



**The Royal College of
Psychiatrists' Research
and Training Unit**
Charity registration number: 228636



Electroconvulsive Therapy Accreditation Service (ECTAS)

FIRST NATIONAL REPORT

October 2003 - October 2005

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Foreword by Dr Chris Freeman



Foreword

In the early 1980s I wrote an editorial for the Lancet entitled "A Shameful State of Affairs". This was at a time when ECT was the main target of the anti psychiatry movement and there were regular protests outside college meetings about the use of ECT. Paradoxically several of the UK randomised controlled trials of ECT had been published and others were under way so the evidence base for the efficacy was stronger than it had ever been. The Royal College of Psychiatrists had just completed its first survey of the use and practice of ECT concluding that standards of practice were low, equipment was outdated and regional variations were enormous. I concluded that it was not ECT that was bringing psychiatry in disrepute, it was psychiatrists and the way they practiced that were doing just that for a very effective treatment - ECT.

The college conducted further surveys of practice in the late '80s and early '90s, sadly showing that standards were improving little. The special committee on ECT began running regular training courses which several thousand psychiatrists have now attended. More recently there have been increasing numbers of anaesthetic and nursing delegates.

Twenty years on we now have a second edition of the ECT handbook, a NICE health technology report endorsing the use of ECT and we have ECTAS.

Over the same twenty year period the rate of use of ECT has steadily fallen. If the slope does not level out and if the last collected figures (2003) are projected forward the rate will reach zero in 2012. This contrasts with the situation in North America where the rates of use of ECT have been rising, and raises the view that ECT may be being underused causing patients with severe and chronic depression to suffer for much longer than they need as antidepressant after antidepressant is changed. This view is confirmed by a recent paper in the college's own journal from Germany looking at adherence to treatment pathways in inpatients with depression (Schneider et al, *Adherence to guidelines for treatment of depression in in-patients*. British Journal of Psychiatry Vol 187), . This shows there may be an under utilisation of ECT.

Whatever the future of ECT, it is vitally important that when it is given it is given appropriately, safely and with due concern to a patient's consent and dignity. The college can be proud that it now has the most comprehensive and detailed training and accreditation service for ECT anywhere in the world. The accreditation visits are detailed, involving the rating of nearly 200 carefully worded standards. No other country, save for Scotland, has a system like ECTAS. So far the standard has been high and we are delighted that some clinics have been accredited with excellence. It is perhaps not surprising those clinics registering first are exhibiting good practice and the more difficult visits may yet be to come. Accreditation is not a toothless exercise - we have failed to accredit some clinics and often deferred accreditation for a short time to allow clinics to appoint extra staff or obtain appropriate equipment.

ECTAS is more than an accreditation service, it has developed into an active managed clinical network. The email discussion group is very active with regular posting of clinical queries and opinion. Thanks to all ECTAS members who have provided rapid and often detailed responses to some interesting and challenging enquiries.

The ECTAS Team at the College Research Unit and the Reference and Advisory Group that support it can be proud of what they have achieved so far.

I would feel confident if writing an editorial now to highlight ECT and ECTAS as an example of good practice and excellent clinical governance.

Dr Chris Freeman
November 2005

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BACKGROUND

Three national audits since 1980 showed persisting deficits in the quality of electroconvulsive therapy (ECT) in England. The ECT Accreditation Service (ECTAS) was established to promote better standards of ECT practice. ECTAS is a collaboration between the Royal College of Psychiatrists, the Royal College of Anaesthetists and the Royal College of Nursing. The initiative was launched in May 2003 in conjunction with the National Institute for Clinical Excellence (NICE) guidance on the use of electroconvulsive therapy which recommended the establishment of an audit network. ECTAS accreditation is one of the information sources the Healthcare Commission will use to direct its inspection activities in its core standards assessment in mental health services in England.

The ECTAS standards are based on best available evidence. They cover all aspects of ECT practice and are graded into three types:

- **Type 1 standards** are essential to safety, effectiveness and acceptability to service users and must be met for a clinic to be awarded accreditation.
- **Type 2 standards** are those that a good quality clinic would be expected to meet. Failure to meet a large number of these would result in accreditation being denied or deferred.
- **Type 3 standards** are not essential for safety, effectiveness or acceptability but would be met by an excellent clinic.

Accreditation involves a rigorous process of self-evaluation and peer review against the standards¹. This involves audit of health records, examination of ECT documentation, observation of ECT, inspection of facilities, equipment and staffing and questionnaire information from staff and service users. The results are compiled into a report of performance against standards that is considered by the ECTAS accreditation advisory committee. Recommendations about accreditation status are ratified by the Royal College of Psychiatrists' Court of Electors which is the accrediting body. A clinic that fails to meet key standards will have accreditation deferred for between 3 and 6 months to enable it to take corrective action. If this is not done, the clinic will not be accredited. ECTAS accredited clinics undertake an annual self-review and affirm that standards are still being met. The full review process is repeated every three years.

The ECTAS model is one of continuous quality improvement rather than one-off inspection. The ECTAS standards are constantly reviewed and updated by a multi-professional reference group (see appendix 2). It is likely that this will result in a gradual "raising of the bar" from year to year and therefore incremental improvement in ECT practice nationally. A regular newsletter and an e-mail discussion group encourage networking between clinics and ECTAS works with the Royal College of Psychiatrists' Special Committee on ECT.

¹ A more detailed account of the ECTAS process is given on the Royal College of Psychiatrists' website (<http://www.rcpsych.ac.uk/cru/ECTAS.htm>)

Status of member clinics at October 2005

By October 2005, 78 ECT clinics in England, Wales and Ireland had joined ECTAS. This is about 40% of the total number of clinics in these countries. Table 1 shows the status of these clinics at the time of writing of this report.

Table 1: status of 78 clinics that are members of ECTAS at October 2005

Accredited* (accredited with excellence)	37* (3)
Accreditation deferred	7
Accreditation status awaiting ratification	0
Failed accreditation	0
Completed review process awaiting recommendation by accreditation advisory committee	3
Completed self-review	5
Not yet completed self-review	26

*The accreditation advisory committee had initially deferred accreditation for 9 of these clinics. The clinics had then rectified the deficits and been subsequently awarded accreditation

This report

This report is an overview of the activities of ECTAS up to October 2005. It provides aggregated results of the performance of the first 49 clinics that had completed the self-review by that date. As well as providing individual clinics with the opportunity to compare their individual performance with the larger group, the report identifies themes and priorities for improvement on which ECTAS will focus in its future work.

Section 1 gives an overview of the performance of all clinics, including their awarded accreditation status, and a summary of the impact of ECTAS on ECT practice in its first two years.

Section 2 focuses on specific themes raised by the early work of ECTAS and recommendations arising from these.

The appendices include the detailed results of the different strands of the self- and peer-review evaluations for the 49 clinics. A statement of the accounts for ECTAS for 2003 - 2005 is also included

SECTION 1

OVERALL PERFORMANCE OF CLINICS AND THE IMPACT OF ECTAS

Overall performance

Table 2 shows the performance of the first 49 clinics that had completed the self-review part of the ECTAS process by October 2005, against the standards used to inform the accreditation decision. The results are broken down by type of standards, in terms of importance (see above), and by the main method of data collection (examination of documentation/health records, observation of ECT, inspection of environment and facilities and review of staffing). It should be noted that the results in table 2 are those that went to the accreditation advisory committee. Some clinics that failed to meet type 1 or 2 standards had accreditation deferred and subsequently took action to meet the standards; this is not reflected in the table.

Accredited with excellence

Three clinics have been awarded the highest category of accreditation. This recognises that, over and above meeting all of the type 1 standards and the majority of the others, the clinics excel in some aspect of research, audit or teaching nationally or internationally. These are:

The Maudsley Hospital ECT Service, London – Research
St Patricks Hospital ECT Service, Dublin – Research
The Priory Hospital, Roehampton, London – Audit and Teaching

Reasons for failure and deferral

Table 3 lists the reasons why accreditation was deferred for 16 of the clinics that have been considered by the Accreditation Advisory Committee (some clinics were deferred for more than one reason). The commonest reason for deferral was poor documentation. Section 2 of this report contains more detail about this.

The presence of an Operating Department Assistant/Practitioner (ODA/ ODP) or suitably trained anaesthetic assistant during treatment and recovery, whose sole responsibility is to assist the anaesthetist during the procedure, is a type 1 standard (ECTAS standard 11.4). This is a requirement of the Royal College of Anaesthetists and Association of Anaesthetists. Registered nurses require additional training before taking on the duties of an anaesthetic assistant (2 year post registration training or Dip HE in Operating Department Practice).

Table 2: Summary of results for the 49 clinics that had completed self-evaluation at October 2005 by type of standard and principal means of evaluation^{2,3}.

Clinic Number	DOCUMENTATION			ECT OBSERVATION			ENVIRONMENT/FACILITIES			STAFFING			% all Met ⁴
	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3	
1	10/11	21/46	4/15	9/10	19/23	5/6	24/24	25/25	10/11	12/14	14/18	4/9	74
2	12/15	31/46	9/15	10/10	20/23	4/6	25/25	20/25	8/11	13/14	18/18	6/9	81
3	8/9	38/47	6/13	9/9	20/22	6/6	21/22	22/26	8/11	14/14	15/15	9/9	86
4	14/16	41/46	11/15	10/10	23/23	6/6	25/25	24/24	11/11	14/14	18/18	8/9	93
5	6/9	22/44	7/15	9/9	21/22	4/6	22/24	24/25	11/11	12/14	17/17	8/9	74
6	4/9	22/47	4/13	9/9	16/22	2/6	23/24	22/26	2/11	14/14	15/15	6/9	68
7	6/9	34/47	1/13	9/9	21/22	3/6	23/23	25/26	8/11	14/14	14/15	7/9	81
8	11/12	40/46	11/15	10/10	22/22	6/6	25/25	24/25	11/11	14/14	16/17	8/9	93
9	11/11	32/44	6/14	10/10	23/23	6/6	23/24	23/25	8/11	13/14	16/18	3/9	83
10	10/11	30/44	5/15	7/10	20/23	4/6	23/24	23/25	11/11	9/14	16/18	9/9	79
11	8/9	33/47	7/13	9/9	19/22	4/6	23/23	24/26	8/11	14/14	14/15	6/9	83
12	8/11	34/44	11/15	10/10	20/23	5/6	22/24	23/25	8/11	14/14	17/18	9/9	86
13	8/9	47/47	6/13	9/9	22/22	5/6	21/21	25/26	9/11	14/14	14/15	9/9	94
14	9/11	32/45	9/15	10/10	22/23	5/6	24/24	25/25	8/11	10/14	14/18	4/9	81
15	16/16	45/46	15/15	9/10	23/23	6/6	26/26	24/24	10/11	14/14	18/18	8/9	98
16	11/11	39/46	11/15	10/10	23/23	6/6	23/24	25/25	10/11	14/14	17/18	7/9	92
17	9/9	43/47	10/13	9/9	22/22	6/6	22/22	24/26	7/11	14/14	15/15	9/9	94
18	8/9	44/47	12/13	8/9	22/22	6/6	22/22	26/26	11/11	14/14	15/15	9/9	97
19	8/9	31/47	6/13	9/9	16/22	2/6	21/22	24/26	7/11	14/14	15/15	9/9	80
20	8/9	34/47	7/13	9/9	20/22	6/6	22/22	21/26	8/11	14/14	15/15	9/9	85
21	7/8	44/47	9/13	9/9	19/20	6/6	22/22	26/26	6/11	12/14	13/15	6/9	90
22	16/16	35/46	9/15	10/10	22/23	6/6	25/25	24/24	11/11	14/14	18/18	8/9	84
23	7/9	33/47	5/13	9/9	19/22	3/6	23/24	20/26	7/11	9/14	12/15	6/9	75
24	7/9	44/47	11/13	9/9	21/22	5/6	22/22	23/26	8/11	14/14	15/15	8/9	92
25	10/11	37/46	12/15	10/10	23/23	6/6	24/24	25/25	11/11	14/14	18/18	7/9	93
26	10/11	40/44	6/15	10/10	22/23	6/6	23/24	24/25	9/11	14/14	18/18	6/9	90
27	9/9	37/47	7/13	9/9	21/22	3/6	24/24	22/26	9/11	13/14	13/15	5/9	84
28	8/9	27/47	3/13	9/9	21/22	3/6	24/24	22/26	11/11	11/14	15/15	6/9	78
29	9/9	32/47	7/13	8/9	21/22	6/6	23/23	23/26	4/11	13/14	15/15	7/9	82
30	9/11	37/46	9/15	10/10	23/23	5/6	24/24	24/25	6/11	13/14	18/18	7/9	87
31	7/11	32/44	5/14	10/10	21/23	5/6	23/24	23/25	6/11	14/14	15/18	4/9	79
32	12/16	35/46	8/15	10/10	21/23	4/6	25/25	23/24	3/11	14/14	16/18	7/9	82
33	10/11	29/46	5/15	10/10	21/23	5/6	24/24	24/25	9/11	13/14	14/18	5/9	80
34	10/11	38/46	10/14	10/10	21/23	3/6	25/25	25/25	10/11	14/14	18/18	8/9	91
35	7/9	36/47	6/13	9/9	22/22	5/6	23/23	25/26	9/11	14/14	15/15	9/9	88
36	10/11	35/46	7/15	9/10	23/23	5/6	25/25	25/25	11/11	11/14	17/18	9/9	88
37	11/11	28/46	6/15	10/10	23/23	6/6	24/24	24/25	10/11	13/14	17/18	2/9	82
38	9/9	47/47	11/13	9/9	22/22	6/6	22/23	25/26	7/11	13/14	15/15	7/9	94
39	7/9	31/47	7/13	9/9	15/22	3/6	21/22	22/26	8/11	14/14	15/15	9/9	79
40	10/11	33/44	6/14	10/10	21/23	6/6	23/24	24/25	10/11	13/14	16/18	7/9	86
41	9/9	31/47	8/13	9/9	21/22	5/6	22/23	24/26	10/11	14/14	14/15	4/9	84
42	9/11	33/44	11/14	10/10	20/23	3/6	24/24	25/25	7/11	14/14	17/18	4/9	85
43	11/11	30/44	8/14	10/10	21/23	4/6	24/24	24/25	11/11	14/14	14/18	5/9	84
44	11/11	22/46	5/15	10/10	23/23	5/6	24/24	23/25	7/11	7/14	14/18	2/9	72
45	10/11	31/45	9/15	9/10	20/23	3/6	25/25	22/23	7/11	14/14	18/18	9/9	84
46	8/11	25/46	8/15	10/10	21/23	4/6	25/25	19/25	4/11	13/14	14/18	7/9	74
47	8/11	32/46	8/15	10/10	20/23	6/6	25/25	25/25	10/11	14/14	16/18	8/9	85
48	9/9	34/46	7/15	9/9	22/22	4/6	25/25	24/25	11/11	14/14	14/17	8/9	87
49	11/11	34/46	6/15	9/9	23/23	6/6	22/22	23/25	9/11	10/14	17/18	5/9	84

² 10/11 means that 10 out of a total of 11 standards, of this type by this means of evaluation, have been met.

³ The denominator differs from clinic to clinic in some columns because the number of standards has changed over time as the ECTAS standards have been reviewed and updated by the ECTAS reference group.

⁴ The percentage of all standards met by each clinic. Note that accreditation decisions were not based on this figure.

Table 3: common reasons for deferral of accreditation for the 16 clinics (some were deferred for more than one reason)

Reason	No. clinics
Deficient documentation	12
Lack of an operating department assistant/practitioner	6
No dedicated sessional time from a consultant psychiatrist	6
Failure to record ASA ⁵ grade	5
Absence of a capnograph	4

Two of the other common reasons for deferral also relate to anaesthetic practice. The ASA grade is the rating score commonly used by anaesthetists to assess the risk of anaesthesia in patients. It should be used in conjunction with a full physical assessment and anaesthetic review of the patient and should be documented in the patient's record. The Royal College of Anaesthetists also recommend that patients of ASA III or above should not be treated in remote sites but should be considered for treatment in a theatre suite where critical care facilities are available. The use of a capnograph, which indicates that adequacy of ventilation of the patient, is recommended by the Association of Anaesthetists of Great Britain and Ireland and a type 1 standard.

A consultant psychiatrist with dedicated sessional time for ECT is required to ensure that junior psychiatrists and clinic staff are adequately trained and supervised, to contribute to the development of policy and protocol and to advise and liaise with other professionals; including referring psychiatrists.

Summary of the impact of ECTAS in its first two years

The ECTAS team is collating evidence about the effect that the initiative has had on ECT practice in England, Wales and Ireland and intends to publish this. The information comes from three main sources:

1. **Feedback from clinics undertaking the ECTAS accreditation process** about changes instituted before and during the self- and peer- review stages to ensure compliance with ECTAS standards. This includes examples of significant investment in new equipment, the introduction of new policies and procedures and the better deployment of staff.
2. **Direct evidence of changes made by clinics, that have had accreditation deferred**, to rectify problems and gain subsequent accreditation. Table 3 illustrates the types of problems that were addressed.
3. **Evidence of a rationalisation of ECT service provision.** 16 NHS Mental Health Trusts in England have indicated to ECTAS that they have closed ECT clinics (22 clinics in total) since ECTAS began. We suspect that this is part of a national reconfiguration of ECT clinics that has been triggered or catalysed by ECTAS. There appears to be a trend for NHS services to reduce the number of clinics they manage and to concentrate resources into a smaller number of sites. This will lead to better provided and better staffed clinics and therefore better standards of care. However it is important to ensure that where this has happened, services adequately address the potential problem of service users having to travel to have ECT.

⁵ American Society of Anesthesiologists

SECTION 2 THEMES AND RECOMMENDATIONS

The information sources that contribute to identification of the themes for this section, and to the conclusions and recommendations, are:

- **Audit of the health care records** of 735 service users (a mean of 15 per clinic)
- **The complete set of documentation** relating to all 49 clinics (policies, procedures, consent forms, patient information, ECT record sheets etc)
- **Observation of 245 ECT treatments** (a mean of 5 per clinic).
- **Inspection of the facilities and equipment** of each clinic by local staff and, in the case of those 49 clinics that had completed the evaluation by October 2005, by the visiting multi-professional peer-review team.
- **Staff Questionnaire** for each clinic.
- **Questionnaire returns from 275 referring psychiatrists** of the 490 surveyed (56%); a mean of 5.6 per clinic
- **Questionnaire returns from 263 service users**, who had recently received ECT at the clinics, of the 980 service users surveyed (27%); a mean of 5.4 per clinic.

Once again, it is important to note that these are the results as presented to the accreditation advisory committee. The clinics that were deferred would have addressed many of these deficits before receiving accreditation. The numerical information is complemented where appropriate by quotes from service users made in response to questions in the user questionnaire that required a free-text response. Inevitably, the quotes we have selected to illustrate themes are mostly negative. We balance these in the first box by a selection of positive comments from the service users surveyed.

Positive comments by service users about ECT

"I have had ECT on many occasions and although I understand that it is the best course of treatment for me, when I become ill I am a reluctant recipient. I believe it is of the utmost importance to be cared for (if possible) by members of the staff that are known to me."

'My doctor seemed anti and I needed to emphatically request ECT because I have only benefited from it in the past, and usually required only three treatments for it to eliminate severe depression'

"ECT is a bit like a show on a cartoon, like an animal being tapped to an ESB pole or jump starting a flat battery on a tractor to make it start. It just seems to give you all the lift you need and energy to get you going. I think it's excellent. It makes you feel good inside out. It lights up the dullness of your whole being and makes you feel alive."

"On occasions the effect was dramatic from an almost vegetable to normality in one 'shot'"

"Have had ECT for over 20 years. Always start off with tablets and only ECT treatment seems to bring my depression together quicker. This time I was on drugs for about 3 months and 2 ECT treatments did their trick; in the past I have had as many as 12."

"For many years I have suffered from depression and post traumatic stress. ECT is the only thing which works if I get really ill (suicidal). Some consultants have refused ECT for me and taken a long time to be persuaded. But my present consultant, because I told him it is the only thing which works, has now thankfully had it put on my care plan that if I request it I am to be given it. Which is a great relief to me."

"I was told before I was given ECT that I would be given between six and nine treatments. Ill as I was, I decided there and then that I would only have enough to improve my health. I knew after two that one more would be sufficient. I said I felt fine after the third, and was adamant that I would have no more. I was put under considerable pressure to continue, and it was a battle of wills to get my way."

"I was told by my doctor that he would like me to have maintenance ECT monthly as an out-patient but I have now been told that this is not possible. I am rather concerned as I am beginning to feel a little anxious and inadequate (about 7 weeks after the course of ECT ended)."

'All the staff really listen to individual requests, i.e. I requested a different colour oxygen mask as I didn't like the black one, a green one was used. I suggested there was a full length mirror in the recovery area so one could check 'oneself out' when awake. It was arranged.'

Themes

Theme 1: the quality of information given to service users before ECT

Both the health record audit and the patient questionnaire showed service users were often given inadequate information before starting a course of ECT (see table 5).

89% of referring psychiatrists felt they had adequate knowledge of ECT. However, over half felt they required further training on ECT. Possibly because of this, 32% of psychiatrists found it difficult to communicate to patients about ECT.

Table 5: the quality of information giving to service users before ECT is given

	% showing standard not met	
	Record audit	User survey
Health professional has explained the risks	13	22
Health professional has explained the benefits	13	7
Health professional has explained alternative treatments	37	30

Twenty-four percent of referring psychiatrists stated that they did not routinely give service users any written information about ECT and, consistent with this, 22% of service users reported that they had not received any. This was reflected in the finding that only 57% of service users felt that they had been given an adequate explanation of the side effects of ECT and 43% of what alternative treatments might have been available.

What service users said about the information they had been give about ECT

"There's the stigma of madness associated with it [ECT]. Some good PR work is needed"

"I'm too frightened of ECT to appreciate any reassurances or information. It's fear of the anaesthetic"

"Agreement had to be reached ASAP, I didn't want to appear [by taking time] that I was causing any trouble, i.e. wasting time"

"As well as discussing it with the Doctor I think that the ECT nurse should come and see you before treatment begins as patients don't always understand what the Doctor has said or feel able to talk to a Doctor"

"ECT should be explained better to the partner"

"[the information leaflet] was easy to understand though I didn't read it until after the treatment because I was so ill I didn't believe they were trying to help me"

"[the information leaflet could be improved] by letting the person know that it doesn't always work"

"I would have liked to have details of other peoples experience of ECT"

"By talking to patients who have felt the benefit of ECT; by a visit to ECT suite on a non-active day"

"Discussed only with husband. Had it been my first time this time I would have appreciated talking to a patient."

"More information given before undertaking ECT (seeing a treatment, maybe if one was videoed so that you could watch it, say your first session)"

"More information needs to be available on long term side effects. If not available then research should be done"

"I think information on side effects is minimised. In my case the memory loss has been more severe and long lasting"

"It would have been nice to be warned about the severity of the memory loss"

"I would like to have discussed suitable veins [in which] to insert the cannular"

Theme 2: the minimisation of anaesthetic risk

More could be done to improve patient safety by reducing the risk of adverse events related to the anaesthetic. There are three particular areas where this applies:

1. **Inadequate assessment of physical health:** one-half of health records did not contain written evidence that anaesthetic risk had been assessed; 5% did not even contain a detailed medical history or evidence that a full physical examination had been undertaken, including the cardiovascular, respiratory and neurological systems.
2. **The unavailability of necessary equipment and drugs:** 30% of clinics did not have a capnograph and 20% did not have access to Dantrolene (a drug that treats malignant hyperthermia – a rare but potentially fatal effect of the muscle relaxant used during ECT).
3. **The failure by 11% of anaesthetists to fully follow 'Recommendations for standards of monitoring during anaesthesia and recovery'** outlined by the Association of Anaesthetists of Great Britain and Ireland.

Theme 3: monitoring for adverse effects of ECT

The health record audit showed that, although the service user's clinical status and symptomatic response were well recorded during the treatment course, this was not the case for the cognitive effects of ECT. Orientation was only recorded between sessions in 47% of records, the extent of amnesia in 23% and memory and cognitive function in 46%. This is at odds with the finding that memory loss was by far the most frequent side effect reported by service users. 63% of service users reported at least one side effect of which 72% of these reported memory loss. (46% of total respondents).

What service users said about adverse effects and monitoring

"It would be good to talk to the treating consultant after course of treatment is over"

"I lost my memory partly, it never came back"

"I still do not know the full effect of ECT or its after effects. All I can state is that my memory has been affected. I used to have no problems with spelling or writing but now both are bad. I can't say that ECT helped me with my depression as I don't know what I was looking for"

"I was left confused and hungry and thirsty till taken back to the ward"

"I was pretty much ignored once back on the ward until discharged in the afternoon"

Theme 4: Policies and protocols.

Table 4 shows the extent to which clinics had these in place. Although this was the single most common reason for deferral (see section 1), it was also the most easily rectified.

Table 4: The percentage of clinics that lacked key policies and protocols

Needs of day patients	10
Discontinuation of ECT	29
Maintenance & Continuation ECT	33
Medication during and after ECT	4
Treatment of vulnerable groups	25
Prolonged seizures	12
Stimulus dosing	4

Theme 5: ECT as a priority for mental health services

Some of the results suggest that ECT practice is not given a high priority by the services that manage clinics. This is reflected in performance against standards relating to staffing, budgets and the provision of training.

- **Staffing:** for only 57% of clinics, did the lead consultant psychiatrist have dedicated sessional time for ECT and for only 68% was ECT administered by a small cohort of experienced Psychiatrists. Contrary to guidance from the Royal College of Nursing only 59% of service users were escorted back to the ward by a qualified nurse or equivalent (the equivalent being an ODP or doctor).
- **Budgets:** 45% of clinics do not have a dedicated budget for ECT.
- **Training:** just 28% of clinics have a budget for training related to ECT. There appears to be a particular need for training of those psychiatrists who prescribe ECT (more than one half of referring psychiatrists reported this).

Recommendations

1. Training should be developed and provided for consultant psychiatrists who prescribe ECT. This should include an update on modern practice in ECT, the latest research about the adverse effects of ECT, including its cognitive effects, and the needs of service users for adequate verbal and written information about ECT; including as a pre-requisite for obtaining informed consent.
2. ECTAS in conjunction with the Royal College of Psychiatrists Special Committee on ECT should promote and make available examples of high quality patient information sheets so that they can be adopted and used by services that do not have their own.
3. Systems should be introduced to ensure that those who have not had an adequate assessment of their physical health are identified the day before the first ECT treatment is due so that this can be rectified before they arrive at the ECT clinic. The ECTAS reference group should introduce a standard to this effect to be used in future reviews.
4. The ECTAS reference group should request the Royal College of Anaesthetists to send those anaesthetists who attend ECT clinics the Association of Anaesthetists *Recommendations for Standards of Monitoring during Anaesthesia and Recovery* and remind them that they apply to ECT.
5. This report should be sent to Medical Directors and Directors of Nursing of NHS and independent sector services that provide ECT, with a letter that draws to their attention the findings relating to ECT budgets, training and staffing of ECT clinics.

Appendix 1

Health Record Audit

Total Health Records audited = 735

		% Met	% Not Met	% N/A
	Psychiatric Notes			
1	The Patients Ethnicity	70	25	5
2	The patients mental health act status	98	2	0
3	Whether the patient is an in or out patient	100	0	0
4	A detailed medical history	95	5	0
5	A mental state examination	98	2	0
6	An assessment of cognitive functioning and memory	68	32	0
7	A full physical examination which includes the cardiovascular, respiratory and neurological systems	95	5	0
8	An assessment of orientation	77	22	1
9	A clear statement on why ECT has been prescribed	91	9	0
10	Written evidence that the anaesthetic risk was assessed eg the ASA grade	50	50	0
11	Current medication, drug allergies and any noted drug problems	97	2	1
12	Results from a recent blood test	97	2	1
13	Results from a urine test	45	49	6
	ECT Record			
14	There is written evidence that ECT was given two times a week at most	97	2	1
15	There is written evidence that the clinical team assessed the patient before each treatment	73	26	1
	For a typical treatment the following are recorded			
16	The name of the anaesthetic used	99	1	0
17	The dose of the anaesthetic used	100	0	0
18	The name of the muscle relaxant	99	1	0
19	The dose of the muscle relaxant	100	0	0
20	The nature of ventilation	40	59	1
21	The current delivered	100	0	0
22	The quality and duration of seizure including whether it was bilateral or unilateral	94	6	0
23	The time to recover	51	49	0
24	Cardiorespiratory changes	81	14	5
25	Post procedural changes	79	10	11
26	Immediate side effects	76	16	8
27	An assessment of the patients overall health, eg BP, pulse and respiration	93	7	0
	Ward Notes			
	The following are recorded between treatment sessions			
28	Clinical status/symptomatic response	93	6	1
29	Orientation	52	47	1
30	The extent of retrograde and anterograde amnesia	23	75	2
31	Non-cognitive side effects	60	34	6
32	The patients memory and cognitive function	46	53	1
33	The patients subjective experience	51	47	2
	The Consent form			
	For patients that consented to ECT			
34	There is a signed consent form	85	1	14
	The consent form covers the following areas			
35	The maximum number of treatments in the course	43	52	5
36	If the course was for bilateral or unilateral treatment	48	46	6
37	Confirmation that the health professional has explained the procedure to the	86	7	7

	patient			
38	Confirmation that the health professional has explained the intended benefits and risks of the procedure	80	13	7
39	Confirmation that the health professional had discussed with the patient alternative available treatments (including no treatment)	55	37	8
40	Confirmation that the health professional discussed the benefits and side effects of alternative treatments	53	37	10
41	What written information had been provided to the patient	48	46	6
42	What procedures the treatment would involve e.g. anaesthesia and muscle relaxation	79	13	8
43	A statement from an interpreter where appropriate	11	6	83
44	A statement which the patient has signed	76	12	12
45	A section specifying whether the patient continues to consent before each treatment	35	52	13
	For patients who were not able to give consent			
46	For patients detained under mental health legislation, the relevant Mental Health Act documentation were attached	25	7	68

Documentation

Results for 49 clinics

		% Met	% Not Met	% N/A
1	Patient information sheet			
2	Explains key information	100	0	0
3	Is clearly written	100	0	0
4	Is up to date	94	6	0
5	Was developed with service user consultation	54	40	6
	The clinic has an up to date local protocol on the following:			
6	The seizure induced including			
7	The quality of an adequate seizure	94	6	0
8	The timing of a seizure	96	4	0
9	The management of prolonged or tardive seizures	86	12	2
10	When to re stimulate a patient after a brief or missing seizure	96	4	0
	The stimulus dose and the administration technique including			
11	The dose of electricity	96	4	0
12	The choice of laterality of treatment	82	14	4
13	Machine settings	94	4	2
14	Stimulus dosing	88	8	4
15	The alteration of dose	88	12	0
16	The management of cardiac arrest	100	0	0
17	The management of anaphylaxis	96	4	0
18	The management of malignant hyperthermia	96	4	0
	In addition the clinic has a written record of:			
19	The preparation of patients for ECT	100	0	0
20	The induction of anaesthesia	92	8	0
21	The management of patients recovering from ECT	94	6	0
22	The needs of day patients	88	10	2
23	The discontinuation of ECT	67	29	4
24	Maintenance ECT	48	33	19
25	Continuation ECT	53	33	14

26	Patients medication during and after treatment	69	4	0
27	The treatment of vulnerable patients e.g. the elderly	69	25	6
28	The above document were developed with the involvement of all relevant individuals i.e. core clinic team, and reflect current available evidence	88	8	4
29	Staff have read and understood the above documents	92	2	6

Observation of ECT treatments

Results for observation of 245 treatments

		% Met	% Not Met	% N/A
	Before an ECT clinic session the following are checked			
1	Emergency resuscitation equipment	99	1	0
2	ECT electrodes	99	1	0
3	The emergency drugs	100	0	0
4	EEG leads	98	0	2
5	Output and electrical safety of ECT machine	92	8	0
	Arrival of Patient			
6	The patient is escorted to the ECT clinic by a clinical member of staff who stays with them at all times	86	12	2
7	The escorting clinician is aware of the patients legal and consent status and has an understanding of ECT	86	12	2
8	The escorting clinician is a qualified nurse	59	36	5
	Preparation for treatment			
9	The patients identity is checked	98	2	0
10	All metal objects are removed from the patients hair. It is confirmed that the patient is not wearing any make up, nail polish, hair lacquer or cream	91	5	4
11	The patients blood pressure and pulse are recorded	95	5	0
12	The patient is encouraged to empty their bladder	92	8	0
13	The patients belongings and valuables are documented and properly stored	67	12	21
	The following checks are carried out			
14	The patient is asked if they have eaten for 6 hours or drunk for 2 hours prior to treatment	95	5	0
15	The anaesthetist checks with the patient that there have been no previous problems with anaesthesia	87	10	3
16	Day patients are asked to confirm that they will not drive, will not drink alcohol and will be accompanied home	43	4	53
	The following documentation is checked by clinic staff			
17	The consent form, mental health act documentation and other supporting documentation	100	0	0
18	Discharge forms for day patients	39	8	50
19	The patients pre ECT assessment including medical examination, drug history and other investigations	89	11	0
	Induction of anaesthesia			
20	The anaesthetist checks the anaesthetic equipment and prepares the anaesthetic agents	100	0	0
21	Prior to induction, the anaesthetist or assistant checks that any dentures have been removed or are secure	95	3	2
22	The anaesthetist explains what he/she is doing and why	99	1	0
23	The anaesthetic induction agent is administered before the muscle relaxant	98	2	0
24	Oxygen is administered pre ECT in order to produce full oxygen saturation	98	2	0
25	spO2 is measured	98	2	0
26	When the patient is asleep, the anaesthetist or assistant inserts a bite block	98	0	2
27	The anaesthetic induction agent is only administered to a patient on a tipping	100	0	0

	trolley or bed			
	Administration of ECT			
28	The clinical team review the dose on the basis of the patients documented clinical response	97	1	2
29	The seizure induced is generalised, commences with a tonic phase, then a clonic phase	97	2	1
30	The seizure induced is of 10 seconds or more peripherally	95	5	0
31	The seizure duration is monitored by the observation of the resulting motor effect	95	4	1
32	The seizure is monitored using a 2 channel EEG	78	18	4
33	There is adequate contact between the electrodes and the scalp of the patient	97	3	0
34	Patients treatment is recorded	100	0	0
	Immediately after treatment			
35	The recovery practitioner is present as the patient recovers consciousness	99	1	0
36	The recovery practitioner reassures gently and repeatedly and cares for the patient until they are fully orientated	99	1	0
37	The recovery practitioner is fully conversant with aspiration/suction techniques as well as resuscitation procedures	99	1	0
38	The patient is nursed in the recovery position	88	11	1
39	The patients pulse, BP and pulse oximetry readings are documented by the recovery practitioner	95	5	0
40	The anaesthetist remains in the building and contactable until all patients recover full consciousness and are physiologically stable	99	1	0
41	The psychiatrist remains in the building and contactable until all patients recover full consciousness and are physiologically stable	97	3	0
42	The ECT nurse ensures that patients are not discharged until fully recovered	96	2	2
43	The patient is offered something to eat and drink before they are discharged	88	8	4

Facilities and Equipment

Results for 49 clinics

		% Met	% Not Met	% N/A
1	ECT is administered in a designated area that provides a suitable environment	100	0	0
2	The ECT clinic consists of a minimum of three rooms, a waiting room, treatment room and recovery area	100	0	0
3	The clinic is clean, comfortable and has a welcoming atmosphere	98	2	0
4	The clinic has an additional two rooms, an office for ECT staff and post ECT waiting area	53	47	0
5	In some settings, ECT may be administered in an annex to an inpatient ward	10	12	78
6	The clinic has access an facilities for disabled people	92	8	0
7	The waiting area is well designed and has a suitable environment	90	10	0
8	It is large enough to accommodate the throughput of patients	98	2	0
9	There is access to toilet facilities	100	0	0
10	Patients are not exposed to a full view of the treatment room from the waiting area	100	0	0
11	This area is comfortable and quiet and has a range of distractions, for example, an outside window, pictures and magazines	88	12	0
12	The treatment room is well designed and has a suitable environment	98	2	0
13	It is not less than 10 sq.m (42sq. ft)	94	6	0
14	It has a work surface and sink with hot and cold water	100	0	0
15	It has a clock with a second hand	98	0	2
16	It has a secure drug storage cupboard	96	4	0
17	A small fridge	98	2	0
18	Noise from the treatment room cannot be heard in the waiting area	88	10	2
19	Clinic staff in the treatment room are able to speak directly with staff in the	100	0	0

	recovery area, e.g. rooms are adjacent			
20	There is good but not harsh illumination and adequate ventilation	94	4	0
21	If volatile anaesthetic agents or nitrous oxide are used, then the treatment room is equipped with adequate waste gas scavenging facilities	14	2	84
22	The treatment room has easy access to a telephone	100	0	0
23	The recovery area is well designed and has a suitable environment	100	0	0
24	The area is large enough to accommodate the throughput of patients lying on trolleys with additional space to manoeuvre	100	0	0
25	It has a doorway large enough to admit a trolley from the treatment room	100	0	0
26	The post ECT waiting area is well designed and has a suitable environment	86	6	4
27	It provides a friendly relaxed environment	86	8	4
28	It has provision for refreshments for patients	89	4	4
29	There is a well designed office for staff to use	47	51	2
30	Staff conversations and telephone calls cannot be overheard outside the office	59	24	16
31	It has a telephone	67	18	14
32	It has a computer provided	61	29	8
33	The clinic has the necessary facilities and equipment readily available	100	0	0
34	There is one tipping trolley or bed per patient which can comfortably accommodate a reclining adult, has broken wheels and is tippable into a head down position	100	0	0
35	There is a fully equipped emergency trolley	100	0	0
36	There is a means of measuring blood pressure and temperature	100	0	0
37	There is adequate resuscitation equipment (including a defibrillator)	100	0	0
38	There is a means of measuring blood glucose concentration	90	10	0
39	There is provision for positive pressure respiration, oxygen cylinder, mask and bag and a least one full spare cylinder	100	0	0
40	There is at least one suction machine (preferably 1 in treatment room, 1 in recovery room)	100	0	0
41	There is a pulse oximeter	100	0	0
42	There is a capnograph	66	30	4
43	There is an ECG machine	96	2	2
44	An NIBP machine or sphygmomanometer and stethoscope	100	0	0
45	There is moving and handling equipment e.g. sheet to help turn patient	92	8	0
46	There is a dedicated budget for ECT	65	33	2
	The following drugs are stocked in the clinic			
47	An anaesthetic induction agent	100	0	0
48	A muscle relaxant	100	0	0
49	Oxygen	100	0	0
50	Others including, atropine, glycopyrrolate, midazolam as agreed with the anaesthetist	100	0	0
51	There is a standard tray of drugs for use in the event of a cardiac arrest	100	0	0
52	The emergency tray contains drugs and equipment agreed with the local pharmacy or resuscitation committee	100	0	0
53	Dantrolene, plus sterile water	80	20	0
54	A supply of drugs needed to treat other unwanted autonomic, cardiovascular, respiratory and neurological effects are available	96	2	0
55	The ECT machine is capable of providing stimuli according to current guidelines	100	0	0
56	Stimulus settings on the ECT machine may be altered easily and quickly	100	0	0
57	The ECT machine has a wide range of treatment settings	100	0	0
58	There is a suitable back up ECT machine/ arrangements are in place to obtain a machine from another clinic	92	8	0
59	EEG monitoring facilities are available	88	8	4
60	The ECT nurse ensures that the machine functioning and maintenance is checked and recorded at least every year or according to machine guidance	100	0	0

ECT Clinic Staff Questionnaire

Results for 49 staff teams

		% Met	% Not Met	% Partly Met	% Don't know
1	There are a minimum number of staff in the ECT clinic to safely meet the needs of patients at all times	96	0	4	0
2	There are back up staff easily available to assist in an emergency situation	91	0	9	0
3	The same staff team work in the clinic every week	74	0	17	0
4	Anaesthesia is conducted by a small cohort of anaesthetists who attend the clinic regularly	93	2	4	0
5	All anaesthetists on the ECT rota have a least one year of anaesthetic experience	100	0	0	0
6	All anaesthetists on the ECT rota follow the 'Recommendations for standards of monitoring during anaesthesia and recovery' outlined by the Association of Anaesthetists of Great Britain and Ireland (2000)	89	4	4	3
7	ECT is administered by a small cohort of experienced Psychiatrists	68	13	15	0
8	ECT is administered by psychiatrists who attend the clinic regularly	89	2	9	0
9	There is a named consultant psychiatrist who leads ECT	98	2	0	0
10	The named consultant has dedicated sessional time	57	32	6	0
	The named consultant has responsibility for:				
11	Regularly attending the ECT clinic sessions	89	4	6	0
12	The development of treatment protocols	91	0	6	2
13	The training and supervision of clinical staff	91	0	6	3
14	Liasing with and advising other professionals	94	0	4	3
15	Audit and quality assurance	89	0	9	3
16	Continuing professional development	87	0	9	0
17	The is a named consultant anaesthetist with responsibility for ECT	89	11	0	0
18	The named consultant anaesthetist has dedicated sessional time	66	23	6	2
19	There is a named ECT nurse	100	0	0	0
20	The ECT nurse takes overall responsibility for the management of the clinic and care of the patient	100	0	0	0
21	The ECT nurse plans the arrival of patients by liasing with the wards, outpatient departments and day hospitals	100	0	0	0
22	The ECT nurse ensures that the equipment in the ECT clinic is well maintained	98	0	2	0
23	The ECT nurse is responsible for ordering and stocking drugs	94	4	2	0
24	The ECT nurses is responsible for ordering and stocking disposable equipment	100	0	0	0
25	The ECT nurse ensures that the ECT suite is properly prepared, organised and maintained in a clean tidy condition	100	0	0	0
26	Core clinic staff take an active role in the audit and academic teaching of ECT	91	2	6	0
27	There is a line management structure with clear lines of accountability within the unit	91	2	6	0
28	The roles and responsibilities of unit staff are clearly defined, e.g. in up to date job descriptions, including the appropriate grade for the position	50	13	30	0
29	There are regular multi-disciplinary meetings for clinical matters ii policy and administration	65	11	15	2
30	ECT is only administered by psychiatrists with formal training	93	2	4	0
	Clinic staff have received training on:				
31	Basic life support techniques	100	0	0	0
32	Policy and procedures	89	2	6	2
33	Legal frameworks e.g. The Mental Health Act	91	0	9	0
34	Staff are encouraged to keep up to date with best practice and	96	2	0	0

	latest information				
35	ECT clinic staff attend appropriate training and conference events e.g. The Royal College of Psychiatrists' ECT training course	72	4	17	0
36	The training needs of ECT staff are formally assessed e.g. via staff appraisals	70	15	11	0
37	There is a dedicated budget for ECT	55	30	15	0
38	There is a dedicated budget for training related to ECT	28	54	13	2

Referring Psychiatrists Questionnaire

Results for 275 psychiatrists

		% Yes	% No	% Partly
	Your Knowledge of ECT			
1	Do you have adequate knowledge of the nature and side effects of ECT	89	0	11
2	Do you require further information, training or support regarding any area of ECT practice or principles	34	47	17
	Information about ECT			
3	Do you give any verbal information about ECT to your patients?	95	0	5
4	Do you give any written information to your patients about ECT?	68	24	8
5	Do you have access to interpreter services?	84	8	8
6	Is there anything that you find difficult to communicate to patients about ECT?	32	58	10
	Asking for Consent			
7	Is there anything about the way you obtain consent that you think could be improved or that you may require support with?	19	74	7
	Prescription Details			
8	Do you assess the patients status during their course of ECT?	95	0	5
9	Do you assess the patients side effects during their course of ECT?	93	1	6
	Post ECT			
10	Does the patient receive a continuing treatment plan after their course of ECT?	96	1	3
11	Is the patients memory and cognitive functioning recorded after completion of a course of ECT?	62	15	23
12	Is the patients clinical status/symptomatic response recorded after completion of a course of ECT treatment?	88	7	6

Service User Questionnaire

Results for 263 service users who had received ECT in ECTAS clinics (79 men, 184 women; 184 in-patients, 79 day patients)

		% Yes	% No	% Partly	% Don't Know	% No Answer
1	Did you say to your doctor that you agreed to have ECT?	83	7	3	6	1
2	Did you sign a form to show that you agreed to have ECT?	73	8	0	18	0
3	Did you have enough time to think about ECT and discuss it with your doctor before making your decision?	74	9	6	10	0
4	Did you have enough time to discuss your decision with other people e.g. family, friends or other patients?	73	14	5	8	1
5	Did you feel pressurised or forced to have ECT?	14	74	8	3	0
6	Did you receive any written information on ECT?	63	22	2	13	0
7	Did your doctor speak to you before you agreed to treatment?	84	6	3	6	1

	Was it explained:					
8	What the treatment was?	77	6	11	6	1
9	What would happen to you during the treatment?	75	8	10	6	1
10	Why you were having the treatment?	80	5	8	5	2
11	What ECT was likely to do for you?	76	7	11	5	1
12	The problems and side effects of having the treatment?	57	22	11	8	2
13	What other treatments you could have instead?	43	30	8	18	1
14	What would happen if you didn't have ECT?	45	25	9	18	3
15	Were you accompanied to the ECT clinic by a member of staff?	91	6	1	2	0
16	Did the accompanying member of staff stay with you throughout the treatment?	76	10	3	9	2
17	Did you know the member of staff who accompanied you?	81	8	4	5	2
18	When you arrived where you introduced to all those who would be present during your treatment?	60	19	8	12	0
19	Did clinic staff check that you still agreed to have ECT before your treatment?	57	22	2	17	2
20	Were clinic staff friendly and reassuring?	94	1	2	3	0
21	Was the clinic clean and comfortable?	95	0	1	4	0
22	Do you think you were properly cared for immediately after treatment?	90	2	3	4	0
23	Did clinic staff check that you would be accompanied home, have appropriate adult supervision and were not going to drive a vehicle?	27	0	1	0	72

Appendix 2

The ECTAS Team between October 2003 & October 2005 (Also sit on AAC and Reference Group)

Name	Position
Ms Joanne Cresswell	Project Manager/ ECT Lead Nurse
Ms Lauren Rayner	Project Worker
Ms Chloe Hood	Project Worker (Temporary)
Ms Zoe Fortune	Research Worker (left July 05)
Ms Helen Caird	Research Worker (left July 04)

ECTAS Accreditation Advisory Committee

Membership as of 1 September 2005

Name	Profession	Area/Institution
Dr John Bowley	Consultant Anaesthetist	Nottingham
Mr Chris Curran	Nurse	London
Mr Anthony Deery	Representative	Healthcare Commission
Dr Andrew Easton	Consultant Psychiatrist	Leeds
Ms Zoë Fortune	Honorary Research Worker	ECTAS
Dr Chris Freeman (Chair)	Consultant Psychiatrist/ ECTAS Chair	Edinburgh
Ms Lyn Garbarino	Representative	Royal College of Nursing
Mrs Annie Higgs	ECT Nurse	Bedfordshire
Professor Paul Lelliott	Director, Research Unit	Royal College of Psychiatrists
Dr James Ralph	Consultant Anaesthetist	Birmingham
Mr Adrian Worrall	Programme Manager	Royal College of Psychiatrists

ECTAS Reference Group

Membership as of 1 September 2005

Name	Profession	Area/Institution
Dr Maria Atkins	Consultant Psychiatrist	Wales
Mr Peter Bestley	Service User	
Dr Andrew Blakey	Consultant Psychiatrist	Macclesfield
Dr John Bowley	Consultant Anaesthetist	Nottingham
Ms Vanessa Cameron	Chief Executive	Royal College of Psychiatrists
Ms Alison Cobb	Representative	MIND
Mr Chris Curran	Nurse	London
Mr Anthony Deery	Healthcare Commission	London
Dr Andrew Easton	Consultant Psychiatrist	Leeds
Ms Zoë Fortune	Honorary Research Worker	ECTAS
Dr Chris Freeman	Consultant Psychiatrist/ ECTAS Chair	Edinburgh
Ms Lyn Garbarino	Senior Fellow, Competence Development	Royal College of Nursing
Ms Sonia Hashmi	Service User	
Mrs Annie Higgs	ECT Nurse	Bedfordshire
Professor Paul Lelliott	Director, Research Unit	Royal College of Psychiatrists
Dr Rupert McShane	Consultant Psychiatrist	Oxford
Dr Ray O'Toole	Consultant Psychiatrist	Republic of Ireland
Dr James Ralph	Consultant Anaesthetist	Birmingham
Dr Noel Sheppard	Consultant Psychiatrist	Republic of Ireland
Dr Heather Walker	Consultant Anaesthetist	Manchester
Mr Adrian Worrall	Programme Manager	Royal College of Psychiatrists

ECTAS Actual Budget and Projections 2003 - 2005

	2003 Actual	2004 Actual	2005 Actual + Forecast
Opening Balance	22,500.23	-2,349.35	-1,020.57
Income			
Subscription fees	11,628.36	80,773.32	119,316.00
Transfer to development fund			-15,562.00
Total Income	11,628.36	80,773.32	103,754.00
Expenditure			
Staff Costs – Payroll	27,225.37	36,313.51	30,719.00
Staff Costs – Non payroll		4,893.12	31,245.00
Temporary Personnel	68.74	17,878.35	19,762.00
Travel Subs & Accommodation – staff	1,144.12	1,400.75	2,300.00
Recruitment costs	1,858.10	1,827.50	1,923.51
Staff Training	295.00		400.00
Printing	1,085.97	30.56	1,100.00
Postage	474.55	784.40	500.00
Courier		9.46	
Stationary	106.15	108.17	1,500.00
CRU internal overhead charge			17,128.00
Books and Journals		62.30	
Subs to professional bodies		258.50	193.88
Bad debts		4,700	
Telephone	50.01	213.61	750.00
Maintenance Supplies		1,357.41	
Travel subs and Accommodation – Others	3,642.72	6,183.65	4,500.00
Catering	527.21	307.15	500.00
Computer equipment		3116.10	2,000.00
Total Expenditure	36,477.94	79,444.54	114,521.39
Balance Carried Forward	-2,349.35	-1,020.57	-11,787.96

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