have developed a tool which can assist in the differentiation of compulsive behaviours that are primarily driven by OCD and those that are primarily driven by Autism Spectrum Disorder (ASD). ASD is a significant comorbid condition in many of the patients we see, but increasing our diagnostic precision allows us to avoid making treatment recommendations that could make specific symptoms worse.

We continue to develop the OCD Treatment History Form (OTHF), which is a practical and theoretical advanced on the Antidepressant Treatment History Form (ATHF) and follows similar principles. It allows us to score previous treatments for OCD in a systematic and reliable way, and this permits a more consistent approach to decision-making about future treatments.

5 Governance and Regulation

5.1 Clinical governance

Dundee AIS is subject to the clinical governance framework operated by the host NHS Board. This includes: appraisal; job planning; continuing professional development (CPD); knowledge and skills framework (KSF); *etc.*

The quality and governance approach of Dundee AIS measures up to the key drivers for NHS Scotland strategies as well as local frameworks.

5.2 Risks and issues

The service has not recorded any new major risks this financial year. Some ongoing risks are discussed below.

5.2.1 Increased pressure on referrers

We continue to observe psychiatric services in Scotland being under increasing pressure, and this inevitably has an impact on continuity of care for patients throughout Scotland.

In order to adapt to this, we have tried to use the possibility of extended community-based assessment / outreach to support local services in their treatment planning, and this should enable us to reduce the likelihood of uncertainty once patients enter the treatment programmes.

5.2.2 Gaps in provision of treatment for OCD in most areas

We will often receive referrals for individuals who have a high expectation of being seen by a specialist service. However, many will not yet meet the criteria for previous treatment that we need to maintain, and this results in disappointment for both the patient and the referrer. In many cases, this is because access to community-based treatment for OCD is limited and the referrer is understandably wanting to be able to access specialist advice as soon as possible.

We can usually make recommendations for interim treatment, but there is a real risk of reputational damage by not being able to provide a very quick response to a referral. We often share the frustration of the referrer and the patient when we recommend that they deliver treatment that is not available to them locally.

5.2.3 Lack of tertiary services for mental disorder in Scotland

The service continues to receive referrals for patients that are clearly outwith the service's remit; for example, treatment-refractory schizophrenia. We believe this is because there is an absence of a developed tertiary-level specialist service network within Scotland. Since the AIS has developed experience in the methodical assessment of complex and challenging cases, it is likely that secondary mental health services are wishing to access this expertise.

In several cases, we can help because the comorbidities mean that there is some diagnostic uncertainty. In other cases, we will offer to meet with the referrer to discuss the case to see if we are able to offer further assessment. This is often much easier if the referrer is relatively local.

This issue affects us in several ways. First, there is a reputational risk arising from having to turn down referrals from referrers who may be making their first referral to the service. It is possible that not being able to help in one instance affects their attitudes to referring future cases. Second, determining the suitability of a referral for the AIS can take many hours of emails, phone calls, and discussions with referrers. This activity is not currently recorded within existing

reporting systems, but it represents a significant component of annual activity of clinicians and administrative staff.

5.3 Adverse events

There have been no deaths and no post-operative infections during the reporting year. Rates of adverse effects are unchanged from previous years and are consistent with the published literature on the procedures undertaken. Consistent and widespread effects on neuropsychological functioning have not been seen. We continue to develop novel ways of assessing the significance of changes in neuropsychological functioning.

Please see Section 3.5.5 above for more information on adverse effects.

5.4 Complaints and compliments

The service has received one piece of feedback that was handled under the NHS Tayside complaints procedure. A patient was upset about delays in them receiving correspondence about a follow-up appointment. After looking at the events in question, we realised that there had been a breakdown in communication and opportunities for identifying this were not taken as rapidly as they could have been. The patient also felt as though we had put undue emphasis on certain aspects of the history when making treatment recommendations.

The service wrote back to the patient in question apologising for any distress that they had experienced. We explained that we had improved our system for recording how appointments were sent out and recorded, and we have also introduced a system to ensure that any appointments agreed by the team when patients are not present can be tracked right through to the appointment letter being sent out. We also explained why we had focused on specific aspects of the history and why we believed that this was important for diagnostic and recommendation purposes.

5.5 Equality

The service intends to complete an updated EQIA in the next financial year.

6 Financial reporting and workforce

6.1 Financial performance

As in previous years, this will be reported separately by NHS Tayside Finance Department.

6.2 Workforce

During this financial year, one of our part-time administrative staff left to pursue other career options. This required us to re-advertise the post and although we have now successfully recruited someone who is starting in mid-June 2019, it has meant that we have had periods with reduced administrative input; particularly during periods of annual leave.

Our dynamic psychotherapist, although retired from the NHS this year, has expressed a wish to return to provide input to the service. Given the value of multi-disciplinary contributions to the work of the service, we would wish to retain her contribution and we are in the process of drafting a new job description. Since this will simply use already-allocated monies, it will have no impact on the financial balance of the service.

7 Audit and clinical research/ publications

7.1 Conferences

This year, the service contributed to the hosting of the Congress of the European Society for Stereotactic and Functional Neurosurgery (ESSFN) in Edinburgh on 23-26 September 2019. The conference was jointly organised by neurosurgeons (Ludvic Zrinzo and Marwan Hariz from the National Hospital, Queen Square, London) and a psychiatrist (Keith Matthews, Dundee). Several members of AIS staff presented at the conference.

7.2 Journal articles

ANTTILA V, BULIK-SULLIVAN B, FINUCANE HK, WALTERS RK, BRAS J, DUNCAN L...
MATTHEWS K...MURRAY R. Analysis of shared heritability in common disorders of the brain.
Science. 2018; 360 (6395). <http://doi.org/10.1126/science.aap8757>

BALDACCHINO A, TOLOMEO S, BALFOUR DJ, MATTHEWS K. Profiles of visuospatial memory dysfunction in opioid-exposed and dependent populations. *Psychological Medicine*. 2019; 49(7): 1174-1184. <http://doi.org/10.1017/S0033291718003318>

HIGGINS C, SMITH BH, MATTHEWS K. Substance misuse in patients who have comorbid chronic pain in a clinical population receiving methadone maintenance therapy for the treatment of opioid dependence. *Drug and Alcohol Dependence*. 2018; 193: 131-136.
<http://doi.org/10.1016/j.drugalcdep.2018.08.038>

HIGGINS C, SMITH BH, MATTHEWS K. Incidence of iatrogenic opioid dependence or abuse in patients with pain who were exposed to opioid analgesic therapy: a systematic review and meta-analysis. *British Journal of Anaesthesia*. 2018; 120(6): 1335-1344.

<http://doi.org/10.1016/j.bja.2018.03.009>

LOZANO AM, LIPSMAN N, BERGMAN H, BROWN P, CHABARDES S, CHANG JW, MATTHEWS K, MCINTYRE CC, SCHLAEPFER TE, SCHULDER M, TEMEL Y, VOLKMANN J, KRAUSS JK. Deep brain stimulation: current challenges and future directions. *Nature Reviews Neurology*.

2019; 15(3): 148-160. <http://doi.org/10.1038/s41582-018-0128-2>

TYAGI H, APERGIS-SCHOUTE AM, AKRAM H, FOLTYNIE T, LIMOUSIN P, DRUMMOND LM, FINEBERG NA, MATTHEWS K, JAHANSHAHI M, ROBBINS TW, SAHAKIAN BJ, ZRINZO L, HARIZ M, JOYCE EM. A Randomised Trial Directly Comparing Ventral Capsule and Anteromedial Subthalamic Nucleus Stimulation in Obsessive Compulsive Disorder: Clinical and Imaging Evidence for Dissociable Effects. *Biological Psychiatry*. 2019; 85(9): 726-734.

<https://doi.org/10.1016/j.biopsych.2019.01.017>

7.3 Conference posters

BUICK R, CHRISTMAS D. Cry Havoc and Let Slip the Dogs of War? Differences Between Perception and Reality of a Smoke-Free Ward Policy [Poster]. Presented at *Royal College of Psychiatrists International Congress 2018*. Birmingham; 24-27 June 2018.

CHRISTMAS D, MATTHEWS K. 'So Many Scales, So Little Comparability': Using a Novel Method to Convert Between Depression Rating Scales [Poster]. Presented at *Royal College of Psychiatrists International Congress 2018*. Birmingham; 24-27 June 2018.

HASSAN F, CHRISTMAS D. Foundations Built on Sand: Exploring Underlying Bias in Systematic Reviews of Psychological Therapies for Depression [Poster]. Presented at *Royal College of Psychiatrists International Congress 2018*. Birmingham; 24-27 June 2018.

MATHER A, CHRISTMAS D, MATTHEWS K. Do Mothers Accommodate their Child's OCD Differently from Fathers and Does This Affect Treatment Decisions? [Poster] Presented at *23 Congress of the European Society for Stereotactic and Functional Neurosurgery*. Edinburgh; 26-29 September 2018.

MATHER A, CHRISTMAS D, MATTHEWS K, O'CONNOR K. Repugnant Obsessions: Using an Inference Based Approach to Treat OCD [Poster]. Presented at *Royal College of Psychiatrists International Congress 2018*. Birmingham; 24-27 June 2018.

WALKER KJ, BUICK R, CHRISTMAS DMB. Neurosurgery for Mental Disorder: Attitudes of Mental Health Nurses and Comparisons to Historical Attitudes of Psychiatrists [Poster]. Presented at *23 Congress of the European Society for Stereotactic and Functional Neurosurgery*. Edinburgh; 26-29 September 2018.

8 Looking ahead

8.1 Transcranial Magnetic Stimulation (TMS)

In the last financial year, we submitted a business case to allow the service to assess and provide a limited number of treatments of TMS to, a small number of patients in Scotland for whom this would have been a suitable treatment. TMS has good evidence to support treatment of both depression and OCD.

Both the Royal College of Psychiatrists and NICE have both endorsed TMS as a suitable treatment (National Institute for Health and Care Excellence, 2015; RCPsych Committee on ECT and Related Treatments, 2017) and it is likely to represent a valuable option for certain patient groups such as pregnant women with OCD who are unable or unwilling to take medication.

At the current time, there was insufficient support for this business case and at the time of writing this report, TMS is now available via a private clinic in Edinburgh. However, it is still not possible for patients to access TMS via the NHS in Scotland. We expect that this situation will change rapidly as awareness of this treatment (and demand for it) increases.

8.2 Intensive group treatment for OCD

Current approaches to individual intensive treatment of OCD can be effective but are labour-intensive and only a limited number of people can access them each year. Alternative models based around an intensive group-based treatment over four days have been developed and outcomes are being reported in the medical literature (Hansen, Hagen, Öst, *et al*, 2018; Havnen, Hansen, Öst, *et al*, 2014) and the popular press.⁶

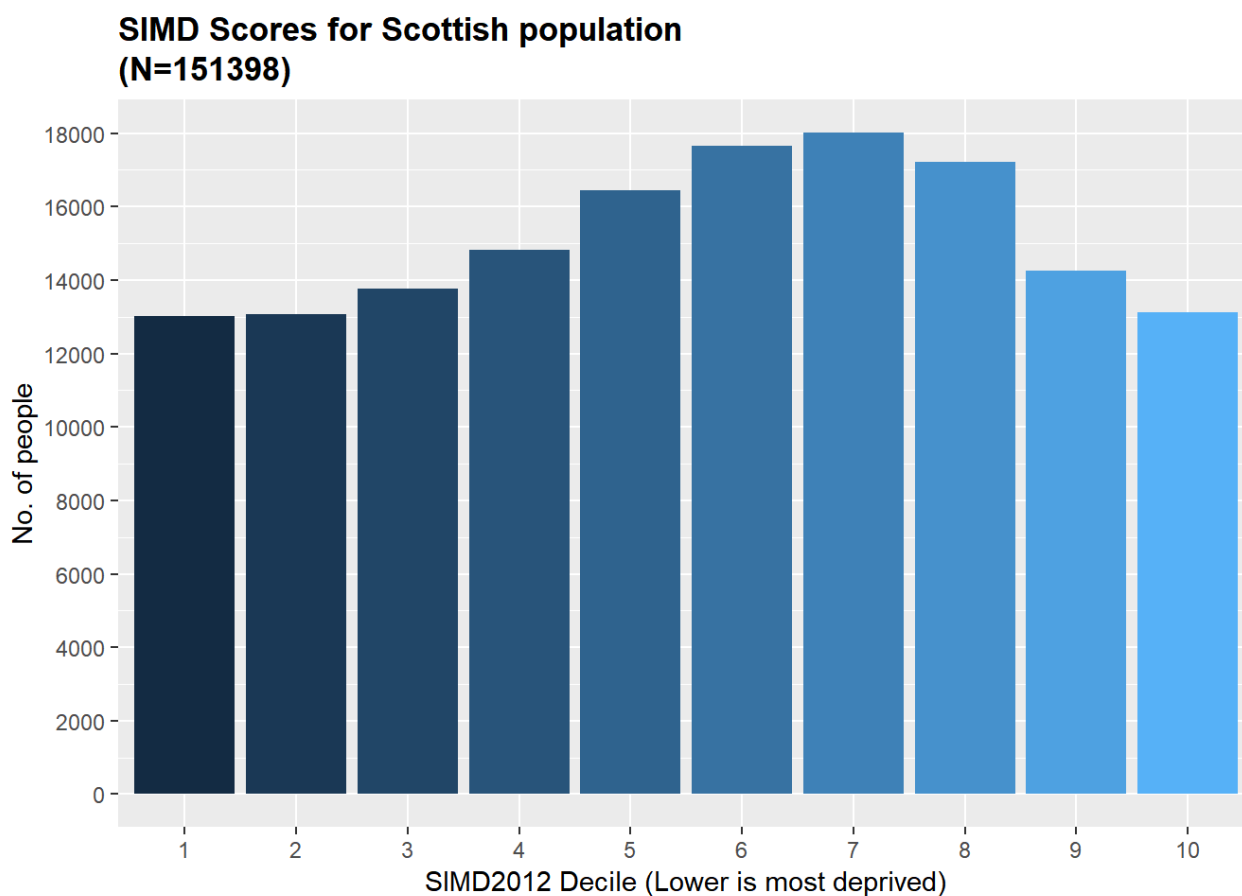
In order to ensure that the service can maximise availability of specialist treatment for OCD, we have initiated contact with the centre who has developed one of these intensive treatment

⁶ <http://time.com/collection/health-care-50/5425089/gerd-kvale-and-bjarne-hansen/>

programmes and look forward to exploring whether such an approach can be explored by the service.

9 Appendices

9.1 Appendix 1 – SIMD profile for Scotland



10 References

American Psychiatric Association (1994) *Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition)*. Washington, DC: American Psychiatric Press.

Committee on ECT and Related Treatments (2017) *Statement on Neurosurgery for Mental Disorder (NMD), also known as Psychiatric Neurosurgery (Position statement CERT 05/17)*. London: Royal College of Psychiatrists.
<http://www.rcpsych.ac.uk/pdf/VNS%20DBS%20and%20ablative%20neurosurgery%20-%20ECT%20ctee%20statement%20Feb%2017.pdf>

Hansen, B., Hagen, K., Öst, L.-G., et al (2018) The Bergen 4-Day OCD Treatment Delivered in a Group Setting: 12-Month Follow-Up. *Frontiers in Psychology*, **9**, 639.
<http://doi.org/10.3389/fpsyg.2018.00639>

Havnen, A., Hansen, B., Öst, L.-G., et al (2014) Concentrated ERP delivered in a group setting: An effectiveness study. *Journal of Obsessive-Compulsive and Related Disorders*, **3**, 319-324. <http://dx.doi.org/10.1016/j.jocrd.2014.08.002>

Levine, J. & Schooler, N. R. (1986) SAFTEE: a technique for the systematic assessment of side effects in clinical trials. *Psychopharmacology Bulletin*, **22**, 343-381.
<http://www.ncbi.nlm.nih.gov/pubmed/3774930>

Mavrogiorgou, P., Siebers, F., Juckel, G., *et al* (2013) Patient satisfaction with specialized mental health service for obsessive-compulsive disorder. *Annals of General Psychiatry*, **12**, 41.
<http://dx.doi.org/10.1186/1744-859X-12-41>

National Institute for Health and Care Excellence (2015) *Repetitive transcranial magnetic stimulation for depression (IPG 542)*. London: National Collaborating Centre for Mental Health. <http://nice.org.uk/guidance/ipg542>

RCPsych Committee on ECT and Related Treatments (2017) *Statement on Repetitive Transcranial Magnetic Stimulation for Depression (Position statement CERT03/17)*. London: Royal College of Psychiatrists. <https://www.rcpsych.ac.uk/docs/default-source/about-us/who-we-are/ectcommittee-repetative-transcranial-magnetic-stimulation-statement-may18.pdf>

Royal College of Psychiatrists (2000) *Neurosurgery for mental disorder. Report from the Neurosurgery Working Group of the Royal College of Psychiatrists*. London: Royal College of Psychiatrists.