

# Trends in Use of Electroconvulsive Therapy in South London From 1949 to 2006

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**Objectives:** Electroconvulsive therapy (ECT) remains the most acutely effective treatment for severe depression, but its use has declined since its introduction more than 70 years ago. To provide some historical perspective on changes in ECT practice, the objective of the present study was to identify trends in ECT practice in selected teaching hospitals in South London, UK, between 1949 and 2006.

**Methods:** Annual rates of ECT for 1949–1970 were estimated from the contemporary hospital reports of the Maudsley and Bethlem Royal hospitals in South London, UK. Case notes were also retrospectively reviewed to calculate annual rates of ECT administration and extract demographic and clinical information for approximately every 5 years between 1987 and 2006.

**Results:** The annual rate of ECT peaked at 35% of total admission in 1956 and declined gradually thereafter to 10.8% by 1970 and fell below 2.2% from 1991 onward. Depressed and female patients were more likely to receive ECT. Compared to previous years, patients were more severely ill and treatment resistant in 2006, whereas ethnic minorities made up 30% of patients receiving ECT compared to approximately 14% in the preceding years.

**Conclusions:** Currently, ECT seems to be provided increasingly late in more severe illness episodes. The ethnicity of patients receiving ECT in South London may be becoming more representative of the background population, but ECT is being used relatively more frequently for nonaffective disorders in ethnic minorities.

**Key Words:** ECT, ethnicity, depression, historical, trends

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Although highly acutely effective for treating severe depression and catatonia,<sup>1,2</sup> electroconvulsive therapy (ECT) use has been reported to be declining substantially since the 1970s. In some UK centers, there was a 50% decrease in the use of ECT between 1972 and 1983.<sup>3</sup> Similarly, between 1975 and 1980, the number of patients referred for ECT in the United States decreased by 46% from 57 to 29 per 1000 admissions.<sup>4</sup> This decline continued in the 1990s, with ECT administrations in England and Wales falling from 105,466 in 1991 to 65,930 in 1999, which is equivalent to 5.8 per 100,000 total population.<sup>5</sup> The rate of ECT used in Edinburgh, Scotland, also fell between 1992 and 1997, from 22.4 to 11.3 per 100,000 total population.<sup>6</sup>

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Few data exist for ECT use in England in the past decade or since the introduction of the National Institute for Health and Clinical Excellence (NICE) guidance on ECT in 2003.<sup>7</sup> Available studies on prescription rates of ECT have mainly looked at trends within a limited time, with most only examining rates after the 1970s.

The clinical and demographic profile of patients receiving ECT has changed over time. Originally, ECT was developed as a treatment for schizophrenia and melancholic depression.<sup>8</sup> Currently, more than 70% of those receiving ECT in Western industrialized countries have a diagnosis of depression; and women are nearly twice as likely as men to receive ECT, whereas patients older than 65 years receive ECT out of proportion to their numbers in inpatient care.<sup>9</sup> In comparison, limited data from developing Asian and African countries indicate that ECT is more commonly used to treat schizophrenia with greater proportions of men and relatively younger patients.<sup>9,10</sup> Furthermore, racial and ethnic minorities are consistently disproportionately underrepresented among those receiving ECT in the United States and UK.<sup>11,12</sup> This contrasts with arguments made by anti-ECT groups in the UK that ECT is an authoritarian treatment used most frequently with disempowered groups<sup>12,13</sup> and has instead led some to suggest that there is unequal access to ECT across ethnic groups.<sup>9,12</sup>

To provide some perspective on historical changes in ECT practice, in the present study, we tracked changes in rates of prescription of ECT from 1949 to 2006 in South London, UK, and examined in more detail demographic, clinical, and outcome information for those receiving ECT between 1987 and 2006.

## MATERIALS AND METHODS

### Study Sites

The Maudsley Hospital and Bethlem Royal Hospital, known as the “joint hospitals”, are 2 psychiatric hospitals located in Camberwell, South London, and Beckenham, south east London, UK, respectively. In 1999, both hospitals formed part of the South London and Maudsley NHS Foundation Trust, along with the Lambeth Hospital and the specialist Ladywell Unit based at University Hospital Lewisham and the mental health services based in Guy's and St Thomas's Hospitals in central south London. Patients at Lewisham continued to be treated with ECT at Lewisham and were not included in the present study. Patients receiving ECT at the Guy's and St. Thomas's Hospitals began to receive ECT at the Maudsley Hospital at this time. The Trust provides mental health care and treatment for a population of 1.1 million people in South London.

### Patients and Case Note Reviews

A retrospective case note review of patients who were treated in the ECT clinics at the Maudsley and Bethlem Royal hospitals, London, was conducted. Patients were identified from ECT clinic logbooks for the 2 hospitals. Inferential sampling from 1-year samples at approximately 5-year intervals between 1987 and 2006 was used. Demographic and clinical data were

gathered: age, sex, ethnicity, concomitant drug treatment, previous ECT course, outpatient/inpatient status, and legal status (ie, informal or treated under the UK Mental Health Act 1983). The Operational Criteria program was used to generate *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* diagnoses and symptom profiles.<sup>14</sup> The number of failed pharmacotherapies used before a person being referred for ECT was recorded. Treatment resistance was defined as having failed 2 or more drug therapies before receiving ECT. Annual rates of ECT use were calculated by dividing the total number of ECT courses prescribed by the total number of admissions to the included hospitals for each year. The hospitals' medical director approved the case note study.

We were also able to access triennial reports published by the Maudsley and Bethlem Royal hospitals covering the period between 1949 and 1970.<sup>15-21</sup> The number of patients who received ECT and the total number of admissions were extracted for each 3-year period. From these, annual rates of ECT per total number of admissions were estimated and used to compare with the case note review data. No data were available on ECT use between 1971 and 1986.

### ECT Treatment and Outcomes

Changes in ECT protocol and procedures across the 5 periods were recorded including treatment dosing procedure used, mean seizure duration over course of ECT, and the anesthesia used. The therapeutic response to ECT courses was estimated from clinical entries in the case notes using a simple 5-point scale: complete recovery, major improvement, minor improvement, no change, or

worse. Outcome was "complete recovery" if ECT led to discharge and resumption of normal activities; if symptoms worsened, the patient became manic or suffered a major adverse event, the outcome was deemed "worse". Patients were considered to be responders if they rated complete recovery or "major improvement". The following postictal adverse effects were recorded as being present/absent for individual treatments: confusion or amnesia, nausea, severe headache, anesthetic complications, injury during ECT, death within 1 week, and any other major complication.

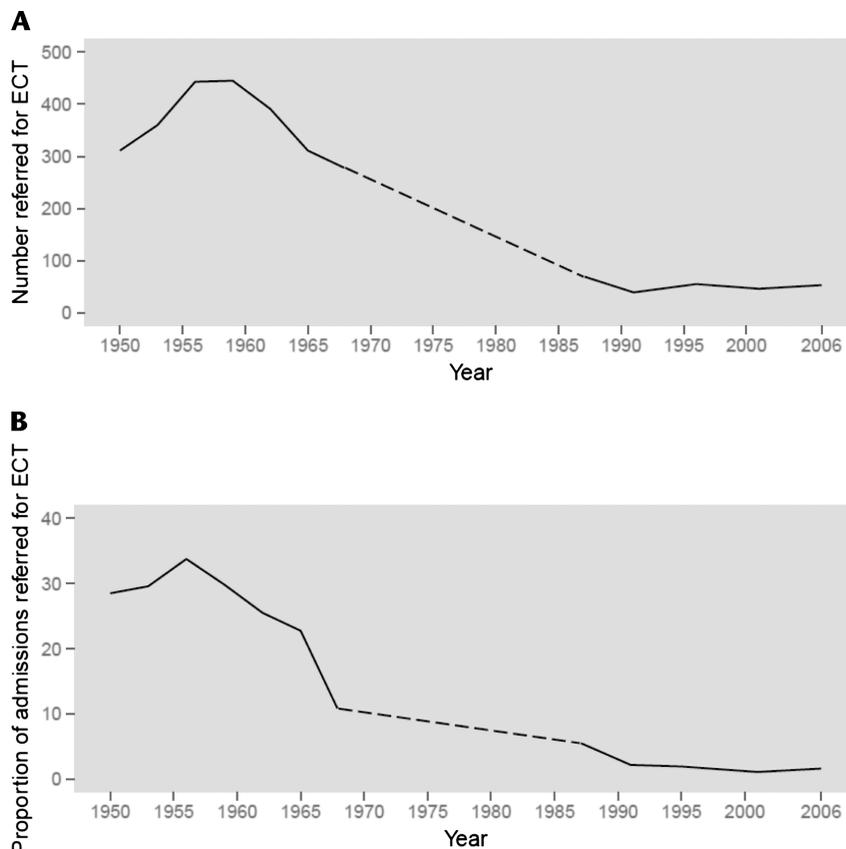
### Statistical Analysis

Descriptive data are presented as mean (standard deviation) unless otherwise stated. Tests of the significance of the differences of proportions were performed using  $\chi^2$  analysis. Continuous variables (eg, number of failed drug therapies and mean seizure duration) were analyzed using a one-way analysis of variance. Statistical analyses were performed using SPSS software package, version 16.0 (SPSS, Chicago, Ill).

## RESULTS

### Rates of Use of ECT

Data from 93 (7.6%) of the case notes of patients who received ECT at the Maudsley and Bethlem Royal hospitals during the 5 selected periods (1986, 1991, 1996, 2001, and 2006) were extracted and included in the analysis. On average, across the 5 time points, 91.2% of the patients received ECT as inpatients, 4.4% as outpatients, and 4.4% started as inpatients



**FIGURE 1.** A, Number of patients who received ECT between 1949 and 2006 in the Maudsley and Bethlem Royal hospitals. B, Percentage of admissions referred for ECT between 1949 and 2006. Dotted lines represent period for which no data are available.

and then completed ECT as outpatients. The number of individuals and the proportion of admissions receiving ECT between 1949 and 1970 and at these selected periods are displayed in Figures 1A and B, respectively. The proportion of admissions receiving ECT increased until 1956 when it reached a peak of 33.8% (Fig. 1B). Between 1956 and 1970, this gradually dropped to 10.8%, a relative reduction of 68%. In 1987, the proportion of admissions receiving ECT was 5.5%, and this continued to decline until 1991, plateauing thereafter between 1.1% and 2.2% of admissions with smaller fluctuations.

### Age, Sex, and Ethnicity

The demographic and clinical characteristics of patients who received ECT between 1987 and 2006 are presented in Table 1. Overall, a higher proportion (65.5%) of women than men received ECT, and this pattern did not differ significantly across the 5 periods studied. The proportion of patients aged

65 or older referred for ECT varied significantly over time ( $P = 0.033$ ), accounting for 40% and 39% in 1987 and 1991, respectively; this increased to more than 50% in 1996 and was sustained in 2001, although it decreased again to 33% in 2006.

The proportion of individuals from ethnic minorities being referred for ECT changed significantly across the 5 periods ( $P = 0.032$ ). White patients accounted for 79.4% to 91.8% of ECT referrals in 1987, 1991, 1996, and 2001. However, this dropped to 65.1% in 2006, mirrored by a rise in the proportion of black (20.9%) and Asian patients (7%) receiving ECT.

### Clinical Indications for ECT

Changes in the diagnostic profile of patients across the 5 periods approached significance ( $P = 0.055$ ). The proportion of patients with a diagnosis of depression increased from 74.6% in 1987 to 89.1% in 2001, mirrored by a decrease in the diagnosis of schizophrenic disorders from 17.5% to 6.5%. However, in

**TABLE 1.** Patients' Demographic and Clinical Information

	1987 (n = 63)	1991 (n = 39)	1996 (n = 61)	2001 (n = 46)	2006 (n = 43)	$\chi^2$	<i>P</i>
	n (%)						
<b>Sex</b>							
Female	43 (68.3)	29 (74.4)	37 (60.7)	32 (69.6)	24 (55.8)	4.3	0.360
Male	20 (31.7)	10 (25.6)	24 (39.3)	14 (30.4)	19 (44.2)		
<b>Age, mean (SD), yrs</b>							
≥65	53.8 (19.9)	54.3 (19.8)	63.6 (16.7)	62.7 (15.9)	52.5 (19.4)	10.5	0.033
≤64	25 (39.7)	15 (38.5)	35 (58.3)	24 (52.2)	13 (30.2)		
38 (60.3)	24 (61.5)	25 (41.7)	22 (47.8)	30 (69.8)			
<b>Ethnicity</b>							
White	50 (79.4)*	35 (89.7)	56 (91.8)	41 (89.1)	28 (65.1)	28.7	0.032
Black	6 (9.5)	1 (2.6)	2 (3.3)	3 (6.5)	9 (20.9)		
Oriental	0 (0)	1 (2.6)	0 (0)	1 (2.2)	1 (2.3)		
Asian	1 (1.6)	0 (0)	0 (0)	0 (0)	3 (7.0)		
Other	1 (1.6)	2 (5.1)	3 (4.9)	1 (2.2)	2 (4.7)		
<b>Diagnosis (DSM-IV)</b>							
Depression	47 (74.6)*	31 (79.5)	52 (85.2)*	41 (89.1)	28 (66.7)	20.7	0.055
Mania	4 (6.3)	0 (0)	1 (1.6)	1 (2.2)	1 (2.4)		
Schizophrenia	11 (17.5)	8 (20.5)	6 (9.8)	3 (6.5)	13 (31.1)		
Other	0 (0)	0 (0)	0 (0)	1 (2.2)	0 (0)		
<b>Previous courses of ECT</b>							
None	33 (52.4)	11 (28.2)*	21 (34.4)*	19 (41.3)*	20 (46.5)	13.1	0.362
1	18 (28.6)	12 (30.8)	14 (23.0)	10 (21.7)	7 (16.3)		
2	5 (7.9)	7 (17.9)	9 (14.8)	7 (15.2)	6 (14.0)		
≥3	7 (11.1)	7 (17.9)	16 (26.2)	9 (19.6)	10 (23.3)		
<b>Indications for ECT (may be more than one)</b>							
Not eating/drinking	22 (34.9)	10 (25.6)	15 (24.6)	9 (19.6)	23 (53.5)	15.0	0.005
Stuporous	9 (14.3)	7 (17.9)	4 (6.6)	2 (4.3)	12 (27.9)	14.2	0.007
Delusional	9 (14.3)	5 (12.8)	10 (26.4)	11 (23.9)	10 (23.3)	3.5	0.480
Agitated	9 (14.3)	3 (7.7)	7 (11.5)	7 (15.2)	18 (41.9)	22.5	0.000
Suicidal	3 (4.8)	4 (10.3)	7 (11.5)	2 (4.3)	15 (34.9)	27.5	0.000
Resistant	28 (44.4)	13 (33.3)	28 (45.9)	22 (47.8)	29 (67.4)	11.2	0.024
Previous good response	4 (6.3)	7 (17.9)	11 (18.0)	9 (19.6)	20 (46.5)	27.3	0.000
<b>Treated involuntarily</b>							
Yes	5 (7.9)*	4 (10.3)*	6 (9.8)*	8 (17.4)*	6 (14.0)*	2.8	0.590
No	51 (81.0)	31 (79.5)	54 (88.5)	34 (73.9)	37 (86.0)		
No. failed drug therapies, mean (SD)	1.7 (1.0)	2 (0.93)	2.3 (1.3)	2.2 (1.3)	6.5 (4.0)		0.000

Owing to missing data items in some case notes (mean [SD], 4.7% [3.6%]), not all columns above add up to 100% of the study samples.

\*Samples with missing data.

DSM-IV, *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*.

2006, the proportion of patients with schizophrenia increased to 31.1%; this may be related to the increase in the proportion of ethnic minorities receiving ECT of whom 8 (53.3%) of 15 had a diagnosis of schizophrenia compared to 5 (17.9%) of the 28 white patients. The proportion of patients with a diagnosis of mania was 6.3% ( $n = 4$ ) in 1987 but dropped thereafter to mostly a single patient per year.

The indications for referring a person for ECT changed across the 5 periods. There was a significant difference in the proportion of patients not eating or drinking ( $P < 0.005$ ), in a stupor ( $P = 0.007$ ), agitated ( $P < 0.001$ ), and suicidal ( $P < 0.001$ ). Each of these peaked in 2006, with all being nearly two thirds higher than in previous years (Table 1). The proportion of patients experiencing delusions did not change significantly across the 5 periods.

The number of patients classified as being treatment resistant also changed significantly ( $P = 0.024$ ), again with a peak in 2006 of 67.4% compared with a range of 33.3% to 47.8% at previous periods. In line with this, the mean number of failed drug therapies before being referred for ECT was significantly different across periods ( $F[2, 244] = 45$ ;  $P < 0.001$ ). Post hoc comparisons using the Tukey honestly significant difference test indicated the mean (SD) number of failed drug therapies in 2006 of 6.5 (4.0) was significantly higher than each of the previous years, which did not differ significantly from each other. The proportion of patients with a previously good response to ECT also increased in the 2006 group (46.5%) compared to previous years.

The number of people treated involuntarily under the Mental Health Act ranged from 7.9% to 17.4%. The numbers increased slightly across time, but this trend was not significant.

## ECT Treatment Parameters

All patients were treated with twice-weekly brief pulse ECT, nearly all with bitemporal electrode positioning. In 1987, the Duopulse (Ectron Ltd, Herts, UK) device was used; and from

1991 onward, patients were treated using the Thymatron DGx (Somatics Inc, Lake Bluff, Ill) device. The “age method” (ie, percent charge = patient’s age; 100% = 504 mC) was used to estimate first treatment charge dose (mC) between 1991 and 2001, and stimulus dose was titrated during the course to ensure an adequate seizure duration of 25 seconds or longer on electroencephalogram.<sup>22</sup> In 2006, an empirical stimulus dosing protocol was used to establish the seizure threshold at the first session with treatment thereafter at  $1.5 \times$  seizure threshold.<sup>2</sup> The mean seizure duration changed significantly across periods ( $F[2, 229] = 6.78$ ,  $P < 0.001$ ; Table 2). Post hoc comparisons using the Tukey honestly significant difference test indicated that the seizure length of patients referred for ECT in 2006 was significantly greater than those in all the other years, between which there were no differences. This change in seizure length may reflect the different stimulus dosing protocol or changes in anesthetics used. Methohexitone was used with all cases in 1987, 1991, and 1996; in 2001, it was used with 84.4% of patients, with the rest receiving etomidate; and in 2006, 90% of patients received methohexitone, with 10% receiving propofol. In addition to anesthesia, all patients were given the muscle relaxant suxamethonium (0.5–1.0 mg/kg).

## Clinical Outcomes

Overall, across the 5 periods, 19% of the patients experienced confusion/amnesia after ECT, 3.6% had anesthetic complications, 3.2% experienced a severe headache, 0.4% had an injury during ECT, 8.7% experienced “other major complications”, and no deaths occurred within 1 week of finishing a course of ECT. The occurrence of confusion/amnesia ( $P < 0.001$ ), severe headaches ( $P < 0.001$ ), and anesthetic complications ( $P = 0.02$ ) increased significantly across the 5 periods.

The mean percentage of patients across the 5 periods achieving complete recovery or a major improvement was 67%. This seemed to decline modestly across the periods, reaching approximately 61% in 2001 and 2006; however, this trend was

**TABLE 2.** Clinical Outcomes and Treatment Parameters of ECT

	1987 (n = 63)	1991 (n = 39)	1996 (n = 61)	2001 (n = 46)	2006 (n = 43)	$\chi^2$	P
	n (%)						
<b>Adverse effects</b>							
Confusion/Amnesia	1 (1.6)	2 (5.1)	22 (36.1)	11 (23.9)	13 (31.0)	32.7	0.000
Severe headache	0 (0)	0 (0)	2 (3.3)	0 (0)	6 (14.3)	21.6	0.000
Anesthetic complications	0 (0)	1 (2.6)	1 (1.6)	2 (4.3)	5 (11.6)	11.6	0.020
Death	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	—	—
Injury during ECT	0 (0)	0 (0)	0 (0)	0 (0)	1 (2.4)	4.9	0.228
Other major complications	3 (4.8)	5 (12.8)	4 (6.6)	8 (17.4)	2 (5.3)	7.2	0.126
<b>Clinical outcome</b>							
Complete recovery/Major improvement	45 (71.4)*	26 (66.7)*	45 (74.3)*	27 (58.7)*	26 (60.5)	4.8	0.305
Minor improvement/No change	16 (25.4)	10 (25.6)	14 (23.7)	17 (37.0)	17 (39.5)		
Worse	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)		
<b>Reason for stopping ECT</b>							
Recovery	37 (58.7)*	21 (53.8)	36 (62.1)*	23 (50.0)*	26 (60.5)*	22.9	0.114
Adverse effects	1 (1.6)	2 (5.1)	3 (5.2)	10 (21.7)	5 (11.6)		
Nonrecovery	6 (9.5)	6 (15.4)	4 (6.9)	4 (8.7)	4 (9.3)		
Withdrawn consent	2 (3.2)	1 (2.6)	4 (6.9)	2 (4.3)	3 (7.0)		
Not specified	14 (22.2)	9 (23.1)	11 (19.0)	6 (13.0)	4 (9.3)		
seizure duration, mean (SD), seconds	26.8 (10.9)	23.3 (8.9)	26.4 (6.5)	27.9 (10.9)	42.7 (18.0)		0.001

Owing to missing data items in some case notes (mean [SD], 3.9% [1.8%]), not all columns above add up to 100% of the study samples.

\*Samples with missing data.

not statistically significant. The most common reason across all years for stopping ECT was recovery. No patients were reported to have worsened because of ECT.

## DISCUSSION

At its peak use in 1956, ECT was prescribed to nearly 34% of all admissions to the Maudsley and Bethlem Royal hospitals. Since then, its use has dramatically fallen. Between 1956 and 1970, the number of people receiving ECT in the joint hospitals decreased from 35% to 10.8% of admissions, a relative drop of 68%. Previous studies looking at the decline in use of ECT have mainly focused on changes in use during the 1970s and 1980s.<sup>3,4,23,24</sup> The present findings indicate that this downward trend began in the mid-1950s, probably coinciding with the first major developments in modern psychopharmacology. Electroconvulsive therapy use declined further between 1987 and 1991, possibly after the introduction of selective serotonin reuptake inhibitors that allowed administration of higher therapeutic doses compared to previously available antidepressants with more pronounced cardiac adverse effects. However, rates of ECT use seemed to have stabilized since the early 1990s, fluctuating slightly from year to year up to 2006 and ranging from 1.1% to 2.2% of total admissions. Overall, this reduction in the use of ECT may be reflective of a wide number of changes in psychiatry over the last half-century, including developments in pharmacotherapy, improved community care, early interventions and psychotherapy, increased legislation, and a better appreciation of the indications for ECT.<sup>1,7,25</sup>

Women were disproportionately represented among those having ECT. This trend seems to be stable across time and is consistent with other European and US studies<sup>4,6,9,26-28</sup> and probably corresponds to the increased prevalence in women with depression, the major diagnostic indication for ECT in the UK. A novel finding was the increase in proportion of ethnic minorities that received ECT in 2006. Until 2001, ethnic minorities made up 11% to 14% of those receiving ECT at the Maudsley and Bethlem Royal hospitals, whereas estimates from the Office for National Statistics for ethnic populations in London in 2001 reported that ethnic minorities made up nearly 30% (mixed race, 3.2%; black, 10.9%; Asians, 12.2%; Chinese or other, 2.7%) of the population.<sup>29</sup> Thus, in line with other studies, minority groups seemed to be disproportionately underrepresented among those receiving ECT.<sup>4,11,12,26</sup> However, the proportion of black (20%) and Asian patients receiving ECT (7%) increased significantly in 2006, whereas the ethnic profile of the general London population (mixed race, 3.5%; black, 10.6%; Asians, 13.1%; Chinese or other, 3.4%) remained the same. This suggests that the ethnic profile of those having ECT in South London is becoming more representative of the local general population.

In line with previous and current NICE recommendations, ECT was predominantly used in the treatment of depression.<sup>7,25</sup> This increased between 1986 and 2001, mirrored by a decrease in those being treated with ECT for schizophrenia. However, in 2006, the proportion of patients with schizophrenia being treated with ECT increased to more than 30%. This may be related to the increase in those from an ethnic minority being treated with ECT, rather than a change in the use of ECT generally. Overall, 36% of the patients from ethnic minorities prescribed ECT between 1986 and 2006 had a diagnosis of schizophrenia compared with 13% of the white majority, with this discrepancy being greater in 2006. In the UK, an increased incidence of schizophrenia has been consistently reported in black Caribbean and African people as well as South Asian populations.<sup>30</sup> However, it is difficult to speculate why such a high proportion of those from an

ethnic minority with schizophrenia are being treated with ECT and why the clinical profile of those receiving ECT from ethnic minorities differs in this way from the white majority. Some studies have suggested that disparities in treatment across ethnic groups may be reflective of differences in psychiatric phenomenology that have not been recognized or of stereotyped attitudes of mental health professionals.<sup>31</sup> However, this needs to be investigated, as such differences feed into ideas of mistreatment of ethnic minorities within mental health services.<sup>12</sup>

Patients receiving ECT in 2006 experienced an increased number of indications (not eating or drinking, suicidal, stuporous, and agitated) compared with the other periods. In addition, compared with previous years, there was a 3-fold increase in the number of failed pharmacotherapies before being referred for ECT. Such observations suggest that ECT is increasingly becoming a treatment of “last resort” for quite severely ill patients rather than being used as a third- or fourth-line therapy or earlier for severely ill patients requiring urgent intervention due to self-neglect. In addition, the changes in the clinical profile of patients receiving ECT described here for 2006 are in line with, and may have been in response to, the 2003 NICE guidelines<sup>7</sup> that recommended ECT mainly be used in cases where all other treatment options have failed or when the situation is thought to be life threatening. The increased use of ECT with more treatment-resistant patients may also explain the slight decline in efficacy rates of ECT identified by this study. Electroconvulsive therapy has been reported to be less effective among treatment-resistant patients.<sup>32</sup> However, the efficacy rates of ECT were still substantial, with 60% of patients achieving full recovery or a major improvement in 2006 despite the high number of previously failed drug therapies.

There was an increase from 1996 onward in the proportion of patients recorded as having experienced confusion/amnesia, severe headaches, and/or anesthetic complications after ECT. It is possible that this finding may reflect an improvement in the standard of reporting or more well-developed care and observation after ECT. However, with the exception of confusion/amnesia, the incidence of adverse effects were low, no deaths occurred during the years examined, and no patients were thought to have become worse after ECT.

From 1987 to 2006, patients receiving ECT on an involuntary basis under the provisions of the Mental Health Act ranged between 8% and 17%. This is in line with the finding of a Scottish audit that reported that 18% of patients had ECT without being able to give consent between 1992 and 1997.<sup>27</sup> In addition, we found no significant change in the proportion of patients receiving ECT without consent from 1987 to 2006. This confirms reports that the use of ECT without consent has not decreased in the UK since 1985.<sup>33</sup>

This study is limited by its retrospective design and associated danger of confounding, the lack of standardized measures for cognitive and therapeutic outcomes, and is dependent on the accuracy of reporting in the case notes included. However, many of our results parallel previous studies from the UK and abroad while allowing novel comparisons to be made about the use of ECT in South London over the past 6 decades. In addition, sampling every 3 to 5 years means that year-on-year changes are not detected, and thus, the stability of the current findings is not known. However, the results do provide us with insights into a continually evolving treatment method. We hope that providing accurate and up-to-date information on the rate of use of ECT, and on those that receive it, will help improve public knowledge of this sometimes controversial treatment.

In conclusion, the proportion of patients receiving ECT has declined dramatically from its peak use in 1956 and may have

stabilized since the 1990s. The ethnic profile of those receiving ECT in South London is increasingly more in line with that of the general population, although the diagnostic profile of those receiving ECT differs between ethnic groups. The stability of such findings will need to be assessed in future studies. In line with NICE recommendations,<sup>7</sup> and even beforehand, ECT has been mainly used for treating depression. However, the introduction of restrictive NICE guidance in 2003 may have inadvertently led to ECT being used as a treatment of last resort late in the course of illness and thus possibly be associated with unnecessarily prolonged distress.

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