1. Aims
1. To describe the demographic and clinical characteristics of patients admitted to the National Obsessive Compulsive Disorder (OCD) Service in South London.
2. To assess demographic and clinical predictors of improvement in OCD severity between assessment and discharge.

2. Introduction
Obsessive Compulsive Disorder is an anxiety disorder characterised by recurrent intrusive thoughts and impulses (obsessions) and behaviour (compulsions) aimed at reducing the anxiety caused by the obsessions (1). The National OCD Service is a nationally commissioned service which treats the most profound OCD patients who have failed extensive psychopharmacological and psychological treatments in the past. The treatment is expensive and labour intensive. It would therefore be useful if predictors of response or treatment could be identified, in order to target those that are most likely to benefit from the service.

A review on clinical predictors of response to Cognitive Behavioural Therapy (CBT) (2) and medication (the National OCD Service) for OCD highlighted a number of factors that demonstrated consistency as predictors across studies. However, many demographic and clinical factors were associated with poorer treatment outcome (2). Few studies have looked at patients with severe, refractory OCD. One study looked at 52 inpatients and assessed a number of variables as predictors of treatment response (age, sex, marital status, OCD severity, OCD onset age, OCD duration, depressive symptoms) and found few reliable predictors (3). The present study extends this work by looking at a larger number of inpatients and a wider spectrum of demographic and clinical predictors of response.

3. Methods
3.1 Setting
The inpatient unit of the National OCD Service.

3.2 Participants
106 successively admitted patients. All scored higher than 30 on the Yale-Brown Obsessive Compulsive Scale (YBOCS) (4). All had had previous attempts at treatment with two or more serotoninn reuptake inhibitors, augmentation of these drugs with dopamine blockers and two trials of Cognitive Behavioural Therapy without significant improvement.

3.3 Measures
The Yale-Brown Obsessive Compulsive Scale (YBOCS) was used to measure severity of OCD pre- and post-treatment (4). This is a 10-item clinician rated scale for measuring OCD severity. In controlled treatment trials, a decrease or 35% or more is widely accepted as indicating a global improvement rating of much or very much improved; whereas, many studies have used a 25% decrease as indicating acceptable improvement (5). This lower limit is appropriate for patients with profound illness. The Beck Depression Inventory (BDI) was used to measure comorbid depressive symptoms.

3.4 Procedure
The main intervention was a combination of medication and Cognitive Behavioural Therapy.

3.5 Data collection
Data for some participants were available from a SPSS dataset created by the unit. Further information on patients and a significant amount of missing data were collected by searching patient notes on RIG (electronic patient record) at South West London and St George’s Mental Health NHS Trust). Twenty five recently admitted patients were added to the dataset by searching RIG.

3.6 Ethical approval
Ethical issues were considered by the student and tutor and the study approved by the lead for student selected components at St George’s University of London.

3.7 Data management and statistical analysis
Data were managed, recoded and analysed using SPSS version 21. All cases were used, even if there was some missing data. Tests were therefore employed to assess whether subgroup differences in response were statistically significant. The tables report significant p-values only.

4. Results
4.1 Sample
As Table 1 shows, a similar proportion of men (51.5%) and women (48.5%) were admitted. Patients were mainly young (mean age=36 years, median age=19-65 years, standard deviation=11.2). Most were unemployed (86.3%). The majority were of white ethnicity (84.3%). The greatest proportion of patients lived with their parents (36.7%). Most patients were single (75.1%). As Table 2 illustrates, almost all fell into the “extreme” category on YBOCS (94.3%). About half had had OCD for more than 15 years. For the majority (85.6%), onset was after the age of 20. Of those 70.0% had severe comorbid depression.

<table>
<thead>
<tr>
<th>Age</th>
<th>(number of patients)</th>
<th>Mean % decrease in YBOCS</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29</td>
<td>31.1 (32)</td>
<td>33.1</td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>32.0 (33)</td>
<td>34.3</td>
<td></td>
</tr>
<tr>
<td>40+</td>
<td>36.9 (38)</td>
<td>34.0</td>
<td></td>
</tr>
</tbody>
</table>

4.2 Treatment response
The mean percentage decrease in YBOCS score was 33.8%. Most groups exhibited a decrease between 25% and 35% (accepted as representing a global improvement in previous studies; see above). There were no notable differences in response by gender, age, marital status, employment or accommodation status. Of all the variables, the only statistically significant disparity in response was by ethnicity however numbers were small. Most clinical groups exhibited a mean decrease in YBOCS score of 25% to 35% (table 2). Exceptions were patients who had an onset age under 10 or aged 18-29 (36.7%) and patients with shorter duration of OCD (37.4%) and mild depression (45.8%).

Table 2: Patients admitted: Descriptive statistics and mean change in YBOCS score between assessment and discharge: demographic factors

<table>
<thead>
<tr>
<th>YBOCS at assessment</th>
<th>30-31 (severe)</th>
<th>32+ (extreme)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.7 (6)</td>
<td>94.3 (100)</td>
<td>33.7</td>
</tr>
</tbody>
</table>

5. Discussion
5.1 Principal findings and previous work
This study aimed to describe the patients admitted to the Unit and to identify whether there were any predictors of response or treatment.

- Most groups of patients exhibited a decrease in YBOCS score between assessment and discharge.
- The study is in line with previous research done by the Unit (3) and despite the fact that these patients are profoundly ill.
- For most demographic and clinical variables, response to treatment was roughly comparable, in line with previous research (2,3).
- There were ethnic differences in response to treatment, with Asian patients responding least well. The number of patients was small, however, which limits the conclusions that can be drawn. As far as the authors are aware, there is no previous research on ethnic differences in response to treatment in severe, treatment-resistant OCD.

5.2 Strengths and weaknesses
There are few studies of patients with severe, treatment-resistant OCD. This study adds to the literature by extending Boschen et al’s (3) work. It uses a larger sample of inpatients and examines new variables in relation to response to treatment (employment, ethnicity and accommodation). There were limitations to the study. It was naturalistic rather than controlled. The treatment that the patients received was tailored to individual presentations. A controlled study on patients with such severe illness might be difficult ethically, given that tailored treatment has been shown to be effective. A larger number of patients would have increased the reliability of the study as well as the ability to detect true differences. The ethnicity measure was crude. There were some missing data, particularly for variables used in the onset. Firstly, although a larger number of variables were looked at than in previous work on this group of patients, the variables examined were still relatively limited. Keeley et al (7) highlighted the potential importance of variables such as cognitive and family factors, which it was not possible to examine here.

5.3 Recommendations for further research
Further research is warranted on ethnic differences. They may be explained simply by differences in demographic or clinical characteristics between ethnic groups. It would be interesting to investigate whether differences in the content of obsessions might explain the findings. Another possibility is that some ethnic groups are less responsive to the particular treatment regime offered by the unit.

6. Conclusions
Most patients improved significantly following admission. This supports the use of this highly specialised treatment unit for treatment-resistant OCD. It is limited by the small sample size and the absence of a control group. Further research is needed to examine specific symptom clusters and other factors which may influence outcome.

References

Acknowledgements:
We would like to thank Kashifa Ahmad for administrative assistance.