

**S1 Table.** Total analgesics use for sprain/strain of cervical spine, cervical intervertebral disc displacement, and cervicalgia (according to 5<sup>th</sup> level Anatomical Therapeutic Chemical (ATC) Classification System codes)

ATC code	Outpatient+Inpatient						Inpatient						Outpatient					
	Sprain/Strain of cervical spine		Cervical intervertebral disc displacement		Cervicalgia		Sprain/Strain of cervical spine		Cervical intervertebral disc displacement		Cervicalgia		Sprain/Strain of cervical spine		Cervical intervertebral disc displacement		Cervicalgia	
	N=17421	%	N=14044	%	N=21447	%	N=673	%	N=1561	%	N=972	%	N=16951	%	N=13517	%	N=21049	%
<b>Non-narcotics</b>																		
Aceclofenac	4,418	25.36	4,222	30.06	5,466	25.49	175	26.00	561	35.94	338	34.77	4,261	25.14	3,905	28.89	5,307	25.21
Diclofenac	4,071	23.37	3,210	22.86	3,391	15.81	337	50.07	658	42.15	281	28.91	3,759	22.18	2,686	19.87	3,195	15.18
Tramadol	3,079	17.67	2,597	18.49	2,909	13.56	279	41.46	464	29.72	271	27.88	2,820	16.64	2,206	16.32	2,708	12.87
Loxoprofen sodium hydrate*	3,072	17.63	2,232	15.89	2,927	13.65	124	18.42	234	14.99	112	11.52	2,965	17.49	2,059	15.23	2,847	13.53
Talniflumate*	3,102	17.81	2,217	15.79	2,718	12.67	160	23.77	279	17.87	129	13.27	2,952	17.41	2,002	14.81	2,634	12.51
Tramadol, combinations	1,397	8.02	1,838	13.09	2,097	9.78	54	8.02	176	11.27	70	7.20	1,345	7.93	1,711	12.66	2,055	9.76
Zaltoprofen*	758	4.35	615	4.38	829	3.87	23	3.42	67	4.29	34	3.50	739	4.36	573	4.24	805	3.82
Chlorphenesin carbamate*	689	3.95	408	2.91	675	3.15	16	2.38	32	2.05	18	1.85	674	3.98	383	2.83	662	3.15
Meloxicam	258	1.48	670	4.77	728	3.39	8	1.19	72	4.61	36	3.70	251	1.48	620	4.59	704	3.34
Paracetamol	486	2.79	263	1.87	424	1.98	28	4.16	39	2.50	27	2.78	458	2.70	226	1.67	402	1.91
Piroxicam	257	1.48	362	2.58	521	2.43	32	4.75	71	4.55	47	4.84	229	1.35	298	2.20	477	2.27
Dexibuprofen	407	2.34	250	1.78	432	2.01	11	1.63	15	0.96	7	0.72	397	2.34	235	1.74	426	2.02
Pelubiprofen*	124	0.71	177	1.26	167	0.78	4	0.59	11	0.70	6	0.62	120	0.71	168	1.24	162	0.77
Ketorolac	127	0.73	186	1.32	149	0.69	23	3.42	107	6.85	52	5.35	105	0.62	82	0.61	98	0.47
Nabumetone	72	0.41	177	1.26	156	0.73	12	1.78	29	1.86	2	0.21	62	0.37	153	1.13	156	0.74

Etodolac	150	0.86	124	0.88	121	0.56	6	0.89	15	0.96	1	0.10	145	0.86	115	0.85	120	0.57
Celecoxib	50	0.29	150	1.07	173	0.81	-	-	4	0.26	5	0.51	50	0.29	147	1.09	170	0.81
Ibuprofen	197	1.13	45	0.32	95	0.44	6	0.89	2	0.13	2	0.21	191	1.13	43	0.32	93	0.44
Mefenamic acid	91	0.52	60	0.43	127	0.59	10	1.49	12	0.77	9	0.93	81	0.48	49	0.36	120	0.57
Naproxen	66	0.38	48	0.34	97	0.45	8	1.19	5	0.32	6	0.62	58	0.34	45	0.33	92	0.44
Propofol	1	0.01	142	1.01	57	0.27	1	0.15	141	9.03	56	5.76	-	-	1	0.01	1	0.00
Morniflumate	56	0.32	38	0.27	55	0.26	5	0.74	4	0.26	-	-	52	0.31	36	0.27	55	0.26
Proglumetacin	28	0.16	57	0.41	38	0.18	1	0.15	1	0.06	1	0.10	27	0.16	56	0.41	37	0.18
Nimesulide	45	0.26	18	0.13	42	0.20	1	0.15	2	0.13	2	0.21	44	0.26	16	0.12	41	0.19
Cyclobenzaprine	39	0.22	25	0.18	29	0.14	2	0.30	4	0.26	1	0.10	37	0.22	22	0.16	28	0.13
Sulindac	8	0.05	15	0.11	35	0.16	-	-	-	-	-	-	8	0.05	15	0.11	35	0.17
Lornoxicam	12	0.07	12	0.09	23	0.11	1	0.15	-	-	-	-	11	0.06	12	0.09	23	0.11
Hydroxocobalamin	11	0.06	20	0.14	9	0.04	8	1.19	17	1.09	5	0.51	3	0.02	3	0.02	4	0.02
Acetylsalicylic acid	9	0.05	21	0.15	6	0.03	2	0.30	9	0.58	2	0.21	7	0.04	12	0.09	4	0.02
Ketoprofen, combinations	10	0.06	19	0.14	5	0.02	-	-	2	0.13	-	-	10	0.06	17	0.13	5	0.02
Dexamethasone	-	-	20	0.14	5	0.02	-	-	1	0.06	2	0.21	-	-	19	0.14	3	0.01
Acemetacin	2	0.01	2	0.01	9	0.04	-	-	-	-	-	-	2	0.01	2	0.01	9	0.04
Oxaprozin	-	-	7	0.05	3	0.01	-	-	-	-	-	-	-	-	7	0.05	3	0.01
Barbiturates, plain	-	-	5	0.04	2	0.01	-	-	4	0.26	2	0.21	-	-	1	0.01	-	-
Nalbufine	-	-	3	0.02	1	0.00	-	-	3	0.19	-	-	-	-	-	-	1	0.00
Butorphanol	-	-	4	0.03	-	-	-	-	4	0.26	-	-	-	-	-	-	-	-
Ketamine	-	-	1	0.01	3	0.01	-	-	-	-	1	0.10	-	-	1	0.01	2	0.01
Salsalate	1	0.01	1	0.01	1	0.00	-	-	1	0.06	-	-	1	0.01	-	-	1	0.00
Almotriptan	-	-	-	-	3	0.01	-	-	-	-	-	-	-	-	-	-	3	0.01
Tiaprofenic acid	-	-	2	0.01	-	-	-	-	-	-	-	-	-	-	2	0.01	-	-
Pranoprofen*	1	0.01	-	-	-	-	-	-	-	-	-	-	1	0.01	-	-	-	-

Narcotics																			
Pethidine		28	0.16	144	1.03	74	0.35	10	1.49	127	8.14	56	5.76	18	0.11	18	0.13	18	0.09
Codeine, combinations	excl.	25	0.14	78	0.56	74	0.35	5	0.74	31	1.99	26	2.67	20	0.12	54	0.40	53	0.25
psycholeptics																			
Remifentanyl		-	-	82	0.58	40	0.19	-	-	82	5.25	40	4.12	-	-	-	-	-	-
Fentanyl		1	0.01	53	0.38	29	0.14	-	-	53	3.40	28	2.88	1	0.01	-	-	1	0.00
Oxycodone		-	-	12	0.09	17	0.08	-	-	6	0.38	8	0.82	-	-	6	0.04	10	0.05
Morphine		3	0.02	8	0.06	9	0.04	-	-	3	0.19	3	0.31	3	0.02	5	0.04	8	0.04
Hydromorphone		-	-	7	0.05	7	0.03	-	-	4	0.26	2	0.21	-	-	3	0.02	5	0.02
Codeine		2	0.01	4	0.03	6	0.03	-	-	2	0.13	2	0.21	2	0.01	2	0.01	4	0.02
Alfentanil		-	-	5	0.04	-	-	-	-	5	0.32	-	-	-	-	-	-	-	-

\*Chemical names of drugs with no corresponding 5th level ATC codes.

※ In calculating percentages in number of patients for each respective category, the denominator was the total number of patients for each disorder group.

※ Subjects with any drug prescription code were counted and included as drug treatment recipients regardless of dose.

**S2 Table.** Total analgesics use of sprain/strain of cervical spine, cervical intervertebral disc displacement, and cervicalgia (according to 4<sup>th</sup> level Anatomical Therapeutic Chemical (ATC) Classification System codes)

Classification	Outpatient+Inpatient						Inpatient						Outpatient					
	Sprain/Strain of cervical spine		Cervical intervertebral disc displacement		Cervicalgia		Sprain/Strain of cervical spine		Cervical intervertebral disc displacement		Cervicalgia		Sprain/Strain of cervical spine		Cervical intervertebral disc displacement		Cervicalgia	
	N=17421	%	N=14044	%	N=21447	%	N=673	%	N=1561	%	N=972	%	N=16951	%	N=13517	%	N=21049	%
<b>Non-narcotics</b>																		
Acetic acid derivatives and related substances	7,451	42.77	6,353	45.24	7,454	34.76	430	63.89	1,037	66.43	546	56.17	7,073	41.73	5,730	42.39	7,230	34.35
Other opioids	4,179	23.99	3,966	28.24	4,421	20.61	316	46.95	574	36.77	311	32.00	3,890	22.95	3,533	26.14	4,226	20.08
Propionic acid derivatives	4,561	26.18	3,262	23.23	4,308	20.09	174	25.85	326	20.88	164	16.87	4,413	26.03	3,035	22.45	4,204	19.97
Other antiinflammatory and antirheumatic agents, non-steroids	3,270	18.77	2,424	17.26	2,939	13.70	177	26.30	314	20.12	133	13.68	3,107	18.33	2,186	16.17	2,859	13.58
Oxicams	514	2.95	1,014	7.22	1,235	5.76	39	5.79	140	8.97	83	8.54	480	2.83	905	6.70	1,169	5.55
Other centrally acting agents	728	4.18	433	3.08	703	3.28	18	2.67	36	2.31	19	1.95	711	4.19	405	3.00	689	3.27
Anilides	486	2.79	263	1.87	424	1.98	28	4.16	39	2.50	27	2.78	458	2.70	226	1.67	402	1.91
Coxibs	50	0.29	150	1.07	173	0.81	-	-	4	0.26	5	0.51	50	0.29	147	1.09	170	0.81
Fenamates	91	0.52	60	0.43	127	0.59	10	1.49	12	0.77	9	0.93	81	0.48	49	0.36	120	0.57
Other general anesthetics	1	0.01	143	1.02	59	0.28	1	0.15	141	9.03	56	5.76	-	-	2	0.01	3	0.01
Other nervous system drugs	11	0.06	20	0.14	9	0.04	8	1.19	17	1.09	5	0.51	3	0.02	3	0.02	4	0.02
Salicylic acid and derivatives	9	0.05	21	0.15	6	0.03	2	0.30	9	0.58	2	0.21	7	0.04	12	0.09	4	0.02
Glucocorticoids	-	-	20	0.14	5	0.02	-	-	1	0.06	2	0.21	-	-	19	0.14	3	0.01
Morphinan derivatives	-	-	7	0.05	1	0.00	-	-	7	0.45	-	0.00	-	-	-	-	1	0.00
Barbiturates, plain	-	-	5	0.04	2	0.01	-	-	4	0.26	2	0.21	-	-	1	0.01	-	0.00
Selective serotonin (5HT1) agonists	-	-	-	-	3	0.01	-	-	-	-	-	0.00	-	-	-	-	3	0.01
<b>Narcotics</b>																		

Phenylpiperidine derivatives	28	0.16	144	1.03	74	2.01	10	1.49	127	8.14	56	5.76	18	0.11	18	0.13	18	0.09
Natural opium alkaloids	27	0.15	103	0.73	101	0.91	5	0.74	42	2.69	36	3.70	22	0.13	68	0.50	72	0.34
Opioid anesthetics	1	0.01	120	0.85	62	0.86	-	-	120	7.69	61	6.28	1	0.01	-	-	1	0.00
Opium alkaloids and derivatives	2	0.01	4	0.03	6	0.07	-	-	2	0.13	2	0.21	2	0.01	2	0.01	4	0.02

※ In calculating percentages in number of patients for each respective category, the denominator was the total number of patients for each disorder group.

※ Subjects with any drug prescription code were counted and included as drug treatment recipients regardless of dose.