

**Web Appendix for "Estimating Causal Log-Odds Ratio Using Case-Control
Sample and Its Application in Pharmaco-Epidemiology Studies"**

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These tables provide estimated drug effects on adverse event in the decreasing order of OR. Most of the drugs have a significant effect on increasing the risk of adverse event.

[Table 1 about here.]

[Table 2 about here.]

[Table 3 about here.]

Table 1
Analysis result for the real data

Drugbank ID	Drug Name	Estimates of log OR	Standard Error	Z value	P value	OR
DB00295	Morphine	3.46	0.02	208.50	<0.001	31.74
DB00697	Tizanidine	3.36	0.02	143.14	<0.001	28.70
DB00813	Fentanyl	3.19	0.02	178.67	<0.001	24.23
DB00904	Ondansetron	3.14	0.02	207.01	<0.001	23.04
DB01075	Diphenhydramine	3.07	0.02	133.87	<0.001	21.59
DB00281	Lidocaine	2.90	0.02	131.23	<0.001	18.25
DB01069	Promethazine	2.90	0.01	216.79	<0.001	18.16
DB06724	Calcium carbonate	2.81	0.02	171.99	<0.001	16.68
DB00956	Hydrocodone	2.67	0.01	452.33	<0.001	14.42
DB00321	Amitriptyline	2.59	0.02	163.73	<0.001	13.32
DB00874	Guaifenesin	2.59	0.02	146.44	<0.001	13.27
DB01137	Levofloxacin	2.55	0.02	135.37	<0.001	12.86
DB01234	Dexamethasone	2.55	0.02	119.28	<0.001	12.76
DB00273	Topiramate	2.52	0.02	125.46	<0.001	12.40
DB00514	Dextromethorphan	2.45	0.03	97.78	<0.001	11.54
DB00945	Acetylsalicylic acid	2.41	0.01	176.40	<0.001	11.13
DB00656	Trazodone	2.31	0.01	177.10	<0.001	10.03
DB01611	Hydroxychloroquine	2.30	0.03	77.35	<0.001	9.93
DB00334	Olanzapine	2.27	0.03	85.36	<0.001	9.72
DB00852	Pseudoephedrine	2.27	0.02	91.37	<0.001	9.71
DB00490	Bupirone	2.26	0.02	91.11	<0.001	9.59
DB00318	Codeine	2.26	0.02	141.40	<0.001	9.58
DB00388	Phenylephrine	2.24	0.03	81.11	<0.001	9.42
DB00153	Ergocalciferol	2.21	0.02	104.43	<0.001	9.15
DB00370	Mirtazapine	2.20	0.02	102.87	<0.001	9.05
DB01015	Sulfamethoxazole	2.13	0.02	138.31	<0.001	8.38
DB00443	Betamethasone	2.09	0.03	82.04	<0.001	8.08
DB00440	Trimethoprim	2.07	0.01	140.38	<0.001	7.95
DB00268	Ropinirole	2.06	0.03	79.51	<0.001	7.85
DB00257	Clotrimazole	2.04	0.03	76.38	<0.001	7.67
DB00196	Fluconazole	2.01	0.02	109.69	<0.001	7.48
DB00537	Ciprofloxacin	1.95	0.02	120.16	<0.001	7.06
DB01114	Chlorphenamine	1.95	0.02	78.21	<0.001	7.04
DB00924	Cyclobenzaprine	1.89	0.01	163.71	<0.001	6.64
DB00285	Venlafaxine	1.87	0.02	112.18	<0.001	6.49

Table 2
Analysis result for the real data Cont'd

Drugbank ID	Drug Name	Estimates of log OR	Standard Error	Z value	P value	OR
DB01062	Oxybutynin	1.84	0.02	81.85	<0.001	6.33
DB00338	Omeprazole	1.84	0.01	191.81	<0.001	6.27
DB01222	Budesonide	1.83	0.02	74.30	<0.001	6.21
DB00213	Pantoprazole	1.83	0.02	108.30	<0.001	6.21
DB01156	Bupropion	1.82	0.02	121.25	<0.001	6.19
DB00571	Propranolol	1.81	0.02	73.07	<0.001	6.14
DB00983	Formoterol	1.71	0.03	52.70	<0.001	5.56
DB00425	Zolpidem	1.71	0.01	138.75	<0.001	5.55
DB00736	Esomeprazole	1.68	0.01	131.96	<0.001	5.35
DB01136	Carvedilol	1.57	0.02	85.03	<0.001	4.80
DB00455	Loratadine	1.55	0.02	100.23	<0.001	4.73
DB00497	Oxycodone	1.52	0.01	131.63	<0.001	4.59
DB01241	Gemfibrozil	1.52	0.04	42.77	<0.001	4.56
DB00471	Montelukast	1.51	0.02	90.50	<0.001	4.51
DB01050	Ibuprofen	1.49	0.01	129.36	<0.001	4.45
DB00682	Warfarin	1.48	0.02	95.85	<0.001	4.38
DB00586	Diclofenac	1.47	0.02	75.50	<0.001	4.36
DB00472	Fluoxetine	1.46	0.01	110.92	<0.001	4.31
DB01224	Quetiapine	1.45	0.02	74.88	<0.001	4.25
DB01036	Tolterodine	1.45	0.03	42.89	<0.001	4.24
DB00829	Diazepam	1.44	0.02	84.69	<0.001	4.24
DB00627	Niacin	1.42	0.03	49.75	<0.001	4.13
DB00193	Tramadol	1.40	0.01	122.78	<0.001	4.07
DB00482	Celecoxib	1.39	0.02	60.66	<0.001	4.03
DB00316	Acetaminophen	1.39	0.01	228.40	<0.001	4.01
DB00788	Naproxen	1.38	0.01	106.69	<0.001	3.99
DB00476	Duloxetine	1.38	0.01	104.49	<0.001	3.97
DB00758	Clopidogrel	1.36	0.02	90.52	<0.001	3.91
DB00661	Verapamil	1.19	0.03	45.26	<0.001	3.28
DB00734	Risperidone	1.18	0.02	52.08	<0.001	3.24
DB00641	Simvastatin	1.17	0.01	118.97	<0.001	3.22
DB00404	Alprazolam	1.15	0.01	113.94	<0.001	3.15
DB01016	Glyburide	1.14	0.03	36.39	<0.001	3.13
DB01039	Fenofibrate	1.13	0.02	51.57	<0.001	3.08
DB00343	Diltiazem	1.09	0.02	52.90	<0.001	2.98
DB00461	Nabumetone	1.03	0.03	38.83	<0.001	2.81

Table 3
Analysis result for the real data Cont'd

Drugbank ID	Drug Name	Estimates of log OR	Standard Error	Z value	P value	OR
DB01132	Pioglitazone	0.96	0.03	37.00	<0.001	2.62
DB01076	Atorvastatin	0.96	0.01	76.31	<0.001	2.60
DB01115	Nifedipine	0.95	0.03	28.05	<0.001	2.59
DB00973	Ezetimibe	0.90	0.02	42.92	<0.001	2.45
DB00863	Ranitidine	0.88	0.02	56.93	<0.001	2.41
DB00814	Meloxicam	0.84	0.02	49.92	<0.001	2.31
DB00603	Medroxyprogesterone acetate	0.84	0.02	39.93	<0.001	2.31
DB00957	Norgestimate	0.83	0.03	30.51	<0.001	2.29
DB00384	Triamterene	0.81	0.02	43.21	<0.001	2.26
DB00678	Losartan	0.78	0.02	43.09	<0.001	2.19
DB00367	Levonorgestrel	0.74	0.03	23.94	<0.001	2.09
DB00448	Lansoprazole	0.70	0.02	30.64	<0.001	2.02
DB00227	Lovastatin	0.69	0.03	21.44	<0.001	1.99
DB00977	Ethinyl Estradiol	0.62	0.02	39.72	<0.001	1.85
DB00286	Conjugated Equine Estrogens	0.60	0.02	31.78	<0.001	1.82
DB00331	Metformin	0.54	0.01	46.62	<0.001	1.72
DB00177	Valsartan	0.49	0.02	23.91	<0.001	1.64
DB00715	Paroxetine	0.48	0.02	26.46	<0.001	1.62
DB01175	Escitalopram	0.47	0.01	33.30	<0.001	1.60
DB00381	Amlodipine	0.46	0.01	41.10	<0.001	1.58
DB00717	Norethisterone	0.44	0.03	15.01	<0.001	1.55
DB01104	Sertraline	0.40	0.01	32.65	<0.001	1.50
DB00215	Citalopram	0.36	0.01	24.81	<0.001	1.44
DB01395	Drospirenone	0.21	0.05	4.25	<0.001	1.23
DB01029	Irbesartan	0.15	0.05	3.03	<0.001	1.16
DB00999	Hydrochlorothiazide	0.07	0.01	8.42	<0.001	1.08
DB00783	Estradiol	0.07	0.02	3.15	<0.001	1.07
DB00175	Pravastatin	-0.01	0.02	-0.32	0.75	0.99
DB00481	Raloxifene	-0.41	0.04	-10.68	<0.001	0.67