South Dakota

Department of Social Services

Medicaid P&T Committee Meeting

December 11, 2009

DEPARTMENT OF SOCIAL SERVICES
MEDICAL SERVICES
700 Governors Drive
Pierre, South Dakota 57501-2291
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SOUTH DAKOTA
MEDICAID P&T COMMITTEE MEETING
AGENDA

Friday, December 11, 2009
1:00 – 3:00 PM

DDN Locations:
Sioux Falls
University Center
Room UC189S
2205 Career Avenue

Pierre
Capitol Building
DDN Room B
500 E Capitol

Rapid City
Rapid City Regional Hospital
353 Fairmont Blvd/Edu. Services

Call to Order

Approval of Minutes of Previous Meeting

Prior Authorization Update

Review of Top 15 Therapeutic Categories/Top 25 Drugs

Old Business
- **Antipsychotics**
- **Antidepressants**
- **Proton Pump Inhibitors**
- **Nuvigil**

New Business

Drug Product and Utilization Review
- **Provigil**
- **Cerebral Stimulants**

Newer Products to Market Review
- **Savella, Sancuso**

Oral Presentations and Comments by Manufacturers' Representatives

Next Meeting Date/Adjournment

Minutes of the September 11, 2009
Pharmacy & Therapeutics (P&T) Committee Meeting
SD Department of Social Services, Medical Services Division

Members present
Dana Darger, R.Ph.; Verdayne Brandenburg, M.D.; Bill Ladwig, R.Ph.; Dennis Hedge, PharmD.; Rick Holm, M.D.; Debra Farver, PharmD.; Willis Sutliff, M.D.; Galen Goeden, R.Ph.

Members absent
Timothy Soundy, M.D., James Engelbrecht, M.D.

DSS staff present
Mike Jockheck, R.Ph.; Revi Warne, DSS

HID staff present
Candace Rieth, Pharm.D.

Administrative Business
The P&T meeting was called to order by D. Darger at approximately 1:00pm. The minutes of the June 12, 2009 meeting were presented. V. Brandenburg made a motion to approve with one correction; T. Soundy should be listed as absent from the June meeting. B. Ladwig seconded the motion. The motion was approved unanimously.

Prior Authorization Statistics
C. Rieth presented an overview of the prior authorization (PA) activity for June 2009. There were a total of 1,582 PAs processed in the month of June, with 99.43% of those requests responded to in less than 8 hours. There were 1,347 (85%) requests received electronically and 235 (15%) requests received by fax. In response to a request from the committee, C. Rieth presented the number of approvals and denials, by form type, for the faxed (manual) PA requests.

Analysis of the Top 15 Therapeutic Classes
C. Rieth reviewed the Top 15 Therapeutic Classes by total cost of claims from 04/01/2009 – 06/30/2009. The top five classes were antipsychotics, anticonvulsants, cerebral stimulants, amphetamines, and beta-adrenergic agonists. The top 15 therapeutic classes make up 41.66% of total claims. D. Darger discussed the proton pump inhibitors cost per prescription. The committee suggested a tier process be considered. This will be an agenda item for the December meeting.

Antipsychotic/Antidepressant/Xopenex Mailing
M. Jockheck gave an update on the mailings. The antidepressant, antipsychotic, and Xopenex mailings are in the final approval stages. The committee will be notified when these letters are mailed. W. Sutliff made a motion that the psych experts on the committee develop a proposal for a tiered system for the antipsychotics and the antidepressants and present it at the December meeting. This proposal should also take into consideration the committee's concern with polypharmacy. D. Farver seconded the motion. The motion was approved unanimously.

Targeted Immunomodulators Review
C. Rieth reviewed targeted immunomodulators with the P&T committee. A prior authorization was placed on this class of medications at the June meeting. Prior authorization criteria were developed for the committee to review. M. Jockheck also reported on the medical claims utilization of these agents. There was no public

comment. B. Ladwig made a motion to approve the criteria presented. R. Holm seconded the motion. The motion was approved unanimously.

Uloric Review

C. Rieth reviewed Uloric with the P&T committee. A prior authorization was placed on Uloric at the June meeting. Prior authorization criteria were developed for the committee to review. There was no public comment. A suggestion was made to include 'other' as a check box. B. Ladwig made a motion to approve the criteria presented with the additional check box. R. Holm seconded the motion. The motion was approved unanimously.

Azor/Exforge Review

C. Rieth reviewed Azor/Exforge information with the P&T committee. There was no public comment. B. Ladwig made a motion to include Azor and Exforge with the ARB prior authorization already in place and to grandfather current patients taking these agents. W. Sutliff seconded the motion. The motion was approved unanimously.

Solodyn/Oracea Review

C. Rieth reviewed Solodyn/Oracea information with the P&T committee. There was no public comment. W. Sutliff made a motion to place Solodyn and Oracea on prior authorization immediately. B. Ladwig seconded the motion. The motion was approved unanimously.

CaloMist/Nascobal Review

C. Rieth reviewed CaloMist/Nascobal information with the P&T committee. There was no public comment. G. Goeden made a motion to place these agents on prior authorization. B. Ladwig seconded the motion. The motion was approved unanimously.

Nuvigil Review

C. Rieth reviewed Nuvigil information with the P&T committee. There was no public comment. G. Goeden made a motion to place Provigil and Nuvigil on prior authorization. W. Sutliff seconded the motion. The motion was approved unanimously. Because Provigil was not on the September agenda, this topic will be discussed at the December meeting.

Nucynta

C. Rieth reviewed Nucynta information with the P&T committee. J. Stoffel spoke on behalf of Ortho McNeil Janssen, manufacturer of Nucynta. Because V. Brandenburg is doing research with Nucynta, he recused himself from the discussion. W. Sutliff made a motion to place Nucynta on prior authorization. R. Holm seconded the motion. The committee suggested that Nucynta be used second line for opioid naïve patients, following failure with other immediate release schedule-II opioids. The motion was approved unanimously.

The next meeting date is December 11, 2009. The location should remain the same. W. Sutliff asked that psychostimulants be added to the December agenda. A motion was made by G. Goeden at 2:15pm to adjourn the SD Medicaid P&T meeting. B. Ladwig seconded. Motion passed unanimously and the meeting was adjourned.

South Dakota Medicaid
Monthly Prior Authorization Report
September 1, 2009 – September 30, 2009

PA Response Time Ratio

Total PAs	Response Under 8 Hours	Response Over 8 Hours	% Under 8 Hours	% Over 8 Hours
2,174	2,168	6	99.72%	0.28%

By Form Type

Form Type	Description	Approve	Deny
AFX	Amrix and Fexmid	0	2
ALT	Altabax	0	28
AMB	Ambien CR	6	6
ANT	Antihistamines	46	178
ARB	ARBS	32	37
DAW	Dispense As Written	14	61
GRH	Growth Hormone	5	0
MAX	Max Units Override	80	1,358
PPI	Proton Pump Inhibitors	98	217
VUS	Vusion	0	6
Totals		281	1,893

By Request Type

09/01/09 - 09/30/09	# of	Electronic Requests		Faxed Requests		Mailed Requests		Phone Requests	
	Requests	#	%	#	%	#	%	#	%
Prior Authorizations:									
Amrix and Fexmid	2	2	100%	0	0%	0	0%	0	0%
Altabax	28	28	100%	0	0%	0	0%	0	0%
Ambien CR	12	10	83%	2	17%	0	0%	0	0%
Antihistamines	224	186	83%	38	17%	0	0%	0	0%
ARBS	69	58	84%	11	16%	0	0%	0	0%
Dispense As Written	75	56	75%	19	25%	0	0%	0	0%
Growth Hormone	5	0	0%	5	100%	0	0%	0	0%
Max Units Override	1,438	1,348	94%	90	6%	0	0%	0	0%
Proton Pump Inhibitors	315	246	78%	69	22%	0	0%	0	0%
Vusion	6	6	100%	0	0%	0	0%	0	0%
Prior Authorization Totals	2,174	1,940	89%	234	11%	0	0%	0	0%

South Dakota Medicaid
Monthly Prior Authorization Report
September 1, 2009 – September 30, 2009

Electronic PAs (unique)

09/01/09 - 09/30/09	# Unique Approved	# Unique Denied	# Unique Incomplete	Unique Total	Approval %	Total Transactions
Prior Authorizations:						
Amrix and Fexmid	0	2	0	2	0.00%	2
Altabax	0	28	0	28	0.00%	28
Ambien CR	4	6	0	10	40.00%	10
Antihistamines	18	167	0	185	9.70%	186
ARBS	22	35	0	57	38.60%	58
Dispense As Written	0	56	0	56	0.00%	56
Max Units Override	18	1,264	0	1,282	1.40%	1,348
Proton Pump Inhibitors	41	200	0	241	17.00%	246
Vusion	0	6	0	6	0.00%	6
Prior Authorization Totals:	103	1,764	0	1,867	5.50%	1,940

Manual Approvals and Denials

09/01/09 - 09/30/09	# Requests	# Approved	# Denied
Prior Authorizations:			
Ambien CR	2	2	0
Antihistamines	38	28	10
ARBS	11	10	1
Dispense As Written	19	14	5
Growth Hormone	5	5	0
Max Units Override	90	62	28
Proton Pump Inhibitors	69	57	12
Prior Authorization Totals	234	178	56

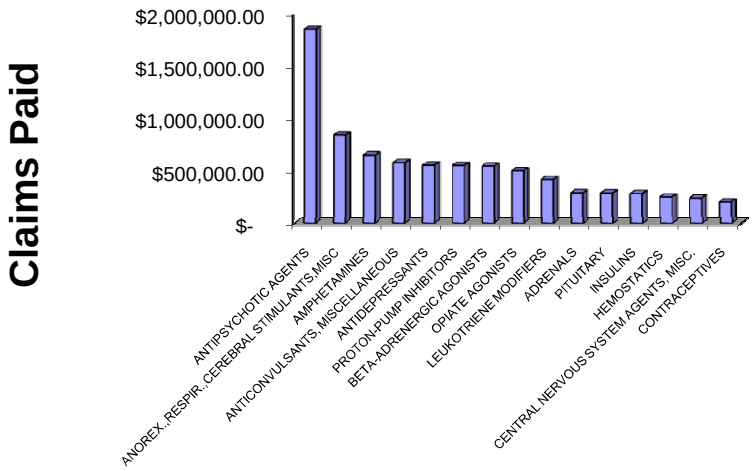
SOUTH DAKOTA MEDICAID
Cost Management Analysis

TOP 15 THERAPEUTIC CLASSES BY TOTAL COST OF CLAIMS FROM 07/01/2009 - 09/30/2009

AHFS Therapeutic Class	Rx	Paid	Paid/Rx	% Total Claims
ANTIPSYCHOTIC AGENTS	7,064	$ 1,839,728.54	$ 260.44	3.65%
ANOREX.,RESPIR.,CEREBRAL STIMULANTS,MISC	5,894	$ 837,379.55	$ 142.07	3.05%
AMPHETAMINES	4,325	$ 645,899.56	$ 149.34	2.24%
ANTICONVULSANTS, MISCELLANEOUS	6,969	$ 574,003.08	$ 82.37	3.60%
ANTIDEPRESSANTS	13,881	$ 549,017.28	$ 39.55	7.18%
PROTON-PUMP INHIBITORS	5,853	$ 546,664.35	$ 93.40	3.03%
BETA-ADRENERGIC AGONISTS	7,515	$ 541,578.73	$ 72.07	3.88%
OPIATE AGONISTS	13,407	$ 496,463.53	$ 37.03	6.93%
LEUKOTRIENE MODIFIERS	3,755	$ 415,745.99	$ 110.72	1.94%
ADRENALS	4,290	$ 286,528.89	$ 66.79	2.22%
PITUITARY	653	$ 284,872.92	$ 436.25	0.34%
INSULINS	1,796	$ 279,320.14	$ 155.52	0.93%
HEMOSTATICS	12	$ 247,441.04	$ 20,620.09	0.01%
CENTRAL NERVOUS SYSTEM AGENTS, MISC.	1,280	$ 236,952.15	$ 185.12	0.66%
CONTRACEPTIVES	3,531	$ 200,585.66	$ 56.81	1.83%
TOTAL TOP 15	80,225	$ 7,982,181.41	$ 99.50	41.47%

Total Rx Claims From 07/01/2009 - 09/30/2009	193,439

Top 15 Therapeutic Classes
Based on Total Cost of Claims



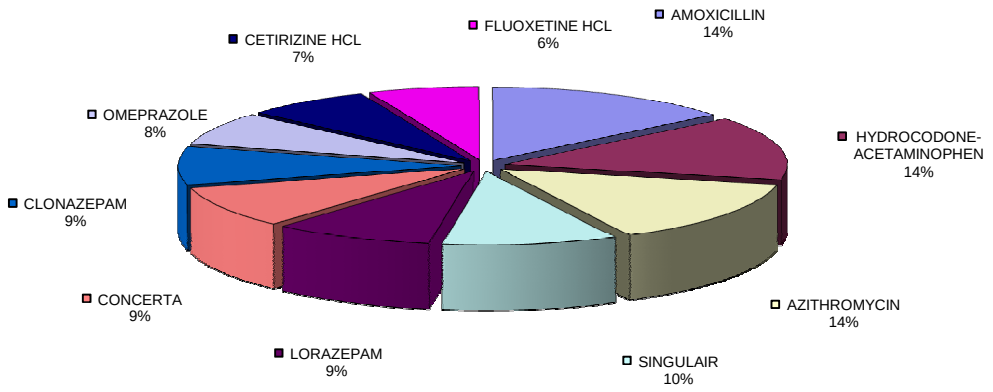
SOUTH DAKOTA MEDICAID
Cost Management Analysis

TOP 25 DRUGS BASED ON NUMBER OF CLAIMS FROM 07/01/2009 - 09/30/2009

Drug	AHFS Therapeutic Class	Rx	Paid	Paid/Rx	% Total Claims
AMOXICILLIN	PENICILLINS	5,307	$ 46,665.41	$ 8.79	2.74%
HYDROCODONE-ACETAMINOPHEN	OPIATE AGONISTS	5,267	$ 56,037.12	$ 10.64	2.72%
AZITHROMYCIN	MACROLIDES	5,251	$ 108,393.20	$ 20.64	2.71%
SINGULAIR	LEUKOTRIENE MODIFIERS	3,738	$ 413,938.47	$ 110.74	1.93%
LORAZEPAM	BENZODIAZEPINES (ANXIOLYTIC,SEDATIV/HYP)	3,428	$ 29,812.14	$ 8.70	1.77%
CONCERTA	ANOREX.,RESPIR.,CEREBRAL STIMULANTS,MISC	3,368	$ 510,930.27	$ 151.70	1.74%
CLONAZEPAM	BENZODIAZEPINES (ANTICONVULSANTS)	3,147	$ 27,495.40	$ 8.74	1.63%
OMEPRAZOLE	PROTON-PUMP INHIBITORS	2,721	$ 53,072.49	$ 19.50	1.41%
CETIRIZINE HCL	SECOND GENERATION ANTIHISTAMINES	2,675	$ 37,815.58	$ 14.14	1.38%
FLUOXETINE HCL	ANTIDEPRESSANTS	2,346	$ 20,281.72	$ 8.65	1.21%
CEPHALEXIN	CEPHALOSPORINS	2,217	$ 27,315.55	$ 12.32	1.15%
LORATADINE	SECOND GENERATION ANTIHISTAMINES	2,166	$ 16,797.58	$ 7.76	1.12%
SERTRALINE HCL	ANTIDEPRESSANTS	2,121	$ 19,833.65	$ 9.35	1.10%
SULFAMETHOXAZOLE-TRIMETHOPRIM	SULFONAMIDES (SYSTEMIC)	2,101	$ 19,112.18	$ 9.10	1.09%
LEVOTHYROXINE SODIUM	THYROID AGENTS	1,953	$ 17,892.94	$ 9.16	1.01%
IBUPROFEN	NONSTEROIDAL ANTI-INFLAMMATORY AGENTS	1,892	$ 13,020.98	$ 6.88	0.98%
DEXTROAMPHETAMINE-AMPHETAMINE	AMPHETAMINES	1,883	$ 340,384.34	$ 180.77	0.97%
RISPERIDONE	ANTIPSYCHOTIC AGENTS	1,812	$ 87,494.91	$ 48.29	0.94%
ALBUTEROL SULFATE	BETA-ADRENERGIC AGONISTS	1,806	$ 32,624.99	$ 18.06	0.93%
AMOX TR-POTASSIUM CLAVULANATE	PENICILLINS	1,803	$ 49,103.81	$ 27.23	0.93%
CLONIDINE HCL	CENTRAL ALPHA-AGONISTS	1,708	$ 12,410.66	$ 7.27	0.88%
TRAZODONE HCL	ANTIDEPRESSANTS	1,704	$ 12,233.37	$ 7.18	0.88%
PREVACID	PROTON-PUMP INHIBITORS	1,682	$ 301,253.11	$ 179.10	0.87%
LISINOPRIL	ANGIOTENSIN-CONVERTING ENZYME INHIBITORS	1,600	$ 10,951.48	$ 6.84	0.83%
SEROQUEL	ANTIPSYCHOTIC AGENTS	1,578	$ 420,652.14	$ 266.57	0.82%
TOTAL TOP 25		65,274	$ 2,685,523.49	$ 41.14	33.74%

Total Rx Claims From 07/01/2009 - 09/30/2009	193,439

Top 10 Drugs
Based on Number of Claims



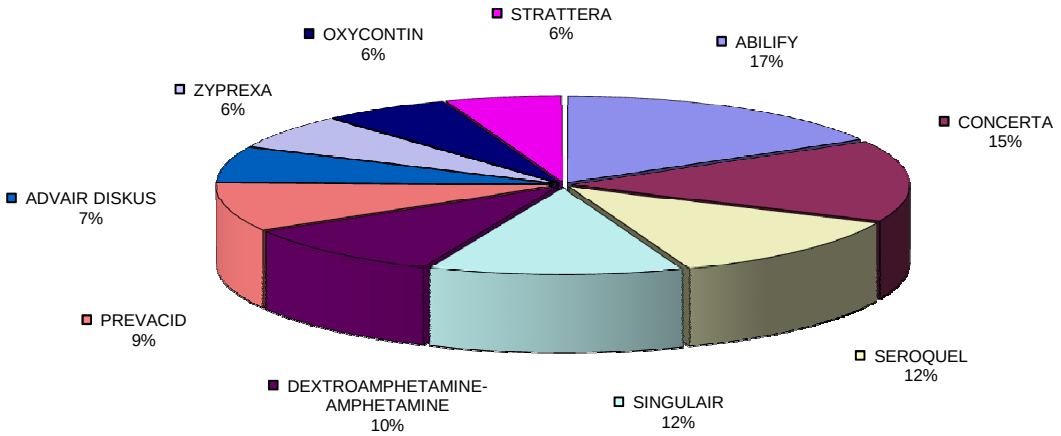
SOUTH DAKOTA MEDICAID
Cost Management Analysis

TOP 25 DRUGS BASED ON TOTAL CLAIMS COST FROM 07/01/2009 - 09/30/2009

Drug	AHFS Therapeutic Class	Rx	Paid	Paid/Rx	% Total Claims
ABILIFY	ANTIPSYCHOTIC AGENTS	1,476	$ 567,632.71	$ 384.58	0.76%
CONCERTA	ANOREX.,RESPIR.,CEREBRAL STIMULANTS,MISC	3,368	$ 510,930.27	$ 151.70	1.74%
SEROQUEL	ANTIPSYCHOTIC AGENTS	1,578	$ 420,652.14	$ 266.57	0.82%
SINGULAIR	LEUKOTRIENE MODIFIERS	3,738	$ 413,938.47	$ 110.74	1.93%
DEXTROAMPHETAMINE-AMP	AMPHETAMINES	1,883	$ 340,384.34	$ 180.77	0.97%
PREVACID	PROTON-PUMP INHIBITORS	1,682	$ 301,253.11	$ 179.10	0.87%
ADVAIR DISKUS	BETA-ADRENERGIC AGONISTS	1,142	$ 222,447.73	$ 194.79	0.59%
ZYPREXA	ANTIPSYCHOTIC AGENTS	404	$ 217,067.14	$ 537.29	0.21%
OXYCONTIN	OPIATE AGONISTS	549	$ 205,797.20	$ 374.86	0.28%
STRATTERA	CENTRAL NERVOUS SYSTEM AGENTS, MISC.	1,230	$ 188,750.49	$ 153.46	0.64%
VYVANSE	AMPHETAMINES	1,374	$ 185,761.18	$ 135.20	0.71%
FOCALIN XR	ANOREX.,RESPIR.,CEREBRAL STIMULANTS,MISC	1,060	$ 163,491.32	$ 154.24	0.55%
RISPERDAL CONSTA	ANTIPSYCHOTIC AGENTS	161	$ 127,790.73	$ 793.73	0.08%
GEODON	ANTIPSYCHOTIC AGENTS	323	$ 125,172.18	$ 387.53	0.17%
CYMBALTA	ANTIDEPRESSANTS	821	$ 122,771.19	$ 149.54	0.42%
SEROQUEL XR	ANTIPSYCHOTIC AGENTS	341	$ 118,779.90	$ 348.33	0.18%
HELIXATE FS	HEMOSTATICS	4	$ 117,020.37	$ 29,255.09	0.00%
NEXIUM	PROTON-PUMP INHIBITORS	547	$ 109,171.37	$ 199.58	0.28%
AZITHROMYCIN	MACROLIDES	5,251	$ 108,393.20	$ 20.64	2.71%
EFFEXOR XR	ANTIDEPRESSANTS	656	$ 105,060.79	$ 160.15	0.34%
NUTROPIN AQ	PITUITARY	46	$ 102,962.48	$ 2,238.31	0.02%
LEXAPRO	ANTIDEPRESSANTS	1,085	$ 102,062.42	$ 94.07	0.56%
ADDERALL XR	AMPHETAMINES	454	$ 95,758.92	$ 210.92	0.23%
ONE TOUCH ULTRA TEST ST	DIABETES MELLITUS	700	$ 95,468.01	$ 136.38	0.36%
ENBREL	DISEASE-MODIFYING ANTIRHEUMATIC AGENTS	50	$ 94,081.93	$ 1,881.64	0.03%
TOTAL TOP 25		29,923	$ 5,162,599.59	$ 172.53	15.47%

Total Rx Claims From 07/01/2009 - 09/30/2009	193,439

Top 10 Drugs
Based on Total Claims Cost



SOUTH DAKOTA ATYPICAL ANTIPSYCHOTIC UTILIZATION			
09/10/08 TO 09/09/09			
Label Name	**Rx Num**	**Total Reimb Amt**	**Cost per Script**
ABILIFY 1 MG/ML SOLUTION	22	$5,547.85	$252.18
ABILIFY 10 MG TABLET	1,441	$526,973.28	$365.70
ABILIFY 15 MG TABLET	851	$273,681.68	$321.60
ABILIFY 2 MG TABLET	384	$148,392.66	$386.44
ABILIFY 20 MG TABLET	524	$268,685.95	$512.76
ABILIFY 30 MG TABLET	498	$271,264.42	$544.71
ABILIFY 5 MG TABLET	2,162	$744,876.13	$344.53
ABILIFY DISCMELT 10 MG TABLET	27	$14,463.04	$535.67
ABILIFY DISCMELT 15 MG TABLET	6	$3,074.52	$512.42
	5,915	**$2,256,959.53**	**$381.57**
CLOZAPINE 100 MG TABLET	1,174	$85,575.87	$72.89
CLOZAPINE 200 MG TABLET	147	$37,048.22	$252.03
CLOZAPINE 25 MG TABLET	422	$13,500.68	$31.99
CLOZAPINE 50 MG TABLET	25	$1,482.05	$59.28
	1,768	**$137,606.82**	**$77.83**
CLOZARIL 100 MG TABLET	98	$56,444.47	$575.96
CLOZARIL 25 MG TABLET	17	$1,773.70	$104.34
	115	**$58,218.17**	**$506.24**
FAZACLO 100 MG ODT	61	$14,921.89	$244.62
FAZACLO 100 MG TABLET	55	$6,526.76	$118.67
FAZACLO 25 MG ODT	12	$1,888.41	$157.37
FAZACLO 25 MG TABLET	34	$1,868.25	$54.95
	162	**$25,205.31**	**$155.59**
GEODON 20 MG CAPSULE	141	$34,269.38	$243.05
GEODON 20 MG VIAL	23	$441.08	$19.18
GEODON 40 MG CAPSULE	296	$76,713.11	$259.17
GEODON 60 MG CAPSULE	248	$87,503.20	$352.84
GEODON 80 MG CAPSULE	570	$259,350.24	$455.00
	1,278	**$458,277.01**	**$358.59**
INVEGA ER 3 MG TABLET	200	$63,071.22	$315.36
INVEGA ER 6 MG TABLET	243	$86,356.08	$355.37
INVEGA ER 9 MG TABLET	80	$40,804.54	$510.06
	523	**$190,231.84**	**$363.73**
RISPERDAL 0.25 MG TABLET	29	$4,142.29	$142.84
RISPERDAL 0.5 MG TABLET	51	$6,103.28	$119.67
RISPERDAL 1 MG TABLET	71	$11,956.83	$168.41
RISPERDAL 1 MG/ML SOLUTION	54	$13,562.29	$251.15
RISPERDAL 2 MG TABLET	22	$4,970.46	$225.93
RISPERDAL 3 MG TABLET	13	$3,717.44	$285.96
RISPERDAL 4 MG TABLET	4	$1,671.34	$417.84
RISPERDAL CONSTA 12.5 MG SYR	4	$560.56	$140.14
RISPERDAL CONSTA 25 MG SYR	114	$49,140.59	$431.06

SOUTH DAKOTA ATYPICAL ANTIPSYCHOTIC UTILIZATION			
09/10/08 TO 09/09/09			
Label Name	**Rx Num**	**Total Reimb Amt**	**Cost per Script**
RISPERDAL CONSTA 37.5 MG SYR	163	$103,084.51	$632.42
RISPERDAL CONSTA 50 MG SYR	390	$360,364.80	$924.01
RISPERDAL M-TAB 0.5 MG ODT	53	$7,186.83	$135.60
RISPERDAL M-TAB 1 MG ODT	66	$12,808.77	$194.07
RISPERDAL M-TAB 2 MG ODT	42	$18,881.84	$449.57
RISPERDAL M-TAB 3 MG ODT	3	$1,497.83	$499.28
RISPERDAL M-TAB 4 MG ODT	9	$4,074.46	$452.72
	1,088	**$603,724.12**	**$554.89**
RISPERIDONE 0.25 MG TABLET	857	$64,114.06	$74.81
RISPERIDONE 0.5 MG TABLET	1,423	$122,733.01	$86.25
RISPERIDONE 1 MG TABLET	1,423	$136,453.40	$95.89
RISPERIDONE 1 MG/ML SOLUTION	140	$14,919.13	$106.57
RISPERIDONE 2 MG TABLET	870	$108,155.47	$124.32
RISPERIDONE 3 MG TABLET	408	$59,984.46	$147.02
RISPERIDONE 4 MG TABLET	309	$54,661.05	$176.90
	5,430	**$561,020.58**	**$103.32**
SEROQUEL 100 MG TABLET	1,713	$278,719.33	$162.71
SEROQUEL 200 MG TABLET	938	$329,837.13	$351.64
SEROQUEL 25 MG TABLET	1,196	$147,819.20	$123.59
SEROQUEL 300 MG TABLET	988	$479,120.55	$484.94
SEROQUEL 400 MG TABLET	348	$168,244.66	$483.46
SEROQUEL 50 MG TABLET	1,395	$236,824.87	$169.77
SEROQUEL XR 200 MG TABLET	312	$68,444.24	$219.37
SEROQUEL XR 300 MG TABLET	342	$129,517.76	$378.71
SEROQUEL XR 400 MG TABLET	286	$152,599.27	$533.56
	7,518	**$1,991,127.01**	**$264.85**
ZYPREXA 10 MG TABLET	330	$129,646.17	$392.87
ZYPREXA 15 MG TABLET	263	$201,100.02	$764.64
ZYPREXA 2.5 MG TABLET	143	$33,773.33	$236.18
ZYPREXA 20 MG TABLET	266	$255,873.38	$961.93
ZYPREXA 5 MG TABLET	400	$120,827.61	$302.07
ZYPREXA 7.5 MG TABLET	83	$31,776.54	$382.85
ZYPREXA ZYDIS 10 MG TABLET	128	$57,848.02	$451.94
ZYPREXA ZYDIS 15 MG TABLET	43	$29,023.59	$674.97
ZYPREXA ZYDIS 20 MG TABLET	34	$29,509.88	$867.94
ZYPREXA ZYDIS 5 MG TABLET	80	$24,627.90	$307.85
	1,770	**$914,006.44**	**$516.39**
TOTALS	**25,452**	**$7,138,158.66**	**3,083 RECIPIENTS**

Antipsychotic Summary by Age			
Age	**Recip Count**	**Age**	**Recip Count**
2	1	43	36
3	1	44	34
4	7	45	37
5	15	46	33
6	32	47	43
7	48	48	32
8	70	49	36
9	65	50	36
10	96	51	38
11	105	52	19
12	100	53	27
13	121	54	27
14	157	55	26
15	151	56	30
16	185	57	25
17	205	58	13
18	148	59	18
19	107	60	24
20	55	61	16
21	48	62	18
22	38	63	10
23	37	64	13
24	35	65	2
25	45	66	1
26	31	67	1
27	50	72	1
28	45	82	1
29	41	83	1
30	36	92	1
31	39	93	1
32	37		
33	40		
34	42		
35	28		
36	38		
37	32		
38	30		
39	38		
40	30		
41	32		
42	22		

Consecutive Duplication for Atypical Antipsychotics ≥ 3 scripts
09/10/08 - 09/09/2009
Drug Name
ABILIFY , RISPERDAL CONSTA , RISPERIDONE , ZYPREXA
FAZACLO , INVEGA , PERPHENAZINE , RISPERIDONE , ZYPREXA
ABILIFY , GEODON , HALOPERIDOL , SEROQUEL
CLOZAPINE , HALOPERIDOL , ZYPREXA
ABILIFY , FLUPHENAZINE HCL , LOXAPINE
ABILIFY , SEROQUEL , SEROQUEL XR , ZYPREXA
CLOZAPINE , SEROQUEL , ZYPREXA
CLOZAPINE , HALOPERIDOL , HALOPERIDOL DECANOATE , RISPERDAL CONSTA , RISPERIDONE , SEROQUEL
RISPERIDONE , SEROQUEL , SEROQUEL XR
RISPERIDONE , SEROQUEL , SEROQUEL XR
GEODON , RISPERIDONE , SEROQUEL
RISPERDAL CONSTA , RISPERIDONE , SEROQUEL
ABILIFY , ABILIFY DISCMELT , GEODON , SEROQUEL
RISPERDAL CONSTA , RISPERIDONE , SEROQUEL
GEODON , HALOPERIDOL LACTATE , RISPERDAL CONSTA , SEROQUEL , ZYPREXA , ZYPREXA ZYDIS
CLOZAPINE , SEROQUEL XR , TRIFLUOPERAZINE HCL
HALOPERIDOL , HALOPERIDOL LACTATE , SEROQUEL XR
RISPERDAL CONSTA , RISPERIDONE , ZYPREXA
ABILIFY DISCMELT , CLOZAPINE , PERPHENAZINE , RISPERDAL M-TAB , ZYPREXA ZYDIS
GEODON , RISPERIDONE , SEROQUEL , SEROQUEL XR
CLOZAPINE , RISPERDAL CONSTA , RISPERIDONE
CLOZAPINE , GEODON , RISPERDAL CONSTA
ABILIFY , CLOZAPINE , HALOPERIDOL , RISPERIDONE
FAZACLO , HALOPERIDOL DECANOATE , RISPERDAL CONSTA , RISPERIDONE
ABILIFY , FLUPHENAZINE DECANOATE , RISPERDAL CONSTA , RISPERIDONE
ABILIFY , RISPERDAL , RISPERIDONE
CHLORPROMAZINE HCL , RISPERIDONE , ZYPREXA
ABILIFY , SEROQUEL , ZYPREXA ZYDIS
ABILIFY , SEROQUEL , SEROQUEL XR
ABILIFY , FAZACLO , MOBAN , RISPERDAL CONSTA , RISPERDAL M-TAB , ZYPREXA ZYDIS
ABILIFY , RISPERIDONE , ZYPREXA
ABILIFY , SEROQUEL , ZYPREXA ZYDIS

Consecutive Duplication for Atypical Antipsychotics ≥ 3 scripts
09/10/08 - 09/09/2009
Drug Name
ABILIFY , ABILIFY DISCMELT , ZYPREXA , ZYPREXA ZYDIS
ABILIFY , GEODON , ZYPREXA ZYDIS
ABILIFY , SEROQUEL , SEROQUEL XR , ZYPREXA , ZYPREXA ZYDIS
ABILIFY , RISPERDAL CONSTA , RISPERIDONE , SEROQUEL XR
ABILIFY , ABILIFY DISCMELT , ZYPREXA ZYDIS
ABILIFY , ABILIFY DISCMELT , SEROQUEL
ABILIFY , SEROQUEL , SEROQUEL XR
ABILIFY , RISPERDAL , RISPERIDONE
ABILIFY , SEROQUEL , SEROQUEL XR
ABILIFY , CLOZAPINE , RISPERDAL CONSTA , ZYPREXA
LOXAPINE , SEROQUEL , SEROQUEL XR
SEROQUEL , ZYPREXA , ZYPREXA ZYDIS
RISPERDAL CONSTA , RISPERIDONE , SEROQUEL
ABILIFY , CLOZAPINE , RISPERDAL CONSTA , RISPERIDONE
ABILIFY , RISPERDAL , RISPERDAL M-TAB , RISPERIDONE
CLOZAPINE , HALOPERIDOL , HALOPERIDOL DECANOATE
HALOPERIDOL , HALOPERIDOL DECANOATE , ZYPREXA , ZYPREXA ZYDIS
ABILIFY , CLOZAPINE , SEROQUEL
ABILIFY , SEROQUEL , SEROQUEL XR
ABILIFY , GEODON , SEROQUEL
CLOZAPINE , RISPERDAL CONSTA , RISPERIDONE
ABILIFY , INVEGA , RISPERDAL CONSTA , SEROQUEL , SEROQUEL XR
RISPERIDONE , SEROQUEL , SEROQUEL XR , ZYPREXA ZYDIS
ABILIFY , SEROQUEL , ZYPREXA ZYDIS
ABILIFY , ABILIFY DISCMELT , GEODON , HALOPERIDOL , ZYPREXA
ABILIFY , SEROQUEL , SEROQUEL XR
ABILIFY , RISPERIDONE , SEROQUEL
HALOPERIDOL , SEROQUEL , ZYPREXA
CLOZAPINE , RISPERDAL CONSTA , RISPERIDONE , ZYPREXA
ABILIFY , RISPERDAL CONSTA , SEROQUEL , SEROQUEL XR
ABILIFY , CLOZAPINE , LOXAPINE
RISPERDAL CONSTA , RISPERIDONE , SEROQUEL

Consecutive Duplication for Atypical Antipsychotics ≥ 3 scripts
09/10/08 - 09/09/2009
Drug Name
CLOZAPINE , INVEGA , RISPERIDONE
FAZACLO , RISPERDAL M-TAB , RISPERIDONE
ABILIFY , SEROQUEL , SEROQUEL XR
ABILIFY , CLOZAPINE , HALOPERIDOL , RISPERDAL CONSTA
SEROQUEL , SEROQUEL XR , ZYPREXA ZYDIS
CLOZARIL , RISPERDAL CONSTA , RISPERIDONE
GEODON , INVEGA , SEROQUEL , SEROQUEL XR , ZYPREXA , ZYPREXA ZYDIS
ABILIFY , SEROQUEL , ZYPREXA ZYDIS
ABILIFY , RISPERDAL CONSTA , RISPERIDONE
73 RECIPIENTS, 41 PRESCRIBERS

South Dakota Medicaid P&T Committee

Proposal for Antipsychotic Use

First Tier of Antipsychotics

- Aripiprazole
- Clozapine
- Olanzapine
- Quetiapine
- Risperidone
- Ziprasidone

Second Tier of Antipsychotics

- Alternate dosage forms
- Isomers or metabolites of tier one agents
- Addition of second atypical

South Dakota Antidepressant Utilization			
09/10/08 to 09/09/09			
Label Name	**Rx Num**	**Total Reimb**	**Cost per Script**
AMITRIP-CDP 12.5-5 TABLET	1	$12.83	$12.83
AMITRIPTYLINE HCL 10 MG TAB	469	$3,245.70	$6.92
AMITRIPTYLINE HCL 100 MG TAB	192	$1,570.34	$8.18
AMITRIPTYLINE HCL 150 MG TAB	60	$651.69	$10.86
AMITRIPTYLINE HCL 25 MG TAB	876	$5,883.90	$6.72
AMITRIPTYLINE HCL 50 MG TAB	473	$3,272.23	$6.92
AMITRIPTYLINE HCL 75 MG TAB	74	$527.44	$7.13
BUPROBAN 150 MG TABLET	10	$542.84	$54.28
BUPROPION HCL 100 MG TABLET	174	$3,731.88	$21.45
BUPROPION HCL 75 MG TABLET	95	$1,253.45	$13.19
BUPROPION HCL SR 100 MG TAB	187	$7,035.58	$37.62
BUPROPION SR 150 MG TABLET	1196	$47,763.65	$39.94
CELEXA 20 MG TABLET	10	$1,019.10	$101.91
CELEXA 40 MG TABLET	4	$588.56	$147.14
CITALOPRAM 10 MG/5 ML SOLUTION	32	$3,187.55	$99.61
CITALOPRAM HBR 10 MG TABLET	449	$3,172.92	$7.07
CITALOPRAM HBR 20 MG TABLET	2229	$15,627.59	$7.01
CITALOPRAM HBR 40 MG TABLET	1732	$16,685.18	$9.63
CLOMIPRAMINE 25 MG CAPSULE	10	$126.88	$12.69
CLOMIPRAMINE 50 MG CAPSULE	58	$863.13	$14.88
CLOMIPRAMINE 75 MG CAPSULE	12	$219.00	$18.25
CYMBALTA 20 MG CAPSULE	58	$9,721.62	$167.61
CYMBALTA 30 MG CAPSULE	848	$119,514.67	$140.94
CYMBALTA 60 MG CAPSULE	2152	$310,863.02	$144.45
DESIPRAMINE 10 MG TABLET	1	$9.38	$9.38
DESIPRAMINE 100 MG TABLET	14	$315.90	$22.56
DESIPRAMINE 25 MG TABLET	50	$765.80	$15.32
DESIPRAMINE 50 MG TABLET	23	$649.25	$28.23
DOXEPIN 10 MG CAPSULE	80	$784.04	$9.80
DOXEPIN 10 MG/ML ORAL CONC	1	$5.03	$5.03
DOXEPIN 100 MG CAPSULE	40	$430.75	$10.77
DOXEPIN 25 MG CAPSULE	58	$424.58	$7.32
DOXEPIN 50 MG CAPSULE	31	$265.96	$8.58
FLUOXETINE 20 MG/5 ML SOLUTION	183	$2,120.06	$11.59
FLUOXETINE HCL 10 MG CAPSULE	1913	$13,465.23	$7.04
FLUOXETINE HCL 10 MG TABLET	415	$3,191.42	$7.69
FLUOXETINE HCL 20 MG CAPSULE	5694	$53,218.17	$9.35
FLUOXETINE HCL 20 MG TABLET	285	$3,033.76	$10.64
FLUOXETINE HCL 40 MG CAPSULE	163	$3,317.37	$20.35
FLUVOXAMINE MAL 100 MG TAB	99	$3,290.93	$33.24
FLUVOXAMINE MALEATE 25 MG TAB	48	$898.01	$18.71
FLUVOXAMINE MALEATE 50 MG TAB	120	$2,404.80	$20.04
IMIPRAMINE HCL 10 MG TABLET	81	$1,113.16	$13.74
IMIPRAMINE HCL 25 MG TABLET	365	$5,293.41	$14.50

South Dakota Antidepressant Utilization			
09/10/08 to 09/09/09			
Label Name	**Rx Num**	**Total Reimb**	**Cost per Script**
IMIPRAMINE HCL 50 MG TABLET	286	$5,014.60	$17.53
IMIPRAMINE PAMOATE 75 MG CAP	22	$7,240.09	$329.10
LEXAPRO 10 MG TABLET	2058	$181,522.04	$88.20
LEXAPRO 20 MG TABLET	2089	$197,890.32	$94.73
LEXAPRO 5 MG TABLET	74	$6,163.86	$83.30
LEXAPRO 5 MG/5 ML SOLUTION	22	$3,296.18	$149.83
MAPROTILINE 25 MG TABLET	9	$427.46	$47.50
MIRTAZAPINE 15 MG RPD DISLV TB	62	$805.76	$13.00
MIRTAZAPINE 15 MG TABLET	989	$10,752.75	$10.87
MIRTAZAPINE 30 MG ODT	49	$1,966.54	$40.13
MIRTAZAPINE 30 MG TABLET	847	$10,871.80	$12.84
MIRTAZAPINE 45 MG RPD DISLV TB	15	$624.45	$41.63
MIRTAZAPINE 45 MG TABLET	444	$7,049.17	$15.88
MIRTAZAPINE 7.5 MG TABLET	22	$421.02	$19.14
NORTRIPTYLINE 10 MG/5 ML SOL	7	$128.25	$18.32
NORTRIPTYLINE HCL 10 MG CAP	210	$1,946.21	$9.27
NORTRIPTYLINE HCL 25 MG CAP	282	$2,434.96	$8.63
NORTRIPTYLINE HCL 50 MG CAP	159	$1,441.48	$9.07
NORTRIPTYLINE HCL 75 MG CAP	54	$654.45	$12.12
PAROXETINE HCL 10 MG TABLET	210	$2,114.17	$10.07
PAROXETINE HCL 10 MG/5 ML SUSP	20	$3,116.58	$155.83
PAROXETINE HCL 20 MG TABLET	906	$10,132.42	$11.18
PAROXETINE HCL 30 MG TABLET	226	$3,228.40	$14.28
PAROXETINE HCL 40 MG TABLET	521	$7,375.14	$14.16
PAXIL CR 12.5 MG TABLET	2	$207.62	$103.81
PAXIL CR 25 MG TABLET	10	$965.17	$96.52
PAXIL CR 37.5 MG TABLET	21	$2,879.12	$137.10
PERPHEN-AMITRIP 2 MG-10 MG TAB	11	$84.65	$7.70
PRISTIQ 50 MG TABLET	12	$1,374.04	$114.50
PROTRIPTYLINE HCL 10 MG TABLET	9	$1,524.51	$169.39
PROTRIPTYLINE HCL 5 MG TABLET	3	$226.81	$75.60
PROZAC 10 MG PULVULE	1	$7.75	$7.75
PROZAC 20 MG PULVULE	5	$46.13	$9.23
PROZAC 20 MG/5 ML SOLUTION	1	$14.35	$14.35
PROZAC 40 MG PULVULE	2	$1,413.12	$706.56
PROZAC WEEKLY 90 MG CAPSULE	60	$7,121.65	$118.69
SERTRALINE 20 MG/ML ORAL CONC	180	$6,716.43	$37.31
SERTRALINE HCL 100 MG TABLET	3740	$38,146.73	$10.20
SERTRALINE HCL 25 MG TABLET	866	$7,121.32	$8.22
SERTRALINE HCL 50 MG TABLET	3189	$28,776.53	$9.02
SYMBYAX 12-25 MG CAPSULE	25	$15,519.17	$620.77
SYMBYAX 12-50 MG CAPSULE	51	$24,557.34	$481.52
SYMBYAX 3-25 MG CAPSULE	20	$4,771.70	$238.59
SYMBYAX 6-25 MG CAPSULE	42	$13,222.36	$314.82

South Dakota Antidepressant Utilization			
09/10/08 to 09/09/09			
Label Name	**Rx Num**	**Total Reimb**	**Cost per Script**
SYMBYAX 6-50 MG CAPSULE	41	$12,307.26	$300.18
TRAZODONE 50 MG TABLET	3589	$22,024.46	$6.14
VENLAFAXINE HCL ER 150 MG TAB	93	$12,842.23	$138.09
VENLAFAXINE HCL ER 225 MG TAB	11	$2,289.54	$208.14
VENLAFAXINE HCL ER 37.5 MG TAB	19	$1,628.91	$85.73
VENLAFAXINE HCL ER 75 MG TAB	65	$10,188.18	$156.74
WELLBUTRIN SR 150 MG TABLET	5	$386.79	$77.36
WELLBUTRIN XL 150 MG TABLET	29	$1,674.15	$57.73
ZOLOFT 100 MG TABLET	18	$411.30	$22.85
ZOLOFT 20 MG/ML ORAL CONC	11	$171.05	$15.55
ZOLOFT 25 MG TABLET	2	$114.95	$57.48
ZOLOFT 50 MG TABLET	11	$1,629.66	$148.15
TOTALS	**42,792**	**$1,339,060.84**	**7,535 RECIPIENTS**

Antidepressant Summary by Age				
Age	**Recip Count**		**Age**	**Recip Count**
2	1		46	92
3	1		47	85
4	8		48	75
5	12		49	81
6	38		50	63
7	60		51	64
8	84		52	63
9	110		53	66
10	146		54	71
11	155		55	51
12	153		56	75
13	214		57	53
14	269		58	45
15	315		59	64
16	389		60	55
17	396		61	54
18	366		62	47
19	254		63	32
20	147		64	33
21	163		65	23
22	156		66	6
23	177		67	1
24	157		69	1
25	189		72	1
26	170		80	1
27	191		83	2
28	159		89	2
29	193		96	1
30	135		102	1
31	138			
32	127			
33	135			
34	115			
35	116			
36	101			
37	74			
38	99			
39	90			
40	95			
41	102			
42	75			
43	72			
44	100			
45	80			

South Dakota Medicaid P&T Committee

Proposal for Antidepressant Use

First Tier of Antidepressants

Most generic antidepressants

Second Tier of Antidepressants

Branded antidepressants

Alternate dosage forms

Isomers or metabolites of tier one agents

SOUTH DAKOTA PPI UTILIZATION				
09/10/2008 - 09/09/2009				
Label Name	**Rx Num**	**Qty Dispensed**	**Total Reimb Amt**	**Cost per Script**
ACIPHEX 20 MG TABLET EC	693	26623	$141,204.20	$203.76
KAPIDEX DR 30 MG CAPSULE	3	90	$375.78	$125.26
KAPIDEX DR 60 MG CAPSULE	24	780	$3,000.01	$125.00
NEXIUM 10 MG PACKET	39	1655	$8,679.84	$222.56
NEXIUM 20 MG CAPSULE	177	6832	$34,595.46	$195.45
NEXIUM 20 MG PACKET	16	450	$2,201.16	$137.57
NEXIUM 40 MG CAPSULE	2107	74905	$407,857.56	$193.57
NEXIUM 40 MG PACKET	20	684	$3,058.83	$152.94
OMEPRAZOLE DR 10 MG CAPSULE	95	3786	$3,206.17	$33.75
OMEPRAZOLE DR 20 MG CAPSULE	8379	337708	$153,525.30	$18.32
OMEPRAZOLE DR 20 MG TABLET	899	31342	$21,439.51	$23.85
OMEPRAZOLE DR 40 MG CAPSULE	225	7618	$17,697.90	$78.66
PANTOPRAZOLE SOD DR 20 MG TAB	13	690	$2,047.50	$157.50
PANTOPRAZOLE SOD DR 40 MG TAB	508	17496	$55,898.30	$110.04
PREVACID 15 MG CAPSULE DR	143	5138	$24,944.90	$174.44
PREVACID 15 MG SOLUTAB	3190	102704	$475,812.77	$149.16
PREVACID 15 MG SUSPENSION DR	2	90	$472.61	$236.31
PREVACID 30 MG CAPSULE DR	1290	47989	$250,774.08	$194.40
PREVACID 30 MG SOLUTAB	1184	43075	$200,807.40	$169.60
PREVACID DR 15 MG CAPSULE	61	2685	$12,992.67	$212.99
PREVACID DR 30 MG CAPSULE	963	34873	$186,143.60	$193.30
PREVPAC PATIENT PACK	96	1306	$33,106.11	$344.86
PRILOSEC DR 20 MG CAPSULE	34	2370	$12,233.78	$359.82
PRILOSEC DR 40 MG CAPSULE	5	300	$1,818.07	$363.61
PRILOSEC OTC 20 MG TABLET	2491	83725	$63,327.61	$25.42
PROTONIX DR 40 MG TABLET	34	996	$4,074.81	$119.85
SM OMEPRAZOLE DR 20 MG TABLET	235	8360	$5,235.14	$22.28
ZEGERID 20 MG CAPSULE	10	300	$1,469.34	$146.93
ZEGERID 20 MG PACKET	79	2650	$13,114.00	$166.00
ZEGERID 40 MG CAPSULE	9	270	$1,404.23	$156.03
TOTALS	**23024**	**847490**	**$2,142,518.64**	**5,241 RECIPIENTS**

South Dakota PPI Percentage Market Share			
Label Name	**Feb 06**	**Apr 08**	**Sep 09**
ACIPHEX	6.73	3.99	3.06
KAPIDEX	0.00	0.00	0.56
NEXIUM	14.52	11.26	8.62
OMEPRAZOLE	10.97	26.41	46.50
PANTOPRAZOLE	0.00	2.60	2.35
PREVACID	45.69	33.05	29.63
PRILOSEC	15.96	21.68	8.67
PROTONIX	5.90	0.64	0.10
ZEGERID	0.23	0.37	0.51

PPI Summary by Age								
Age	Recip Count		Age	Recip Count		Age	Recip Count
0	318		45	60		90	12
1	379		46	72		91	7
2	161		47	58		92	8
3	79		48	58		93	4
4	60		49	66		94	5
5	57		50	53		95	2
6	67		51	57		96	3
7	75		52	50		97	1
8	68		53	53		98	1
9	71		54	70		99	1
10	70		55	55		100	1
11	64		56	52		102	1
12	80		57	41			
13	71		58	46			
14	94		59	63			
15	100		60	57			
16	112		61	54			
17	151		62	34			
18	137		63	37			
19	118		64	38			
20	62		65	42			
21	58		66	12			
22	49		67	10			
23	72		68	4			
24	68		69	3			
25	71		70	3			
26	78		71	4			
27	89		72	7			
28	71		73	4			
29	74		74	4			
30	83		75	8			
31	72		76	3			
32	58		77	2			
33	66		78	2			
34	61		79	5			
35	73		80	4			
36	54		81	6			
37	63		82	5			
38	68		83	9			
39	53		84	4			
40	63		85	9			
41	51		86	3			
42	39		87	8			
43	61		88	7			
44	56		89	8			

SOUTH DAKOTA NUVIGIL AND PROVIGIL UTILIZATION			
09/10/2008 - 09/09/2009			
Label Name	**Rx Num**	**Total Reimb Amt**	**Cost per Script**
NUVIGIL 150 MG	1	$290.03	$290.03
NUVIGIL 250 MG	5	$1,355.28	$271.06
PROVIGIL 100 MG	114	$33,077.72	$290.16
PROVIGIL 200 MG	532	$206,859.25	$388.83
TOTALS	**652**	**$241,582.28**	**104 RECIPIENTS**
38.46% of Nuvigil/Provigil patients have at least one FDA approved indication in their diagnosis history			
29.81% of Nuvigil/Provigil patients have a diagnosis of ADD/ADHD			

Total Number of Doctors = 89	
Doctor Specialty Identified = 77	
Family Practice	29
Internal Medicine*	12
Neurology	1
OB-GYN	1
Other**	3
Pediatrics	2
PA/NP***	15
Psychiatry	14
*includes Cardiology, Endocrinology, Gastroenterology and Proctology	
**Pulmonologist and Neuromuscular-skeletal specialty	
***7 of 15 were psychiatry/mental health	

Nuvigil and Provigil Summary by Age	
Age	**Recip Count**
7	1
10	1
11	1
12	1
14	4
15	4
16	2
18	2
19	2
20	2
21	1
24	1
25	1
26	4
27	5
29	2
30	5
31	2
32	1
33	1
34	2
35	6
36	3
37	3
39	3
40	5
41	1
42	3
44	2
45	2
46	5
47	1
48	1
49	3
50	3
51	1
55	3
56	5
57	2
58	4
60	1
63	1
64	1

NUVIGIL and PROVIGIL
PRIOR AUTHORIZATION
SD DEPARTMENT OF SOCIAL SERVICES
MEDICAL SERVICES DIVISION

Fax Completed Form to:
866-254-0761
For questions regarding this Prior authorization, call
866-705-5391

SD Medicaid requires that patients receiving a new prescription for Nuvigil or Provigil must submit a prior authorization form.

- **Prior authorization will be granted if the requested product has been approved by the FDA for the indication listed.**

Part I: RECIPIENT INFORMATION (To be completed by physician's representative or pharmacy):

RECIPIENT NAME:	MEDICAID ID NUMBER:	RECIPIENT DATE OF BIRTH

Part II: PHYSICIAN INFORMATION (To be completed by physician's representative or pharmacy):

PHYSICIAN NAME:		PHYSICIAN DEA NUMBER:
CITY:	PHONE: ( )	FAX: ( )

Part III: TO BE COMPLETED BY PHYSICIAN:

Requested Drug and Dosage: □ **Nuvigil** _____ □ **Provigil**_____	**FDA approved indication for this request:** □ **Narcolepsy** □ **Excessive sleepiness associated with obstructive sleep apnea/hypopnea syndrome** □ **Shift work sleep disorder**
PHYSICIAN SIGNATURE:	DATE:

Part IV: PHARMACY INFORMATION

PHARMACY NAME:	SD MEDICAID PROVIDER NUMBER:
PHONE: ( ):	FAX:: ( )
DRUG:	NDC#:

Part V: FOR OFFICIAL USE ONLY

Date: / /	Initials: _____
Approved - Effective dates of PA: From: / /	To: / /
Denied: (Reasons)	

South Dakota Department of Social Services
Pharmacotherapy Review
Medications for ADHD
December 11, 2009

I. Overview

ADHD is a severe, debilitating condition affecting approximately 7.8% of school age children, based on a recent national survey. Other sources report prevalence as high as 12% in school-aged children with 60%-85% of children continuing to experience ADHD symptoms into their adolescent years and 30%-77% into their adult years. Children with ADHD are usually diagnosed between the ages of 6 to 12. Suboptimal academic performance is often the reason for initial screening. A diagnosis of ADHD is subjective in nature, with the provider looking for symptoms of inattention, hyperactivity, and impulsivity; symptoms that are frequent and severe enough to interfere with the child's, and often the family's, ability to lead a normal life. These children, left undiagnosed or untreated, are at higher risk of self-injury, depression, low self-esteem, delinquent behavior, antisocial personality traits, substance abuse and other comorbidities.

Most medications for Attention Deficit Hyperactivity Disorder (ADHD) are CNS stimulants, which are thought to work by blocking reuptake of norepinephrine and dopamine in the presynaptic neurons and increasing release of these neurotransmitters into the extraneural space. There are two non-stimulant medications for ADHD, atomoxetine (Strattera®) and guanfacine (Intuniv®). Strattera is classified as a norepinephrine reuptake inhibitor and works by selectively inhibiting presynaptic norepinephrine transporters. Intuniv is classified as a selective $alpha_{2A}$-adrenergic receptor agonist that reduces sympathetic nerve impulses to the heart and blood vessels resulting in a decrease in peripheral vascular resistance and a reduction in heart rate.

Pharmacotherapy, along with behavior therapy and counseling, can help those patients diagnosed with ADHD lead a normal and productive life. For many years, CNS stimulants have been considered first-line therapy for the treatment of ADHD. With the approval of atomoxetine in late 2002, patients now have another treatment option.

II. Current Treatment Guidelines

American Academy of Child and Adolescent Psychiatry (AACAP): Practice Parameter for the Use of Stimulant Medication in the Treatment of Children, Adolescents, and Adults (2007)

1) The first agent tried should have FDA approval for the treatment of ADHD; possible agents would be dextroamphetamine, methylphenidate (MPH), mixed salts of amphetamine, and atomoxetine.
2) Stimulants have been proven in many clinical trials to be highly effective in the treatment of ADHD.
3) The physician may choose either MPH or amphetamines, as data suggests equal efficacy between the two stimulant types.
4) Longer-acting formulations may be used as initial treatment and are associated with greater compliance. Physicians do not need to initiate treatment with the short-acting forms, or use them to titrate to the appropriate dosage of the long-acting forms. Short-acting forms may be used to initiate therapy in low-weight children where long-acting forms may not be available in the necessary smaller doses.
5) Once a medication is initiated, the dose should be titrated up every 1 to 3 weeks until the maximum dose for the stimulant is reached, the symptoms of ADHD remit, or side effects prevent further titration.

6) It is recommended that the patient be in contact with the physician during the titration period and visit the physician after 1 month of therapy to assess effectiveness and determine long-term therapy plans.
7) Patients may show an initial response rate of up to 85% when both stimulant forms are tried versus the response rate of only 65%-75% observed in clinical trials when patients were treated with only one stimulant. Therefore, if a patient fails one stimulant, it is recommended that another be tried.
8) For the treatment of preschoolers, the available evidence suggests that titration of stimulants be done slowly and that lower doses may be effective. This may be due to slower metabolism of MPH in preschoolers.
9) In studies published comparing atomoxetine to stimulants, greater efficacy was seen in those patients treated with stimulants.
10) Atomoxetine may be used as a first-line agent in patients with an active substance abuse problem, comorbid anxiety, tics, or in those who experience severe side effects while taking stimulants.

American Academy of Child and Adolescent Psychiatry (AACAP): Clinical Practice Guideline: Treatment of the School-Aged Child with Attention-Deficit Hyperactivity Disorder (2001)

1) Identify target behavior symptom(s) and collect previous treatment data.
2) Develop a treatment plan that involves drug and/or behavioral therapy and involves parents, teachers and caregivers. It is also important to recognize that ADHD is a chronic condition.
3) Define appropriate target outcomes, so that medication effectiveness can be clearly and systemically evaluated. It is important to define clear goals – control of symptoms at school, at home, or both – so that it can be determined whether or not a child needs long-acting, short-acting, or a combination of the two types of medication.
4) Medication selection:
    a. CNS stimulants are still considered to be first-line therapy as 70 to 80% of children respond favorably to this class.
    b. Response to one stimulant medication does not predict response to another.
    c. Children who fail two stimulant medications can be tried on a third stimulant medication.
    d. When the selected regimen has not met targeted outcomes, clinicians should evaluate the original diagnosis, use of all appropriate treatments, adherence to the treatment plan, and presence of coexisting conditions.
    e. If a child fails treatment with at least 3 stimulants, second-line treatments may be considered; these include tricyclic antidepressants, bupropion, and clonidine.

III. Drug Treatment for ADHD

Product	Dosage Forms	Dosing Frequency	Duration of Action
Immediate-release (IR) methylphenidate			
Ritalin (Novartis)	5, 10, 20 mg tabs	Adults: Given bid to tid preferably 30 to 45 minutes before meals. Children ≥ 6 yr: Given twice daily before breakfast and lunch.	3 to 4 h
Methylin Tabs (Mallinckrodt)	5, 10, 20 mg tabs	Adults: Given bid to tid preferably 30 to 45 minutes before meals. Children ≥ 6 yr: Given twice daily before breakfast and lunch.	3 to 4 h

Product	Dosage Forms	Dosing Frequency	Duration of Action
Methylin Chewable Tabs (Mallinckrodt)	2.5, 5, 10 mg chewable tabs	Adults: Given bid to tid preferably 30 to 45 minutes before meals. Children ≥ 6 yr: Given twice daily before breakfast and lunch.	3 to 4 h
Methylin Oral Solution (Mallinckrodt)	5 mg/5 mL, 10 mg/5 mL oral solution	Adults: Given bid to tid preferably 30 to 45 minutes before meals. Children ≥ 6 yr: Given twice daily before breakfast and lunch.	3 to 4 h
Immediate-release (IR) dexmethylphenidate			
Focalin (Novartis)	2.5, 5, 10 mg tabs	Given bid at least 4 hr apart without regard to meals.	4 to 5 h
Extended-release (ER) dexmethylphenidate			
Focalin XR (Novartis)	5, 10, 15, 20 mg caps	Given once daily in the morning. May be taken whole or sprinkled over applesauce. If sprinkled over applesauce, should be used immediately and not be stored for future use. Capsule and/or capsule content should not be crushed.	up to 12 h
Extended-(ER)/Sustained release-(SR) methylphenidate			
Ritalin LA (Novartis) Bead-filled capsule (1/2 IR and 1/2 enteric coated, delayed release)	10, 20, 30, 40 mg LA caps	Given once daily in the morning. May be taken whole or sprinkled on applesauce. Applesauce should not be warm. If sprinkled over applesauce, should be used immediately and not stored for future use. Capsule and/or capsule content should not be crushed.	8 to 10 h
Ritalin SR (Novartis) Wax matrix tab	20 mg SR tabs	Given once daily to bid in dose corresponding to q8h dose IR. Must be swallowed whole.	6 to 8 h (Package insert says approx. 8 h)
Metadate ER (UCB)	10, 20 mg ER tabs	Given once daily to bid in dose corresponding to q8h dose IR. Must be swallowed whole.	6 to 8 h (Package insert says approx. 8 h)
Methylin ER (Mallinckrodt)	10, 20 mg ER tabs	Given once daily to bid in dose corresponding to q8h dose IR. Must be swallowed whole.	6 to 8 h (Package insert says approx. 8 h)
Concerta (McNeil Pediatrics) OROS (osmotic system has hole for drug release) with IR over-coat.	18, 27, 36, 54 mg ER tabs	Given once daily in the morning without regard to meals. Must be swallowed whole.	12 h

Product	Dosage Forms	Dosing Frequency	Duration of Action
Metadate CD (UCB) Bead-filled capsule (30% IR and 70% ER)	10, 20, 30, 40, 50, 60 mg ER caps	Given once daily in the morning before breakfast. May be taken whole or sprinkled over applesauce. If sprinkled over applesauce, should be used immediately and not stored for future use. Capsule and/or capsule content should not be crushed.	8 to 9 h
Daytrana (Shire) Transdermal patch	1.1 mg/hr (10 mg/9 hr) 1.6 mg/hr (15 mg/9 hr) 2.2 mg/hr (20 mg/9 hr) 3.3 mg/hr (30 mg/9 hr)	Worn daily for 9 hours (apply 2 hrs before desired effect). Patch to be replaced once a day in the morning. Alternate application site daily.	12 h
Immediate-release (IR) dextroamphetamine and amphetamine salts mixture			
Adderall (Barr)	5, 7.5, 10, 12.5, 15, 20, 30 mg scored tabs	Given once daily or bid without regard to meals. First dose on awakening, additional doses at 4 to 6 h intervals.	4 to 6 h
Extended-release (ER) dextroamphetamine and amphetamine salts mixture			
Adderall XR (Shire)	5, 10, 15, 20, 25, 30 mg ER caps	Given once daily in the morning without regard to meals. May be taken whole or sprinkled on applesauce. Sprinkled applesauce should not be chewed or stored for later.	10 to 12 h
Sustained-release (SR) dextroamphetamine			
Dexedrine Spansule Cap filled with IR and SR beads (GlaxoSmithKline)	5, 10, 15 mg SR caps	Once daily or bid dose without regard to meals. Do not chew beads in cap.	6 to 10 h
Vyvanse (lisdexamfetamine) (Shire) Prodrug of dextroamphetamine.	20, 30, 40, 50, 60, 70 mg caps	Given once daily in the morning without regard to meals. May be taken whole or contents dissolved in glass of water. If solution prepared, it should be used immediately and not stored.	13 h
Nonstimulants			
Atomoxetine			
Strattera (Eli Lilly & Co.) • Response rate is lower compared to methylphenidate. • Consider atomoxetine for	10, 18, 25, 40, 60, 80, 100 mg caps	Given once daily or bid without regard to meals.	24 h

Product	Dosage Forms	Dosing Frequency	Duration of Action
patients with anxiety, insomnia, or substance abuse disorders.			
Guanfacine			
Intuniv (Shire) • May be an alternative or an add-on to stimulants for children who do not receive enough benefit from, or who are intolerant to, stimulants alone (e.g., tics, insomnia, etc). • There are no head-to-head trials comparing *Intuniv* to other ADHD medications. However, the improvements in mean ADHD-RS-IV scores were comparable to atomoxetine at lower doses and comparable to stimulants at higher doses (≥0.13 mg/kg).[37]	1, 2, 3, 4 mg extended-release tabs	Given once daily; avoid high-fat meals. Tablets should not be crushed or chewed or broken before swallowing. Do not substitute for immediate-release guanfacine tablets on a mg-per-mg basis due to different pharmacokinetic profiles. Start at 1 mg daily and titrate dose at no more than 1 mg/week increments. Keep dose within 1 mg to 4 mg/day depending on response and tolerability. Consider dosing on a mg/kg basis with starting doses of 0.05 mg/kg to 0.08 mg/kg once daily. Doses up to 0.12 mg/kg once daily may provide additional benefit. When discontinuing, taper the dose in decrements of no more than 1 mg every 3 to 7 days.	About 24 h

IV. ADHD Medication Drug Interactions

Clinically important drug interactions exist for the ADHD medications with certain, important differences among the classes. Each of the medications in this class should be used cautiously with antihypertensives (stimulants, atomoxetine and guanfacine, may antagonize the effects of antihypertensive medications), tricyclic antidepressants, and MAO inhibitors (can result in hypertensive crisis).

Amphetamines

- GI acidifying agents (ascorbic acid, guanethidine, fruit juice) decrease absorption of amphetamines and urinary acidifiers (aluminum chloride) increase excretion of amphetamines.
- GI alkalinizers (sodium bicarb) increase absorption of amphetamines and urinary alkalinizers (acetazolamide) decrease excretion of amphetamines.
- Chlorpromazine/haloperidol block dopamine/norepinephrine receptors decreasing effects of amphetamines.
- Lithium carbonate inhibits stimulatory effects of amphetamines.
- Meperidine activity is potentiated by amphetamines.
- Co-administration of phenobarbital and phenytoin with amphetamines may lead to a synergistic anticonvulsant action.

Methylphenidate and Dexmethylphenidate

- May decrease metabolism of coumarin anticoagulants, anticonvulsants (phenobarbital, phenytoin, and primidone), and antidepressants (TCA's and SSRI's) resulting in the need for dosage adjustments.
- Serious adverse events have been noted with concomitant use of clonidine, although no causality has been established. This combination should be carefully monitored if use is deemed therapeutically necessary.

Atomoxetine

- Paroxetine, fluoxetine, and quinidine are all CYP2D6 inhibitors, dosing of atomoxetine may need to be adjusted when given with any of these medications.
- The effects of albuterol on heart rate and blood pressure may be potentiated by atomoxetine.
- MAOIs-coadministration is contraindicated.
- Pressor agents-administer with caution because of possible effects on blood pressure.
- CYP3A substrates-coadministration resulted in a 15% increase in midazolaum AUC.

Guanfacine

- CYP3A4/5 inhibitors (e.g., ketoconazole)-coadministration may increase rate and extent of guanfacine exposure.
- CYP3A4 inducers (e.g., rifampin)-coadministration may decrease rate and extent of guanfacine exposure.
- Valproic acid-coadministration may increase serum valproic acid concentrations.
- Antihypertensive drugs-use caution
- CNS depressants-use caution

V. Comparative Adverse Effects of ADHD Medications

Black Box Warning for Amphetamines

Amphetamines have a high potential for abuse. Administration of amphetamines for prolonged periods of time may lead to drug dependence and must be avoided. Particular attention should be paid to the possibility of subjects obtaining amphetamines for non-therapeutic use or distribution to others and the drugs should be prescribed or dispensed sparingly. Misuse of amphetamines may cause sudden death and serious cardiovascular adverse events.

Black Box Warning for Methylphenidate and Dexmethylphenidate

ORAL

Methylphenidate and dexmethylphenidate should be given cautiously to patients with a history of drug dependence or alcoholism, because such patients may increase dosage on their own initiative. Chronic abusive use can lead to marked tolerance and psychological dependence with varying degrees of abnormal behavior. Frank psychotic episodes can occur, especially with parenteral abuse. Careful supervision is required during withdrawal from abusive use since severe depression may occur. Withdrawal following chronic therapeutic use may unmask symptoms of the underlying disorder that may require follow-up.

TRANSDERMAL

Methylphenidate patch should be given cautiously to patients with a history of drug dependence or alcoholism. Chronic abusive use can lead to marked tolerance and psychic dependence with varying degrees of abnormal behavior. Frank psychotic episodes can occur, especially with parenteral abuse. Careful supervision is required during withdrawal from abusive use, since severe depression may occur. Withdrawal following chronic therapeutic use may unmask symptoms of the underlying disorder that may require follow-up.

In September 2005, the FDA issued an alert and the manufacturer of atomoxetine revised its labeling to include a black box warning about the risks of suicidal ideation. Patients started on atomoxetine should be monitored for suicidal thinking and behavior, clinical worsening of symptoms, and unusual changes in behavior. The risk of suicidal ideation in patients taking atomoxetine was 0.4% (5/1357

patients) versus none (0/851) in the placebo arm. Additionally, there have been postmarketing reports indicating that atomoxetine can cause severe liver damage in rare instances. In clinical trials with over 6,000 patients and postmarketing use in over 2 million patients, there have been rare cases of serious liver injury that were considered probably or possibly related to atomoxetine. Because of this information, atomoxetine should be discontinued and liver function testing should be performed at the first sign of liver injury (e.g., pruritus, jaundice, dark urine, right upper quadrant tenderness or unexplained flu-like symptoms).

On February 21, 2007, the FDA directed all manufacturers of products approved for the treatment of ADHD to develop Patient Medication Guides to alert patients to possible cardiovascular risks and risks of adverse psychiatric symptoms associated with the medicines, and to advise them of precautions that can be taken. An FDA review of reports of serious cardiovascular adverse events in patients taking usual doses of ADHD products revealed reports of sudden death in patients with underlying serious heart problems or defects, and reports of stroke and heart attack in adults with certain risk factors. FDA recommends that children, adolescents, or adults who are being considered for treatment with ADHD drug products work with their physician or other health care professional to develop a treatment plan that includes a careful health history and evaluation of current status, particularly for cardiovascular and psychiatric problems (including assessment for a family history of such problems).

Rare reports of neuroleptic malignant syndrome (NMS) have occurred with dexmethylphenidate and methylphenidate. In most cases, patients were receiving therapies associated with NMS. It is not known whether this is a drug/drug interaction, a reaction to one drug alone, or due to some other cause. In regard to other adverse reactions, many similarities exist between the drugs used to treat ADHD. Tachycardia, increased blood pressure, anorexia, weight loss, and sleep pattern disturbances are of major concern, especially in this population of patients. Dry mouth, restlessness, visual disturbances and urticaria are also commonly seen. With the exception of atomoxetine, all medications carry the risk of lowering the seizure threshold, exacerbating tics, and Tourettes syndrome. One consideration to note, it has been clearly demonstrated that patients who do not respond well to one stimulant medication may respond to another. However, there have been reports of psychiatric adverse effects such as exacerbation of pre-existing psychosis, induction of mixed/manic episodes, hallucinations, delusions, paranoia, and aggression that could be cause for concern.

One final consideration is that CNS stimulants have reported suppression of growth (weight gain and/or height) with long-term use. Although it appears that this a temporary delay and that the patients will normalize in late adolescence, children should be monitored for height and weight changes while taking a CNS stimulant.

VI. Conclusion

Medication treatment for ADHD has increased dramatically over the past 10 years with stimulants becoming the most prescribed psychotropic drug for children. Scientific evidence shows that stimulants are an effective short-term treatment for ADHD, with medication resulting in better symptomatic relief than treatment with behavioral therapy, alone. However, the evidence for comparative efficacy and adverse events of drugs for treating ADHD is severely lacking in measuring functional or long-term outcomes. More rigorous studies are needed to establish the comparative effectiveness of medications used to treat ADHD.

References

1. Wolters Kluwer Health, Inc, ed. Drug Facts & Comparisons. St. Louis, MO. 2009.
2. Visser SN, Lesesne CA, Perou R. National estimates and factors associated with medication treatment for childhood attention deficit/hyperactivity disorder. Pediatrics. 2007;119(1):s99-106. Committee on Quality Improvement, Subcommittee on ADHD (2000), Clinical Practice Guideline: Diagnosis and Evaluation of the Child with ADHD. Pediatrics 105: 1158-1170.
3. American Academy of Pediatrics (AAP): Subcommittee on ADHD and Committee on Quality Improvement. Clinical Practice Guideline: Treatment of School-Aged Children with ADHD. Pediatrics Vol 108 No. 4 October 2001, pp. 1033-44.
4. Adderall XR® [prescribing information]. Wayne, PA: Shire US Inc; 2009.
5. Concerta® [prescribing information]. Titusville, NJ: McNeil Pediatrics; June 2009.
6. Dexedrine® [prescribing information]. Research Triangle Park, NC: Glaxo Smith Kline; July 2008.
7. Focalin XR® [prescribing information]. East Hanover, NJ: Novartis; October 2009.
8. Ritalin LA® [prescribing information]. East Hanover, NJ: Novartis; April 2009.
9. Strattera® [prescribing information]. Indianapolis, IN: Eli Lilly and Company; June 2009.
10. Vyvanse® [prescribing information]. Wayne, PA: Shire US Inc.; May 2009.
11. Daytrana ® [prescribing information]. Ireland: Shire Pharmaceuticals Ireland Limited; 2007.
12. Intuniv ® [prescribing information]. Wayne, PA: Shire US Inc.; August 2009.
13. FDA Alert. P07-26. Issued February 21, 2007.
14. FDA Alert. P05-65. Issued September 29, 2005.
15. FDA Alert. T04-60. Issued December 17, 2004.
16. MTA Cooperative Group. A 14-Month Randomized Clinical Trial of Treatment Strategies for ADHD. Arch Gen Psychiatry. 1999;56:1073-1086.
17. McDonagh MS, Christensen V, Peterson K, Thakurta S. Drug Class Review on Pharmacologic Treatments for Attention Deficit Hyperactivity Disorder. 2009. http://www.ohsu.edu/drugeffectiveness/reports/final.cfm.

SOUTH DAKOTA MEDICATIONS USED FOR ADD/ADHD UTILIZATION			
09/10/2008 - 09/09/2009			
Label Name	**Rx Num**	**Total Reimb Amt**	**Cost per Script**
ADDERALL 10 MG TABLET	3	$50.70	$16.90
ADDERALL 20 MG TABLET	22	$6,304.91	$286.59
ADDERALL XR 10 MG CAPSULE	1067	$184,908.50	$173.30
ADDERALL XR 15 MG CAPSULE	801	$142,786.85	$178.26
ADDERALL XR 20 MG CAPSULE	2255	$472,019.21	$209.32
ADDERALL XR 25 MG CAPSULE	692	$129,270.30	$186.81
ADDERALL XR 30 MG CAPSULE	1631	$295,085.42	$180.92
ADDERALL XR 5 MG CAPSULE	398	$70,078.25	$176.08
AMPHETAMINE SALTS 10 MG TAB	628	$9,679.97	$15.41
AMPHETAMINE SALTS 12.5 MG TB	12	$519.25	$43.27
AMPHETAMINE SALTS 15 MG TAB	66	$2,061.93	$31.24
AMPHETAMINE SALTS 20 MG TAB	360	$7,168.81	$19.91
AMPHETAMINE SALTS 30 MG TAB	189	$3,596.53	$19.03
AMPHETAMINE SALTS 5 MG TAB	458	$6,424.99	$14.03
CONCERTA 18 MG TABLET SA	1958	$242,837.73	$124.02
CONCERTA 27 MG TABLET SA	2007	$272,466.15	$135.76
CONCERTA 36 MG TABLET SA	5236	$876,759.18	$167.45
CONCERTA 54 MG TABLET SA	3672	$534,744.33	$145.63
D-AMPHETAMINE 10 MG CAP SA	172	$10,172.43	$59.14
D-AMPHETAMINE ER 15 MG CAPSULE	138	$13,149.40	$95.29
D-AMPHETAMINE ER 5 MG CAPSULE	60	$2,354.20	$39.24
DAYTRANA 10 MG/9 HR PATCH	182	$29,520.27	$162.20
DAYTRANA 15 MG/9 HR PATCH	190	$29,106.24	$153.19
DAYTRANA 20 MG/9 HOUR PATCH	181	$28,751.41	$158.85
DAYTRANA 30 MG/9 HOUR PATCH	271	$42,833.38	$158.06
DESOXYN 5 MG TABLET	14	$11,354.70	$811.05
DEXEDRINE SPANSULE 10 MG	7	$206.13	$29.45
DEXEDRINE SPANSULE 15 MG	3	$243.75	$81.25
DEXMETHYLPHENIDATE 10 MG TAB	253	$8,058.82	$31.85
DEXMETHYLPHENIDATE 2.5 MG TAB	63	$1,254.56	$19.91
DEXMETHYLPHENIDATE 5 MG TAB	186	$5,511.54	$29.63
DEXTROSTAT 10 MG TABLET	5	$359.90	$71.98
DEXTROSTAT 5 MG TABLET	2	$11.57	$5.79
FOCALIN 10 MG TABLET	98	$5,118.04	$52.22
FOCALIN 2.5 MG TABLET	18	$502.26	$27.90
FOCALIN 5 MG TABLET	155	$6,102.14	$39.37
FOCALIN XR 10 MG CAPSULE	1302	$173,240.63	$133.06
FOCALIN XR 15 MG CAPSULE	841	$123,881.42	$147.30
FOCALIN XR 20 MG CAPSULE	1419	$222,571.37	$156.85
FOCALIN XR 5 MG CAPSULE	565	$86,053.69	$152.31
METADATE CD 10 MG CAPSULE	103	$14,206.99	$137.93
METADATE CD 20 MG CAPSULE	275	$31,684.52	$115.22
METADATE CD 30 MG CAPSULE	110	$13,385.24	$121.68
METADATE CD 40 MG CAPSULE	68	$10,104.39	$148.59

SOUTH DAKOTA MEDICATIONS USED FOR ADD/ADHD UTILIZATION			
09/10/2008 - 09/09/2009			
Label Name	**Rx Num**	**Total Reimb Amt**	**Cost per Script**
METADATE CD 50 MG CAPSULE	15	$2,902.44	$193.50
METADATE CD 60 MG CAPSULE	25	$4,964.93	$198.60
METADATE ER 10 MG TABLET SA	2	$76.35	$38.18
METADATE ER 20 MG TABLET	1	$12.13	$12.13
METHYLIN 10 MG CHEWABLE TABLET	17	$2,401.42	$141.26
METHYLIN 10 MG TABLET	542	$7,464.05	$13.77
METHYLIN 10 MG/5 ML SOLUTION	42	$9,721.00	$231.45
METHYLIN 2.5 MG CHEWABLE TAB	21	$2,451.80	$116.75
METHYLIN 20 MG TABLET	217	$4,571.66	$21.07
METHYLIN 5 MG CHEWABLE TABLET	26	$2,057.09	$79.12
METHYLIN 5 MG TABLET	546	$5,454.19	$9.99
METHYLIN 5 MG/5 ML SOLUTION	30	$3,692.46	$123.08
METHYLIN ER 10 MG TABLET	43	$1,197.68	$27.85
METHYLIN ER 20 MG TABLET	113	$1,920.15	$16.99
METHYLPHENIDATE 10 MG TABLET	306	$3,755.94	$12.27
METHYLPHENIDATE 20 MG TABLET	103	$2,210.79	$21.46
METHYLPHENIDATE 5 MG TABLET	196	$1,872.55	$9.55
METHYLPHENIDATE ER 20 MG TAB	112	$1,603.90	$14.32
RITALIN 10 MG TABLET	1	$124.60	$124.60
RITALIN 20 MG TABLET	11	$1,433.37	$130.31
RITALIN 5 MG TABLET	1	$88.90	$88.90
RITALIN LA 10 MG CAPSULE	101	$13,367.64	$132.35
RITALIN LA 20 MG CAPSULE	306	$40,219.73	$131.44
RITALIN LA 30 MG CAPSULE	297	$36,909.76	$124.28
RITALIN LA 40 MG CAPSULE	161	$22,631.64	$140.57
STRATTERA 10 MG CAPSULE	383	$66,384.89	$173.33
STRATTERA 25 MG CAPSULE	1215	$174,892.65	$143.94
STRATTERA 40 MG CAPSULE	1402	$214,725.96	$153.16
STRATTERA 18 MG CAPSULE	486	$73,234.00	$150.69
STRATTERA 60 MG CAPSULE	970	$141,690.94	$146.07
STRATTERA 80 MG CAPSULE	448	$69,850.77	$155.92
STRATTERA 100 MG CAPSULE	114	$18,770.41	$164.65
VYVANSE 20 MG CAPSULE	473	$67,254.07	$142.19
VYVANSE 30 MG CAPSULE	1374	$186,456.03	$135.70
VYVANSE 40 MG CAPSULE	453	$62,075.55	$137.03
VYVANSE 50 MG CAPSULE	1402	$190,503.33	$135.88
VYVANSE 60 MG CAPSULE	360	$48,470.10	$134.64
VYVANSE 70 MG CAPSULE	1005	$132,636.52	$131.98
TOTALS	**41456**	**$5,746,553.39**	**5,368 RECIPIENTS**

*14.87% of recipients (under the age of 19 and receiving medications in September) took at least one of the above medications

Medications used to treat ADD/ADHD Summary by Age				
Age	**Recip Count**		**Age**	**Recip Count**
3	12		47	3
4	37		48	9
5	94		49	6
6	228		50	5
7	314		51	3
8	408		52	7
9	403		53	2
10	463		54	2
11	425		55	3
12	383		56	6
13	402		57	6
14	410		58	5
15	345		59	3
16	311		60	2
17	280		61	1
18	185		62	3
19	100		63	1
20	62		64	1
21	42			
22	23			
23	19			
24	23			
25	27			
26	21			
27	30			
28	16			
29	19			
30	19			
31	20			
32	12			
33	11			
34	20			
35	18			
36	19			
37	10			
38	12			
39	11			
40	9			
41	9			
42	13			
43	5			
44	10			
45	8			
46	12			

Consecutive Duplication for Medications used to treat ADD/ADHD ≥ 3 scripts
09/10/2008 - 09/09/2009
Drug Name
METHYLIN , METHYLPHENIDATE HCL , PROVIGIL
ADDERALL XR , AMPHETAMINE SALT COMBO , DEXTROAMPHETAMINE SULFATE
ADDERALL XR , AMPHETAMINE SALT COMBO , DEXTROAMPHETAMINE SULFATE
ADDERALL XR , AMPHETAMINE SALT COMBO , DEXTROAMPHETAMINE SULFATE
ADDERALL XR , AMPHETAMINE SALT COMBO , DEXTROAMPHETAMINE SULFATE
ADDERALL XR , AMPHETAMINE SALT COMBO , DEXTROAMPHETAMINE SULFATE
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , METADATE CD , METHYLIN
METADATE CD , METHYLIN , METHYLPHENIDATE HCL
METADATE CD , METHYLIN , METHYLPHENIDATE HCL
METADATE CD , METHYLIN , METHYLPHENIDATE HCL
METADATE CD , METHYLIN , METHYLPHENIDATE HCL
METADATE CD , METHYLIN , METHYLPHENIDATE HCL
METADATE CD , METHYLIN , METHYLPHENIDATE HCL
METADATE CD , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , STRATTERA
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
METHYLIN , METHYLPHENIDATE HCL , STRATTERA
METHYLIN , METHYLPHENIDATE HCL , STRATTERA
CONCERTA , DEXMETHYLPHENIDATE HCL , FOCALIN , VYVANSE
CONCERTA , DEXMETHYLPHENIDATE HCL , FOCALIN , VYVANSE
ADDERALL XR , AMPHETAMINE SALT COMBO , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , STRATTERA
ADDERALL XR , STRATTERA , VYVANSE
ADDERALL XR , STRATTERA , VYVANSE
ADDERALL XR , METHYLIN , STRATTERA
DEXMETHYLPHENIDATE HCL , METHYLPHENIDATE HCL , RITALIN LA , STRATTERA

Consecutive Duplication for Medications used to treat ADD/ADHD ≥ 3 scripts
09/10/2008 - 09/09/2009
Drug Name
DEXMETHYLPHENIDATE HCL , METHYLPHENIDATE HCL , RITALIN LA , STRATTERA
DEXMETHYLPHENIDATE HCL , METHYLPHENIDATE HCL , RITALIN LA , STRATTERA
DEXMETHYLPHENIDATE HCL , METHYLPHENIDATE HCL , RITALIN LA , STRATTERA
DEXMETHYLPHENIDATE HCL , FOCALIN , RITALIN LA
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
METHYLIN , METHYLPHENIDATE HCL , RITALIN LA
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
ADDERALL XR , AMPHETAMINE SALT COMBO , FOCALIN XR
ADDERALL XR , AMPHETAMINE SALT COMBO , FOCALIN XR
ADDERALL XR , AMPHETAMINE SALT COMBO , FOCALIN XR
CONCERTA , METHYLIN , METHYLPHENIDATE SR , RITALIN LA , VYVANSE
CONCERTA , METHYLIN , METHYLPHENIDATE SR , RITALIN LA , VYVANSE
CONCERTA , METHYLIN , METHYLPHENIDATE SR , RITALIN LA , VYVANSE
CONCERTA , METHYLIN , METHYLPHENIDATE SR , RITALIN LA , VYVANSE
DAYTRANA , DEXMETHYLPHENIDATE HCL , METHYLIN , METHYLPHENIDATE HCL
DAYTRANA , DEXMETHYLPHENIDATE HCL , METHYLIN , METHYLPHENIDATE HCL
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , METHYLPHENIDATE HCL , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , METHYLPHENIDATE HCL , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , METHYLPHENIDATE HCL , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , METHYLPHENIDATE HCL , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , METHYLPHENIDATE HCL , STRATTERA
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DAYTRANA , METADATE CD , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
CONCERTA , METHYLIN , METHYLPHENIDATE HCL

Consecutive Duplication for Medications used to treat ADD/ADHD ≥ 3 scripts
09/10/2008 - 09/09/2009
Drug Name
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
ADDERALL XR , CONCERTA , STRATTERA
ADDERALL XR , CONCERTA , STRATTERA
ADDERALL XR , CONCERTA , STRATTERA
ADDERALL XR , CONCERTA , STRATTERA
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
METHYLIN , METHYLPHENIDATE HCL , RITALIN LA
METHYLIN , METHYLPHENIDATE HCL , RITALIN LA
METHYLIN , METHYLPHENIDATE HCL , RITALIN LA
METHYLIN , METHYLIN ER , METHYLPHENIDATE HCL , STRATTERA
METHYLIN , METHYLIN ER , METHYLPHENIDATE HCL , STRATTERA
METHYLIN , METHYLIN ER , METHYLPHENIDATE SR , STRATTERA
METHYLIN , METHYLIN ER , METHYLPHENIDATE SR , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , DEXMETHYLPHENIDATE HCL
ADDERALL XR , AMPHETAMINE SALT COMBO , DEXMETHYLPHENIDATE HCL
FOCALIN XR , METHYLPHENIDATE HCL , STRATTERA , VYVANSE
FOCALIN XR , METHYLPHENIDATE HCL , STRATTERA , VYVANSE
FOCALIN XR , METHYLPHENIDATE HCL , STRATTERA , VYVANSE
FOCALIN XR , METHYLPHENIDATE HCL , STRATTERA , VYVANSE
FOCALIN XR , METHYLPHENIDATE HCL , STRATTERA , VYVANSE
CONCERTA , METHYLIN , STRATTERA
CONCERTA , METHYLIN , STRATTERA
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
AMPHETAMINE SALT COMBO , DAYTRANA , FOCALIN XR
AMPHETAMINE SALT COMBO , DAYTRANA , FOCALIN XR
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR

Consecutive Duplication for Medications used to treat ADD/ADHD ≥ 3 scripts
09/10/2008 - 09/09/2009
Drug Name
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , FOCALIN , FOCALIN XR , METHYLIN
CONCERTA , FOCALIN , FOCALIN XR , METHYLIN
ADDERALL XR , AMPHETAMINE SALT COMBO , FOCALIN XR , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , FOCALIN XR , STRATTERA
CONCERTA , METADATE CD , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , DAYTRANA , DEXMETHYLPHENIDATE HCL , FOCALIN , VYVANSE
CONCERTA , DAYTRANA , DEXMETHYLPHENIDATE HCL , FOCALIN , VYVANSE
CONCERTA , DAYTRANA , DEXMETHYLPHENIDATE HCL , FOCALIN , VYVANSE
CONCERTA , DAYTRANA , DEXMETHYLPHENIDATE HCL , FOCALIN , VYVANSE
AMPHETAMINE SALT COMBO , CONCERTA , DEXTROAMPHETAMINE SULFATE , FOCALIN XR , VYVANSE
AMPHETAMINE SALT COMBO , CONCERTA , DEXTROAMPHETAMINE SULFATE , FOCALIN XR , VYVANSE
AMPHETAMINE SALT COMBO , CONCERTA , DEXTROAMPHETAMINE SULFATE , FOCALIN XR , VYVANSE
AMPHETAMINE SALT COMBO , CONCERTA , DEXTROAMPHETAMINE SULFATE , FOCALIN XR , VYVANSE
AMPHETAMINE SALT COMBO , CONCERTA , DEXTROAMPHETAMINE SULFATE , FOCALIN XR , VYVANSE
ADDERALL XR , AMPHETAMINE SALT COMBO , DEXTROAMPHETAMINE SULFATE , METHYLIN
ADDERALL XR , AMPHETAMINE SALT COMBO , DEXTROAMPHETAMINE SULFATE , METHYLIN
ADDERALL XR , AMPHETAMINE SALT COMBO , DEXTROAMPHETAMINE SULFATE , METHYLIN
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXTROAMPHETAMINE SULFATE , STRATTERA , VYVANSE
DEXTROAMPHETAMINE SULFATE , STRATTERA , VYVANSE
DEXTROAMPHETAMINE SULFATE , STRATTERA , VYVANSE
CONCERTA , METHYLIN , STRATTERA
CONCERTA , METHYLIN , STRATTERA
CONCERTA , METHYLIN , STRATTERA
CONCERTA , DAYTRANA , STRATTERA , VYVANSE
CONCERTA , DAYTRANA , STRATTERA , VYVANSE
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR , STRATTERA
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR , STRATTERA
METHYLIN , METHYLIN ER , METHYLPHENIDATE SR

Consecutive Duplication for Medications used to treat ADD/ADHD ≥ 3 scripts
09/10/2008 - 09/09/2009
Drug Name
METHYLIN , METHYLIN ER , METHYLPHENIDATE SR
DEXMETHYLPHENIDATE HCL , FOCALIN XR , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA
AMPHETAMINE SALT COMBO , METHYLIN , VYVANSE
AMPHETAMINE SALT COMBO , METHYLIN , VYVANSE
AMPHETAMINE SALT COMBO , METHYLIN , VYVANSE
AMPHETAMINE SALT COMBO , METHYLIN , VYVANSE
AMPHETAMINE SALT COMBO , METHYLIN , VYVANSE
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
METADATE CD , METHYLIN , METHYLPHENIDATE HCL
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
CONCERTA , METADATE CD , METHYLIN , STRATTERA
AMPHETAMINE SALT COMBO , CONCERTA , FOCALIN XR , STRATTERA
AMPHETAMINE SALT COMBO , CONCERTA , FOCALIN XR , STRATTERA
AMPHETAMINE SALT COMBO , CONCERTA , FOCALIN XR , STRATTERA
AMPHETAMINE SALT COMBO , CONCERTA , FOCALIN XR , STRATTERA
AMPHETAMINE SALT COMBO , METHYLPHENIDATE HCL , VYVANSE
ADDERALL XR , AMPHETAMINE SALT COMBO , VYVANSE
ADDERALL XR , AMPHETAMINE SALT COMBO , VYVANSE
ADDERALL XR , AMPHETAMINE SALT COMBO , VYVANSE
ADDERALL XR , AMPHETAMINE SALT COMBO , VYVANSE
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
CONCERTA , STRATTERA , VYVANSE
METHYLIN , METHYLPHENIDATE HCL , RITALIN LA
METHYLIN , METHYLPHENIDATE HCL , RITALIN LA
FOCALIN , FOCALIN XR , STRATTERA
FOCALIN , FOCALIN XR , STRATTERA

Consecutive Duplication for Medications used to treat ADD/ADHD ≥ 3 scripts
09/10/2008 - 09/09/2009
Drug Name
CONCERTA , METHYLIN , METHYLPHENIDATE HCL , VYVANSE
CONCERTA , METHYLIN , METHYLPHENIDATE HCL , VYVANSE
CONCERTA , METHYLIN , METHYLPHENIDATE HCL , VYVANSE
CONCERTA , METHYLIN , METHYLPHENIDATE HCL , VYVANSE
ADDERALL XR , METHYLIN , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , VYVANSE
ADDERALL XR , AMPHETAMINE SALT COMBO , VYVANSE
ADDERALL XR , AMPHETAMINE SALT COMBO , VYVANSE
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
CONCERTA , METHYLIN , STRATTERA
CONCERTA , METHYLIN , STRATTERA
CONCERTA , DEXTROAMPHETAMINE SULFATE , STRATTERA , VYVANSE
ADDERALL XR , STRATTERA , VYVANSE
ADDERALL XR , STRATTERA , VYVANSE
METHYLIN , METHYLPHENIDATE HCL , RITALIN LA
METHYLIN , METHYLPHENIDATE HCL , RITALIN LA
METHYLIN , METHYLPHENIDATE HCL , RITALIN LA
METHYLIN , METHYLPHENIDATE HCL , RITALIN LA
CONCERTA , STRATTERA , VYVANSE
CONCERTA , STRATTERA , VYVANSE
CONCERTA , STRATTERA , VYVANSE
CONCERTA , STRATTERA , VYVANSE
CONCERTA , STRATTERA , VYVANSE
CONCERTA , METADATE CD , METHYLIN , METHYLPHENIDATE HCL

Consecutive Duplication for Medications used to treat ADD/ADHD ≥ 3 scripts
09/10/2008 - 09/09/2009
Drug Name
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR , STRATTERA
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , STRATTERA
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
CONCERTA , FOCALIN XR , METHYLIN
CONCERTA , FOCALIN XR , METHYLIN
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
CONCERTA , METHYLIN , METHYLPHENIDATE HCL
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , STRATTERA , VYVANSE
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , STRATTERA , VYVANSE
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , STRATTERA , VYVANSE
CONCERTA , DEXTROAMPHETAMINE SULFATE , METHYLIN , METHYLPHENIDATE HCL , VYVANSE
CONCERTA , DEXTROAMPHETAMINE SULFATE , METHYLIN , METHYLPHENIDATE HCL , VYVANSE
ADDERALL XR , CONCERTA , STRATTERA
ADDERALL XR , CONCERTA , STRATTERA
ADDERALL XR , CONCERTA , STRATTERA
ADDERALL XR , CONCERTA , STRATTERA
ADDERALL XR , CONCERTA , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , STRATTERA
ADDERALL XR , AMPHETAMINE SALT COMBO , CONCERTA , STRATTERA
DEXTROAMPHETAMINE SULFATE , STRATTERA , VYVANSE
DEXTROAMPHETAMINE SULFATE , STRATTERA , VYVANSE
CONCERTA , METHYLIN ER , STRATTERA

Consecutive Duplication for Medications used to treat ADD/ADHD ≥ 3 scripts
09/10/2008 - 09/09/2009
Drug Name
METADATE CD , METHYLIN , STRATTERA
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
DEXMETHYLPHENIDATE HCL , FOCALIN , FOCALIN XR
ADDERALL XR , AMPHETAMINE SALT COMBO , STRATTERA , VYVANSE
100 RECIPIENTS, 119 PRESCRIBERS

South Dakota Department of Social Services
Pharmacotherapy Review
Savella®
December 11, 2009

I. Overview

Savella (milnacipran) is a selective serotonin and norepinephrine reuptake inhibitor (SNRI) approved by the FDA on January 14, 2009 for the management of fibromyalgia in adults. Savella is the third drug to be approved for the management of fibromyalgia, joining Lyrica (pregabalin) and Cymbalta (duloxetine).

The American College of Rheumatology (ACR) defines fibromyalgia syndrome (FMS) as chronic widespread pain that lasts for at least three months, plus pain present at least eleven of 18 defined tender points. Fibromyalgia typically develops in early-to-middle adulthood, and is most often experienced by women. The most common symptoms are muscle soreness and tenderness, flu-like aching, dull pain in the muscles, morning stiffness, fatigue and problems sleeping. The prevalence of FMS is 1-2% of the general population resulting in high disease-related costs.

II. Fibromyalgia Treatment Guidelines

A. German Interdisciplinary Association of Pain Therapy: Management of Fibromyalgia Syndrome-An Interdisciplinary Evidence-Based Guideline; 2008.

1. **Step 1 –** Confirmation of diagnosis and patient education. Treatment of physical and mental comorbidities – aerobic exercise, cognitive behavioral therapy, amitriptyline.

2. **Step 2** – Multicomponent treatment – include at least one psychological and one exercise treatment.

3. **Step 3** – No further treatment; self-management (aerobic exercise, stress management); booster multicomponent therapy; pharmacological therapy (duloxetine, fluoxetine, paroxetine, pregabalin, tramadol/acetaminophen); psychotherapy; physical therapy; complementary therapies (homoeopathy or vegetarian diet)
   *Choice of treatment options should be based on informed decision-making and respect of patient's preferences.
   * A continuous pharmacological treatment can only be considered if an ongoing benefit can be detected by regular checks by the patient and physician. A drug holiday after six months of pharmacological treatment is a further option.

B. University of Texas, School of Nursing, Family Nurse Practitioner Program: Pharmacological Treatment Guideline for Fibromyalgia; 2005.

1. **Adequate sleep** – It is proposed that sleep disturbance occurs from a variety of reasons. Some of these reasons include serotonin metabolism in the central nervous system (CNS), resulting in low levels of brain serotonin, low levels of growth hormone secretion, and generalized body pain from the disease process. Tricyclic antidepressants (TCAs) help promote restorative sleep and heighten the effects of the body's natural pain-killing substances (endorphins), and increase non-rapid eye movement (non-REM) stage 4 sleep. Low levels of serotonin and norepinephrine are related to depression, muscle pain, and fatigue. Administering TCAs such as amitriptyline helps correct these deficiencies. Recommended dosing is as follows: Amitriptyline 25-50 mg 2 to 3 hours before bedtime, allowing peak sedative effect with minimal carry-over effect. May increase dosing to 50-75 mg over the next weeks if needed for added control. Cyclobenzaprine can be used as an alternative to amitriptyline because of its structural similarity to TCA compounds. The dosage is 10-30 mg at bedtime (QHS). Benzodiazepines are a second alternative, but should be used cautiously at bedtime due to their tendency to stabilize the erratic brain waves that interfere with restorative sleep in patients with fibromyalgia. (Millea & Holloway, 2000) (Level I, Recommendation A)

2. **Treat fatigue and depression** – If no response with TCAs, consider adding selective serotonin reuptake inhibitor (SSRI) in the morning. Dosing for fluoxetine is 20 mg every morning (QAM). This class of drugs works to block the re-uptake of serotonin, which in turn allows the body to utilize greater amounts of serotonin. The exact mechanism of action for fluoxetine in fibromyalgia syndrome is unknown. Since people with fibromyalgia already have decreased levels of serotonin; it is believed that fluoxetine increases the levels of serotonin to the brain. (Note: One research study completed in 2002 found there is a synergistic effect between fluoxetine and amitriptyline due to the pharmacokinetic interaction between the 2 drugs. Using them together may be more effective for the patient's symptoms than using them alone.) (Arnold et al., 2002) (Level I, Recommendation A)

3. **Treat muscle spasms** – Cyclobenzaprine or low dose benzodiazepines (clonazepam) are used to treat muscle spasms. Cyclobenzaprine also modulates muscle tension at a supraspinal level. Dosing is 10-30 mg every day (QD) or, if greater dosing is needed, divide the doses, with the smaller dose in the morning and the larger dose in the evening (Tofferi, Jackson, & O'Malley, 2004). (Level I, Recommendation A)

4. **Adequate pain control** – The pain component of fibromyalgia is thought to be abnormal CNS processing of pain signals. It is thought that the pain is caused by a complex interaction between neurotransmitter release, external

stressors, patient behavior, hormones, and the CNS system. Tramadol 50-100 mg every 4 to 6 hours is recommended for pain control. Non-steroidal anti-inflammatory agents are not recommended because fibromyalgia is not an anti-inflammatory process. Opioids are not recommended due to adverse side effects and regulatory concerns, and no increased benefit has been noted in research studies (Inanici & Yunus, 2002). (Level I, Recommendation A)

C. American Pain Society (APS): Guideline for the management of fibromyalgia syndrome pain (FMS) in adults and children; Pharmacological Therapies 2004.

1. For initial treatment of FMS, prescribe a tricyclic antidepressant for sleep, in particular 10 to 30 mg amitriptyline or cyclobenzaprine at bedtime. **(A)**

2. Use selective serotonin reuptake inhibitors (SSRIs) such as fluoxetine, alone or in combination with tricyclics, for pain relief. **(B)** The doses of all antidepressants should be individualized and any concurrent mood disturbances treated. **(Panel consensus)**

3. Do not use non-steroidal anti-inflammatory drugs (NSAIDs) as the primary pain medication for people with FMS. **(A)** There is no evidence that NSAIDs are effective when used alone to treat FMS patients. NSAIDs, including COX-2 selective agents and acetaminophen, may provide some analgesia when used with other medications. **(C)**

4. Use tramadol (50 to 100 mg two or three times daily) for pain relief in people with FMS. The dose of tramadol should be increased slowly over time and should be tapered gradually when discontinued. Tramadol can be used alone or in combination with acetaminophen. **(B)**

5. Use opioids for management of FMS pain only after all other pharmacologic and nonpharmacologic therapies have been exhausted. **(Panel consensus)**

6. Use sleep and anti-anxiety medications such as trazodone, benzodiazepines, nonbenzodiazepine sedatives, or L-dopa and carbidopa in FMS, especially if sleep disturbances such as restless leg syndrome are prominent. **(A)**

7. Do not use corticosteroids in the treatment of FMS unless there is concurrent joint, bursa, or tendon inflammation. **(A)**

8. Ask patients about their use of complementary products and practices and have sufficient knowledge of them to be able to answer questions concerning efficacy and identify possible negative interactions with prescribed treatment. **(C)**

III. Pharmacology and Mechanism of Action

The exact mechanism of the central pain inhibitory action of milnacipran and its ability to improve the symptoms of fibromyalgia in humans are unknown. Preclinical studies have shown that milnacipran is a potent inhibitor of neuronal norepinephrine and serotonin reuptake without directly affecting the uptake of dopamine or other neurotransmitters.

IV. Pharmacokinetics

Milnacipran is well absorbed after oral administration with an absolute bioavailability of approximately 85% to 90%. It is excreted predominantly unchanged in urine (55%) and has a terminal elimination half-life of about 6 to 8 hours. Steady-state levels are reached within 36-48 hours. Milnacipran is absorbed following oral administration with maximum concentrations reached within 2 to 4 hours. Absorption is not affected by food. The absolute bioavailability is approximately 85% to 90%. The mean volume of distribution is approximately 400L. Plasma protein binding is 13%.

Milnacipran and its metabolites are eliminated primarily by renal excretion.

V. Warnings/Precautions

1. **Suicidality** – Monitor for worsening depressive symptoms and suicide risk.

2. **Serotonin Syndrome or Neuroleptic Malignant Syndrome (NMS)-Like Reactions** – The development of potentially life-threatening serotonin syndrome or NMS-like reactions have been reported with SNRIs and SSRIs alone, including milnacipran, but particularly with concomitant use of serotonergic drugs (including triptans) with drugs which impair metabolism of serotonin (including MAOIs or with antipsychotics or other dopamine antagonists.

3. **Elevated blood pressure and heart rate** – Cases have been reported with milnacipran. Monitor blood pressure and heart rate prior to initiating treatment with milnacipran and periodically throughout treatment. Pre-existing hypertension, tachyarrhythmias and other cardiovascular disease should be treated before starting therapy.

4. **Seizures** – Cases have been reported with milnacipran therapy. Prescribe milnacipran with care in patients with a history of seizure disorder.

5. **Hepatotoxicity** – More patients treated with milnacipran than with placebo experienced mild elevations of ALT and AST. Rarely, fulminant hepatitis has been reported. Avoid concomitant use of milnacipran with substantial alcohol use or chronic liver disease. Milnacipran should be discontinued in patients who develop jaundice or other evidence of liver dysfunction.

6. **Discontinuation** – Withdrawal symptoms have been reported in patients when discontinuing treatment. Milnacipran should be tapered and not abruptly discontinued after extended use. If intolerable symptoms occur following a decrease in the dose or upon discontinuation of treatment, then resuming the previously prescribed dose may be considered.

7. **Hyponatremia –** Hyponatremia may occur as a result of treatment with SSRIs and SNRIs, including milnacipran. In many cases, this hyponatremia appears to be the result of the syndrome of inappropriate antidiuretic hormone secretion (SIADH). Discontinuation of milnacipran should be considered in patients with symptomatic hyponatremia.

8. **Abnormal Bleeding** – Milnacipran may increase the risk of bleeding events. Caution patients about the risk of bleeding associated with the concomitant use of milnacipran and NSAIDs, aspirin, or other drugs that affect coagulation.

9. **Activation of Mania –** Milnacipran should be used cautiously in patients with a history of mania.

10. **History of Dysuria –** Caution is advised in use of milnacipran in patients with a history of dysuria, notably in male patients with prostatic hypertrophy, prostatitis, and other lower urinary tract obstructive disorders.

11. **Controlled Narrow-Angle Glaucoma** – Milnacipran should be used cautiously in patients with controlled narrow-angle glaucoma. Do not use in patients with uncontrolled narrow-angle glaucoma.

12. **Concomitant Use with Alcohol** – Because it is possible that milnacipran may aggravate pre-existing liver disease, it should not be prescribed to patients with substantial alcohol use or evidence of chronic liver disease.

VI. Drug Interactions

1. **Lithium** – Serotonin syndrome may occur when lithium is co-administered with milnacipran and with other drugs that impair metabolism of serotonin.

2. **Epinephrine and norepinephrine** – Milnacipran inhibits the reuptake of norepinephrine. Concomitant use of milnacipran and epinephrine and norepinephrine may be associated with paroxysmal hypertension and possible arrhythmia.

3. **Serotonergic Drugs** – Co-administration of milnacipran with other inhibitors of serotonin re-uptake may result in hypertension and coronary artery vasoconstriction, through additive serotonergic effects.

4. **Digoxin** – Use of milnacipran concomitantly with digoxin may be associated with potentiation of adverse hemodynamic effects. Postural hypotension and tachycardia have been reported in combination therapy with intravenously administered digoxin. Co-administration should be avoided.

5. **Clonidine** – Because milnacipran inhibits norepinephrine reuptake, co-administration with clonidine may inhibit clonidine's anti-hypertensive effect.

6. **Clomipramine** – In a drug-drug interaction study, an increase in euphoria and postural hypotension was observed in patients who switched from clomipramine to milnacipran.

7. **CNS-active drugs** – Given the primary CNS effects of milnacipran, caution should be used when it is taken in combination with other centrally acting drugs, including those with a similar mechanism of action.

VII. Contraindications

1. **Monoamine Oxidase Inhibitors** – Concomitant use of milnacipran in patients taking monoamine oxidase inhibitors (MAOIs) is contraindicated. In patients receiving a serotonin reuptake inhibitor in combination with a MAOI, there have been reports of serious, sometimes fatal, reactions including hyperthermia, rigidity, myoclonus, autonomic instability with possible rapid fluctuations of vital signs, and mental status changes that include extreme agitation progressing to delirium and coma. Therefore, it is recommended that milnacipran should not be used in combination with an MAOI, or within 14 days of discontinuing treatment with an MAOI. Similarly, at least 5 days should be allowed after stopping milnacipran before starting an MAOI.

2. **Uncontrolled Narrow-Angle Glaucoma** – In clinical trials, milnacipran was associated with increased risk of mydriasis. Therefore, do not use milnacipran in patients with uncontrolled narrow-angle glaucoma.

3. **Tartrazine Sensitivity –** Milnacipran contains FD&C Yellow No.5 (tartrazine), which may cause allergic-type reactions in susceptible patients. Tartrazine sensitivity is frequently seen in patients who also have aspirin hypersensitivity.

VIII. Adverse Reactions

The most frequently occurring adverse reactions (incidence ≥ 5% and greater than placebo) were nausea, headache, constipation, dizziness, insomnia, hot flush, hyperhidrosis, vomiting, palpitations, heart rate increased, dry mouth, and hypertension.

IX. Dosage and Administration

- Administer milnacipran in two divided doses per day
- Begin dosing at 12.5 mg on the first day and increase to 100 mg/day over a 1-week period:
  Day 1: 12.5 mg once
  Day 2-3: 25 mg/day (12.5 mg twice daily)
  Day 4-7: 50 mg/day (25 mg twice daily)
  After Day 7: 100 mg/day (50 mg twice daily)
- Recommended dose is 100 mg/day
- May be increased to 200 mg/day based on individual patient response
- Dose should be adjusted in patients with severe renal impairment by 50% to 50 mg/day

X. Efficacy

The efficacy of milnacipran for the management of fibromyalgia was established in two double-blind, placebo-controlled, multicenter studies in adult patients (18-74 years of age). Patients enrolled in the studies all had a diagnosis of fibromyalgia based on the American College of Rheumatology (ACR) criteria. Approximately 35% of patients had a history of depression.

A larger proportion of patients treated with milnacipran than with placebo experienced a simultaneous reduction in pain from baseline of at least 30% and also rated themselves as much improved or very much improved based on the patient global assessment. Analysis of the studies showed that there were more treatment responders among the less depressed patients than the more depressed patients.

There are no head-to-head trials comparing the efficacy of milnacipran to duloxetine or pregabalin in the treatment of fibromyalgia. All three appear to be modestly effective for the management of fibromyalgia based on their individual clinical trial data.

XI. Conclusion

Current guidelines recommend a low-dose tricyclic antidepressant, cyclobenzaprine, SSRI (alone or in combination with a low-dose tricyclic), and cognitive behavioral therapy as initial treatment for fibromyalgia. For additional management of pain and sleep disturbance, tramadol (alone or in combination with acetaminophen), and sleep medications might be beneficial. Use opioids only after all pharmacologic and nonpharmacologic options have been exhausted.

References:

1. Wolters Kluwer Health, Inc, ed. Drug Facts and Comparisons. St. Louis, MO. 2009
2. New drug: Savella (milnacipran). Pharmacist's Letter/Prescriber's Letter 2009;25(3):250310.
3. Savella® [package insert]. New York, NY: Forest Pharmaceuticals, Inc.; July 2009.
4. Häuser, W, et al. Management of fibromyalgia syndrome-an interdisciplinary evidence-based guideline; 2008. Accessed online www.ncbi.nlm.nig.gov/pmc/articles/PMC2703259; Nov 2009.
5. University of Texas, School of Nursing, Family Nurse Practitioner Program. Fibromyalgia treatment guideline. Austin (TX): University of Texas, School of Nursing; 2005 May.
6. Buckhardt CS, Goldenberg D, et al. Guideline for the management of fibromyalgia syndrome pain in adults and children. Glenview (IL): American Pain Society (APS); 2004.

SOUTH DAKOTA MEDICATIONS USED TO TREAT FIBROMYALGIA UTILIZATION			
09/10/2008 - 09/09/2009			
Label Name	**Rx Num**	**Total Reimb Amt**	**Cost per script**
CYMBALTA 20 MG CAPSULE	58	$9,721.62	$167.61
CYMBALTA 30 MG CAPSULE	848	$119,514.67	$140.94
CYMBALTA 60 MG CAPSULE	2152	$310,863.02	$144.45
LYRICA 100 MG CAPSULE	376	$67,525.06	$179.59
LYRICA 150 MG CAPSULE	319	$53,296.01	$167.07
LYRICA 200 MG CAPSULE	87	$14,944.50	$171.78
LYRICA 225 MG CAPSULE	26	$3,616.68	$139.10
LYRICA 25 MG CAPSULE	31	$4,258.84	$137.38
LYRICA 300 MG CAPSULE	18	$2,379.14	$132.17
LYRICA 50 MG CAPSULE	491	$82,714.15	$168.46
LYRICA 75 MG CAPSULE	581	$92,730.99	$159.61
SAVELLA 100 MG TABLET	4	$494.04	$123.51
SAVELLA 50 MG TABLET	7	$873.48	$124.78
SAVELLA TITRATION PACK	2	$211.48	$105.74
TOTALS	**5000**	**$763,143.68**	**909 RECIPIENTS**
*662 of these recipients have a diagnosis code of 729 'other disorders of soft tissues'			

Medications used to treat Fibromyalgia				
Summary by Age				
Age	Recip Count		Age	Recip Count
13	2		40	28
14	2		41	29
15	10		42	22
16	13		43	16
17	18		44	29
18	10		45	20
19	10		46	30
20	7		47	27
21	9		48	22
22	8		49	15
23	12		50	17
24	19		51	21
25	19		52	20
26	11		53	22
27	18		54	15
28	21		55	15
29	27		56	24
30	17		57	11
31	25		58	17
32	22		59	11
33	22		60	9
34	34		61	11
35	25		62	10
36	20		63	7
37	21		64	8
38	24		65	4
39	22		66	1

South Dakota Department of Social Services
Pharmacotherapy Review
Sancuso®
December 11, 2009

I. Overview

The 5-hydroxytryptamine ($5\text{-}HT_3$) receptor antagonists are the most commonly prescribed medications for chemotherapy-induced nausea and vomiting (CINV) and radiation-induced nausea and vomiting (RINV). These agents are also indicated in the prevention and treatment of postoperative nausea and vomiting (PONV).

Dolasetron, granisetron, ondansetron, alosetron, and palonosetron are the currently approved $5\text{-}HT_3$ antagonists in the United States. All of these agents are used in the prevention and treatment of nausea and vomiting with the exception of alosetron, which is indicated for the treatment of irritable bowel syndrome (IBS).

Sancuso is granisetron delivered via a transdermal patch system for the prevention of nausea and vomiting in patients receiving moderately and/or highly emetogenic chemotherapy regimens of up to 5 consecutive days duration. The granisetron patch achieves a similar exposure to that of a 2 mg oral dose and provides continuous delivery of granisetron over 6 days. The patch may have utility in treating chemotherapy-induced nausea and vomiting where prolonged drug delivery is advantageous.

II. Current Treatment Guidelines

Society for Ambulatory Anesthesia Guidelines for the Management of Postoperative Nausea and Vomiting, 2007

1. Recommended first- and second-line pharmacologic antiemetics for PONV prophylaxis in adults include the $5\text{-}HT_3$ receptor antagonists, steroids, phenothiazines, phenylethylamine, butyrophenones, antihistamines and anticholinergics.
2. These antiemetics are recommended for patients at moderate to severe risk for PONV.
3. PONV prevention is recommended in a subset of patients, but current evidence does not support giving prophylactic antiemetics to all patients who undergo surgical procedures.
4. With more inexpensive generics becoming available, properly conducted studies need to be done to support more universal use of prophylactic antiemetics.

ASPAN'S Evidence-Based Clinical Practice Guideline for the Prevention and/or Management of PONV/PDNV (Postdischarge nausea and vomiting), 2006

1. PONV Prophylaxis Pharmacologic Recommendations* - Dexamethasone (Class I, Level A), 5-HT_3 receptor antagonists (Class I, Level A), H1 receptor blockers (Class I, Level A), Scopolamine patch (Class I, Level A), Droperidol (consider black box warning) (Class IIa, Level A), Neurokinin-1 (NK1) antagonists (Class IIb, Level B)

2. PONV Rescue Recommendations* - 5-HT_3 receptor antagonist (Class I, Level A), H1 receptor blockers (Class I, Level A), droperidol (Class IIa, Level A); late considerations may include (Class IIa, Level C) low dose promethazine, prochlorperazine, or metoclopramide; and NK1 antagonists (Class IIb, Level B).

3. PDNV Recommendations*
   - Administer prophylactic antiemetics in high-risk patients (Class I, Level A)
   - Consider administration of dexamethasone to high-risk patients if not administered pre- or intraoperatively (Level IIa, Class C)
   - Consider scopolamine patch (may be left on for as long as 24 hours (Class IIa, Level C)
   - Rescue treatment may include ondansetron dissolving tablets (Class I, Level C), promethazine suppository or tablets (Class I, Level C)

*based on Stetler and colleagues evidence-rating scale.

III. Pharmacokinetics

Following a 7-day application of Sancuso in 24 healthy subjects, high inter-subject variability in system exposure was observed. Maximal concentration was reached at approximately 48 hours (range: 24-168 hours) following patch application. Mean C_{max} was 5.0 ng/mL and mean AUC was 527 ng-hr/mL.

- Distribution – plasma protein binding is approximately 65%.

- Metabolism – involves N-demethylation and aromatic ring oxidation followed by conjugation.

- Elimination – clearance is predominantly by hepatic metabolism.

- Subpopulations – there is evidence to suggest that female subjects had higher granisetron concentrations than males following patch application. However, no statistically significant difference in clinical efficacy outcome was observed between genders.

IV. Warnings/Precautions

1. Gastrointestinal – the use of granisetron in patients may mask a progressive ileus and/or gastric distention caused by the underlying condition.

2. Skin Reactions – application site reactions reported were generally mild in intensity and did not lead to discontinuation of use. The incidence of reactions was comparable with placebo. If severe reactions, the patch must be removed.

3. Exposure to Sunlight – granisetron may be affected by direct natural or artificial sunlight. Patients must be advised to cover the patch application site if there is a risk of exposure to sunlight throughout the period of wear and for 10 days following its removal because of a potential skin reaction.

V. Drug Interactions

No clinically relevant drug interactions have been reported in clinical studies with Sancuso.

VI. Adverse Reactions

Incidence of Adverse Reactions in Double-Blind, Active Comparator Controlled Studies in Cancer Patients Receiving Chemotherapy (Events ≥ 3% in either group)

Reaction	Sancuso TDS n=404	Oral Granisetron n=406
Constipation	5.4	3.0
Headache	0.7	3.0

VII. Dosage and Administration

The transdermal system (patch) should be applied to clean, dry, intact healthy skin on the upper outer arm a minimum of 24 hours before chemotherapy. The patch may be applied up to a maximum of 48 hours before chemotherapy as appropriate. Remove the patch a minimum of 24 hours after completion of chemotherapy. The patch can be worn for up to 7 days depending on the duration of the chemotherapy regimen.

VIII. Cost Comparisons

Cost of therapy differs significantly between oral doses of the currently available generic 5-HT_3 receptor antagonists and Sancuso. Sancuso 3.1 mg per 24 hours costs approximately $350 dollars a patch. Ondansetron, on the other hand, costs between 2 dollars and 7 dollars per dose, and granisetron costs between 20 dollars and 40 dollars a dose.

IX. Efficacy

The effectiveness of Sancuso in the prevention of chemotherapy-induced nausea and vomiting (CINV) was evaluated in a Phase 3 randomized, parallel group, double-blind, double-dummy study conducted in the U.S. and abroad. The study compared the efficacy, tolerability and safety of Sancuso with that of 2 mg oral granisetron once daily in the prevention of nausea and vomiting in a total of 641 patients receiving multi-day chemotherapy. The patch was applied 24-48 hours before the anticancer drugs were started and continued for 7 days. The 2 mg granisetron were given one hour before cancer chemotherapy on each treatment day. The primary endpoint of the trial was no vomiting and/or retching, no more than mild nausea and no rescue medication. The endpoint was achieved in 60.2% of patients who received the transdermal granisetron and 64.8% of those who received the oral granisetron.

X. Conclusion

Sancuso is a 5-HT_3 receptor antagonist indicated for the prevention of nausea and vomiting in patients receiving moderately and/or highly emetogenic chemotherapy for up to 5 consecutive days. Because of expense and the lack of guidelines suggesting transdermal granisetron as an option for first line therapy, Sancuso represents a suitable alternative for patients unable to take oral medications or patients who have failed therapy with at least one generic 5-HT_3 receptor antagonist.

References:

1. Wolters Kluwer Health, Inc, ed. Drug Facts and Comparisons. St. Louis, MO. 2009
2. Sancuso® [package insert]. Bedminster, NJ: ProStrakan, Inc.; August 2008.
3. Gan, T. Society for Ambulatory Anesthesia Guidelines for the Management of Postoperative Nausea and Vomiting. Anesth Analg 2007;105:1615-28.
4. American Society of PeriAnesthesia Nurses. ASPAN'S Evidence-Based Clinical Practice Guideline for the Prevention and/or Management of PONV/PDNV. Journal of PeriAnesthesia Nursing. Vol 21, No 4(August), 2006; pp 230-250.
5. Comparison of antiemetics. Pharmacist's Letter/Prescriber's Letter 2008;24(11):241104.
6. Ignoffo, Robert. American Society of Health-System Pharmacists, Inc: Current research on PONV/PDNV: Practical implications for today's pharmacist. Am J Health-Syst Pharm. 2009; 66(Suppl 1):S19-24.
7. Howell, J. J Oncol Pharm Pract: Pharmacokinetics of a granisetron transdermal system for the treatment of chemotherapy-induced nausea and vomiting. 2009;Mar20.

SOUTH DAKOTA 5-HT3 RECEPTOR ANTAGONIST UTILIZATION			
09/10/2008 - 09/09/2009			
Label Name	**Rx Num**	**Total Reimb Amt**	**Cost per Script**
ANZEMET 100 MG TABLET	12	$9,017.24	$751.44
GRANISETRON HCL 1 MG TABLET	10	$2,646.70	$264.67
KYTRIL 1 MG TABLET	4	$183.67	$45.92
ONDANSETRON 4 MG/5 ML SOLUTION	251	$27,605.57	$109.98
ONDANSETRON 40 MG/20 ML VIAL	4	$169.78	$42.45
ONDANSETRON HCL 4 MG TABLET	1259	$25,523.36	$20.27
ONDANSETRON HCL 4 MG/2 ML VIAL	26	$379.70	$14.60
ONDANSETRON HCL 8 MG TABLET	858	$26,992.59	$31.46
ONDANSETRON ODT 4 MG TABLET	1207	$15,400.04	$12.76
ONDANSETRON ODT 8 MG TABLET	242	$4,512.97	$18.65
SANCUSO 3.1 MG/24 HR PATCH	5	$3,726.82	$745.36
ZOFRAN 4 MG TABLET	2	$3.70	$1.85
ZOFRAN 4 MG/2 ML VIAL	3	$22.25	$7.42
ZOFRAN 4 MG/5 ML ORAL SOLN	4	$19.75	$4.94
TOTALS	**3887**	**$116,204.14**	**2,248 RECIPIENTS**

5-HT3 Receptor Antagonist Summary by Age				
Age	**Recip Count**		**Age**	**Recip Count**
0	11		44	8
1	105		45	11
2	114		46	6
3	86		47	3
4	64		48	7
5	61		49	16
6	49		50	7
7	42		51	7
8	41		52	8
9	37		53	7
10	35		54	7
11	42		55	6
12	31		56	10
13	41		57	10
14	39		58	9
15	26		59	8
16	54		60	4
17	65		61	5
18	93		62	8
19	77		63	5
20	76		64	7
21	78		65	3
22	95		71	1
23	101			
24	79			
25	67			
26	54			
27	65			
28	42			
29	49			
30	46			
31	34			
32	27			
33	23			
34	20			
35	19			
36	12			
37	13			
38	9			
39	11			
40	22			
41	8			
42	11			
43	11			