

# Retrospective study of first episode psychosis in the Dublin Southwest Mental Health Service: demographics, clinical profile and service evaluation of treatment

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**Objective.** In Ireland, National Clinical Programmes are being established to improve and standardise patient care throughout the Health Service Executive. In line with internationally recognised guidelines on the treatment of first episode psychosis the Early Intervention in Psychosis (EIP) programme is being drafted with a view to implementation by mental health services across the country. We undertook a review of patients presenting with a first episode of psychosis to the Dublin Southwest Mental Health Service before the implementation of the EIP. This baseline information will be used to measure the efficacy of our EIP programme.

**Methods.** Patients who presented with a first episode psychosis were retrospectively identified through case note reviews and consultation with treating teams. We gathered demographic and clinical information from patients as well as data on treatment provision over a 2-year period from the time of first presentation. Data included age at first presentation, duration of untreated psychosis, diagnosis, referral source, antipsychotic prescribing rates and dosing, rates of provision of psychological interventions and standards of physical healthcare monitoring. Outcome measures with regards to rates of admission over a 2-year period following initial presentation were also recorded.

**Results.** In total, 66 cases were identified. The majority were male, single, unemployed and living with their family or spouse. The mean age at first presentation was 31 years with a mean duration of untreated psychosis of 17 months. Just under one-third were diagnosed with schizophrenia. Approximately half of the patients had no contact with a health service before presentation. The majority of patients presented through the emergency department. Two-thirds of all patients had a hospital admission within 2 years of presentation and almost one quarter of patients had an involuntary admission. The majority of patients were prescribed antipsychotic doses within recommended British National Formulary guidelines. Most patients received individual support through their keyworker and family intervention was provided in the majority of cases. Only a small number received formal Cognitive-Behavioural Therapy. Physical healthcare monitoring was insufficiently recorded in the majority of patients.

**Conclusions.** There is a shortage of information on the profile and treatment of patients presenting with a first episode of psychosis in Ireland. This baseline information is important in evaluating the efficacy of any new programme for this patient group. Many aspects of good practice were identified within the service in particular with regards to the appropriate prescribing of antipsychotic medication and the rates of family intervention. Deficiencies remain however in the monitoring of physical health and the provision of formal psychological interventions to patients. With the implementation of an EIP programme it is hoped that service provision would improve nationwide and to internationally recognised standards.

Received 28 March 2016; Revised 13 July 2017; Accepted 20 July 2017; First published online 12 September 2017

**Key words:** Demographic, early intervention, Ireland, outcomes, psychosis.

## Introduction

In Ireland, National Clinical Programmes have been established to improve and standardise patient care

throughout the Health Service Executive (HSE). These programmes are based on three main objectives: to improve the quality of care delivered to all users of HSE services, to improve access to all services and to improve cost-effectiveness of interventions. The Early Intervention Psychosis (EIP) programme for first episode EIP is being drafted in an effort to ensure that the 1500 people who develop psychosis each year in Ireland receive effective

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treatment without delay (Baldwin *et al.* 2005). The aim of the programme will be to standardise the care received by patients and deliver evidence-based interventions from an early stage of illness. Services in Ireland are beginning to implement internationally recognised evidenced-based treatments for first episode psychosis; such treatments will no doubt form a key part of the EIP programme. How the evidenced-based interventions are being implemented currently differs across services but through the EIP programme the aim is to improve the outcome for patients and their families through delivering evidenced-based interventions from the outset.

The evidence-based treatments identified in the treatment of first episode psychosis include the judicious use of antipsychotic medication, the delivery of Cognitive-Behavioural Therapy (CBT) and family intervention, physical healthcare monitoring and the provision of suitable occupational therapy in terms of supported employment/education (NICE, 2014). The effectiveness of CBT in first episode psychosis is becoming established and most early-intervention programmes and clinical guideline publications recommend its use (Alvarez-Jiménez *et al.* 2009a, 2009b; Bird *et al.* 2010). Including the relatives in treatment programmes has also been shown to be effective (Pitschel-Walz *et al.* 2001) and family intervention has produced clinically important reductions in the risk of relapse and hospital admission when compared with standard care (Bird *et al.* 2010). It is envisaged that the EIP will recommend that CBT and family interventions should be made routinely to those presenting with a first episode psychosis.

It has been well established that the lifespan of people with severe mental illness is up to 25 years shorter than the general population with the major cause of morbidity and mortality in schizophrenia attributable to cardiovascular disease (Foley & Morley, 2011). Metabolic syndrome is highly prevalent in these patients and risk factors for cardiovascular disease may be exacerbated by antipsychotic medication (McEvoy *et al.* 2005; Nasrallah *et al.* 2006). Physical health checks in this population should include regular weight checks (baseline, 3-monthly, then yearly), pulse and blood pressure measuring (baseline and frequently during dose titration), blood glucose and lipid monitoring (baseline, 3–6-monthly, then yearly), ECG recording (baseline, after dose increases, on admission to and discharge from hospital); smoking status should also be recorded (Taylor *et al.* 2015). The lowest possible antipsychotic dose should be used and antipsychotic polypharmacy should generally be avoided due to the risk of associated QTc prolongation and associated arrhythmias (Ray *et al.* 2001; Buchanan *et al.* 2010).

In order to measure the success of any clinical programme, it is important to have baseline information on how patients are currently cared for. This will allow us

to determine whether the programme has been successful in achieving its aims. Similar studies have been carried out in other countries (Milner *et al.* 2001; Gorrell *et al.* 2004; Royal College of Psychiatrists, 2012, 2014). In Ireland, the DETECT and the Cavan-Monaghan services have published substantial amounts of data on first episode cases. From the published data we find that the most common diagnosis is schizophrenia, most patients are male, single and have not completed secondary level education. The estimated mean duration of untreated psychosis ranges between 15.1 and 21.6 months (Clarke *et al.* 2006; Jackson *et al.* 2006; Whitty *et al.* 2006; Gaynor *et al.* 2009; Kingston *et al.* 2011). Little is known, however, about the levels of intervention in other parts of Ireland and knowledge of current practice is essential if we are to know if implementation of an early-intervention programme for psychosis has been successful.

The authors of this paper have undertaken a review of patients presenting with a first episode of psychosis to the Dublin Southwest Mental Health Service before the introduction of our EIP programme. In this paper we concentrated on the clinical profiles, demographic characteristics and outcomes of the sample group. We also undertook a service evaluation describing the pharmacological and psychological treatments delivered to this group as well as the standards of physical healthcare monitoring.

## Methods

The Dublin Southwest Mental Health Service is a community-based service divided into four General Adult sectors with a 52 bed inpatient unit in Tallaght Hospital. There is an Old Age Psychiatry Service and one Assertive Outreach Team serving the entire catchment area. For the purposes of this study we retrospectively identified patients who presented with a first episode psychosis to each of the four General Adult Sectors. Patients presenting to forensic services, old age services, child and adolescent services, and non-HSE healthcare providers or patients under the care of the Learning Disability Services were not included in the study. Data for the study was collected retrospectively covering a period of 10 years (2002–2012). Cases were identified after consultation with the four general adult treating teams that serve the area and after reviewing the inpatient and outpatient medical records of patients aged 18 years and older. Existing data collection system did not allow for the ascertainment of all cases presenting to the service and case selection relied upon treating teams bringing names to the attention of the investigators.

We gathered demographic and clinical information on all identified patients. Data recorded included age at first presentation to the service, gender, relationship

status, living situation, employment status and level of education at the time of first presentation. Duration of untreated psychosis was estimated from the clinical history. The diagnosis, based on ICD-10 criteria established during the initial assessment was used for analysis. A history of substance misuse, past psychiatric history and referral source was also recorded as were admission rates and data relating to service use for a 2-year period following first presentation. To measure standards of treatment provision we recorded the number of patients who received the recommended evidenced-based treatments of CBT, family intervention and physical healthcare monitoring. We also recorded the rates and trends in antipsychotic prescribing. Ethical approval was obtained through the Tallaght Hospital Ethics Committee and all data were analysed using IBM SPSS Version 22.

## Results

### Demographics

Table 1 presents the demographic characteristics of the sample. In total, 66 patients with a first episode psychosis were identified of whom most were male ( $n = 45$ ; 68%), single ( $n = 47$ ; 71%), unemployed

( $n = 43$ ; 65%) and living at home ( $n = 58$ ; 88%). The mean age at first presentation was 31 (range 16–63; s.d. 11.8; median 27) and the mean age at first decline was 29.0 (range 10–62; s.d. 11.5; median 25.5). The mean duration of untreated psychosis (DUP) was 17 months (range 0–216; s.d. 32.8; median 3.5). With regards to education, 27 patients (41%) completed secondary school and completed their Leaving Certificate.

### Diagnosis

Table 2 shows the range of diagnoses following first presentation. The most common diagnosis was schizophrenia ( $n = 20$ ; 30%) followed by acute and transient psychotic disorders ( $n = 11$ ; 17%). In 15% of cases ( $n = 10$ ) the type of psychosis was not specified whereas 38% of cases ( $n = 25$ ) were diagnosed with other forms of psychosis.

### Substance use

Table 3 shows the rates of illicit substances used in the sample. Approximately half of the patients were using illicit drugs ( $n = 35$ ; 53%) at first presentation. Cannabis was the most commonly used drug ( $n = 15$ ; 23%) with a further 18 patients (27%) using a combination of substances. In all, 31 patients (47%) admitted drinking

**Table 1.** Demographic characteristics of the sample ( $n = 66$ )

	Male ( $n = 45$ ; 68%)	Female ( $n = 21$ ; 32%)	Total ( $n = 66$ ; 100%)
<b>Relationship status</b>			
Single	35 (78%)	12 (57%)	47 (71%)
Married	5 (11%)	7 (33%)	12 (18%)
Separated/divorced	0 (0%)	1 (5%)	1 (1.5%)
Civil partnership	1 (2%)	0 (0%)	1 (1.5%)
Widowed	1 (2%)	1 (5%)	2 (3%)
Other/not specified	3 (7%)	0 (0%)	3 (5%)
<b>Living arrangements</b>			
Independent/rented accommodation	1 (2%)	4 (19%)	5 (8%)
Lives with family/spouse	42 (93%)	16 (76%)	58 (88%)
Residential care	1 (2%)	0 (0%)	1 (1.5%)
Other	1 (2%)	1 (5%)	2 (3%)
<b>Employment</b>			
Unemployed	33 (73%)	10 (47%)	43 (65%)
Full-time employment	7 (16%)	3 (14%)	10 (15%)
Part-time employment	0 (0%)	2 (10%)	2 (3%)
Student (third-level education, etc.)	4 (9%)	3 (14%)	7 (11%)
Other	1 (2%)	3 (14%)	4 (6%)
<b>Education</b>			
Primary education	5 (11%)	1 (5%)	6 (9%)
Secondary education (with Leaving Certificate)	20 (44%)	7 (33%)	27 (41%)
Secondary education (without Leaving Certificate)	16 (36%)	3 (14%)	19 (29%)
Tertiary education	1 (2%)	7 (33%)	8 (12%)
Not specified/no education	3 (7%)	3 (14%)	6 (9%)

**Table 2.** *Diagnosis of patients presenting with a first episode psychosis*

Diagnosis	n (%)
Schizophrenia	20 (30%)
Acute and transient psychotic episode	11 (17%)
Psychosis	10 (15%)
Drug-induced psychosis	9 (14%)
Mania with psychotic symptoms	5 (8%)
Severe depression with psychosis	4 (6%)
Delusional disorder	4 (6%)
Schizoaffective disorder	3 (4%)

**Table 3.** *Illicit drug use and alcohol use reported by the patients*

	n (%)
Illicit drug use	31 (47%)
None	31 (47%)
Combination of drugs	18 (27%)
Cannabis	15 (23%)
Heroin	1 (1.5%)
Cocaine	1 (1.5%)
Alcohol intake	
Alcohol use	31 (47%)
No alcohol	19 (29%)
Excessive intake (including binge drinking)	16 (24%)

alcohol and 16 patients (24%) drinking to excess or in a binge pattern; 19 patients (29%) denied alcohol misuse.

### *Past psychiatric history*

With regards to past psychiatric history, most patients had no contact with the health services before presentation ( $n = 32$ ; 49%). In total, 23 (35%) attended their General Practitioner (GP) and one patient attended a private mental health service; 10 patients (15%) had attended other services (such as counselling). Most patients presented via the emergency department ( $n = 30$ ; 46%), 24 (36%) were referred by their General Practitioner and 10 (15%) were referred by other services (such as a counselling service). No referral source was recorded in two cases (3%).

### *Rates of admission*

In total, 24 patients (67%) had at least one admission to hospital over the 2-year period following first presentation. In all, 24 patients (36%) had a single admission, 14 patients (21%) had two admissions and six patients (9%) had three admissions. No patients were recorded to have had more than three admissions; 16 patients had at least one involuntary admission.

The average inpatient days for all patients over the 2 years was 23.6 (range 0–111; s.d. 29.1; median 13.5). In total, 28 patients (42%) received day hospital treatment and 31 patients (47%) had home-based treatment in the 2-year period following first presentation.

### *CBT and family intervention*

Eight patients (12%) received formal CBT and a further 52 patients (79%) received individual support from a designated keyworker with regards to psychoeducation and relapse prevention. Six cases (9%) had no evidence of receiving either CBT or individual support. Two families (3%) received Family Behavioural Therapy. In a further 52 cases (79%) family education was provided. It should be noted, however, that the detail of this was not specified. In 12 cases (18%) there was no evidence of family intervention.

### *Physical healthcare monitoring*

Table 4 shows the level of physical healthcare monitoring. At any point during the 2-year-study period weight was recorded in 24 cases (36%) although body mass index was only recorded in five cases (8%). A fasting glucose had been recorded in 21 (32%) patients and HbA1C was recorded in three patients (5%); 18 patients (27%) had lipid profile. In those patients with a lipid profile recorded there was a high rate of dyslipidaemia; 10 of them (56%) were found to have total cholesterol levels above the normal reference range. Of the patients who had a fasting glucose monitored three (14%) had levels above the reference suggesting a potential diabetic or pre-diabetic state. A total of 19 patients (29%) had a record of an ECG recording.

### *Antipsychotic prescribing*

Table 5 details antipsychotic prescribing practice at three time points – week 1, year 1 and year 2. Olanzapine was the most commonly prescribed antipsychotic throughout the 2-year period, however a decrease in the rate of prescription as time progressed was evident; Risperidone showed a similar trend over the study period. Aripiprazole was the second most commonly prescribed antipsychotic and the rate of prescription remained steady over the study period. After 2 years following presentation 10% of patients were on Clozapine and 10% of patients were also on more than one antipsychotic. Table 6 shows the number of patients who were prescribed antipsychotic doses above recommended maximum British National Formulary (BNF) limits at five separate time points – week 1, month 1, month 6, year 1 and year 2. The majority of patients were prescribed doses within BNF recommendations and there was no evidence of an increasing number of patients

**Table 4.** Physical healthcare monitoring

Cardiometabolic factors ( <i>n</i> = 66)			
	Number of patients with parameter recorded (%)	Number of patients outside of normal reference range <sup>a</sup>	Reference range
Weight	24 (36%)	–	–
BMI	5 (8%)	–	18–25 kg/m <sup>2</sup>
ECG	19 (29%)	–	–
Fasting glucose	21 (32%)	3 (14%)	2.8–6.0 mmol/l
HbA1C	3 (5%)	1 (33%)	20–42 mmol/mol
Cholesterol	18 (27%)	10 (56%)	< 5.0 mmol/l
Triglycerides	18 (27%)	7 (39%)	< 1.7 mmol/l
HDL	18 (27%)	6 (33%)	> 1.0 mmol/l
LDL	18 (27%)	9 (50%)	< 3.0 mmol/l

BMI, body mass index; HDL, high-density lipoprotein; LDL, low-density lipoprotein.

<sup>a</sup> Percentages expressed as proportion of those with measures recorded.

**Table 5.** Antipsychotic prescription rates

Antipsychotic use ( <i>n</i> = 66)			
	Week 1	Year 1	Year 2
Olanzapine	38 (58%)	14 (25%)	12 (21%)
Risperidone	10 (15%)	7 (12%)	3 (5%)
Aripiprazole	8 (12%)	11 (19%)	11 (19%)
Quetiapine	3 (5%)	5 (9%)	6 (10%)
Clozapine	0 (0%)	2 (4%)	6 (10%)
Others	3 (5%)	6 (11%)	5 (9%)
Combination	1 (2%)	4 (7%)	6 (10%)
Not on medication	3 (5%)	8 (14%)	9 (16%)
No longer in service	0 (0%)	9 (14%)	8 (12%)

**Table 6.** Antipsychotic dose prescribing (based on maximum BNF guidelines)

	Number of patients prescribed medication <sup>a</sup>	Number of patients prescribed above-BNF guidelines
Week 1	63 (95%)	6 (10%)
Month 1	60 (95%)	5 (8%)
Month 6	47 (92%)	4 (9%)
Year 1	50 (85%)	3 (6%)
Year 2	51 (86%)	2 (4%)

<sup>a</sup> Excluding those where medication had not been documented or had been lost to follow-up.

receiving above-BNF recommended doses as the 2 years progressed.

## Discussion

### Demographics and comparison with previous studies

The demographics of our sample were similar to previous studies of first episode cohorts with most patients being male, single and unemployed at the time of first presentation (Clarke *et al.* 2006; Kingston *et al.* 2011; Cocchi *et al.* 2014; Oher *et al.* 2014). We also found similar ages of presentation and duration of untreated psychosis to earlier epidemiological studies in Ireland and the United Kingdom (Singh *et al.* 2000; Clarke *et al.* 2006; Kingston *et al.* 2011). One of the differences in our cohort was the rate of unemployment. We found a slightly higher rate (65%) compared to previous studies. From reviewing the literature, rates of unemployment in first episode patients range between 30% and 40% (Whitty *et al.* 2008; Turner *et al.* 2009; Peritogiannis *et al.* 2013; Sonmez *et al.* 2013; Cocchi *et al.* 2014). This could be

due to the demographics of our catchment area with three of 10 most deprived electoral divisions in Ireland located in the Dublin Southwest catchment area (Kelly and Teljeur, 2013). Dublin Southwest has a population of 267 846 (Mental Health Division, 2014). The average age of the population is 32.8 years; this compares with a national average of 35.6 years. Both men and women are more likely to have left education earlier and with fewer qualifications than the national average. People in the catchment area are less likely to be married and more likely to be divorced or separated. The rates of unemployment/unable to work due to permanent sickness or disability in the area are slightly higher compared with the national average (House of the Oireachtas, 2008).

In terms of diagnosis, we had a smaller number of cases diagnosed with schizophrenia compared with other first episode studies. From reviewing the literature, ~48–60% of first episode patients are diagnosed with schizophrenia at first presentation (Whitty *et al.* 2005; Clarke *et al.* 2006; Russo *et al.* 2013; Sonmez *et al.* 2013; Chang *et al.* 2014). The likely explanation for this is that

diagnosis in our study was based on chart reviews and a structured diagnostic interview was not conducted at first presentation. Hence we had higher numbers of cases with no subtype of psychosis specified (15%). Similarly, the rate of drug-induced psychosis in our sample was higher (14%) compared with previous studies where rates ranging between 4.5% and 7% were reported (Singh *et al.* 2000; Whitty *et al.* 2005; Clarke *et al.* 2006; Oher *et al.* 2014). We found high overall rates of substance misuse 53% compared with 19% in the study conducted by Clarke *et al.* (2006). However, as with diagnosis, our assessment was not based on a structured interview. Nevertheless, more recent studies showed a trend towards increasing rates of substance misuse in this population (Barnett *et al.* 2007; Barbeito *et al.* 2013; Oher *et al.* 2014).

#### *Service evaluation and comparison with national audit of schizophrenia (Royal College of Psychiatrists 2012, 2014)*

The current lack of standardisation of treatment for psychosis in Ireland has been cited as a cause for the variation in the provision of evidence-informed interventions. Our study highlighted many positive aspects of the current treatment provided across the Dublin Southwest sector before the implementation of the EIP programme. A majority of patients were provided with psychological interventions including individual and family-based treatments; it should be noted, however, that in the majority of cases these interventions were unstructured in nature. Although the data shows the number of patients who received such interventions it does not identify the total number of patients who had been offered them. Therefore patients may have been offered psychological treatment but declined or alternatively may have been deemed unsuitable for such intervention.

Prescribing practice was good within the service in that a majority of patients were prescribed antipsychotic doses within recommended BNF guidelines. Perhaps surprisingly there was no evidence of increasing rates of above-BNF recommended prescriptions over the course of 2 years, indeed the results seem to suggest a decreasing rate (10% after 1 week, 1–4% by year 2). This may be a reflection of the differences between antipsychotic ‘treatment doses’ and ‘maintenance doses’ in that patients in the acute phase of their illness (such as those who had just entered the study period) may have required higher doses to induce remission, in comparison with 2 years after presentation, where we can presume that many patients will have achieved mental state stability and would require lower doses to prevent relapse. However, the fact that 10% of patients were being prescribed above-BNF doses 1 week after presentation remains a cause for concern. Some degree of polypharmacy was evident in the

population and the indeed rate of polypharmacy was observed to increase over time as perhaps would be expected although as mentioned this did not correlate with an increase in the rate of above-BNF recommended prescriptions (if patients were prescribed more than one antipsychotic, percentages doses of all prescribed antipsychotics were cumulated to give an overall figure).

A clear deficiency in service provision identified in the study related to the monitoring and management of physical healthcare. Cardiovascular risk factors were measured insufficiently in the majority of patients. Data within this study showed a high number of cases where no physical healthcare measurements were recorded. Current guidelines stipulate regular measurement of these parameters at specific and regular time intervals and this represents an area for significant potential improvement in the service. In those patients who had lipid profiles monitored there was a high prevalence of dyslipidaemia again illustrating that the issues are known about this population with regards to increased risk of metabolic dysfunction and cardiovascular disease.

The Royal College of Psychiatrists has undertaken a similar study to assess the provision and quality of evidence-based treatments for psychosis in Health Trusts/Boards in England and Wales. This took the form of an audit measuring compliance against the NICE guidelines for schizophrenia (NICE, 2014). The first National Audit of Schizophrenia (NAS1) in England and Wales was carried out in 2012. It found deficiencies in the monitoring and management of physical health, deficiencies in some aspects of prescribing practice and deficiencies in some aspects of how clinicians communicate with service users and carers. The second National Audit of Schizophrenia (NAS2) followed in 2014. The findings were largely unchanged between NAS1 and NAS2. Poor monitoring and management of physical healthcare remained a problem and there were deficiencies in the provision of CBT and family interventions. Prescribing of antipsychotics above recommended BNF doses was also evident. With the implementation of an EIP programme in Ireland it is hoped that the provision of evidence-based treatments for people presenting with a first episode psychosis would be improved and that treatment would be standardised across the country. The experiences of the National Audit of Schizophrenia however show that despite the introduction of national guidelines challenges could remain in implementing recommended treatments.

#### *Clinical implications*

Considering the smaller rates of patients receiving a diagnosis of schizophrenia and the higher rates of psychosis NOS we could only assume that clinicians prefer a long period of observation before giving a diagnosis of enduring mental illness like Schizophrenia

in the absence of a structured diagnostic interview. This has implications for the EIP programme as it highlights the importance of following up all first episode psychosis cases as even when structured interviews are conducted, about one quarter of patients will show a diagnostic change over time especially into schizophrenia (Whitty *et al.* 2005). This figure is likely to be higher in samples where no structured diagnostic interview is conducted at first presentation. In terms of EIP services in Ireland, this raises the question whether all patients presenting with a first episode should undergo a diagnostic interview. Training staff in such interviews (such as a SCID) and time constraints could make this more difficult to introduce but based on the evidence and our findings it would seem a necessary component of the programme. More cost and time effective diagnostic tools could be explored. OPCRIT+ is a diagnostic tool available online that can be used across a range of clinical and research settings and has shown to have a good overall inter-rater reliability scores (Rucker *et al.* 2011). Toxicology screening of patients presenting with a first episode in addition to a structured history could also help establish the true rate of substance misuse in this population. Adopting this standardised approach would allow services to compare rates of substance misuse more accurately.

The National Mental Health Programme in November 2011 outlines that in order for an EIP programme to be effective, two interventions are required – the education and training of the General Practitioners in the recognition of early psychosis and an easily accessible screening programme within the mental health service to ensure rapid uptake of those at risk. Such measures can increase the rate of referral from primary care and reduce numbers presenting through emergency departments. Almost half of our sample presented through the Emergency Department of Tallaght Hospital and only one-third presented after referral from their General Practitioner. This finding was different to that of another Irish study by O'Callaghan *et al.* (2010), where 59% of first episode patients were referred to a mental health services by their General Practitioner. This study was carried out by the DETECT service which actively increased awareness of psychosis by targeting the public, allied mental health practitioners and General Practitioners in their catchment area. Training in the early detection of psychosis and referral guidelines were provided to General Practitioners which increased the numbers of first episode patients being referred (DETECT Service 2006-2011, 2011). Similarly, in a study of London GPs, 76% referred patients with first episode psychosis directly to the Early Detection Team and GPs who received brief training in early detection of psychosis were more likely to refer their patients than the control group (86% *v.* 66%; Power *et al.* 2007).

The high number of patients that presented to the services through the emergency department suggests similar training in our catchment area could facilitate the application of the guidelines outlined in the National Clinical Programme and provide patients with timely diagnosis and treatment.

### Limitations

The main limitation of the study was the retrospective nature of case identification. In total, 66 cases were identified over a 10-year period in the Dublin Southwest catchment area which has a population in excess of 250 000. The incidence figure in this study falls significantly below the expected incidence rate of psychosis cited in previous large-scale studies at about 10% of the expected rate (McGrath *et al.* 2008; Cheng *et al.* 2011). It should be noted that patients presenting to forensic services, old age services, child and adolescent services, non-HSE healthcare providers or patients under the care of the Learning Disability Services were not included in the study; this may account for some of the discrepancy in the expected incidence rate. In addition to this no database was available in the service before 2012 and identifying patients presenting with a first episode of psychosis relied on consultation with staff and reviewing hospital records. This could also account for the lower-than-expected rate of first episode psychosis cases in our study and could also have resulted in a significant selection bias. Despite this however the demographic, illness, and treatment characteristics in our study are comparable with other FEP samples and we believe a sufficient number of cases was identified to provide a meaningful measure of current treatment provision in the service before the implementation of an EIP programme. One of the key challenges for any new clinical programme will be for all cases to be recorded from the outset allowing for greater comparisons of patients presenting across various services. Such an issue would be greatly aided by a computerised clinical note-keeping system, as is now present across all trusts within the NHS.

The duration of untreated psychosis was calculated based on the history of first decline reported by relatives and documented in the clinical notes. This is also a recognised limitation of this study as it is difficult to pinpoint the exact time when the first decline occurred as symptoms can present attenuated and they might not be noticed by relatives; however, given that the duration of DUP is important in predicting outcome we felt it is important to determine this as accurately as possible and include it in the study.

### Conclusions

This study provides baseline clinical and demographic profile of patients with first episode psychosis and an

evaluation of service provision before the introduction of EIP programme in the Dublin Southwest Mental Health Service. The results of this study highlight aspects of good practice in the treatment of first episode psychosis before the introduction of the EIP but deficiencies remain in the monitoring of physical health and provision of specialised psychological interventions. It is hoped these findings will be used as baseline to evaluate service provision following the introduction of the EIP and may serve as a reference point for other services as well. It is hoped that with the implementation of the EIP programme service provision would improve nationwide and treatment would be standardised and in keeping with internationally recognised practice. The experiences of other healthcare systems, however, show that challenges in delivering these interventions are likely to remain.

Creating a database of all new first episode cases is essential and will allow regular evaluation of EIP programmes across the country. Developing stronger links between primary care physicians and the mental health services could relieve the burden on emergency departments and could also offer the patients a quicker and more direct way to receive treatment. Given that a large number of cases are diagnosed with unspecified and drug-induced psychotic disorders, the use of a structured diagnostic interview at first presentation is to be encouraged. This in addition to the establishment of a database can help play critical role in following up these cases, many of whom are likely to undergo a diagnostic shift into schizophrenia over time.

### Financial Support

This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

### Conflicts of Interest

A.-M.C., P.M., J.S., K.Kerins, B.P., K.Kearney, M.M, P.W. have no conflicts of interest to disclose

### Ethical Standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as revised in 2008. The authors assert that ethical approval for publication of this study has been provided by the local REC.

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