Modular Program Report

The following report(s) provides findings from an FDA-initiated query using its Mini-Sentinel pilot. While Mini-Sentinel queries may be undertaken to assess potential medical product safety risks, they may also be initiated for various other reasons. Some examples include determining a rate or count of an identified health outcome of interest, examining medical product use, exploring the feasibility of future, more detailed analyses within Mini-Sentinel, and seeking to better understand the capabilities of the Mini-Sentinel pilot.

Data obtained through Mini-Sentinel are intended to complement other types of evidence such as preclinical studies, clinical trials, postmarket studies, and adverse event reports, all of which are used by FDA to inform regulatory decisions regarding medical product safety. The information contained in this report is provided as part of FDA's commitment to place knowledge acquired from the Mini-Sentinel pilot in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in Mini-Sentinel queries will continue to be communicated through existing channels.

FDA wants to emphasize that the fact that FDA has initiated a query involving a medical product and is reporting findings related to that query does not mean that FDA is suggesting health care practitioners should change their prescribing practices for the medical product or that patients taking the medical product should stop using it. Patients who have questions about the use of an identified medical product should contact their health care practitioners.

The following report contains a description of the request, request specifications, and results from the modular program run(s).

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Mini-Sentinel

Overview

Request Description	FDA requested use of Modular Program (MP) #3 (version 1.0) to investigate serious cutaneous adverse reactions (SCAR) events (see Appendix A for list of diagnosis codes) following new use of oxicam NSAIDs, modafinil/armodafinil, and sulfamethoxazole. The query was run against the **Mini-Sentinel Distributed Database** and distributed on **July 15, 2011**, and 15 Data Partners provided data for the request. This request generated counts of new users of oxicam NSAIDs, modafinil/armodafinil, and sulfamethoxazole and counts of SCAR events among new users by care setting and presence of a principal diagnosis flag.
Requester	FDA/CDER
Request ID	MP3T4

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Notes: Please contact the Mini-Sentinel Operations Center (MSOC_Requests@harvardpilgrim.org) for questions and to provide comments/suggestions for future enhancements to this document.

Glossary of Terms in Modular Program 3*

Blackout Period - number of days at the beginning of a treatment episode that events are to be ignored. If an event occurs during the blackout period, the episode is excluded.

Care Setting - type of medical encounter or facility where the exposure, event, or condition code was recorded. Possible care settings include: Inpatient Hospital Stay (IP), Non-Acute Institutional Stay (IS), Emergency Department (ED), Ambulatory Visit (AV), and Other Ambulatory Visit (OA).

Days at Risk - number of days members are at risk for an event during a treatment episode (calculated using number of days supplied plus any episode gaps and exposure extension periods).

Eligible Members - Number of members eligible for an incident treatment episode (defined by the exposure and event washout periods) with drug and medical coverage during the query period.

Member-Days - sum of all days a member is eligible for an incident treatment episode (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).

Enrollment Gap - number of days allowed between two consecutive enrollment periods without breaking a "continuously enrolled" sequence.

Episode Gap - number of days allowed between two (or more) consecutive treatment episodes to be considered the same treatment episode.

Exposure Extension Period - number of days post-treatment episode where outcomes/events are still attributed to a treatment episode.

Inclusion/Exclusion Indicator - indicates whether condition(s) of interest are used for inclusion or exclusion criteria. A value of 1 instructs the program that members must have the condition of interest (inclusion criteria); a value of 0 instructs the program that members must not have the condition of interest (exclusion criteria).

Lookback Period Start and End - range of days relative to index that the program looks for inclusion/exclusion conditions of interest. For example, if the Inclusion/Exclusion Indicator =1, Lookback Period Start = -183 and Lookback Period End = 0, the cohort will only include members with the condition of interest present in the 183 days prior to and including the index date (the index date is day 0).

Minimum Days Supplied - specifies a minimum number of days in length of the days supplied for the episode to be

Minimum Episode Duration - specifies a minimum number of days a treatment episode must have in order to be

New Episodes - new treatment episodes; length of episode is determined by days supplied in one dispensing (or consecutive dispensings bridged by the episode gap).

New Users - number of members with incident exposure during the query period. A user may only be counted once in a query period.

Principal Diagnosis - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. YES will only consider diagnoses flagged as Principal.

Query Period - period in which the modular program evaluates exposures of interest.

Total Days Supplied - number of days supplied for all dispensings in qualifying treatment episodes.

Washout Period (drug/exposure) -** number of days a user is required to have no evidence of prior exposure (drug dispensing/procedure) and continuous drug and medical coverage prior to an incident treatment episode.

Washout Period (event/outcome) -** number of days a user is required to have no evidence of a prior event (procedure/diagnosis) and continuous drug and medical coverage prior to an incident treatment episode.

Washout Type (drug/exposure)- *Minimum washout type* will consider the first treatment episode in the query period as long as it is the first treatment episode in the user's entire available history. *Single* and *Multiple washout types* will use the washout period to establish incidence; however, *Single* will only consider the first treatment episode whereas *Multiple* will consider all qualifying incident treatment episodes.

Washout Type (event/outcome)- *Minimum washout type* considers the first event in a valid episode as long as it is the first event in the user's entire available history. *Multiple washout type* uses the washout period to establish incidence and considers all qualifying incident treatment episodes. The program will only consider one event per episode, but the *Multiple washout type* will consider more than one event per user if a user has more than one incident episode.

*all terms may not be used in this report

Modular Program Specifications for Query ID MP3T4

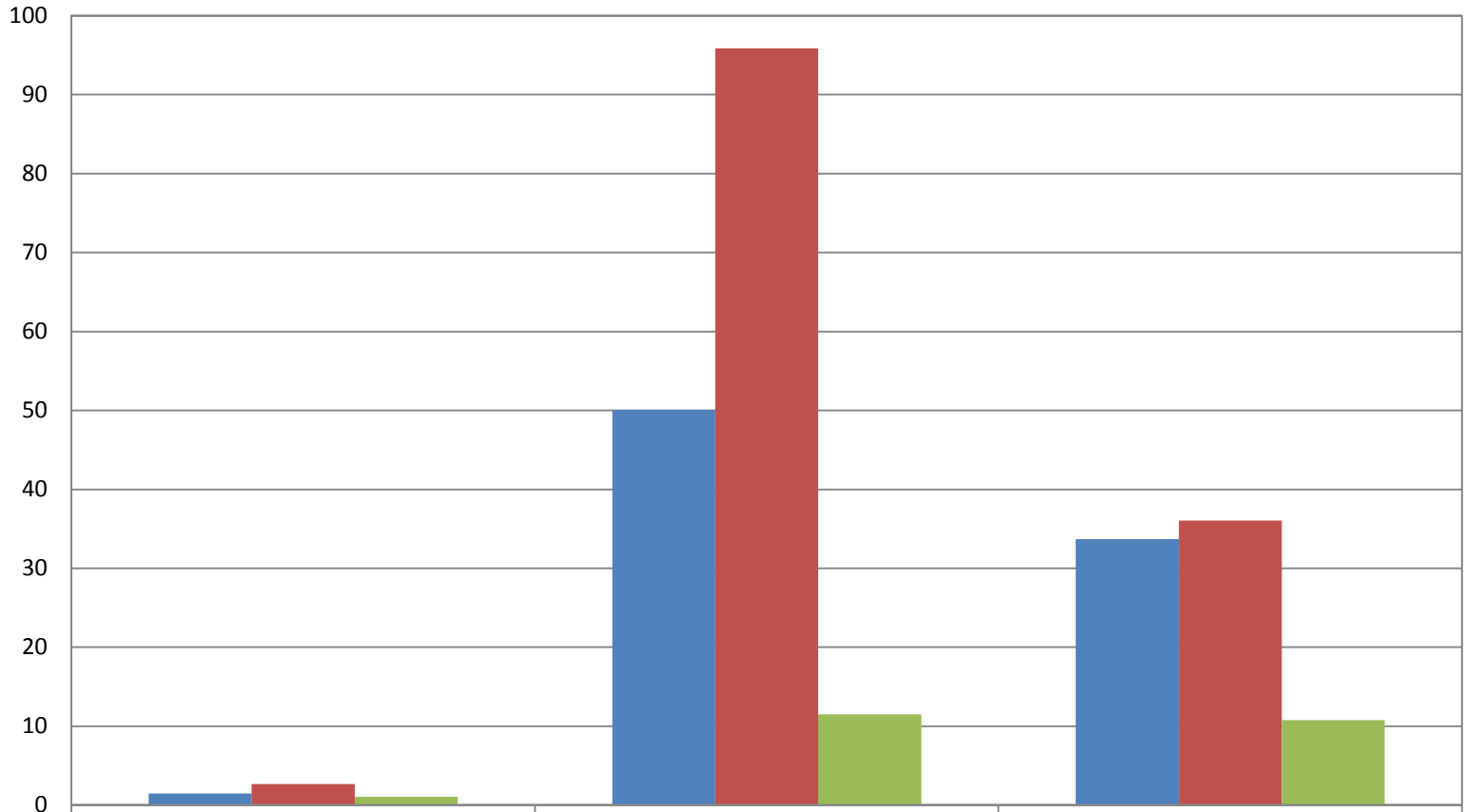
Modular Program #3 (version 1.0) was used to investigate diagnosis of serious cutaneous adverse reactions (SCAR; see Appendix for list of ICD-9-CM codes) and exposure to oxicam NSAIDs, modafinil/armodafinil, and sulfamethoxazole in all patients (i.e., no specific pre-existing condition criteria applied). The query period was from January 1, 2000 to May 31, 2011. Both the episode gap (for drug/exposure) and the episode extension period were set to 7 days, and both the minimum episode duration and minimum days supplied were set to zero days. Age groups were split as follows: 0-10, 11-21, 22-40, 41-59, and 60+ years. In total, 12 different scenarios were examined in this report with differing exposures of interest, care settings, and SCAR principal diagnosis criteria. See below for a description of each of these scenarios.

	Drug/Exposure			Event/Outcome				
Scenario	**Incident exposure**	**Incident with respect to:**	**Washout (days)**	**Event/ Outcome**	**Washout (days)**	**Care Setting**	**Principal Diagnosis**	**Blackout Period**
1	Oxicam NSAIDs	Oxicam NSAIDs	180	SCAR	0	Inpatient	YES	0
2	Oxicam NSAIDs	Oxicam NSAIDs	180	SCAR	0	Inpatient	NO	0
3	Modafinil/ Armodafinil	Modafinil/ Armodafinil	180	SCAR	0	Inpatient	YES	0
4	Modafinil/ Armodafinil	Modafinil/ Armodafinil	180	SCAR	0	Inpatient	NO	0
5	Sulfamethoxazole	Sulfamethoxazole	180	SCAR	0	Inpatient	YES	0
6	Sulfamethoxazole	Sulfamethoxazole	180	SCAR	0	Inpatient	NO	0
7	Oxicam NSAIDs	Oxicam NSAIDs	180	SCAR	0	Inpatient & ED	YES	0
8	Oxicam NSAIDs	Oxicam NSAIDs	180	SCAR	0	Inpatient & ED	NO	0
9	Modafinil/ Armodafinil	Modafinil/ Armodafinil	180	SCAR	0	Inpatient & ED	YES	0
10	Modafinil/ Armodafinil	Modafinil/ Armodafinil	180	SCAR	0	Inpatient & ED	NO	0
11	Sulfamethoxazole	Sulfamethoxazole	180	SCAR	0	Inpatient & ED	YES	0
12	Sulfamethoxazole	Sulfamethoxazole	180	SCAR	0	Inpatient & ED	NO	0

Table 1. Number of New Users, Dispensings, Days Supplied, Dispensings per User, Days Supplied per User, and Days Supplied per Dispensing in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group

	New Users	Dispensings	Days Supplied	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing
Oxicam NSAIDs	1,329,653	1,976,925	66,613,815	1.49	50.10	33.70
Modafinil/Armodafinil	76,907	204,604	7,373,059	2.66	95.87	36.04
Sulfamethoxazole	4,659,968	4,985,238	53,655,024	1.07	11.51	10.76

Figure 1. Dispensings per User, Days Supplied per User, and Days Supplied per Dispesning in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group



	Dispesnsings/User	Days Supplied/User	Days Supplied/Dispensing
Oxicam NSAIDs	1.49	50.10	33.70
Modafinil/Armodafinil	2.66	95.87	36.04
Sulfamethoxazole	1.07	11.51	10.76

Table 2. Number of New Users, Dispensings, Days Supplied, Dispensings per User, Days Supplied per User, and Days Supplied per Dispensing in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group and Age Group

	New Users	Dispensings	Days Supplied	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing
Oxicam NSAIDs						
Overall	*1,329,653*	*1,976,925*	*66,613,815*	*1.49*	*50.10*	*33.70*
0 to 10 years	698	981	27,418	1.41	39.28	27.95
11 to 21 years	40,790	45,330	1,291,671	1.11	31.67	28.49
22 to 40 years	249,761	297,677	8,824,503	1.19	35.33	29.64
41 to 59 years	596,172	873,526	28,812,691	1.47	48.33	32.98
60+ years	442,232	759,411	27,657,532	1.72	62.54	36.42
Modafinil/Armodafinil						
Overall	*76,907*	*204,604*	*7,373,059*	*2.66*	*95.87*	*36.04*
0 to 10 years	317	816	26,102	2.57	82.34	31.99
11 to 21 years	3,602	8,608	276,377	2.39	76.73	32.11
22 to 40 years	20,925	52,212	1,717,227	2.50	82.07	32.89
41 to 59 years	37,075	104,290	3,798,541	2.81	102.46	36.42
60+ years	14,988	38,678	1,554,812	2.58	103.74	40.20
Sulfamethoxazole						
Overall	*4,659,968*	*4,985,238*	*53,655,024*	*1.07*	*11.51*	*10.76*
0 to 10 years	610,787	651,878	8,096,340	1.07	13.26	12.42
11 to 21 years	614,208	656,450	7,389,257	1.07	12.03	11.26
22 to 40 years	1,185,074	1,242,007	11,774,260	1.05	9.94	9.48
41 to 59 years	1,331,086	1,433,224	15,345,904	1.08	11.53	10.71
60+ years	918,813	1,001,679	11,049,263	1.09	12.03	11.03

Table 3. Number of New Users, Dispensings, Days Supplied, Dispensings per User, Days Supplied per User, and Days Supplied per Dispensing in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group and Sex

	New Users	Dispensings	Days Supplied	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing
Oxicam NSAIDs						
Overall	*1,329,653*	*1,976,925*	*66,613,815*	*1.49*	*50.10*	*33.70*
Female	805,439	1,210,578	40,870,542	1.50	50.74	33.76
Male	523,150	764,776	25,698,155	1.46	49.12	33.60
Unknown	1,064	1,571	45,118	1.48	42.40	28.72
Modafinil/Armodafinil						
Overall	*76,907*	*204,604*	*7,373,059*	*2.66*	*95.87*	*36.04*
Female	44,904	120,213	4,307,672	2.68	95.93	35.83
Male	31,927	84,273	3,062,040	2.64	95.91	36.33
Unknown	76	118	3,347	1.55	44.04	28.36
Sulfamethoxazole						
Overall	*4,659,968*	*4,985,238*	*53,655,024*	*1.07*	*11.51*	*10.76*
Female	3,110,267	3,265,300	30,621,681	1.05	9.85	9.38
Male	1,542,917	1,712,505	22,946,388	1.11	14.87	13.40
Unknown	6,784	7,433	86,955	1.10	12.82	11.70

Table 4. Number of New Users, Dispensings, Days Supplied, Dispensings per User, Days Supplied per User, and Days Supplied per Dispensing in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group and Year

	New Users	Dispensings	Days Supplied	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing
Oxicam NSAIDs						
Overall	*1,329,653*	*1,976,925*	*66,613,815*	*1.49*	*50.10*	*33.70*
2000	15,400	30,092	1,193,957	1.95	77.53	39.68
2001	20,796	36,739	1,326,809	1.77	63.80	36.11
2002	21,970	39,390	1,394,709	1.79	63.48	35.41
2003	22,980	42,296	1,471,222	1.84	64.02	34.78
2004	58,135	117,609	3,888,516	2.02	66.89	33.06
2005	82,251	149,916	4,823,500	1.82	58.64	32.17
2006	62,436	97,629	3,183,228	1.56	50.98	32.61
2007	139,337	208,488	7,346,620	1.50	52.73	35.24
2008	308,518	443,777	15,213,102	1.44	49.31	34.28
2009	308,429	434,168	14,404,062	1.41	46.70	33.18
2010	276,647	362,986	11,920,801	1.31	43.09	32.84
2011	12,754	13,835	447,289	1.08	35.07	32.33
Modafinil/Armodafinil						
Overall	*76,907*	*204,604*	*7,373,059*	*2.66*	*95.87*	*36.04*
2000	841	3,217	135,854	3.83	161.54	42.23
2001	1,673	5,291	233,323	3.16	139.46	44.10
2002	2,523	8,113	335,850	3.22	133.12	41.40
2003	4,225	14,250	533,637	3.37	126.30	37.45
2004	9,432	30,046	1,019,255	3.19	108.06	33.92
2005	10,559	28,896	1,024,218	2.74	97.00	35.44
2006	10,629	29,060	1,076,167	2.73	101.25	37.03
2007	10,724	27,136	1,013,284	2.53	94.49	37.34
2008	10,853	24,789	877,780	2.28	80.88	35.41
2009	8,997	20,943	696,832	2.33	77.45	33.27
2010	6,154	12,530	416,624	2.04	67.70	33.25
2011	297	333	10,235	1.12	34.46	30.74

Table 4 cont. Number of New Users, Dispensings, Days Supplied, Dispensings per User, Days Supplied per User, and Days Supplied per Dispensing in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group and Year

	New Users	Dispensings	Days Supplied	Dispensings/User	Days Supplied/User	Days Supplied/Dispensing
Sulfamethoxazole						
Overall	*4,659,968*	*4,985,238*	*53,655,024*	*1.07*	*11.51*	*10.76*
2000	349,931	382,247	4,480,018	1.09	12.80	11.72
2001	373,056	388,831	4,240,383	1.04	11.37	10.91
2002	288,177	301,260	3,279,383	1.05	11.38	10.89
2003	212,561	224,618	2,558,953	1.06	12.04	11.39
2004	308,801	332,392	3,600,288	1.08	11.66	10.83
2005	441,537	475,139	5,116,411	1.08	11.59	10.77
2006	461,987	498,476	5,415,432	1.08	11.72	10.86
2007	511,816	551,099	5,888,790	1.08	11.51	10.69
2008	608,785	654,188	6,902,688	1.07	11.34	10.55
2009	599,720	641,594	6,666,243	1.07	11.12	10.39
2010	479,948	510,949	5,255,702	1.06	10.95	10.29
2011	23,649	24,445	250,733	1.03	10.60	10.26

Table 5. Number of New Users, Days at Risk, SCAR Events, and SCAR Events per 1,000 Days at Risk in the MSDD between January 1, 2000 and May 31, 2011, by Setting, Principal Diagnosis Criteria, and Exposure Group

	New Users	Days at Risk	SCAR Events	SCAR Events/ 1k Days at Risk
Oxicam NSAIDs				
Inpatient Only				
No Principal Diagnosis Requirement	1,329,653	73,683,676	282	0.004
Principal Diagnosis Requirement	1,329,653	73,699,676	34	0.000
Inpatient & Emergency Department				
No Principal Diagnosis Requirement	1,329,653	73,636,641	1,069	0.015
Principal Diagnosis Requirement	1,329,653	73,690,071	177	0.002
Modafinil/Armodafinil				
Inpatient Only				
No Principal Diagnosis Requirement	76,907	7,638,838	43	0.006
Principal Diagnosis Requirement	76,907	7,647,784	4	0.001
Inpatient & Emergency Department				
No Principal Diagnosis Requirement	76,907	7,618,699	176	0.023
Principal Diagnosis Requirement	76,907	7,643,463	19	0.002
Sulfamethoxazole				
Inpatient Only				
No Principal Diagnosis Requirement	4,659,968	85,612,933	2,836	0.033
Principal Diagnosis Requirement	4,659,968	85,668,691	423	0.005
Inpatient & Emergency Department				
No Principal Diagnosis Requirement	4,659,968	85,509,545	11,259	0.132
Principal Diagnosis Requirement	4,659,968	85,649,896	1,940	0.023

Figure 2. Rate of Serious Cutaneous Adverse Reactions (SCAR) per 1,000 Exposed Days in the MSDD between January 1, 2000 and May 31, 2011, by Principal Diagnosis Criteria, Setting, and Exposure Group

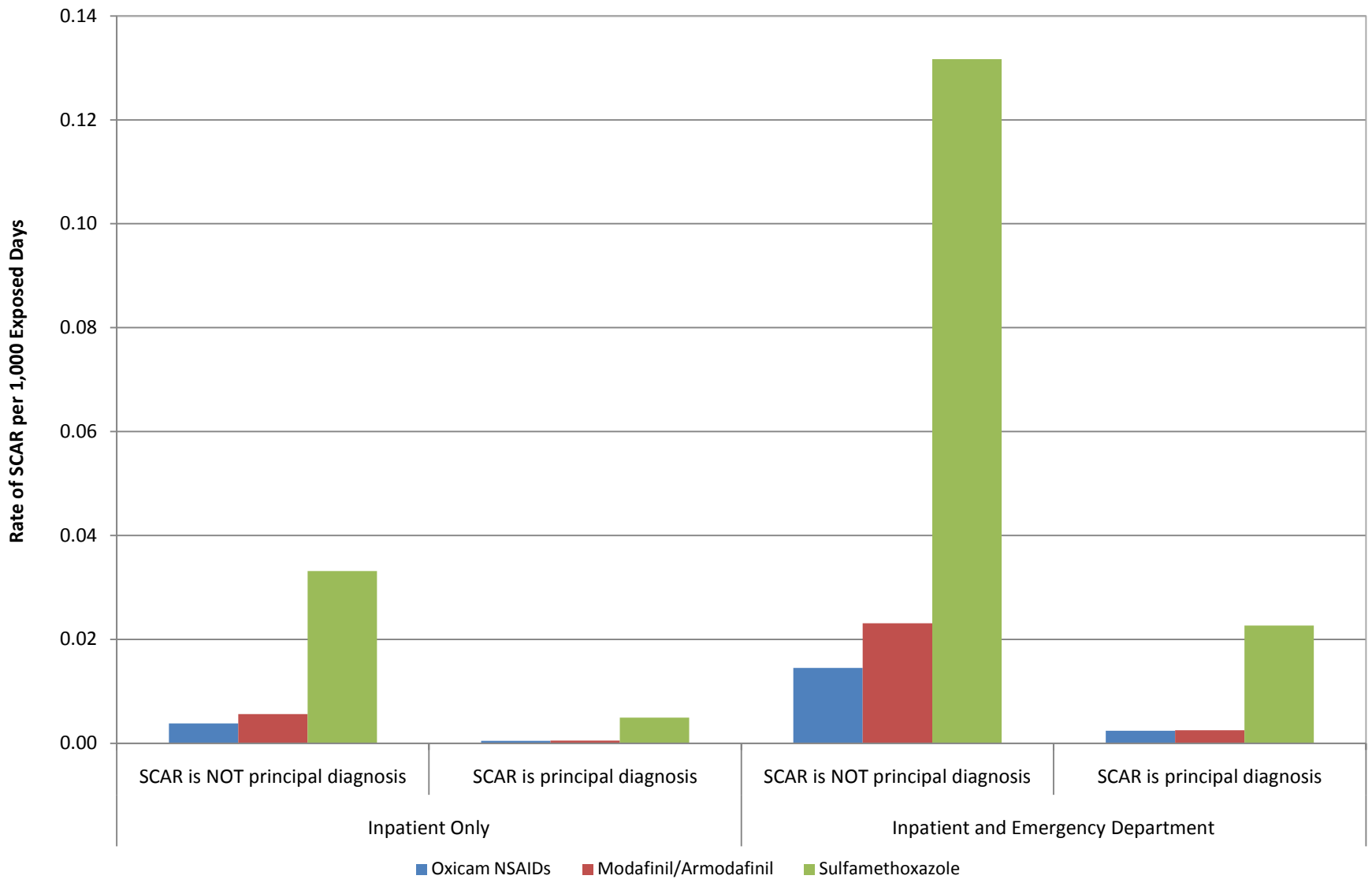


Table 6. Number of New Users, Days at Risk, SCAR Events, and SCAR Events per 1,000 Days at Risk in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group, Setting, Principal Diagnosis Criteria, and Year

	New Users	Days at Risk	SCAR Events	SCAR Events/ 1k Days at Risk
Oxicam NSAIDs				
Inpatient Only				
No Principal Diagnosis Requirement				
2000	15,400	1,298,673	5	0.004
2001	20,796	1,468,181	8	0.005
2002	21,970	1,544,469	4	0.003
2003	22,980	1,633,356	5	0.003
2004	58,135	4,253,750	21	0.005
2005	82,251	5,338,136	26	0.005
2006	62,436	3,585,914	7	0.002
2007	139,337	8,224,858	23	0.003
2008	308,518	17,113,882	73	0.004
2009	308,429	16,222,736	60	0.004
2010	276,647	12,699,483	49	0.004
2011	12,754	300,238	1	0.003
Principal Diagnosis Requirement				
2000	15,400	1,299,365	1	0.001
2001	20,796	1,468,246	4	0.003
2002	21,970	1,544,558	2	0.001
2003	22,980	1,633,724	0	0.000
2004	58,135	4,255,499	5	0.001
2005	82,251	5,341,447	2	0.000
2006	62,436	3,586,159	1	0.000
2007	139,337	8,226,918	2	0.000
2008	308,518	17,117,833	5	0.000
2009	308,429	16,225,177	8	0.000
2010	276,647	12,700,512	3	0.000
2011	12,754	300,238	1	0.003
Inpatient & Emergency Department				
No Principal Diagnosis Requirement				
2000	15,400	1,295,897	30	0.023
2001	20,796	1,463,437	37	0.025
2002	21,970	1,541,762	23	0.015
2003	22,980	1,631,221	33	0.020
2004	58,135	4,249,610	82	0.019
2005	82,251	5,333,950	86	0.016
2006	62,436	3,583,571	50	0.014
2007	139,337	8,220,211	116	0.014
2008	308,518	17,105,347	217	0.013
2009	308,429	16,216,489	216	0.013

Table 6 cont. Number of New Users, Days at Risk, SCAR Events, and SCAR Events per 1,000 Days at Risk in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group, Setting, Principal Diagnosis Criteria, and Year

	New Users	Days at Risk	SCAR Events	SCAR Events/ 1k Days at Risk
Oxicam NSAIDs				
Inpatient & Emergency Department				
No Principal Diagnosis Requirement				
2010	276,647	12,694,919	177	0.014
2011	12,754	300,227	2	0.007
Principal Diagnosis Requirement				
2000	15,400	1,298,776	12	0.009
2001	20,796	1,467,691	8	0.005
2002	21,970	1,543,456	5	0.003
2003	22,980	1,633,317	5	0.003
2004	58,135	4,255,049	10	0.002
2005	82,251	5,341,401	4	0.001
2006	62,436	3,585,819	4	0.001
2007	139,337	8,225,605	15	0.002
2008	308,518	17,115,307	45	0.003
2009	308,429	16,223,522	45	0.003
2010	276,647	12,699,890	23	0.002
2011	12,754	300,238	1	0.003
Modafinil/Armodafinil				
Inpatient Only				
No Principal Diagnosis Requirement				
2000	841	139,079	2	0.014
2001	1,673	239,921	0	0.000
2002	2,523	345,624	2	0.006
2003	4,225	554,954	2	0.004
2004	9,432	1,070,954	6	0.006
2005	10,559	1,074,135	9	0.008
2006	10,629	1,115,676	5	0.004
2007	10,724	1,051,085	2	0.002
2008	10,853	922,482	6	0.007
2009	8,997	717,646	5	0.007
2010	6,154	401,784	4	0.010
2011	297	5,498	0	0.000
Principal Diagnosis Requirement				
2000	841	140,205	0	0.000
2001	1,673	239,921	0	0.000
2002	2,523	347,588	0	0.000
2003	4,225	555,001	0	0.000
2004	9,432	1,071,253	2	0.002
2005	10,559	1,076,649	0	0.000
2006	10,629	1,117,442	0	0.000

Table 6 cont. Number of New Users, Days at Risk, SCAR Events, and SCAR Events per 1,000 Days at Risk in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group, Setting, Principal Diagnosis Criteria, and Year

	New Users	Days at Risk	SCAR Events	SCAR Events/ 1k Days at Risk
Modafinil/Armodafinil				
Inpatient Only				
Principal Diagnosis Requirement				
2007	10,724	1,051,131	0	0.000
2008	10,853	923,315	0	0.000
2009	8,997	717,930	1	0.001
2010	6,154	401,851	1	0.002
2011	297	5,498	0	0.000
Inpatient & Emergency Department				
No Principal Diagnosis Requirement				
2000	841	139,060	3	0.022
2001	1,673	238,185	3	0.013
2002	2,523	344,135	10	0.029
2003	4,225	550,162	20	0.036
2004	9,432	1,067,990	29	0.027
2005	10,559	1,073,072	23	0.021
2006	10,629	1,112,570	22	0.020
2007	10,724	1,048,982	18	0.017
2008	10,853	921,199	19	0.021
2009	8,997	716,728	15	0.021
2010	6,154	401,118	14	0.035
2011	297	5,498	0	0.000
Principal Diagnosis Requirement				
2000	841	140,205	0	0.000
2001	1,673	238,367	2	0.008
2002	2,523	347,177	3	0.009
2003	4,225	554,946	2	0.004
2004	9,432	1,071,364	1	0.001
2005	10,559	1,076,649	0	0.000
2006	10,629	1,115,824	3	0.003
2007	10,724	1,051,032	1	0.001
2008	10,853	923,011	2	0.002
2009	8,997	717,637	3	0.004
2010	6,154	401,753	2	0.005
2011	297	5,498	0	0.000
Sulfamethoxazole				
Inpatient Only				
No Principal Diagnosis Requirement				
2000	349,931	6,930,674	133	0.019
2001	373,056	6,829,193	126	0.018
2002	288,177	5,279,650	114	0.022

Table 6 cont. Number of New Users, Days at Risk, SCAR Events, and SCAR Events per 1,000 Days at Risk in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group, Setting, Principal Diagnosis Criteria, and Year

	New Users	Days at Risk	SCAR Events	SCAR Events/ 1k Days at Risk
Sulfamethoxazole				
Inpatient Only				
No Principal Diagnosis Requirement				
2003	212,561	4,055,099	103	0.025
2004	308,801	5,732,297	166	0.029
2005	441,537	8,166,545	262	0.032
2006	461,987	8,609,087	287	0.033
2007	511,816	9,427,124	341	0.036
2008	608,785	11,106,142	452	0.041
2009	599,720	10,775,550	453	0.042
2010	479,948	8,392,922	392	0.047
2011	23,649	308,650	7	0.023
Principal Diagnosis Requirement				
2000	349,931	6,934,122	37	0.005
2001	373,056	6,831,503	33	0.005
2002	288,177	5,281,600	26	0.005
2003	212,561	4,057,713	21	0.005
2004	308,801	5,738,162	26	0.005
2005	441,537	8,171,144	30	0.004
2006	461,987	8,615,707	40	0.005
2007	511,816	9,433,964	38	0.004
2008	608,785	11,114,754	65	0.006
2009	599,720	10,782,390	66	0.006
2010	479,948	8,398,921	41	0.005
2011	23,649	308,711	0	0.000
Inpatient & Emergency Department				
No Principal Diagnosis Requirement				
2000	349,931	6,923,178	619	0.089
2001	373,056	6,822,997	678	0.099
2002	288,177	5,275,282	490	0.093
2003	212,561	4,051,601	367	0.091
2004	308,801	5,726,179	547	0.096
2005	441,537	8,157,963	927	0.114
2006	461,987	8,599,511	1133	0.132
2007	511,816	9,414,939	1443	0.153
2008	608,785	11,088,755	1772	0.160
2009	599,720	10,759,731	1781	0.166
2010	479,948	8,381,028	1462	0.174
2011	23,649	308,381	40	0.130

Table 6 cont. Number of New Users, Days at Risk, SCAR Events, and SCAR Events per 1,000 Days at Risk in the MSDD between January 1, 2000 and May 31, 2011, by Exposure Group, Setting, Principal Diagnosis Criteria, and Year

	New Users	Days at Risk	SCAR Events	SCAR Events/ 1k Days at Risk
Sulfamethoxazole				
Principal Diagnosis Requirement				
2000	349,931	6,932,323	194	0.028
2001	373,056	6,828,221	323	0.047
2002	288,177	5,279,760	178	0.034
2003	212,561	4,056,778	88	0.022
2004	308,801	5,736,897	94	0.016
2005	441,537	8,169,646	115	0.014
2006	461,987	8,614,223	155	0.018
2007	511,816	9,432,363	173	0.018
2008	608,785	11,113,375	196	0.018
2009	599,720	10,780,601	220	0.020
2010	479,948	8,397,026	202	0.024
2011	23,649	308,683	2	0.006

Appendix A. ICD-9-CM Diagnosis Codes for Serious Cutaneous Adverse Reactions (SCAR)

Event	Diagnosis Code	Description
Serious Cutaneous Adverse Reactions (SCAR)		
Inpatient Only		
	693	Dermatitis due to drugs and medicine, Dermatitis medicamentosa NOS
	695.1	Erythema multiforme (Erythema iris, Herpes iris, Lyell's syndrome, Scalded skin syndrome, Stevens-Johnson syndrome, Toxic epidermal necrolysis
	782.1	Rash and other nonspecific skin eruption
	995.2	Unspecified adverse effect of drug, medicinal and biological substance (due) to correct medicinical substance properly administered
	995.3	Allergy, unspecified (Allergic reaction NOS, Hypersensitivity NOS, Idiosyncrasy NOS)
Inpatient & Emergency Department		
	693	Dermatitis due to drugs and medicine, Dermatitis medicamentosa NOS
	695.1	Erythema multiforme (Erythema iris, Herpes iris, Lyell's syndrome, Scalded skin syndrome, Stevens-Johnson syndrome, Toxic epidermal necrolysis
	782.1	Rash and other nonspecific skin eruption
	995.2	Unspecified adverse effect of drug, medicinal and biological substance (due) to correct medicinical substance properly administered

Appendix B. Active Ingredients by Exposure Group

The three exposure groups included in this request consisted of a number of active ingredients that were identified using National Drug Code (NDC) codes. The active ingredients for each expousre group are listed below.

Exposure Group	Active Ingredient
Oxicam NSAIDs	
	Meloxicam
	Piroxicam
Modafinil/Armodafinil	
	Armodafinil
	Modafinil
Sulfamethoxazole	
	AZO-Sulfamethoxazole
	Sulfamethoxazole
	Sulfamethoxazole-Trimethoprim