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ORIGINAL ARTICLE

Diagnostic stability and outcome after first episode psychosis

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ABSTRACT

Background: Individuals diagnosed with schizophrenia are often assigned other psychiatric diagnoses during their lives. The significance of changing diagnosis has not been widely studied.
Aims: Our aim was to examine the association between diagnostic change and later outcome.
Methods: Individuals' diagnostic history, clinical and social outcomes were extracted from the AESOP-10 study, a 10-year follow-up of first episode psychosis cases. The association between outcome and different patterns of diagnosis over time were assessed using linear or logistic regression.
Results: Individuals always diagnosed with schizophrenia ($n = 136$) had worse clinical and social outcomes at follow-up than those never diagnosed with schizophrenia ($n = 163$), being more likely to be symptomatic, unemployed, single, and socially isolated. There was no difference in outcome between individuals always diagnosed with schizophrenia and those changing to a diagnosis of schizophrenia ($n = 60$), and no difference in outcome between individuals never diagnosed with schizophrenia, and those changing from a diagnosis of schizophrenia ($n = 44$).
Conclusions: Individuals always and never diagnosed with schizophrenia had different outcomes. In cases of diagnostic instability participants had similar outcomes to those always assigned the diagnosis they changed to irrespective of initial diagnosis.

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Introduction

The validity of psychiatric diagnoses has been a topic of interest for researchers for several decades. Diagnostic categories in psychiatry are in general based on subjective features of the patient experience as opposed to underlying neuropathology (Parnas, 2014). This has led to changes in their accepted definitions over time, which in turn may change the characteristics of patients in these groups (Tandon et al., 2013).

In addition to changes over time in the accepted characteristics of diagnoses there has been interest in monitoring individual patients' own changes between diagnostic categories. As early as 1967 it was observed that patients did not necessarily keep the same assigned diagnosis throughout their disease course (Cooper, 1967). The vast majority of subsequent research in this area has focused on schizophrenia; Schwartz et al (Schwartz et al., 2000) in 2000 reported a 92% stability of schizophrenia diagnosis over 6 months, a figure broadly in keeping with subsequent studies; 91% (30 months) reported by Veen et al. (2004), 100% (6 months) reported by Baldwin et al (Baldwin et al., 2005), 97% (24 months) reported by Whitty et al. (2005), 91.3% (variable) by Kim et al. (2011), and 72.9% (variable, max 96 months) by Heslin et al. (2015). A 2016 meta-analysis of 42 studies of diagnostic stability reported a 90% stability of schizophrenia diagnoses (Fusar-Poli et al., 2016).

Many studies have also investigated predictors of diagnostic instability, with the vast majority focused on schizophrenia. Variables positively predicting a future change to a diagnosis of schizophrenia from another initial diagnosis include; longer initial duration of untreated psychosis (Chang et al., 2009; Haahr et al., 2008; Heslin et al., 2015; Schwartz et al., 2000), no history of substance misuse (Salvatore et al., 2011; Schwartz et al., 2000), longer initial duration of inpatient treatment (Queirazza et al., 2014; Schwartz et al., 2000), experiencing social isolation (Heslin et al., 2015) and

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initial greater severity of symptoms (Bromet et al., 2005; Heslin et al., 2015; Pillmann et al., 2012; Schwartz et al., 2000; Schimmelmann et al., 2005). Conversely, however, Fusar-Poli et al. (2016) in a meta-analysis of 42 studies did not find any single variable associated with future diagnostic instability.

Despite many studies commenting on antecedents of diagnostic instability there does not exist nearly the same level of interest in the literature regarding sequelae of diagnostic instability. Bromet et al. (2005) reported on diagnostic instability as a predictor of outcome, finding that patients assigned a DSM-III diagnosis of schizophrenia at any time had worse outcomes (measured using the Global Assessment of Functioning Questionnaire) than those diagnosed with other psychotic illnesses. They also found that patients who change to a diagnosis of schizophrenia from other diagnoses have similar outcomes to those always assigned a diagnosis of schizophrenia, although they did not present a detailed statistical analysis of their data (Bromet et al., 2005). Since then no other study has reported in detail on the effect of diagnostic instability on outcomes in psychosis, although Addington et al. (2006) did track a variety of social and clinical demographics over a one- year period in a first episode psychosis cohort and observed no outcome difference between individuals diagnosed with schizophrenia at baseline and individuals changing to a diagnosis of schizophrenia (Addington et al., 2006).

In this study we present an analysis of diagnostic instability as a predictor of outcome in a cohort of first episode psychosis patients over 10 years monitored as part of the Aetiology and Ethnicity in Schizophrenia and Other Psychoses (AESOP) study. We have sought to fulfil two main aims; (1) to examine the effect of experiencing any diagnostic instability on clinical and social outcomes in first episode psychosis, and (2) to examine the significance of diagnostic instability in those finally assigned a diagnosis of schizophrenia—specifically, do individuals with a different initial diagnosis have any difference in outcome to those always diagnosed with schizophrenia?

Method

Sample

AESOP-10 is a follow-up at approximately 10 years of a cohort of 557 individuals with a first episode of psychosis initially identified in the South East London and Nottingham centres of the Aetiology and Ethnicity in Schizophrenia and Other Psychoses (AESOP) study (Kirkbride et al., 2006). Potential cases aged between 16 and 65 were screened for inclusion using the Screening Schedule for Psychosis (Jablensky et al., 1992). This questionnaire was not however used to assign diagnoses.

Data collection and follow-up

Clinical and demographic data were collected at baseline using the Medical Research Council Social Demographic Schedule (Mallett, 1997). The Schedules for Clinical Assessment in Neuropsychiatry (SCAN) were used in order to elicit symptom related data at the time of presentation (World Health Organization & Division of Mental Health, 1994). If the full version of the latter could not be administered the Item Group Checklist component was completed using clinical records.

Individuals were followed-up over a period of 10 years after first contact. The World Health Organisation (WHO) Life Chart (Susser et al., 2000) was completed for each individual, and at the end of follow-up the SCAN was again administered (considering the previous 30 days). The WHO Life Chart was completed for each patient using clinical interviews with patients and information from treating clinicians and clinical notes otherwise. This included symptom profile, use of psychiatric services, use of illicit drugs and alcohol, socio-economic indicators including housing, relationship and employment data, and forensic data regarding the follow-up period.

Diagnoses

Diagnoses at both enrolment and followup were made by committee consensus using the International Classification of Diseases Version 10 (ICD-10) (World Health Organization, 1992). At baseline this was based on all available clinical and demographic information available in the clinical records including the baseline SCAN or if a patient interview was available the Item Group Checklist (completed from case notes). At follow-up this included the follow-up SCAN or Item Group Checklist plus the Life Chart and all other available clinical information. The committee assigning diagnoses consisted of at least one principle investigator of the study, one psychiatrist and one other member of the research team. All diagnoses were made blind to ethnicity and to diagnoses assigned by the treating clinical team.

Statistical analysis

Statistical analysis was performed using STATA 14 (StataCorp LLC, Texas, USA). Associations between diagnostic change and individual outcomes were assessed using logistic or linear regression analyses, with number of community treatment episodes during follow-up, number of hospital admissions during follow-up, longest remission during follow-up and time spent in prison during follow-up considered as continuous outcomes, and the remainder as binary outcomes. All models included age, ethnicity, and study centre (London or Nottingham) as covariates.

Ethics

Local research ethics committees in South East London and Nottingham provided full ethical approval for all aspects of the follow-up (reference number: 05/Q0706/158). All researchers had substantive or honorary contracts with either the South London and Maudsley National Health

Table 1. Comparison of baseline demographic and diagnostic variables between those successfully followed up (included) and not followed up (excluded) over 10 years.

	Followed up	Not followed up	Test statistic	p
n	403 (79.8%)	102 (20.2%)	*chi2*	
Gender			0.735 (1)	0.391
Male	230 (57.1%)	63 (61.8%)		
Female	173 (42.9%)	39 (38.2%)		
Baseline diagnosis			1.712 (8)	0.989
Schizophrenia	177 (43.9%)	41 (40.0%)		
Psychotic Major Depression	55 (13.6%)	17 (16.7%)		
Bipolar Disorder	56 (13.9%)	15 (14.7%)		
Schizoaffective Disorder	25 (6.2%)	5 (4.9%)		
Delusional Disorder	19 (4.7%)	4 (3.9%)		
Psychosis Not Otherwise Specified	27 (6.7%)	8 (7.8%)		
Acute and Transient Psychotic Disorder	23 (5.7%)	7 (6.86%)		
Drug Induced Psychosis	21 (20.4%)	5 (4.9%)		
Ethnicity			11.38 (5)	0.04
White British	185 (45.9%)	43 (42.1%)		
African-Carribbean	101 (25.0%)	18 (17.6%)		
Black African	48 (11.9%)	17 (16.7%)		
other white	26 (6.5%)	10 (9.8%)		
other	43 (10.7%)	14 (13.7%)		
			Wilcoxon z	
Age at initial contact (whole years)			−1.617	0.106
Median	29	27		
IQR	22–36	22–33		
Duration of untreated psychosis (whole days)			−0.248	0.804
Median	60	56		
IQR	15–238	15–184		

Service (NHS) Foundation Trust or the Nottingham Healthcare NHS Trust, the primary participating service providers. All participants gave consent for their data to be used in research.

Results

Sample

Data presented here are based on the incidence sample of 505 patients collected over the first two years of the AESOP study. Of these, 102 (20.2%) individuals were lost to follow-up during the ensuing 10 years; thus 403 (79.8%) individuals are included in this analysis. Table 1 shows the difference in baseline demographic and clinical variables between those followed up and not followed up. There were no differences between groups by gender, age, diagnosis, or duration of untreated psychosis. There was, however, a difference between those followed-up and those not followed-up in terms of ethnicity (Table 1).

Diagnoses and diagnostic change

At baseline 180 individuals (44.7%) had a diagnosis of schizophrenia (F20∼), 56 (13.9%) bipolar disorder with psychotic symptoms (F31∼), 55 (13.6%) depression with psychotic symptoms (F32.3, F33.3), 25 (6.2%) schizoaffective disorder (F25.9), 23 (5.7%) acute and transient psychotic disorders (F23∼) and the remaining 64 (15.8%) psychosis not otherwise specified. At follow-up, 196 (48.6%) had been assigned schizophrenia diagnoses, 61 (15.1%) bipolar disorder diagnoses, and 37 (9.2%) schizoaffective disorder diagnoses.

240 individuals (59.6%) retained the same diagnosis throughout the follow-up period, and 163 (40.5%) did not.

Regarding schizophrenia specifically 136 (33.8%) individuals were stably assigned a schizophrenia diagnosis throughout the study period (Always SZ), 60 (14.9%) changed to a diagnosis at final followup of schizophrenia from another initial assigned diagnoses (Followup SZ), 44 (10.9%) changed from an initial diagnosis of schizophrenia to another diagnosis at follow-up (Initial SZ), and 163 individuals (40.5%) were never diagnosed with schizophrenia (Never SZ). The summary statistics relating to each of these four groups are listed in Appendices Tables A1–A4.

Diagnoses and outcomes

Individuals who experienced any change in diagnosis during the study period ($n = 163$, 40.5%) did not in general demonstrate different outcomes to those who had a stable diagnosis ($n = 240$, 59.6%), although they were less likely to be experiencing psychotic symptoms at the end of follow-up (OR 0.555, 95% CI $0.335 - 0.921$). There was no obvious difference observed in any social outcome between the two groups.

When outcomes were compared between Never SZ individuals ($n = 163$) and Always SZ individuals ($n = 136$) those assigned a schizophrenia diagnosis had worse outcomes across a variety of clinical and social domains (Table 2). Unsurprisingly the most pronounced differences were in symptom profile; 53.0% of the Always SZ group had experienced psychotic phenomena within 30 days of the end of follow-up and 42.5% negative symptoms, compared to 14.9% (psychotic symptoms) and 11.3% (negative symptoms) of the Never SZ group (psychotic symptoms OR 6.066 95% CI $3.065 - 11.199$; negative symptoms OR 5.618, 95% CI 2.824–11.364).

Table 2. Comparison of clinical and social outcomes in those never diagnosed with schizophrenia (Never SZ) ($n = 163$) vs those stably diagnosed with schizophrenia (Always SZ) ($n = 136$).

Exposure	Outcome	Regression coefficient	Odds ratio	95%	95%	p
Individuals permanently diagnosed with schizophrenia (compared to those never diagnosed with schizophrenia)	Experiencing positive symptoms at end of follow-up		6.07	3.06	11.20	<0.001
	Experiencing negative symptoms at end of follow-up		5.62	2.82	11.36	<0.001
	Having experienced non-psychotic illness during follow-up		3.65	2.00	6.67	<0.001
	Having experienced at least 1 suicide attempt during follow-up		1.87	0.92	3.76	0.08
	Having experienced at least 1 episode of self-harm during follow-up		1.46	0.67	3.21	0.328
	Number of community treatment episodes during follow-up	0.86		0.10	1.62	0.026
	Number of hospital admissions during follow-up	0.30		0.06	0.66	0.101
	Longest remission during follow-up (weeks)	−197.63		−251.54	−143.72	<0.001
	Experiencing social Isolation at the end of follow-up period		3.26	1.41	7.56	0.006
	Time spent in prison during follow-up (months)	1.29		0.45	2.14	0.003
	Displaying any antisocial behaviour during follow-up		1.02	0.57	1.83	0.947
	Harmful alcohol use during follow-up		1.61	0.88	2.96	0.122
	Living with family or friends at end of follow-up period		0.67	0.40	1.11	0.122
	Living in social housing at end of follow-up		1.88	0.92	3.87	0.080
	Being unemployed at the end of follow-up		4.79	2.24	10.23	<0.001
	Having no close friends at the end of follow-up		3.27	1.41	7.58	0.006
	Not being in a romantic relationship at the end of follow-up		3.09	1.71	5.59	<0.001

Table 3. Comparison of clinical and social outcomes in those stably diagnosed with schizophrenia (Always SZ) ($n = 136$) vs those initially assigned another diagnosis before changing to a diagnosis of schizophrenia (Followup SZ) ($n = 60$).

Exposure	Outcome	Regression Coefficient	Odds Ratio	95%	95%	p
Individuals permanently diagnosed with schizophrenia (compared to those changing to a schizophrenia diagnosis from another initial diagnosis)	Experiencing positive symptoms at end of follow-up		1.73	0.86	3.50	0.126
	Experiencing negative symptoms at end of follow-up		0.87	0.43	1.746	0.693
	Having experienced non-psychotic illness during follow-up		1.23	0.54	2.80	0.622
	Having experienced at least 1 suicide attempt during follow-up		1.46	0.61	3.48	0.391
	Having experienced at least 1 episode of self-harm during follow-up		1.45	0.56	3.7	0.447
	Number of community treatment episodes during follow-up	0.11		−0.87	1.09	0.825
	Number of hospital admissions during follow-up	0.01		−0.48	0.49	0.978
	Longest remission during follow-up (weeks)	35.60		−23.74	94.95	0.238
	Experiencing social Isolation at the end of follow-up period		0.89	0.33	2.37	0.809
	Time spent in prison during follow-up (months)	0.14		−1.96	2.23	0.899
	Displaying any antisocial behaviour during follow-up		0.82	0.39	1.70	0.586
	Harmful alcohol use during follow-up		0.91	0.42	1.94	0.798
	Living with family or friends at end of follow-up period		0.75	0.38	1.46	0.400
	Living in social housing at end of follow-up		0.99	0.40	2.40	0.976
	Being unemployed at the end of follow-up		0.65	0.21	2.06	0.467
	Having no close friends at the end of follow-up		1.13	0.42	3.02	0.809
	Not being in a romantic relationship at the end of follow-up		0.75	0.31	1.84	0.531

Significant differences were also observed in social outcomes; 82.9% of the Always SZ group were not in a romantic relationship at the time of follow-up compared to 58.1% of the Never SZ group (OR 3.094, 95% CI 1.712–5.590). 13.2% of the Always SZ group were employed (full or part time) at the end of the follow-up period, compared to 36.7% of the Never SZ group (OR 4.790, 95% CI 2.244–10.229). Compared to the Always SZ group the Never SZ group were also more likely to spend time with friends, spent less time in prison, were less likely to live in social housing, and less likely to misuse alcohol (although the latter two findings were not statistically significant). Conversely there was no difference observed between groups in terms of antisocial behaviour.

Comparing the Followup SZ group with the Always SZ group demonstrated no clear difference in clinical or social outcome (Table 3), although there was a weak association between always being diagnosed with schizophrenia and experiencing psychotic symptoms at follow-up endpoint (OR 1.728, 95% CI 0.857–3.497).

There were also no clear differences observed when comparing the Initial SZ group ($n = 44$) with the Never SZ group ($n = 163$) (Table 4).

Discussion

Individuals stably diagnosed with schizophrenia (Always SZ) and never diagnosed with schizophrenia (Never SZ) have markedly differing clinical and social outcomes (with the schizophrenia cohort having less favourable outcomes). There is however no discernible difference in outcome between those always diagnosed with schizophrenia (Always SZ) and those initially assigned another diagnostic category before moving to a diagnosis of schizophrenia (Followup SZ), nor those moving from a diagnosis of schizophrenia to other diagnoses (Initial SZ) and those never diagnosed with schizophrenia (Never SZ). This lack of difference is somewhat surprising.

Table 4. Comparison of clinical and social outcomes in those vs those changing from an initial schizophrenia diagnosis to a diagnosis other than schizophrenia (Initial SZ) ($n = 44$) vs those never diagnosed with schizophrenia (Never SZ) ($n = 163$).

Exposure	Outcome	Regression Coefficient	Odds Ratio	95%	95%	*p*
Individuals initially diagnosed with schizophrenia before changing to another diagnosis (compared to those never diagnosed with schizophrenia)	Experiencing positive symptoms at end of follow-up		0.56	0.19	1.53	0.245
	Experiencing negative symptoms at end of follow-up		1.00	0.26	3.44	0.991
	Having experienced non-psychotic illness during follow-up		1.28	0.60	2.71	0.521
	Having experienced at least 1 suicide attempt during follow-up		0.86	0.36	2.07	0.733
	Having experienced at least 1 episode of self-harm during follow-up		0.96	0.35	2.65	0.938
	Number of community treatment episodes during follow-up	−0.03		−1.02	0.97	0.961
	Number of hospital admissions during follow-up	0.07		−0.38	0.51	0.769
	Longest remission during follow-up (weeks)	27.68		−54.36	109.73	0.506
	Experiencing social Isolation at the end of follow-up period		2.03	0.46	9.92	0.348
	Time spent in prison during follow-up (months)	−0.34		−2.39	2.32	0.977
	Displaying any antisocial behaviour during follow-up		0.81	0.32	2.05	0.660
	Harmful alcohol use during follow-up		0.86	0.37	2.02	0.735
	Living with family or friends at end of follow-up period		0.75	0.36	1.58	0.450
	Living in social housing at end of follow-up		1.22	0.45	3.30	0.691
	Being unemployed at the end of follow-up		2.10	0.77	5.70	0.145
	Having no close friends at the end of follow-up		0.49	0.11	2.16	0.348
	Not being in a romantic relationship at the end of follow-up		1.58	0.71	3.51	0.266

There are very few studies to compare these findings to, although the limited number that exist in general similarly demonstrate no differences in outcome between Always SZ and Followup SZ groups. Addington and colleagues (Addington et al., 2006) hypothesised that individuals who were observed during their one-year study period to change to a diagnosis of schizophrenia from other diagnoses were simply "earlier in the course of their illness" and thus did not meet the diagnostic threshold at the time of inclusion into the cohort. Fraguas et al in 2007 support this hypothesis also, finding that baseline diagnosis was consistent from first presentation to one-year follow-up in 54.2% of first episode psychosis patients, but that between one and two years diagnosis was consistent in 95.7% of patients. The authors suggested that some individuals managed to access healthcare very early in their disease course, and that the full extent of their symptoms may not yet have manifested at initial interview (Fraguas et al., 2008).

Alavi et al. (2014) reported a similar pattern of findings in a cohort of first episode psychosis individuals in Iran, and theorised that many who change to diagnoses of schizophrenia after a different initial diagnoses do so due to clinician behaviour; a diagnosis of schizophrenia carries a significant stigma burden, even amongst healthcare professionals (Henderson et al., 2014), and the authors proposed that clinicians are likely to wish to assign non-schizophrenia diagnoses until they are certain of the illness course, giving rise to apparent diagnostic instability.

Whilst clinician behaviour and fear of stigma may play a role in some studies this is not likely a factor in this cohort (or in the vast majority of other studies of diagnostic instability available in the literature) as diagnostic data used here is made by consensus of the research team and does not directly influence patient care. It is notable that some published studies reporting particularly high rates of diagnostic instability in first episode psychosis use clinical rather than research diagnoses (Alavi et al., 2014; Baca-Garcia et al., 2007).

Although it may be the case that the Followup SZ group in our study were simply earlier in their illness course at initial presentation this theory does not fully explain the lack of difference in outcomes observed between those with stable and unstable schizophrenia diagnoses. It is widely proposed that prompt intervention and treatment in first episode psychosis improves clinical and social outcomes (McGorry, 2015). If therefore the Followup SZ group are simply accessing healthcare earlier in their disease course it may be reasonably expected that they would have improved outcomes when compared to the Always SZ group (who theoretically presented later in their illness course)—however neither this study nor any other has ever shown this to be the case. The existence of the Initial SZ group ($n = 44$) in this study, who experienced better clinical and social outcomes, could be viewed as reason for clinicians to not be fatalistic when observing poor prognostic indicators early in illness course.

There were some unexpected findings in this analysis—notably when comparing Always SZ and Never SZ groups there was no difference observed in presence of antisocial behaviour, alcohol use, or substance dependence. In other studies poor outcomes in all of these individual domains have been demonstrated in individuals assigned schizophrenia diagnoses (Capdevielle et al., 2009; Fazel et al., 2009; Richter & Hoffmann, 2019; Saha et al., 2007; Samele et al., 2013), and it is not clear why these findings have not been replicated here.

One possible explanation is the use of research diagnoses as discussed above; JE Cooper in 1967, the first researcher to comment on diagnostic instability, concluded that changes in diagnosis were solely due to changes in treating doctor (Cooper, 1967), and it is possible that clinician behaviour has a significant impact on patient outcome, and that this is not being represented in studies using research diagnoses. An initial avenue for further investigation would be to repeat this study using clinical diagnoses.

The use of research diagnoses is therefore a potential weakness in this study; research diagnostic rates may not reflect those observed in clinical practice (Moilanen et al, 2003). The use of ICD diagnoses in this study may further limit the generalisability of these results to settings which

use DSM, in which the schizophrenia diagnostic criteria are less broad (Cheniaux et al., 2009). It important to note however that in their 2016 meta-analysis Fusar Poli et al. did not observe any difference in diagnostic stability between ICD and DSM schizophrenia diagnoses (Fusar-Poli et al., 2016). There is an additional notable inherent limitation; as with any cohort study loss to follow-up gives rise to potential bias. In this instance there was a statistically significant difference in the ethnicity of those followed up and lost to follow-up (Table 1), although there were no other differences between the cohorts, and only 20.2% of individuals did not complete the study. Another inherent limitation is in the complexity of the outcomes chosen—there are many factors beyond psychiatric diagnosis which might influence an individual's marital, housing or employment status, for example, and it is impossible to account for all these with the dataset available.

In summary diagnostic instability is not associated with widespread difference in patient outcomes in this 10 year cohort study of first episode psychosis patients, and nor is there any demonstrated difference in outcome between those changing to a schizophrenia diagnosis from another initial diagnosis (Followup SZ) and those always diagnosed with schizophrenia (Always SZ). There is also no significant difference in outcome observed between those moving from a diagnosis of schizophrenia to other diagnoses (Initial SZ), and those never diagnosed with schizophrenia (Never SZ). It appears that only the final assigned diagnosis (be it schizophrenia or another diagnosis) correlates with clinical and social outcomes in this cohort of first episode psychosis patients. This is an interesting finding which raises questions as to the utility of initial diagnoses, and further work in this area is merited.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix

Table A1. Summary data used in analyses; individuals always diagnosed with Schizophrenia (Always SZ) ($n = 136$).

Outcome	Y (%)	N (%)	Mean
Experiencing positive symptoms at end of follow-up	53.0	47.0	
Experiencing negative symptoms at end of follow-up	42.5	57.5	
Having experienced non-psychotic illness during follow-up	22.2	77.8	
Having experienced at least 1 suicide attempt during follow-up	14.9	85.1	
Having experienced at least 1 episode of self-harm during follow-up	12.5	87.5	
Number of community treatment episodes during follow-up			4.0
Number of hospital admissions during follow-up			3.9
Longest remission during follow-up (weeks)			133.5
Experiencing social Isolation at the end of follow-up period	29.1	70.9	
Time spent in prison during follow-up (months)			1.4
Displaying any antisocial behaviour during follow-up	51.6	48.3	
Harmful alcohol use during follow-up	44.3	55.7	
Living with family or friends at end of follow-up period	49.2	50.8	
Living in social housing at end of follow-up	62.7	37.3	
Being unemployed at the end of follow-up	86.8	13.2	
Having no close friends at the end of follow-up	29.1	70.9	
Not being in a romantic relationship at the end of follow-up	17.1	82.9	

Table A2. Summary data used in analyses; individuals changing to a diagnosis of Schizophrenia (Followup SZ) ($n = 60$).

Outcome	Y (%)	N (%)	Mean
Experiencing positive symptoms at end of follow-up	38.9	57.4	
Experiencing negative symptoms at end of follow-up	36.4	63.6	
Having experienced non-psychotic illness during follow-up	25.9	74.1	
Having experienced at least 1 suicide attempt during follow-up	20.3	83.3	
Having experienced at least 1 episode of self-harm during follow-up	16.7	83.3	
Number of community treatment episodes during follow-up			4.1
Number of hospital admissions during follow-up			3.7
Longest remission during follow-up (weeks)			160.1
Experiencing social Isolation at the end of follow-up period	31.0	68.9	
Time spent in prison during follow-up (months)			1.0
Displaying any antisocial behaviour during follow-up	47.1	52.8	
Harmful alcohol use during follow-up	40.0	60.0	
Living with family or friends at end of follow-up period	43.9	56.1	
Living in social housing at end of follow-up	64.9	35.1	
Being unemployed at the end of follow-up	89.6	10.4	
Having no close friends at the end of follow-up	31.0	69.0	
Not being in a romantic relationship at the end of follow-up	16.3	83.6	

Table A3. Summary data used in analyses; changing from a diagnosis of Schizophrenia (Initial SZ) ($n = 44$).

Outcome	Y (%)	N (%)	Mean
Experiencing positive symptoms at end of follow-up	25.7	74.2	
Experiencing negative symptoms at end of follow-up	9.7	90.2	
Having experienced non-psychotic illness during follow-up	43.9	56.0	
Having experienced at least 1 suicide attempt during follow-up	28.9	71.0	
Having experienced at least 1 episode of self-harm during follow-up	18.4	81.6	
Number of community treatment episodes during follow-up			2.9
Number of hospital admissions during follow-up			2.4
Longest remission during follow-up (weeks)			294.2
Experiencing social Isolation at the end of follow-up period	20.0	80.0	
Time spent in prison during follow-up (months)			2.1
Displaying any antisocial behaviour during follow-up	50.0	50.0	
Harmful alcohol use during follow-up	50.0	50.0	
Living with family or friends at end of follow-up period	63.6	36.3	
Living in social housing at end of follow-up	56.0	44.0	
Being unemployed at the end of follow-up	75.8	24.2	
Having no close friends at the end of follow-up	20.0	80.0	
Not being in a romantic relationship at the end of follow-up	29.3	70.7	

Table A4. Summary data used in analyses; individuals never diagnosed with Schizophrenia (Never SZ) ($n = 163$).

Outcome	Y (%)	N (%)	Mean
Experiencing positive symptoms at end of follow-up	14.9	85.1	
Experiencing negative symptoms at end of follow-up	11.2	88.7	
Having experienced non-psychotic illness during follow-up	54.9	45.1	
Having experienced at least 1 suicide attempt during follow-up	25.0	75.0	
Having experienced at least 1 episode of self-harm during follow-up	19.4	80.6	
Number of community treatment episodes during follow-up			3.0
Number of hospital admissions during follow-up			2.6
Longest remission during follow-up (weeks)			329.6
Experiencing social Isolation at the end of follow-up period	11.2	88.8	
Time spent in prison during follow-up (months)			1.1
Displaying any antisocial behaviour during follow-up	40.9	59.0	
Harmful alcohol use during follow-up	43.6	56.4	
Living with family or friends at end of follow-up period	58.9	41.1	
Living in social housing at end of follow-up	45.6	54.3	
Being unemployed at the end of follow-up	63.3	36.7	
Having no close friends at the end of follow-up	11.2	88.8	
Not being in a romantic relationship at the end of follow-up	41.9	58.1	