RC PSYCH
ROYAL COLLEGE OF PSYCHIATRISTS

ECTAS
ELECTROCONVULSIVE THERAPY ACCREDITATION SERVICE

ECTAS

Dataset report

01 April 2020 – 31 December 2020

CONTENTS

INTRODUCTION

The Electroconvulsive Therapy Accreditation Service (ECTAS) was established in 2003 to improve standards of practice in electroconvulsive therapy (ECT) services in England, Wales, Northern Ireland and the Republic of Ireland, and to award accreditation to clinics that perform well against the standards. ECTAS is one of around 30 quality networks, accreditation and audit programmes organised by the Royal College of Psychiatrists' College Centre for Quality Improvement.

ECTAS is a voluntary network which uses a system of self- and peer-review to improve the quality of services, using standards agreed by the network. In this way ECTAS seeks, over time, to support members to raise standards of care.

ECTAS does not provide regulation of ECT; this is the responsibility of the Care Quality Commission in England, the Healthcare Inspectorate Wales in Wales, Healthcare Improvement Scotland in Scotland and the Regulation and Quality Improvement Authority in Northern Ireland.

ECTAS has member ECT clinics in England, Wales, Northern Ireland and Republic of Ireland. ECTAS does not collect data from ECT clinics in Scotland; these data are instead collected through the Scottish ECT Accreditation Network (SEAN). As of March 2022, 95 clinics were members of ECTAS: 77 in England, five in Northern Ireland, five in Wales and eight in the Republic of Ireland.

THIS REPORT

Methodology

For this data collection, each ECTAS member clinic received a data link to submit data to the online dataset with a unique code to map the data to each clinic. Although submission of data has been mandatory for member clinics since 2021, during 2020 this was optional. Consequently, the data within this report cannot be considered comprehensive, yet there is no evidence to suggest that it is not representative.

The data collected included patients completing an acute or maintenance course of ECT in the nine months between 1 April 2020 and 31 December 2020. This differs from previous annual dataset reports, for which data collection was for the 12-month period of April to March. The time period for data collection reported in this 2020 report is shorter than for previous reports because a new system was launched in 2021 to cover each full calendar year.

The 2020 data collection period coincided with the COVID-19 pandemic. Across the UK and the Republic of Ireland, various restrictions in service occurred, with some clinics having to close or to suspend their treatments and others offering emergency ECT only (Braithwaite et al, 2022). This has led to a reduction in the number of patients receiving treatment during the data reporting period.

Definitions

For the purpose of this report, an acute course of ECT is defined as a series of individual ECT treatments, usually given twice weekly, to alleviate the symptoms of a diagnosed mental illness, typically depressive illness, manic episode, catatonia or, less frequently, schizoaffective disorder and schizophrenia.

Maintenance ECT is defined as ECT usually delivered at intervals of between one week and three months, used to prevent relapse of symptoms or recurrence of illness. For the purposes of this report, maintenance ECT has been taken to include what is commonly referred to as 'continuation ECT'.

Responses

Responses were received from 52 member clinics, operated by 44 healthcare provider organisations. It is difficult to calculate a clinic response rate because of the significant flux in the number of clinics providing services nationally during the course of 2020, as stated above. Indeed, the number of clinics providing data is

lower than in previous years, reflecting the temporary closure of some clinics during the pandemic (Braithwaite et al, 2022).

EXECUTIVE SUMMARY

52

clinics submitted data

44

Healthcare providers

888

submissions were received

774

acute courses

114

maintenance courses

About two-thirds of patients were older females. The vast majority of ECT treatments (**92%** of acute courses and **88%** of maintenance courses) were given for depressive illness.

Of those patients having an acute course of ECT, **85%** were rated as 'markedly ill' or worse at the start of treatment, compared with just **9%** by the end of treatment. Conversely, **76%** of patients were 'mildly ill' or better at the end of the ECT course, compared with just **1%** at the start of treatment. Additionally, **49%** of patients assessed using depression rating scales met pre-defined remission criteria and **66%** showed a pre-defined response.

Of the **54%** of patients who lacked mental capacity to consent to ECT at the outset, **36%** had regained this capacity by the end of the course. Although mean cognitive functioning improved over the duration of acute courses of ECT, this effect was primarily seen in patients who were markedly cognitively impaired at the outset.

Almost all (**95%**) patients having maintenance treatment subjectively reported at least some benefit from treatment.

ACUTE COURSES OF ECT

774
submissions

The full list of questions in the data collection tool can be found in Appendix 2.

Data were submitted for **774** acute courses of ECT, provided to **741** individual patients. **Twenty-nine** had two courses and **two** had three courses that ended during the nine-month data collection period.

Age

The mean age of patients receiving acute courses of ECT was **63.1 years** (standard deviation (SD) = 16.2 years). This is a slightly younger mean than that for patients receiving maintenance treatment (**66.1 years** (SD = 15.4). The range was **19 to 92 years**. Figure 1 plots the distribution of patients by age, whilst Figure 2 shows this distribution has remained constant over the past eight years.

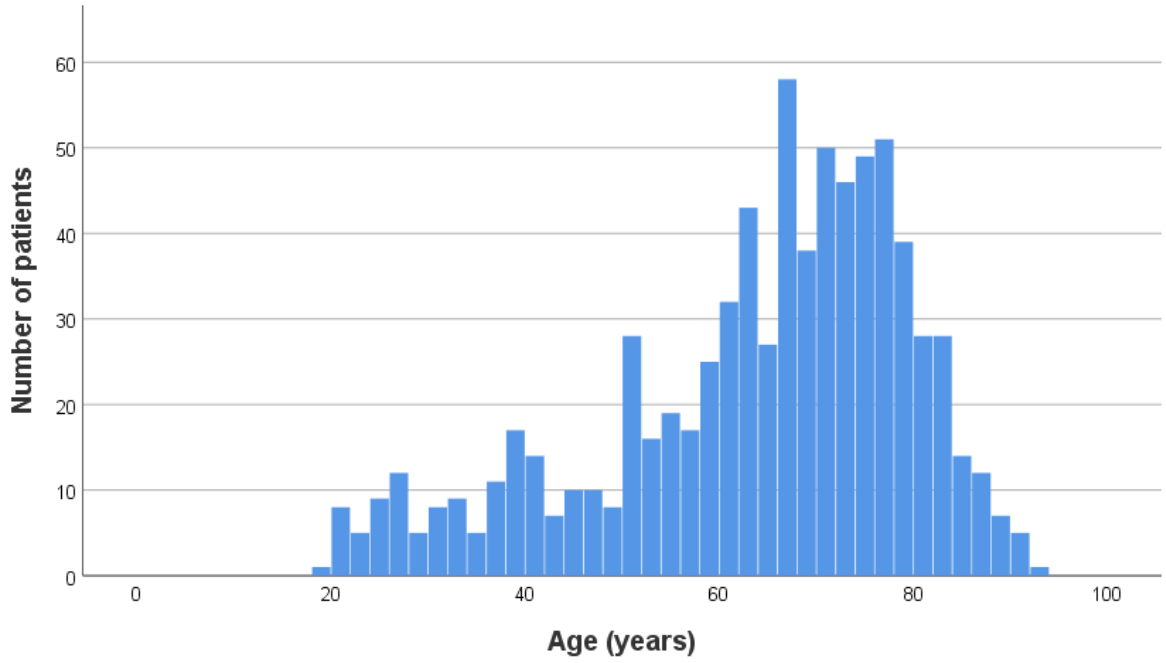

Figure 1: Age distribution for acute courses of ECT.

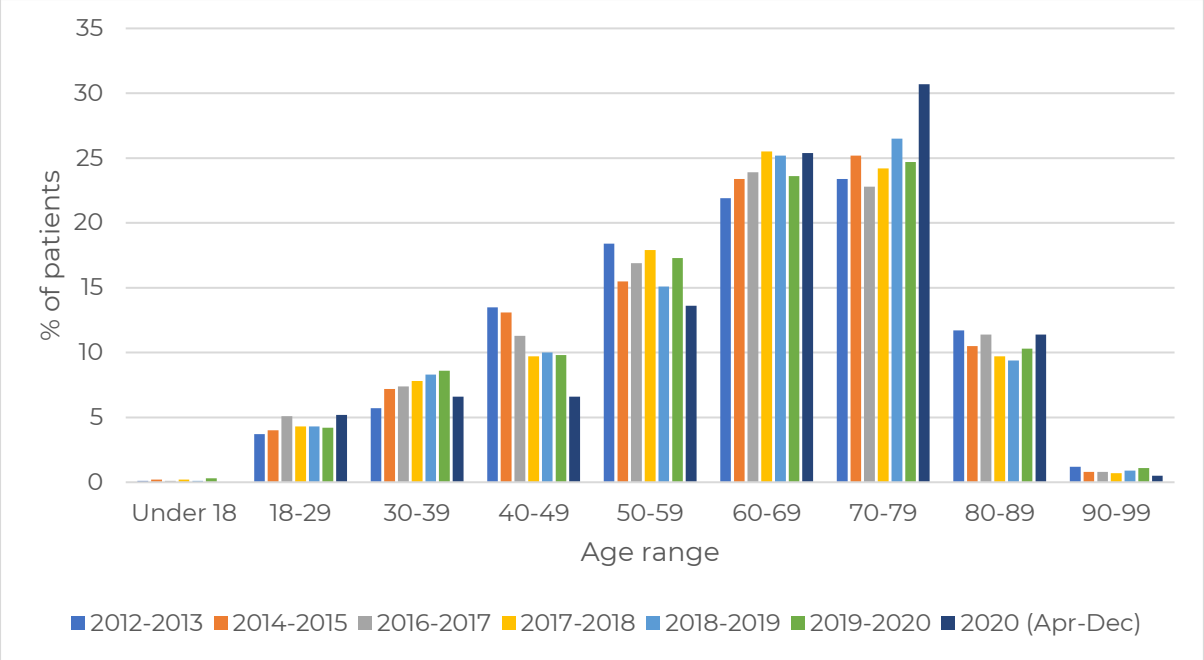

Figure 2. Age range distribution compared to previous years for an acute course of ECT.

Gender

Respondents were asked to list the patient's gender. For 2020 there were two options to choose from, male or female. Of the people who received an acute course of ECT, 480 (**65.4%**) were reported as female and 254 (**34.6%**) as male. For seven submissions, the person's gender was not recorded. Table 1 shows these proportions have remained constant over recent years.

Year	Proportion female (%)
2012/13	66.2
2014/15	64.9
2016/17	66.2
2017/18	66.2
2018/19	65.9
2020	65

Table 1: Proportion of patients having an acute course of ECT who are female.

Reason for referral

Respondents were asked to list the reason for referral. They were presented with a drop-down menu with five options based upon the wording used in national clinical guidance in use in 2020 (NICE, 2009a & NICE, 2009b), including an "other" option, for which further information was requested. The results from all 774 acute courses have been themed and are detailed in Table 2.

Reason for referral	No. of courses	Percentage of courses
All depressive illness	711	92%
Severe depression that is life threatening, and where a rapid response is required, or where other treatments have failed	*402*	*57%*
Moderate depression that has not responded to drug treatments and psychological treatment	*294*	*41%*
Other depressive illness	*15*	*2%*
Prolonged or severe manic episode	25	3%
Catatonia	13	2%
Schizophrenia	7	1%
Schizoaffective disorder	3	<1%
Not documented	15	2%

Table 2: Reason for referral for an acute course of ECT. Data include all 774 acute courses, with patients receiving two or more acute courses represented more than once.

Legal status

For each acute course of ECT, clinics were asked to specify the patient's legal status at the commencement and end of treatment. There were four options to choose from. These options were based upon two core variables: firstly, whether or not the patient was detained in hospital under formal legislation (namely, the Mental Health Act 1983 in England and Wales, the Mental Health (Northern Ireland) Order 1986 in Northern Ireland and the Mental Health Act 2001 in the Republic of Ireland), and, secondly, whether the patient had the mental capacity to consent to treatment with ECT. The results are shown in Table 3 and Figure 3 below.

Legal category	Start of ECT course, n (%)	End of ECT course, n (%)
Detained, non-capacitous	409 (53)	256 (33)
Detained, capacitous	53 (7)	160 (21)
Informal, non-capacitous	5 (1)	7 (1)
Informal, capacitous	305 (39)	349 (45)
No status recorded	2 (0.3)	2 (0.3)

Table 3: Detention status and mental capacity of patients before and after ECT. Data include all 774 acute courses, with patients receiving two or more acute courses represented more than once.

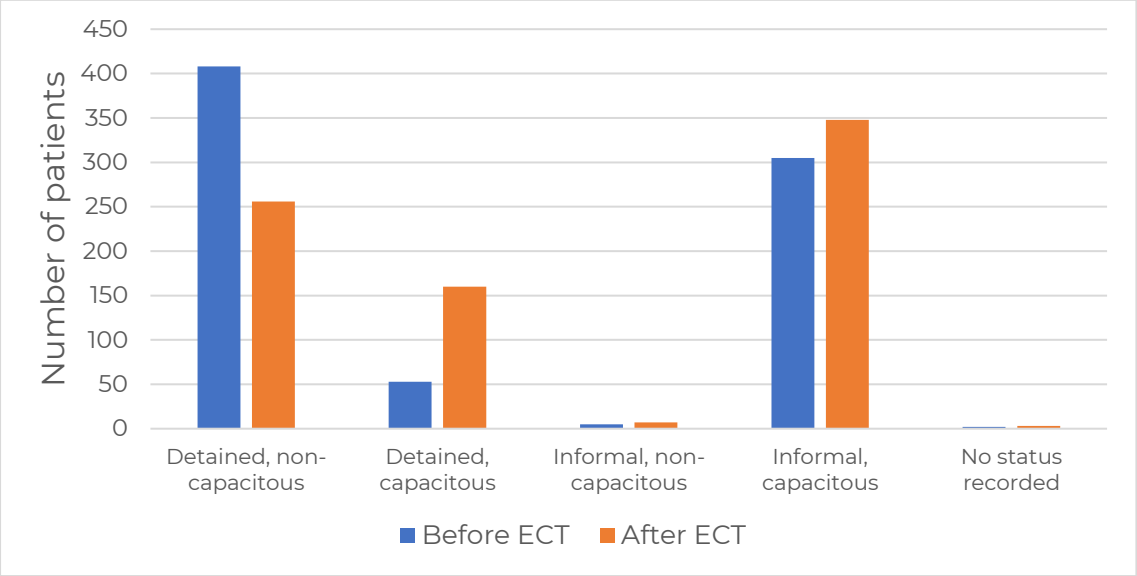

Figure 3: Legal status at the start and end of an acute course of ECT treatment.

Of the 414 patients who lacked mental capacity at the beginning of treatment, 151 (36%) regained capacity during their course of ECT.

It is assumed that the five patients who were informal but lacking in mental capacity were treated under mental capacity legislation in the relevant jurisdiction (e.g. the Mental Capacity Act 2005 in England and Wales), although this information was not specifically collected. The data in Table 3 confirm that, when a person might require ECT but lacks the mental capacity to consent to it, it is invariably mental health legislation (e.g. the Mental Health Act 1983 in England and Wales) that is used to seek legal authorisation of the treatment, even if the person is not objecting to it. This is presumably because that legislation contains provisions that relate specifically to ECT, including important safeguards for the patient and conditions that must be met before treatment can be given. There are,

however, unusual situations in which such a person, who is lacking capacity but not objecting to the treatment, might instead be treated, in their best interests, under more generalised mental capacity legislation. In England and Wales, these might include:

- objection by the Nearest Relative to formal detention in hospital, despite their agreement with the treatment itself
- reluctance of an Approved Mental Health Professional to apply for detention in hospital when the patient has the mental capacity to make the less complex decision to be admitted to hospital and has opted to accept this
- treatment being given as an outpatient with no requirement for an overnight stay in hospital.

Figure 4 shows that the proportion of patients detained at the initiation of treatment (60%) is higher than in previous years. This is likely to reflect the fact that emergency treatments for more severely unwell patients were prioritised during the early stages of the COVID-19 pandemic (Braithwaite et al, 2022).

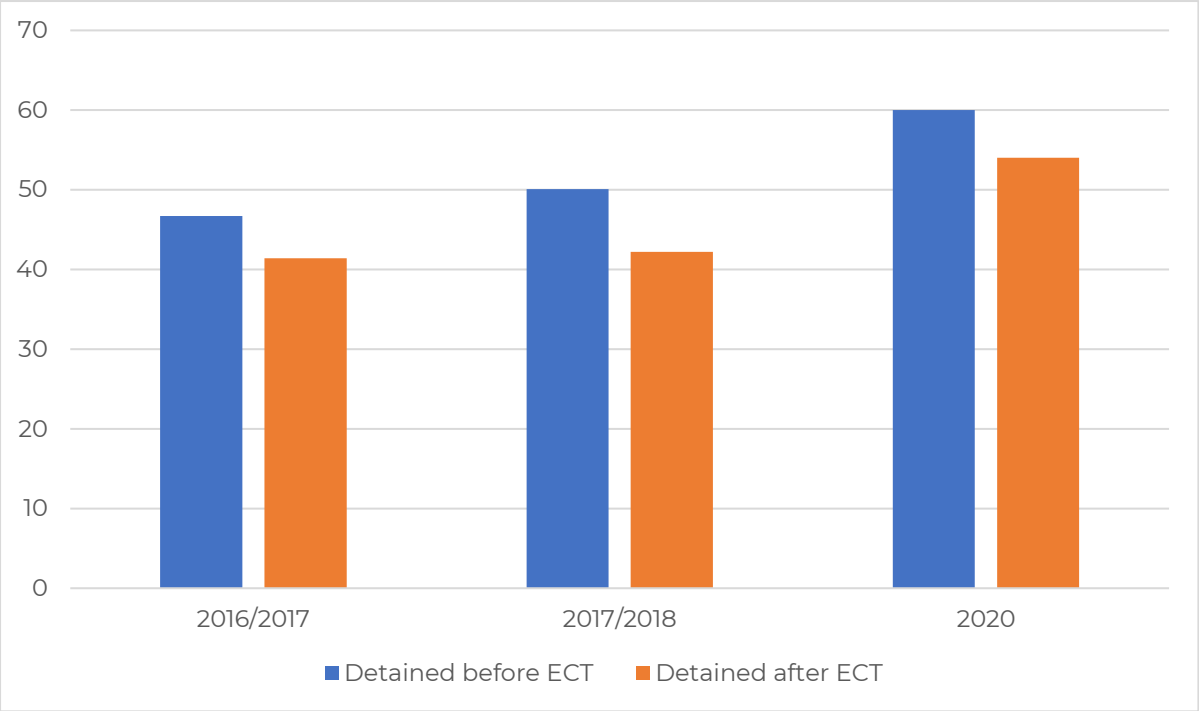

Figure 4: Percentage of patients formally detained, before and after ECT, by year.

Number of treatments

Clinics were asked to record the number of treatments the person received. The mean was **10** (SD = 5.4), the mode was **12,** with the range being **1** to **66**. Forty-six (**6.3%**) courses were of three treatments or fewer; 45 (**6.0%**) courses were of 18 treatments or more.

Only one patient received 66 treatments in an acute course.

Patient outcome

In order to assess patients' response to treatment, clinics were asked to use the Clinical Global Impression Scale - Severity (CGI-S) to rate each patient's clinical status at the start and at the end of treatment.

As shown in Table 4 and Figure 5, **85%** were rated as 'markedly ill' or worse at the start of treatment. This proportion had dropped down to just **9%** by the end of treatment. Conversely, **76%** of patients were 'mildly ill' or better at the end of the ECT course, compared with just **1%** at the start of treatment.

CGI-S score	Before ECT		After ECT	
	N	%	N	%
7 - Amongst the most severely ill patients	101	13%	5	1%
6 - Severely ill	314	41%	23	3%
5 - Markedly ill	239	31%	40	5%
4 - Moderately ill	109	14%	116	15%
3 - Mildly ill	9	1%	217	28%
2 - Borderline mentally ill	1	0%	233	30%
1 - Normal, not at all ill	0	0%	137	18%
Not recorded	1	0%	2	1%

Table 4: Distribution of CGI-S scores before starting ECT and at the end of the acute course of ECT. Data include all clinical indications (diagnoses) and all 774 acute courses. CGI-S, Clinical Global Impression (Severity) scale.

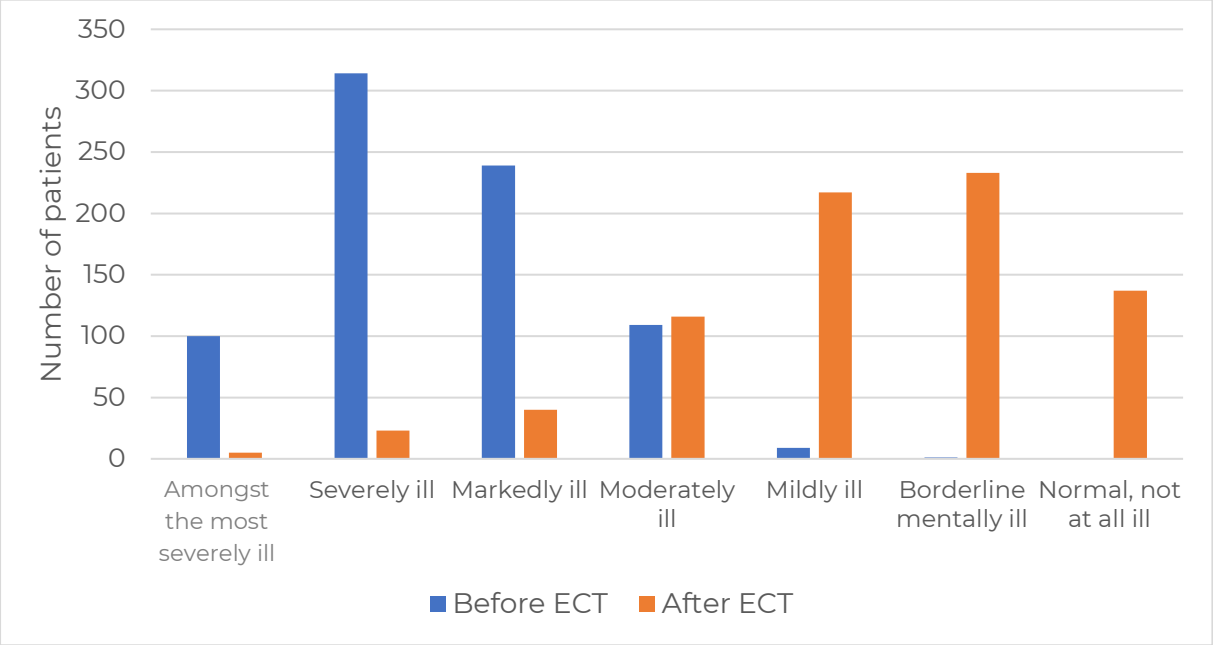

Figure 5: Clinical Global Impression - Severity (CGI-S) scores before and after an acute course of ECT.

Figure 6 and Table 5 show the points difference on the CGI-S, stratified by the number of treatments given, and show that clinical improvement tends to increase with longer courses. Very short courses tended to bring about less improvement than those lasting six sessions or more. Longer courses also resulted in good outcomes, suggesting that many patients get further benefit from continuing treatment beyond 12 sessions.

Treatments in acute course, n	Patients, n	Mean points difference on CGI-S	SD
1	13	0.4	1.0
2	16	1.0	1.7
3	17	1.6	1.7
4	29	2.2	1.7
5	46	2.6	1.7
6	65	3.0	1.5
7	45	3.1	1.3
8	80	3.0	1.2
9	48	2.7	1.5
10	55	3.0	1.3
11	32	2.7	1.4
12	187	2.9	1.4
13-18	85	3.3	1.5
>18	29	3.2	1.5

Table 5: Mean improvement in illness severity by duration of acute ECT course. CGI-S, Clinical Global Impression (Severity) scale; SD, standard deviation.

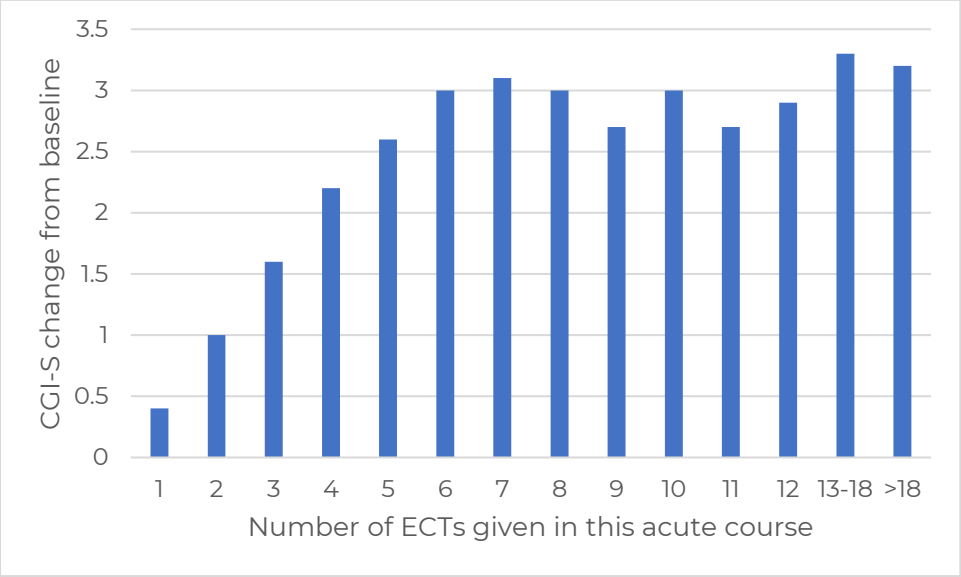

Figure 6: Mean points difference on CGI-S scores during an acute course of ECT, depending on number of treatments given. CGI-S, Clinical Global Impression (Severity) Scale.

A small minority of patients were treated for diagnoses other than depressive illness. Despite the low numbers involved, Table 6 suggests these patients showed significant improvements of a magnitude similar to those seen in patients with depressive illness. Results of specific rating scales for each diagnosis were not requested for the 2020 data collection period.

Diagnosis	Patients, n	Mean CGI-S score		p value
		Before ECT	After ECT	
Depressive illness	706	5.5	2.7	<0.001
Manic episode	25	5.6	2.4	<0.001
Schizophrenia	7	6.0	3.3	0.015
Catatonia	13	6.1	2.9	<0.001
Schizoaffective disorder	3	5.7	3.0	0.015

Table 6: Mean illness severity before and after an acute course of ECT, according to psychiatric diagnosis. p-values are calculated from paired-samples t-tests. CGI-S, Clinical Global Impression (Severity) scale.

Symptom rating scales

As well as using CGI ratings, many clinics employed standardised rating scales for depressive, manic or psychotic symptoms, as indicated by the clinical condition being treated. Clinics were asked which rating scale had been used and the scores at baseline and after the patient's final treatment. Mean scores for depressive symptom rating scales are shown in Table 7. Given the relatively small number of patients being given ECT for indications other than depressive illness, there were insufficient data for those patients to provide meaningful results.

Symptom rating scale	Number of patients	Mean score		p-value
		Before ECT	After ECT	
Clinician-rated scales:				
HAM-D	31	23.7	11.5	2.2×10^{-8}
MADRS	160	36.5	13.4	1.9×10^{-46}
Patient-rated scales:				
HADS	82	23.3	10.8	3.1×10^{-20}
BDI	9	44.8	13.3	0.0002
Likert Mood Scale	9	2.0	7.0	0.00015

Table 7: Mean symptom rating scale score before and after an acute course of ECT for patients treated for depressive illness. Data are included for all acute courses for which both pre- and post-treatment scores were available, using a rating scale performed on at least nine patients. Higher scores denote more severe symptoms on all listed scales except the Likert Mood Scale, for which a lower score denotes lower mood. p-values are based on paired-samples t-tests and =<0.05 for all changes. HAM-D, Hamilton Depression Rating Scale; MADRS, Montgomery-Åsberg Depression Rating Scale; HADS, Hospital Anxiety and Depression Scale; BDI, Beck Depression Inventory.

Response and remission rates

The use of standardised symptom rating scales has provided the opportunity to estimate the rates of response and remission achieved by patients receiving ECT. Given the relatively small number of patients being given ECT for other indications, this analysis was restricted to patients being treated for depressive illness. For the 17-item Hamilton Depression Rating Scale (HAM-D17), remission is defined as a score of less than 8 points, for the 21-item version (HAM-D21) it is less than 9 and for the 24-item version (HAM-D24) it is less than 11. For the Montgomery Åsberg Depression Rating Scale (MADRS), remission is defined as less than 11 points (Hawley et al, 2002). For both scales, response is defined as a 50% reduction from baseline (Koesters et al, 2017). It was not possible to analyse Hospital Anxiety and Depression Scale (HADS) scores in this way, as separate scores for the depression subscale had not been provided.

According to these definitions, 20 of 37 patients (**54%**) assessed using versions of the HAM-D, and 83 of 172 patients (**48%**) assessed using MADRS, achieved remission. It should be noted that some researchers have suggested two consecutive ratings should be required to confirm remission (Hawley et al, 2002), but that only one rating has been used here. For response to treatment, 19 of 31 patients (**61%**) undergoing repeated HAM-D assessments and 105 of 155 patients (**68%**) repeatedly assessed using MADRS met the criterion. Together, these data give remission and response rates of **49%** and **66%** respectively.

Cognitive assessments

For each acute course, clinics were asked which objective cognitive assessment tool had been used and to submit the scores at baseline and after the patient's final treatment. From 2021 onwards, submission of cognitive assessment data has been mandatory for ECTAS member clinics, but this was optional in 2020. Consequently, only 452 patients (**58%**) had at least one score documented before or after their acute course of ECT.

Table 8 shows the results for the most frequently used tools, for patients who had both pre- and post-ECT ratings. Only tools used for more than five patients are listed. The Hodges & ECT Recall test is included in Appendix 3. Other tools, for which patient numbers were too low to provide useful mean scores, included the Mini-Addenbrooke's Cognitive Examination (ACE-R), the Abbreviated Mental Test Score (AMTS) and the Montreal Cognitive Assessment for the Visually Impaired (MoCA-B). Scores of zero (except for the Six-item Cognitive Impairment Test (6CIT), on which a higher score indicates a higher degree of cognitive impairment) were not included in the analysis, as this score is typically entered when a patient is too impaired by illness to complete a test or to co-operate in completing a test.

Cognitive assessment tool	Maximum score	Patients, n	Mean score		p-value
			Before ECT	After ECT	
MoCA	30	168	23.3	24.6	<0.001
MMSE	30	129	24.1	26.7	<0.001
6CIT	28	25	12.4	8.1	0.012
ACE-III	100	9	48.3	58.2	n.s.
Hodges & ECT Recall	21	22	18.3	17.2	n.s.

Table 8: Mean scores on cognitive assessment tools for patients who had both pre- and post-ECT tests. p-values are based on paired samples t-tests. MoCA, Montreal Cognitive Assessment; MMSE, Mini-Mental State Examination; 6CIT, Six-item Cognitive Impairment Test; ACE-III, Addenbrooke's Cognitive Examination Version 3; n.s., not significant.

These data show significant improvements in cognitive functioning on the three most frequently used assessment tools. This contrasts with the findings of a large meta-analysis (Semkovska & McLoughlin, 2010) which found an overall deterioration in cognitive functioning when tests were performed up to three days after the last ECT, but an improvement when tests were performed two or more weeks later. One possible reason for this discrepancy could be a large subgroup of patients who score very poorly before starting treatment, due to clinical features such as profound psychomotor retardation and/or limited engagement with the

testing process, resulting in an underestimation of their true cognitive ability at that point in time.

Consequently, as shown in Table 9, the data have been analysed by stratifying patients according to their baseline cognitive scores on the Mini-Mental State Examination (MMSE) and the Montreal Cognitive Assessment (MoCA); there were insufficient numbers of patients assessed using other tools to allow for meaningful stratification of their results. As expected, those patients who registered higher cognitive scores prior to ECT do not show statistically significant improvements in scores after completion of treatment and there was even a small but statistically significant mean reduction of less than 1 point on the MoCA.

Cognitive assessment tool	Patients, n	Mean score		p-value
		Before ECT	After ECT	
MMSE, all patients	129	24.1	26.7	<0.001
MMSE, 0-22 at baseline	30	12.5	22.9	<0.001
MMSE, 23-30 at baseline	99	27.7	27.8	n.s.
MoCA, all patients	168	23.3	24.6	<0.001
MoCA, 0-22 at baseline	66	18.4	22.7	<0.001
MoCA, 23-30 at baseline	102	26.4	25.7	0.016

Table 9: Cognitive outcomes after an acute ECT course, stratified by baseline cognitive performance. Data include patients who had both a pre- and post-ECT score recorded, using one of the two most frequently used assessment tools. MMSE, Mini-Mental State Examination; MoCA, Montreal Cognitive Assessment, n.s., not significant.

Conclusions

Of some 774 acute courses of ECT given in the latter three quarters of 2020, the vast majority (**92%**) were used to treated depressive illness. Improvement in symptoms on the CGI scale was demonstrated, with the vast majority markedly ill at the outset of treatment, but only a tiny minority this unwell at completion. Similarly, although a slight majority of patients were too unwell to have mental capacity to consent to ECT at the outset of their course, by its cessation most were well enough to display capacity in this regard. Mean scores on symptom rating scales also improved markedly, with two-thirds (**66%**) of patients reaching criteria for response using clinician-rated symptom scales, and almost half (**49%**) reaching remission.

Whilst cognitive scores markedly improved overall during acute courses of ECT, this recovery was seen mainly in patients whose cognition was significantly impaired prior to initiation of treatment. Those whose cognition was higher at baseline tended to show a very slight drop in cognition by cessation of treatment, in keeping with a well-documented temporary adverse effect of ECT.

Lastly, it must be reiterated that submission of anonymised patient data was not mandatory for ECTAS member clinics during 2020, such that not all clinics participated, a factor possibly exacerbated by the pandemic.

MAINTENANCE COURSES OF ECT

114
submissions

The full list of questions in the data collection tool can be found in Appendix 2.

As stated in the introduction to this report, maintenance ECT is defined as ECT, usually delivered at intervals of between one week and three months, used to prevent relapse of symptoms or recurrence of illness. For the purposes of this report, maintenance ECT has been taken to include what is commonly referred to as 'continuation ECT'.

Returns were made by **31** clinics for a total of **114** courses of maintenance ECT, given to **114** patients. For comparison, **48** clinics reported at total of **161** patients receiving maintenance ECT in March 2017. It has previously been documented that many clinics stopped delivering maintenance ECT at the outset of the COVID-19 pandemic in 2020, leading to many relapses and recurrences (Braithwaite et al, 2022).

Age

The mean age of patients receiving maintenance courses of ECT was **66 years** (standard deviation (SD) = 15.4 years). The range was **25 to 92 years**. Table 10 shows the age distribution.

Age	Patients, n	Patients, %
<18	0	0%
18-29	2	2%
30-39	6	5%
40-49	8	7%
50-59	20	18%
60-69	17	15%
70-79	36	32%
80-89	22	19%
90-99	2	2%
not recorded	1	1%

Table 10: Age distribution for patients receiving maintenance ECT. n=114.

Gender

Eighty-six patients (**75%**) were female, 27 (**24%**) were male and one patient's gender was not reported (1%).

Reason for referral

Table 11 shows the reasons for initiation of maintenance treatments. Respondents were able to choose from three options: (prevention of) 'recurrent symptoms of depression', (prevention of) 'recurrent symptoms of mania' and (prevention of) 'other'. Free-text responses to the latter category have been themed into the other categories listed in Table 11.

Reason for referral	n	%
Recurrent symptoms of depression	100	88%
Recurrent symptoms of mania	5	4%
Schizoaffective disorder	3	3%
Schizophrenia	2	2%
Catatonia	3	3%
Deliberate self-harm	1	1%

Table 11: Reasons for referral for maintenance ECT.

Legal Status

Respondents were asked about the patient's mental capacity and legal status.

At the time of the most recent treatment, 88 patients (**77%**) had the mental capacity to consent to the treatment, whilst 26 (**23%)** lacked capacity in this regard. In addition, 25 patients (**22%)** were reported as formally detained, whilst 88 (**77%)** were informal. For one submission, the legal status was not reported.

Treatment frequency

Respondents were asked to state the frequency of treatments for each patient at the time of the most recent assessment. This information is shown in Table 12 and Figure 7.

Frequency of treatments	Patients, n
Twice weekly	2
Every 1 week	16
Every 2 weeks	35
Every 3 weeks	8
Every 4 weeks	33
Every 6 weeks	8
Every 8 weeks	7
Other	1

Table 12: Frequency of maintenance ECT.

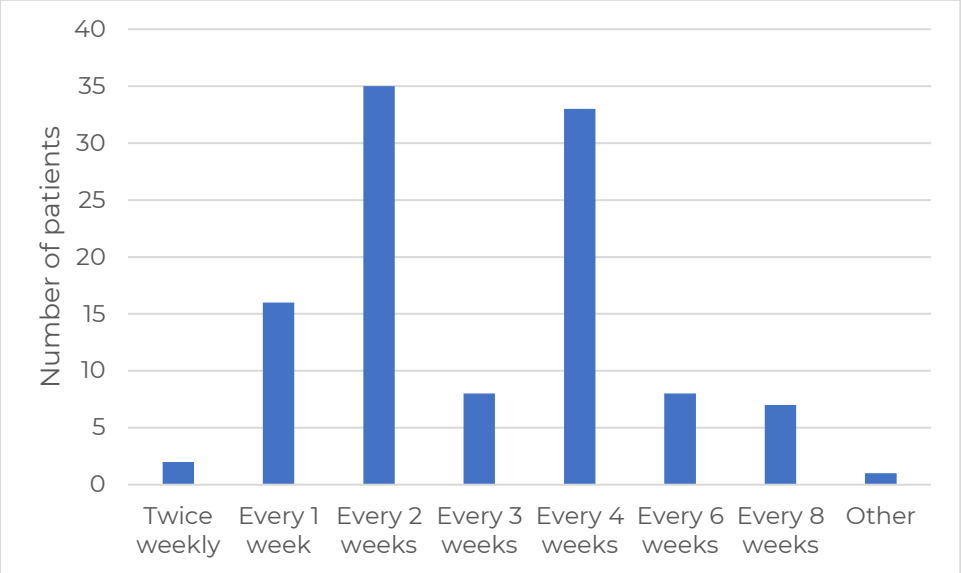

Figure 7: Frequency of maintenance ECT treatments.

Hospital status

The majority, **70%**, of patients were receiving maintenance ECT as an outpatient, with **30%** as an inpatient.

Severity of illness

It is well recognised that mood symptoms can fluctuate from week to week in patients with recurrent illness, so it is not possible to encapsulate in one rating a patient's illness severity across several months of maintenance treatments. Consequently, clinics were instead asked to use the Clinical Global Impression (Severity) Scale (CGI-S) to rate the degree of illness at the time of the most recent assessment. For patients having recently recovered from their illness with an acute course of ECT, who went on to have a relatively short course of follow-on treatment to prevent relapse of symptoms, this assessment will have been made at the end of that treatment period. For patients who were having more ongoing intermittent treatments to prevent full-blown recurrence of illness, the assessment will have been carried out toward the end of the data collection period in December 2020. Over a large cohort of patients, it was reasoned that single measurements at these pre-determined time points would provide an adequate overall estimation of treatment outcome.

At their most recent assessments, **60%** of patients were rated as having remained "mildly ill" or better, with the full results shown in Table 13.

CGI-S rating	Patients, n (%)
1 = normal, not at all ill	13 (11)
2 = borderline mentally ill	26 (23)
3 = mildly ill	29 (25)
4 = moderately ill	24 (21)
5 = markedly ill	14 (12)
6 = severely ill	7 (6)
7 = amongst the most severely ill	0 (0)
Not reported	1 (1)

Table 13: Severity of illness at most recent assessment in patients receiving maintenance ECT. CGI-S, Clinical Global Impression (Severity) scale.

Data from symptom rating scales (such as the HAM-D or MADRS) were not gathered for maintenance courses during 2020.

Subjective effectiveness

Clinics were asked to submit patients' responses to the question: "Is ECT helping you?", with three response options, namely “Definitely”, “Some benefit” and “No effect”.

72 patients (**63%**) responded that ECT was definitely helping them, 37 (**32%**) that they had had some benefit from the treatment and three (**3%**) responded that it had had no effect for them. For two people (**2%**), a response was not recorded. These data indicate an almost universal approval of the effectiveness of maintenance treatment by the patients who receive it.

Cognitive assessment

Clinics were asked to state which objective cognitive assessment had been used and for the scores at the most recent assessment. Forty-four (**39%**) were assessed using the MoCA, four (**4%**) with the MoCA-B (MoCA for the visually impaired), 25 (**22%**) with the MMSE, seven (**6%**) with the Hodges & ECT Recall, and one (**1%**) using the Addenbrooke's Cognitive Examination (ACE-III). For the remaining 33 (**29%**) patients, either no objective cognitive test was specified, or no score was specified, typically with an explanation that the patient was either too unwell and/or had refused to complete the test. Mean scores are shown in table 14.

Cognitive assessment	Patients, n	Mean score	SD
MMSE	25	27.4	3.2
MoCA	44	23.8	5.2
MoCA-B	4	17.5	3.4
Hodges & ECT Recall	7	19.7	2.2

Table 14: Objective cognitive assessment scores at the most recent assessment in patients having maintenance ECT. Hodges & ECT Recall test is included in Appendix 3, but is not specifically recommended by ECTAS over other cognitive tests. SD, standard deviation; MMSE, Mini-Mental State Examination; MoCA, Montreal Cognitive Assessment; MoCA-B, Montreal Cognitive Assessment for the Visually Impaired.

Subjective cognitive functioning

Clinics were asked to submit patients' responses to the question: "Do you have memory problems?", with three response options, namely "No problems", "Occasionally" and "Severe problems".

Fifty (**44%**) responded that they had no problems with their memory, 59 (**52%**) had occasional memory problems and four (**4%**) had severe problems. For one patient (**1%**) a response was not recorded.

Conclusions

Of 114 maintenance courses of ECT, almost all were given to lessen the likelihood and/or severity of recurrent symptoms of depressive illness. Most were mildly ill or better at the most recent assessment and almost all patients felt that ECT was helping them when asked.

Unfortunately, the one-off objective cognitive assessment scores collected for patients having maintenance treatments in 2020 are difficult to analyse meaningfully as there are no baseline or pre-treatment cognitive scores with which to compare them. Subjective self-assessment of memory functioning suggests that a very small minority of patients report severe problems, although causation cannot be inferred from this design of data collection.

As for acute courses of ECT, submission of anonymised patient data for these patients was not mandatory for ECTAS member clinics during 2020, such that not all clinics participated, a factor possibly exacerbated by the pandemic.

RECOMMENDATIONS

For clinics

- This dataset has highlighted a number of issues around submission, such as the use of zero on rating scales when a test has not been performed for one reason or another; clinics should avoid recording data in this way.
- There is a very small number of patients embarking upon an acute course of ECT who are only mildly ill, and a similar number having maintenance ECT who are severely ill; clinics are advised to ensure that their acceptance of patients for treatment is in line with the evidence base.
- As a perennial finding, the mode duration of an acute course, by some considerable margin, is 12 treatments. Clinicians are reminded that there is nothing special about this number of treatments in terms of clinical response, with many patients requiring fewer treatments than this and many needing more. Treatment must not end at the twelfth treatment purely on the basis of this number having been reached; if there is continuing clinical improvement, further ECT treatments should be prescribed until either a full resolution of symptoms or a plateau in the patient's condition is achieved. Conversely, if a patient is fully recovered after fewer than 12 treatments, there is no mileage in continuing twice weekly ECT and the acute course should be stopped.

For ECTAS

- With the review of data over the past few years, a need for a more in-depth data collection tool was identified. This has led to a new, more comprehensive dataset questionnaire being rolled out in early 2021.
- The diagnostic classifications were amended in line with the International Classification of Diseases (ICD), whilst significant changes were made to the classification of acute, continuation and maintenance courses, in line with commonly accepted practice. More instructions for completing data were provided to clinics from 2021 onwards, with a stand-alone guidance document and hover text over specific questions.
- In 2021, the data collection period was changed to 01 January to 31 December.

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APPENDIX 1 : LIST OF PARTICIPATING CLINICS

Alphabetical by clinic name.

TRUST	COUNTRY	CLINIC NAME
Essex Partnership University NHS Foundation Trust	England	Basildon Mental Health Unit
Northamptonshire Healthcare NHS Foundation Trust	England	Berrywood Hospital
Mersey Care NHS Trust	England	Broadoak Unit
South West Yorkshire Mental Health Trust	England	Calderdale ECT Clinic
Avon and Wiltshire Mental Health Partnership NHS Trust	England	Callington Road Hospital ECT Department
Oxleas NHS Foundation Trust	England	Carol Foster Suite
Barnet, Enfield & Haringey Mental Health Trust	England	Chase Farm ECT Clinic
Cambridgeshire and Peterborough Mental Health NHS Trust	England	Edith Cavell Suite
Black Country Partnership NHS Foundation Trust	England	Edward Street Hospital
HSE Dublin North-East	Republic of Ireland	Elm Mount Unit
South West Yorkshire Mental Health Trust	England	Fieldhead
Herefordshire and Worcestershire Health and Care NHS Trust	England	Grafton Treatment Centre
Hywel Dda Health Board	Wales	Hafan Derwen ECT Clinic
Cardiff and The Vale University Health Board	Wales	Hafan Y Coed
North Staffordshire Combined Healthcare NHS Trust	England	Harplands
Northern Health and Social Care Trust	Northern Ireland	Holywell Clinic

West London Mental Health Trust	England	John Conolly Suite
Norfolk and Suffolk NHS Foundation Trust	England	Julian Clinic
Hertfordshire Partnership University NHS Foundation trust	England	Kingfisher Court
Coventry & Warwickshire Partnership NHS Trust	England	Lakeview ECT Clinic
HSE Mid-West	Republic of Ireland	Limerick University Hospital
Sheffield Health and Social Care NHS Foundation Trust	England	Longley Centre ECT Suite
East London NHS Foundation Trust	England	Luton Treatment Centre
Aneurin Bevan University Health Board	Wales	Maindiff Court ECT Department
Belfast Health & Social Care Trust	Northern Ireland	Mater Hospital
South London and Maudsley (SLaM)	England	Maudsley Hospital
HSE West	Republic of Ireland	Mayo General Hospital
Nottinghamshire Healthcare NHS Trust	England	Millbrook Mental Health Unit
Humber Mental Health Teaching Trust	England	Miranda House
Greater Manchester West Mental Health NHS Foundation Trust	England	Moorside ECT Clinic
Cumbria, Northumberland, Tyne and Wear NHS Trust	England	Morpeth Treatment Centre
Lancashire Care NHS Trust	England	Pendleview, Royal Blackburn Hospital
Nottinghamshire Healthcare NHS Trust	England	Queens Medical Centre
Derbyshire Healthcare NHS Foundation Trust	England	Radbourne ECT Clinic
Tees and North East Yorkshire NHS Trust	England	Ryedale Suite
Isle of Wight NHS Trust	England	Sevenacres Hospital
Midlands Partnership NHS Foundation Trust	England	St George's Hospital, Stafford

St Patricks Mental Health Services	Republic of Ireland	St Patrick's University Hospital ECT Clinic
2gether NHS Foundation Trust	England	Stonebow Unit
North East London Foundation Trust	England	Sunflowers Court
Somerset Partnership NHS Trust	England	Taunton, Wellsprings Hospital
Essex Partnership University NHS Foundation Trust	England	The Lakes Mental Health Unit
Midlands Partnership NHS Foundation Trust	England	The Redwoods Centre
Tees, Esk & Wear Valley NHS Foundation Trust	England	The York ECT Clinic
HSE West	Republic of Ireland	University College Hospital
Oxford Health NHS Foundation Trust	England	Warneford Hospital
Norfolk and Suffolk Mental Health Partnership NHS Trust	England	Wedgwood House
Oxford Health NHS Foundation Trust	England	Whiteleaf Centre
Devon Partnership NHS Trust	England	Wonford House Hospital ECT Clinic
Norfolk and Suffolk NHS Foundation Trust	England	Woodlands ECT Clinic
Sussex Partnership NHS Trust	England	Worthing ECT Unit

APPENDIX 2 : FULL DATASET

ECT Accreditation Service

Dataset Questionnaire 01 April 2020 - 31 December 2020

Please complete one questionnaire for each patient that has FINISHED a course of acute ECT or received maintenance/continuation ECT between 01 April 2020 and 31 December 2020.

Trust Name

ECT Clinic

Clinic's Individual Code (this was sent to the clinic with the link for this dataset)

Age of patient

Gender of patient

What type of course of ECT did the patient receive?

- ○ Acute
- ○ Maintenance

If "Acute" Reason for referral for an acute course of ECT:

Severe depression that is life threatening, and where a rapid response is required, or where other treatments have failed

Moderate depression that has not responded to drug treatments and psychological treatment

Catatonia

Prolonged or severe manic episode

Other

If other, please specify:

If "Maintenance" Reason for a course of maintenance ECT:

- ○ Recurrent symptoms of depression
- ○ Recurrent symptoms of mania
- ○ Other

If other, please specify:

Patient Status

If "acute" Patient status at the **commencement of treatment**:

- ◯ Detained, capacitous
- ◯ Detained, non-capacitous
- ◯ Informal, capacitous
- ◯ Informal, non-capacitous

If "acute" Patient status at the **end of treatment**:

- ◯ Detained, capacitous
- ◯ Detained, non-capacitous
- ◯ Informal, capacitous
- ◯ Informal, non-capacitous

If "acute" Number of treatments given (please give in whole numbers):

If "maintenance", at the time of the **most recent treatment**, did the patient have capacity to consent to treatment?

- ◯ Yes
- ◯ No

If "maintenance", at the time of the **most recent treatment**, was the patient:

- ◯ Detained
- ◯ Informal

If "maintenance", frequency of treatments:

- ◯ Weekly
- ◯ Every two weeks
- ◯ Every three weeks
- ◯ Monthly
- ◯ Other

If other, please specify:

If "maintenance", did the patient receive maintenance ECT as an:

- ◯ Inpatient
- ◯ Outpatient

Patient Outcome

If "acute", please record the patient's Clinical Global Impression (CGI) score **before** the first treatment was given.

- ○ 1 = Normal, not at all ill
- ○ 2 = Borderline mentally ill
- ○ 3 = Mildly ill
- ○ 4 = Moderately ill
- ○ 5 = Markedly ill
- ○ 6 = Severely ill
- ○ 7 = Amongst the most severely ill patients

If "acute", please record the patient's Clinical Global Impression (CGI) score **after** completion of ECT course.

- ○ 1 = Normal, not at all ill
- ○ 2 = Borderline mentally ill
- ○ 3 = Mildly ill
- ○ 4 = Moderately ill
- ○ 5 = Markedly ill
- ○ 6 = Severely ill
- ○ 7 = Amongst the most severely ill patients

If "acute", cognitive assessment used:

- ○ MOCA
- ○ MMSE
- ○ Other

If other, please specify:

If "acute", cognitive assessment score **at baseline:**

If "acute", cognitive assessment score **after final treatment:**

If "acute", mood assessment used:

- ◯ MADRS
- ◯ HADS
- ◯ Other

If other, please specify:

If "acute", mood assessment score **at baseline:**

Mood assessment score **after final treatment:**

If "acute", is this the patient's first course of ECT to have ended since 01 April 2020?

- ◯ Yes
- ◯ No

If "No", how long (in weeks) since the previous course of ECT?

If "maintenance", please record the patient's Clinical Global Impression (CGI) score **at the time of the assessment:**

- ◯ 1 = Normal, not at all ill
- ◯ 2 = Borderline mentally ill
- ◯ 3 = Mildly ill
- ◯ 4 = Moderately ill
- ◯ 5 = Markedly ill
- ◯ 6 = Severely ill
- ◯ 7 = Amongst the most severely ill patients

IF "maintenance", is ECT helping you? (Patient's own assessment)

- ◯ Definitely
- ◯ Some benefit
- ◯ No effect

If "maintenance", do you have memory problems? (Patient's own assessment)

- ○ No problems
- ○ Occasionally
- ○ Severe problems

If "maintenance", cognitive assessment used:

- ○ MOCA
- ○ MMSE
- ○ Other

If "maintenance", please state the score:

APPENDIX 3: HODGES & ECT RECALL TEST

HODGES MEMORY QUESTIONNAIRE

Childhood	1)	Can you name your school? .....
	2)	What did you do on leaving school? .....
Adulthood	1)	Where/What was your first job/responsibilities .....
	2)	What was the date of your wedding / mother's maiden name .....
Recent	1)	Can you tell me something you did yesterday / ate for tea .....
	2)	What is the name of your doctor / nurse? .....

TOTAL SCORE OUT OF 6 =	**/6**

ECT MEMORY RECALL TEST

Questions	**Value**	**Score**
1) What year is it? *Correct answer score 1.*	1	
2) What month is it? *Correct answer score 1.*	1	
3) Repeat this address. *Score 1 for each correct item.* Ask the patient to repeat back to you a fictional name and address. Ensure they are can repeat the name and address correctly before moving on. Example: *John / Smith / 42 / West Street / Bedford*.	5	
4) About what time is it? *Score 1 if answer provided is within 60 minutes of correct time, otherwise score 0.*	1	
5) Count back from 20 to 1. *Correct answer score 1.*	1	
6) Say months in reverse. *Correct answer score 1.* Ask the patient to list the months in order (forwards), then give them backwards, starting from December. If the patient forgets where they were, you may provide a prompt.	1	
7) Repeat the address. *Score 1 for each correct item.*	5	
TOTAL WEIGHTED SCORE FOR TEST	**/15**	

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The Royal College of Psychiatrists
21 Prescot Street
London
E1 8BB

RC PSYCH
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