

Summary of results

The cohort included 588 827 NSAIDs users and 3031 UGIC cases. Nonspecific codes contributed to 23% of cases and secondary codes to 5%. Among current users, IR per 1000 person-years decreased from 4.45 cases in 2001 to 2.21 cases in 2008 (Figure 1). The RR (95%CI) for current use of NSAIDs was 3.28 (2.86, 3.76). RR was <2 for rofecoxib, celecoxib, and nimesulide; 2 to <5 for naproxen, ibuprofen, diclofenac, etoricoxib, and meloxicam; and ≥ 5 for ketoprofen, piroxicam, and ketorolac (Table 1).

Figure 1. Time trends of incidence rates for upper gastrointestinal complications, overall, and in current users and nonusers of NSAIDs

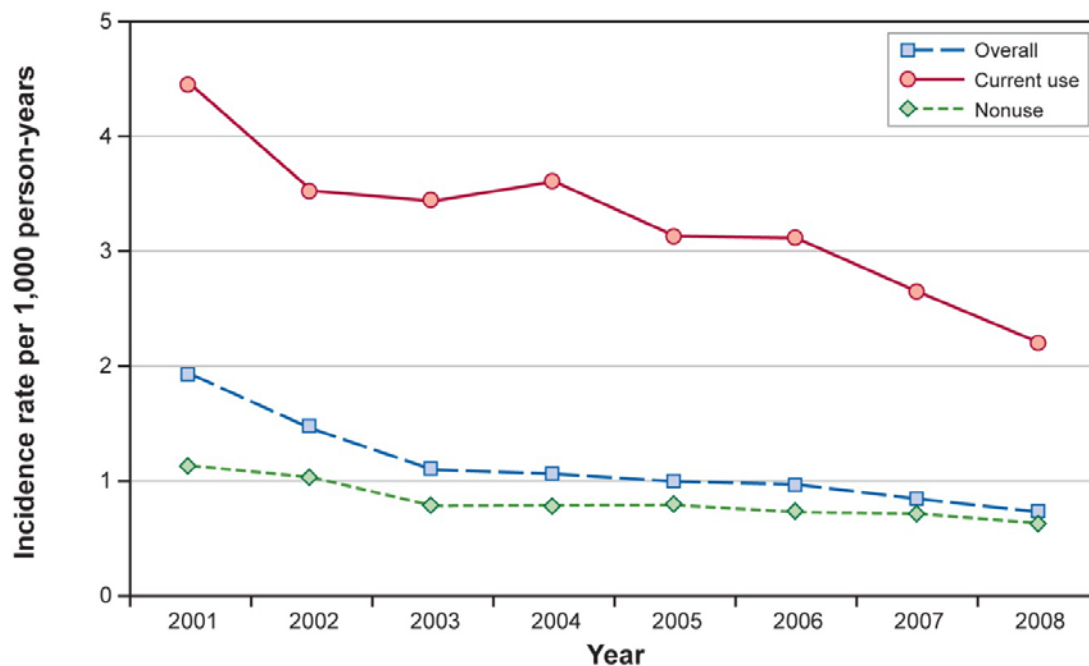


Table 1. Crude and adjusted relative risk of upper gastrointestinal complications associated with the use of NSAIDs

Use of NSAIDs	Cases (n = 2,735)		Controls (n = 27,011)		Crude RR (95% CI)	Age- and Sex- Adjusted RR (95% CI)	Adjusted RR ^a (95% CI)
	n	%	n	%			
Nonuse	1,357	49.6	17,215	63.7	1.00	1.00	1.00
Current	506	18.5	1,837	6.8	4.00 (3.55-4.51)	3.32 (2.92-3.78)	3.28 (2.86-3.76)
Current single	353	12.9	1,510	5.6	3.39 (2.96-3.87)	2.85 (2.47-3.29)	2.83 (2.43-3.29)
Rofecoxib	10	0.4	109	0.4	1.47 (0.76-2.83)	1.03 (0.52-2.03)	0.84 (0.41-1.74)
Celecoxib	24	0.9	170	0.6	2.24 (1.45-3.47)	1.57 (1.00-2.47)	1.38 (0.85-2.24)
Nimesulide	42	1.5	412	1.5	1.45 (1.05-2.00)	1.41 (1.00-1.98)	1.53 (1.08-2.18)
Naproxen	8	0.3	39	0.1	3.10 (1.43-6.71)	2.97 (1.30-6.81)	2.74 (1.14-6.59)
Ibuprofen	24	0.9	84	0.3	3.78 (2.39-5.99)	3.11 (1.90-5.10)	3.04 (1.81-5.12)
Diclofenac	81	3.0	271	1.0	4.28 (3.31-5.55)	3.26 (2.47-4.32)	3.24 (2.40-4.36)
Etoricoxib	16	0.6	55	0.2	3.44 (1.97-6.02)	2.98 (1.63-5.46)	3.27 (1.72-6.19)
Meloxicam	13	0.5	36	0.1	5.47 (2.87-10.45)	4.23 (2.14-8.37)	4.47 (2.16-9.27)
Ketoprofen	30	1.1	72	0.3	5.92 (3.84-9.15)	5.49 (3.40-8.87)	5.45 (3.29-9.05)
Piroxicam	37	1.4	100	0.4	5.56 (3.77-8.20)	4.96 (3.23-7.62)	5.70 (3.65-8.89)
Ketorolac	47	1.7	26	0.1	24.42 (15.04-39.66)	25.63 (14.51-45.28)	21.76 (11.93-39.70)
Other NSAIDs	21	0.8	136	0.5	2.20 (1.38-3.51)	1.83 (1.11-3.03)	1.72 (1.02-2.90)
Current switching ^b	116	4.2	262	1.0	6.52 (5.17-8.22)	5.12 (3.97-6.61)	4.92 (3.77-6.42)
Current multiple ^c	37	1.4	65	0.2	8.57 (5.64-13.01)	6.72 (4.25-10.63)	6.23 (3.81-10.18)
Recent use	546	20.0	4,057	15.0	1.88 (1.69-2.10)	1.62 (1.44-1.82)	1.68 (1.48-1.89)
Past use	326	11.9	3,902	14.5	1.13 (0.99-1.29)	1.03 (0.90-1.18)	1.00 (0.87-1.16)

CI = confidence interval; NSAIDs = nonsteroidal anti-inflammatory drugs; RR = relative risk.

^a Adjusted for age, sex, history of complicated and uncomplicated peptic ulcer disease, esophageal varices, Mallory-Weiss syndrome, alcohol abuse–related diseases, liver diseases, cardiovascular diseases, musculoskeletal disorders, other chronic disease, and use of medications within 60 days before the index date. Use of medications included proton pump inhibitors, H2-receptor antagonists and antacids, aspirin, platelet aggregation inhibitors and anticoagulants, oral corticosteroids, bisphosphonates, and selective serotonin reuptake inhibitors.

^b Current switching use defined as current use of only one individual NSAID with recent use of a different NSAID.

^c Current multiple use defined as current use of more than one NSAID with or without recent use of other NSAIDs.