Epidemiology and Treatment Pathways of Schizophrenia in England

EPH230

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Schizophrenia in England: stable prevalence and frequent antipsychotic switching
Recorded prevalence has been stable since 2015, and over half of treated patients receive a second line of antipsychotic therapy

Figure 1. Point prevalence at 1 July by sex

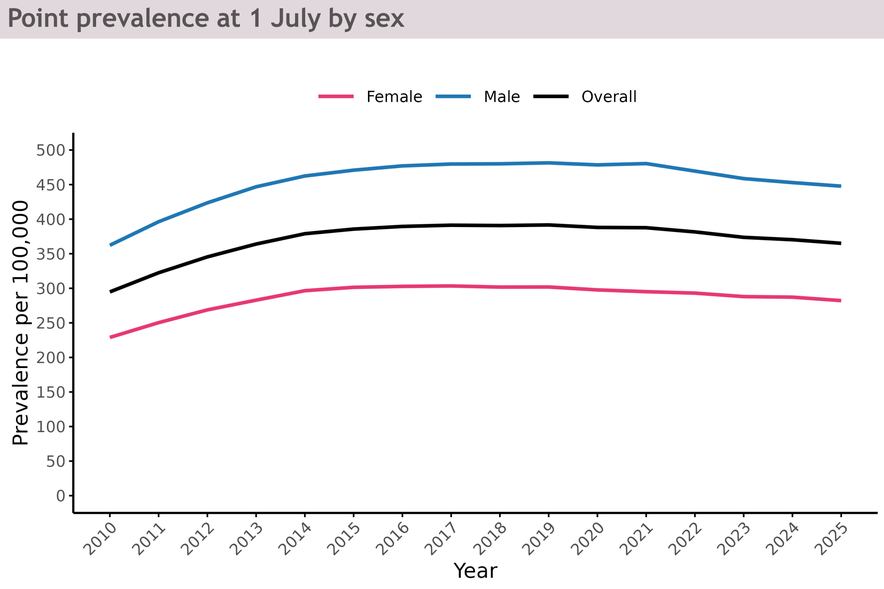
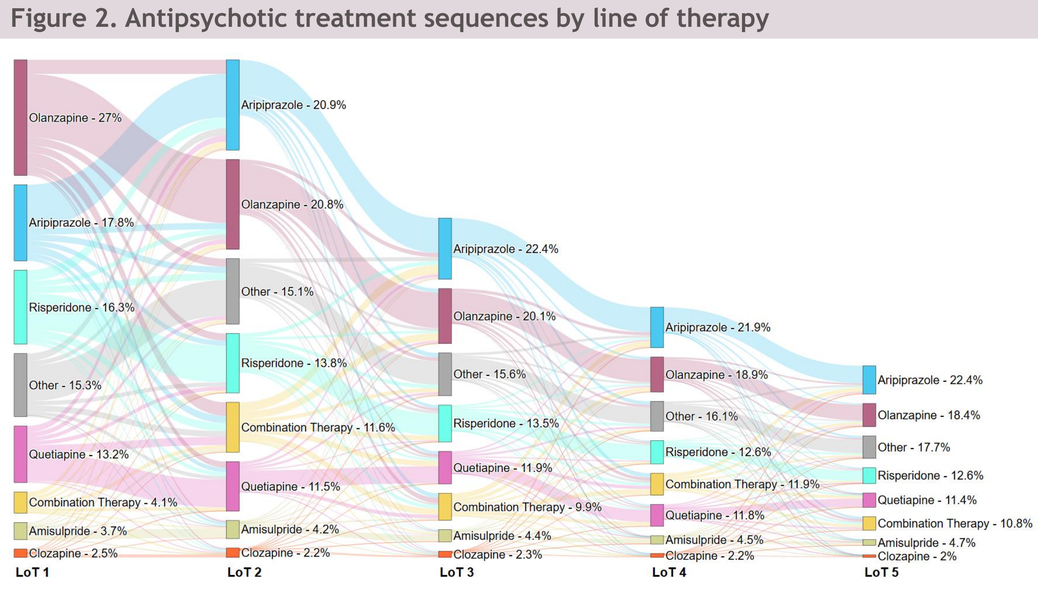


Figure 2. Antipsychotic treatment sequences by line of therapy



Treated patients n=17,550. Lines of therapy derived from antipsychotic prescription episodes: same-drug prescriptions 60 days or less apart treated as continuous exposure, overlapping exposures as combination therapy, and regimens under 30 days merged into adjacent periods. Percentages are the composition of treatment within each line, not the proportion of the cohort reaching that line.

Background

- Schizophrenia is a severe, chronic mental illness that typically begins in late adolescence or early adulthood. Many patients live with persistent symptoms, functional disability and poor quality of life.[1] They also carry a high burden of physical illness, compounded by the metabolic, cardiovascular, and neurological effects of some antipsychotics.[2,3]
- NICE recommends antipsychotic treatment, switching where response is inadequate or treatment is poorly tolerated, and moving to clozapine in treatment-resistant disease when symptom control is inadequate despite two prior therapy trials.[4]
- Up-to-date, population-based data on schizophrenia in England are lacking, with most studies relying on older or regionally limited data and little integration across care settings.
- We estimated the annual prevalence and incidence of first recorded primary care diagnosis among adults in England, described the characteristics of these patients, and characterised their antipsychotic treatment pathways. Secondary objectives were to compare healthcare use and mortality with matched comparators.

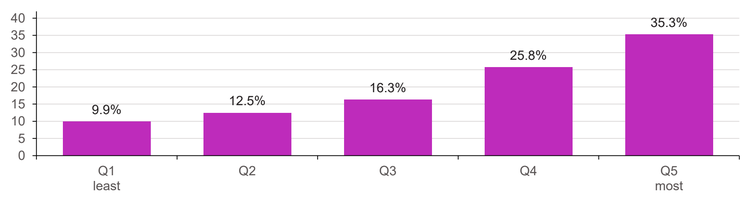
Methods

- Retrospective cohort study in Clinical Practice Research Datalink (CPRD) Aurum linked to Hospital Episode Statistics, ONS death registrations, and Index of Multiple Deprivation 2019 (IMD), from 2010 to 2025 (annual estimates to 2024, as 2025 was partial).
- Newly recorded cases were adults aged 18 and over whose first-ever schizophrenia code, was dated on or after 1 Jan 2010, and who had at least 12 months of prior registration and were eligible for linkage.
- Point prevalence was assessed at 1 July each year (Wilson 95% CIs). Rates of first recorded diagnosis were expressed per 100,000 person-years (log-scale 95% CIs).
- Lines of therapy were derived from antipsychotic prescriptions issued from the index date. Same-drug prescriptions 60 days or less apart were treated as continuous exposure, overlapping exposures as combination therapy, and regimens under 30 days were absorbed into the adjacent period.
- Healthcare use was compared with general population comparators matched 1:1 on age, sex, practice and index year, then by nearest-neighbour propensity score. Mortality was indirectly standardised against ONS England life tables.

Table 1. Characteristics of study cohort

	n	%
All patients	25,387	100.0
Sex		
Male	14,391	56.7
Female	10,996	43.3
Age at index, years		
Median (IQR), years	42 (30–55)	
18–34	8,722	34.4
35–54	10,007	39.4
55 and over	6,658	26.2
Ethnicity		
White	17,854	70.3
Asian	3,112	12.3
Black	2,859	11.3
Other or unknown	1,562	6.2
Treatment and outcome		
Received ≥1 antipsychotic	17,550	69.1
Died during follow-up	3,670	14.5
Median follow-up, years	8.6	

Figure 3. Deprivation distribution



Results

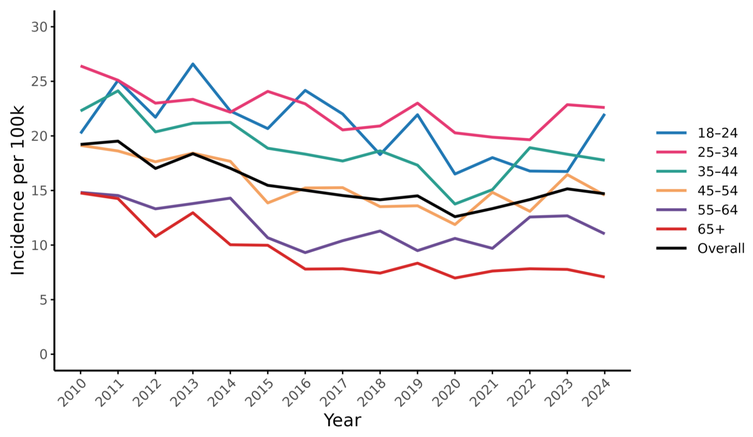
Cohort

- Of 118,595 adults with a recorded schizophrenia code, 25,387 met the newly recorded case definition between 2010 and 2025. Median age at first recorded diagnosis was 42 years (IQR 30 to 55), 56.7% were male, and median follow-up was 8.6 years (Table 1). Over a third (35.3%) lived in the most deprived quintile, compared with 9.9% in the least deprived (Figure 3).

Epidemiology

- Recorded point prevalence rose from 0.29% in 2010 to a plateau of about 0.39% from 2015 to 2021 and was 0.37% in 2024 (Figure 1). Prevalence was approximately 1.6 times higher in men throughout.
- The rate of first recorded diagnosis fell from 19.2 per 100,000 person-years in 2010 to 14.7 in 2024, with a pandemic trough of 12.6 in 2020 (Figure 4). The fall was steepest in older adults (52% at 65 and over). Rates remained highest in younger adults, at 22.6 per 100,000 at ages 25 to 34 and 22.0 at ages 18 to 24 in 2024.

Figure 4. First recorded diagnoses by age band



Treatment

- 17,550 patients (69.1%) received at least one antipsychotic after diagnosis. Second-generation agents accounted for 81.6% of first line therapy, most often olanzapine (Table 2). The four most common first-line agents also accounted for 67.0% of second-line therapy (olanzapine 20.8%, aripiprazole 20.9%, risperidone 13.8%, quetiapine 11.5%).
- Of the treated patients, 56.3% received a second line of therapy and 35.7% a third. Once patients had started a second line therapy, around two thirds went on to a further line at each subsequent step in the pathway. Combination therapy rose from 4.1% at first line to 10 to 12% at later lines (Figure 2).

Table 2. First-line antipsychotic agents

	n	%
Olanzapine	4,746	27.0
Aripiprazole	3,120	17.8
Risperidone	2,857	16.3
Quetiapine	2,325	13.2
All other agents	4,502	25.7

Burden of illness

- Patients used roughly twice the outpatient and emergency care of matched comparators, and 1.4 to 1.6 times the GP consultations and inpatient admissions (Table 3).
- Mortality was 2.49 times that expected for England (95% CI 2.41 to 2.58), rising to 8.8 times (5.96 to 12.44) at ages 18 to 24, where deaths are few (n=31) (Table 3).
- Mortality rose with deprivation, from 1.81 (1.63 to 2.00) in the least deprived quintile to 3.10 (2.92 to 3.28) in the most, partly reflecting the general social gradient in mortality (Table 3).

Table 3. Healthcare use and mortality

	Ratio	95% CI
Healthcare use vs matched CPRD comparators (Rate Ratios)		
GP consultations	1.38	1.37, 1.39
Outpatient visits	2.05	2.04, 2.06
A&E attendances	2.14	2.11, 2.18
Inpatient admissions	1.61	1.59, 1.63
Mortality vs England general population (Standardised Mortality Ratio)		
All ages	2.49	2.41, 2.58
Ages 18–24	8.77	5.96, 12.44
Most deprived quintile	3.10	2.92, 3.28

Healthcare use: Mantel–Haenszel rate ratios, cases versus 1:1 propensity-matched comparators, individual patients without schizophrenia drawn from CPRD Aurum. Rate ratio intervals do not account for within-patient clustering of contacts and are likely narrower than the true uncertainty. Mortality: standardised mortality ratios, indirectly standardised to ONS England life tables. Deprivation-stratified SMRs use national average reference rates and so include the general social gradient in mortality.

Discussion

- Recorded prevalence of schizophrenia of 0.37 to 0.39% since 2015 is consistent with national estimates (0.38% in 2023), which derive from the same primary care data source. The concentration of cases in deprived areas is also consistent with national data.[5]
- Rates of first recorded diagnosis capture the first schizophrenia code in the GP record. As diagnosis is usually made in specialist care, these estimates reflect primary care ascertainment rather than disease onset. The rise in prevalence to 2015 and the fall in first recorded diagnoses likely reflect improving capture of earlier specialist diagnoses, depleting a pool of previously unrecorded cases that inflated early rates. This is consistent with the steepest fall at ages 65 and over, while younger adults retained the highest rates.
- Over half of treated patients started a second line of therapy, and around two thirds progressed to a further line of therapy at each subsequent line. Reasons for switching are not recorded, so this may reflect inadequate response, intolerance or treatment optimisation. In a sensitivity analysis treating returns to a previously used regimen as continuations rather than new lines, 36.4% started a second line and 19.3% a third, although the same four antipsychotics remained the most frequently prescribed agents at every line. Specialist-initiated prescribing is not captured, so switching, injectable and clozapine use may be understated.

Conclusions

- Recorded prevalence of schizophrenia in England has been stable at 0.37 to 0.39% since 2015, and rates of first recorded diagnosis remain highest in younger adults.
- Over half of treated patients start a second line of antipsychotic therapy and around two thirds of those go on to a further line, with combination use higher at later lines.
- Patients use about twice the outpatient and emergency care of matched comparators and die at 2.5 times the expected rate.
- Stable prevalence, repeated treatment change and excess mortality suggest continuing unmet need, and these estimates can inform service planning and health technology assessment in England.

References

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Acknowledgments and disclosures

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