

Supplemental Online Content

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This supplemental material has been provided by the authors to give readers additional information about their work.

eMethod. Additional methods and results for the sibling analyses

Children with at least one sibling, as identified through linkage with the record of the pregnant individual, were included in the sibling cohort. Hazard ratios adjusted for shared confounding were estimated using Cox proportional hazard models stratified on identifier. Sibling cohorts from the publicly and privately insured cohorts were pooled prior to analysis for model convergence. Siblings with discordance on exposure status and outcome timing contribute information to the stratified Cox model (eTable 21). Adjusted HR are presented in Figure 2 in the main text and in eTable 21, along with unadjusted HR. Adjusted HR were estimated by including all covariates included in the propensity score models except race/ethnicity, state, and county-level SES variables, and additionally adjusted for sibling birth order.

To ensure that the subgroup of children with siblings was representative of the full population, the main analysis was repeated in the sibling cohort by estimating HRs without stratifying by identifier and using propensity score fine stratification weights to control for confounding (eTable 22).

To assess carry-over effects from the exposure of the first pregnancy to the outcome of the second pregnancy, we stratified by exposure status of the first sibling in a cohort of families with only two siblings (1,2). The crude HR was estimated among all two sibling families for comparison to the full sibling population result to ensure this subset is generalizable to the main sibling results. Crude hazard ratios were estimated for families where the first sibling was exposed to antidepressants in utero and in families where the first sibling was unexposed to antidepressants in utero (eTable 17). We do not present adjusted HRs because the reduced size of the stratified cohorts resulted in convergence issues when additional covariates were added to the model. If a carry-over effect was present, the crude HR would be higher among families with the first sibling unexposed than families with the first sibling exposed because families with the first sibling unexposed are not subject to a carry-over effect of antidepressant exposure (2). Results of the sibling analysis stratified by sibling exposure timing are not suggestive of carry-over effects. Crude HRs are similar or higher in the families with the first sibling exposed to antidepressants than in families with the first sibling unexposed for nearly all the NDD outcomes.

eTable 1. Outcome definitions for neurodevelopmental disorders

Outcome	Algorithm^{1,2}
Autism Spectrum Disorder/Pervasive Developmental Disorder	At ≥ 1 year of age: ≥ 2 dates with ICD-9 Dx 299.xx (except 299.1x)
Attention Deficit Hyperactivity Disorder/ Hyperkinetic Syndrome of Childhood	At ≥ 2 years of age, any of the following: ≥ 2 dates with ICD-9 Dx 314.xx ≥ 2 dispensings of atomoxetine, clonidine, guanfacine, (dextro/lisdex)amphetamine, (dex)methylphenidate ≥ 1 Dx 314.xx & ≥ 1 dispensing
Specific learning disorders	At ≥ 2 years of age: ≥ 1 ICD-9 Dx 315.0x, 315.1, 315.2
Developmental Speech or Language Disorder	At ≥ 1.5 years of age: ≥ 2 dates with ICD-9 Dx 315.3x (except 315.34)
Intellectual disability	At ≥ 2 years of age: ≥ 2 dates with ICD-9 Dx 317, 318.x, 319
Developmental Coordination Disorder	≥ 2 dates with ICD-9 Dx 315.4 (any age)
Behavioral Disorder	At ≥ 2 years of age: ≥ 2 dates with ICD-9 Dx 312.xx, 313.xx
Any Specific Neurodevelopmental Disorder	Presence of any of the outcomes above
Abbreviations: Dx, diagnosis; ICD, International Classification of Disease.	

¹Straub L, Bateman BT, Hernandez-Diaz S, et al. Validity of claims-based algorithms to identify neurodevelopmental disorders in children. *Pharmacoepidemiol Drug Saf*. Epub ahead of print. doi:10.1002/pds.5369

²For outcomes requiring more than one diagnosis date, the first date of diagnosis that occurred after the minimum age was met was used as the outcome date.

eTable 2. Full list of covariates included in propensity score models and assessment periods

Category	Variables	Assessment window
Demographics	Age, race/ethnicity (MAX only), state, and delivery year	At delivery
Antidepressant indications	Depression (psychotic), depression (nonpsychotic), depression (other), anxiety, ADHD, other developmental disorders, other mental health disorders, bipolar disorder, schizophrenia/schizoaffective disorder, behavioral disorder, personality disorder, adjustment disorder, psychosis, sleep disorder, epilepsy/convulsion, migraine/headache, chronic fatigue	90 days prior to LMP through the day prior to delivery
Proxies for severity of mental health conditions	Number of psychiatric visits, number of mental health diagnoses, number of mental health hospitalizations, number of mental health emergency room visits, number of hospitalizations, number of other psychotropic (not antidepressants) medications	90 days prior to delivery through 126 days of gestation
Lifestyle factors	Smoking, alcohol abuse, substance abuse, poor nutrition, hyperemesis/nausea and vomiting in pregnancy	90 days prior to LMP through the day prior to delivery
Other psychotropic medication use	Benzodiazepines, other hypnotics, barbiturates, anxiolytics, anticonvulsants, antipsychotics, psychostimulants	90 days prior to LMP through the day prior to delivery
Comorbidities	Overweight/obesity, Obstetric comorbidity index, pregestational diabetes, pregestational hypertension, renal disease, autoimmune disorder, asthma, TORCH infection, influenza infection, other sexually transmitted infections, GBS infection	90 days prior to LMP through the day prior to delivery
Other medications	Antidiabetics, insulin, antihypertensives, opioids, opioid use disorder treatment, triptans, NSAIDs, corticosteroids, progestins, prenatal folate, suspected teratogens, known teratogens Suspected teratogens includes: fluconazole, methimazole, danazol, propylthiouracil, aminoglycosides, folic acid, antagonists trimethoprim, triamterene, sulfasalazine, spasmophen, cholestyramine, potassium iodide, tetracycline Known teratogens includes: warfarin, actinomycin, busulfan, chlorambucil, colchicine, cyclophosphamide, doxorubicin, mercaptopurine, methotrexate, vinblastine, vincristine, lithium, isotretinoin, misoprostol, thalidomide	90 days prior to LMP through the day prior to delivery
Prenatal variables	Adequacy of prenatal care index, month of prenatal care start, prenatal vitamin use, multiple gestation pregnancy, parity (MAX only)	90 days prior to LMP through the day prior to delivery
County-level socioeconomic level indicators (MAX only)	Metropolitan area (metro, non-metro, rural), unemployment level, poverty level, high school education level Note: These measures were defined using zip code, which was missing for <1% of the cohort. Therefore, a complete case analysis was completed for adjusted analyses.	Based on zip code at LMP

eTable 3. Hazard ratios and 95% confidence intervals for antidepressant use in late pregnancy and neurodevelopmental disorders for the main analysis and sensitivity analyses, by data source

Analysis	MAX			MarketScan			Pooled		
	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)
ASD									
Crude	790/ 93,069	8,293/ 1,833,927	1.88 (1.75, 2.03)	245/ 52,633	3,349/ 1,198,818	1.58 (1.39, 1.80)	1,035/ 145,702	11,642/ 3,032,745	1.81 (1.69, 1.92)
Adjusted	765/ 91,412	8,095/ 1,802,442	1.06 (0.95, 1.19)	244/ 52,585	3,348/ 1,198,385	1.06 (0.88, 1.27)	1,009/ 143,997	11,443/ 3,000,827	1.06 (0.96, 1.17)
HDPS ²	764/ 91,400	6,444/ 1,442,312	1.07 (0.95, 1.21)	244/ 52,571	3,346/ 1,198,210	1.06 (0.89, 1.26)	1,008/ 143,971	9,790/ 2,640,522	1.07 (0.97, 1.18)
Discontinuer referent	766/ 91,422	273/ 39,613	1.13 (0.96, 1.33)	244/ 52,564	76/ 17,258	0.94 (0.71, 1.25)	1,010/ 143,986	349/ 56,871	1.08 (0.94, 1.24)
≥2 fills of ADs	466/ 51,919	8,092/ 1,800,476	1.05 (0.91, 1.21)	188/ 37,079	3,348/ 1,198,306	1.14 (0.93, 1.39)	654/ 88,998	11,440/ 2,998,782	1.08 (0.96, 1.21)
ADHD									
Crude	4,488/ 93,069	47,996/ 1,833,927	2.01 (1.95, 2.07)	681/ 52,633	6,964/ 1,198,818	2.08 (1.92, 2.25)	5,169/ 145,702	54,960/ 3,032,745	2.02 (1.96, 2.08)
Adjusted	4,267/ 91,412	45,483/ 1,802,442	1.15 (1.10, 1.21)	679/ 52,585	6,952/ 1,198,385	1.46 (1.32, 1.62)	4,946/ 143,997	52,435/ 3,000,827	1.20 (1.15, 1.25)
HDPS ²	4,266/ 91,400	36,354/ 1,442,312	1.14 (1.08, 1.20)	679/ 52,571	6,952/ 1,198,210	1.42 (1.28, 1.57)	4,945/ 143,971	43,306/ 2,640,522	1.19 (1.13, 1.24)
Discontinuer referent	4,268/ 91,422	1,571/ 39,613	1.05 (0.98, 1.13)	677/ 52,564	195/ 17,258	1.03 (0.87, 1.23)	4,945/ 143,986	1,766/ 56,871	1.05 (0.98, 1.12)
≥2 fills of ADs	2,404/ 51,919	45,470/ 1,800,476	1.11 (1.04, 1.17)	492/ 37,079	6,951/ 1,198,306	1.46 (1.30, 1.64)	2,896/ 88,998	52,421/ 2,998,782	1.17 (1.11, 1.23)
Specific learning disorders									
Crude	325/ 93,069	4,932/ 1,833,927	1.33 (1.18, 1.49)	52/ 52,633	823/ 1,198,818	1.30 (0.98, 1.72)	377/ 145,702	5,755/ 3,032,745	1.32 (1.19, 1.47)
Adjusted	320/ 91,412	4,803/ 1,802,442	1.02 (0.87, 1.20)	52/ 52,585	822/ 1,198,385	0.95 (0.67, 1.35)	372/ 143,997	5,625/ 3,000,827	1.01 (0.87, 1.17)
HDPS ²	320/ 91,400	3,856/ 1,442,312	1.01 (0.85, 1.20)	52/ 52,571	822/ 1,198,210	1.00 (0.71, 1.40)	372/ 143,971	4,678/ 2,640,522	1.01 (0.86, 1.17)
Discontinuer referent	320/ 91,422	147/ 39,613	0.80 (0.64, 1.00)	52/ 52,564	15/ 17,258	0.97 (0.51, 1.82)	372/ 143,986	162/ 56,871	0.82 (0.66, 1.01)
≥2 fills of ADs	173/ 51,919	4,801/ 1,800,476	0.93 (0.75, 1.14)	38/ 37,079	822/ 1,198,306	0.96 (0.65, 1.42)	211/ 88,998	5,623/ 2,998,782	0.94 (0.78, 1.13)
Developmental speech/language disorders									
Crude	4,058/ 93,069	49,765/ 1,833,927	1.63 (1.58, 1.68)	1,223/ 52,633	18,101/ 1,198,818	1.50 (1.42, 1.59)	5,281/ 145,702	67,866/ 3,032,745	1.60 (1.55, 1.65)

Adjusted	3,954/ 91,412	48,659/ 1,802,442	1.10 (1.04, 1.15)	1,220/ 52,585	18,090/ 1,198,385	1.19 (1.10, 1.29)	5,174/ 143,997	66,749/ 3,000,827	1.12 (1.07, 1.17)
HDPS ²	3,956/ 91,400	38,933/ 1,442,312	1.10 (1.04, 1.15)	1,221/ 52,571	18,083/ 1,198,210	1.18 (1.09, 1.28)	5,177/ 143,971	57,016/ 2,640,522	1.12 (1.07, 1.17)
Discontinuer referent	3,958/ 91,422	1,378/ 39,613	1.10 (1.02, 1.19)	1,220/ 52,564	307/ 17,258	1.25 (1.08, 1.44)	5,178/ 143,986	1,685/ 56,871	1.13 (1.06, 1.21)
≥2 fills of ADs	2,401/ 51,919	48,658/ 1,800,476	1.14 (1.07, 1.21)	870/ 37,079	18,090/ 1,198,306	1.19 (1.09, 1.30)	3,271/ 88,998	66,748/ 2,998,782	1.15 (1.10, 1.21)
Developmental coordination disorders									
Crude	501/ 93,069	7,396/ 1,833,927	1.34 (1.22, 1.46)	265/ 52,633	3,169/ 1,198,818	1.86 (1.64, 2.11)	766/ 145,702	10,565/ 3,032,745	1.50 (1.39, 1.61)
Adjusted	486/ 91,412	7,305/ 1,802,442	1.06 (0.94, 1.20)	265/ 52,585	3,164/ 1,198,385	1.37 (1.15, 1.63)	751/ 143,997	10,469/ 3,000,827	1.15 (1.04, 1.27)
HDPS ²	486/ 91,400	5,846/ 1,442,312	1.06 (0.93, 1.20)	265/ 52,571	3,162/ 1,198,210	1.37 (1.14, 1.65)	751/ 143,971	9,008/ 2,640,522	1.15 (1.03, 1.28)
Discontinuer referent	486/ 91,422	163/ 39,613	1.05 (0.85, 1.31)	265/ 52,564	53/ 17,258	1.84 (1.34, 2.53)	751/ 143,986	216/ 56,871	1.26 (1.05, 1.51)
≥2 fills of ADs	320/ 51,919	7,305/ 1,800,476	1.16 (1.01, 1.34)	192/ 37,079	3,164/ 1,198,306	1.38 (1.13, 1.68)	512/ 88,998	10,469/ 2,998,782	1.23 (1.10, 1.38)
Intellectual disability									
Crude	209 / 93,069	2,930/ 1,833,927	1.42 (1.23, 1.63)	1/ 52,633	81/ 1,198,818	0.26 (0.04, 1.85)	210/ 145,702	3,011/ 3,032,745	1.41 (1.22, 1.62)
Adjusted	207/ 91,412	2,875/ 1,802,442	0.97 (0.79, 1.19)	1/ 52,585	81/ 1,198,385	0.09 (0.01, 0.93)	208/ 143,997	2,956/ 3,000,827	0.95 (0.78, 1.16)
HDPS ²	207/ 91,400	2,290/ 1,442,312	1.04 (0.85, 1.27)	1/ 52,571	81/ 1,198,210	0.18 (0.02, 1.41)	208/ 143,971	2,371/ 2,640,522	1.02 (0.84, 1.25)
Discontinuer referent	207/ 91,422	90/ 39,613	0.99 (0.74, 1.33)	1/ 52,564	3/ 17,258	0.08 (0.01, 0.81)	208/ 143,986	93/ 56,871	0.95 (0.71, 1.28)
≥2 fills of ADs	120/ 51,919	2,878/ 1,800,476	0.93 (0.72, 1.19)	0/ 37,079	81/ 1,198,306	-	120/ 51,919	2,878/ 1,800,476	0.93 (0.72, 1.19) ¹
Behavioral disorder									
Crude	3,106/ 93,069	33,022/ 1,833,927	1.95 (1.87, 2.02)	259/ 52,633	2,500/ 1,198,818	2.19 (1.92, 2.49)	3,365/ 145,702	35,522/ 3,032,745	1.96 (1.89, 2.04)
Adjusted	2,992/ 91,412	31,707/ 1,802,442	1.13 (1.07, 1.19)	259/ 52,585	2,498/ 1,198,385	1.34 (1.12, 1.62)	3,251/ 143,997	34,205/ 3,000,827	1.14 (1.08, 1.21)
HDPS ²	2,991/ 91,400	25,384/ 1,442,312	1.13 (1.06, 1.20)	259/ 52,571	2,497/ 1,198,210	1.28 (1.05, 1.55)	3,250/ 143,971	27,881/ 2,640,522	1.14 (1.08, 1.21)
Discontinuer referent	2,994/ 91,422	1,094/ 39,613	1.07 (0.98, 1.17)	257/ 52,564	55/ 17,258	1.41 (1.02, 1.95)	3,251/ 143,986	1,149/ 56,871	1.09 (1.00, 1.18)
≥2 fills of ADs	1,712/ 51,919	31,692/ 1,800,476	1.11 (1.03, 1.19)	190/ 37,079	2,498/ 1,198,306	1.37 (1.11, 1.69)	1,902/ 88,998	34,190/ 2,998,782	1.13 (1.06, 1.21)
Any NDD									
Crude	9,144/ 93,069	110,036/ 1,833,927	1.77 (1.74, 1.81)	2,171/ 52,633	28,668/ 1,198,818	1.68 (1.61, 1.76)	11,315/ 145,702	138,704/ 3,032,745	1.76 (1.72, 1.79)

Adjusted	8,813/ 91,412	106,230/ 1,802,442	1.12 (1.08, 1.15)	2,166/ 52,585	28,641/ 1,198,385	1.27 (1.20, 1.35)	10,979/ 143,997	134,871/ 3,000,827	1.15 (1.12, 1.18)
HDPS ²	8,812/ 91,400	84,915/ 1,442,312	1.12 (1.08, 1.16)	2,167/ 52,571	28,632/ 1,198,210	1.26 (1.18, 1.34)	10,979/ 143,971	113,547/ 2,640,522	1.15 (1.12, 1.19)
Discontinuer referent	8,817/ 91,422	3,214/ 39,613	1.08 (1.03, 1.13)	2,164/ 52,564	552/ 17,258	1.22 (1.10, 1.36)	10,981/ 143,986	3,766/ 56,871	1.10 (1.06, 1.15)
≥2 fills of ADs	5,140/ 51,919	106,208/ 1,800,476	1.11 (1.07, 1.16)	1,569/ 37,079	28,640/ 1,198,306	1.29 (1.20, 1.38)	6,709/ 88,998	134,848/ 2,998,782	1.16 (1.12, 1.20)

¹Results include data from MAX only due to 0 exposed cases in MarketScan

²The HDPS analysis used an 80% random sample of the unexposed cohort in the MAX data due to sample size constraints in the SAS macro used for HDPS analysis. Results from the crude and primary adjusted analysis using the 80% sample of the referent cohort were very similar to the main results.

eTable 4. Hazard ratios and 95% confidence intervals for antidepressant use in early pregnancy and neurodevelopmental disorders for the main analysis and sensitivity analyses, by data source

Analysis	MAX			MarketScan			Pooled		
	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)
ASD									
Crude	1,066/ 129,358	8,293/ 1,833,927	1.88 (1.76, 2.00)	334/ 69,138	3,349/ 1,198,818	1.67 (1.49, 1.87)	1,400/ 198,496	11,642/ 3,032,745	1.83 (1.73, 1.93)
Adjusted	1,041/ 126,970	8,095/ 1,802,865	1.03 (0.92, 1.15)	333/ 69,059	3,348/ 1,198,642	1.15 (0.98, 1.36)	1,374/ 196,029	11,443/ 3,001,507	1.07 (0.97, 1.17)
Discontinuer referent	1,043/ 126,971	273/ 39,619	1.03 (0.88, 1.20)	333/ 69,099	76/ 17,260	0.98 (0.75, 1.28)	1,376/ 196,070	349/ 56,879	1.03 (0.88, 1.20)
ADHD									
Crude	5,985/ 129,358	47,996/ 1,833,927	1.99 (1.93, 2.04)	877/ 69,138	6,964/ 1,198,818	2.10 (1.95, 2.25)	6,862/ 198,496	54,960/ 3,032,745	2.00 (1.95, 2.05)
Adjusted	5,674/ 126,970	45,480/ 1,802,865	1.10 (1.05, 1.15)	875/ 69,059	6,964/ 1,198,642	1.46 (1.33, 1.60)	6,549/ 196,029	52,444/ 3,001,507	1.16 (1.12, 1.21)
Discontinuer referent	5,675/ 126,971	1,571/ 39,619	1.03 (0.97, 1.10)	875/ 69,099	195/ 17,260	1.05 (0.89, 1.24)	6,550/ 196,070	1,766/ 56,879	1.03 (0.97, 1.10)
Specific learning disorders									
Crude	450/ 129,358	4,932/ 1,833,927	1.36 (1.24, 1.50)	71/ 69,138	823/ 1,198,818	1.39 (1.09, 1.77)	521/ 198,496	5,755/ 3,032,745	1.37 (1.25, 1.50)
Adjusted	440/ 126,970	4,803/ 1,802,865	1.01 (0.87, 1.18)	71/ 69,059	823/ 1,198,642	1.04 (0.76, 1.42)	511/ 196,029	5,626/ 3,001,507	1.02 (0.89, 1.17)
Discontinuer referent	442/ 126,971	147/ 39,619	0.81 (0.65, 1.01)	71/ 69,099	15/ 17,260	0.95 (0.50, 1.79)	513/ 196,070	162/ 56,879	0.81 (0.65, 1.01)
Developmental speech/language disorder									
Crude	5,320/ 129,358	49,765/ 1,833,927	1.57 (1.53, 1.62)	1,476/ 69,138	18,101/ 1,198,818	1.40 (1.32, 1.47)	6,796/ 198,496	67,866/ 3,032,745	1.53 (1.49, 1.57)
Adjusted	5,189/ 126,970	48,665/ 1,802,865	1.06 (1.02, 1.11)	1,474/ 69,059	18,098/ 1,198,642	1.10 (1.03, 1.19)	6,663/ 196,029	66,763/ 3,001,507	1.07 (1.03, 1.12)
Discontinuer referent	5,192/ 126,971	1,378/ 39,619	1.06 (0.99, 1.13)	1,473/ 69,099	308/ 17,260	1.14 (0.99, 1.31)	6,665/ 196,070	1,686/ 56,879	1.06 (0.99, 1.13)
Developmental coordination disorder									
Crude	697/ 129,358	7,396/ 1,833,927	1.36 (1.26, 1.47)	329/ 69,138	3,169/ 1,198,818	1.77 (1.58, 1.99)	1,026/ 198,496	10,565/ 3,032,745	1.48 (1.39, 1.58)
Adjusted	686/ 126,970	7,307/ 1,802,865	1.06 (0.94, 1.18)	329/ 69,059	3,168/ 1,198,642	1.27 (1.08, 1.50)	1,015/ 196,029	10,475/ 3,001,507	1.12 (1.02, 1.23)
Discontinuer referent	687/ 126,971	163/ 39,619	1.08 (0.89, 1.32)	329/ 69,099	53/ 17,260	1.67 (1.23, 2.26)	1,016/ 196,070	216/ 56,879	1.08 (0.89, 1.32)
Intellectual disability									
Crude	307/ 129,358	2,930/ 1,833,927	1.54 (1.37, 1.74)	3/ 69,138	81/ 1,198,818	0.60 (0.19, 1.91)	310/ 198,496	3,011/ 3,032,745	1.53 (1.36, 1.72)

Adjusted	302/ 126,970	2,877/ 1,802,865	1.00 (0.82, 1.21)	3/ 69,059	81/ 1,198,642	0.29 (0.06, 1.31)	305/ 196,029	2,958/ 3,001,507	0.98 (0.81, 1.18)
Discontinuer referent	303/ 126,971	90/ 39,619	1.04 (0.80, 1.37)	3/ 69,099	3/ 17,260	0.20 (0.04, 1.05)	306/ 196,070	93/ 56,879	1.04 (0.80, 1.37)
Behavioral disorder									
Crude	4,049/ 129,358	33,022/ 1,833,927	1.87 (1.81, 1.94)	343/ 69,138	2,500/ 1,198,818	2.26 (2.02, 2.53)	4,392/ 198,496	35,522/ 3,032,745	1.90 (1.84, 1.96)
Adjusted	3,887/ 126,970	31,706/ 1,802,865	1.06 (1.00, 1.12)	343/ 69,059	2,500/ 1,198,642	1.42 (1.21, 1.68)	4,230/ 196,029	34,206/ 3,001,507	1.10 (1.04, 1.16)
Discontinuer referent	3,889/ 126,971	1,094/ 39,619	1.03 (0.95, 1.12)	343/ 69,099	55/ 17,260	1.48 (1.09, 2.01)	4,232/ 196,070	1,149/ 56,879	1.03 (0.95, 1.12)
Any NDD									
Crude	17,354/ 129,358	161,659/ 1,833,927	1.72 (1.69, 1.76)	2,705/ 69,138	37,648/ 1,198,818	1.62 (1.55, 1.68)	14,801/ 198,496	138,704/ 3,032,745	1.70 (1.67, 1.73)
Adjusted	11,648/ 126,970	106,239/ 1,802,865	1.07 (1.04, 1.10)	2,701/ 69,059	28,664/ 1,198,642	1.22 (1.16, 1.29)	14,349/ 196,029	134,903/ 3,001,507	1.10 (1.07, 1.13)
Discontinuer referent	11,653/ 126,971	3,214/ 39,619	1.04 (0.99, 1.09)	2,700/ 69,099	553/ 17,260	1.17 (1.06, 1.29)	14,353/ 196,070	3,767/ 56,879	1.04 (0.99, 1.09)

eTable 5. Hazard ratios and 95% confidence intervals for SSRI use in late pregnancy and neurodevelopmental disorders, by data source

Analysis	MAX			MarketScan			Pooled		
	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)
ASD									
Crude	618/ 73,006	8,293/ 1,833,927	1.88 (1.73, 2.04)	208/ 43,351	3,349/ 1,198,818	1.64 (1.43, 1.89)	826/ 116,357	11,642/ 3,032,745	1.82 (1.69, 1.95)
Adjusted	601/ 71,791	8,095/ 1,802,527	1.06 (0.95, 1.20)	208/ 43,319	3,348/ 1,198,380	1.12 (0.93, 1.35)	809/ 115,110	11,443/ 3,000,907	1.08 (0.98, 1.19)
AD discontinuer referent	602/ 71,802	273/ 39,609	1.13 (0.96, 1.34)	208/ 43,289	76/ 17,257	1.00 (0.75, 1.34)	810/ 115,091	349/ 56,866	1.10 (0.95, 1.27)
SSRI discontinuer referent	601/ 71,777	173/ 26,598	1.23 (1.01, 1.50)	208/ 43,283	48/ 11,440	0.99 (0.70, 1.40)	809/ 115,060	221/ 38,038	1.17 (0.99, 1.39)
ADHD									
Crude	3,509/ 73,006	47,996/ 1,833,927	2.00 (1.93, 2.07)	530/ 43,351	6,964/ 1,198,818	2.00 (1.83, 2.18)	4,039/ 116,357	54,960/ 3,032,745	2.00 (1.94, 2.07)
Adjusted	3,356/ 71,791	45,482/ 1,802,527	1.15 (1.10, 1.21)	529/ 43,319	6,952/ 1,198,380	1.42 (1.27, 1.58)	3,885/ 115,110	52,434/ 3,000,907	1.19 (1.14, 1.25)
AD discontinuer referent	3,358/ 71,802	1,571/ 39,609	1.06 (0.98, 1.13)	527/ 43,289	195/ 17,257	1.00 (0.83, 1.19)	3,885/ 115,091	1,766/ 56,866	1.05 (0.98, 1.12)
SSRI discontinuer referent	3,357/ 71,777	1,017/ 26,598	1.07 (0.99, 1.17)	526/ 43,283	124/ 11,440	1.06 (0.85, 1.32)	3,883/ 115,060	1,141/ 38,038	1.07 (0.99, 1.16)
Specific learning disorders									
Crude	253/ 73,006	4,932/ 1,833,927	1.31 (1.15, 1.48)	40/ 43,351	823/ 1,198,818	1.24 (0.90, 1.70)	293/ 116,357	5,755/ 3,032,745	1.30 (1.15, 1.46)
Adjusted	248/ 71,791	4,803/ 1,802,527	0.98 (0.83, 1.16)	40/ 43,319	822/ 1,198,380	0.91 (0.62, 1.32)	288/ 115,110	5,625/ 3,000,907	0.97 (0.83, 1.13)
AD discontinuer referent	248/ 71,802	147/ 39,609	0.78 (0.61, 0.98)	40/ 43,289	15/ 17,257	0.90 (0.47, 1.70)	288/ 115,091	162/ 56,866	0.79 (0.63, 0.98)
SSRI discontinuer referent	248/ 71,777	90/ 26,598	0.80 (0.60, 1.07)	40/ 43,283	10/ 11,440	0.97 (0.43, 2.19)	288/ 115,060	100/ 38,038	0.82 (0.62, 1.08)
Developmental speech/language disorders									
Crude	3,191/ 73,006	49,765/ 1,833,927	1.64 (1.58, 1.70)	1,001/ 43,351	18,101/ 1,198,818	1.50 (1.41, 1.60)	4,192/ 116,357	67,866/ 3,032,745	1.60 (1.55, 1.65)
Adjusted	3,114/ 71,791	48,658/ 1,802,527	1.09 (1.04, 1.15)	999/ 43,319	18,090/ 1,198,380	1.19 (1.10, 1.29)	4,113/ 115,110	66,748/ 3,000,907	1.12 (1.07, 1.17)
AD discontinuer referent	3,116/ 71,802	1,378/ 39,609	1.11 (1.03, 1.20)	999/ 43,289	307/ 17,257	1.25 (1.08, 1.45)	4,115/ 115,091	1,685/ 56,866	1.14 (1.06, 1.22)
SSRI discontinuer referent	3,115/ 71,777	893/ 26,598	1.13 (1.03, 1.24)	1,000/ 43,283	201/ 11,440	1.29 (1.08, 1.54)	4,115/ 115,060	1,094/ 38,038	1.16 (1.07, 1.26)
Developmental coordination disorders									

Crude	387/ 73,006	7,396/ 1,833,927	1.32 (1.19, 1.46)	228/ 43,351	3,169/ 1,198,818	1.95 (1.70, 2.23)	615/ 116,357	10,565/ 3,032,745	1.52 (1.40, 1.65)
Adjusted	374/ 71,791	7,307/ 1,802,527	1.03 (0.90, 1.17)	228/ 43,319	3,164/ 1,198,380	1.44 (1.21, 1.73)	602/ 115,110	10,471/ 3,000,907	1.16 (1.04, 1.28)
AD discontinuer referent	375/ 71,802	163/ 39,609	1.01 (0.81, 1.28)	228/ 43,289	53/ 17,257	1.91 (1.38, 2.63)	603/ 115,091	216/ 56,866	1.26 (1.04, 1.51)
SSRI discontinuer referent	374/ 71,777	104/ 26,598	1.04 (0.78, 1.39)	228/ 43,283	32/ 11,440	2.17 (1.43, 3.27)	602/ 115,060	136/ 38,038	1.32 (1.04, 1.67)
Intellectual disability									
Crude	170/ 73,006	2,930/ 1,833,927	1.47 (1.25, 1.72)	1/ 43,351	81/ 1,198,818	0.32 (0.04, 2.28)	171/ 116,357	3,011/ 3,032,745	1.45 (1.24, 1.70)
Adjusted	169/ 71,791	2,869/ 1,802,527	0.99 (0.80, 1.22)	1/ 43,319	81/ 1,198,380	0.16 (0.02, 1.43)	170/ 115,110	2,950/ 3,000,907	0.97 (0.79, 1.20)
AD discontinuer referent	169/ 71,802	90/ 39,609	1.06 (0.78, 1.42)	1/ 43,289	3/ 17,257	0.10 (0.01, 1.04)	170/ 115,091	93/ 56,866	1.02 (0.76, 1.37)
SSRI discontinuer referent	169/ 71,777	54/ 26,598	1.01 (0.69, 1.50)	1/ 43,283	2/ 11,440	0.07 (0.01, 0.81)	170/ 115,060	56/ 38,038	0.95 (0.64, 1.40)
Behavioral disorder									
Crude	2,476/ 73,006	33,022/ 1,833,927	1.98 (1.90, 2.06)	193/ 43,351	2,500/ 1,198,818	2.00 (1.73, 2.32)	2,669/ 116,357	35,522/ 3,032,745	1.98 (1.90, 2.06)
Adjusted	2,396/ 71,791	31,707/ 1,802,527	1.14 (1.08, 1.21)	193/ 43,319	2,498/ 1,198,380	1.23 (1.01, 1.50)	2,589/ 115,110	34,205/ 3,000,907	1.15 (1.08, 1.22)
AD discontinuer referent	2,399/ 71,802	1,094/ 39,609	1.09 (1.00, 1.19)	191/ 43,289	55/ 17,257	1.30 (0.93, 1.81)	2,590/ 115,091	1,149/ 56,866	1.10 (1.01, 1.20)
SSRI discontinuer referent	2,397/ 71,777	730/ 26,598	1.06 (0.95, 1.18)	191/ 43,283	30/ 11,440	1.61 (1.05, 2.48)	2,588/ 115,060	760/ 38,038	1.09 (0.98, 1.21)
Any NDD									
Crude	7,188/ 73,006	110,036/ 1,833,927	1.78 (1.74, 1.83)	1,755/ 43,351	28,668/ 1,198,818	1.66 (1.59, 1.75)	8,943/ 116,357	138,704/ 3,032,745	1.76 (1.72, 1.80)
Adjusted	6,956/ 71,791	106,225/ 1,802,527	1.12 (1.08, 1.16)	1,752/ 43,319	28,641/ 1,198,380	1.27 (1.19, 1.35)	8,708/ 115,110	134,866/ 3,000,907	1.15 (1.12, 1.19)
AD discontinuer referent	6,959/ 71,802	3,214/ 39,609	1.09 (1.03, 1.14)	1,750/ 43,289	552/ 17,257	1.21 (1.09, 1.35)	8,709/ 115,091	3,766/ 56,866	1.11 (1.06, 1.16)
SSRI discontinuer referent	6,956/ 71,777	2,085/ 26,598	1.11 (1.04, 1.18)	1,750/ 43,283	361/ 11,440	1.25 (1.10, 1.43)	8,706/ 115,060	2,446/ 38,038	1.13 (1.07, 1.20)

eTable 6. Hazard ratios and 95% confidence intervals for SNRI use in late pregnancy and neurodevelopmental disorders, by data source

Analysis	MAX			MarketScan			Pooled		
	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)
ASD									
Crude	53/ 5,235	8,293/ 1,833,927	2.36 (1.80, 3.10)	17/ 3,525	3,349/ 1,198,818	1.61 (1.00, 2.59)	70/ 8,760	11,642/ 3,032,745	2.15 (1.70, 2.72)
Adjusted	50/ 5,148	7,959/ 1,730,176	1.06 (0.76, 1.48)	17/ 3,511	3,311/ 1,179,938	0.99 (0.59, 1.66)	67/ 8,659	11,270/ 2,910,114	1.04 (0.79, 1.37)
AD discontinuer referent	50/ 5,147	270/ 39,469	1.17 (0.82, 1.65)	17/ 3,517	76/ 17,207	1.04 (0.60, 1.81)	67/ 8,664	346/ 56,676	1.13 (0.84, 1.52)
SNRI discontinuer ref	49/ 5,090	17/ 3,245	2.63 (1.38, 5.01)	17/ 3,450	11/ 1,654	0.95 (0.41, 2.19)	66/ 8,540	28/ 4,899	1.79 (1.08, 2.99)
ADHD									
Crude	223/ 5,235	47,996/ 1,833,927	1.90 (1.66, 2.16)	45/ 3,525	6,964/ 1,198,818	2.05 (1.53, 2.76)	268/ 8,760	54,960/ 3,032,745	1.92 (1.70, 2.17)
Adjusted	214/ 5,148	44,158/ 1,730,176	1.03 (0.89, 1.19)	44/ 3,511	6,929/ 1,179,938	1.31 (0.96, 1.79)	258/ 8,659	51,087/ 2,910,114	1.07 (0.94, 1.23)
AD discontinuer referent	214/ 5,147	1,567/ 39,469	0.94 (0.80, 1.11)	44/ 3,517	195/ 17,207	1.02 (0.71, 1.45)	258/ 8,664	1,762/ 56,676	0.95 (0.82, 1.11)
SNRI discontinuer ref	213/ 5,090	152/ 3,245	0.78 (0.58, 1.04)	43/ 3,450	19/ 1,654	0.91 (0.50, 1.65)	256/ 8,540	171/ 4,899	0.80 (0.61, 1.04)
Specific learning disorders									
Crude	22/ 5,235	4,932/ 1,833,927	1.78 (1.17, 2.70)	5/ 3,525	823/ 1,198,818	1.91 (0.79, 4.62)	27/ 8,760	5,755/ 3,032,745	1.80 (1.23, 2.63)
Adjusted	22/ 5,148	4,643/ 1,730,176	1.38 (0.87, 2.19)	5/ 3,511	815/ 1,179,938	1.45 (0.58, 3.64)	27/ 8,659	5,458/ 2,910,114	1.39 (0.92, 2.11)
AD discontinuer referent	22/ 5,147	147/ 39,469	1.02 (0.62, 1.69)	5/ 3,517	15/ 17,207	1.36 (0.44, 4.19)	27/ 8,664	162/ 56,676	1.07 (0.67, 1.69)
SNRI discontinuer ref	22/ 5,090	15/ 3,245	0.92 (0.43, 1.96)	5/ 3,450	1/ 1,654	4.68 (0.53, 40.99)	27/ 8,540	16/ 4,899	1.10 (0.54, 2.24)
Developmental speech/language disorders									
Crude	260/ 5,235	49,765/ 1,833,927	1.94 (1.72, 2.20)	97/ 3,525	18,101/ 1,198,818	1.76 (1.44, 2.14)	357/ 8,760	67,866/ 3,032,745	1.89 (1.70, 2.10)
Adjusted	249/ 5,148	47,622/ 1,730,176	1.21 (1.05, 1.40)	96/ 3,511	17,922/ 1,179,938	1.28 (1.02, 1.60)	345/ 8,659	65,544/ 2,910,114	1.23 (1.09, 1.39)
AD discontinuer referent	249/ 5,147	1,375/ 39,469	1.21 (1.03, 1.41)	96/ 3,517	305/ 17,207	1.48 (1.14, 1.91)	345/ 8,664	1,680/ 56,676	1.27 (1.11, 1.46)
SNRI discontinuer ref	246/ 5,090	133/ 3,245	1.22 (0.93, 1.60)	95/ 3,450	29/ 1,654	1.11 (0.61, 2.04)	341/ 8,540	162/ 4,899	1.20 (0.94, 1.54)
Developmental coordination disorders									

Crude	29/ 5,235	7,396/ 1,833,927	1.41 (0.98, 2.02)	17/ 3,525	3,169/ 1,198,818	1.76 (1.10, 2.84)	46/ 8,760	10,565/ 3,032,745	1.53 (1.15, 2.04)
Adjusted	29/ 5,148	7,229/ 1,730,176	1.10 (0.75, 1.62)	17/ 3,511	3,134/ 1,179,938	1.24 (0.75, 2.05)	46/ 8,659	10,363/ 2,910,114	1.15 (0.85, 1.56)
AD discontinuer referent	29/ 5,147	163/ 39,469	1.01 (0.65, 1.56)	17/ 3,517	53/ 17,207	1.79 (1.00, 3.20)	46/ 8,664	216/ 56,676	1.24 (0.87, 1.76)
SNRI discontinuer ref	28/ 5,090	19/ 3,245	0.81 (0.40, 1.62)	16/ 3,450	6/ 1,654	1.55 (0.47, 5.07)	44/ 8,540	25/ 4,899	0.95 (0.52, 1.74)
Intellectual disability									
Crude	<11/ 5,235	2,930/ 1,833,927	1.29 (0.70, 2.41)	0/ 3,525	81/ 1,198,818	-	<11/ 5,235	2,930/ 1,833,927	1.29 (0.70, 2.41) ¹
Adjusted	<11/ 5,148	2,748/ 1,730,176	0.80 (0.41, 1.56)	0/ 3,511	81/ 1,179,938	-	<11/ 5,148	2,748/ 1,730,176	0.80 (0.41, 1.56) ¹
AD discontinuer referent	<11/ 5,147	90/ 39,469	0.78 (0.37, 1.65)	0/ 3,517	3/ 17,207	-	<11/ 5,147	90/ 39,469	0.78 (0.37, 1.65) ¹
SNRI discontinuer ref	<11/ 5,090	11/ 3,245	1.21 (0.47, 3.10)	0/ 3,450	2/ 1,654	-	<11/ 5,090	11/ 3,245	1.21 (0.47, 3.10) ¹
Behavioral disorder									
Crude	170/ 5,235	33,022/ 1,833,927	2.04 (1.75, 2.37)	26/ 3,525	2,500/ 1,198,818	3.28 (2.24, 4.82)	196/ 8,760	35,522/ 3,032,745	2.17 (1.89, 2.49)
Adjusted	162/ 5,148	30,685/ 1,730,176	1.11 (0.94, 1.33)	26/ 3,511	2,484/ 1,179,938	1.85 (1.17, 2.90)	188/ 8,659	33,169/ 2,910,114	1.19 (1.01, 1.40)
AD discontinuer referent	162/ 5,147	1,091/ 39,469	1.09 (0.89, 1.32)	26/ 3,517	55/ 17,207	2.19 (1.32, 3.65)	188/ 8,664	1,146/ 56,676	1.19 (0.99, 1.43)
SNRI discontinuer ref	162/ 5,090	92/ 3,245	1.15 (0.77, 1.72)	25/ 3,450	4/ 1,654	3.87 (1.24, 12.10)	187/ 8,540	96/ 4,899	1.31 (0.90, 1.92)
Any NDD									
Crude	521/ 5,235	110,036/ 1,833,927	1.90 (1.74, 2.08)	170/ 3,525	28,668/ 1,198,818	1.96 (1.68, 2.27)	691/ 8,760	138,704/ 3,032,745	1.92 (1.78, 2.07)
Adjusted	498/ 5,148	103,344/ 1,730,176	1.12 (1.01, 1.23)	168/ 3,511	28,399/ 1,179,938	1.36 (1.15, 1.62)	666/ 8,659	131,743/ 2,910,114	1.18 (1.08, 1.28)
AD discontinuer referent	498/ 5,147	3,207/ 39,469	1.07 (0.96, 1.20)	168/ 3,517	550/ 17,207	1.44 (1.19, 1.74)	666/ 8,664	3,757/ 56,676	1.15 (1.05, 1.27)
SNRI discontinuer ref	493/ 5,090	301/ 3,245	0.99 (0.82, 1.20)	165/ 3,450	53/ 1,654	1.24 (0.81, 1.90)	658/ 8,540	354/ 4,899	1.03 (0.86, 1.22)

¹Results include data from MAX only due to 0 exposed cases in MarketScan
Event counts are obscured when <11 in MAX due to the CMS cell size suppression policy.

eTable 7. Hazard ratios and 95% confidence intervals for TCA use in late pregnancy and neurodevelopmental disorders, by data source

Analysis	MAX			MarketScan			Pooled		
	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)
ASD									
Crude	27/ 3,606	8,293/ 1,833,927	1.57 (1.08, 2.28)	3/ 848	3,349/ 1,198,818	1.16 (0.38, 3.55)	30/ 4,454	11,642/ 3,032,745	1.52 (1.06, 2.17)
Adjusted	27/ 3,511	8,080/ 1,789,773	0.88 (0.60, 1.31)	3/ 846	3,314/ 1,176,215	0.58 (0.18, 1.85)	30/ 4,357	11,394/ 2,965,988	0.84 (0.58, 1.23)
AD discontinuer referent	27/ 3,511	269/ 39,230	0.94 (0.61, 1.45)	3/ 841	76/ 16,597	0.46 (0.14, 1.54)	30/ 4,352	345/ 55,827	0.86 (0.57, 1.30)
TCA discontinuer ref	27/ 3,494	24/ 4,258	1.54 (0.84, 2.81)	3/ 813	10/ 1,452	0.19 (0.05, 0.83)	30/ 4,307	34/ 5,710	1.14 (0.65, 1.98)
ADHD									
Crude	177/ 3,606	47,996/ 1,833,927	1.79 (1.54, 2.08)	9/ 848	6,964/ 1,198,818	1.42 (0.74, 2.73)	186/ 4,454	54,960/ 3,032,745	1.77 (1.53, 2.05)
Adjusted	165/ 3,511	45,436/ 1,789,773	1.01 (0.86, 1.19)	9/ 846	6,925/ 1,176,215	0.96 (0.50, 1.86)	174/ 4,357	52,361/ 2,965,988	1.01 (0.86, 1.18)
AD discontinuer referent	165/ 3,511	1,566/ 39,230	0.96 (0.81, 1.14)	8/ 841	193/ 16,597	0.52 (0.24, 1.11)	173/ 4,352	1,759/ 55,827	0.93 (0.79, 1.10)
TCA discontinuer ref	164/ 3,494	167/ 4,258	1.10 (0.84, 1.44)	8/ 813	13/ 1,452	0.89 (0.32, 2.47)	172/ 4,307	180/ 5,710	1.08 (0.83, 1.41)
Specific learning disorders									
Crude	13/ 3,606	4,932/ 1,833,927	1.19 (0.69, 2.05)	0/ 848	823/ 1,198,818	-	13/ 3,606	4,932/ 1,833,927	1.19 (0.69, 2.05) ¹
Adjusted	13/ 3,511	4,797/ 1,789,773	1.03 (0.59, 1.81)	0/ 846	815/ 1,176,215	-	13/ 3,511	4,797/ 1,789,773	1.03 (0.59, 1.81) ¹
AD discontinuer referent	13/ 3,511	145/ 39,230	0.86 (0.48, 1.57)	0/ 841	15/ 16,597	-	13/ 3,511	145/ 39,230	0.86 (0.48, 1.57) ¹
TCA discontinuer ref	13/ 3,494	21/ 4,258	0.82 (0.39, 1.72)	0/ 813	1/ 1,452	-	13/ 3,494	21/ 4,258	0.82 (0.39, 1.72) ¹
Developmental speech/language disorders									
Crude	144/ 3,606	49,765/ 1,833,927	1.42 (1.21, 1.68)	25/ 848	18,101/ 1,198,818	1.88 (1.27, 2.79)	169/ 4,454	67,866/ 3,032,745	1.48 (1.27, 1.73)
Adjusted	141/ 3,511	48,531/ 1,789,773	1.04 (0.87, 1.23)	25/ 846	17,863/ 1,176,215	1.36 (0.90, 2.05)	166/ 4,357	66,394/ 2,965,988	1.08 (0.92, 1.27)
AD discontinuer referent	141/ 3,511	1,366/ 39,230	0.98 (0.81, 1.19)	24/ 841	298/ 16,597	1.50 (0.96, 2.37)	165/ 4,352	1,664/ 55,827	1.05 (0.88, 1.25)
TCA discontinuer ref	140/ 3,494	167/ 4,258	0.93 (0.71, 1.22)	23/ 813	27/ 1,452	0.94 (0.44, 2.02)	163/ 4,307	194/ 5,710	0.93 (0.73, 1.20)
Developmental coordination disorders									

Crude	19/ 3,606	7,396/ 1,833,927	1.28 (0.81, 2.00)	2/ 848	3,169/ 1,198,818	0.86 (0.22, 3.39)	21/ 4,454	10,565/ 3,032,745	1.23 (0.80, 1.88)
Adjusted	17/ 3,511	7,281/ 1,789,773	0.97 (0.60, 1.59)	2/ 846	3,116/ 1,176,215	0.55 (0.14, 2.19)	19/ 4,357	10,397/ 2,965,988	0.91 (0.58, 1.45)
AD discontinuer referent	17/ 3,511	159/ 39,230	0.92 (0.54, 1.56)	2/ 841	51/ 16,597	0.76 (0.17, 3.49)	19/ 4,352	210/ 55,827	0.90 (0.55, 1.49)
TCA discontinuer ref	17/ 3,494	22/ 4,258	0.66 (0.29, 1.48)	2/ 813	4/ 1,452	1.63 (0.25, 10.52)	19/ 4,307	26/ 5,710	0.76 (0.36, 1.60)
Intellectual disability									
Crude	<11/ 3,606	2,930/ 1,833,927	0.79 (0.33, 1.90)	0/ 848	81/ 1,198,818	-	<11/ 3,606	2,930/ 1,833,927	0.79 (0.33, 1.90) ¹
Adjusted	<11/ 3,511	2,852/ 1,789,773	0.52 (0.21, 1.27)	0/ 846	81/ 1,176,215	-	<11/ 3,511	2,852/ 1,789,773	0.52 (0.21, 1.27) ¹
AD discontinuer referent	<11/ 3,511	88/ 39,230	0.55 (0.22, 1.39)	0/ 841	3/ 16,597	-	<11/ 3,511	88/ 39,230	0.55 (0.22, 1.39) ¹
TCA discontinuer ref	<11/ 3,494	<11/ 4,258	0.95 (0.29, 3.16)	0/ 813	0/ 1,452	-	<11/ 3,494	<11/ 4,258	0.95 (0.29, 3.16) ¹
Behavioral disorder									
Crude	103/ 3,606	33,022/ 1,833,927	1.48 (1.22, 1.80)	4/ 848	2,500/ 1,198,818	1.90 (0.71, 5.12)	107/ 4,454	35,522/ 3,032,745	1.50 (1.24, 1.81)
Adjusted	98/ 3,511	31,651/ 1,789,773	0.87 (0.71, 1.07)	4/ 846	2,480/ 1,176,215	1.13 (0.42, 3.06)	102/ 4,357	34,131/ 2,965,988	0.88 (0.72, 1.08)
AD discontinuer referent	98/ 3,511	1,089/ 39,230	0.86 (0.69, 1.07)	3/ 841	55/ 16,597	0.71 (0.20, 2.56)	101/ 4,352	1,144/ 55,827	0.86 (0.69, 1.06)
TCA discontinuer ref	98/ 3,494	111/ 4,258	0.94 (0.63, 1.40)	3/ 813	9/ 1,452	0.39 (0.08, 1.81)	101/ 4,307	120/ 5,710	0.89 (0.60, 1.31)
Any NDD									
Crude	335/ 3,606	110,036/ 1,833,927	1.53 (1.37, 1.71)	36/ 848	28,668/ 1,198,818	1.64 (1.18, 2.28)	371/ 4,454	138,704/ 3,032,745	1.54 (1.39, 1.71)
Adjusted	318/ 3,511	105,985/ 1,789,773	0.98 (0.87, 1.10)	36/ 846	28,328/ 1,176,215	1.11 (0.79, 1.56)	354/ 4,357	134,313/ 2,965,988	0.99 (0.89, 1.10)
AD discontinuer referent	318/ 3,511	3,192/ 39,230	0.92 (0.81, 1.04)	35/ 841	540/ 16,597	1.01 (0.69, 1.48)	353/ 4,352	3,732/ 55,827	0.93 (0.82, 1.05)
TCA discontinuer ref	316/ 3,494	367/ 4,258	0.94 (0.77, 1.14)	34/ 813	45/ 1,452	1.03 (0.55, 1.92)	350/ 4,307	412/ 5,710	0.95 (0.79, 1.14)

¹Results include data from MAX only due to 0 exposed cases in MarketScan
Event counts are obscured when <11 in MAX due to the CMS cell size suppression policy.

eTable 8. Hazard ratios and 95% confidence intervals for sertraline use in late pregnancy and neurodevelopmental disorders, by data source

Analysis	MAX			MarketScan			Pooled		
	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)
ASD									
Crude	246/ 33,567	8,293/ 1,833,927	1.74 (1.53, 1.97)	84/ 22,787	3,349/ 1,198,818	1.29 (1.04, 1.60)	330/ 56,354	11,642/ 3,032,745	1.61 (1.44, 1.80)
Adjusted	240/ 33,012	8,089/ 1,797,902	1.03 (0.88, 1.19)	84/ 22,776	3,348/ 1,198,393	0.92 (0.72, 1.17)	324/ 55,788	11,437/ 2,996,295	0.99 (0.88, 1.13)
AD discontinuer referent	240/ 33,016	273/ 39,597	1.06 (0.87, 1.29)	84/ 22,766	76/ 17,256	0.80 (0.58, 1.12)	324/ 55,782	349/ 56,853	0.98 (0.83, 1.17)
Sertraline discontinuer ref	240/ 32,988	54/ 7,755	1.14 (0.81, 1.59)	84/ 22,734	12/ 3,774	1.00 (0.52, 1.92)	324/ 55,722	66/ 11,529	1.11 (0.82, 1.49)
ADHD									
Crude	1,389/ 33,567	47,996/ 1,833,927	1.92 (1.82, 2.03)	223/ 22,787	6,964/ 1,198,818	1.72 (1.50, 1.97)	1,612/ 56,354	54,960/ 3,032,745	1.89 (1.80, 1.99)
Adjusted	1,323/ 33,012	45,428/ 1,797,902	1.15 (1.08, 1.22)	223/ 22,776	6,952/ 1,198,393	1.24 (1.06, 1.44)	1,546/ 55,788	52,380/ 2,996,295	1.16 (1.10, 1.23)
AD discontinuer referent	1,323/ 33,016	1,570/ 39,597	1.05 (0.96, 1.14)	222/ 22,766	195/ 17,256	0.88 (0.71, 1.08)	1,545/ 55,782	1,765/ 56,853	1.02 (0.95, 1.11)
Sertraline discontinuer ref	1,323/ 32,988	299/ 7,755	1.01 (0.86, 1.18)	221/ 22,734	24/ 3,774	1.36 (0.85, 2.17)	1,544/ 55,722	323/ 11,529	1.04 (0.90, 1.21)
Specific learning disorders									
Crude	103/ 33,567	4,932/ 1,833,927	1.33 (1.10, 1.62)	15/ 22,787	823/ 1,198,818	0.97 (0.58, 1.61)	118/ 56,354	5,755/ 3,032,745	1.28 (1.07, 1.54)
Adjusted	101/ 33,012	4,793/ 1,797,902	1.00 (0.80, 1.24)	15/ 22,776	822/ 1,198,393	0.74 (0.43, 1.28)	116/ 55,788	5,615/ 2,996,295	0.96 (0.78, 1.17)
AD discontinuer referent	101/ 33,016	147/ 39,597	0.78 (0.59, 1.03)	15/ 22,766	15/ 17,256	0.75 (0.35, 1.61)	116/ 55,782	162/ 56,853	0.77 (0.59, 1.01)
Sertraline discontinuer ref	101/ 32,988	31/ 7,755	0.76 (0.47, 1.23)	15/ 22,734	2/ 3,774	1.17 (0.26, 5.22)	116/ 55,722	33/ 11,529	0.79 (0.50, 1.25)
Developmental speech/language disorders									
Crude	1,374/ 33,567	49,765/ 1,833,927	1.61 (1.53, 1.70)	533/ 22,787	18,101/ 1,198,818	1.54 (1.41, 1.68)	1,907/ 56,354	67,866/ 3,032,745	1.59 (1.52, 1.67)
Adjusted	1,338/ 33,012	48,614/ 1,797,902	1.07 (1.01, 1.14)	533/ 22,776	18,090/ 1,198,393	1.22 (1.11, 1.35)	1,871/ 55,788	66,704/ 2,996,295	1.12 (1.06, 1.18)
AD discontinuer referent	1,339/ 33,016	1,378/ 39,597	1.07 (0.98, 1.17)	532/ 22,766	307/ 17,256	1.27 (1.08, 1.49)	1,871/ 55,782	1,685/ 56,853	1.11 (1.03, 1.20)
Sertraline discontinuer ref	1,337/ 32,988	242/ 7,755	1.16 (0.96, 1.42)	532/ 22,734	63/ 3,774	1.14 (0.80, 1.61)	1,869/ 55,722	305/ 11,529	1.16 (0.98, 1.37)
Developmental coordination disorders									

Crude	158/ 33,567	7,396/ 1,833,927	1.21 (1.03, 1.41)	93/ 22,787	3,169/ 1,198,818	1.53 (1.24, 1.88)	251/ 56,354	10,565/ 3,032,745	1.32 (1.16, 1.49)
Adjusted	152/ 33,012	7,302/ 1,797,902	0.89 (0.75, 1.06)	93/ 22,776	3,164/ 1,198,393	1.13 (0.89, 1.44)	245/ 55,788	10,466/ 2,996,295	0.97 (0.84, 1.11)
AD discontinuer referent	152/ 33,016	163/ 39,597	0.87 (0.66, 1.13)	93/ 22,766	53/ 17,256	1.48 (1.03, 2.11)	245/ 55,782	216/ 56,853	1.05 (0.85, 1.29)
Sertraline discontinuer ref	152/ 32,988	24/ 7,755	1.03 (0.61, 1.75)	93/ 22,734	13/ 3,774	1.23 (0.66, 2.32)	245/ 55,722	37/ 11,529	1.11 (0.74, 1.67)
Intellectual disability									
Crude	63/ 33,567	2,930/ 1,833,927	1.31 (1.02, 1.69)	0/ 22,787	81/ 1,198,818	-	63/ 33,567	2,930/ 1,833,927	1.31 (1.02, 1.69) ¹
Adjusted	63/ 33,012	2,842/ 1,797,902	0.94 (0.71, 1.26)	0/ 22,776	81/ 1,198,393	-	63/ 33,012	2,842/ 1,797,902	0.94 (0.71, 1.26) ¹
AD discontinuer referent	63/ 33,016	90/ 39,597	0.95 (0.66, 1.38)	0/ 22,766	3/ 17,256	-	63/ 33,016	90/ 39,597	0.95 (0.66, 1.38) ¹
Sertraline discontinuer ref	63/ 32,988	13/ 7,755	1.35 (0.70, 2.57)	0/ 22,734	1/ 3,774	-	63/ 32,988	13/ 7,755	1.35 (0.70, 2.57) ¹
Behavioral disorder									
Crude	942/ 33,567	33,022/ 1,833,927	1.80 (1.68, 1.92)	91/ 22,787	2,500/ 1,198,818	1.88 (1.52, 2.33)	1,033/ 56,354	35,522/ 3,032,745	1.80 (1.69, 1.92)
Adjusted	911/ 33,012	31,662/ 1,797,902	1.07 (0.99, 1.16)	91/ 22,776	2,498/ 1,198,393	1.16 (0.90, 1.48)	1,002/ 55,788	34,160/ 2,996,295	1.08 (1.00, 1.16)
AD discontinuer referent	911/ 33,016	1,093/ 39,597	1.01 (0.91, 1.12)	90/ 22,766	55/ 17,256	1.17 (0.81, 1.70)	1,001/ 55,782	1,148/ 56,853	1.02 (0.92, 1.12)
Sertraline discontinuer ref	911/ 32,988	201/ 7,755	1.03 (0.83, 1.27)	89/ 22,734	7/ 3,774	1.90 (0.74, 4.88)	1,000/ 55,722	208/ 11,529	1.06 (0.86, 1.30)
Any NDD									
Crude	2,970/ 33,567	110,036/ 1,833,927	1.71 (1.65, 1.77)	847/ 22,787	28,668/ 1,198,818	1.57 (1.46, 1.68)	3,817/ 56,354	138,704/ 3,032,745	1.68 (1.62, 1.73)
Adjusted	2,864/ 33,012	106,079/ 1,797,902	1.09 (1.05, 1.14)	847/ 22,776	28,641/ 1,198,393	1.21 (1.12, 1.31)	3,711/ 55,788	134,720/ 2,996,295	1.12 (1.08, 1.16)
AD discontinuer referent	2,865/ 33,016	3,212/ 39,597	1.05 (0.99, 1.11)	845/ 22,766	552/ 17,256	1.15 (1.02, 1.30)	3,710/ 55,782	3,764/ 56,853	1.07 (1.01, 1.13)
Sertraline discontinuer ref	2,863/ 32,988	582/ 7,755	1.08 (0.95, 1.22)	844/ 22,734	101/ 3,774	1.19 (0.91, 1.55)	3,707/ 55,722	683/ 11,529	1.10 (0.98, 1.23)

¹Results include data from MAX only due to 0 exposed cases in MarketScan

eTable 9. Hazard ratios and 95% confidence intervals for fluoxetine use in late pregnancy and neurodevelopmental disorders, by data source

Analysis	MAX			MarketScan			Pooled		
	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)
ASD									
Crude	166/ 18,676	8,293/ 1,833,927	1.89 (1.62, 2.20)	49/ 8,287	3,349/ 1,198,818	1.90 (1.44, 2.52)	215/ 26,963	11,642/ 3,032,745	1.89 (1.65, 2.17)
Adjusted	162/ 18,385	8,080/ 1,790,067	1.09 (0.91, 1.30)	49/ 8,274	3,345/ 1,193,947	1.25 (0.91, 1.72)	211/ 26,659	11,425/ 2,984,014	1.12 (0.96, 1.31)
AD discontinuer referent	162/ 18,384	273/ 39,610	1.19 (0.95, 1.47)	49/ 8,277	76/ 17,254	1.09 (0.74, 1.60)	211/ 26,661	349/ 56,864	1.16 (0.96, 1.40)
Fluoxetine discontinuer ref	160/ 18,357	26/ 5,638	1.60 (0.97, 2.63)	49/ 8,238	12/ 2,135	0.91 (0.44, 1.87)	209/ 26,595	38/ 7,773	1.33 (0.88, 2.01)
ADHD									
Crude	971/ 18,676	47,996/ 1,833,927	2.05 (1.92, 2.19)	138/ 8,287	6,964/ 1,198,818	2.35 (1.98, 2.80)	1,109/ 26,963	54,960/ 3,032,745	2.08 (1.96, 2.21)
Adjusted	922/ 18,385	45,418/ 1,790,067	1.15 (1.07, 1.24)	137/ 8,274	6,948/ 1,193,947	1.67 (1.39, 2.01)	1,059/ 26,659	52,366/ 2,984,014	1.21 (1.13, 1.30)
AD discontinuer referent	922/ 18,384	1,571/ 39,610	1.05 (0.96, 1.15)	138/ 8,277	195/ 17,254	1.13 (0.89, 1.43)	1,060/ 26,661	1,766/ 56,864	1.06 (0.97, 1.16)
Fluoxetine discontinuer ref	922/ 18,357	195/ 5,638	1.11 (0.91, 1.34)	137/ 8,238	30/ 2,135	1.07 (0.68, 1.68)	1,059/ 26,595	225/ 7,773	1.10 (0.92, 1.32)
Specific learning disorders									
Crude	70/ 18,676	4,932/ 1,833,927	1.31 (1.03, 1.67)	8/ 8,287	823/ 1,198,818	1.10 (0.55, 2.20)	78/ 26,963	5,755/ 3,032,745	1.29 (1.03, 1.62)
Adjusted	67/ 18,385	4,797/ 1,790,067	0.96 (0.73, 1.27)	8/ 8,274	821/ 1,193,947	0.75 (0.36, 1.56)	75/ 26,659	5,618/ 2,984,014	0.93 (0.72, 1.21)
AD discontinuer referent	67/ 18,384	147/ 39,610	0.79 (0.57, 1.09)	8/ 8,277	15/ 17,254	0.74 (0.30, 1.80)	75/ 26,661	162/ 56,864	0.78 (0.58, 1.06)
Fluoxetine discontinuer ref	67/ 18,357	23/ 5,638	0.76 (0.43, 1.33)	8/ 8,238	2/ 2,135	0.61 (0.11, 3.36)	75/ 26,595	25/ 7,773	0.74 (0.43, 1.26)
Developmental speech/language disorders									
Crude	875/ 18,676	49,765/ 1,833,927	1.70 (1.59, 1.82)	196/ 8,287	18,101/ 1,198,818	1.48 (1.28, 1.70)	1,071/ 26,963	67,866/ 3,032,745	1.65 (1.56, 1.76)
Adjusted	852/ 18,385	48,539/ 1,790,067	1.15 (1.06, 1.24)	195/ 8,274	18,059/ 1,193,947	1.15 (0.98, 1.34)	1,047/ 26,659	66,598/ 2,984,014	1.15 (1.07, 1.23)
AD discontinuer referent	853/ 18,384	1,378/ 39,610	1.18 (1.07, 1.30)	196/ 8,277	306/ 17,254	1.27 (1.04, 1.54)	1,049/ 26,661	1,684/ 56,864	1.20 (1.10, 1.31)
Fluoxetine discontinuer ref	850/ 18,357	170/ 5,638	1.24 (1.00, 1.53)	195/ 8,238	42/ 2,135	1.06 (0.71, 1.59)	1,045/ 26,595	212/ 7,773	1.20 (0.99, 1.44)
Developmental coordination disorders									

Crude	116/ 18,676	7,396/ 1,833,927	1.51 (1.25, 1.82)	60/ 8,287	3,169/ 1,198,818	2.60 (2.01, 3.37)	176/ 26,963	10,565/ 3,032,745	1.82 (1.56, 2.12)
Adjusted	111/ 18,385	7,276/ 1,790,067	1.25 (1.01, 1.54)	60/ 8,274	3,157/ 1,193,947	1.90 (1.43, 2.54)	171/ 26,659	10,433/ 2,984,014	1.44 (1.22, 1.71)
AD discontinuer referent	112/ 18,384	163/ 39,610	1.21 (0.90, 1.62)	60/ 8,277	53/ 17,254	2.61 (1.72, 3.95)	172/ 26,661	216/ 56,864	1.56 (1.23, 1.98)
Fluoxetine discontinuer ref	111/ 18,357	25/ 5,638	0.91 (0.45, 1.83)	60/ 8,238	5/ 2,135	3.59 (1.18, 10.96)	171/ 26,595	30/ 7,773	1.34 (0.74, 2.43)
Intellectual disability									
Crude	47/ 18,676	2,930/ 1,833,927	1.50 (1.11, 2.02)	0/ 8,287	81/ 1,198,818	-	47/ 18,676	2,930/ 1,833,927	1.50 (1.11, 2.02) ¹
Adjusted	47/ 18,385	2,800/ 1,790,067	0.96 (0.68, 1.36)	0/ 8,274	81/ 1,193,947	-	47/ 18,385	2,800/ 1,790,067	0.96 (0.68, 1.36) ¹
AD discontinuer referent	47/ 18,384	90/ 39,610	1.04 (0.70, 1.56)	0/ 8,277	3/ 17,254	-	47/ 18,384	90/ 39,610	1.04 (0.70, 1.56) ¹
Fluoxetine discontinuer ref	47/ 18,357	13/ 5,638	0.73 (0.30, 1.76)	0/ 8,238	0/ 2,135	-	47/ 18,357	13/ 5,638	0.73 (0.30, 1.76) ¹
Behavioral disorder									
Crude	726/ 18,676	33,022/ 1,833,927	2.16 (2.01, 2.33)	41/ 8,287	2,500/ 1,198,818	2.01 (1.46, 2.75)	767/ 26,963	35,522/ 3,032,745	2.16 (2.00, 2.32)
Adjusted	702/ 18,385	31,655/ 1,790,067	1.21 (1.11, 1.32)	41/ 8,274	2,496/ 1,193,947	1.20 (0.85, 1.70)	743/ 26,659	34,151/ 2,984,014	1.21 (1.11, 1.32)
AD discontinuer referent	703/ 18,384	1,094/ 39,610	1.16 (1.03, 1.29)	41/ 8,277	55/ 17,254	1.33 (0.85, 2.09)	744/ 26,661	1,149/ 56,864	1.17 (1.05, 1.30)
Fluoxetine discontinuer ref	700/ 18,357	162/ 5,638	1.16 (0.90, 1.49)	41/ 8,238	5/ 2,135	2.67 (0.98, 7.25)	741/ 26,595	167/ 7,773	1.22 (0.96, 1.55)
Any NDD									
Crude	2,005/ 18,676	110,036/ 1,833,927	1.88 (1.80, 1.97)	395/ 8,287	28,668/ 1,198,818	1.83 (1.66, 2.02)	2,400/ 26,963	138,704/ 3,032,745	1.87 (1.80, 1.95)
Adjusted	1,935/ 18,385	105,939/ 1,790,067	1.17 (1.11, 1.23)	393/ 8,274	28,597/ 1,193,947	1.36 (1.22, 1.52)	2,328/ 26,659	134,536/ 2,984,014	1.20 (1.15, 1.26)
AD discontinuer referent	1,936/ 18,384	3,214/ 39,610	1.14 (1.07, 1.22)	395/ 8,277	551/ 17,254	1.33 (1.15, 1.54)	2,331/ 26,661	3,765/ 56,864	1.17 (1.10, 1.24)
Fluoxetine discontinuer ref	1,930/ 18,357	415/ 5,638	1.13 (0.98, 1.30)	393/ 8,238	78/ 2,135	1.18 (0.89, 1.57)	2,323/ 26,595	493/ 7,773	1.14 (1.00, 1.29)

¹Results include data from MAX only due to 0 exposed cases in MarketScan

eTable 10. Hazard ratios and 95% confidence intervals for bupropion use in late pregnancy and neurodevelopmental disorders, by data source

Analysis	MAX			MarketScan			Pooled		
	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)
ASD									
Crude	112/ 13,090	8,293/ 1,833,927	1.84 (1.53, 2.22)	30/ 6,638	3,349/ 1,198,818	1.45 (1.01, 2.08)	142/ 19,728	11,642/ 3,032,745	1.75 (1.48, 2.06)
Adjusted	107/ 12,794	8,066/ 1,785,311	1.07 (0.87, 1.32)	30/ 6,632	3,344/ 1,196,381	0.97 (0.65, 1.43)	137/ 19,426	11,410/ 2,981,692	1.05 (0.87, 1.26)
AD discontinuer referent	108/ 12,793	273/ 39,495	1.17 (0.92, 1.50)	30/ 6,632	76/ 17,247	0.89 (0.56, 1.41)	138/ 19,425	349/ 56,742	1.11 (0.89, 1.37)
Bupropion discontinuer ref	108/ 12,756	39/ 4,360	0.94 (0.59, 1.51)	29/ 6,585	10/ 2,536	1.02 (0.46, 2.30)	137/ 19,341	49/ 6,896	0.96 (0.64, 1.45)
ADHD									
Crude	692/ 13,090	47,996/ 1,833,927	2.19 (2.03, 2.36)	122/ 6,638	6,964/ 1,198,818	2.70 (2.25, 3.25)	814/ 19,728	54,960/ 3,032,745	2.26 (2.10, 2.42)
Adjusted	647/ 12,794	45,392/ 1,785,311	1.26 (1.16, 1.37)	121/ 6,632	6,949/ 1,196,381	1.83 (1.50, 2.23)	768/ 19,426	52,341/ 2,981,692	1.34 (1.24, 1.44)
AD discontinuer referent	647/ 12,793	1,571/ 39,495	1.15 (1.04, 1.28)	121/ 6,632	195/ 17,247	1.28 (0.99, 1.66)	768/ 19,425	1,766/ 56,742	1.17 (1.06, 1.28)
Bupropion discontinuer ref	645/ 12,756	188/ 4,360	1.00 (0.82, 1.23)	120/ 6,585	35/ 2,536	1.19 (0.78, 1.81)	765/ 19,341	223/ 6,896	1.04 (0.86, 1.24)
Specific learning disorders									
Crude	48/ 13,090	4,932/ 1,833,927	1.42 (1.07, 1.88)	11/ 6,638	823/ 1,198,818	1.99 (1.10, 3.62)	59/ 19,728	5,755/ 3,032,745	1.51 (1.17, 1.95)
Adjusted	48/ 12,794	4,782/ 1,785,311	1.18 (0.87, 1.60)	11/ 6,632	822/ 1,196,381	1.46 (0.76, 2.80)	59/ 19,426	5,604/ 2,981,692	1.23 (0.93, 1.62)
AD discontinuer referent	48/ 12,793	146/ 39,495	0.87 (0.61, 1.24)	11/ 6,632	15/ 17,247	1.30 (0.52, 3.22)	59/ 19,425	161/ 56,742	0.92 (0.66, 1.28)
Bupropion discontinuer ref	48/ 12,756	21/ 4,360	0.86 (0.47, 1.57)	11/ 6,585	2/ 2,536	1.54 (0.33, 7.23)	59/ 19,341	23/ 6,896	0.93 (0.53, 1.63)
Developmental speech/language disorders									
Crude	587/ 13,090	49,765/ 1,833,927	1.62 (1.50, 1.76)	137/ 6,638	18,101/ 1,198,818	1.27 (1.08, 1.51)	724/ 19,728	67,866/ 3,032,745	1.55 (1.44, 1.67)
Adjusted	572/ 12,794	48,542/ 1,785,311	1.13 (1.04, 1.24)	137/ 6,632	18,073/ 1,196,381	1.01 (0.84, 1.21)	709/ 19,426	66,615/ 2,981,692	1.11 (1.02, 1.20)
AD discontinuer referent	575/ 12,793	1,377/ 39,495	1.14 (1.02, 1.27)	137/ 6,632	306/ 17,247	1.09 (0.86, 1.37)	712/ 19,425	1,683/ 56,742	1.13 (1.02, 1.25)
Bupropion discontinuer ref	572/ 12,756	143/ 4,360	1.16 (0.92, 1.46)	136/ 6,585	52/ 2,536	0.97 (0.67, 1.40)	708/ 19,341	195/ 6,896	1.10 (0.91, 1.34)
Developmental coordination disorders									

Crude	82/ 13,090	7,396/ 1,833,927	1.52 (1.23, 1.90)	27/ 6,638	3,169/ 1,198,818	1.45 (1.00, 2.12)	109/ 19,728	10,565/ 3,032,745	1.51 (1.25, 1.82)
Adjusted	82/ 12,794	7,241/ 1,785,311	1.38 (1.09, 1.73)	27/ 6,632	3,156/ 1,196,381	1.07 (0.72, 1.61)	109/ 19,426	10,397/ 2,981,692	1.30 (1.06, 1.58)
AD discontinuer referent	82/ 12,793	163/ 39,495	1.38 (1.02, 1.86)	27/ 6,632	53/ 17,247	1.72 (1.06, 2.79)	109/ 19,425	216/ 56,742	1.46 (1.13, 1.89)
Bupropion discontinuer ref	82/ 12,756	13/ 4,360	2.30 (1.20, 4.40)	27/ 6,585	9/ 2,536	1.47 (0.68, 3.17)	109/ 19,341	22/ 6,896	1.91 (1.16, 3.14)
Intellectual disability									
Crude	30/ 13,090	2,930/ 1,833,927	1.43 (1.00, 2.04)	0/ 6,638	81/ 1,198,818	-	30/ 13,090	2,930/ 1,833,927	1.43 (1.00, 2.04) ¹
Adjusted	30/ 12,794	2,875/ 1,785,311	1.06 (0.71, 1.56)	0/ 6,632	81/ 1,196,381	-	30/ 12,794	2,875/ 1,785,311	1.06 (0.71, 1.56) ¹
AD discontinuer referent	30/ 12,793	90/ 39,495	1.04 (0.65, 1.67)	0/ 6,632	3/ 17,247	-	30/ 12,793	90/ 39,495	1.04 (0.65, 1.67) ¹
Bupropion discontinuer ref	30/ 12,756	<11/ 4,360	1.99 (0.90, 4.37)	0/ 6,585	0/ 2,536	-	30/ 12,756	<11/ 4,360	1.99 (0.90, 4.37) ¹
Behavioral disorder									
Crude	430/ 13,090	33,022/ 1,833,927	1.87 (1.70, 2.05)	46/ 6,638	2,500/ 1,198,818	2.85 (2.13, 3.82)	476/ 19,728	35,522/ 3,032,745	1.94 (1.78, 2.13)
Adjusted	407/ 12,794	31,620/ 1,785,311	1.09 (0.98, 1.22)	46/ 6,632	2,497/ 1,196,381	1.72 (1.21, 2.43)	453/ 19,426	34,117/ 2,981,692	1.14 (1.03, 1.26)
AD discontinuer referent	408/ 12,793	1,091/ 39,495	1.05 (0.92, 1.19)	46/ 6,632	55/ 17,247	1.80 (1.15, 2.83)	454/ 19,425	1,146/ 56,742	1.09 (0.96, 1.23)
Bupropion discontinuer ref	405/ 12,756	120/ 4,360	1.01 (0.79, 1.31)	45/ 6,585	10/ 2,536	1.41 (0.67, 2.96)	450/ 19,341	130/ 6,896	1.05 (0.82, 1.34)
Any NDD									
Crude	1,337/ 13,090	110,036/ 1,833,927	1.79 (1.70, 1.89)	285/ 6,638	28,668/ 1,198,818	1.65 (1.47, 1.85)	1,622/ 19,728	138,704/ 3,032,745	1.77 (1.68, 1.86)
Adjusted	1,278/ 12,794	105,925/ 1,785,311	1.16 (1.09, 1.23)	284/ 6,632	28,612/ 1,196,381	1.24 (1.09, 1.41)	1,562/ 19,426	134,537/ 2,981,692	1.17 (1.11, 1.24)
AD discontinuer referent	1,280/ 12,793	3,210/ 39,495	1.12 (1.04, 1.20)	284/ 6,632	551/ 17,247	1.19 (1.01, 1.41)	1,564/ 19,425	3,761/ 56,742	1.13 (1.06, 1.20)
Bupropion discontinuer ref	1,274/ 12,756	354/ 4,360	1.07 (0.93, 1.24)	281/ 6,585	94/ 2,536	1.06 (0.81, 1.38)	1,555/ 19,341	448/ 6,896	1.07 (0.94, 1.21)

¹Results include data from MAX only due to 0 exposed cases in MarketScan
Event counts are obscured when <11 in MAX due to the CMS cell size suppression policy.

eTable 11. Hazard ratios and 95% confidence intervals for citalopram use in late pregnancy and neurodevelopmental disorders, by data source

Analysis	MAX			MarketScan			Pooled		
	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)
ASD									
Crude	72/ 9,204	8,293/ 1,833,927	2.10 (1.67, 2.65)	23/ 4,771	3,349/ 1,198,818	1.83 (1.21, 2.75)	95/ 13,975	11,642/ 3,032,745	2.03 (1.66, 2.48)
Adjusted	69/ 9,052	7,912/ 1,742,531	1.11 (0.85, 1.44)	23/ 4,766	3,287/ 1,178,028	1.20 (0.77, 1.86)	92/ 13,818	11,199/ 2,920,559	1.13 (0.90, 1.41)
AD discontinuer referent	69/ 9,051	273/ 39,567	1.27 (0.94, 1.70)	23/ 4,758	76/ 17,137	1.08 (0.65, 1.79)	92/ 13,809	349/ 56,704	1.22 (0.94, 1.57)
Citalopram discontinuer ref	69/ 9,050	31/ 5,527	1.47 (0.88, 2.45)	23/ 4,747	11/ 2,078	0.91 (0.41, 2.03)	92/ 13,797	42/ 7,605	1.28 (0.83, 1.97)
ADHD									
Crude	350/ 9,204	47,996/ 1,833,927	2.17 (1.95, 2.41)	39/ 4,771	6,964/ 1,198,818	1.80 (1.31, 2.47)	389/ 13,975	54,960/ 3,032,745	2.13 (1.92, 2.35)
Adjusted	335/ 9,052	43,926/ 1,742,531	1.22 (1.08, 1.37)	39/ 4,766	6,821/ 1,178,028	1.30 (0.94, 1.80)	374/ 13,818	50,747/ 2,920,559	1.23 (1.10, 1.37)
AD discontinuer referent	335/ 9,051	1,569/ 39,567	1.17 (1.02, 1.33)	38/ 4,758	189/ 17,137	0.98 (0.68, 1.41)	373/ 13,809	1,758/ 56,704	1.14 (1.01, 1.30)
Citalopram discontinuer ref	335/ 9,050	164/ 5,527	1.04 (0.81, 1.34)	38/ 4,747	19/ 2,078	0.91 (0.48, 1.71)	373/ 13,797	183/ 7,605	1.03 (0.81, 1.29)
Specific learning disorders									
Crude	21/ 9,204	4,932/ 1,833,927	1.17 (0.76, 1.80)	6/ 4,771	823/ 1,198,818	2.29 (1.02, 5.11)	27/ 13,975	5,755/ 3,032,745	1.36 (0.93, 1.99)
Adjusted	21/ 9,052	4,565/ 1,742,531	0.95 (0.60, 1.49)	6/ 4,766	789/ 1,178,028	1.48 (0.63, 3.44)	27/ 13,818	5,354/ 2,920,559	1.04 (0.70, 1.55)
AD discontinuer referent	21/ 9,051	146/ 39,567	0.77 (0.47, 1.26)	6/ 4,758	14/ 17,137	2.31 (0.83, 6.46)	27/ 13,809	160/ 56,704	0.94 (0.60, 1.47)
Citalopram discontinuer ref	21/ 9,050	<11/ 5,527	1.64 (0.65, 4.09)	6/ 4,747	0/ 2,078	-	21/ 9,050	<11/ 5,527	1.64 (0.65, 4.09)
Developmental speech/language disorders									
Crude	342/ 9,204	49,765/ 1,833,927	1.63 (1.47, 1.82)	121/ 4,771	18,101/ 1,198,818	1.74 (1.45, 2.09)	463/ 13,975	67,866/ 3,032,745	1.66 (1.51, 1.82)
Adjusted	335/ 9,052	47,783/ 1,742,531	1.10 (0.98, 1.24)	121/ 4,766	17,838/ 1,178,028	1.28 (1.06, 1.55)	456/ 13,818	65,621/ 2,920,559	1.15 (1.04, 1.27)
AD discontinuer referent	335/ 9,051	1,378/ 39,567	1.12 (0.98, 1.29)	121/ 4,758	307/ 17,137	1.33 (1.05, 1.68)	456/ 13,809	1,685/ 56,704	1.17 (1.04, 1.32)
Citalopram discontinuer ref	334/ 9,050	172/ 5,527	1.04 (0.83, 1.30)	120/ 4,747	45/ 2,078	1.32 (0.88, 1.98)	454/ 13,797	217/ 7,605	1.10 (0.90, 1.33)
Developmental coordination disorders									

Crude	44/ 9,204	7,396/ 1,833,927	1.31 (0.97, 1.78)	34/ 4,771	3,169/ 1,198,818	2.76 (1.97, 3.87)	78/ 13,975	10,565/ 3,032,745	1.83 (1.46, 2.29)
Adjusted	42/ 9,052	7,230/ 1,742,531	1.04 (0.75, 1.45)	34/ 4,766	3,138/ 1,178,028	1.88 (1.31, 2.70)	76/ 13,818	10,368/ 2,920,559	1.36 (1.07, 1.73)
AD discontinuer referent	42/ 9,051	163/ 39,567	1.09 (0.75, 1.58)	33/ 4,758	53/ 17,137	2.18 (1.34, 3.54)	75/ 13,809	216/ 56,704	1.40 (1.04, 1.89)
Citalopram discontinuer ref	42/ 9,050	21/ 5,527	1.16 (0.59, 2.27)	33/ 4,747	8/ 2,078	1.86 (0.79, 4.38)	75/ 13,797	29/ 7,605	1.39 (0.82, 2.36)
Intellectual disability									
Crude	12/ 9,204	2,930/ 1,833,927	1.06 (0.60, 1.87)	0/ 4,771	81/ 1,198,818	-	12/ 9,204	2,930/ 1,833,927	1.06 (0.60, 1.87) ¹
Adjusted	12/ 9,052	2,750/ 1,742,531	0.68 (0.37, 1.24)	0/ 4,766	80/ 1,178,028	-	12/ 9,052	2,750/ 1,742,531	0.68 (0.37, 1.24) ¹
AD discontinuer referent	12/ 9,051	90/ 39,567	0.74 (0.39, 1.40)	0/ 4,758	3/ 17,137	-	12/ 9,051	90/ 39,567	0.74 (0.39, 1.40) ¹
Citalopram discontinuer ref	12/ 9,050	<11/ 5,527	1.26 (0.41, 3.82)	0/ 4,747	0/ 2,078	-	12/ 9,050	<11/ 5,527	1.26 (0.41, 3.82) ¹
Behavioral disorder									
Crude	256/ 9,204	33,022/ 1,833,927	2.12 (1.87, 2.40)	23/ 4,771	2,500/ 1,198,818	2.64 (1.75, 3.99)	279/ 13,975	35,522/ 3,032,745	2.16 (1.91, 2.43)
Adjusted	247/ 9,052	30,541/ 1,742,531	1.15 (1.00, 1.32)	23/ 4,766	2,451/ 1,178,028	1.62 (1.05, 2.50)	270/ 13,818	32,992/ 2,920,559	1.19 (1.04, 1.36)
AD discontinuer referent	247/ 9,051	1,091/ 39,567	1.12 (0.96, 1.32)	23/ 4,758	55/ 17,137	1.51 (0.86, 2.67)	270/ 13,809	1,146/ 56,704	1.15 (0.98, 1.34)
Citalopram discontinuer ref	247/ 9,050	138/ 5,527	0.75 (0.55, 1.02)	23/ 4,747	7/ 2,078	1.02 (0.39, 2.68)	270/ 13,797	145/ 7,605	0.77 (0.58, 1.03)
Any NDD									
Crude	765/ 9,204	110,036/ 1,833,927	1.85 (1.72, 1.99)	195/ 4,771	28,668/ 1,198,818	1.88 (1.63, 2.16)	960/ 13,975	138,704/ 3,032,745	1.86 (1.74, 1.98)
Adjusted	741/ 9,052	103,131/ 1,742,531	1.15 (1.06, 1.24)	195/ 4,766	28,192/ 1,178,028	1.36 (1.17, 1.58)	936/ 13,818	131,323/ 2,920,559	1.19 (1.11, 1.28)
AD discontinuer referent	741/ 9,051	3,210/ 39,567	1.16 (1.06, 1.27)	193/ 4,758	546/ 17,137	1.33 (1.11, 1.60)	934/ 13,809	3,756/ 56,704	1.19 (1.10, 1.29)
Citalopram discontinuer ref	740/ 9,050	372/ 5,527	1.02 (0.86, 1.20)	192/ 4,747	71/ 2,078	1.23 (0.89, 1.69)	932/ 13,797	443/ 7,605	1.06 (0.91, 1.23)

¹Results include data from MAX only due to 0 exposed cases in MarketScan
Event counts are obscured when <11 in MAX due to the CMS cell size suppression policy.

eTable 12. Hazard ratios and 95% confidence intervals for escitalopram use in late pregnancy and neurodevelopmental disorders, by data source

Analysis	MAX			MarketScan			Pooled		
	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)	Events/ N exposed	Events/ N referent	HR (95% CI)
ASD									
Crude	63/ 6,865	8,293/ 1,833,927	2.00 (1.56, 2.55)	36/ 6,668	3,349/ 1,198,818	1.92 (1.38, 2.66)	99/ 13,533	11,642/ 3,032,745	1.97 (1.61, 2.40)
Adjusted	62/ 6,740	7,287/ 1,634,187	0.95 (0.71, 1.26)	36/ 6,658	3,343/ 1,196,322	1.34 (0.94, 1.91)	98/ 13,398	10,630/ 2,830,509	1.09 (0.87, 1.36)
AD discontinuer referent	63/ 6,745	245/ 37,187	1.14 (0.84, 1.55)	36/ 6,663	76/ 17,222	1.22 (0.80, 1.86)	99/ 13,408	321/ 54,409	1.17 (0.91, 1.49)
Escitalopram discontinuer ref	63/ 6,709	36/ 3,736	1.20 (0.75, 1.92)	36/ 6,655	10/ 2,729	1.11 (0.47, 2.58)	99/ 13,364	46/ 6,465	1.17 (0.78, 1.77)
ADHD									
Crude	357/ 6,865	47,996/ 1,833,927	2.22 (2.00, 2.47)	92/ 6,668	6,964/ 1,198,818	2.38 (1.93, 2.93)	449/ 13,533	54,960/ 3,032,745	2.25 (2.05, 2.47)
Adjusted	344/ 6,740	36,507/ 1,634,187	1.21 (1.08, 1.36)	92/ 6,658	6,946/ 1,196,322	1.66 (1.33, 2.06)	436/ 13,398	43,453/ 2,830,509	1.30 (1.17, 1.44)
AD discontinuer referent	346/ 6,745	1,370/ 37,187	1.09 (0.95, 1.24)	92/ 6,663	195/ 17,222	1.25 (0.96, 1.63)	438/ 13,408	1,565/ 54,409	1.12 (0.99, 1.26)
Escitalopram discontinuer ref	344/ 6,709	150/ 3,736	1.16 (0.85, 1.57)	92/ 6,655	34/ 2,729	1.39 (0.86, 2.23)	436/ 13,364	184/ 6,465	1.22 (0.94, 1.58)
Specific learning disorders									
Crude	29/ 6,865	4,932/ 1,833,927	1.75 (1.21, 2.52)	8/ 6,668	823/ 1,198,818	1.72 (0.86, 3.46)	37/ 13,533	5,755/ 3,032,745	1.74 (1.26, 2.41)
Adjusted	29/ 6,740	3,733/ 1,634,187	1.27 (0.83, 1.95)	8/ 6,658	821/ 1,196,322	1.28 (0.61, 2.67)	37/ 13,398	4,554/ 2,830,509	1.27 (0.88, 1.84)
AD discontinuer referent	29/ 6,745	133/ 37,187	0.99 (0.64, 1.52)	8/ 6,663	15/ 17,222	1.47 (0.60, 3.61)	37/ 13,408	148/ 54,409	1.06 (0.72, 1.57)
Escitalopram discontinuer ref	29/ 6,709	14/ 3,736	0.93 (0.42, 2.08)	8/ 6,655	2/ 2,729	3.62 (0.77, 16.96)	37/ 13,364	16/ 6,465	1.24 (0.61, 2.53)
Developmental speech/language disorders									
Crude	356/ 6,865	49,765/ 1,833,927	1.89 (1.70, 2.10)	140/ 6,668	18,101/ 1,198,818	1.41 (1.20, 1.67)	496/ 13,533	67,866/ 3,032,745	1.74 (1.59, 1.90)
Adjusted	349/ 6,740	42,477/ 1,634,187	1.22 (1.09, 1.37)	140/ 6,658	18,073/ 1,196,322	1.13 (0.95, 1.34)	489/ 13,398	60,550/ 2,830,509	1.19 (1.08, 1.31)
AD discontinuer referent	350/ 6,745	1,259/ 37,187	1.21 (1.06, 1.38)	140/ 6,663	305/ 17,222	1.20 (0.97, 1.48)	490/ 13,408	1,564/ 54,409	1.21 (1.08, 1.35)
Escitalopram discontinuer ref	348/ 6,709	152/ 3,736	1.35 (1.07, 1.72)	140/ 6,655	46/ 2,729	1.20 (0.79, 1.80)	488/ 13,364	198/ 6,465	1.31 (1.07, 1.61)
Developmental coordination disorders									

Crude	45/ 6,865	7,396/ 1,833,927	1.59 (1.19, 2.13)	42/ 6,668	3,169/ 1,198,818	2.38 (1.76, 3.23)	87/ 13,533	10,565/ 3,032,745	1.93 (1.56, 2.38)
Adjusted	45/ 6,740	6,775/ 1,634,187	1.33 (0.97, 1.81)	42/ 6,658	3,161/ 1,196,322	1.68 (1.20, 2.35)	87/ 13,398	9,936/ 2,830,509	1.48 (1.18, 1.86)
AD discontinuer referent	45/ 6,745	155/ 37,187	1.37 (0.94, 1.99)	42/ 6,663	52/ 17,222	2.39 (1.56, 3.66)	87/ 13,408	207/ 54,409	1.74 (1.32, 2.31)
Escitalopram discontinuer ref	45/ 6,709	14/ 3,736	2.02 (1.00, 4.07)	41/ 6,655	6/ 2,729	2.83 (1.11, 7.22)	86/ 13,364	20/ 6,465	2.28 (1.30, 4.00)
Intellectual disability									
Crude	16/ 6,865	2,930/ 1,833,927	1.50 (0.92, 2.44)	0/ 6,668	81/ 1,198,818	-	16/ 6,865	2,930/ 1,833,927	1.50 (0.92, 2.44) ¹
Adjusted	16/ 6,740	2,036/ 1,634,187	1.19 (0.69, 2.04)	0/ 6,658	81/ 1,196,322	-	16/ 6,740	2,036/ 1,634,187	1.19 (0.69, 2.04) ¹
AD discontinuer referent	16/ 6,745	66/ 37,187	1.20 (0.67, 2.15)	0/ 6,663	3/ 17,222	-	16/ 6,745	66/ 37,187	1.20 (0.67, 2.15) ¹
Escitalopram discontinuer ref	16/ 6,709	<11/ 3,736	0.54 (0.19, 1.56)	0/ 6,655	0/ 2,729	-	16/ 6,709	<11/ 3,736	0.54 (0.19, 1.56) ¹
Behavioral disorder									
Crude	265/ 6,865	33,022/ 1,833,927	2.30 (2.04, 2.60)	30/ 6,668	2,500/ 1,198,818	2.09 (1.46, 3.00)	295/ 13,533	35,522/ 3,032,745	2.28 (2.03, 2.56)
Adjusted	254/ 6,740	25,737/ 1,634,187	1.24 (1.08, 1.42)	30/ 6,658	2,497/ 1,196,322	1.32 (0.90, 1.93)	284/ 13,398	28,234/ 2,830,509	1.25 (1.09, 1.42)
AD discontinuer referent	256/ 6,745	953/ 37,187	1.25 (1.07, 1.46)	30/ 6,663	55/ 17,222	1.57 (0.98, 2.51)	286/ 13,408	1,008/ 54,409	1.28 (1.10, 1.48)
Escitalopram discontinuer ref	255/ 6,709	101/ 3,736	1.21 (0.81, 1.79)	30/ 6,655	10/ 2,729	1.43 (0.62, 3.29)	285/ 13,364	111/ 6,465	1.24 (0.87, 1.78)
Any NDD									
Crude	772/ 6,865	110,036/ 1,833,927	2.04 (1.90, 2.19)	265/ 6,668	28,668/ 1,198,818	1.70 (1.51, 1.92)	1,037/ 13,533	138,704/ 3,032,745	1.94 (1.83, 2.07)
Adjusted	753/ 6,740	90,404/ 1,634,187	1.22 (1.13, 1.32)	265/ 6,658	28,612/ 1,196,322	1.29 (1.14, 1.47)	1,018/ 13,398	119,016/ 2,830,509	1.24 (1.16, 1.33)
AD discontinuer referent	755/ 6,745	2,886/ 37,187	1.18 (1.08, 1.30)	265/ 6,663	550/ 17,222	1.30 (1.11, 1.52)	1,020/ 13,408	3,436/ 54,409	1.21 (1.12, 1.31)
Escitalopram discontinuer ref	751/ 6,709	332/ 3,736	1.27 (1.06, 1.52)	264/ 6,655	88/ 2,729	1.34 (1.00, 1.79)	1,015/ 13,364	420/ 6,465	1.29 (1.10, 1.50)

¹Results include data from MAX only due to 0 exposed cases in MarketScan
Event counts are obscured when <11 in MAX due to the CMS cell size suppression policy.

eTable 13. Characteristics of the cohort for individuals exposed to antidepressants during late pregnancy and individuals unexposed to antidepressants throughout pregnancy, in MAX, crude and propensity score weighted results

	Crude			Weighted		
	Antidepressant exposed	Unexposed	Std Diff (%)	Antidepressant exposed	Unexposed	Std Diff (%)
Age, mean (SD)	26.2 (5.7)	24.3 (5.8)	32.7	26.2 (5.7)	25.9 (5.7)	4.2
Age categories, N (%)						
≤19 years	10,732 (11.5)	430,668 (23.5)	-31.9	10,513 (11.5)	211,744 (11.7)	-0.8
20-24 years	29,425 (31.6)	625,359 (34.1)	-5.3	28,768 (31.5)	579,238 (32.1)	-1.4
25-29 years	28,248 (30.4)	439,890 (24.0)	14.4	27,820 (30.4)	549,437 (30.5)	-0.1
30-34 years	16,016 (17.2)	219,651 (12.0)	14.9	15,793 (17.3)	304,407 (16.9)	1.0
35-39 years	6,995 (7.5)	93,761 (5.1)	9.9	6,891 (7.5)	127,748 (7.1)	1.7
≥40 years	1,653 (1.8)	24,598 (1.3)	3.5	1,627 (1.8)	29,868 (1.7)	0.9
Race/ethnicity ¹ , N (%)						
Asian or other Pacific Islander	883 (0.9)	73,042 (4.0)	-19.7	880 (1.0)	13,209 (0.7)	2.5
Black or African American	13,642 (14.7)	645,600 (35.2)	-48.9	13,407 (14.7)	242,032 (13.4)	3.6
Hispanic or Latino	5,067 (5.4)	279,317 (15.2)	-32.6	5,042 (5.5)	85,047 (4.7)	3.6
Unknown or other	6,088 (6.5)	155,220 (8.5)	-7.3	6,075 (6.6)	114,958 (6.4)	1.1
White	67,389 (72.4)	680,748 (37.1)	75.8	66,008 (72.2)	1,347,197 (74.7)	-5.7
Region, N (%)						
Midwest	40,940 (44.0)	560,645 (30.6)	28.0	40,863 (44.7)	809,959 (44.9)	-0.5
Northeast	13,717 (14.7)	321,625 (17.5)	-7.6	13,677 (15.0)	263,136 (14.6)	1.0
South	25,515 (27.4)	533,036 (29.1)	-3.7	23,998 (26.3)	484,369 (26.9)	-1.4
West	12,897 (13.9)	418,621 (22.8)	-23.3	12,874 (14.1)	244,978 (13.6)	1.4
Delivery year, N (%)						
2000	48 (0.1)	1,640 (0.1)	-1.4	48 (0.1)	846 (0.0)	0.2
2001	2,800 (3.0)	78,560 (4.3)	-6.8	2,792 (3.1)	53,117 (2.9)	0.6
2002	4,326 (4.6)	90,037 (4.9)	-1.2	4,309 (4.7)	83,145 (4.6)	0.5
2003	6,980 (7.5)	116,621 (6.4)	4.5	6,944 (7.6)	133,777 (7.4)	0.7
2004	8,678 (9.3)	139,324 (7.6)	6.2	8,642 (9.5)	165,020 (9.2)	1.0
2005	7,630 (8.2)	140,037 (7.6)	2.1	7,361 (8.1)	142,902 (7.9)	0.5
2006	7,112 (7.6)	140,842 (7.7)	-0.1	6,424 (7.0)	125,603 (7.0)	0.2
2007	6,700 (7.2)	133,786 (7.3)	-0.4	6,210 (6.8)	121,967 (6.8)	0.1
2008	6,259 (6.7)	132,419 (7.2)	-2.0	6,240 (6.8)	125,837 (7.0)	-0.6
2009	8,113 (8.7)	154,377 (8.4)	1.1	8,089 (8.8)	161,389 (9.0)	-0.4
2010	9,104 (9.8)	164,190 (9.0)	2.9	9,075 (9.9)	180,390 (10.0)	-0.3
2011	8,579 (9.2)	175,765 (9.6)	-1.3	8,562 (9.4)	173,056 (9.6)	-0.8
2012	7,967 (8.6)	179,839 (9.8)	-4.3	7,954 (8.7)	161,168 (8.9)	-0.8
2013	5,892 (6.3)	129,523 (7.1)	-2.9	5,883 (6.4)	116,409 (6.5)	-0.1
2014	2,881 (3.1)	56,967 (3.1)	-0.1	2,879 (3.1)	57,816 (3.2)	-0.3
Indications and mental health conditions, N (%)						
ADHD	2,934 (3.2)	10,889 (0.6)	19.0	2,901 (3.2)	60,698 (3.4)	-1.1
Adjustment disorder	1,697 (1.8)	13,412 (0.7)	9.7	1,680 (1.8)	34,870 (1.9)	-0.7

Anxiety	24,222 (26.0)	55,849 (3.0)	69.0	23,780 (26)	470,999 (26.1)	-0.3
Behavioral disorder	1,372 (1.5)	13,908 (0.8)	6.8	1,357 (1.5)	28,593 (1.6)	-0.8
Bipolar disorder	11,771 (12.6)	25,178 (1.4)	45.3	11,525 (12.6)	240,069 (13.3)	-2.1
Chronic fatigue	8,597 (9.2)	68,411 (3.7)	22.5	8,443 (9.2)	169,432 (9.4)	-0.6
Depression, nonpsychotic	17,686 (19.0)	24,564 (1.3)	61.1	17,379 (19.0)	317,160 (17.6)	3.7
Depression, other	34,195 (36.7)	62,940 (3.4)	91.4	33,685 (36.8)	651,747 (36.2)	1.4
Depression, psychotic	1,714 (1.8)	1,976 (0.1)	17.7	1,660 (1.8)	28,856 (1.6)	1.7
Epilepsy/convulsion	2,597 (2.8)	17,701 (1.0)	13.5	2,545 (2.8)	53,410 (3.0)	-1.1
Migraine/headache	21,395 (23.0)	196,252 (10.7)	33.3	20,941 (22.9)	423,090 (23.5)	-1.3
Other developmental disorders ²	626 (0.7)	5,194 (0.3)	5.7	618 (0.7)	12,095 (0.7)	0.1
Other mental health disorders ³	3,585 (3.9)	16,483 (0.9)	19.5	3,523 (3.9)	67,613 (3.8)	0.5
Personality disorder	1,958 (2.1)	3,085 (0.2)	18.3	1,935 (2.1)	34,904 (1.9)	1.3
Psychosis	1,305 (1.4)	4,061 (0.2)	13.2	1,284 (1.4)	25,479 (1.4)	-0.1
Schizophrenia	1,218 (1.3)	2,726 (0.1)	13.7	1,198 (1.3)	25,137 (1.4)	-0.7
Sleep disorder	4,068 (4.4)	11,176 (0.6)	24.3	3,946 (4.3)	74,653 (4.1)	0.9
Psychiatric visits, N (%)						
0 visits	79,476 (85.4)	1,789,696 (97.6)	-44.8	78,087 (85.4)	1,544,667 (85.7)	-0.8
1 visit	3,579 (3.8)	16,535 (0.9)	19.4	3,505 (3.8)	69,874 (3.9)	-0.2
2-3 visits	3,662 (3.9)	11,254 (0.6)	22.4	3,563 (3.9)	69,549 (3.9)	0.2
4+ visits	6,352 (6.8)	16,442 (0.9)	31.1	6,257 (6.8)	118,352 (6.6)	1.1
Mental health diagnoses, N (%)						
0 diagnoses	41,625 (44.7)	1,625,054 (88.6)	-105.2	40,841 (44.7)	783,859 (43.5)	2.4
1 diagnosis	18,301 (19.7)	126,831 (6.9)	38.2	17,991 (19.7)	387,512 (21.5)	-4.5
2-3 diagnoses	20,981 (22.5)	65,301 (3.6)	58.7	20,647 (22.6)	419,729 (23.3)	-1.7
4+ diagnoses	12,162 (13.1)	16,741 (0.9)	49.1	11,933 (13.1)	211,342 (11.7)	4.0
Mental health ER visits, N (%)						
0 visits	85,412 (91.8)	1,803,275 (98.3)	-30.6	83,891 (91.8)	1,658,892 (92.0)	-1.0
1 visit	5,224 (5.6)	25,482 (1.4)	23.1	5,125 (5.6)	101,930 (5.7)	-0.2
2-3 visits	2,084 (2.2)	4,819 (0.3)	17.9	2,048 (2.2)	36,664 (2.0)	1.4
4+ visits	349 (0.4)	351 (0.0)	8.0	348 (0.4)	4,956 (0.3)	1.8
Mental health hospitalizations, N (%)						
0 visits	87,502 (94.0)	1,816,957 (99.1)	-28.0	86,052 (94.1)	1,704,413 (94.6)	-1.8
1 visit	2,562 (2.8)	11,636 (0.6)	16.5	2,435 (2.7)	46,262 (2.6)	0.6
2-3 visits	1,976 (2.1)	4,248 (0.2)	17.6	1,922 (2.1)	34,228 (1.9)	1.5
4+ visits	1,029 (1.1)	1,086 (0.1)	13.8	1,003 (1.1)	17,539 (1.0)	1.2
Other psychiatric medications, N (%)						
0 drugs	71,611 (76.9)	1,790,601 (97.6)	-65.4	70,360 (77.0)	1,402,168 (77.8)	-2.0
1 drug	7,183 (7.7)	21,778 (1.2)	32.1	7,032 (7.7)	143,901 (8.0)	-1.1
2-3 drugs	10,354 (11.1)	17,799 (1.0)	43.6	10,178 (11.1)	192,392 (10.7)	1.5
4+ drugs	3,921 (4.2)	3,749 (0.2)	27.5	3,842 (4.2)	63,981 (3.5)	3.4
Outpatient visits (based on quartiles) , N (%)						
Low	10,363 (11.1)	508,142 (27.7)	-42.8	10,154 (11.1)	183,808 (10.2)	3.0
Low to moderate	16,491 (17.7)	509,272 (27.8)	-24.2	16,129 (17.6)	310,264 (17.2)	1.1

Moderate to high	17,820 (19.1)	380,976 (20.8)	-4.1	17,485 (19.1)	353,544 (19.6)	-1.2
High	48,395 (52.0)	435,537 (23.7)	60.9	47,644 (52.1)	954,826 (53.0)	-1.7
Hospitalizations, N (%)						
0 visits	80,818 (86.8)	1,685,214 (91.9)	-16.5	80,031 (87.5)	1,580,183 (87.7)	-0.4
1 visit	7,877 (8.5)	99,464 (5.4)	12.0	7,618 (8.3)	148,921 (8.3)	0.3
2-3 visits	2,802 (3.0)	32,966 (1.8)	7.9	2,482 (2.7)	47,196 (2.6)	0.6
4+ visits	1,572 (1.7)	16,283 (0.9)	7.1	1,281 (1.4)	26,142 (1.5)	-0.4
Lifestyle behaviors/environmental, N (%)						
Alcohol abuse	3,363 (3.6)	13,921 (0.8)	19.6	3,312 (3.6)	62,401 (3.5)	0.9
Tobacco use	17,583 (18.9)	137,823 (7.5)	34.1	17,277 (18.9)	358,061 (19.9)	-2.4
Substance abuse	10,385 (11.2)	52,472 (2.9)	32.9	10,202 (11.2)	202,740 (11.2)	-0.3
Hyperemesis/nausea and vomiting in pregnancy	25,557 (27.5)	312,755 (17.1)	25.2	25,018 (27.4)	505,683 (28.1)	-1.5
Poor nutrition	2,270 (2.4)	24,001 (1.3)	8.3	2,244 (2.5)	44,608 (2.5)	-0.1
Start of prenatal care, gestational month, N (%)						
Month 1	5,311 (5.7)	79,729 (4.3)	6.2	5,240 (5.7)	103,980 (5.8)	-0.2
Month 2	34,152 (36.7)	527,048 (28.7)	17.0	33,626 (36.8)	672,353 (37.3)	-1.1
Month 3	22,504 (24.2)	401,997 (21.9)	5.4	22,158 (24.2)	438,881 (24.3)	-0.3
Month 4	9,552 (10.3)	217,529 (11.9)	-5.1	9,373 (10.3)	183,136 (10.2)	0.3
Month 5	5,963 (6.4)	143,688 (7.8)	-5.6	5,833 (6.4)	113,579 (6.3)	0.3
Month 6	3,125 (3.4)	90,590 (4.9)	-7.9	3,055 (3.3)	58,189 (3.2)	0.6
Month 7	2,483 (2.7)	67,782 (3.7)	-5.9	2,421 (2.6)	47,571 (2.6)	0.1
Month 8	1,621 (1.7)	46,639 (2.5)	-5.5	1,583 (1.7)	30,362 (1.7)	0.4
Month 9	1,574 (1.7)	46,321 (2.5)	-5.8	1,533 (1.7)	29,144 (1.6)	0.5
No prenatal care	6,784 (7.3)	212,604 (11.6)	-14.8	6,590 (7.2)	125,247 (6.9)	1.0
Prenatal care index, N (%)						
Adequate plus	22,558 (24.2)	413,909 (22.6)	3.9	22,401 (24.5)	444,761 (24.7)	0.1
Adequate	12,884 (13.8)	235,059 (12.8)	3.0	12,731 (13.9)	250,208 (13.9)	-0.4
Intermediate	15,617 (16.8)	238,691 (13.0)	10.6	15,344 (16.8)	303,141 (16.8)	-0.1
Inadequate	42,010 (45.1)	946,268 (51.6)	-13.0	40,936 (44.8)	804,333 (44.6)	0.3
Start of prenatal vitamins, N (%)						
3 rd month prior to LMP	1,052 (1.1)	13,532 (0.7)	4.1	2,264 (2.5)	44,651 (2.5)	0.2
2 nd month prior to LMP	1,339 (1.4)	18,821 (1.0)	3.7	1,307 (1.4)	24,930 (1.4)	0.4
1 st month prior to LMP	2,310 (2.5)	31,059 (1.7)	5.5	1,037 (1.1)	20,032 (1.1)	0.0
Month 1	6,595 (7.1)	97,643 (5.3)	7.3	6,480 (7.1)	127,115 (7.1)	0.1
Month 2	24,931 (26.8)	419,250 (22.9)	9.1	24,409 (26.7)	478,693 (26.6)	0.3
Month 3	12,865 (13.8)	252,858 (13.8)	0.1	12,604 (13.8)	246,570 (13.7)	0.3
Month 4	6,408 (6.9)	142,940 (7.8)	-3.5	6,299 (6.9)	122,562 (6.8)	0.4
Month 5	4,267 (4.6)	97,744 (5.3)	-3.4	4,194 (4.6)	83,237 (4.6)	-0.1
Month 6	2,975 (3.2)	69,105 (3.8)	-3.1	2,918 (3.2)	56,093 (3.1)	0.5
Month 7	2,071 (2.2)	49,978 (2.7)	-3.2	2,025 (2.2)	40,614 (2.3)	-0.3
Month 8	1,260 (1.4)	31,773 (1.7)	-3.1	1,234 (1.3)	24,376 (1.4)	0.0
Month 9	580 (0.6)	14,481 (0.8)	-2.0	574 (0.6)	11,334 (0.6)	0.0
No prenatal vitamins	26,416 (28.4)	594,743 (32.4)	-8.8	26,067 (28.5)	522,235 (29.0)	-1.0

Comorbidities, N (%)						
Asthma	11,205 (12.0)	120,900 (6.6)	18.8	11,019 (12.1)	225,042 (12.5)	-1.3
Autoimmune disorder	1,898 (2.0)	17,036 (0.9)	9.2	1,879 (2.1)	36,352 (2.0)	0.3
Pregestational diabetes	8,254 (8.9)	102,479 (5.6)	12.7	8,131 (8.9)	159,033 (8.8)	0.3
GBS infection	4,356 (4.7)	98,841 (5.4)	-3.2	4,292 (4.7)	83,521 (4.6)	0.3
Pregestational hypertension	6,845 (7.4)	81,845 (4.5)	12.3	6,728 (7.4)	134,880 (7.5)	-0.5
Influenza	1,769 (1.9)	22,842 (1.2)	5.3	1,734 (1.9)	35,218 (2.0)	-0.4
Other STD infection	4,514 (4.9)	90,026 (4.9)	-0.3	4,416 (4.8)	91,779 (5.1)	-1.2
Overweight/obesity	7,192 (7.7)	104,081 (5.7)	8.2	7,107 (7.8)	141,586 (7.9)	-0.3
Renal disease	392 (0.4)	4,655 (0.3)	2.9	390 (0.4)	8,113 (0.5)	-0.4
TORCH infection	3,673 (3.9)	82,566 (4.5)	-2.8	3,625 (4.0)	70,940 (3.9)	0.2
Obstetric Comorbidity Index ⁴ , N (%)						
0	38,972 (41.9)	1,027,424 (56.0)	-28.6	38,258 (41.9)	748,021 (41.5)	0.7
1	21,941 (23.6)	411,137 (22.4)	2.8	21,548 (23.6)	425,094 (23.6)	0.0
2	15,169 (16.3)	209,624 (11.4)	14.1	14,895 (16.3)	297,210 (16.5)	-0.5
3+	16,987 (18.3)	185,742 (10.1)	23.4	16,711 (18.3)	332,117 (18.4)	-0.4
Other prescription medications, N (%)						
Anticonvulsants	10,448 (11.2)	26,298 (1.4)	41.1	10,232 (11.2)	198,681 (11.0)	0.5
Antidiabetics	3,262 (3.5)	31,978 (1.7)	11.0	3,203 (3.5)	64,079 (3.6)	-0.3
Antihypertensives	11,952 (12.8)	94,612 (5.2)	27.1	11,724 (12.8)	233,418 (13.0)	-0.4
Antipsychotics	10,287 (11.1)	10,544 (0.6)	45.9	10,078 (11.0)	187,148 (10.4)	2.1
Anxiolytics	3,834 (4.1)	4,654 (0.3)	26.7	3,754 (4.1)	70,546 (3.9)	1.0
Barbiturates	6,501 (7.0)	37,279 (2.0)	24.0	6,329 (6.9)	131,077 (7.3)	-1.4
Benzodiazepines	19,269 (20.7)	33,710 (1.8)	62.5	18,949 (20.7)	356,608 (19.8)	2.4
Corticosteroids	27,599 (29.7)	323,243 (17.6)	28.6	27,080 (29.6)	539,155 (29.9)	-0.6
Insulin	3,456 (3.7)	33,743 (1.8)	11.4	3,406 (3.7)	66,692 (3.7)	0.1
NSAIDs	32,338 (34.7)	407,602 (22.2)	28.0	31,658 (34.6)	629,920 (34.9)	-0.7
Opioids	52,341 (56.2)	532,059 (29.0)	57.3	51,244 (56.1)	1,047,114 (58.1)	-4.1
Other hypnotics	20,998 (22.6)	117,732 (6.4)	47.1	20,599 (22.5)	394,114 (21.9)	1.6
OAD treatment	2,093 (2.2)	6,075 (0.3)	17.1	2,081 (2.3)	41,312 (2.3)	-0.1
Progestins	6,837 (7.3)	88,632 (4.8)	10.5	6,673 (7.3)	133,869 (7.4)	-0.5
Psychostimulants	3,650 (3.9)	9,315 (0.5)	23.4	3,597 (3.9)	70,698 (3.9)	0.1
Known teratogens	1,360 (1.5)	5,418 (0.3)	12.5	1,336 (1.5)	27,384 (1.5)	-0.5
Suspected teratogens	24,741 (26.6)	310,428 (16.9)	23.6	24,196 (26.5)	485,898 (27.0)	-1.1
Triptans	3,709 (4.0)	15,586 (0.8)	20.5	3,617 (4.0)	70,969 (3.9)	0.1
Proximity to metropolitan area, N (%)						
Metropolitan	72,509 (79.3)	1,570,850 (87.0)	-20.6	72,481 (79.3)	1,415,322 (78.5)	1.9
Non-metropolitan	16,269 (17.8)	201,130 (11.1)	19.0	16,257 (17.8)	333,597 (18.5)	-1.9
Rural	2,675 (2.9)	34,555 (1.9)	6.6	2,674 (2.9)	53,522 (3.0)	-0.3
Percentage of Population with ≤ High School Diploma (Based on Quartiles) ⁵ , N (%)						
Low	26,385 (28.9)	445,850 (24.7)	9.4	26,373 (28.9)	520,614 (28.9)	-0.1
Low to moderate	19,671 (21.5)	467,409 (25.9)	-10.3	19,664 (21.5)	379,021 (21.0)	1.2

Moderate to high	20,173 (22.1)	457,015 (25.3)	-7.7	20,167 (22.1)	392,553 (21.8)	0.7
High	25,221 (27.6)	435,258 (24.1)	7.9	25,208 (27.6)	510,254 (28.3)	-1.6
Poverty Rate (Based on Quartiles) ⁵ , N (%)						
Low	31,217 (34.1)	439,567 (24.3)	21.7	31,201 (34.1)	618,924 (34.3)	-0.4
Low to moderate	20,687 (22.6)	457,336 (25.3)	-6.4	20,681 (22.6)	400,597 (22.2)	1.0
Moderate to high	24,742 (27.1)	441,735 (24.5)	5.9	24,733 (27.1)	498,536 (27.7)	-1.4
High	14,802 (16.2)	466,863 (25.9)	-23.9	14,797 (16.2)	284,385 (15.8)	1.1
Unemployment Rate (Based on Quartiles) ⁵ , N (%)						
Low	31,409 (34.3)	437,740 (24.2)	22.3	31,391 (34.3)	628,583 (34.9)	-1.1
Low to moderate	24,097 (26.4)	436,584 (24.2)	5.0	24,091 (26.4)	477,731 (26.5)	-0.3
Moderate to high	18,176 (19.9)	479,454 (26.6)	-15.9	18,170 (19.9)	349,612 (19.4)	1.2
High	17,767 (19.4)	451,746 (25.0)	-13.5	17,760 (19.4)	346,517 (19.2)	0.5
Additional post-delivery variables ⁶						
Well-child visits up to year 1	7.0 (4.2)	6.8 (4.2)	5.8			
Well-child visits up to year 4	9.2 (4.5)	9.0 (4.6)	4.6			

¹Race/ethnicity was determined based on information submitted to the Centers for Medicare & Medicaid Services by individual states, which was based on information that had been collected and coded from Medicaid applications.

²Other neurodevelopmental disorders include autism spectrum disorder, speech/language disorder, developmental coordination disorder, intellectual disability, and specific learning disorder.

³Other mental health disorders include delirium, dementia, tic disorder, somatoform spectrum disorder, eating disorder, psychotherapy, self-inflicted injury.

⁴As defined by Bateman et al. (2013): Development of a comorbidity index for use in obstetric patients.¹

⁵County-level SES-measures were assessed after linkage of zip codes (only available in MAX) with corresponding FIPS county codes using crosswalk files provided by the US Department of Housing and Urban Development; these FIPS codes were then used to merge the MAX data with data provided by the US Department of Agriculture which include county-level information on various SES-measures. Metropolitan area is defined as counties in metropolitan areas or counties with urban population of 20,000 or more, adjacent to a metropolitan area; urban area is defined as counties with urban population of 20,000 or more, not adjacent to a metropolitan area, or counties with populations of 2,500 to 19,999 residents; rural area is defined as counties with a population of less than 2,500. Categories of unemployment rate, poverty rate and rate of educational attainment reflect year-specific quartiles.

⁶These variables were not included in the propensity score, therefore are not reported for the weighted results

eTable 14. Characteristics of the cohort for individuals exposed to antidepressants during late pregnancy and individuals unexposed to antidepressants throughout pregnancy, in MarketScan, crude and propensity score weighted results

	Crude			Weighted		
	Antidepressant exposed	Unexposed	Std Diff (%)	Antidepressant exposed	Unexposed	Std Diff (%)
Age, mean (SD)	32.7 (4.6)	31.9 (4.6)	17.7	32.7 (4.6)	32.7 (4.6)	0.5
Age categories, N (%)						
≤19 years	83 (0.2)	3,166 (0.3)	-2.3	83 (0.2)	2,315 (0.2)	-0.8
20-24 years	1,576 (3.0)	52,584 (4.4)	-7.4	1,575 (3.0)	36,574 (3.1)	-0.3
25-29 years	11,387 (21.6)	316,956 (26.4)	-11.3	11,377 (21.6)	253,822 (21.2)	1.1
30-34 years	21,305 (40.5)	486,489 (40.6)	-0.2	21,294 (40.5)	485,130 (40.5)	0.0
35-39 years	14,465 (27.5)	272,351 (22.7)	11.0	14,444 (27.5)	331,580 (27.7)	-0.4
≥40 years	3,817 (7.3)	67,272 (5.6)	6.7	3,812 (7.2)	88,963 (7.4)	-0.7
Region, N (%)						
Midwest	15,954 (30.3)	305,958 (25.5)	10.7	15,940 (30.3)	359,757 (30.0)	0.6
Northeast	6,709 (12.7)	191,501 (16.0)	-9.2	6,706 (12.8)	149,932 (12.5)	0.7
South	21,250 (40.4)	470,808 (39.3)	2.3	21,227 (40.4)	488,702 (40.8)	-0.8
West	8,033 (15.3)	216,743 (18.1)	-7.6	8,026 (15.3)	184,621 (15.4)	-0.4
Delivery year, N (%)						
2003	56 (0.1)	946 (0.1)	0.9	56 (0.1)	1,324 (0.1)	-0.1
2004	2,220 (4.2)	49,945 (4.2)	0.3	2,220 (4.2)	51,471 (4.3)	-0.4
2005	3,016 (5.7)	64,374 (5.4)	1.6	3,012 (5.7)	69,521 (5.8)	-0.3
2006	3,176 (6.0)	65,869 (5.5)	2.3	3,175 (6.0)	73,423 (6.1)	-0.4
2007	3,713 (7.1)	80,740 (6.7)	1.3	3,711 (7.1)	84,515 (7.1)	0.0
2008	4,342 (8.2)	92,998 (7.8)	1.8	4,336 (8.2)	98,829 (8.2)	0.0
2009	6,246 (11.9)	131,938 (11.0)	2.7	6,241 (11.9)	141,187 (11.8)	0.3
2010	6,172 (11.7)	130,341 (10.9)	2.7	6,166 (11.7)	140,087 (11.7)	0.1
2011	6,629 (12.6)	14,4347 (12.0)	1.7	6,621 (12.6)	150,821 (12.6)	0.0
2012	5,613 (10.7)	149,693 (12.5)	-5.7	5,609 (10.7)	127,508 (10.6)	0.1
2013	4,728 (9.0)	121,388 (10.1)	-3.9	4,722 (9.0)	106,583 (8.9)	0.3
2014	4,653 (8.8)	116,079 (9.7)	-2.9	4,649 (8.8)	106,973 (8.9)	-0.3
2015	2,069 (3.9)	50,160 (4.2)	-1.3	2,067 (3.9)	46,144 (3.9)	0.4
Indications and mental health conditions, N (%)						
ADHD	1,019 (1.9)	4,351 (0.4)	14.8	1,018 (1.9)	24,270 (2.0)	-0.6
Adjustment disorder	581 (1.1)	3,449 (0.3)	9.8	580 (1.1)	14,073 (1.2)	-0.7
Anxiety	12,349 (23.5)	27,316 (2.3)	66.7	12,303 (23.4)	295,585 (24.7)	-3.0
Behavioral disorder	77 (0.1)	189 (0.0)	4.6	75 (0.1)	1,676 (0.1)	0.1
Bipolar disorder	2,119 (4.0)	2,756 (0.2)	26.5	2,095 (4.0)	50,124 (4.2)	-1.0
Chronic fatigue	5,373 (10.2)	57,829 (4.8)	20.5	5,354 (10.2)	131,212 (10.9)	-2.5
Depression, nonpsychotic	8,044 (15.3)	7,021 (0.6)	56.5	7,997 (15.2)	156,335 (13.0)	6.2
Depression, other	13,001 (24.7)	26,045 (2.2)	70	12,954 (24.6)	294,947 (24.6)	0.1
Depression, psychotic	141 (0.3)	82 (0.0)	7.1	137 (0.3)	2,409 (0.2)	1.2
Epilepsy/convulsion	446 (0.8)	4,936 (0.4)	5.5	445 (0.8)	10,507 (0.9)	-0.3

Migraine/headache	7,099 (13.5)	72,814 (6.1)	25.2	7,077 (13.5)	172,209 (14.4)	-2.6
Other developmental disorders ¹	37 (0.1)	219 (0.0)	2.5	36 (0.1)	729 (0.1)	0.3
Other mental health disorders ²	1,087 (2.1)	6,402 (0.5)	13.6	1,084 (2.1)	26,484 (2.2)	-1.0
Personality disorder	203 (0.4)	260 (0.0)	8.1	198 (0.4)	4,585 (0.4)	-0.1
Psychosis	145 (0.3)	476 (0.0)	6.0	143 (0.3)	3,447 (0.3)	-0.3
Schizophrenia	51 (0.1)	93 (0.0)	3.9	50 (0.1)	1,042 (0.1)	0.3
Sleep disorder	2,312 (4.4)	8,935 (0.7)	23.2	2,300 (4.4)	55,070 (4.6)	-1.1
Psychiatric visits, N (%)						
0 visits	42,389 (80.5)	1,167,770 (97.4)	-55.9	42,361 (80.6)	956,283 (79.8)	1.9
1 visit	1,791 (3.4)	5,769 (0.5)	21.3	1,788 (3.4)	42,893 (3.6)	-1.0
2-3 visits	2,492 (4.7)	7,052 (0.6)	26.0	2,489 (4.7)	57,551 (4.8)	-0.3
4+ visits	5,961 (11.3)	18,227 (1.5)	40.8	5,947 (11.3)	141,658 (11.8)	-1.6
Mental health diagnoses, N (%)						
0 diagnoses	29,921 (56.8)	1,137,078 (94.8)	-99.1	29,920 (56.9)	665,946 (55.6)	2.7
1 diagnosis	9,763 (18.5)	37,534 (3.1)	51.2	9,760 (18.6)	250,679 (20.9)	-5.9
2-3 diagnoses	9,940 (18.9)	21,930 (1.8)	58.3	9,924 (18.9)	224,539 (18.7)	0.3
4+ diagnoses	3,009 (5.7)	2,276 (0.2)	33.1	2,981 (5.7)	57,222 (4.8)	4.0
Mental health ER visits, N (%)						
0 visits	51,070 (97.0)	1,194,008 (99.6)	-20.1	51,028 (97.0)	1,164,116 (97.1)	-0.6
1 visit	1,099 (2.1)	4,134 (0.3)	16.0	1,095 (2.1)	25,355 (2.1)	-0.2
2-3 visits	360 (0.7)	592 (0.0)	10.5	359 (0.7)	7,033 (0.6)	1.2
4+ visits	104 (0.2)	84 (0.0)	6.0	103 (0.2)	1,881 (0.2)	0.9
Mental health hospitalizations, N (%)						
0 visits	51,786 (98.4)	1,197,533 (99.9)	-16.3	51,746 (98.4)	1,181,366 (98.6)	-1.4
1 visit	410 (0.8)	787 (0.1)	11.0	407 (0.8)	8,765 (0.7)	0.5
2-3 visits	319 (0.6)	418 (0.0)	10.1	317 (0.6)	6,074 (0.5)	1.3
4+ visits	118 (0.2)	80 (0.0)	6.4	115 (0.2)	2,181 (0.2)	0.8
Other psychiatric medications, N (%)						
0 drugs	45,778 (87.0)	1,179,946 (98.4)	-45.1	45,772 (87.0)	1,049,419 (87.6)	-1.6
1 drug	2,773 (5.3)	9,403 (0.8)	26.4	2,762 (5.3)	63,468 (5.3)	-0.2
2-3 drugs	3,383 (6.4)	8,688 (0.7)	31.1	3,367 (6.4)	72,850 (6.1)	1.3
4+ drugs	699 (1.3)	781 (0.1)	15.2	684 (1.3)	12,649 (1.1)	2.3
Outpatient visits (based on quartiles) , N (%)						
Low	6,806 (12.9)	310,792 (25.9)	-33.3	6,806 (12.9)	140,218 (11.7)	3.8
Low to moderate	8,996 (17.1)	293,089 (24.4)	-18.2	8,995 (17.1)	197,864 (16.5)	1.6
Moderate to high	15,555 (29.6)	338,871 (28.3)	2.8	15,547 (29.6)	358,499 (29.9)	-0.8
High	21,276 (40.4)	256,066 (21.4)	42.2	21,237 (40.4)	501,804 (41.9)	-3.0
Hospitalizations, N (%)						
0 visits	50,238 (95.4)	1,171,261 (97.7)	-12.4	50,199 (95.5)	1,143,802 (95.4)	0.1
1 visit	1,615 (3.1)	19,832 (1.7)	9.3	1,609 (3.1)	37,103 (3.1)	-0.2
2-3 visits	503 (1.0)	5,401 (0.5)	6.1	501 (1.0)	11,127 (0.9)	0.3
4+ visits	277 (0.5)	2,324 (0.2)	5.6	276 (0.5)	6,353 (0.5)	-0.1
Lifestyle behaviors/environmental, N (%)						

Alcohol abuse	304 (0.6)	806 (0.1)	9.0	298 (0.6)	6,178 (0.5)	0.7
Tobacco use	1,497 (2.8)	12,022 (1.0)	13.4	1,490 (2.8)	36,928 (3.1)	-1.5
Substance abuse	524 (1.0)	1,728 (0.1)	11.3	521 (1.0)	11,770 (1.0)	0.1
Hyperemesis/nausea and vomiting in pregnancy	7,380 (14.0)	91,317 (7.6)	20.7	7,362 (14.0)	174,710 (14.6)	-1.7
Poor nutrition	1,472 (2.8)	21,543 (1.8)	6.7	1,467 (2.8)	35,452 (3.0)	-1.0
Start of prenatal care, gestational month, N (%)						
Month 1	3,337 (6.3)	78,597 (6.6)	-0.9	3,336 (6.3)	78,567 (6.6)	-0.9
Month 2	22,376 (42.5)	486,566 (40.6)	3.9	22,358 (42.5)	514,091 (42.9)	-0.8
Month 3	13,231 (25.1)	291,038 (24.3)	2	13,212 (25.1)	298,573 (24.9)	0.5
Month 4	3,100 (5.9)	74,124 (6.2)	-1.2	3,099 (5.9)	68,961 (5.8)	0.6
Month 5	1,436 (2.7)	35,137 (2.9)	-1.2	1,432 (2.7)	32,601 (2.7)	0.0
Month 6	738 (1.4)	19,638 (1.6)	-1.9	736 (1.4)	16,456 (1.4)	0.2
Month 7	1,153 (2.2)	25,406 (2.1)	0.5	1,152 (2.2)	26,241 (2.2)	0.0
Month 8	529 (1.0)	11,865 (1.0)	0.2	529 (1.0)	11,866 (1.0)	0.2
Month 9	704 (1.3)	16,724 (1.4)	-0.5	704 (1.3)	15,716 (1.3)	0.2
No prenatal care	6,029 (11.5)	159,723 (13.3)	-5.7	6,027 (11.5)	135,311 (11.3)	0.5
Prenatal care index, N (%)						
Adequate plus	3,834 (7.3)	79,047 (6.6)	2.7	3,830 (7.3)	89,091 (7.4)	-1.1
Adequate	3,942 (7.5)	82,173 (6.9)	2.5	3,933 (7.5)	93,289 (7.8)	-0.6
Intermediate	10,864 (20.6)	232,457 (19.4)	3.1	10,853 (20.6)	249,104 (20.8)	-0.4
Inadequate	33,993 (64.6)	805,141 (67.2)	-5.4	33,969 (64.6)	766,901 (64.0)	1.3
Start of prenatal vitamins, N (%)						
3 rd month prior to LMP	1,228 (2.3)	25,891 (2.2)	1.2	2,537 (4.8)	59,696 (5.0)	-0.3
2 nd month prior to LMP	1,594 (3.0)	33,916 (2.8)	1.2	1,593 (3.0)	37,499 (3.1)	-0.6
1 st month prior to LMP	2,538 (4.8)	53,472 (4.5)	1.7	1,228 (2.3)	28,533 (2.4)	-0.7
Month 1	2,566 (4.9)	58,547 (4.9)	0	2,565 (4.9)	59,368 (5.0)	-0.4
Month 2	7,065 (13.4)	157,762 (13.2)	0.8	7,056 (13.4)	160,699 (13.4)	0.0
Month 3	3,810 (7.2)	90,431 (7.5)	-1.2	3,807 (7.2)	85,167 (7.1)	0.5
Month 4	1,544 (2.9)	39,047 (3.3)	-1.9	1,541 (2.9)	34,060 (2.8)	0.5
Month 5	845 (1.6)	19,761 (1.6)	-0.3	845 (1.6)	18,792 (1.6)	0.3
Month 6	559 (1.1)	12,788 (1.1)	-0.1	559 (1.1)	13,275 (1.1)	-0.4
Month 7	577 (1.1)	12,296 (1.0)	0.7	577 (1.1)	13,146 (1.1)	0.0
Month 8	329 (0.6)	6,594 (0.6)	1	329 (0.6)	7,451 (0.6)	0.0
Month 9	153 (0.3)	3,130 (0.3)	0.6	153 (0.3)	3,420 (0.3)	0.1
No prenatal vitamins	29,825 (56.7)	685,183 (57.2)	-1	29,795 (56.7)	677,277 (56.5)	0.3
Comorbidities, N (%)						
Asthma	2,952 (5.6)	36,358 (3.0)	12.7	2,946 (5.6)	70,691 (5.9)	-1.3
Autoimmune disorder	1,907 (3.6)	27,843 (2.3)	7.7	1,902 (3.6)	45,349 (3.8)	-0.9
Pregestational diabetes	5,248 (10.0)	94,133 (7.9)	7.4	5,238 (10.0)	120,975 (10.1)	-0.4
GBS infection	963 (1.8)	22,577 (1.9)	-0.4	962 (1.8)	21,890 (1.8)	0.0
Pregestational hypertension	4,495 (8.5)	65,278 (5.4)	12.2	4,478 (8.5)	105,992 (8.8)	-1.2
Influenza	782 (1.5)	13,662 (1.1)	3	782 (1.5)	18,213 (1.5)	-0.3
Other STD infection	445 (0.8)	10,050 (0.8)	0.1	445 (0.8)	10,739 (0.9)	-0.5

Overweight/obesity	3,127 (5.9)	44,890 (3.7)	10.3	3,119 (5.9)	74,473 (6.2)	-1.2
Renal disease	133 (0.3)	2,649 (0.2)	0.7	133 (0.3)	3,238 (0.3)	-0.3
TORCH infection	364 (0.7)	1,1562 (1.0)	-3	364 (0.7)	8,519 (0.7)	-0.2
Obstetric Comorbidity Index ³ , N (%)						
0	17,755 (33.7)	526,672 (43.9)	-21.0	17,748 (33.8)	393,524 (32.8)	1.9
1	14,585 (27.7)	316,929 (26.4)	2.9	14,577 (27.7)	334,752 (27.9)	-0.5
2	9,614 (18.3)	186,353 (15.5)	7.3	9,605 (18.3)	220,851 (18.4)	-0.4
3+	10,679 (20.3)	168,864 (14.1)	16.5	10,655 (20.3)	249,258 (20.8)	-1.3
Other prescription medications, N (%)						
Anticonvulsants	2,878 (5.5)	9,325 (0.8)	27.2	2,856 (5.4)	62,719 (5.2)	0.9
Antidiabetics	3,191 (6.1)	45,342 (3.8)	10.6	3,182 (6.1)	75,941 (6.3)	-1.2
Antihypertensives	6,302 (12.0)	66,183 (5.5)	23.0	6,278 (11.9)	150,834 (12.6)	-2.0
Antipsychotics	1,471 (2.8)	956 (0.1)	23.0	1,444 (2.7)	26,367 (2.2)	3.5
Anxiolytics	1,225 (2.3)	1,618 (0.1)	20.0	1,210 (2.3)	26,506 (2.2)	0.6
Barbiturates	3,391 (6.4)	23,486 (2.0)	22.5	3,381 (6.4)	82,619 (6.9)	-1.9
Benzodiazepines	9,220 (17.5)	33,382 (2.8)	50.3	9,176 (17.4)	209,366 (17.5)	-0.1
Corticosteroids	15,971 (30.3)	229,744 (19.2)	26.1	15,942 (30.3)	377,231 (31.5)	-2.5
Insulin	1,608 (3.1)	21,273 (1.8)	8.4	1,607 (3.1)	38,289 (3.2)	-0.8
NSAIDs	8,041 (15.3)	88,470 (7.4)	25.1	8,023 (15.3)	194,659 (16.2)	-2.7
Opioids	16,932 (32.2)	199,561 (16.6)	36.7	16,895 (32.1)	407,047 (34.0)	-3.9
Other hypnotics	7,936 (15.1)	38,339 (3.2)	42.1	7,898 (15.0)	186,349 (15.6)	-1.5
OAD treatment	200 (0.4)	480 (0.0)	7.4	198 (0.4)	5,054 (0.4)	-0.7
Progestins	8,730 (16.6)	159,553 (13.3)	9.2	8,722 (16.6)	206,951 (17.3)	-1.8
Psychostimulants	1,660 (3.2)	6,951 (0.6)	19.1	1,657 (3.2)	39,479 (3.3)	-0.8
Known teratogens	477 (0.9)	5,437 (0.5)	5.5	476 (0.9)	10,674 (0.9)	0.2
Suspected teratogens	8,901 (16.9)	130,037 (10.8)	17.6	8,884 (16.9)	212,397 (17.7)	-2.2
Triptans	2,067 (3.9)	13,425 (1.1)	18	2,059 (3.9)	50,094 (4.2)	-1.3
Additional post-delivery variables ⁴						
Well-child visits up to year 1	8.6 (3.2)	8.8 (3.3)	-5.9			
Well-child visits up to year 4	11.0 (3.2)	11.4 (3.3)	-11.9			

¹Other neurodevelopmental disorders include autism spectrum disorder, speech/language disorder, developmental coordination disorder, intellectual disability, and specific learning disorder.

²Other mental health disorders include delirium, dementia, tic disorder, somatoform spectrum disorder, eating disorder, psychotherapy, self-inflicted injury.

³As defined by Bateman et al. (2013): Development of a comorbidity index for use in obstetric patients.

⁴These variables were not included in the propensity score, therefore are not reported for the weighted results

eTable 15. Characteristics of the cohort for individuals exposed to antidepressants during early pregnancy and individuals unexposed to antidepressants throughout pregnancy, in MAX, crude and propensity score weighted results

	Crude			Weighted		
	Antidepressant exposed	Unexposed	Std Diff (%)	Antidepressant exposed	Unexposed	Std Diff (%)
Age, mean (SD)	26.2 (5.9)	24.3 (5.8)	33.2	26.2 (5.9)	26 (5.9)	3.1
Age categories, N (%)						
≤19 years	16,513 (12.8)	430,668 (23.5)	-28.1	16,171 (12.7)	234,896 (13.0)	-0.9
20-24 years	38,169 (29.5)	625,359 (34.1)	-9.9	37,287 (29.4)	533,122 (29.6)	-0.4
25-29 years	39,188 (30.3)	439,890 (24.0)	14.2	38,562 (30.4)	548,660 (30.4)	-0.1
30-34 years	22,837 (17.7)	219,651 (12.0)	16.0	22,487 (17.7)	316,210 (17.5)	0.4
35-39 years	10,162 (7.9)	93,761 (5.1)	11.2	10,010 (7.9)	136,924 (7.6)	1.1
≥40 years	2,489 (1.9)	24,598 (1.3)	4.6	2,453 (1.9)	33,052 (1.8)	0.7
Race/ethnicity ¹ , N (%)						
Asian or other Pacific Islander	1,429 (1.1)	73,042 (4.0)	-18.4	1,424 (1.1)	15,428 (0.9)	2.7
Black or African American	17,347 (13.4)	645,600 (35.2)	-52.5	17,026 (13.4)	220,517 (12.2)	3.5
Hispanic or Latino	8,122 (6.3)	279,317 (15.2)	-29.2	8,095 (6.4)	100,081 (5.6)	3.5
Unknown or other	8,451 (6.5)	155,220 (8.5)	-7.3	8,428 (6.6)	114,628 (6.4)	1.1
White	94,009 (72.7)	680,748 (37.1)	76.5	91,997 (72.5)	1,352,212 (75.0)	-5.8
Region, N (%)						
Midwest	54,872 (42.4)	560,645 (30.6)	24.8	54,764 (43.1)	778,648 (43.2)	-0.1
Northeast	20,234 (15.6)	321,625 (17.5)	-5.1	20,165 (15.9)	281,478 (15.6)	0.7
South	35,902 (27.8)	533,036 (29.1)	-2.9	33,721 (26.6)	489,645 (27.2)	-1.4
West	18,350 (14.2)	418,621 (22.8)	-22.4	18,320 (14.4)	253,093 (14.0)	1.1
Delivery year, N (%)						
2000	79 (0.1)	1,640 (0.1)	-1.0	79 (0.1)	1,084 (0.1)	0.1
2001	3,905 (3.0)	78,560 (4.3)	-6.8	3,884 (3.1)	53,642 (3.0)	0.5
2002	5,530 (4.3)	90,037 (4.9)	-3.0	5,510 (4.3)	76,112 (4.2)	0.6
2003	8,634 (6.7)	116,621 (6.4)	1.3	8,595 (6.8)	118,317 (6.6)	0.8
2004	11,135 (8.6)	139,324 (7.6)	3.7	11,087 (8.7)	150,403 (8.3)	1.4
2005	10,254 (7.9)	140,037 (7.6)	1.1	9,854 (7.8)	137,381 (7.6)	0.5
2006	9,666 (7.5)	140,842 (7.7)	-0.8	8,637 (6.8)	122,208 (6.8)	0.1
2007	9,084 (7.0)	133,786 (7.3)	-1.1	8,417 (6.6)	119,171 (6.6)	0.1
2008	8,427 (6.5)	132,419 (7.2)	-2.8	8,404 (6.6)	122,714 (6.8)	-0.8
2009	10,627 (8.2)	154,377 (8.4)	-0.7	10,595 (8.3)	151,952 (8.4)	-0.3
2010	12,323 (9.5)	164,190 (9.0)	2.0	12,295 (9.7)	174,885 (9.7)	-0.1
2011	13,225 (10.2)	175,765 (9.6)	2.1	13,186 (10.4)	191,097 (10.6)	-0.7
2012	13,164 (10.2)	179,839 (9.8)	1.2	13,146 (10.4)	191,782 (10.6)	-0.9
2013	8,919 (6.9)	129,523 (7.1)	-0.7	8,902 (7.0)	128,478 (7.1)	-0.4
2014	4,386 (3.4)	56,967 (3.1)	1.6	4,379 (3.4)	63,638 (3.5)	-0.4
Indications and mental health conditions, N (%)						
ADHD	4,783 (3.7)	10,889 (0.6)	21.5	4,730 (3.7)	72,899 (4.0)	-1.6
Adjustment disorder	2,490 (1.9)	13,412 (0.7)	10.4	2,460 (1.9)	36,465 (2.0)	-0.6

Anxiety	36,667 (28.3)	55,849 (3.0)	74.2	35,993 (28.3)	516,304 (28.6)	-0.6
Behavioral disorder	2,472 (1.9)	13,908 (0.8)	10.1	2,439 (1.9)	36,189 (2.0)	-0.6
Bipolar disorder	17,303 (13.4)	25,178 (1.4)	47.2	16,959 (13.4)	255,509 (14.2)	-2.4
Chronic fatigue	13,284 (10.3)	68,411 (3.7)	25.8	13,002 (10.2)	191,700 (10.6)	-1.3
Depression, nonpsychotic	24,795 (19.2)	24,564 (1.3)	61.5	24,342 (19.2)	308,879 (17.1)	5.3
Depression, other	48,748 (37.7)	62,940 (3.4)	93.6	47,982 (37.8)	654,165 (36.3)	3.1
Depression, psychotic	2,352 (1.8)	1,976 (0.1)	17.6	2,275 (1.8)	25,902 (1.4)	2.8
Epilepsy/convulsion	3,715 (2.9)	17,701 (1.0)	13.9	3,638 (2.9)	55,335 (3.1)	-1.2
Migraine/headache	31,410 (24.3)	196,252 (10.7)	36.3	30,697 (24.2)	461,160 (25.6)	-3.2
Other developmental disorders ²	912 (0.7)	5,194 (0.3)	6.0	901 (0.7)	12,549 (0.7)	0.2
Other mental health disorders ³	5,292 (4.1)	16,483 (0.9)	20.6	5,182 (4.1)	71,223 (4.0)	0.7
Personality disorder	2,693 (2.1)	3,085 (0.2)	18.2	2,660 (2.1)	34,900 (1.9)	1.1
Psychosis	1,808 (1.4)	4,061 (0.2)	13.2	1,786 (1.4)	24,212 (1.3)	0.5
Schizophrenia	1,719 (1.3)	2,726 (0.1)	13.8	1,697 (1.3)	24,019 (1.3)	0.0
Sleep disorder	6,763 (5.2)	11,176 (0.6)	27.7	6,569 (5.2)	96,275 (5.3)	-0.7
Psychiatric visits, N (%)						
0 visits	107,075 (82.8)	1,789,696 (97.6)	-51.4	105,155 (82.8)	1,502,942 (83.4)	-1.5
1 visit	5,509 (4.3)	16,535 (0.9)	21.3	5,371 (4.2)	76,872 (4.3)	-0.2
2-3 visits	6,001 (4.6)	11,254 (0.6)	25.4	5,834 (4.6)	81,897 (4.5)	0.2
4+ visits	10,773 (8.3)	16,442 (0.9)	36.0	10,610 (8.4)	141,154 (7.8)	1.9
Mental health diagnoses, N (%)						
0 diagnoses	43,200 (33.4)	1,625,054 (88.6)	-137.3	42,367 (33.4)	578,331 (32.1)	2.7
1 diagnosis	28,846 (22.3)	126,831 (6.9)	44.6	28,295 (22.3)	449,170 (24.9)	-6.2
2-3 diagnoses	36,579 (28.3)	65,301 (3.6)	71.8	35,941 (28.3)	520,067 (28.8)	-1.2
4+ diagnoses	20,733 (16.0)	16,741 (0.9)	56.4	20,367 (16.0)	255,297 (14.2)	5.3
Mental health ER visits, N (%)						
0 visits	117,251 (90.6)	1,803,275 (98.3)	-34.2	115,086 (90.6)	1,643,312 (91.2)	-1.8
1 visit	8,158 (6.3)	25,482 (1.4)	25.8	7,990 (6.3)	112,391 (6.2)	0.2
2-3 visits	3,414 (2.6)	4,819 (0.3)	20.0	3,361 (2.6)	41,942 (2.3)	2.1
4+ visits	535 (0.4)	351 (0.0)	8.5	533 (0.4)	5,219 (0.3)	2.2
Mental health hospitalizations, N (%)						
0 visits	120,452 (93.1)	1,816,957 (99.1)	-31.1	118,405 (93.3)	1,691,721 (93.8)	-2.4
1 visit	3,991 (3.1)	11,636 (0.6)	18.2	3,766 (3.0)	50,789 (2.8)	0.9
2-3 visits	3,276 (2.5)	4,248 (0.2)	19.8	3,198 (2.5)	40,909 (2.3)	1.6
4+ visits	1,639 (1.3)	1,086 (0.1)	14.9	1,601 (1.3)	19,447 (1.1)	1.7
Other psychiatric medications, N (%)						
0 drugs	92,019 (71.1)	1,790,601 (97.6)	-78.4	90,309 (71.1)	1,290,197 (71.6)	-1.0
1 drug	12,010 (9.3)	21,778 (1.2)	37.0	11,784 (9.3)	179,069 (9.9)	-2.2
2-3 drugs	18,691 (14.4)	17,799 (1.0)	52.2	18,378 (14.5)	253,449 (14.1)	1.2
4+ drugs	6,638 (5.1)	3,749 (0.2)	30.9	6,499 (5.1)	80,151 (4.4)	3.2
Outpatient visits (based on quartiles) , N (%)						
Low	9,838 (7.6)	508,142 (27.7)	-54.7	9,668 (7.6)	117,261 (6.5)	4.3
Low to moderate	19,623 (15.2)	509,272 (27.8)	-31.1	19,198 (15.1)	257,501 (14.3)	2.4

Moderate to high	24,354 (18.8)	380,976 (20.8)	-4.9	23,841 (18.8)	346,595 (19.2)	-1.1
High	75,543 (58.4)	435,537 (23.7)	75.3	74,263 (58.5)	1,081,508 (60.0)	-3.1
Hospitalizations, N (%)						
0 visits	111,170 (85.9)	1,685,214 (91.9)	-19.0	110,057 (86.7)	1,567,834 (87.0)	-0.8
1 visit	11,632 (9.0)	99,464 (5.4)	13.8	11,258 (8.9)	156,707 (8.7)	0.6
2-3 visits	4,135 (3.2)	32,966 (1.8)	9.0	3,686 (2.9)	50,020 (2.8)	0.8
4+ visits	2,421 (1.9)	16,283 (0.9)	8.4	1,969 (1.6)	28,303 (1.6)	-0.2
Lifestyle behaviors/environmental, N (%)						
Alcohol abuse	4,691 (3.6)	13,921 (0.8)	19.7	4,636 (3.7)	61,492 (3.4)	1.3
Tobacco use	24,437 (18.9)	137,823 (7.5)	34.1	23,973 (18.9)	354,602 (19.7)	-2.0
Substance abuse	14,452 (11.2)	52,472 (2.9)	33.0	14,194 (11.2)	202,461 (11.2)	-0.2
Hyperemesis/nausea and vomiting in pregnancy	35,299 (27.3)	312,755 (17.1)	24.8	34,474 (27.2)	503,201 (27.9)	-1.7
Poor nutrition	3,391 (2.6)	24,001 (1.3)	9.5	3,352 (2.6)	49,091 (2.7)	-0.5
Start of prenatal care, gestational month, N (%)						
Month 1	7,367 (5.7)	79,729 (4.3)	6.2	7,255 (5.7)	105,040 (5.8)	-0.5
Month 2	49,408 (38.2)	527,048 (28.7)	20.1	48,612 (38.3)	704,444 (39.1)	-1.6
Month 3	31,731 (24.5)	401,997 (21.9)	6.2	31,219 (24.6)	443,076 (24.6)	0.0
Month 4	12,851 (9.9)	217,529 (11.9)	-6.2	12,605 (9.9)	174,054 (9.7)	0.9
Month 5	7,216 (5.6)	143,688 (7.8)	-9.0	7,050 (5.6)	96,562 (5.4)	0.9
Month 6	3,819 (3.0)	90,590 (4.9)	-10.2	3,729 (2.9)	50,584 (2.8)	0.8
Month 7	3,086 (2.4)	67,782 (3.7)	-7.6	3,005 (2.4)	42,591 (2.4)	0.0
Month 8	2,028 (1.6)	46,639 (2.5)	-6.9	1,981 (1.6)	27,049 (1.5)	0.5
Month 9	2,177 (1.7)	46,321 (2.5)	-5.9	2,112 (1.7)	29,126 (1.6)	0.4
No prenatal care	9,675 (7.5)	212,604 (11.6)	-14.0	9,402 (7.4)	130,338 (7.2)	0.7
Prenatal care index, N (%)						
Adequate plus	18,250 (14.1)	235,059 (12.8)	3.8	32,721 (25.8)	465,569 (25.8)	-0.1
Adequate	32,947 (25.5)	413,909 (22.6)	6.8	18,034 (14.2)	254,357 (14.1)	0.3
Intermediate	21,480 (16.6)	238,691 (13.0)	10.1	21,062 (16.6)	302,715 (16.8)	-0.5
Inadequate	56,681 (43.8)	946,268 (51.6)	-15.6	55,153 (43.4)	780,224 (43.3)	0.3
Start of prenatal vitamins, N (%)						
3 rd month prior to LMP	3,207 (2.5)	31,059 (1.7)	5.5	3,132 (2.5)	44,879 (2.5)	-0.1
2 nd month prior to LMP	1,843 (1.4)	18,821 (1.0)	3.6	1,805 (1.4)	25,737 (1.4)	-0.1
1 st month prior to LMP	1,434 (1.1)	13,532 (0.7)	3.9	1,410 (1.1)	20,239 (1.1)	-0.1
Month 1	9,981 (7.7)	97,643 (5.3)	9.7	9,784 (7.7)	141,051 (7.8)	-0.4
Month 2	38,101 (29.5)	419,250 (22.9)	15.0	37,282 (29.4)	531,234 (29.5)	-0.2
Month 3	18,808 (14.5)	252,858 (13.8)	2.2	18,455 (14.5)	259,141 (14.4)	0.5
Month 4	8,833 (6.8)	142,940 (7.8)	-3.7	8,671 (6.8)	120,264 (6.7)	0.6
Month 5	4,847 (3.7)	97,744 (5.3)	-7.6	4,761 (3.7)	66,521 (3.7)	0.3
Month 6	3,186 (2.5)	69,105 (3.8)	-7.5	3,134 (2.5)	42,742 (2.4)	0.6
Month 7	2,317 (1.8)	49,978 (2.7)	-6.3	2,266 (1.8)	32,325 (1.8)	-0.1
Month 8	1,344 (1.0)	31,773 (1.7)	-5.9	1,306 (1.0)	18,817 (1.0)	-0.1
Month 9	603 (0.5)	14,481 (0.8)	-4.1	596 (0.5)	8,158 (0.5)	0.2
No prenatal vitamins	34,854 (26.9)	594,743 (32.4)	-12.0	34,368 (27.1)	491,757 (27.3)	-0.5

Comorbidities, N (%)						
Asthma	15,838 (12.2)	120,900 (6.6)	19.4	15,551 (12.2)	232,427 (12.9)	-1.9
Autoimmune disorder	2,909 (2.2)	17,036 (0.9)	10.6	2,855 (2.2)	41,681 (2.3)	-0.4
Pregestational diabetes	11,854 (9.2)	102,479 (5.6)	13.7	11,663 (9.2)	166,134 (9.2)	-0.1
GBS infection	6,049 (4.7)	98,841 (5.4)	-3.3	5,955 (4.7)	83,598 (4.6)	0.3
Pregestational hypertension	9,810 (7.6)	81,845 (4.5)	13.2	9,604 (7.6)	141,557 (7.9)	-1.1
Influenza	2,459 (1.9)	22,842 (1.2)	5.3	2,399 (1.9)	35,579 (2.0)	-0.6
Other STD infection	5,763 (4.5)	90,026 (4.9)	-2.2	5,630 (4.4)	83,730 (4.6)	-1.0
Overweight/obesity	10,910 (8.4)	104,081 (5.7)	10.8	10,766 (8.5)	158,081 (8.8)	-1.0
Renal disease	616 (0.5)	4,655 (0.3)	3.7	605 (0.5)	9,206 (0.5)	-0.5
TORCH infection	5,241 (4.1)	82,566 (4.5)	-2.2	5,171 (4.1)	72,834 (4.0)	0.2
Obstetric Comorbidity Index ⁴ , N (%)						
0	53,381 (41.3)	1,027,424 (56.0)	-29.9	52,390 (41.3)	732,016 (40.6)	1.3
1	30,639 (23.7)	411,137 (22.4)	3.0	30,063 (23.7)	425,510 (23.6)	0.2
2	21,361 (16.5)	209,624 (11.4)	14.7	20,982 (16.5)	305,207 (16.9)	-1.1
3+	23,977 (18.5)	185,742 (10.1)	24.2	23,535 (18.5)	340,133 (18.9)	-0.8
Other prescription medications, N (%)						
Anticonvulsants	17,235 (13.3)	26,298 (1.4)	46.7	16,881 (13.3)	240,711 (13.4)	-0.2
Antidiabetics	4,993 (3.9)	31,978 (1.7)	12.9	4,883 (3.8)	71,577 (4.0)	-0.6
Antihypertensives	17,978 (13.9)	94,612 (5.2)	30.1	17,585 (13.8)	259,121 (14.4)	-1.5
Antipsychotics	16,281 (12.6)	10,544 (0.6)	49.9	15,950 (12.6)	213,291 (11.8)	2.2
Anxiolytics	5,762 (4.5)	4,654 (0.3)	28.0	5,640 (4.4)	78,346 (4.3)	0.5
Barbiturates	8,995 (7.0)	37,279 (2.0)	23.9	8,730 (6.9)	134,119 (7.4)	-2.2
Benzodiazepines	30,559 (23.6)	33,710 (1.8)	69.2	30,020 (23.6)	419,329 (23.3)	0.9
Corticosteroids	40,292 (31.1)	323,243 (17.6)	31.9	39,475 (31.1)	575,052 (31.9)	-1.7
Insulin	4,915 (3.8)	33,743 (1.8)	11.9	4,840 (3.8)	69,994 (3.9)	-0.4
NSAIDs	48,136 (37.2)	407,602 (22.2)	33.2	47,105 (37.1)	686,396 (38.1)	-2.0
Opioids	72,537 (56.1)	532,059 (29.0)	56.9	70,958 (55.9)	1,051,385 (58.3)	-4.9
Other hypnotics	28,979 (22.4)	117,732 (6.4)	46.7	28,378 (22.4)	396,606 (22.0)	0.8
OAD treatment	3,095 (2.4)	6,075 (0.3)	17.9	3,079 (2.4)	44,574 (2.5)	-0.3
Progestins	10,180 (7.9)	88,632 (4.8)	12.5	9,931 (7.8)	146,588 (8.1)	-1.1
Psychostimulants	6,031 (4.7)	9,315 (0.5)	26.4	5,952 (4.7)	88,709 (4.9)	-1.1
Known teratogens	2,082 (1.6)	5,418 (0.3)	13.6	2,037 (1.6)	32,183 (1.8)	-1.4
Suspected teratogens	34,882 (27.0)	310,428 (16.9)	24.4	34,096 (26.9)	499,720 (27.7)	-1.9
Triptans	6,383 (4.9)	15,586 (0.8)	24.6	6,217 (4.9)	95,716 (5.3)	-1.9
Proximity to metropolitan area, N (%)						
Metropolitan	99,680 (78.5)	1,570,850 (87.0)	-22.6	99,643 (78.5)	1,399,550 (77.6)	2.0
Non-metropolitan	23,259 (18.3)	201,130 (11.1)	20.4	23,237 (18.3)	343,771 (19.1)	-2.0
Rural	4,093 (3.2)	34,555 (1.9)	8.3	4,090 (3.2)	59,544 (3.3)	-0.5
Percentage of Population with ≤ High School Diploma (Based on Quartiles) ⁵ , N (%)						
Low	33,219 (26.2)	445,850 (24.7)	3.4	33,208 (26.2)	472,437 (26.2)	-0.1
Low to moderate	26,812 (21.1)	467,409 (25.9)	-11.3	26,805 (21.1)	373,649 (20.7)	0.9

Moderate to high	28,916 (22.8)	457,015 (25.3)	-6.0	28,906 (22.8)	405,457 (22.5)	0.7
High	38,080 (30.0)	435,258 (24.1)	13.3	38,051 (30.0)	551,321 (30.6)	-1.3
Poverty Rate (Based on Quartiles) ⁵ , N (%)						
Low	41,286 (32.5)	439,567 (24.3)	18.2	41,268 (32.5)	593,517 (32.9)	-0.9
Low to moderate	28,956 (22.8)	457,336 (25.3)	-5.9	28,941 (22.8)	402,416 (22.3)	1.1
Moderate to high	34,732 (27.3)	441,735 (24.5)	6.6	34,721 (27.3)	501,822 (27.8)	-1.1
High	22,047 (17.4)	466,863 (25.9)	-20.8	22,040 (17.4)	305,110 (16.9)	1.2
Unemployment Rate (Based on Quartiles) ⁵ , N (%)						
Low	40,914 (32.2)	437,740 (24.2)	17.8	40,895 (32.2)	593,714 (32.9)	-1.5
Low to moderate	33,222 (26.2)	436,584 (24.2)	4.6	33,209 (26.2)	472,401 (26.2)	-0.1
Moderate to high	26,177 (20.6)	479,454 (26.6)	-14.0	26,168 (20.6)	361,287 (20.0)	1.4
High	26,711 (21.0)	451,746 (25.0)	-9.5	26,698 (21.0)	375,462 (20.8)	0.5
Additional post-delivery variables ⁶						
Well-child visits up to year 1	7.1 (4.1)	6.8 (4.2)	7.5			
Well-child visits up to year 4	9.3 (4.5)	9.0 (4.6)	7.0			

¹Race/ethnicity was determined based on information submitted to the Centers for Medicare & Medicaid Services by individual states, which was based on information that had been collected and coded from Medicaid applications.

²Other neurodevelopmental disorders include autism spectrum disorder, speech/language disorder, developmental coordination disorder, intellectual disability, and specific learning disorder.

³Other mental health disorders include delirium, dementia, tic disorder, somatoform spectrum disorder, eating disorder, psychotherapy, self-inflicted injury.

⁴As defined by Bateman et al. (2013): Development of a comorbidity index for use in obstetric patients.¹

⁵County-level SES-measures were assessed after linkage of zip codes (only available in MAX) with corresponding FIPS county codes using crosswalk files provided by the US Department of Housing and Urban Development; these FIPS codes were then used to merge the MAX data with data provided by the US Department of Agriculture which include county-level information on various SES-measures. Metropolitan area is defined as counties in metropolitan areas or counties with urban population of 20,000 or more, adjacent to a metropolitan area; urban area is defined as counties with urban population of 20,000 or more, not adjacent to a metropolitan area, or counties with populations of 2,500 to 19,999 residents; rural area is defined as counties with a population of less than 2,500. Categories of unemployment rate, poverty rate and rate of educational attainment reflect year-specific quartiles.

⁶These variables were not included in the propensity score, therefore are not reported for the weighted results

eTable 16. Characteristics of the cohort for individuals exposed to antidepressants during early pregnancy and individuals unexposed to antidepressants throughout pregnancy, in MarketScan, crude and propensity score weighted results

	Crude			Weighted		
	Antidepressant exposed	Unexposed	Std Diff (%)	Antidepressant exposed	Unexposed	Std Diff (%)
Age, mean (SD)	32.7 (4.6)	31.9 (4.6)	16.5	32.7 (4.6)	32.7 (4.7)	-0.4
Age categories, N (%)						
≤19 years	159 (0.2)	3,166 (0.3)	-0.7	159 (0.2)	2,971 (0.2)	-0.4
20-24 years	2,170 (3.1)	52,584 (4.4)	-6.6	2,168 (3.1)	37,374 (3.1)	0.1
25-29 years	15,304 (22.1)	316,956 (26.4)	-10.1	15,289 (22.1)	258,196 (21.5)	1.4
30-34 years	27,552 (39.9)	486,489 (40.6)	-1.5	27,530 (39.9)	476,718 (39.8)	0.2
35-39 years	18,845 (27.3)	272,351 (22.7)	10.5	18,814 (27.2)	331,250 (27.6)	-0.9
≥40 years	5,108 (7.4)	67,272 (5.6)	7.2	5,099 (7.4)	92,134 (7.7)	-1.1
Region, N (%)						
Midwest	20,153 (29.1)	305,958 (25.5)	8.2	20,129 (29.1)	343,938 (28.7)	1.0
Northeast	8,908 (12.9)	191,501 (16.0)	-8.8	8,903 (12.9)	151,639 (12.7)	0.7
South	28,948 (41.9)	470,808 (39.3)	5.3	28,911 (41.9)	510,083 (42.6)	-1.4
West	10,217 (14.8)	216,743 (18.1)	-8.9	10,205 (14.8)	177,524 (14.8)	-0.1
Delivery year, N (%)						
2003	62 (0.1)	946 (0.1)	0.4	62 (0.1)	1,038 (0.1)	0.1
2004	2,788 (4.0)	49,945 (4.2)	-0.7	2,788 (4.0)	49,125 (4.1)	-0.3
2005	3,883 (5.6)	64,374 (5.4)	1.1	3,878 (5.6)	68,041 (5.7)	-0.3
2006	4,058 (5.9)	65,869 (5.5)	1.6	4,056 (5.9)	71,636 (6.0)	-0.4
2007	4,822 (7.0)	80,740 (6.7)	1.0	4,820 (7.0)	83,596 (7.0)	0.0
2008	5,636 (8.2)	92,998 (7.8)	1.5	5,628 (8.1)	97,384 (8.1)	0.1
2009	7,875 (11.4)	131,938 (11.0)	1.2	7,867 (11.4)	135,383 (11.3)	0.3
2010	7,919 (11.5)	130,341 (10.9)	1.9	7,911 (11.5)	136,186 (11.4)	0.3
2011	8,785 (12.7)	144,347 (12.0)	2.0	8,773 (12.7)	153,150 (12.8)	-0.2
2012	8,095 (11.7)	149,693 (12.5)	-2.4	8,083 (11.7)	140,676 (11.7)	-0.1
2013	6,418 (9.3)	121,388 (10.1)	-2.9	6,406 (9.3)	109,973 (9.2)	0.4
2014	6,159 (8.9)	116,079 (9.7)	-2.7	6,154 (8.9)	107,531 (9.0)	-0.2
2015	2,638 (3.8)	50,160 (4.2)	-1.9	2,633 (3.8)	44,923 (3.7)	0.3
Indications and mental health conditions, N (%)						
ADHD	1,470 (2.1)	4,351 (0.4)	16.0	1,469 (2.1)	26,696 (2.2)	-0.7
Adjustment disorder	774 (1.1)	3,449 (0.3)	10.0	772 (1.1)	13,960 (1.2)	-0.4
Anxiety	16,264 (23.5)	27,316 (2.3)	66.8	16,192 (23.4)	294,958 (24.6)	-2.7
Behavioral disorder	117 (0.2)	189 (0.0)	5.1	115 (0.2)	1,945 (0.2)	0.1
Bipolar disorder	2,702 (3.9)	2,756 (0.2)	26.1	2,674 (3.9)	48,863 (4.1)	-1.0
Chronic fatigue	7,869 (11.4)	57,829 (4.8)	24.2	7,842 (11.4)	148,503 (12.4)	-3.2
Depression, nonpsychotic	9,736 (14.1)	7,021 (0.6)	53.6	9,662 (14.0)	144,724 (12.1)	5.7
Depression, other	16,942 (24.5)	26,045 (2.2)	69.5	16,869 (24.4)	282,229 (23.5)	2.1
Depression, psychotic	164 (0.2)	82 (0.0)	6.6	159 (0.2)	2,324 (0.2)	0.8
Epilepsy/convulsion	607 (0.9)	4,936 (0.4)	5.8	605 (0.9)	11,141 (0.9)	-0.6

Migraine/headache	9,890 (14.3)	72,814 (6.1)	27.5	9,855 (14.3)	185,752 (15.5)	-3.4
Other developmental disorders ¹	43 (0.1)	219 (0.0)	2.2	43 (0.1)	752 (0.1)	0.0
Other mental health disorders ²	1,495 (2.2)	6,402 (0.5)	14.2	1,493 (2.2)	27,783 (2.3)	-1.1
Personality disorder	259 (0.4)	260 (0.0)	7.9	250 (0.4)	4,686 (0.4)	-0.5
Psychosis	187 (0.3)	476 (0.0)	5.9	184 (0.3)	3,364 (0.3)	-0.3
Schizophrenia	63 (0.1)	93 (0.0)	3.8	63 (0.1)	940 (0.1)	0.4
Sleep disorder	3,394 (4.9)	8,935 (0.7)	25.3	3,369 (4.9)	64,100 (5.3)	-2.1
Psychiatric visits, N (%)						
0 visits	55,639 (80.5)	1,167,770 (97.4)	-56.1	55,596 (80.5)	961,166 (80.2)	0.8
1 visit	2,415 (3.5)	5,769 (0.5)	21.7	2,407 (3.5)	42,678 (3.6)	-0.4
2-3 visits	3,267 (4.7)	7,052 (0.6)	25.9	3,260 (4.7)	56,256 (4.7)	0.1
4+ visits	7,817 (11.3)	18,227 (1.5)	40.8	7,796 (11.3)	138,542 (11.6)	-0.8
Mental health diagnoses, N (%)						
0 diagnoses	36,672 (53.0)	1,137,078 (94.8)	-108.3	36,670 (53.1)	628,430 (52.4)	1.3
1 diagnosis	14,347 (20.8)	37,534 (3.1)	56.5	14,344 (20.8)	276,870 (23.1)	-5.6
2-3 diagnoses	13,944 (20.2)	21,930 (1.8)	61.3	13,922 (20.2)	234,599 (19.6)	1.5
4+ diagnoses	4,175 (6.0)	2,276 (0.2)	34.2	4,123 (6.0)	58,744 (4.9)	4.7
Mental health ER visits, N (%)						
0 visits	66,852 (96.7)	1,194,008 (99.6)	-21.7	66,785 (96.7)	1,160,991 (96.9)	-0.9
1 visit	1,582 (2.3)	4,134 (0.3)	17.1	1,575 (2.3)	26,993 (2.3)	0.2
2-3 visits	549 (0.8)	592 (0.0)	11.5	546 (0.8)	8,447 (0.7)	1.0
4+ visits	155 (0.2)	84 (0.0)	6.4	153 (0.2)	2,212 (0.2)	0.8
Mental health hospitalizations, N (%)						
0 visits	67,917 (98.2)	1,197,533 (99.9)	-17.3	67,853 (98.3)	1,180,359 (98.5)	-1.7
1 visit	564 (0.8)	787 (0.1)	11.3	558 (0.8)	9,028 (0.8)	0.6
2-3 visits	479 (0.7)	418 (0.0)	10.9	474 (0.7)	6,771 (0.6)	1.5
4+ visits	178 (0.3)	80 (0.0)	6.9	174 (0.3)	2,484 (0.2)	0.9
Other psychiatric medications, N (%)						
0 drugs	59,203 (85.6)	1,179,946 (98.4)	-48.6	59,195 (85.7)	1,030,701 (86.0)	-0.8
1 drug	3,931 (5.7)	9,403 (0.8)	28.0	3,916 (5.7)	69,871 (5.8)	-0.7
2-3 drugs	5,031 (7.3)	8,688 (0.7)	33.9	4,991 (7.2)	84,233 (7.0)	0.8
4+ drugs	973 (1.4)	781 (0.1)	15.8	957 (1.4)	13,838 (1.2)	2.1
Outpatient visits (based on quartiles) , N (%)						
Low	7,896 (11.4)	310,792 (25.9)	-37.9	7,895 (11.4)	122,342 (10.2)	3.9
Low to moderate	11,596 (16.8)	293,089 (24.4)	-19.1	11,595 (16.8)	193,500 (16.1)	1.7
Moderate to high	21,131 (30.6)	338,871 (28.3)	5.0	21,117 (30.6)	369,347 (30.8)	-0.5
High	28,515 (41.2)	256,066 (21.4)	43.9	28,452 (41.2)	513,453 (42.8)	-3.3
Hospitalizations, N (%)						
0 visits	65,839 (95.2)	1,171,261 (97.7)	-13.4	65,778 (95.2)	1,141,127 (95.2)	0.2
1 visit	2,206 (3.2)	19,832 (1.7)	10.0	2,199 (3.2)	38,946 (3.2)	-0.4
2-3 visits	705 (1.0)	5,401 (0.5)	6.7	699 (1.0)	12,171 (1.0)	0.0
4+ visits	388 (0.6)	2,324 (0.2)	6.0	383 (0.6)	6,399 (0.5)	0.3
Lifestyle behaviors/environmental, N (%)						

Alcohol abuse	415 (0.6)	806 (0.1)	9.3	411 (0.6)	6,275 (0.5)	1.0
Tobacco use	2,217 (3.2)	12,022 (1.0)	15.4	2,212 (3.2)	41,391 (3.5)	-1.4
Substance abuse	757 (1.1)	1,728 (0.1)	12.1	755 (1.1)	12,881 (1.1)	0.2
Hyperemesis/nausea and vomiting in pregnancy	9,837 (14.2)	91,317 (7.6)	21.3	9,804 (14.2)	177,871 (14.8)	-1.8
Poor nutrition	2,130 (3.1)	21,543 (1.8)	8.3	2,121 (3.1)	38,731 (3.2)	-0.9
Start of prenatal care, gestational month, N (%)						
Month 1	4,139 (6.0)	78,597 (6.6)	-2.4	4,137 (6.0)	75,085 (6.3)	-1.1
Month 2	29,255 (42.3)	486,566 (40.6)	3.5	29,224 (42.3)	511,854 (42.7)	-0.8
Month 3	17,519 (25.3)	291,038 (24.3)	2.5	17,494 (25.3)	300,972 (25.1)	0.5
Month 4	4,158 (6.0)	74,124 (6.2)	-0.7	4,155 (6.0)	69,827 (5.8)	0.8
Month 5	1,959 (2.8)	35,137 (2.9)	-0.6	1,952 (2.8)	34,024 (2.8)	-0.1
Month 6	960 (1.4)	19,638 (1.6)	-2.0	958 (1.4)	16,417 (1.4)	0.2
Month 7	1,454 (2.1)	25,406 (2.1)	-0.1	1,452 (2.1)	24,689 (2.1)	0.3
Month 8	706 (1.0)	11,865 (1.0)	0.3	706 (1.0)	12,098 (1.0)	0.1
Month 9	948 (1.4)	16,724 (1.4)	-0.2	948 (1.4)	16,122 (1.3)	0.2
No prenatal care	8,040 (11.6)	159,723 (13.3)	-5.1	8,033 (11.6)	137,552 (11.5)	0.5
Prenatal care index, N (%)						
Adequate plus	5,178 (7.5)	82,173 (6.9)	2.5	5,242 (7.6)	93,437 (7.8)	-0.8
Adequate	5,253 (7.6)	79,047 (6.6)	3.9	5,167 (7.5)	93,554 (7.8)	-1.2
Intermediate	14,345 (20.7)	232,457 (19.4)	3.4	14,328 (20.7)	250,477 (20.9)	-0.4
Inadequate	44,362 (64.2)	805,141 (67.2)	-6.3	44,322 (64.2)	761,174 (63.5)	1.4
Start of prenatal vitamins, N (%)						
3 rd month prior to LMP	3,092 (4.5)	53,472 (4.5)	0.1	3,092 (4.5)	56,085 (4.7)	-1.0
2 nd month prior to LMP	1,875 (2.7)	33,916 (2.8)	-0.7	1,874 (2.7)	33,292 (2.8)	-0.4
1 st month prior to LMP	1,413 (2.0)	25,891 (2.2)	-0.8	1,412 (2.0)	25,334 (2.1)	-0.5
Month 1	3,442 (5.0)	58,547 (4.9)	0.4	3,440 (5.0)	60,896 (5.1)	-0.5
Month 2	10,320 (14.9)	157,762 (13.2)	5.1	10,304 (14.9)	179,582 (15)	-0.2
Month 3	5,540 (8.0)	90,431 (7.5)	1.8	5,532 (8.0)	95,617 (8.0)	0.1
Month 4	2,184 (3.2)	39,047 (3.3)	-0.6	2,182 (3.2)	37,300 (3.1)	0.3
Month 5	1,115 (1.6)	19,761 (1.6)	-0.3	1,115 (1.6)	18,487 (1.5)	0.6
Month 6	711 (1.0)	12,788 (1.1)	-0.4	711 (1.0)	12,731 (1.1)	-0.3
Month 7	718 (1.0)	12,296 (1.0)	0.1	718 (1.0)	12,191 (1.0)	0.2
Month 8	402 (0.6)	6,594 (0.6)	0.4	402 (0.6)	6,954 (0.6)	0.0
Month 9	168 (0.2)	3,130 (0.3)	-0.4	168 (0.2)	3,023 (0.3)	-0.2
No prenatal vitamins	38,158 (55.2)	685,183 (57.2)	-4.0	38,109 (55.2)	657,150 (54.8)	0.7
Comorbidities, N (%)						
Asthma	3,742 (5.4)	36,358 (3.0)	11.9	3,725 (5.4)	69,530 (5.8)	-1.8
Autoimmune disorder	2,536 (3.7)	27,843 (2.3)	7.9	2,530 (3.7)	46,640 (3.9)	-1.2
Pregestational diabetes	7,004 (10.1)	94,133 (7.9)	8.0	6,986 (10.1)	123,778 (10.3)	-0.7
GBS infection	1,193 (1.7)	22,577 (1.9)	-1.2	1,192 (1.7)	20,732 (1.7)	0.0
Pregestational hypertension	6,185 (8.9)	65,278 (5.4)	13.6	6,162 (8.9)	112,563 (9.4)	-1.6
Influenza	1,091 (1.6)	13,662 (1.1)	3.8	1,091 (1.6)	19,298 (1.6)	-0.2
Other STD infection	633 (0.9)	10,050 (0.8)	0.8	633 (0.9)	11,307 (0.9)	-0.3

Overweight/obesity	4,270 (6.2)	44,890 (3.7)	11.2	4,252 (6.2)	77,508 (6.5)	-1.3
Renal disease	195 (0.3)	2,649 (0.2)	1.2	195 (0.3)	3,750 (0.3)	-0.6
TORCH infection	541 (0.8)	11,562 (1.0)	-2.0	541 (0.8)	9,634 (0.8)	-0.2
Obstetric Comorbidity Index ³ , N (%)						
0	23,429 (33.9)	526,672 (43.9)	-20.7	23,422 (33.9)	392,095 (32.7)	2.6
1	18,838 (27.2)	316,929 (26.4)	1.8	18,825 (27.3)	328,935 (27.4)	-0.4
2	12,554 (18.2)	186,353 (15.5)	7.0	12,532 (18.1)	221,278 (18.5)	-0.8
3+	14,317 (20.7)	168,864 (14.1)	17.5	14,280 (20.7)	256,333 (21.4)	-1.7
Other prescription medications, N (%)						
Anticonvulsants	4,163 (6.0)	9,325 (0.8)	29.2	4,131 (6.0)	70,866 (5.9)	0.3
Antidiabetics	4,292 (6.2)	45,342 (3.8)	11.2	4,278 (6.2)	77,777 (6.5)	-1.2
Antihypertensives	8,721 (12.6)	66,183 (5.5)	24.9	8,684 (12.6)	160,939 (13.4)	-2.5
Antipsychotics	1,909 (2.8)	956 (0.1)	22.8	1,873 (2.7)	26,316 (2.2)	3.3
Anxiolytics	1,676 (2.4)	1,618 (0.1)	20.5	1,645 (2.4)	29,381 (2.5)	-0.5
Barbiturates	4,395 (6.4)	23,486 (2.0)	22.2	4,372 (6.3)	81,970 (6.8)	-2.0
Benzodiazepines	12,951 (18.7)	33,382 (2.8)	53.3	12,880 (18.7)	227,024 (18.9)	-0.7
Corticosteroids	21,076 (30.5)	229,744 (19.2)	26.4	21,029 (30.5)	380,502 (31.7)	-2.8
Insulin	2,133 (3.1)	21,273 (1.8)	8.5	2,131 (3.1)	38,948 (3.2)	-0.9
NSAIDs	10,834 (15.7)	88,470 (7.4)	26.2	10,794 (15.6)	200,291 (16.7)	-2.9
Opioids	22,585 (32.7)	199,561 (16.6)	37.8	22,523 (32.6)	413,495 (34.5)	-4.0
Other hypnotics	9,993 (14.5)	38,339 (3.2)	40.5	9,934 (14.4)	178,964 (14.9)	-1.5
OAD treatment	285 (0.4)	480 (0.0)	7.8	282 (0.4)	5,395 (0.5)	-0.6
Progestins	11,255 (16.3)	159,553 (13.3)	8.4	11,239 (16.3)	203,814 (17.0)	-2.0
Psychostimulants	2,420 (3.5)	6,951 (0.6)	20.8	2,416 (3.5)	44,692 (3.7)	-1.2
Known teratogens	620 (0.9)	5,437 (0.5)	5.4	616 (0.9)	11,054 (0.9)	-0.3
Suspected teratogens	12,005 (17.4)	130,037 (10.8)	18.8	11,974 (17.3)	219,702 (18.3)	-2.6
Triptans	2,994 (4.3)	13,425 (1.1)	19.8	2,980 (4.3)	56,638 (4.7)	-2.0
Additional post-delivery variables ⁴						
Well-child visits up to year 1	8.6 (3.2)	8.8 (3.3)	-6.9	-	-	-
Well-child visits up to year 4	11.0 (3.2)	11.4 (3.3)	-13.0	-	-	-

¹Other neurodevelopmental disorders include autism spectrum disorder, speech/language disorder, developmental coordination disorder, intellectual disability, and specific learning disorder.

²Other mental health disorders include delirium, dementia, tic disorder, somatoform spectrum disorder, eating disorder, psychotherapy, self-inflicted injury.

³As defined by Bateman et al. (2013): Development of a comorbidity index for use in obstetric patients.

⁴These variables were not included in the propensity score, therefore are not reported for the weighted results

eTable 17. Sibling analysis for antidepressant use during late pregnancy and NDDs stratified by exposure status of first sibling, to investigate carry-over effects

Outcome	Crude HR (95% CI)		
	First 2 siblings from each multi-sibling family	First sibling exposed to ADs	First sibling unexposed to ADs
ASD	1.03 (0.74, 1.43)	1.23 (0.70, 2.15)	0.94 (0.62, 1.41)
ADHD	0.93 (0.81, 1.07)	1.24 (0.96, 1.60)	0.81 (0.68, 0.97)
Specific learning disorders	1.11 (0.66, 1.85)	1.00 (0.40, 2.52)	1.16 (0.63, 2.14)
Developmental speech/ language	1.14 (0.99, 1.31)	1.13 (0.89, 1.44)	1.14 (0.97, 1.35)
Developmental coordination	1.07 (0.75, 1.52)	1.00 (0.51, 1.96)	1.10 (0.72, 1.66)
Intellectual disability	0.82 (0.44, 1.53)	0.83 (0.25, 2.73)	0.81 (0.39, 1.69)
Behavioral disorder	0.98 (0.83, 1.16)	1.19 (0.88, 1.61)	0.89 (0.73, 1.09)
Any NDD	1.06 (0.96, 1.16)	1.19 (1.00, 1.41)	1.00 (0.89, 1.12)

eTable 18. Characteristics of the cohort for individuals exposed to specific antidepressant classes or drugs during late pregnancy, in MAX

	SSRI	SNRI	TCA	Sertraline	Fluoxetine	Bupropion	Citalopram	Escitalopram
Age, mean (SD)	26.0 (5.7)	27.9 (5.7)	27.1 (6.0)	25.8 (5.6)	26.0 (5.8)	26.2 (5.7)	26.4 (5.6)	26.1 (5.6)
Age categories, N (%)								
≤19 years	8,596 (11.8)	327 (6.2)	359 (10.0)	4,088 (12.2)	2,260 (12.1)	1,519 (11.6)	963 (10.5)	838 (12.2)
20-24 years	23,616 (32.3)	1,219 (23.3)	974 (27.0)	11,227 (33.4)	6,007 (32.2)	3,998 (30.5)	2,730 (29.7)	2,103 (30.6)
25-29 years	21,983 (30.1)	1,772 (33.8)	1,088 (30.2)	10,013 (29.8)	5,614 (30.1)	4,051 (30.9)	2,941 (32.0)	2,159 (31.4)
30-34 years	12,259 (16.8)	1,208 (23.1)	736 (20.4)	5,444 (16.2)	3,043 (16.3)	2,276 (17.4)	1,721 (18.7)	1,165 (17.0)
35-39 years	5,324 (7.3)	560 (10.7)	354 (9.8)	2,285 (6.8)	1,407 (7.5)	992 (7.6)	691 (7.5)	500 (7.3)
≥40 years	1,228 (1.7)	149 (2.8)	95 (2.6)	510 (1.5)	345 (1.8)	254 (1.9)	158 (1.7)	100 (1.5)
Race/ ethnicity ¹ , N (%)								
Asian or other Pacific Islander	665 (0.9)	75 (1.4)	72 (2.0)	288 (0.9)	198 (1.1)	111 (0.8)	84 (0.9)	62 (0.9)
Black or African American	10,578 (14.5)	465 (8.9)	777 (21.5)	5,110 (15.2)	2,825 (15.1)	1,803 (13.8)	1,238 (13.5)	843 (12.3)
Hispanic or Latino	4,148 (5.7)	205 (3.9)	257 (7.1)	2,031 (6.1)	1,117 (6.0)	530 (4.0)	354 (3.8)	281 (4.1)
Unknown or other	4,907 (6.7)	295 (5.6)	237 (6.6)	2,275 (6.8)	1,314 (7.0)	739 (5.6)	595 (6.5)	480 (7.0)
White	52,708 (72.2)	4,195 (80.1)	2,263 (62.8)	23,863 (71.1)	13,222 (70.8)	9,907 (75.7)	6,933 (75.3)	5,199 (75.7)
Region, N (%)								
Midwest	32,553 (44.6)	2,426 (46.3)	1,327 (36.8)	14,950 (44.5)	8,559 (45.8)	5,584 (42.7)	4,306 (46.8)	3,044 (44.3)
Northeast	11,007 (15.1)	849 (16.2)	522 (14.5)	5,494 (16.4)	2,652 (14.2)	1,586 (12.1)	1,279 (13.9)	863 (12.6)
South	19,410 (26.6)	1,250 (23.9)	1,159 (32.1)	8,640 (25.7)	4,733 (25.3)	4,068 (31.1)	2,601 (28.3)	2,135 (31.1)
West	10,036 (13.7)	710 (13.6)	598 (16.6)	4,483 (13.4)	2,732 (14.6)	1,852 (14.1)	1,018 (11.1)	823 (12.0)
Delivery year, N (%)								
2000	38 (0.1)	1 (0.0)	5 (0.1)	19 (0.1)	10 (0.1)	7 (0.1)	2 (0.0)	0 (0.0)
2001	2,259 (3.1)	87 (1.7)	176 (4.9)	732 (2.2)	817 (4.4)	296 (2.3)	192 (2.1)	0 (0.0)
2002	3,539 (4.8)	124 (2.4)	201 (5.6)	1,231 (3.7)	1,067 (5.7)	511 (3.9)	395 (4.3)	4 (0.1)
2003	5,710 (7.8)	310 (5.9)	285 (7.9)	2,271 (6.8)	1,507 (8.1)	815 (6.2)	515 (5.6)	281 (4.1)
2004	6,920 (9.5)	484 (9.2)	328 (9.1)	2,780 (8.3)	1,738 (9.3)	1,204 (9.2)	400 (4.3)	818 (11.9)
2005	5,910 (8.1)	464 (8.9)	299 (8.3)	2,456 (7.3)	1,532 (8.2)	1,181 (9.0)	316 (3.4)	889 (12.9)
2006	5,309 (7.3)	382 (7.3)	271 (7.5)	2,324 (6.9)	1,489 (8.0)	1,355 (10.4)	395 (4.3)	791 (11.5)
2007	4,994 (6.8)	400 (7.6)	249 (6.9)	2,261 (6.7)	1,447 (7.7)	1,218 (9.3)	538 (5.8)	642 (9.4)
2008	4,800 (6.6)	359 (6.9)	247 (6.8)	2,309 (6.9)	1,283 (6.9)	974 (7.4)	631 (6.9)	543 (7.9)
2009	6,359 (8.7)	479 (9.1)	257 (7.1)	3,165 (9.4)	1,599 (8.6)	1,216 (9.3)	892 (9.7)	711 (10.4)
2010	7,317 (10.0)	501 (9.6)	292 (8.1)	3,770 (11.2)	1,706 (9.1)	1,163 (8.9)	1,171 (12.7)	732 (10.7)
2011	6,832 (9.4)	538 (10.3)	300 (8.3)	3,513 (10.5)	1,590 (8.5)	1,094 (8.4)	1,167 (12.7)	630 (9.2)
2012	6,174 (8.5)	527 (10.1)	333 (9.2)	3,109 (9.3)	1,404 (7.5)	1,025 (7.8)	1,236 (13.4)	418 (6.1)
2013	4,584 (6.3)	395 (7.5)	239 (6.6)	2,420 (7.2)	998 (5.3)	694 (5.3)	913 (9.9)	268 (3.9)
2014	2,261 (3.1)	184 (3.5)	124 (3.4)	1,207 (3.6)	489 (2.6)	337 (2.6)	441 (4.8)	138 (2.0)

Indications and mental health conditions, N (%)								
ADHD	2,175 (3.0)	229 (4.4)	103 (2.9)	917 (2.7)	606 (3.2)	501 (3.8)	415 (4.5)	213 (3.1)
Adjustment disorder	1,387 (1.9)	86 (1.6)	50 (1.4)	645 (1.9)	364 (1.9)	206 (1.6)	185 (2.0)	118 (1.7)
Anxiety	19,544 (26.8)	1,800 (34.4)	829 (23.0)	8,551 (25.5)	4,653 (24.9)	2,734 (20.9)	2,962 (32.2)	2,032 (29.6)
Behavioral disorder	1,103 (1.5)	66 (1.3)	26 (0.7)	484 (1.4)	326 (1.7)	185 (1.4)	138 (1.5)	108 (1.6)
Bipolar disorder	8,981 (12.3)	939 (17.9)	359 (10.0)	3,744 (11.2)	2,564 (13.7)	1,674 (12.8)	1,415 (15.4)	1,024 (14.9)
Chronic fatigue	6,798 (9.3)	600 (11.5)	355 (9.8)	3,037 (9.0)	1,745 (9.3)	1,124 (8.6)	905 (9.8)	710 (10.3)
Depression, nonpsychotic	14,259 (19.5)	1,321 (25.2)	498 (13.8)	6,157 (18.3)	4,169 (22.3)	2,287 (17.5)	2,051 (22.3)	1,369 (19.9)
Depression, other	27,826 (38.1)	2,233 (42.7)	906 (25.1)	12,490 (37.2)	7,564 (40.5)	4,395 (33.6)	3,812 (41.4)	2,627 (38.3)
Depression, psychotic	1,347 (1.8)	122 (2.3)	69 (1.9)	506 (1.5)	434 (2.3)	230 (1.8)	199 (2.2)	149 (2.2)
Epilepsy/convulsion	1,991 (2.7)	200 (3.8)	217 (6.0)	847 (2.5)	545 (2.9)	220 (1.7)	282 (3.1)	216 (3.1)
Migraine/headache	16,206 (22.2)	1,368 (26.1)	1,665 (46.2)	7,258 (21.6)	4,225 (22.6)	2,814 (21.5)	2,211 (24.0)	1,630 (23.7)
Other developmental disorders ²	511 (0.7)	31 (0.6)	31 (0.9)	235 (0.7)	144 (0.8)	71 (0.5)	60 (0.7)	53 (0.8)
Other mental health disorders ³	2,768 (3.8)	271 (5.2)	221 (6.1)	1,178 (3.5)	771 (4.1)	446 (3.4)	395 (4.3)	268 (3.9)
Personality disorder	1,530 (2.1)	154 (2.9)	70 (1.9)	620 (1.8)	463 (2.5)	261 (2.0)	224 (2.4)	172 (2.5)
Psychosis	1,026 (1.4)	77 (1.5)	44 (1.2)	429 (1.3)	298 (1.6)	155 (1.2)	160 (1.7)	106 (1.5)
Schizophrenia	943 (1.3)	68 (1.3)	43 (1.2)	325 (1.0)	317 (1.7)	152 (1.2)	154 (1.7)	108 (1.6)
Sleep disorder	3,031 (4.2)	330 (6.3)	276 (7.7)	1,294 (3.9)	795 (4.3)	506 (3.9)	485 (5.3)	347 (5.1)
Psychiatric visits, N (%)								
0 visits	62,400 (85.5)	4,166 (79.6)	3,186 (88.4)	29,118 (86.7)	15,843 (84.8)	11,191 (85.5)	7,470 (81.2)	5,692 (82.9)
1 visit	2,856 (3.9)	256 (4.9)	98 (2.7)	1,223 (3.6)	755 (4.0)	449 (3.4)	475 (5.2)	297 (4.3)
2-3 visits	2,846 (3.9)	276 (5.3)	117 (3.2)	1,199 (3.6)	749 (4.0)	518 (4.0)	448 (4.9)	310 (4.5)
4+ visits	4,904 (6.7)	537 (10.3)	205 (5.7)	2,027 (6.0)	1,329 (7.1)	932 (7.1)	811 (8.8)	566 (8.2)
Mental health diagnoses, N (%)								
0 diagnoses	32,475 (44.5)	1,653 (31.6)	1,866 (51.7)	16,101 (48.0)	7,951 (42.6)	6,201 (47.4)	3,337 (36.3)	2,796 (40.7)
1 diagnosis	14,639 (20.1)	981 (18.7)	613 (17.0)	6,639 (19.8)	3,762 (20.1)	2,475 (18.9)	1,947 (21.2)	1,293 (18.8)
2-3 diagnoses	16,521 (22.6)	1,546 (29.5)	694 (19.2)	7,042 (21.0)	4,339 (23.2)	2,767 (21.1)	2,378 (25.8)	1,734 (25.3)
4+ diagnoses	9,371 (12.8)	1,055 (20.2)	433 (12.0)	3,785 (11.3)	2,624 (14.1)	1,647 (12.6)	1,542 (16.8)	1,042 (15.2)
Mental health ER visits, N (%)								
0 visits	66,981 (91.7)	4,680 (89.4)	3,325 (92.2)	30,979 (92.3)	17,050 (91.3)	12,112 (92.5)	8,346 (90.7)	6,198 (90.3)
1 visit	4,113 (5.6)	345 (6.6)	199 (5.5)	1,800 (5.4)	1,090 (5.8)	682 (5.2)	555 (6.0)	448 (6.5)
2-3 visits	1,641 (2.2)	178 (3.4)	70 (1.9)	688 (2.0)	454 (2.4)	258 (2.0)	260 (2.8)	185 (2.7)
4+ visits	271 (0.4)	32 (0.6)	12 (0.3)	100 (0.3)	82 (0.4)	38 (0.3)	43 (0.5)	34 (0.5)
Mental health hospitalizations, N (%)								
0 visits	68,729 (94.1)	4,840 (92.5)	3,375 (93.6)	31,842 (94.9)	17,400 (93.2)	12,352 (94.4)	8,611 (93.6)	6,419 (93.5)
1 visit	1,977 (2.7)	169 (3.2)	123 (3.4)	849 (2.5)	553 (3.0)	343 (2.6)	252 (2.7)	198 (2.9)
2-3 visits	1,546 (2.1)	140 (2.7)	60 (1.7)	596 (1.8)	463 (2.5)	253 (1.9)	223 (2.4)	170 (2.5)
4+ visits	754 (1.0)	86 (1.6)	48 (1.3)	280 (0.8)	260 (1.4)	142 (1.1)	118 (1.3)	78 (1.1)

Other psychiatric medications, N (%)								
0 drugs	57,010 (78.1)	3,123 (59.7)	2,528 (70.1)	27,241 (81.2)	14,259 (76.3)	10,262 (78.4)	6,660 (72.4)	4,897 (71.3)
1 drug	5,506 (7.5)	515 (9.8)	349 (9.7)	2,313 (6.9)	1,517 (8.1)	931 (7.1)	794 (8.6)	625 (9.1)
2-3 drugs	7,737 (10.6)	1,077 (20.6)	496 (13.8)	3,009 (9.0)	2,106 (11.3)	1,321 (10.1)	1,313 (14.3)	948 (13.8)
4+ drugs	2,753 (3.8)	520 (9.9)	233 (6.5)	1,004 (3.0)	794 (4.3)	576 (4.4)	437 (4.7)	395 (5.8)
Outpatient visits (based on quartiles), N (%)								
Low	8,126 (11.1)	454 (8.7)	383 (10.6)	3,818 (11.4)	1,966 (10.5)	1,529 (11.7)	846 (9.2)	683 (9.9)
Low to moderate	13,054 (17.9)	756 (14.4)	540 (15.0)	6,198 (18.5)	3,323 (17.8)	2,409 (18.4)	1,410 (15.3)	1,131 (16.5)
Moderate to high	14,001 (19.2)	918 (17.5)	631 (17.5)	6,557 (19.5)	3,472 (18.6)	2,623 (20.0)	1,735 (18.9)	1,244 (18.1)
High	37,825 (51.8)	3,107 (59.4)	2,052 (56.9)	16,994 (50.6)	9,915 (53.1)	6,529 (49.9)	5,213 (56.6)	3,807 (55.5)
Hospitalizations, N (%)								
0 visits	63,509 (87.0)	4,538 (86.7)	3,009 (83.4)	29,421 (87.6)	16,013 (85.7)	11,410 (87.2)	8,036 (87.3)	5,956 (86.8)
1 visit	6,140 (8.4)	458 (8.7)	353 (9.8)	2,752 (8.2)	1,690 (9.0)	1,090 (8.3)	750 (8.1)	591 (8.6)
2-3 visits	2,164 (3.0)	157 (3.0)	144 (4.0)	910 (2.7)	614 (3.3)	369 (2.8)	268 (2.9)	202 (2.9)
4+ visits	1,193 (1.6)	82 (1.6)	100 (2.8)	484 (1.4)	359 (1.9)	221 (1.7)	150 (1.6)	116 (1.7)
Lifestyle behaviors/ environmental, N (%)								
Alcohol abuse	2,676 (3.7)	225 (4.3)	93 (2.6)	1,106 (3.3)	744 (4.0)	445 (3.4)	415 (4.5)	269 (3.9)
Tobacco use	13,068 (17.9)	1,118 (21.4)	684 (19.0)	6,029 (18.0)	3,296 (17.6)	3,074 (23.5)	2,041 (22.2)	1,248 (18.2)
Substance abuse	7,684 (10.5)	789 (15.1)	520 (14.4)	3,153 (9.4)	2,154 (11.5)	1,538 (11.7)	1,229 (13.4)	826 (12.0)
Hyperemesis/nausea and vomiting in pregnancy	20,153 (27.6)	1,526 (29.1)	1,084 (30.1)	9,419 (28.1)	5,080 (27.2)	3,282 (25.1)	2,739 (29.8)	1,932 (28.1)
Poor nutrition	1,721 (2.4)	138 (2.6)	142 (3.9)	791 (2.4)	454 (2.4)	307 (2.3)	290 (3.2)	166 (2.4)
Start of prenatal care, gestational month, N (%)								
Month 1	4,189 (5.7)	269 (5.1)	150 (4.2)	1,931 (5.8)	1,109 (5.9)	767 (5.9)	535 (5.8)	390 (5.7)
Month 2	27,060 (37.1)	1,895 (36.2)	1,094 (30.3)	12,602 (37.5)	6,853 (36.7)	4,825 (36.9)	3,464 (37.6)	2,530 (36.9)
Month 3	17,676 (24.2)	1,299 (24.8)	821 (22.8)	8,350 (24.9)	4,532 (24.3)	3,169 (24.2)	2,209 (24.0)	1,645 (24.0)
Month 4	7,430 (10.2)	538 (10.3)	407 (11.3)	3,470 (10.3)	1,922 (10.3)	1,391 (10.6)	928 (10.1)	657 (9.6)
Month 5	4,648 (6.4)	313 (6.0)	280 (7.8)	2,101 (6.3)	1,193 (6.4)	844 (6.4)	565 (6.1)	444 (6.5)
Month 6	2,352 (3.2)	211 (4.0)	162 (4.5)	1,086 (3.2)	590 (3.2)	451 (3.4)	294 (3.2)	204 (3.0)
Month 7	1,911 (2.6)	147 (2.8)	146 (4.0)	817 (2.4)	506 (2.7)	324 (2.5)	260 (2.8)	162 (2.4)
Month 8	1,234 (1.7)	111 (2.1)	105 (2.9)	497 (1.5)	330 (1.8)	203 (1.6)	158 (1.7)	119 (1.7)
Month 9	1,195 (1.6)	107 (2.0)	84 (2.3)	468 (1.4)	296 (1.6)	229 (1.7)	168 (1.8)	143 (2.1)
No prenatal care	5,311 (7.3)	345 (6.6)	357 (9.9)	2,245 (6.7)	1,345 (7.2)	887 (6.8)	623 (6.8)	571 (8.3)
Prenatal care index, N (%)								
Adequate plus	17,745 (24.3)	1,209 (23.1)	793 (22.0)	8,581 (25.6)	4,412 (23.6)	3,229 (24.7)	1,984 (21.6)	1,761 (25.7)
Adequate	10,171 (13.9)	703 (13.4)	437 (12.1)	4,814 (14.3)	2,608 (14.0)	1,781 (13.6)	1,299 (14.1)	883 (12.9)
Intermediate	12,276 (16.8)	924 (17.7)	523 (14.5)	5,743 (17.1)	3,183 (17.0)	2,264 (17.3)	1,685 (18.3)	1,034 (15.1)
Inadequate	32,814 (44.9)	2,399 (45.8)	1,853 (51.4)	14,429 (43.0)	8,473 (45.4)	5,816 (44.4)	4,236 (46.0)	3,187 (46.4)
Start of prenatal vitamins, N (%)								

3 rd month prior to LMP	1,826 (2.5)	147 (2.8)	89 (2.5)	850 (2.5)	485 (2.6)	301 (2.3)	233 (2.5)	155 (2.3)
2 nd month prior to LMP	1,087 (1.5)	74 (1.4)	50 (1.4)	496 (1.5)	299 (1.6)	182 (1.4)	139 (1.5)	96 (1.4)
1 st month prior to LMP	848 (1.2)	60 (1.1)	43 (1.2)	400 (1.2)	219 (1.2)	132 (1.0)	115 (1.2)	72 (1.0)
Month 1	5,268 (7.2)	335 (6.4)	207 (5.7)	2,401 (7.2)	1,372 (7.3)	895 (6.8)	695 (7.6)	473 (6.9)
Month 2	19,649 (26.9)	1,327 (25.3)	953 (26.4)	9,014 (26.9)	5,058 (27.1)	3,487 (26.6)	2,444 (26.6)	1,899 (27.7)
Month 3	10,024 (13.7)	749 (14.3)	478 (13.3)	4,575 (13.6)	2,597 (13.9)	1,918 (14.7)	1,171 (12.7)	961 (14.0)
Month 4	5,010 (6.9)	313 (6.0)	253 (7.0)	2,303 (6.9)	1,276 (6.8)	954 (7.3)	598 (6.5)	479 (7.0)
Month 5	3,277 (4.5)	214 (4.1)	191 (5.3)	1,495 (4.5)	821 (4.4)	675 (5.2)	407 (4.4)	302 (4.4)
Month 6	2,265 (3.1)	177 (3.4)	169 (4.7)	1,027 (3.1)	597 (3.2)	429 (3.3)	290 (3.2)	204 (3.0)
Month 7	1,600 (2.2)	121 (2.3)	98 (2.7)	698 (2.1)	410 (2.2)	290 (2.2)	213 (2.3)	150 (2.2)
Month 8	970 (1.3)	60 (1.1)	54 (1.5)	429 (1.3)	247 (1.3)	202 (1.5)	127 (1.4)	99 (1.4)
Month 9	444 (0.6)	33 (0.6)	25 (0.7)	195 (0.6)	116 (0.6)	87 (0.7)	58 (0.6)	45 (0.7)
No prenatal vitamins	20,738 (28.4)	1,625 (31.0)	996 (27.6)	9,684 (28.8)	5,179 (27.7)	3,538 (27.0)	2,714 (29.5)	1,930 (28.1)
Comorbidities, N (%)								
Asthma	8,691 (11.9)	660 (12.6)	569 (15.8)	3,866 (11.5)	2,293 (12.3)	1,517 (11.6)	1,127 (12.2)	854 (12.4)
Autoimmune disorder	1,441 (2.0)	178 (3.4)	115 (3.2)	634 (1.9)	378 (2.0)	220 (1.7)	203 (2.2)	136 (2.0)
Pregestational diabetes	6,387 (8.7)	591 (11.3)	382 (10.6)	2,909 (8.7)	1,622 (8.7)	1,137 (8.7)	831 (9.0)	601 (8.8)
GBS infection	3,484 (4.8)	233 (4.5)	146 (4.0)	1,702 (5.1)	866 (4.6)	602 (4.6)	440 (4.8)	304 (4.4)
Pregestational hypertension	5,119 (7.0)	540 (10.3)	414 (11.5)	2,382 (7.1)	1,169 (6.3)	989 (7.6)	711 (7.7)	503 (7.3)
Influenza	1,391 (1.9)	102 (1.9)	83 (2.3)	668 (2.0)	320 (1.7)	242 (1.8)	178 (1.9)	149 (2.2)
Other STD infection	3,553 (4.9)	198 (3.8)	149 (4.1)	1,665 (5.0)	931 (5.0)	664 (5.1)	420 (4.6)	353 (5.1)
Overweight/obesity	5,564 (7.6)	505 (9.6)	335 (9.3)	2,740 (8.2)	1,353 (7.2)	994 (7.6)	827 (9.0)	489 (7.1)
Renal disease	311 (0.4)	19 (0.4)	21 (0.6)	150 (0.4)	75 (0.4)	45 (0.3)	38 (0.4)	22 (0.3)
TORCH infection	2,814 (3.9)	193 (3.7)	160 (4.4)	1,248 (3.7)	744 (4.0)	540 (4.1)	402 (4.4)	266 (3.9)
Obstetric Comorbidity Index ⁴ , N (%)								
0	31,251 (42.8)	1,789 (34.2)	1,221 (33.9)	14,664 (43.7)	7,928 (42.5)	5,392 (41.2)	3,729 (40.5)	2,807 (40.9)
1	17,337 (23.7)	1,211 (23.1)	809 (22.4)	7,979 (23.8)	4,405 (23.6)	3,055 (23.3)	2,204 (23.9)	1,619 (23.6)
2	11,677 (16.0)	916 (17.5)	635 (17.6)	5,314 (15.8)	2,983 (16.0)	2,263 (17.3)	1,541 (16.7)	1,155 (16.8)
3+	12,741 (17.5)	1,319 (25.2)	941 (26.1)	5,610 (16.7)	3,360 (18.0)	2,380 (18.2)	1,730 (18.8)	1,284 (18.7)
Other prescription medications, N (%)								
Anticonvulsants	7,504 (10.3)	1,087 (20.8)	752 (20.9)	2,976 (8.9)	2,052 (11.0)	1,448 (11.1)	1,240 (13.5)	920 (13.4)
Antidiabetics	2,497 (3.4)	250 (4.8)	166 (4.6)	1,101 (3.3)	627 (3.4)	487 (3.7)	348 (3.8)	268 (3.9)
Antihypertensives	8,866 (12.1)	997 (19.0)	807 (22.4)	3,809 (11.3)	2,251 (12.1)	1,670 (12.8)	1,258 (13.7)	957 (13.9)
Antipsychotics	7,707 (10.6)	1,042 (19.9)	410 (11.4)	2,921 (8.7)	2,297 (12.3)	1,338 (10.2)	1,173 (12.7)	1,025 (14.9)
Anxiolytics	2,935 (4.0)	311 (5.9)	182 (5.0)	1,239 (3.7)	780 (4.2)	581 (4.4)	458 (5.0)	327 (4.8)
Barbiturates	4,848 (6.6)	439 (8.4)	587 (16.3)	2,128 (6.3)	1,201 (6.4)	914 (7.0)	659 (7.2)	560 (8.2)
Benzodiazepines	14,816 (20.3)	1,905 (36.4)	956 (26.5)	5,918 (17.6)	3,735 (20.0)	2,253 (17.2)	2,305 (25.0)	1,877 (27.3)
Corticosteroids	21,338 (29.2)	1,761 (33.6)	1,413 (39.2)	9,523 (28.4)	5,396 (28.9)	3,785 (28.9)	2,948 (32.0)	2,140 (31.2)
Insulin	2,649 (3.6)	271 (5.2)	186 (5.2)	1,177 (3.5)	695 (3.7)	475 (3.6)	327 (3.6)	236 (3.4)
NSAIDs	24,816 (34.0)	2,064 (39.4)	1,913 (53.1)	11,095 (33.1)	6,451 (34.5)	4,399 (33.6)	3,317 (36.0)	2,462 (35.9)

Opioids	40,320 (55.2)	3,266 (62.4)	2,568 (71.2)	18,214 (54.3)	10,433 (55.9)	7,398 (56.5)	5,370 (58.3)	4,050 (59.0)
Other hypnotics	16,346 (22.4)	1,478 (28.2)	1,018 (28.2)	7,298 (21.7)	4,207 (22.5)	2,836 (21.7)	2,385 (25.9)	1,724 (25.1)
OID treatment	1,411 (1.9)	236 (4.5)	115 (3.2)	568 (1.7)	362 (1.9)	316 (2.4)	308 (3.3)	164 (2.4)
Progestins	5,379 (7.4)	389 (7.4)	270 (7.5)	2,502 (7.5)	1,327 (7.1)	976 (7.5)	721 (7.8)	552 (8.0)
Psychostimulants	2,654 (3.6)	344 (6.6)	177 (4.9)	1,062 (3.2)	738 (4.0)	592 (4.5)	479 (5.2)	301 (4.4)
Known teratogens	976 (1.3)	133 (2.5)	75 (2.1)	378 (1.1)	285 (1.5)	204 (1.6)	136 (1.5)	124 (1.8)
Suspected teratogens	19,265 (26.4)	1,463 (27.9)	1,086 (30.1)	8,917 (26.6)	4,771 (25.5)	3,556 (27.2)	2,655 (28.8)	1,908 (27.8)
Triptans	2,613 (3.6)	327 (6.2)	437 (12.1)	1,074 (3.2)	681 (3.6)	529 (4.0)	400 (4.3)	280 (4.1)
Proximity to metropolitan area, N (%)								
Metropolitan	57,047 (79.4)	4,065 (78.9)	2,792 (79.5)	26,935 (81.6)	14,466 (78.7)	10,037 (78.4)	6,973 (77.0)	5,188 (76.9)
Non-metropolitan	12,677 (17.7)	939 (18.2)	617 (17.6)	5,246 (15.9)	3,382 (18.4)	2,366 (18.5)	1,735 (19.2)	1,363 (20.2)
Rural	2,094 (2.9)	149 (2.9)	104 (3.0)	843 (2.6)	541 (2.9)	399 (3.1)	349 (3.9)	198 (2.9)
Percentage of Population with ≤ High School Diploma (Based on Quartiles) ⁵ , N (%)								
Low	20,952 (29.2)	1,477 (28.7)	886 (25.2)	9,920 (30.0)	5,292 (28.8)	3,658 (28.6)	2,790 (30.8)	1,761 (26.1)
Low to moderate	15,528 (21.6)	1,080 (21.0)	754 (21.5)	7,364 (22.3)	3,967 (21.6)	2,648 (20.7)	1,869 (20.6)	1,451 (21.5)
Moderate to high	15,724 (21.9)	1,187 (23.0)	808 (23.0)	7,090 (21.5)	4,049 (22.0)	2,854 (22.3)	1,763 (19.5)	1,617 (24.0)
High	19,611 (27.3)	1,409 (27.3)	1,065 (30.3)	8,649 (26.2)	5,081 (27.6)	3,642 (28.4)	2,635 (29.1)	1,919 (28.4)
Poverty Rate (Based on Quartiles) ⁵ , N (%)								
Low	24,882 (34.6)	1,831 (35.5)	984 (28.0)	11,444 (34.7)	6,461 (35.1)	4,194 (32.8)	3,305 (36.5)	2,186 (32.4)
Low to moderate	16,349 (22.8)	1,180 (22.9)	778 (22.1)	7,758 (23.5)	4,171 (22.7)	2,857 (22.3)	1,958 (21.6)	1,506 (22.3)
Moderate to high	19,293 (26.9)	1,389 (27.0)	1,018 (29.0)	8,944 (27.1)	4,835 (26.3)	3,551 (27.7)	2,355 (26.0)	1,888 (28.0)
High	11,289 (15.7)	753 (14.6)	733 (20.9)	4,877 (14.8)	2,922 (15.9)	2,200 (17.2)	1,438 (15.9)	1,168 (17.3)
Unemployment Rate (Based on Quartiles) ⁵ , N (%)								
Low	24,861 (34.6)	1,848 (35.9)	1,026 (29.2)	11,578 (35.1)	6,157 (33.5)	4,425 (34.6)	3,328 (36.7)	2,525 (37.4)
Low to moderate	18,928 (26.4)	1,374 (26.7)	923 (26.3)	8,942 (27.1)	4,807 (26.1)	3,373 (26.3)	2,414 (26.7)	1,661 (24.6)
Moderate to high	14,251 (19.8)	965 (18.7)	805 (22.9)	6,471 (19.6)	3,748 (20.4)	2,442 (19.1)	1,779 (19.6)	1,261 (18.7)
High	13,774 (19.2)	966 (18.7)	759 (21.6)	6,032 (18.3)	3,677 (20.0)	2,562 (20.0)	1,536 (17.0)	1,301 (19.3)

¹Race/ethnicity was determined based on information submitted to the Centers for Medicare & Medicaid Services by individual states, which was based on information that had been collected and coded from Medicaid applications.

²Other neurodevelopmental disorders include autism spectrum disorder, speech/language disorder, developmental coordination disorder, intellectual disability, and specific learning disorder.

³Other mental health disorders include delirium, dementia, tic disorder, somatoform spectrum disorder, eating disorder, psychotherapy, self-inflicted injury.

⁴As defined by Bateman et al. (2013): Development of a comorbidity index for use in obstetric patients.¹

⁵County-level SES-measures were assessed after linkage of zip codes (only available in MAX) with corresponding FIPS county codes using crosswalk files provided by the US Department of Housing and Urban Development; these FIPS codes were then used to merge the MAX data with data provided by the US Department of Agriculture which include county-level information on various SES-measures. Metropolitan area is defined as counties in metropolitan areas or counties with urban population of 20,000 or more, adjacent to a metropolitan area; urban area is defined as counties with urban population of 20,000 or more, not adjacent to a metropolitan area, or counties with populations of 2,500 to 19,999 residents; rural area is defined as counties with a population of less than 2,500. Categories of unemployment rate, poverty rate and rate of educational attainment reflect year-specific quartiles.

eTable 19. Characteristics of the cohort for individuals exposed to specific antidepressant classes or drugs during late pregnancy, in MarketScan

	SSRI	SNRI	TCA	Sertraline	Fluoxetine	Bupropion	Citalopram	Escitalopram
Age, mean (SD)	32.7 (4.6)	33.2 (4.5)	32.8 (5.1)	32.6 (4.5)	32.9 (4.7)	32.9 (4.7)	32.6 (4.6)	32.8 (4.5)
Age categories, N (%)								
≤19 years	63 (0.1)	5 (0.1)	4 (0.5)	34 (0.1)	9 (0.1)	13 (0.2)	6 (0.1)	10 (0.1)
20-24 years	1,285 (3.0)	71 (2.0)	34 (4.0)	690 (3.0)	259 (3.1)	212 (3.2)	139 (2.9)	176 (2.6)
25-29 years	9,403 (21.7)	680 (19.3)	185 (21.8)	5,031 (22.1)	1,699 (20.5)	1,380 (20.8)	1,089 (22.8)	1,435 (21.5)
30-34 years	17,684 (40.8)	1,417 (40.2)	319 (37.6)	9,458 (41.5)	3,263 (39.4)	2,563 (38.6)	1,944 (40.7)	2,694 (40.4)
35-39 years	11,855 (27.3)	1,041 (29.5)	221 (26.1)	6,075 (26.7)	2,401 (29.0)	1,930 (29.1)	1,252 (26.2)	1,876 (28.1)
≥40 years	3,061 (7.1)	311 (8.8)	85 (10.0)	1,499 (6.6)	656 (7.9)	540 (8.1)	341 (7.1)	477 (7.2)
Region, N (%)								
Midwest	13,363 (30.8)	982 (27.9)	243 (28.7)	7,198 (31.6)	2,468 (29.8)	1,909 (28.8)	1,497 (31.4)	2,013 (30.2)
Northeast	5,782 (13.3)	437 (12.4)	123 (14.5)	3,021 (13.3)	1,197 (14.4)	570 (8.6)	677 (14.2)	769 (11.5)
South	17,015 (39.2)	1,558 (44.2)	307 (36.2)	8,947 (39.3)	3,173 (38.3)	3,055 (46.0)	1,631 (34.2)	2,932 (44.0)
West	6,628 (15.3)	497 (14.1)	165 (19.5)	3,301 (14.5)	1,340 (16.2)	1,022 (15.4)	907 (19.0)	882 (13.2)
Delivery year, N (%)								
2003	44 (0.1)	4 (0.1)	1 (0.1)	22 (0.1)	10 (0.1)	8 (0.1)	0 (0.0)	4 (0.1)
2004	1,848 (4.3)	117 (3.3)	45 (5.3)	731 (3.2)	489 (5.9)	263 (4.0)	148 (3.1)	189 (2.8)
2005	2,472 (5.7)	184 (5.2)	65 (7.7)	1,061 (4.7)	607 (7.3)	387 (5.8)	140 (2.9)	348 (5.2)
2006	2,534 (5.8)	209 (5.9)	68 (8.0)	1,234 (5.4)	592 (7.1)	497 (7.5)	156 (3.3)	407 (6.1)
2007	2,926 (6.7)	279 (7.9)	53 (6.3)	1,571 (6.9)	601 (7.3)	579 (8.7)	206 (4.3)	470 (7.0)
2008	3,493 (8.1)	308 (8.7)	71 (8.4)	1,804 (7.9)	673 (8.1)	633 (9.5)	323 (6.8)	653 (9.8)
2009	5,165 (11.9)	436 (12.4)	88 (10.4)	2,904 (12.7)	940 (11.3)	752 (11.3)	456 (9.6)	874 (13.1)
2010	5,127 (11.8)	411 (11.7)	90 (10.6)	2,851 (12.5)	932 (11.2)	749 (11.3)	571 (12.0)	779 (11.7)
2011	5,522 (12.7)	451 (12.8)	92 (10.8)	3,071 (13.5)	974 (11.8)	788 (11.9)	673 (14.1)	800 (12.0)
2012	4,635 (10.7)	391 (11.1)	94 (11.1)	2,479 (10.9)	840 (10.1)	679 (10.2)	658 (13.8)	670 (10.0)
2013	3,913 (9.0)	317 (9.0)	73 (8.6)	2,043 (9.0)	698 (8.4)	575 (8.7)	599 (12.6)	582 (8.7)
2014	3,929 (9.1)	284 (8.1)	67 (7.9)	2,085 (9.1)	647 (7.8)	510 (7.7)	574 (12.0)	627 (9.4)
2015	1,743 (4.0)	134 (3.8)	41 (4.8)	931 (4.1)	284 (3.4)	218 (3.3)	267 (5.6)	265 (4.0)
Indications and mental health conditions, N (%)								
ADHD	740 (1.7)	103 (2.9)	13 (1.5)	333 (1.5)	182 (2.2)	239 (3.6)	102 (2.1)	128 (1.9)
Adjustment disorder	488 (1.1)	27 (0.8)	14 (1.7)	270 (1.2)	89 (1.1)	87 (1.3)	52 (1.1)	75 (1.1)
Anxiety	10,636 (24.5)	875 (24.8)	158 (18.6)	5,549 (24.4)	1,910 (23.0)	1,120 (16.9)	1,231 (25.8)	1,779 (26.7)
Behavioral disorder	61 (0.1)	9 (0.3)	2 (0.2)	31 (0.1)	16 (0.2)	9 (0.1)	3 (0.1)	8 (0.1)
Bipolar disorder	1,570 (3.6)	209 (5.9)	47 (5.5)	754 (3.3)	387 (4.7)	417 (6.3)	159 (3.3)	265 (4.0)
Chronic fatigue	4,338 (10.0)	433 (12.3)	99 (11.7)	2,210 (9.7)	857 (10.3)	735 (11.1)	461 (9.7)	748 (11.2)
Depression, nonpsychotic	6,505 (15.0)	795 (22.6)	105 (12.4)	3,279 (14.4)	1,478 (17.8)	1,283 (19.3)	749 (15.7)	1,040 (15.6)
Depression, other	10,668 (24.6)	1,061 (30.1)	144 (17.0)	5,617 (24.7)	2,193 (26.5)	1,837 (27.7)	1,251 (26.2)	1,568 (23.5)
Depression, psychotic	115 (0.3)	19 (0.5)	1 (0.1)	60 (0.3)	22 (0.3)	14 (0.2)	17 (0.4)	15 (0.2)
Epilepsy/convulsion	354 (0.8)	47 (1.3)	16 (1.9)	160 (0.7)	82 (1.0)	37 (0.6)	47 (1.0)	57 (0.9)
Migraine/headache	5,638 (13.0)	561 (15.9)	349 (41.2)	2,923 (12.8)	1,168 (14.1)	869 (13.1)	620 (13.0)	895 (13.4)

Other developmental disorders ¹	32 (0.1)	3 (0.1)	0 (0.0)	15 (0.1)	8 (0.1)	6 (0.1)	2 (0.0)	7 (0.1)
Other mental health disorders ²	907 (2.1)	78 (2.2)	36 (4.2)	446 (2.0)	221 (2.7)	111 (1.7)	81 (1.7)	156 (2.3)
Personality disorder	164 (0.4)	16 (0.5)	8 (0.9)	79 (0.3)	35 (0.4)	30 (0.5)	16 (0.3)	30 (0.4)
Psychosis	120 (0.3)	9 (0.3)	4 (0.5)	61 (0.3)	30 (0.4)	19 (0.3)	11 (0.2)	19 (0.3)
Schizophrenia	33 (0.1)	4 (0.1)	1 (0.1)	16 (0.1)	8 (0.1)	11 (0.2)	1 (0.0)	5 (0.1)
Sleep disorder	1,814 (4.2)	217 (6.2)	56 (6.6)	959 (4.2)	315 (3.8)	330 (5.0)	229 (4.8)	310 (4.6)
Psychiatric visits, N (%)								
0 visits	34,871 (80.4)	2,717 (77.1)	704 (83.0)	18,569 (81.5)	6,461 (78.0)	5,250 (79.1)	3,863 (81.0)	5,238 (78.6)
1 visit	1,482 (3.4)	143 (4.1)	24 (2.8)	772 (3.4)	303 (3.7)	231 (3.5)	152 (3.2)	237 (3.6)
2-3 visits	2,044 (4.7)	210 (6.0)	26 (3.1)	987 (4.3)	426 (5.1)	343 (5.2)	232 (4.9)	364 (5.5)
4+ visits	4,954 (11.4)	455 (12.9)	94 (11.1)	2,459 (10.8)	1,097 (13.2)	814 (12.3)	524 (11.0)	829 (12.4)
Mental health diagnoses, N (%)								
0 diagnoses	24,695 (57.0)	1,700 (48.2)	558 (65.8)	13,383 (58.7)	4,493 (54.2)	3,620 (54.5)	2,602 (54.5)	3,637 (54.5)
1 diagnosis	8,106 (18.7)	686 (19.5)	103 (12.1)	4,174 (18.3)	1,503 (18.1)	1,227 (18.5)	990 (20.8)	1,279 (19.2)
2-3 diagnoses	8,162 (18.8)	832 (23.6)	136 (16.0)	4,089 (17.9)	1,725 (20.8)	1,338 (20.2)	912 (19.1)	1,352 (20.3)
4+ diagnoses	2,388 (5.5)	307 (8.7)	51 (6.0)	1,141 (5.0)	566 (6.8)	453 (6.8)	267 (5.6)	400 (6.0)
Mental health ER visits, N (%)								
0 visits	42,089 (97.1)	3,399 (96.4)	816 (96.2)	22,170 (97.3)	8,015 (96.7)	6,446 (97.1)	4,620 (96.8)	6,463 (96.9)
1 visit	878 (2.0)	90 (2.6)	24 (2.8)	435 (1.9)	186 (2.2)	146 (2.2)	101 (2.1)	145 (2.2)
2-3 visits	304 (0.7)	28 (0.8)	6 (0.7)	145 (0.6)	66 (0.8)	32 (0.5)	43 (0.9)	46 (0.7)
4+ visits	80 (0.2)	8 (0.2)	2 (0.2)	37 (0.2)	20 (0.2)	14 (0.2)	7 (0.1)	14 (0.2)
Mental health hospitalizations, N (%)								
0 visits	42,667 (98.4)	3,451 (97.9)	835 (98.5)	22,437 (98.5)	8,132 (98.1)	6,522 (98.3)	4,696 (98.4)	6,581 (98.7)
1 visit	339 (0.8)	34 (1.0)	8 (0.9)	168 (0.7)	80 (1.0)	55 (0.8)	41 (0.9)	42 (0.6)
2-3 visits	253 (0.6)	32 (0.9)	4 (0.5)	137 (0.6)	50 (0.6)	42 (0.6)	26 (0.5)	34 (0.5)
4+ visits	92 (0.2)	8 (0.2)	1 (0.1)	45 (0.2)	25 (0.3)	19 (0.3)	8 (0.2)	11 (0.2)
Other psychiatric medications, N (%)								
0 drugs	38,143 (88.0)	2,756 (78.2)	667 (78.7)	20,373 (89.4)	7,034 (84.9)	5,556 (83.7)	4,177 (87.5)	5,782 (86.7)
1 drug	2,215 (5.1)	252 (7.1)	70 (8.3)	1,076 (4.7)	530 (6.4)	366 (5.5)	244 (5.1)	342 (5.1)
2-3 drugs	2,518 (5.8)	397 (11.3)	82 (9.7)	1,149 (5.0)	593 (7.2)	582 (8.8)	296 (6.2)	448 (6.7)
4+ drugs	475 (1.1)	120 (3.4)	29 (3.4)	189 (0.8)	130 (1.6)	134 (2.0)	54 (1.1)	96 (1.4)
Outpatient visits (based on quartiles), N (%)								
Low	5,636 (13.0)	391 (11.1)	76 (9.0)	3,007 (13.2)	1,053 (12.7)	846 (12.7)	613 (12.8)	810 (12.1)
Low to moderate	7,434 (17.1)	556 (15.8)	129 (15.2)	4,005 (17.6)	1,317 (15.9)	1,104 (16.6)	838 (17.6)	1,076 (16.1)
Moderate to high	12,878 (29.7)	977 (27.7)	234 (27.6)	6,868 (30.1)	2,359 (28.5)	1,946 (29.3)	1,420 (29.8)	1,967 (29.5)
High	17,403 (40.1)	1,601 (45.4)	409 (48.2)	8,907 (39.1)	3,558 (42.9)	2,742 (41.3)	1,900 (39.8)	2,815 (42.2)
Hospitalizations, N (%)								

0 visits	41,405 (95.5)	3,343 (94.8)	776 (91.5)	21,787 (95.6)	7,862 (94.9)	6,356 (95.8)	4,560 (95.6)	6,386 (95.8)
1 visit	1,310 (3.0)	127 (3.6)	47 (5.5)	682 (3.0)	287 (3.5)	183 (2.8)	137 (2.9)	182 (2.7)
2-3 visits	420 (1.0)	33 (0.9)	18 (2.1)	202 (0.9)	90 (1.1)	58 (0.9)	53 (1.1)	70 (1.0)
4+ visits	216 (0.5)	22 (0.6)	7 (0.8)	116 (0.5)	48 (0.6)	41 (0.6)	21 (0.4)	30 (0.4)
Lifestyle behaviors/ environmental, N (%)								
Alcohol abuse	241 (0.6)	35 (1.0)	6 (0.7)	102 (0.4)	70 (0.8)	38 (0.6)	24 (0.5)	45 (0.7)
Tobacco use	1,168 (2.7)	132 (3.7)	34 (4.0)	577 (2.5)	217 (2.6)	210 (3.2)	190 (4.0)	170 (2.5)
Substance abuse	382 (0.9)	61 (1.7)	28 (3.3)	174 (0.8)	90 (1.1)	67 (1.0)	60 (1.3)	58 (0.9)
Hyperemesis/nausea and vomiting in pregnancy	6,065 (14.0)	586 (16.6)	174 (20.5)	3,209 (14.1)	1,154 (13.9)	833 (12.5)	686 (14.4)	948 (14.2)
Poor nutrition	1,224 (2.8)	98 (2.8)	38 (4.5)	666 (2.9)	236 (2.8)	181 (2.7)	139 (2.9)	196 (2.9)
Start of prenatal care, gestational month, N (%)								
Month 1	2,754 (6.4)	196 (5.6)	75 (8.8)	1,448 (6.4)	498 (6.0)	410 (6.2)	344 (7.2)	411 (6.2)
Month 2	18,485 (42.6)	1,456 (41.3)	324 (38.2)	9,732 (42.7)	3,498 (42.2)	2,779 (41.9)	2,106 (44.1)	2,850 (42.7)
Month 3	10,948 (25.3)	919 (26.1)	202 (23.8)	5,711 (25.1)	2,134 (25.8)	1,632 (24.6)	1,240 (26.0)	1,691 (25.4)
Month 4	2,526 (5.8)	214 (6.1)	61 (7.2)	1,322 (5.8)	518 (6.3)	411 (6.2)	265 (5.6)	371 (5.6)
Month 5	1,166 (2.7)	97 (2.8)	28 (3.3)	617 (2.7)	223 (2.7)	216 (3.3)	101 (2.1)	193 (2.9)
Month 6	610 (1.4)	53 (1.5)	16 (1.9)	324 (1.4)	110 (1.3)	95 (1.4)	71 (1.5)	98 (1.5)
Month 7	942 (2.2)	81 (2.3)	14 (1.7)	518 (2.3)	168 (2.0)	149 (2.2)	96 (2.0)	132 (2.0)
Month 8	420 (1.0)	44 (1.2)	14 (1.7)	208 (0.9)	95 (1.1)	79 (1.2)	40 (0.8)	69 (1.0)
Month 9	591 (1.4)	49 (1.4)	15 (1.8)	299 (1.3)	114 (1.4)	83 (1.3)	72 (1.5)	91 (1.4)
No prenatal care	4,909 (11.3)	416 (11.8)	99 (11.7)	2,608 (11.4)	929 (11.2)	784 (11.8)	436 (9.1)	762 (11.4)
Prenatal care index, N (%)								
Adequate plus	3,129 (7.2)	278 (7.9)	75 (8.8)	1,604 (7.0)	639 (7.7)	485 (7.3)	374 (7.8)	464 (7.0)
Adequate	3,227 (7.4)	280 (7.9)	70 (8.3)	1,692 (7.4)	662 (8.0)	495 (7.5)	369 (7.7)	468 (7.0)
Intermediate	8,937 (20.6)	767 (21.8)	193 (22.8)	4,735 (20.8)	1,756 (21.2)	1,293 (19.5)	1,022 (21.4)	1,281 (19.2)
Inadequate	28,058 (64.7)	2,200 (62.4)	510 (60.1)	14,756 (64.8)	5,230 (63.1)	4,365 (65.8)	3,006 (63.0)	4,455 (66.8)
Start of prenatal vitamins, N (%)								
3 rd month prior to LMP	2,128 (4.9)	141 (4.0)	40 (4.7)	1,139 (5.0)	453 (5.5)	310 (4.7)	193 (4.0)	316 (4.7)
2 nd month prior to LMP	1,361 (3.1)	76 (2.2)	20 (2.4)	704 (3.1)	277 (3.3)	184 (2.8)	118 (2.5)	227 (3.4)
1 st month prior to LMP	1,017 (2.3)	67 (1.9)	30 (3.5)	553 (2.4)	186 (2.2)	154 (2.3)	84 (1.8)	166 (2.5)
Month 1	2,137 (4.9)	138 (3.9)	39 (4.6)	1,122 (4.9)	411 (5.0)	324 (4.9)	226 (4.7)	317 (4.8)
Month 2	5,808 (13.4)	445 (12.6)	124 (14.6)	2,997 (13.2)	1,188 (14.3)	899 (13.5)	554 (11.6)	938 (14.1)
Month 3	3,040 (7.0)	273 (7.7)	64 (7.5)	1,607 (7.1)	613 (7.4)	559 (8.4)	267 (5.6)	466 (7.0)
Month 4	1,231 (2.8)	116 (3.3)	27 (3.2)	657 (2.9)	232 (2.8)	214 (3.2)	113 (2.4)	192 (2.9)
Month 5	677 (1.6)	70 (2.0)	18 (2.1)	349 (1.5)	143 (1.7)	112 (1.7)	63 (1.3)	108 (1.6)
Month 6	445 (1.0)	48 (1.4)	11 (1.3)	239 (1.0)	81 (1.0)	82 (1.2)	40 (0.8)	70 (1.0)
Month 7	476 (1.1)	38 (1.1)	10 (1.2)	248 (1.1)	94 (1.1)	70 (1.1)	44 (0.9)	83 (1.2)
Month 8	261 (0.6)	31 (0.9)	4 (0.5)	134 (0.6)	43 (0.5)	50 (0.8)	34 (0.7)	46 (0.7)
Month 9	131 (0.3)	11 (0.3)	4 (0.5)	65 (0.3)	22 (0.3)	11 (0.2)	9 (0.2)	29 (0.4)
No prenatal vitamins	24,639 (56.8)	2,071 (58.8)	457 (53.9)	12,973 (56.9)	4,544 (54.8)	3,669 (55.3)	3,026 (63.4)	3,710 (55.6)

Comorbidities, N (%)								
Asthma	2,411 (5.6)	186 (5.3)	63 (7.4)	1,283 (5.6)	487 (5.9)	403 (6.1)	258 (5.4)	369 (5.5)
Autoimmune disorder	1,525 (3.5)	173 (4.9)	52 (6.1)	779 (3.4)	293 (3.5)	216 (3.3)	176 (3.7)	256 (3.8)
Pregestational diabetes	4,282 (9.9)	431 (12.2)	104 (12.3)	2,243 (9.8)	742 (9.0)	609 (9.2)	496 (10.4)	725 (10.9)
GBS infection	803 (1.9)	68 (1.9)	18 (2.1)	430 (1.9)	151 (1.8)	100 (1.5)	82 (1.7)	128 (1.9)
Pregestational hypertension	3,469 (8.0)	471 (13.4)	109 (12.9)	1,835 (8.1)	656 (7.9)	614 (9.2)	394 (8.3)	519 (7.8)
Influenza	636 (1.5)	67 (1.9)	15 (1.8)	334 (1.5)	110 (1.3)	79 (1.2)	80 (1.7)	104 (1.6)
Other STD infection	362 (0.8)	19 (0.5)	11 (1.3)	184 (0.8)	74 (0.9)	66 (1.0)	41 (0.9)	56 (0.8)
Overweight/obesity	2,579 (5.9)	254 (7.2)	56 (6.6)	1,386 (6.1)	469 (5.7)	354 (5.3)	349 (7.3)	366 (5.5)
Renal disease	106 (0.2)	17 (0.5)	3 (0.4)	57 (0.3)	20 (0.2)	13 (0.2)	12 (0.3)	17 (0.3)
TORCH infection	298 (0.7)	23 (0.7)	7 (0.8)	146 (0.6)	69 (0.8)	41 (0.6)	36 (0.8)	43 (0.6)
Obstetric Comorbidity Index ³ , N (%)								
0	14,817 (34.2)	992 (28.1)	251 (29.6)	7,946 (34.9)	2,740 (33.1)	2,169 (32.7)	1,639 (34.4)	2,235 (33.5)
1	12,117 (28.0)	868 (24.6)	194 (22.9)	6,364 (27.9)	2,336 (28.2)	1,897 (28.6)	1,287 (27.0)	1,868 (28.0)
2	7,963 (18.4)	660 (18.7)	147 (17.3)	4,144 (18.2)	1,527 (18.4)	1,196 (18.0)	891 (18.7)	1,246 (18.7)
3+	8,454 (19.5)	1,005 (28.5)	256 (30.2)	4,333 (19.0)	1,684 (20.3)	1,376 (20.7)	954 (20.0)	1,319 (19.8)
Other prescription medications, N (%)								
Anticonvulsants	2,094 (4.8)	364 (10.3)	114 (13.4)	957 (4.2)	522 (6.3)	469 (7.1)	221 (4.6)	383 (5.7)
Antidiabetics	2,546 (5.9)	280 (7.9)	53 (6.3)	1,312 (5.8)	465 (5.6)	422 (6.4)	309 (6.5)	429 (6.4)
Antihypertensives	4,919 (11.3)	596 (16.9)	191 (22.5)	2,457 (10.8)	1,028 (12.4)	848 (12.8)	547 (11.5)	800 (12.0)
Antipsychotics	1,088 (2.5)	212 (6.0)	45 (5.3)	465 (2.0)	309 (3.7)	242 (3.6)	116 (2.4)	199 (3.0)
Anxiolytics	976 (2.3)	112 (3.2)	30 (3.5)	465 (2.0)	215 (2.6)	188 (2.8)	138 (2.9)	169 (2.5)
Barbiturates	2,698 (6.2)	270 (7.7)	168 (19.8)	1,385 (6.1)	586 (7.1)	427 (6.4)	289 (6.1)	430 (6.4)
Benzodiazepines	7,514 (17.3)	822 (23.3)	207 (24.4)	3,696 (16.2)	1,576 (19.0)	1,083 (16.3)	876 (18.4)	1,289 (19.3)
Corticosteroids	13,075 (30.2)	1,129 (32.0)	343 (40.4)	6,704 (29.4)	2,517 (30.4)	2,017 (30.4)	1,512 (31.7)	2,131 (32.0)
Insulin	1,294 (3.0)	151 (4.3)	34 (4.0)	665 (2.9)	225 (2.7)	190 (2.9)	157 (3.3)	215 (3.2)
NSAIDs	6,425 (14.8)	637 (18.1)	259 (30.5)	3,342 (14.7)	1,324 (16.0)	1,041 (15.7)	732 (15.3)	968 (14.5)
Opioids	13,596 (31.4)	1,263 (35.8)	430 (50.7)	6,975 (30.6)	2,790 (33.7)	2,244 (33.8)	1,508 (31.6)	2,125 (31.9)
Other hypnotics	6,310 (14.6)	682 (19.3)	210 (24.8)	3,253 (14.3)	1,257 (15.2)	1,088 (16.4)	693 (14.5)	1,080 (16.2)
OAD treatment	132 (0.3)	32 (0.9)	13 (1.5)	59 (0.3)	41 (0.5)	29 (0.4)	19 (0.4)	15 (0.2)
Progestins	7,167 (16.5)	586 (16.6)	153 (18.0)	3,696 (16.2)	1,357 (16.4)	1,108 (16.7)	792 (16.6)	1,204 (18.1)
Psychostimulants	1,210 (2.8)	178 (5.0)	24 (2.8)	592 (2.6)	275 (3.3)	363 (5.5)	137 (2.9)	200 (3.0)
Known teratogens	365 (0.8)	43 (1.2)	14 (1.7)	183 (0.8)	81 (1.0)	75 (1.1)	45 (0.9)	51 (0.8)
Suspected teratogens	7,205 (16.6)	620 (17.6)	192 (22.6)	3,823 (16.8)	1,385 (16.7)	1,184 (17.8)	848 (17.8)	1,065 (16.0)
Triptans	1,594 (3.7)	198 (5.6)	109 (12.9)	767 (3.4)	347 (4.2)	298 (4.5)	178 (3.7)	282 (4.2)

¹Other neurodevelopmental disorders include autism spectrum disorder, speech/language disorder, developmental coordination disorder, intellectual disability, and specific learning disorder.

²Other mental health disorders include delirium, dementia, tic disorder, somatoform spectrum disorder, eating disorder, psychotherapy, self-inflicted injury.

³As defined by Bateman et al. (2013): Development of a comorbidity index for use in obstetric patients.

eTable 20. Hazard ratios and 95% confidence intervals for antidepressant exposed exclusive to early or late gestational windows and neurodevelopmental disorders, results pooled across data sources

Outcome	N events in exposed	N events in unexposed	Unadjusted HR (95% CI)	Adjusted HR (95% CI)
Exposed in late pregnancy, but not in early pregnancy (N=52,201)				
ASD	336	11642	1.64 (1.46, 1.85)	1.05 (0.93, 1.19)
ADHD	2017	54960	2.00 (1.91, 2.09)	1.22 (1.16, 1.28)
Specific learning disorders	146	5755	1.27 (1.07, 1.51)	1.09 (0.91, 1.30)
Developmental speech/language disorder	215	10565	1.48 (1.41, 1.56)	1.11 (1.06, 1.17)
Developmental coordination disorder	94	3325	1.07 (0.92, 1.25)	0.96 (0.83, 1.11)
Intellectual disability	83	3011	1.32 (1.06, 1.64)	1.01 (0.80, 1.27)
Behavioral disorder	1324	35522	1.89 (1.78, 2.00)	1.17 (1.10, 1.24)
Any NDD	4162	138704	1.69 (1.63, 1.74)	1.16 (1.12, 1.19)
Exposed in early pregnancy, but not in late pregnancy (N=104,995)				
ASD	701	11642	1.74 (1.60, 1.90)	1.06 (0.96, 1.17)
ADHD	3710	54960	1.96 (1.90, 2.03)	1.14 (1.09, 1.19)
Specific learning disorders	290	5755	1.36 (1.20, 1.54)	1.09 (0.94, 1.26)
Developmental speech/language disorder	3372	67866	1.45 (1.40, 1.51)	1.01 (0.97, 1.05)
Developmental coordination disorder	475	10565	1.23 (1.11, 1.37)	1.00 (0.89, 1.11)
Intellectual disability	183	3011	1.58 (1.36, 1.84)	1.06 (0.87, 1.28)
Behavioral disorder	2351	35522	1.79 (1.71, 1.87)	1.07 (1.01, 1.13)
Any NDD	7648	138704	1.64 (1.60, 1.68)	1.06 (1.03, 1.09)

Early pregnancy (secondary exposure window): LMP to 126 days after LMP

Late pregnancy (primary exposure window): 127 days after LMP to the day prior to delivery

eTable 21. Counts and crude and adjusted HR (95% CI) for sibling analysis for antidepressant use during late and early pregnancy compared to unexposed, pooled MAX and MarketScan data

Outcome	Counts of siblings discordant on antidepressant exposure status and outcome timing			Unadjusted HR (95% CI)	Adjusted HR (95% CI)
	Sibling sets	Antidepressant exposed	Unexposed		
Late pregnancy exposure					
ASD	163	175	223	0.96 (0.70, 1.30)	0.87 (0.60, 1.25)
ADHD	856	950	1121	0.92 (0.80, 1.05)	0.94 (0.81, 1.09)
Specific learning disorders	70	80	97	1.00 (0.63, 1.61)	0.78 (0.43, 1.41)
Developmental speech/language	982	1081	1312	1.11 (0.98, 1.25)	1.01 (0.88, 1.16)
Developmental coordination	150	164	204	0.99 (0.72, 1.36)	0.75 (0.51, 1.10)
Intellectual disability	50	57	75	0.84 (0.48, 1.48)	1.01 (0.46, 2.22)
Behavioral disorder	635	692	839	0.92 (0.79, 1.07)	0.96 (0.81, 1.13)
Any NDD	1908	2097	2519	1.01 (0.93, 1.11)	0.97 (0.88, 1.06)
Early pregnancy exposure					
ASD	227	246	296	0.91 (0.70, 1.18)	0.91 (0.67, 1.25)
ADHD	1217	1374	1649	0.97 (0.87, 1.08)	1.02 (0.90, 1.16)
Specific learning disorders	101	110	156	1.15 (0.78, 1.71)	1.17 (0.71, 1.94)
Developmental speech/language	1392	1519	1897	1.10 (0.99, 1.22)	1.02 (0.90, 1.14)
Developmental coordination	249	278	345	1.01 (0.79, 1.29)	0.88 (0.65, 1.20)
Intellectual disability	67	76	93	0.78 (0.48, 1.27)	0.72 (0.36, 1.46)
Behavioral disorder	915	1009	1250	1.01 (0.89, 1.15)	1.06 (0.92, 1.23)
Any NDD	2786	3080	3755	1.02 (0.95, 1.10)	0.99 (0.91, 1.07)

eTable 22. Crude and adjusted HR (95% CI) within the full sibling population for antidepressant use during late pregnancy compared to unexposed, pooled MAX and MarketScan data

	Antidepressant exposed	Unexposed	Unadjusted HR¹ (95% CI)	Adjusted HR¹ (95% CI)
Total included	32,584	813,384		
ASD	289	4,042	1.93 (1.71, 2.18)	1.13 (0.95, 1.35)
ADHD	1,529	22,505	2.02 (1.91, 2.13)	1.28 (1.20, 1.37)
Specific learning disorders	119	2,345	1.43 (1.19, 1.73)	1.10 (0.87, 1.38)
Developmental speech/language	1,519	25,267	1.62 (1.54, 1.71)	1.15 (1.07, 1.23)
Developmental coordination	205	3,538	1.51 (1.31, 1.75)	1.15 (0.94, 1.40)
Intellectual disability	61	1,115	1.51 (1.15, 1.98)	1.25 (0.92, 1.72)
Behavioral disorder	1,013	15,007	1.93 (1.80, 2.06)	1.10 (1.00, 1.21)
Any NDD	3,306	54,053	1.76 (1.70, 1.83)	1.17 (1.11, 1.23)

¹Not stratified by identifier

eFigure. Unadjusted cumulative incidence of select neurodevelopment disorders stratified by antidepressant exposure status during pregnancy and data source

