

SUPPLEMENTARY INFORMATION

Trends in antiepileptic drug treatment and effectiveness in clinical practice in England from 2003 to 2016: a retrospective cohort study using electronic medical records

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Supplemental Tables

Supplementary Table S1 Diagnostic codes for epilepsy

CODES	TERM	EPILEPSY TYPE
International Classification of Diseases, Tenth Revision (ICD-10)		
G40	Epilepsy	Unspecified
G40.0	Localisation-related (focal)(partial) idiopathic epilepsy and epileptic syndromes with seizures of localised onset	Partial
G40.1	Localisation-related (focal)(partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures	Partial
G40.2	Localisation-related (focal)(partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures	Partial
G40.3	Generalised idiopathic epilepsy and epileptic syndromes	Generalised
G40.4	Other generalised epilepsy and epileptic syndromes	Generalised
G40.5	Special epileptic syndromes	Unspecified
G40.6	Grand mal seizures, unspecified (with or without petit mal)	Generalised
G40.7	Petit mal, unspecified, without grand mal seizures	Unspecified
G40.8	Other epilepsy	Unspecified
G40.9	Epilepsy, unspecified	Unspecified
READ codes		
1O30.00	Epilepsy confirmed	unspecified
667B.00	Nocturnal epilepsy	unspecified
Eu80300	[X]Acquired aphasia with epilepsy [Landau - Kleffner]	mixed
Eu84200	[X]Rett's syndrome	generalised
F035200	Rasmussen syndrome	partial
F130600	Aicardi Goutieres syndrome	mixed
F132100	Progressive myoclonic epilepsy	generalised
F132111	Unverricht - Lundborg disease	generalised
F25..00	Epilepsy	unspecified
F250.00	Generalised nonconvulsive epilepsy	generalised
F250000	Petit mal (minor) epilepsy	unspecified
F250100	Pykno-epilepsy	generalised
F250400	Juvenile absence epilepsy	generalised
F250500	Lennox-Gastaut syndrome	generalised
F250y00	Other specified generalised nonconvulsive epilepsy	generalised
F250z00	Generalised nonconvulsive epilepsy NOS	generalised
F251.00	Generalised convulsive epilepsy	generalised
F251000	Grand mal (major) epilepsy	generalised
F251011	Tonic-clonic epilepsy	generalised

CODES	TERM	EPILEPSY TYPE
F251100	Neonatal myoclonic epilepsy	generalised
F251111	Otohara syndrome	mixed
F251500	Tonic-clonic epilepsy	generalised
F251y00	Other specified generalised convulsive epilepsy	generalised
F251z00	Generalised convulsive epilepsy NOS	generalised
F254.00	Partial epilepsy with impairment of consciousness	partial
F254000	Temporal lobe epilepsy	partial
F254100	Psychomotor epilepsy	partial
F254200	Psychosensory epilepsy	unspecified
F254300	Limbic system epilepsy	partial
F254z00	Partial epilepsy with impairment of consciousness NOS	partial
F255.00	Partial epilepsy without impairment of consciousness	partial
F255000	Jacksonian, focal or motor epilepsy	partial
F255011	Focal epilepsy	partial
F255012	Motor epilepsy	partial
F255100	Sensory induced epilepsy	unspecified
F255200	Somatosensory epilepsy	partial
F255300	Visceral reflex epilepsy	unspecified
F255311	Partial epilepsy with autonomic symptoms	partial
F255400	Visual reflex epilepsy	unspecified
F255500	Unilateral epilepsy	partial
F255y00	Partial epilepsy without impairment of consciousness OS	partial
F255z00	Partial epilepsy without impairment of consciousness NOS	partial
F256.00	Infantile spasms	generalised
F256.11	Lightning spasms	generalised
F256.12	West syndrome	generalised
F256100	Salaam attacks	generalised
F256z00	Infantile spasms NOS	generalised
F259.00	Early infant epileptic encephalopathy with suppression bursts	mixed
F259.11	Ohtahara syndrome	mixed
F25A.00	Juvenile myoclonic epilepsy	generalised
F25B.00	Alcohol-induced epilepsy	unspecified
F25C.00	Drug-induced epilepsy	unspecified
F25D.00	Menstrual epilepsy	unspecified
F25E.00	Stress-induced epilepsy	unspecified
F25F.00	Photosensitive epilepsy	mixed
F25G.00	Severe myoclonic epilepsy in infancy	generalised
F25G.11	Dravet syndrome	generalised

CODES	TERM	EPILEPSY TYPE
F25y.00	Other forms of epilepsy	unspecified
F25y000	Cursive (running) epilepsy	partial
F25y100	Gelastic epilepsy	partial
F25y200	Locl-rlt(foc)(part)idiop epilep&epilptic syn seiz locl onset	partial
F25y400	Benign Rolandic epilepsy	partial
F25y500	Panayiotopoulos syndrome	partial
F25yz00	Other forms of epilepsy NOS	unspecified
F25z.00	Epilepsy NOS	unspecified
Fyu5000	[X]Other generalised epilepsy and epileptic syndromes	generalised
Fyu5100	[X]Other epilepsy	unspecified
P228300	Aicardi syndrome	mixed
PK61.00	Sturge-Weber syndrome	partial
PKyz511	Angelman syndrome	generalised
PKyz700	Angelman's syndrome	generalised
PKyz711	Angelman syndrome	generalised
SC20000	Traumatic epilepsy	partial
ZS82.11	Landau-Kleffner syndrome	mixed

Supplementary Table S2 READ codes used to capture the primary outcome

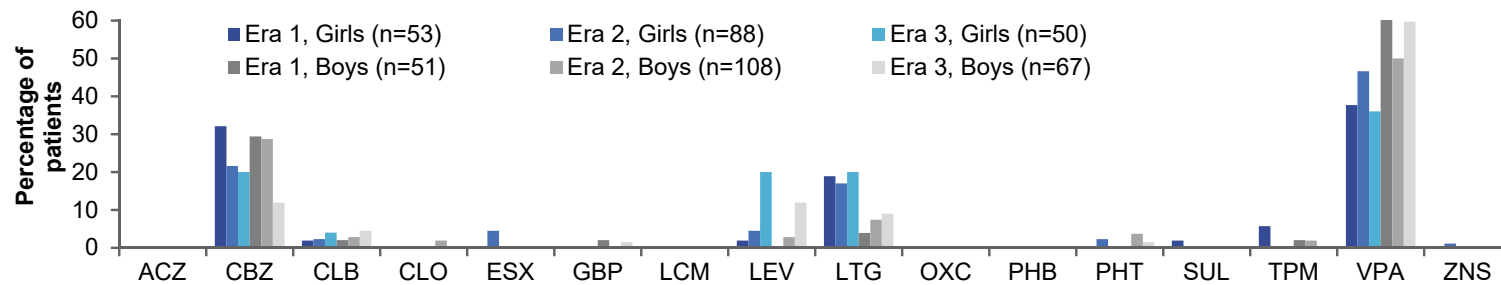
CODE	TERM
Active epilepsy and seizures	
1B1W.00	Transient epileptic amnesia
1B27.00	Seizures in response to acute event
1B64.00	Had a convulsion
1B64.11	Convulsion - symptom
1B6B.00	Febrile convulsion
282..00	O/E - fit/convulsion
282..11	O/E - a convulsion
282..13	O/E - a seizure
2827	O/E - febrile convulsion
2828	Absence seizure
282Z.00	O/E - fit/convulsion NOS
667D.00	Epilepsy control poor
667Q.00	1 to 12 seizures a year
667R.00	2 to 4 seizures a month
667S.00	1 to 7 seizures a week
667T.00	Daily seizures
667V.00	Many seizures a day
667W.00	Emergency epilepsy treatment since last appointment
F132z12	Myoclonic seizure
F250011	Epileptic absences
F250200	Epileptic seizures - atonic
F250300	Epileptic seizures - akinetic
F251200	Epileptic seizures - clonic
F251300	Epileptic seizures - myoclonic
F251400	Epileptic seizures - tonic
F251600	Grand mal seizure
F253.11	Status epilepticus
F254400	Epileptic automatism
F254500	Complex partial epileptic seizure
F255600	Simple partial epileptic seizure
F25H.00	Generalised seizure
F25X.00	Status epilepticus, unspecified
F25y300	Complex partial status epilepticus
F25z.11	Fit (in known epileptic) NOS
Fyu5200	[X]Other status epilepticus
Fyu5900	[X]Status epilepticus, unspecified

CODE	TERM
Q480.00	Convulsions in newborn
Q480.12	Seizures in newborn
R003.00	[D]Convulsions
R003000	[D]Convulsions, febrile
R003011	[D]Pyrexial convulsion
R003100	[D]Convulsions, infantile
R003400	[D]Nocturnal seizure
R003y00	[D]Other specified convulsion
R003z00	[D]Convulsion NOS
R003z11	[D]Seizure NOS
Ryu7100	[X]Other and unspecified convulsions
1B63.00	Had a fit
1B63.11	Fit - had one, symptom
282..12	O/E - a fit
2822	O/E - grand mal fit
2823	O/E - petit mal fit
2824	O/E - focal (Jacksonian) fit
2824.11	O/E - Jacksonian fit
2824.12	O/E - focal fit
2825	O/E - psychomotor fit
Q480.11	Fits in newborn
R003200	[D]Fit
F252.00	Petit mal status
F253.00	Grand mal status
F256.00	Infantile spasms
F256.11	Lightning spasms
F256z00	Infantile spasms NOS
F256100	Salaam attacks

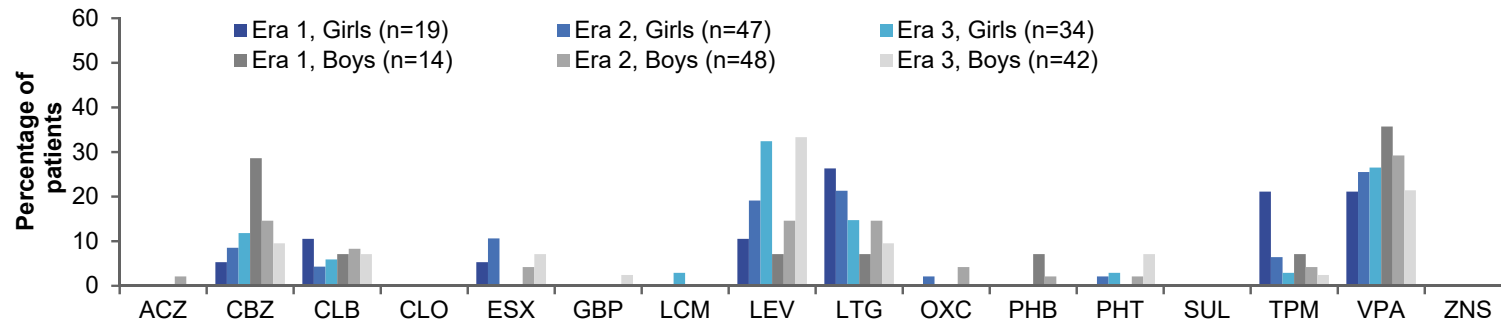
Supplementary Figures

Supplementary Figure S1 AED trends in boys and girls (<16 years of age) in A) first-line and B) second-line treatment.

A)

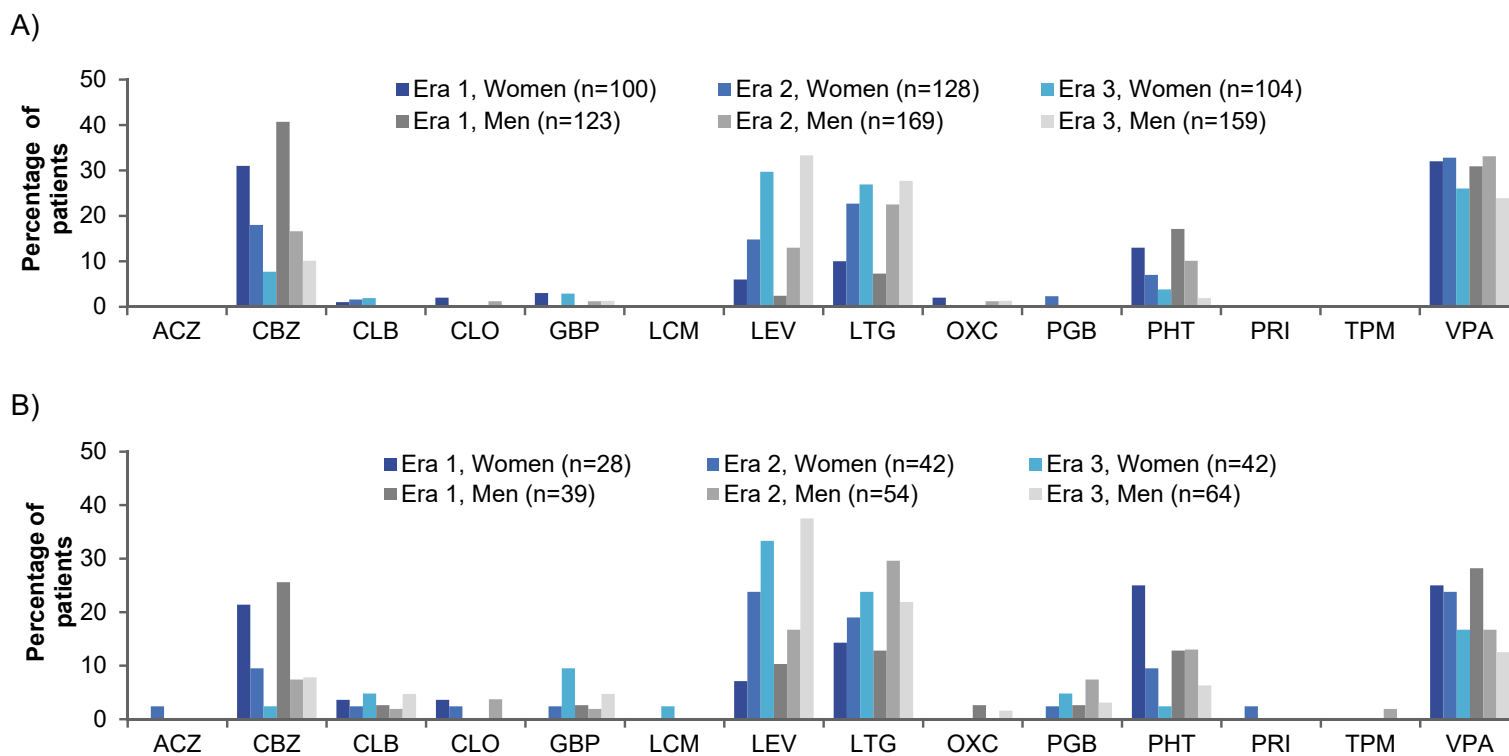


B)



ACZ, acetazolamide; CBZ, carbamazepine; CLB, clobazam; CLO, clonazepam; GBP, gabapentin; LCM, lacosamide; LEV, levetiracetam; LTG, lamotrigine; OXC, oxcarbazepine; PGB, pregabalin; PHT, phenytoin; PRI, primidone; TPM, topiramate; VPA, valproate.

Supplementary Figure S2 AED trends in elderly men and women (≥ 65 years of age) in A) first-line and B) second-line treatment.



ACZ, acetazolamide; CBZ, carbamazepine; CLB, clobazam; CLO, clonazepam; GBP, gabapentin; LCM, lacosamide; LEV, levetiracetam; LTG, lamotrigine; OXC, oxcarbazepine; PGB, pregabalin; PHT, phenytoin; PRI, primidone; TPM, topiramate; VPA, valproate.