

Antipsychotic prescribing trends in schizophrenia between 2011 and 2021: real-world data from a US electronic health record database

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BACKGROUND

- Schizophrenia is a severe and chronic psychiatric illness which is primarily treated with antipsychotic medication.
- Several antipsychotics are available, although the efficacy and tolerability of these compounds varied between individuals.^{1,2}
- International clinical guidelines do not specify treatment regimes and encourage tailored treatment on a patient-by-patient basis.³
- Electronic health records (EHRs) contain routinely collected information on medication prescriptions and therefore represent treatment regimes and clinical decision making in real-world schizophrenia populations.

AIMS

- This study describes antipsychotic prescribing trends over a 10-year period for patients with schizophrenia treated across US mental healthcare providers.

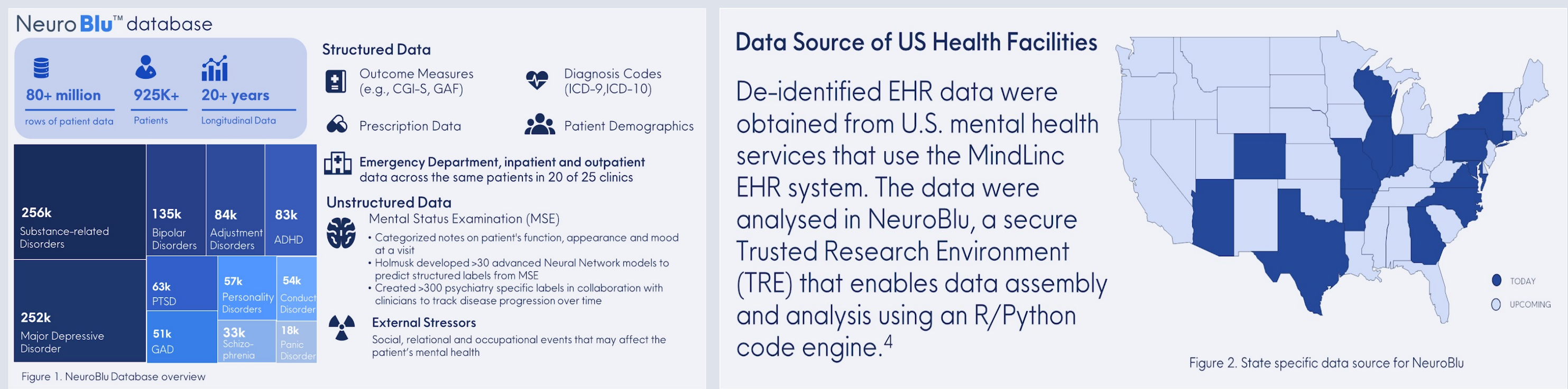


Table 1. Frequency of antipsychotic prescriptions between 2011 and 2021.

Antipsychotic	N	%
Risperidone	1182	27.9
Olanzapine	13	14.5
Haloperidol	547	12.9
Quetiapine	547	12.9
Aripiprazole	471	11.1
Other	319	7.5
Clozapine	165	3.9
Paliperidone	145	3.4
Lurasidone	138	3.3
Fluphenazine	103	2.4

Data reflects 4,229 antipsychotic prescriptions across 3,642 patients.
Other = ziprasidone, trifluoperazine, thiothixene, thioridazine, prochlorperazine, perphenazine, loxapine, iloperidone, chlorpromazine, cariprazine, brexpiprazole, asenapine.

METHODS

- De-identified data were extracted from EHR systems across 26 US mental healthcare providers over a period of 10 years (2011 – 2021).
- NeuroBlu⁴ (Figures 1 and 2) was used to assemble a cohort of adults with schizophrenia (ICD-9: 295*; ICD-10: F20*) treated across inpatient and outpatient settings.
- Inclusion in the cohort required patients to have at least one short-acting antipsychotic prescribed for a minimum duration of 14 days .
- Patient-level data on the antipsychotic prescribed at first recorded diagnosis of schizophrenia (+/- 14 days) was extracted.
- The frequency of antipsychotic prescriptions was recorded.
- A bump chart was used to illustrate changes in hierarchy of antipsychotic prescribing patterns over the 10-year period.

RESULTS

- Short-acting antipsychotic prescription data were available for 3,642 patients (Table 1) (mean age = 38.3 years ± 14.4; 65% male).
- Across time, the top five antipsychotics prescribed were risperidone (27.9%), olanzapine (14.5%), haloperidol (12.9%), quetiapine (12.9%), and aripiprazole (11.1%).
- Risperidone has consistently been the most frequently prescribed antipsychotic at first clinical contact recorded in the EHR system between 2011 and 2021.
- Haloperidol was the second most frequently prescribed antipsychotic between 2012 and 2014.
- The frequency of haloperidol prescriptions was exceeded by quetiapine, olanzapine and aripiprazole in the years that followed. The relative frequency of paliperidone prescription has increased over time (rank 8th in 2011 to rank 4th in 2020).
- Paliperidone, fluphenazine, clozapine and lurasidone were also amongst the most frequently prescribed antipsychotics, although the frequency of prescription was much lower for these medications (2.4–3.9%).
- The presence of clozapine prescriptions, which are not recommended as a first-line treatment, may reflect the first presentation of patients with treatment resistant schizophrenia who may have received other antipsychotic treatments in other clinical settings.

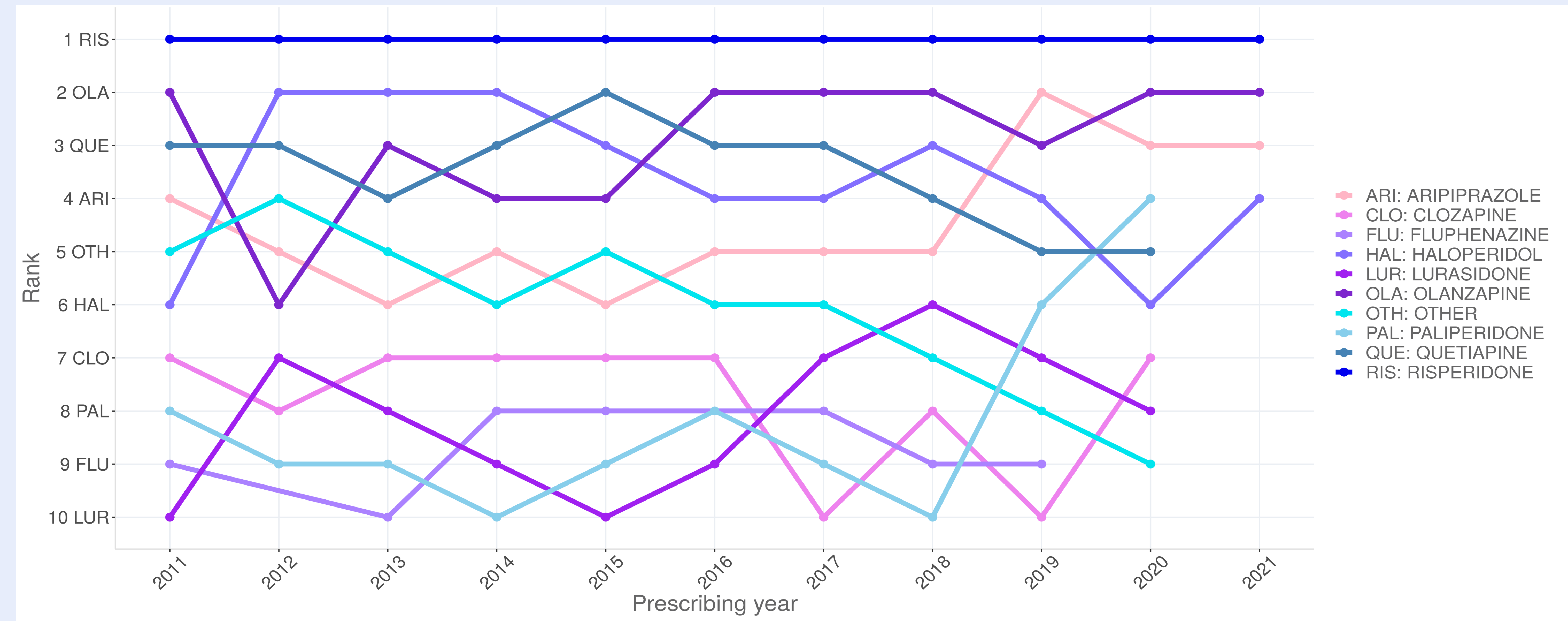


Figure 3. Bump chart illustrating changes in hierarchy of antipsychotic prescribing patterns from 2011 – 2021.

CONCLUSION

- In line with clinical guidelines, second-generation antipsychotics are commonly prescribed for patients with schizophrenia treated across US mental healthcare providers. However, haloperidol prescriptions were also high despite its association with an increased risk of extrapyramidal side effects.
- A limitation is that this prescription data does not represent first-line prescribed antipsychotics at the individual patient level, as patients may have previously been treated elsewhere.
- Overall, real-world data can generate insights into the degree to which clinical prescribing practices reflect clinical guidelines.

Conflicts of Interest: All authors report personal fees from Holmusk Technologies, Inc. RP reports equity ownership in Holmusk Technologies, Inc.

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