

Memorandum

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SUBJECT: One Year Post-Pediatric Exclusivity Post-marketing Adverse Event Review: Drug Use Data Zolmitriptan (Zomig[®]) Tablets: NDA 20-768

****This document contains proprietary data from IMS Health and Caremark which cannot be shared outside of FDA without clearance from IMS Health and Caremark obtained through the Office of Drug Safety.****

EXECUTIVE SUMMARY

This consult examines drug utilization trends for zolmitriptan tablets (Zomig[®]) in the pediatric population (ages 0-16 years) from January 1, 2002 – December 31, 2004, with primary focus on patterns of use one year before and one year following the granting of Pediatric Exclusivity on December 18, 2003. Proprietary drug use databases licensed by the Agency were used to conduct this analysis. The IMS Health, National Sales Perspectives[™] was used to determine the various retail and non-retail channels of distribution. We primarily focused on drug utilization patterns in the outpatient setting, where the majority of sales of Zomig[®] occurred. Outpatient use was measured by two IMS Health audits, the National Prescription Audit *Plus*[™] (NPA *Plus*[™]) and the National Disease and Therapeutic Index[™] (NDTI[™]), along with prescription claims for a 36-month period of time from Caremark (Dimension Rx[™]). Data from these proprietary sources were extracted and analyzed for the period from January 1, 2002 - December 31, 2004, inclusive.

We examined prescriptions dispensed for all zolmitriptan products, including Zomig[®] oral tablets, Zomig ZMT[®], and Zomig[®] nasal spray as well as other 5-hydroxytryptamine (HT) agonist antimigraine products.

Outpatient prescriptions of all 5-hydroxytryptamine (HT) agonist antimigraine products increased by 5% from 2002 to 2004. Zolmitriptan products were the third most commonly dispensed products compared to other 5-HT antimigraine products, accounting for 1.6 million prescriptions dispensed annually during 2002 through 2004.

Prescriptions for Zomig[®] oral tablets declined from almost 1.5 million prescriptions dispensed in year 2002 to 1.3 million prescriptions in 2003, and to 1.2 million prescriptions dispensed in 2004. This represented a 12% decrease in the dispensed prescriptions for Zomig[®] oral tablets from year 2003 and a 21% decrease in the dispensed prescriptions from year 2002. Prescriptions for Zomig ZMT[®] increased by 37% over the three-year period from 2002 to 2004.

The top two prescriber specialties for Zomig[®] oral tablets during 2003 and 2004 were family practice and internal medicine. Of all specialties, pediatricians were ranked 10th in prescribing Zomig[®] during this period and accounted for 1% of the prescriptions dispensed in each of the 3 one-year periods of this analysis. In general, prescribing patterns for Zomig[®] dispensed in outpatient retail pharmacy settings showed no substantial change across provider specialties during the 36-month study period.

Among a large, insured patient population managed by Caremark, pediatric participants aged 1-16 years accounted for less than 2% of the paid claims for Zomig[®] and for about 5% of the paid claims for Zomig[®] ZMT in each of the 3 one-year periods from 2002 to 2004. The estimated nationwide prescriptions for Zomig[®] oral tablets and Zomig ZMT[®] in patients aged 1-16 years was approximately 36,000 prescriptions during the year before granting the exclusivity (2003) and 31,000 during the year after granting the exclusivity (2004).

The most common diagnosis associated with a mention of Zomig[®] oral tablets and Zomig ZMT[®] in office based physician-patient encounters was “migraine unspecified”, accounting for about 83% of mentions during the pre- and the post-exclusivity periods (2003 and 2004, respectively). During 2004, the most common diagnoses mentioned for patients aged 0-16 years were “migraine unspecified”, “chronic sinusitis, other”, and “classical migraine”.

In conclusion, pediatric patients accounted for less than 2% of all claims for Zomig[®] oral tablets and about 5% of all claims for Zomig[®] ZMT in each of the 3 years of this analysis.

INTRODUCTION

On January 3, 2001, Congress enacted the Best Pharmaceuticals for Children Act (BPCA) to improve the safety and efficacy of pharmaceuticals for children. Section 17 of the BPCA requires the reporting of adverse events associated with the use of a drug in children during the one-year period following the date on which the drug received pediatric marketing exclusivity. In support of this mandate, the FDA is required to provide a report to the Pediatric Advisory Subcommittee of the Anti-Infective Drugs Advisory Committee on the drug utilization patterns

and adverse events associated with the use of the drug on a quarterly basis. This review is in addition to the routine post-marketing safety surveillance activities the FDA performs for all marketed drugs.

Zolmitriptan (Zomig[®] NDA 20-768) is a selective 5-hydroxytryptamine 1B/1D (5-HT_{1B/1D}) receptor agonist used as an anti-migraine medication. The product is available in 3 dosage forms: 2.5mg and 5mg oral tablets (Zomig[®] - NDA 20-768), 2.5mg and 5mg oral disintegrating tablets (Zomig ZMT[®] - NDA 20-768) and a single dose nasal spray (NDA 21-450) delivering 5mg. The NDA for Zomig[®] oral tablets was approved on January 25, 1997 for the acute treatment of migraine with or without aura in adults. In January 2004, approval was granted to update the labeling to include the results of a randomized, placebo-controlled clinical trial that evaluated zolmitriptan tablets (2.5, 5 and 10 mg) in 696 adolescent migraineurs aged 12-17 years. This study, however, did not establish the efficacy of zolmitriptan for the treatment of migraine in adolescents. Adverse events observed were similar in nature and frequency to those reported in clinical trials in adults.

The recommended dosing of the oral formulations in the product labeling is 2.5 mg (or lower for Zomig[®] tablets) taken at the onset of the migraine headache. If the headache returns, the dose may be repeated after 2 hours, not to exceed 10 mg within a 24-hour period. Controlled trials have not adequately established the effectiveness of a second dose if the initial dose is ineffective. The safety of treating an average of more than three headaches in a 30-day period has not been established.

The Pediatric Exclusivity Board of the FDA granted pediatric exclusivity for Zomig[®] oral tablets (NDA 20-768) on December 18, 2003.

This review describes outpatient drug usage of Zomig[®] oral formulations in the pediatric population as well as in the adult population in the years prior to and subsequent to the granting of pediatric exclusivity. As pediatric exclusivity was granted to the oral tablet formulation, the use of Zomig[®] nasal spray will not be evaluated in depth. Proprietary drug use databases licensed by the Agency were used to conduct this analysis.

METHODS

Sales of zolmitriptan oral products (Zomig[®] and Zomig ZMT[®] combined) were examined from January 1, 2001 – December 31, 2004 using IMS Health, National Sales Perspectives[™] data to determine the setting in which zolmitriptan oral products were sold in the years prior to and subsequent to the granting of pediatric exclusivity. Since the majority of use for zolmitriptan occurred in the outpatient setting, we further examined the utilization patterns for these products focusing on the outpatient setting.

Outpatient use was measured by two IMS Health audits, the National Prescription Audit *Plus*[™] (NPA *Plus*[™]) and the National Disease and Therapeutic Index[™] (NDTI[™]), along with prescription claims for a 36-month period of time from Caremark (Dimension Rx[™]). Data from

these proprietary sources were extracted and analyzed for the period from January 1, 2002 - December 31, 2004, inclusive.

Using IMS Health, NPA *Plus*TM, we examined prescriptions dispensed for all zolmitriptan products including Zomig[®] oral tablets, Zomig ZMT[®], and Zomig[®] nasal spray. Other 5-HT selective agonist products, such as Imitrex[®], Maxalt[®], Relpax[®], Axert[®], Amerge[®], Frova[®], were also included in our analysis as a context for Zomig[®] use. These data were also used to further explore the top physician specialty prescribers nationwide for Zomig[®] oral tablets.

Since IMS Health, NPA *Plus*TM does not include demographic information on patients for the entire time period of interest, we applied the proportions for demographic subgroups from Caremark's Dimension RxTM to IMS Health, NPA *Plus*TM data in an effort to approximate the number of prescriptions dispensed for Zomig[®] oral tablets nationwide to children.

Finally, we explored the indications most commonly associated with the use of Zomig[®] oral tablets and Zomig ZMT[®] using IMS Health, NDTITM.

The data sources for this analysis are described in detail below.

IMS HEALTH, NATIONAL PRESCRIPTION AUDIT PLUSTM (NPA PLUSTM)

NPA PlusTM measures the retail dispensing of prescriptions, or the frequency with which drugs move out of retail pharmacies into the hands of consumers via formal prescriptions. These retail pharmacies include chain, independent, food store, mail order, discount houses, and mass merchandiser pharmacies, as well as nursing home (long-term care) pharmacy providers. Information on the specialty of the prescribing physician can also be collected, except for in the long-term care and mail order pharmacy settings.

The number of dispensed prescriptions is obtained from a sample of approximately 22,000 pharmacies throughout the U.S. and projected nationally. The pharmacies in the database account for approximately 40% of all pharmacy stores and represent approximately 45% of prescription coverage in the U.S.

Data for this analysis included prescriptions dispensed from January 1, 2002 - December 31, 2004 inclusive.

IMS HEALTH, NATIONAL SALES PERSPECTIVESTM

IMS Health National Sales PerspectivesTM measures the volume of drug products (both prescription and over-the-counter) and selected diagnostic products moving from manufacturers into retail and non-retail markets. The volume of drug products transferred to these markets is expressed in terms of sales dollars, vials, and market share. Outlets within the retail market include the following pharmacy settings: chain drug stores, independent drug stores, mass merchandisers, food stores, and mail service. Outlets within the non-retail market include clinics, non-federal hospitals, federal facilities, HMOs, long-term care facilities, home health care, and other miscellaneous settings. These data are based on national projections.

For this analysis, the sales trend for Zomig[®] and Zomig ZMT[®] were examined from January 1, 2001 - December 31, 2004 inclusive (the most current data available at the time of this analysis).

CAREMARK™

Caremark is one of the largest pharmacy benefit manager (PBM) companies in the U.S., currently covering over 70 million lives, and processing over 545 million prescription claims annually. FDA has access to Caremark's Dimension Rx™ database consisting of a subset of total Caremark paid claims representing 350 million claims per year for prescriptions filled in 57,000 pharmacies across the country. Participants whose claims are processed by Caremark are covered under various types of insurance plans, including health maintenance organizations (HMOs), employers' self-insured health plans, selected managed care plans, and other selected traditional health insurers. Caremark's Dimension Rx™ system represents participants from all 50 states and includes special populations such as the elderly, children, and women of childbearing age. The representativeness of those included in Caremark's Dimension Rx™ system to all persons receiving dispensed prescriptions in the U.S., however, is not known.

For this analysis, prescription claims for Zomig[®] and Zomig ZMT[®] in the Caremark system were examined from January 1, 2002 - December 31, 2004 inclusive.

IMS HEALTH, NATIONAL DISEASE AND THERAPEUTIC INDEX™ (NDTI™)

The National Disease and Therapeutic Index™ (NDTI™) is an ongoing survey designed and conducted by IMS Health to provide descriptive information on the patterns and treatment of disease encountered in office-based practices in the continental U.S. The data are collected from a panel of approximately 3,000 office-based physicians who complete and submit a survey of their practice patterns to IMS Health for two consecutive days per quarter. These data may include profiles and trends of diagnoses, patients, drug products mentioned, and treatment patterns. These data are projected nationally to reflect national prescribing patterns.

NDTI™ uses the term drug uses for mentions of a drug in association with a diagnosis during an office-based patient visit. This term may be duplicated by the number of diagnosis for which the drug is mentioned. It is important to note that a drug use does not necessarily result in prescription being generated. Rather, the term indicates that a given drug was mentioned during an office visit.

For this analysis, we examined annual mentions of Zomig[®] during office-based physician visits during the time period from January 1, 2002 - December 31, 2004 inclusive.

RESULTS

I. Sales and Distribution Channels

Zolmitriptan (Zomig[®] and Zomig ZMT[®] combined) was sold from the manufacturer to both retail and non-retail channels of distribution from January 1, 2001 – December 31, 2004 (Table 1).

Retail channels are the largest purchasers of zolmitriptan, representing at least 92% of the total sales of zolmitriptan in each of the four one-year periods of this analysis. Total sales of zolmitriptan increased by a relative 4% over the 4 years of this analysis, from 15.2 million tablets and nasal sprays sold during 2001, peaked during 2002 at 16.2 million tablets and nasal sprays sold, then slightly declined to 15.9 million tablets sold during 2004. Total sales declined by 1%, from 16.1 million tablets and nasal sprays sold during the pre-exclusivity period (2003) to 15.9 million tablets and nasal sprays sold during the post-exclusivity period (2004). While small in percentage, the data suggests that sales of zolmitriptan products to non-retail channels may be increasing.

Table 1. Total Number of Tablets and Nasal Sprays (in millions) of Zolmitriptan (Zomig[®] Oral Tablets, Nasal Spray and Zomig ZMT[®]) Sold to U.S. Distribution Channels, IMS Health, National Sales Perspectives[™], 2001 - 2004

U.S. Distribution Channels	2001		2002		2003		2004		Percent Change 2001 - 2004
	N($\times 10^6$)	(%)							
Zolmitriptan	15.2	(100)	16.2	(100)	16.1	(100)	15.9	(100)	4.6
Retail*	14.8	(97)	15.7	(97)	15.3	(95)	14.7	(92)	0.7
Non-Retail**	0.4	(3)	0.5	(3)	0.7	(5)	1.2	(8)	200.0

*Retail includes chain store, food store, independent, and mail service pharmacies.

** Non-retail includes non-federal hospitals, federal facilities, long-term care, clinics, HMOs, home healthcare, and other.
IMS Health, National Sales Perspectives[™], Data Extracted 02-2005 (File:0502zom4.xls)

II. Dispensed Prescriptions

Outpatient prescriptions for all 5-HT agonist anti-migraine products combined increased by 5% from 2002 to 2004, rising from 10.7 million prescriptions dispensed during year 2002 to 11.3 million prescriptions dispensed during year 2004 (Table 2). During 2004, Imitrex[®] was the most commonly dispensed anti-migraine medication in the 5-HT agonist class, accounting for 5.9 million prescriptions (52%) of the total 5-HT agonist market, followed by Maxalt[®] and Zomig[®] products (oral tablets, orally disintegrating tablets, and nasal spray). Zomig[®] products accounted for almost 1.6 million prescriptions (14%) of the total prescriptions dispensed for 5-HT agonist products in 2004.

Zomig[®] oral tablets have maintained the greatest prescription share of all Zomig[®] products. Yet, their prescription share of all zolmitriptan products has declined from 88% in 2002 to 82% in 2003 and to 75% in 2004, due to the introduction of Zomig ZMT[®] and Zomig[®] nasal spray. Prescriptions for Zomig[®] oral tablets declined from almost 1.5 million prescriptions dispensed in year 2002 to 1.3 million prescriptions in 2003, and to 1.2 million prescriptions dispensed in 2004. This represented a 12% decrease in the dispensed prescriptions for Zomig[®] from year 2003 and a 21% decrease in the dispensed prescriptions from year 2002.

Prescriptions for Zomig ZMT[®] increased by 37% over the three-year period from 206,000 prescriptions dispensed in 2002, peaked at 290,000 prescriptions dispensed in 2003, and slightly decreased to 281,000 prescriptions dispensed during 2004.

Table 2: Total Number of Prescriptions Dispensed (in thousands) in Retail* Pharmacies Nationwide for 5-HT agonist anti-migraine Products, IMS Health, NPA Plus[™], 2002 – 2004

	2002		2003		2004	
	N (000)	(%)	N (000)	(%)	N (000)	(%)
Total 5-HT Selective Agonists	10,726	(100)	11,013	(100)	11,284	(100)
Imitrex[®]	6,209	(58)	6,052	(55)	5,929	(52)
Maxalt[®]	1,846	(17)	1,814	(16)	1,699	(15)
Zolmitriptan	1,689	(16)	1,638	(15)	1,568	(14)
Zomig[®] Oral Tablets	1,483		1,341		1,179	
Zomig [®] ZMT Rapid Dissolving Tablets	206		290		281	
Zomig [®] Nasal Spray			7		108	
Relpax[®]	-		289	(3)	919	(8)
Axert[®]	345	(3)	482	(4)	469	(4)
Amerge[®]	565	(5)	472	(4)	399	(4)
Frova[®]	73	(1)	266	(2)	301	(3)

*Retail includes chain, food store, mail service and independent pharmacies, and long term care facilities
IMS Health, NPA Plus[™] data extracted 1-2005 (File: 0501zom1.xls)

The top two prescriber specialties prescribing Zomig[®] oral tablets during year 2002 through year 2004 were family practice and internal medicine (Table 3). Of all specialties, pediatricians were ranked 10th in prescribing Zomig[®] during this period and accounted for approximately 1% of the prescriptions dispensed in each of the 3 one-year periods of this analysis. In general, prescribing patterns for Zomig[®] dispensed in the outpatient retail pharmacy settings showed no substantial change across provider specialties during the 36-month study period.

Table 3: Total Number of Prescriptions Dispensed for Zomig[®] (in thousands) Nationwide by Physician Specialty, IMS Health NPA Plus[™], 2002 – 2004

Prescriber specialty	2002		2003		2004	
	N (000)	(%)	N (000)	(%)	N (000)	(%)
All prescribers	1,400	(100)	1,249	(100)	1,094	(100)
Family Practice	392	(28)	352	(28)	313	(29)
Internal Medicine	315	(23)	288	(23)	260	(24)
Neurology	251	(18)	211	(17)	171	(16)
Osteopathic Medicine	133	(10)	116	(9)	101	(9)
Obstetrics/Gynecology	57	(4)	52	(4)	45	(4)
Other Specialties	252	(18)	231	(18)	203	(19)

IMS Health, NPA Plus[™] Data extracted 01-2005 (file: 0501zom2.xls)

* Excludes mail order and long term care

III. Patient Demographics

Among a large, insured patient population managed by Caremark, the majority of the prescription claims for Zomig[®] oral tablets during the 3 one-year periods from 2002 –2004 were for adults (age 17 and older) (Table 4). Pediatric patients aged 1-16 years accounted for less than 2% of the claims for Zomig[®] oral tablets and for about 5% of claims for Zomig ZMT[®] during the same period. During 2004, the majority of the pediatric claims for Zomig[®] oral tablets (78%) and Zomig ZMT[®] (60%) were for patients aged 12-16 years.

Table 4. Percentage of Paid Prescription Claims for Zomig[®] and Zomig ZMT[®], Caremark Dimension Rx[™], 2002 –2004

Age Groups	2002		2003		2004	
	Zomig [®]	Zomig ZMT [®]	Zomig [®]	Zomig ZMT [®]	Zomig [®]	Zomig ZMT [®]
Age 1-16	1.5%	5.5%	1.6%	5.5%	1.5%	4.8%
Age 1	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Age 2-11	21.4%	37.2%	24.1%	35.6%	22.5%	40.2%
Age 12-16	78.5%	62.7%	75.9%	64.4%	77.5%	59.8%
Age 17+	98.5%	94.5%	98.4%	94.5%	98.5%	95.2%

Caremark Dimension Rx[™]-Data Extracted 1-2005 (file: APCS Zomig[®]1-13-2005.xls)

After applying the percentages of claims for Zomig[®] oral tablets and Zomig ZMT[®] obtained from Caremark (Table 4) to the total projected prescriptions filled nationwide obtained from IMS Health (Table 2), the estimated total number of prescriptions filled for all Zomig[®] in patients aged 1-16 years was approximately 36,000 prescriptions during the year before granting the exclusivity (2003) and 31,000 in the year after granting the exclusivity (2004) (Table 5).

Table 5. Estimated Nationwide Prescriptions* Filled for Zomig[®] oral tablets and Zomig ZMT[®], 2002 –2004

	2002		2003		2004	
	Zomig [®]	Zomig ZMT [®]	Zomig [®]	Zomig ZMT [®]	Zomig [®]	Zomig ZMT [®]
Total Rx**	1,482,582	206,146	1,341,251	289,932	1,178,636	281,339
Age 1-16	22,239	11,338	21,460	15,946	17,680	13,504
<i>Age 1</i>	22	11	0	0	0	0
<i>Age 2-11</i>	4,759	4,218	5,172	5,677	3,978	5,429
<i>Age 12-16</i>	17,457	7,109	16,288	10,269	13,702	8,075
Age 17+	1,460,343	194,808	1,319,791	273,986	1,160,956	267,835

* Estimated number of prescriptions in each age band obtained after applying percentages in each age band from Caremark to IMS Health’s total prescriptions. Figures may not add up to subtotals due to rounding.

** Total Prescriptions are actual values from IMS Health (Table2)

IV. Indication for Use

The most common diagnosis associated with a mention of Zomig[®] and Zomig ZMT[®] in office based physician-patient encounters in the adult population (17 years and older) was “migraine unspecified” (ICD-9 346.9), accounting for about 83% of mentions during the pre-and the post-exclusivity periods (2003 and 2004, respectively) (Table 6). The most common diagnoses mentioned for patients age 0-16 years during 2004 were “migraine unspecified” (ICD-9 346.9), accounting for 70% of mentions during that period. Interestingly, the “headache” indication was ranked second with 27% and 22% of the mentions during 2002 and 2003, respectively, yet mentions of this indication were too low to detect during 2004. On the other hand, “chronic sinusitis, other” (ICD-9 473.8), and “classical migraine” (ICD-9 346.0) indications were not mentioned during the two years before granting the exclusivity, but were ranked second and third, respectively, after granting the exclusivity (2004).

Table 6. Top Diagnoses Associated with Mentions of Zomig® and Zomig ZMT® During Office-Based Physician Visits, IMS Health, National Disease and Therapeutic Index™, 2002 - 2004

ICD-9 Codes	2002		2003		2004	
	N	(%)	N	(%)	N	(%)
Zomig and Zomig ZMT	747,751	100.0	623,272	100.0	610,350	100.0
Patients Age 0-16	31,527	(4.2)	23,573	(3.8)	36,244	(5.9)
346.9 Migraine Unspecified	21,886	(69.4)	18,305	(77.7)	25,041	(69.1)
473.8 Chronic Sinusitis, other	-	-	-	-	5,936	(16.4)
346.0 Classical Migraine	-	-	-	-	5,267	(14.5)
346.1 Common Migraine	1,263	(4.0)	-	-	-	-
784.0 Headache	8,378	(26.6)	5,268	(22.3)	-	-
Patients Age 17+	684,899	(91.6)	550,882	(88.4)	542,189	(88.8)
346.9 Migraine Unspecified	580,596	(84.8)	464,052	(84.2)	450,249	(83.0)
784.0 Headache	41,753	(6.1)	52,247	(9.5)	61,322	(11.3)
346.1 Common Migraine	12,713	(1.9)	8,711	(1.6)	8,252	(1.5)
346.0 Classical Migraine	16,880	(2.5)	1,160	(0.2)	7,223	(1.3)
346.2 Variants Of Migraine	-	-	3,861	(0.7)	4,451	(0.8)
Total Others	32,957	(4.8)	20,851	(3.8)	10,692	(2.0)

IMS Health, National Disease and Therapeutic Index™, January 2002 - December 2004. Data extracted 2-2005 (File NDTI Zomig Diagnosis 2-2-05.dvw)

DISCUSSION

Based on the databases used for this consult, outpatient prescriptions of Zomig® oral tablets decreased by 21% from 2002 to 2004, while prescriptions for Zomig ZMT® increased by 37% during the same period. The use of Zomig® oral tablets appears to be primarily in the adult population who accounted for at least 95% of the paid claims processed by Caremark in each of the 3 years of this analysis. While the proportion of the prescriptions dispensed for zolmitriptan in the pediatric patients was small, we estimated that the number of prescriptions for Zomig ZMT® was 13,504 (4.8% of paid claims) as compared to 21,215 prescriptions (1.8% of paid claims) for Zomig® tablets during 2004. This suggested that even though the absolute number of prescriptions of Zomig® oral tablets dispensed in the pediatric population was higher than Zomig ZMT®, the proportion of pediatric claims for Zomig ZMT® was higher than the corresponding proportion of Zomig® oral tablets.

The two major prescriber specialties for Zomig® were family practice and internal medicine. Pediatricians accounted for less than 1% of the prescriptions dispensed during the study period. In general, prescribing patterns for Zomig® dispensed in outpatient retail pharmacy settings showed no substantial change across provider specialties during the 36-month study period.

The reason for the unexpected appearance of the “chronic sinusitis” indication in the pediatric population during 2004 is not clear and may be resulting from coding issue. However, given that the projected numbers for the diagnoses associated with mentions of zolmitriptan in that population were derived from a very small sample of less than 20 patients, the projected indications in this age group are not reliable.

Findings from this consult should be interpreted in the context of the known limitations of the databases used. NPA Plus™ data provide an estimate of the total number of prescriptions dispensed in the U.S. However, NPA Plus™ does not include complete historical demographic information, such as age and gender. The inclusion of prescriber specialty data in this report does not include mail order and long-term care channels.

NDTI™ data provide estimates of patient demographics and indications for use of medicinal products in the U.S. Due to the sampling and data collection methodologies, the small sample size can make these data unstable, particularly when use is not prevalent in the pediatric population, as in the case of Zomig®.

Caremark data cannot be projected to provide national estimates, but its large sample size can be helpful for replicating demographic findings in IMS Health’s NDTI™, where sample sizes are often small. Although the data from Caremark may not be nationally representative, they provide a useful description of prescription drug use in the U.S. for a large proportion of the population with prescription drug coverage. Estimates of the number of prescriptions dispensed nationally to pediatric populations based on the proportion dispensed to pediatric patients in the Caremark system are dependent upon the assumption that these patterns are similar across populations with and without prescription drug coverage. The accuracy of this assumption is not known at this time. In addition, reliable information for patients less than the age of 1 year is not available from this data source.

CONCLUSION

Outpatient prescriptions of all 5-HT antimigraine products combined increased by 5% from 2002 to 2004. Zolmitriptan products (Zomig®, Zomig ZMT® and Zomig® spray) were the third most commonly dispensed products compared to other 5-HT antimigraine products in this analysis, accounting for approximately 1.6 million prescriptions dispensed annually from 2002 through 2004.

Zomig® oral tablet dosage form has maintained the greatest prescription share of all Zomig® products, yet its prescription share of all zolmitriptan products has declined from 88% in 2002 to 82% in 2003, and to 75% in 2004. Prescriptions for Zomig® oral tablets declined from almost 1.5 million prescriptions dispensed in year 2002 to 1.3 million prescriptions in 2003 and to 1.2 million prescriptions dispensed in 2004. This represented a 12% decrease in the dispensed prescriptions for Zomig® oral tablets from year 2003 and a 21% decrease in the dispensed prescriptions from year 2002.

The two major prescriber specialties for Zomig[®] were family practice and internal medicine. Pediatricians accounted for less than 1% of the prescriptions dispensed during the study period. The use of Zomig[®] appears to be primarily in the adult population.

Among a large, insured patient population managed by Caremark, pediatric participants aged 1-16 years accounted for less than 2% of the paid claims for Zomig[®] oral tablets and for about 5% of the paid claims for Zomig ZMT[®] in each of the 3 one-year periods from 2002 to 2004. The estimated nationwide prescriptions for Zomig[®] oral tablets and Zomig ZMT[®] in patients aged 1-16 years was approximately 36,000 prescriptions during the year before granting the exclusivity (2003) and 31,000 after granting the exclusivity (2004).

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