

### S3. The measurement of covariates (Drug-related)

Covariates	Measurement
Number of AEDs	The number of unique AEDs used during baseline
AED medication possession ratio (MPR)	MPR was defined as the percentage of days in the 120-day period before index date covered by any antiepileptic drugs. We used a 120-day period instead of a 180-day period to measure MPR because some time was needed to capture prescriptions filled before the measurement period to calculate MPR accurately.
AEDs	At least one prescription of a specific AED during baseline, measured by NDC codes. The AEDs include: carbamazepine, clonazepam, diazepam, valproic acid, ethosuximide, gabapentin, lamotrigine, levetiracetam, lorazepam, oxcarbazepine, phenobarbital, phenytoin, topiramate, and zonisamide
SSRIs	At least one prescription of an SSRI filled during baseline
non-SSRIs antidepressants	At least one prescription of a non-SSRI antidepressant filled during baseline
Atypical antipsychotics (AAPs)	At least one prescription of an atypical antipsychotic filled during baseline
Non-AAP antipsychotics	At least one prescription of a non-AAP antipsychotic filled during baseline
Amoxicillin	At least one prescription of amoxicillin filled during baseline
Ciprofloxacin	At least one prescription of ciprofloxacin filled during baseline
Desmopressin	At least one prescription of desmopressin filled during baseline
Ofloxacin	At least one prescription of ofloxacin filled during baseline