DUR Board Meeting
September 7, 2016
Brynhild Haugland Room
State Capitol

North Dakota Medicaid
DUR Board Meeting Agenda
Brynhild Haugland Room
State Capitol
600 East Boulevard Avenue
Bismarck, ND
September 7, 2016
1pm

1. Administrative items
    - Travel vouchers

2. Old business
    - Review and approval of 06/16 meeting minutes
    - Budget update
    - Review top 15 therapeutic categories/top 25 drugs
    - Second review of kits
    - Second review of dipeptidyl peptidase-4 (DPP-4) inhibitors
    - Second review of immunoglobulins
    - Second review of bowel preparation agents
    - Second review of topical agents used to treat plaque psoriasis
    - Second review of platelet aggregation inhibitors
    - Second review of antihyperuricemics
    - Prior authorization/PDL update
    - Cosmetic agents update
    - Sanford update

3. New business
    - Review of Namenda XR
    - Review of dihydroergotamine (injectable and nasal)
    - Review of tetracycline
    - Review of Spiriva Respimat 2.5 mcg
    - Review of ophthalmic corticosteroids (dexamethasone, fluorometholone, prednisolone, difluprednate, loteprednol, rimexolone, triamcinolone)
    - Review of erythropoiesis-stimulating agents (Procrit, Epogen, Aranesp, Mircera)
    - Review narcotic updates and first fill narcotics
    - Zika virus update
    - Criteria recommendations
    - Upcoming meeting date/agenda

4. Closed session for profile review

5. Adjourn

Please remember to silence all cellular phones during the meeting.

Drug Utilization Review (DUR) Meeting Minutes
June 1, 2016

Members Present: Tanya Schmidt, Katie Kram, Wendy Brown, Peter Woodrow, Andrea Honeyman, Jeffrey Hostetter, Carlotta McCleary, Michael Booth, Gaylord Kavlie, Zach Marty

Members Absent: James Carlson, Michael Quast, Laura Schield, Russ Sobotta, Leneika Roehrich

Medicaid Pharmacy Department: Brendan Joyce, Alexi Murphy

W. Brown called the meeting to order at 1:00 p.m. Chair W. Brown asked for a motion to approve the minutes of the March meeting. P. Woodrow moved that the minutes be approved, and M. Booth seconded the motion. Chair W. Brown called for a voice vote to approve the minutes. The motion passed with no audible dissent.

DUR Board new members:
B. Joyce introduced Gaylord Kavlie and Zach Marty, the most recent members appointed to the DUR Board.

Budget update
B. Joyce gave the budget update. The pharmacy budget is currently projected to be $3-4 million under budget, largely due to drug rebates. In fourth quarter 2014, $10.2 million was paid out to pharmacies and $4.9 million was collected in rebates. In first quarter 2015, $11.2 million was paid out to pharmacies and $5.4 million was collected in rebates. In second quarter 2015, $11 million was paid out to pharmacies and $5.5 million was collected in rebates. In third quarter 2015, $7.9 million was paid out to pharmacies and $4.0 million was collected in rebates. In fourth quarter 2015, $10.4 million was paid out to pharmacies and $5.4 million was collected in rebates. In first quarter 2016, $10.6 million was paid out to pharmacies and $5.9 million was collected in rebates. In first quarter 2016 the first supplemental rebates were invoiced. To maximize the prior authorization and PDL programs, the department has added specific messages to the pharmacy claims system that will help pharmacies understand why a claim is rejecting.

Second reviews
A motion and second was made at the March meeting to place Glumetza, naloxone, naltrexone, Edecrin, interleukin-5 antagonist agents, acitretin, lice medications, NK_1 receptor antagonists, and Tirosint on prior authorization. The topics were brought up for a second review. Tommy Begres, representing Adapt Pharma, spoke regarding Narcan nasal spray. Contessa Fincher, representing Teva, spoke regarding Cinqair. Ted Sheedy, representing GSK, spoke regarding Nucala.
There was no public comment on Glumetza, Edecrin, IL-5 antagonist agents, acitretin, NK_1 receptor antagonists, and Tirosint. The motion to place Glumetza, Edecrin, IL-5 antagonist agents, acitretin, NK_1 receptor antagonists, and Tirosint on prior authorization passed with no audible dissent.

There were recommended wording changes on the naloxone rescue medications PA form. The first recommendation was to change "FDA approved indication" to "risk of opioid overdose due to opioid treatment or opioid use disorder." The second recommendation was to change the wording regarding addiction counseling services to "has the patient been referred to addiction counseling services." A motion was made by J. Hostetter to amend the naloxone form. K. Kram seconded. The amendments were passed and the form was approved with no audible dissent.

There were recommended wording changes on the naltrexone PA form. "Patient must have a diagnosis of" was changed to "FDA approved indication is." A motion was made by K. Kram to

amend the naltrexone form. P. Woodrow seconded. The amendment was passed and the form was approved with no audible dissent.

There were recommended wording changes on the lice medications PA form. "Patient must have failed a 30-day trial" was changed to "patient must have failed a 28-day trial (2 applications)." K. Kram made a motion to amend the lice medication form. Z. Marty seconded the motion. The amendment was passed and the form was approved with no audible dissent.

PDL
A. Murphy gave an update on the PDL. The most recent copy of the PDL was included for the Board to review.

Kits review
B. Joyce reviewed kits with the Board. Kits contain one product approved for use by the FDA and mandatory coverage mixed with or containing a non-FDA approved drug. Examples were included in the pack for the Board to review. There was no public comment. J. Hostetter made a motion to place kits on prior authorization. The motion was seconded by P. Woodrow. This topic will be reviewed at the next meeting.

DPP-4 inhibitors and combinations review
B. Joyce reviewed DPP-4 inhibitors and combinations with the Board. A motion was made by J. Hostetter to place DPP-4 inhibitors on prior authorization. The motion was seconded by K. Kram. There was no public comment. This topic will be reviewed at the next meeting.

Immune globulins review
A. Murphy reviewed immune globulins with the Board. A motion was made by K. Kram to place immune globulins on prior authorization. The motion was seconded by P Woodrow. There was no public comment. This topic will be reviewed at the next meeting.

Bowel prep agents review
B. Joyce reviewed bowel prep agents with the Board. A motion was made by K. Kram to place bowel prep agents on prior authorization. P. Woodrow seconded the motion. There was no public comment. This topic will be reviewed at the next meeting.

Topical antipsoriatics review
A. Murphy reviewed topical antipsoriatics with the Board. A motion was made by G. Kavlie to place topical antipsoriatics on prior authorization. P. Woodrow seconded the motion. This topic will be reviewed at the next meeting.

Platelet aggregation inhibitors review
A. Murphy reviewed platelet aggregation inhibitors with the Board. There was no public comment. M. Booth made a motion to place platelet aggregation inhibitors on prior authorization. J. Hostetter seconded the motion. This topic will be reviewed at the next meeting.

Antihyperuricemics review
B. Joyce reviewed antihyperuricemics with the Board. There was no public comment. J. Hostetter made a motion to place antihyperuricemics on prior authorization. K. Kram seconded the motion. This topic will be reviewed at the next meeting.

Criteria recommendations
The recommended RDUR criteria enclosed in the packet were developed from product information provided by the manufacturers and are usually consistent with new indications, new drugs added, new warnings, etc. These proposed criteria will be added to the current set of criteria and will be used in future DUR cycles. T. Schmidt moved to approve the new criteria, and J.

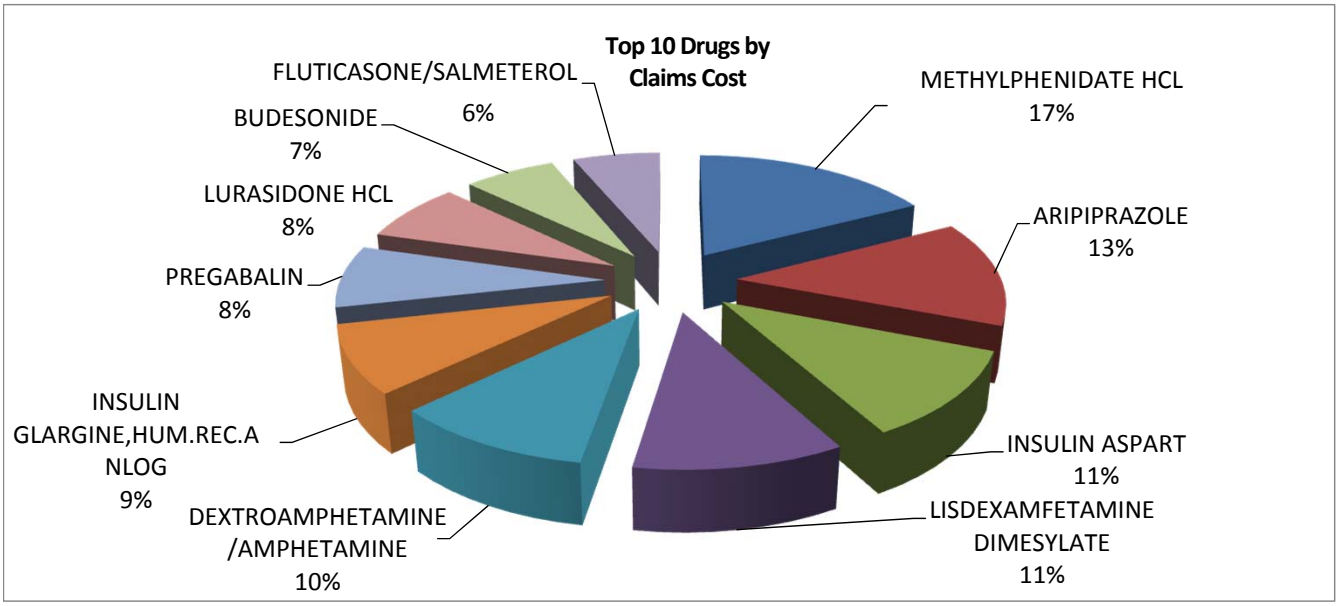
Hostetter seconded the motion. Chair W. Brown called for a voice vote. The motion passed with no audible dissent.

The next DUR Board meeting will be held September 7, 2016 in Bismarck. J. Hostetter made a motion to adjourn the meeting. P. Woodrow seconded. The motion passed with no audible dissent. W. Brown adjourned the meeting.

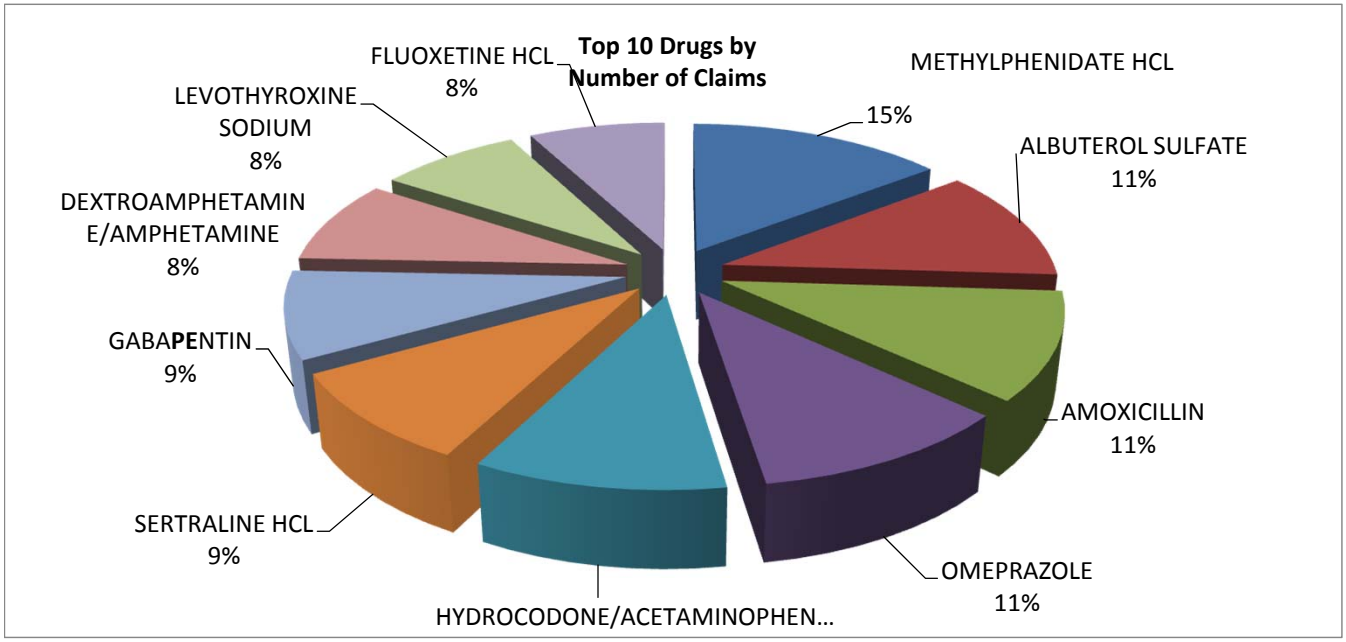
Closed session for profile review

Chair W. Brown called the closed session for profile review to order at 3:10. The Board was updated on the recent RDUR letters that were mailed regarding over-utilization of short-acting beta-agonists. Other topics discussed included patients taking ADHD medications and narcotics concurrently and patients taking antipsychotics. After discussion, W. Brown adjourned the meeting at 3:40.

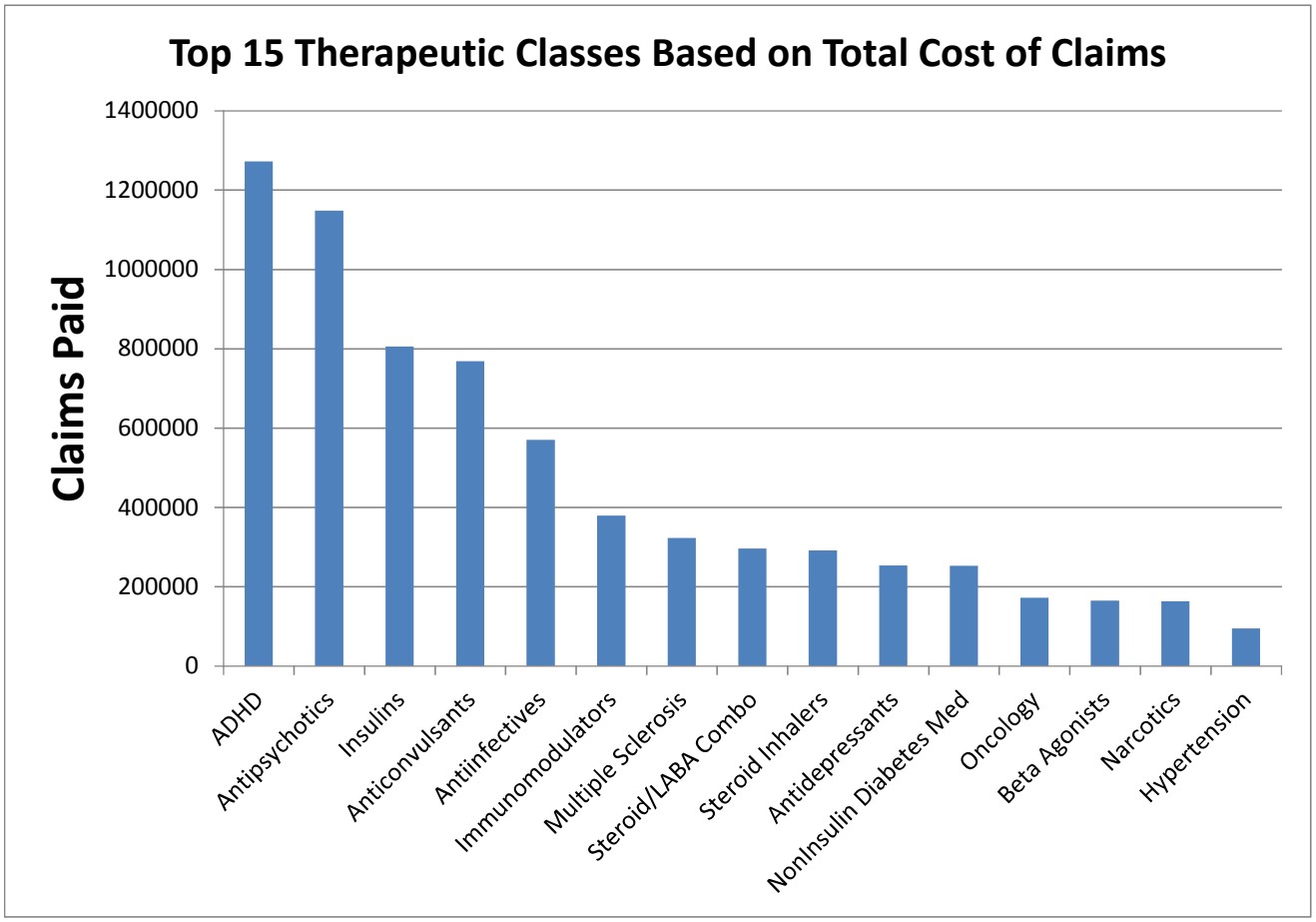
Top 25 Drugs Based on Claims Cost					
04/01/2016 - 06/30/2016					
Drug	**Therapeutic Class**	**RX**	**Paid**	**Paid/Rx**	**% Total Claims**
METHYLPHENIDATE HCL	ADHD	3,551	$491,598.71	$138.44	2.75%
ARIPIPRAZOLE	Antipsychotics	1,145	$385,290.55	$336.50	0.89%
INSULIN ASPART	Insulins	586	$312,950.69	$534.05	0.45%
LISDEXAMFETAMINE DIMESYLATE	ADHD	1,419	$302,718.92	$213.33	1.10%
DEXTROAMPHETAMINE/AMPHETAMINE	ADHD	2,074	$292,784.07	$141.17	1.60%
INSULIN GLARGINE,HUM.REC.ANLOG	Insulins	557	$244,301.32	$438.60	0.43%
PREGABALIN	Anticonvulsants	560	$226,290.86	$404.09	0.43%
LURASIDONE HCL	Antipsychotics	236	$216,115.20	$915.74	0.18%
BUDESONIDE	Steroid Inhalers	441	$187,311.57	$424.74	0.34%
FLUTICASONE/SALMETEROL	Steroid/LABA Combo	522	$178,812.12	$342.55	0.40%
PALIPERIDONE PALMITATE	Antipsychotics	89	$178,293.26	$2,003.30	0.07%
ADALIMUMAB	Immunomodulators	40	$165,009.48	$4,125.24	0.03%
ALBUTEROL SULFATE	Beta Agonists	2,782	$151,562.48	$54.48	2.15%
BLOOD SUGAR DIAGNOSTIC	Other	994	$146,135.54	$147.02	0.77%
INSULIN DETEMIR	Insulins	272	$140,305.92	$515.83	0.21%
QUETIAPINE FUMARATE	Antipsychotics	1,491	$134,239.13	$90.03	1.15%
DEXMETHYLPHENIDATE HCL	ADHD	692	$127,095.11	$183.66	0.54%
VIGABATRIN	Anticonvulsants	8	$126,848.97	$15,856.12	0.01%
GLATIRAMER ACETATE	Multiple Sclerosis	18	$121,085.28	$6,726.96	0.01%
ETANERCEPT	Immunomodulators	32	$105,143.70	$3,285.74	0.02%
TIOTROPIUM BROMIDE	Other	322	$102,459.85	$318.20	0.25%
EPINEPHRINE	Other	158	$89,774.94	$568.20	0.12%
SOMATROPIN	Growth Hormone	34	$83,765.34	$2,463.69	0.03%
LACOSAMIDE	Anticonvulsants	151	$80,591.58	$533.72	0.12%
PALIPERIDONE	Antipsychotics	96	$76,836.17	$800.38	0.07%
TOTAL TOP 25		18,270	$4,667,320.76	$1,662.47	14.14%
Total Rx Claims From 04/01/2016 - 06/30/2016	129,236				



Top 25 Drugs Based on Number of Claims 04/01/2016 - 06/30/2016					
Drug	**Therapeutic Class**	**RX**	**Paid**	**Paid/Rx**	**% Total Claims**
METHYLPHENIDATE HCL	ADHD	3,551	$491,598.71	$138.44	2.75%
ALBUTEROL SULFATE	Beta Agonists	2,782	$151,562.48	$54.48	2.15%
AMOXICILLIN	Antiinfectives	2,642	$28,032.05	$10.61	2.04%
OMEPRAZOLE	Proton Pump Inhibitors	2,613	$28,214.76	$10.80	2.02%
HYDROCODONE/ACETAMINOPHEN	Narcotics	2,467	$36,588.55	$14.83	1.91%
SERTRALINE HCL	Antidepressants	2,231	$20,026.71	$8.98	1.73%
GABAPENTIN	Anticonvulsants	2,148	$34,849.59	$16.22	1.66%
DEXTROAMPHETAMINE/AMPHETAMINE	ADHD	2,074	$292,784.07	$141.17	1.60%
LEVOTHYROXINE SODIUM	Other	1,962	$33,250.42	$16.95	1.52%
FLUOXETINE HCL	Antidepressants	1,893	$13,649.87	$7.21	1.46%
MONTELUKAST SODIUM	Leukotriene Inhibitors	1,864	$31,167.55	$16.72	1.44%
LISINOPRIL	Hypertension	1,769	$12,429.56	$7.03	1.37%
TRAZODONE HCL	Other	1,687	$13,643.28	$8.09	1.31%
METFORMIN HCL	NonInsulin Diabetes Med	1,612	$18,767.23	$11.64	1.25%
ATORVASTATIN CALCIUM	Cholesterol	1,543	$17,482.98	$11.33	1.19%
BUPROPION HCL	Antidepressants	1,520	$30,756.29	$20.23	1.18%
QUETIAPINE FUMARATE	Antipsychotics	1,491	$134,239.13	$90.03	1.15%
CLONIDINE HCL	Other	1,485	$11,650.83	$7.85	1.15%
AZITHROMYCIN	Antiinfectives	1,453	$26,118.45	$17.98	1.12%
LISDEXAMFETAMINE DIMESYLATE	ADHD	1,419	$302,718.92	$213.33	1.10%
ESCITALOPRAM OXALATE	Antidepressants	1,279	$14,091.27	$11.02	0.99%
RISPERIDONE	Antipsychotics	1,272	$15,326.27	$12.05	0.98%
ASPIRIN	Other	1,250	$1,388.28	$1.11	0.97%
AMOXICILLIN/POTASSIUM CLAV	Antiinfectives	1,241	$29,356.81	$23.66	0.96%
CLONAZEPAM	Anticonvulsants	1,225	$9,641.71	$7.87	0.95%
TOTAL TOP 25		46,473	$1,799,335.77	$35.18	35.96%
Total Rx Claims From 04/01/2016 - 06/30/2016	129,236				



Top 15 Therapeutic Classes By Total Cost of Claims				
From 04/01/2016 - 06/30/2016				
Therapeutic Class	**Rx**	**Paid**	**Paid/Rx**	**%Total Claims**
ADHD	8877	1271708.97	143.2588679	0.068688291
Antipsychotics	5746	1148148.59	199.8170188	0.044461296
Insulins	1584	805293.26	508.3922096	0.012256647
Anticonvulsants	9350	768013.55	82.14048663	0.072348262
Antiinfectives	11172	569885.28	51.01013963	0.086446501
Immunomodulators	89	379158.57	4260.208652	0.000688663
Multiple Sclerosis	52	322938.36	6210.353077	0.000402365
Steroid/LABA Combo	936	295906.57	316.1394979	0.007242564
Steroid Inhalers	2708	291609.98	107.6846307	0.020953914
Antidepressants	11906	253703.28	21.3088594	0.092126033
NonInsulin Diabetes Med	2674	252793.26	94.53749439	0.020690829
Oncology	300	172403.24	574.6774667	0.002321335
Beta Agonists	2932	164604.53	56.14069918	0.022687177
Narcotics	6327	163230.16	25.79898214	0.048956947
Hypertension	6320	94911.47	15.01763766	0.048902783
TOTAL Top 15	70973	6954309.07	844.4323813	0.549173605
Total Rx Claims From 04/01/2016 - 06/30/2016	129236			



KITS PA FORM

health information designs

Fax Completed Form to:
855-207-0250
For questions regarding this Prior authorization, call
866-773-0695

Prior Authorization Vendor for ND Medicaid

ND Medicaid requires that patients receiving a new prescription for a kit must:

- **Use the covered product included in the kit as an individual product**

Part I: TO BE COMPLETED BY PHYSICIAN

Recipient Name	Recipient Date of Birth	Recipient Medicaid ID Number	
Prescriber Name			
Prescriber NPI	Telephone Number	Fax Number	
Address	City	State	Zip Code
Requested Drug and Dosage:	**Is the covered medication included in the kit available commercially as an individual product?**		
Prescriber (or Staff) / Pharmacy Signature		Date	

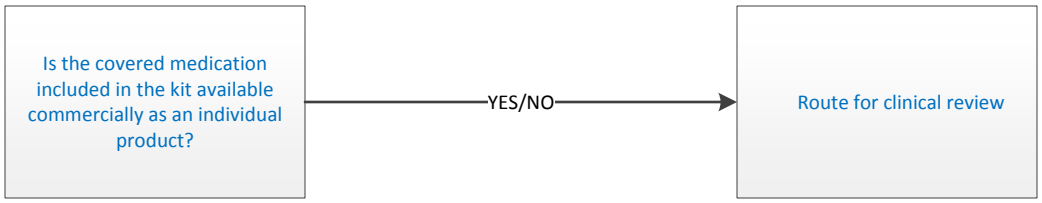
Part II: TO BE COMPLETED BY PHARMACY

PHARMACY NAME:			ND MEDICAID PROVIDER NUMBER:
TELEPHONE NUMBER	FAX NUMBER	DRUG	NDC #

Part III: FOR OFFICIAL USE ONLY

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

North Dakota Department of Human Services
Kits Authorization Algorithm



DPP-4 INHIBITORS PA FORM

health information designs

Fax Completed Form to:
855-207-0250
For questions regarding this Prior authorization, call
866-773-0695

Prior Authorization Vendor for ND Medicaid

ND Medicaid requires that patients receiving a new prescription for a DPP-4 inhibitor:

- **For Kombiglyze XR or Kazano, patient must fail a 30-day trial of both a sitagliptin product (Janumet, Janumet XR, or Januvia) and a linagliptin product (Jentadueto or Tradjenta).**
- **For all other agents, patient must fail a 3-month trial of metformin AND continue taking metformin concurrently AND fail a 30-day trial of both a sitagliptin product (Janumet, Janumet XR, or Januvia) and a linagliptin product (Jentadueto or Tradjenta).**

Part I: TO BE COMPLETED BY PHYSICIAN

Recipient Name	Recipient Date of Birth	Recipient Medicaid ID Number	
Prescriber Name			
Prescriber NPI	Telephone Number	Fax Number	
Address	City	State	Zip Code
Requested Drug and Dosage:	**Has patient taken metformin for 3 months? □ YES □ NO** **Will patient continue therapy with metformin and the requested medication? □ YES □ NO** **Please list all medications patient has tried:**		
Prescriber (or Staff) / Pharmacy Signature		Date	

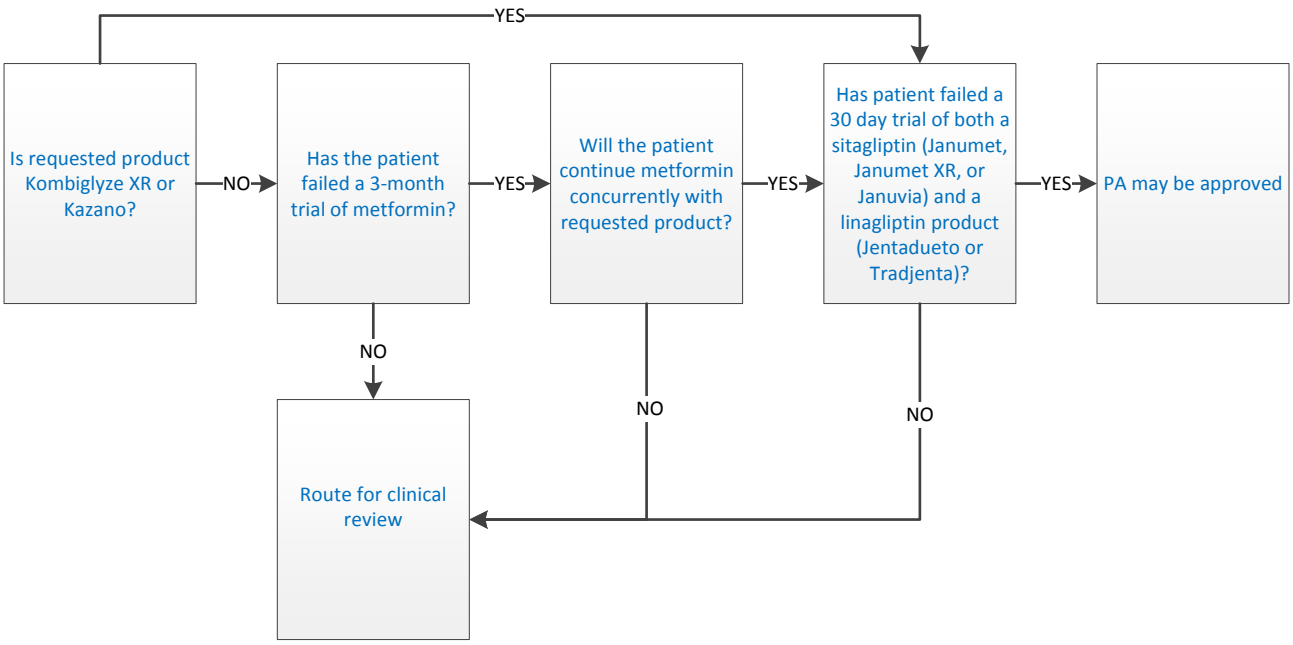
Part II: TO BE COMPLETED BY PHARMACY

PHARMACY NAME:			ND MEDICAID PROVIDER NUMBER:
TELEPHONE NUMBER	FAX NUMBER	DRUG	NDC #

Part III: FOR OFFICIAL USE ONLY

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

North Dakota Department of Human Services
DPP-4 Inhibitors Authorization Algorithm



IMMUNE GLOBULINS PA FORM

health information designs

Fax Completed Form to:
855-207-0250
For questions regarding this Prior authorization, call
866-773-0695

Prior Authorization Vendor for ND Medicaid

ND Medicaid requires that patients receiving a new prescription for an immune globulin must meet the following criteria:

- **If patient's BMI > 30, adjusted body weight must be provided along with the calculated dose.**
- **For Gammagard S/D – patient must be intolerant to IgA.**
- **For Hizentra or Hyqvia – patient must be unable to tolerate IV administration and fail a trial of two of the following: Gamunex-C, Gammaked, or Gammagard.**
- **For all other agents, patient must try and fail two of the following: Gamunex-C, Privigen, or Gammagard.**

Part I: TO BE COMPLETED BY PHYSICIAN

Recipient Name	Recipient Date of Birth	Recipient Medicaid ID Number	
Prescriber Name			
Prescriber NPI	Telephone Number	Fax Number	
Address	City	State	Zip Code
Requested Drug and Dosage: **Indication for this request:**	**Is patient BMI over 30? □ YES □ NO** **If yes, provide adjusted body weight and calculated dose:** **Is patient intolerant to IgA (i.e., treatment of an autoimmune process in a patient with undetectable levels of IgA)? □ YES □NO** **Is patient unable to tolerate IV administration? □ YES □ NO** **Please list all medications patient has tried and failed:**		
Prescriber (or Staff) / Pharmacy Signature		Date	

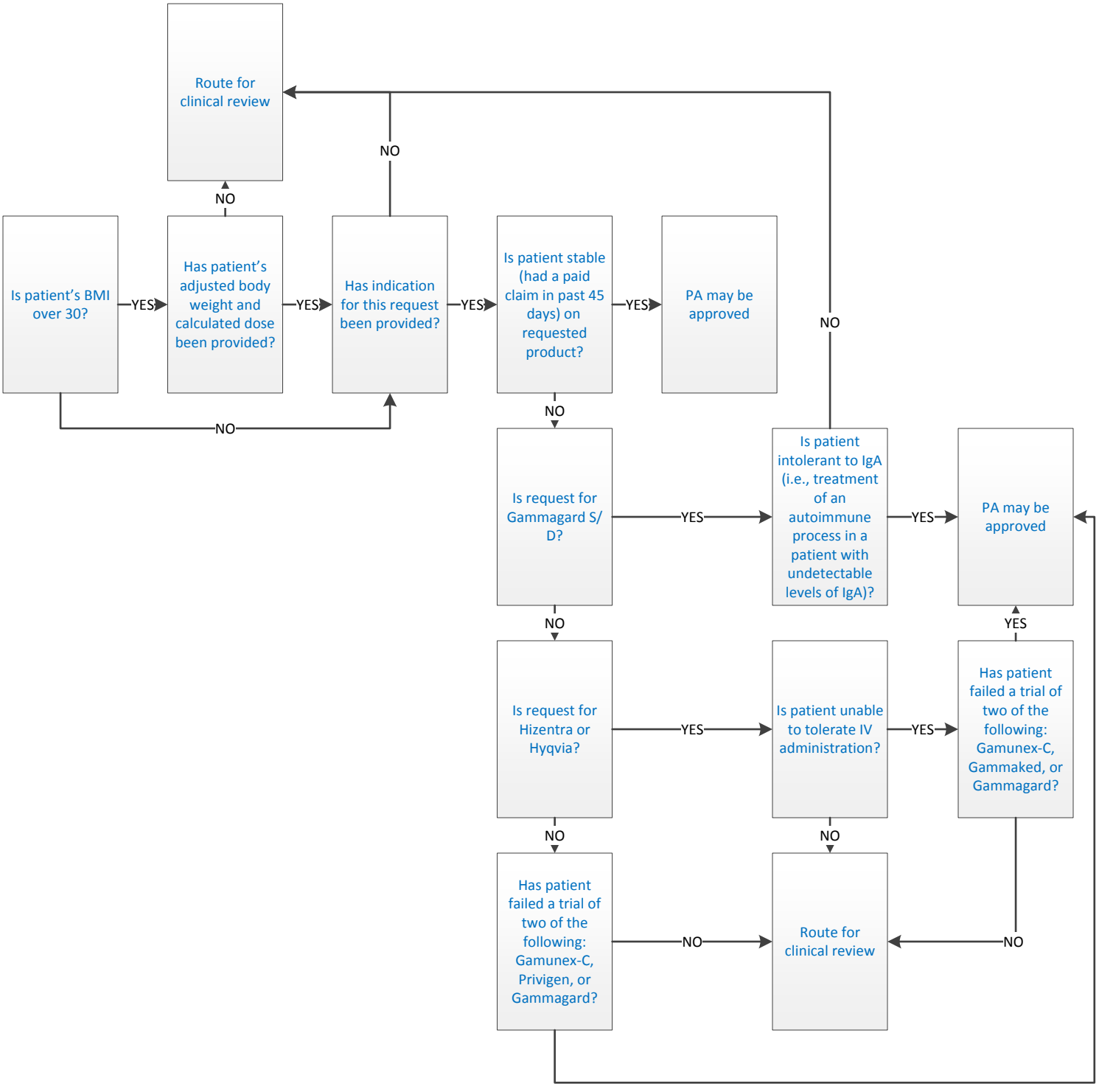
Part II: TO BE COMPLETED BY PHARMACY

PHARMACY NAME:			ND MEDICAID PROVIDER NUMBER:
TELEPHONE NUMBER	FAX NUMBER	DRUG	NDC #

Part III: FOR OFFICIAL USE ONLY

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

North Dakota Department of Human Services
Immune Globulins Authorization Algorithm



BOWEL PREP AGENTS PA FORM

health information designs

Prior Authorization Vendor for ND Medicaid

Fax Completed Form to:
855-207-0250
For questions regarding this Prior authorization, call
866-773-0695

ND Medicaid requires that patients receiving a new prescription for a bowel prep agent must meet the following criteria:

- **Patient must first try Golytely.**

Part I: TO BE COMPLETED BY PHYSICIAN

Recipient Name	Recipient Date of Birth	Recipient Medicaid ID Number	
Prescriber Name			
Prescriber NPI	Telephone Number	Fax Number	
Address	City	State	Zip Code
Requested Drug and Dosage:	**Please list all medications patient has tried and reason Golytely cannot be used:**		
Prescriber (or Staff) / Pharmacy Signature		Date	

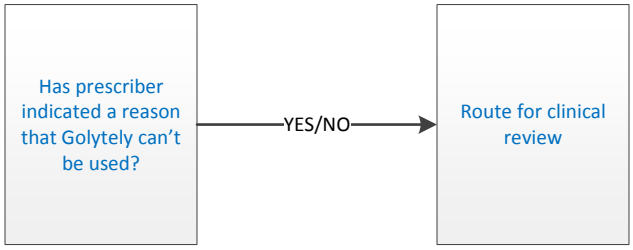
Part II: TO BE COMPLETED BY PHARMACY

PHARMACY NAME:			ND MEDICAID PROVIDER NUMBER:
TELEPHONE NUMBER	FAX NUMBER	DRUG	NDC #

Part III: FOR OFFICIAL USE ONLY

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

North Dakota Department of Human Services
Bowel Prep Agents Authorization Algorithm



TOPICAL ANTIPSORIATICS PA FORM

health information designs

Prior Authorization Vendor for ND Medicaid

Fax Completed Form to:
855-207-0250
For questions regarding this Prior authorization, call
866-773-0695

ND Medicaid requires that patients receiving a new prescription for topical antipsoriatics must meet the following criteria:

- **Calcipotriene cream and foam – Patient must have a 30-day trial of calcipotriene ointment or solution. Calcipotriene/betamethasone foam – Patient must have a 30-day trial of calcipotriene/betamethasone ointment or solution.**

Part I: TO BE COMPLETED BY PHYSICIAN

Recipient Name	Recipient Date of Birth	Recipient Medicaid ID Number	
Prescriber Name			
Prescriber NPI	Telephone Number	Fax Number	
Address	City	State	Zip Code
Requested Drug and Dosage:	**Please list all medications patient has tried:** **Why is the patient unable to use ointment or solution of the requested product?**		
Prescriber (or Staff) / Pharmacy Signature		Date	

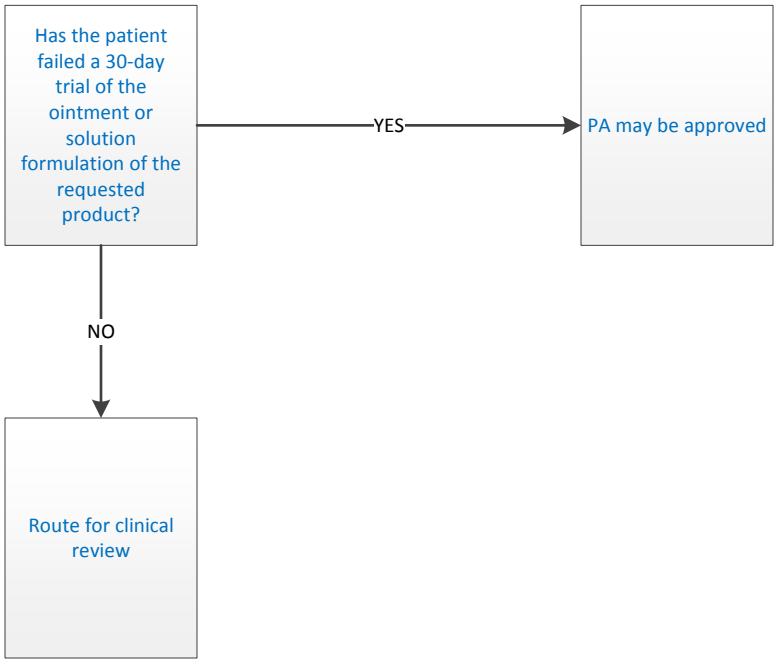
Part II: TO BE COMPLETED BY PHARMACY

PHARMACY NAME:			ND MEDICAID PROVIDER NUMBER:
TELEPHONE NUMBER	FAX NUMBER	DRUG	NDC #

Part III: FOR OFFICIAL USE ONLY

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

North Dakota Department of Human Services
Topical Antipsoriatics Authorization Algorithm



PLATELET AGGREGATION INHIBITORS
PA FORM

health information designs

Prior Authorization Vendor for ND Medicaid

Fax Completed Form to:
855-207-0250
For questions regarding this Prior authorization, call
866-773-0695

ND Medicaid requires that patients receiving a new prescription for platelet aggregation inhibitors must meet the following criteria:

- **Patient must first try at least four of the following: Brilinta, Effient, ticlopidine, dipyridamole, dipyridamole/aspirin, aspirin.**

Part I: TO BE COMPLETED BY PHYSICIAN

Recipient Name	Recipient Date of Birth	Recipient Medicaid ID Number	
Prescriber Name			
Prescriber NPI	Telephone Number	Fax Number	
Address	City	State	Zip Code
Requested Drug and Dosage:	**Please list all medications patient has tried:**		
Prescriber (or Staff) / Pharmacy Signature		Date	

Part II: TO BE COMPLETED BY PHARMACY

PHARMACY NAME:			ND MEDICAID PROVIDER NUMBER:
TELEPHONE NUMBER	FAX NUMBER	DRUG	NDC #

Part III: FOR OFFICIAL USE ONLY

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

PLATELET AGGREGATION INHIBITORS		
Category PA Criteria: A 30-day trial of 4 preferred agents will be required before a non-preferred agent will be authorized.		
aspirin	AGGRENOX (aspirin/dipyridamole)	***Zontivity - Patient must be 18 years of age or older. Zontivity must be taken with aspirin and/or clopidogrel. Patient must not have a history of stroke, transient ischemic attack, or intracranial hemorrhage.
aspirin/dipyridamole ER	DURLAZA (aspirin)	
BRILINTA (ticagrelor)	PERSANTINE (dipyridamole)	
clopidogrel	PLAVIX (clopidogrel)	
dipyridamole	TICLID (ticlopidine)	
EFFIENT (prasugrel)	ZONTIVITY (vorapaxar)	
ticlopidine		

ANTIHYPERURICEMICS PA FORM

health information designs

Prior Authorization Vendor for ND Medicaid

Fax Completed Form to:
855-207-0250
For questions regarding this Prior authorization, call
866-773-0695

ND Medicaid requires that patients receiving a new prescription for antihyperuricemics must meet the following criteria:

- **Patient must first try Mitigare.**

Part I: TO BE COMPLETED BY PHYSICIAN

Recipient Name	Recipient Date of Birth	Recipient Medicaid ID Number	
Prescriber Name			
Prescriber NPI	Telephone Number	Fax Number	
Address	City	State	Zip Code
Requested Drug and Dosage:	**Please list all medications patient has tried:**		
Prescriber (or Staff) / Pharmacy Signature		Date	

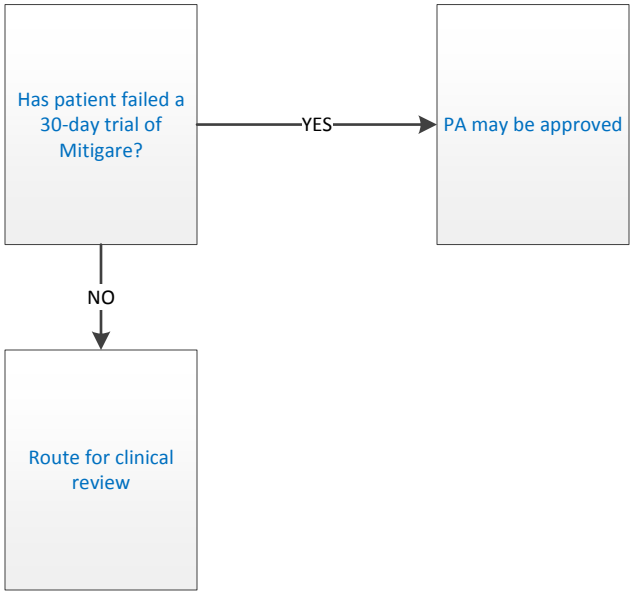
Part II: TO BE COMPLETED BY PHARMACY

PHARMACY NAME:			ND MEDICAID PROVIDER NUMBER:
TELEPHONE NUMBER	FAX NUMBER	DRUG	NDC #

Part III: FOR OFFICIAL USE ONLY

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

North Dakota Department of Human Services
Antihyperuricemics Authorization Algorithm



North Dakota DUR Board Meeting

Prior Authorization/PDL Updates

1. Off of PA:
    a. Nexium Packet
    b. Anoro Ellipta

2. Added to PA:
    a. PDL classes:
        i. Cytokine Modulators: Orencia Clickject
        ii. GLP-1: Victoza
        iii. Hemophilia: Afstyla
        iv. Hepatitis C: Daklinza 90 mg, Epclusa, Viekira XR
        v. MS: Zinbryta
    b. Non-PDL classes:
        i. Hereditary Angioedema: Ruconest
        ii. Over 3000: Migranow, Ocaliva

PRODUCT DETAILS OF NAMENDA XR

INDICATIONS AND USE:
Namenda XR (memantine) is an N-methyl-D-aspartate (NMDA) receptor antagonist indicated for the treatment of moderate to severe dementia of the Alzheimer's type.

DOSAGE AND ADMINISTRATION:

- The recommended starting dose of Namenda XR is 7 mg once daily. The dose should be increased in 7 mg increments, at minimum intervals of one week, to the recommended maintenance dose of 28 mg once daily.
- The recommended maintenance dose for patients with severe renal impairment is 14 mg once daily.

DOSAGE FORM AND STRENGTHS:

- Namenda XR is available as an extended-release capsule in the following strengths: 7 mg, 14 mg, 21 mg, and 28 mg.

WARNINGS AND PRECAUTIONS:

- Conditions that raise urine pH may decrease the urinary elimination of memantine resulting in increased plasma levels.

ADVERSE REACTIONS:
The most common adverse reactions occurring at a frequency of at least 5% and greater than placebo were headache, diarrhea, and dizziness.

UTILIZATION:

ND Medicaid Memantine Utilization			
09/15/14 - 09/14/15			
Label Name	**Rx Num**	**Total Reimb Amt**	**Avg Cost per Script**
MEMANTINE HCL 10 MG TABLET	2	$70.06	$35.03
NAMENDA 10 MG TABLET	32	$4,992.53	$153.83
NAMENDA 5 MG TABLET	7	$1,483.08	$211.87
NAMENDA XR 14 MG CAPSULE	3	$835.65	$278.55
NAMENDA XR 21 MG CAPSULE	4	$1,111.01	$277.75
NAMENDA XR 28 MG CAPSULE	22	$6,548.63	$545.72
NAMENDA XR 7 MG CAPSULE	2	$443.29	$221.65
8 recipients	**72**	**$15,414.25**	

References:

1. Facts & Comparisons eAnswers. Available at http://online.factsandcomparisons.com. Accessed on July 27, 2016.
2. Namenda XR [package insert]. St. Louis, MO: Forest Pharmaceuticals, Inc.; September 2014.

PRODUCT DETAILS OF DIHYDROERGOTAMINE

INDICATIONS AND USE:
Dihydroergotamine mesylate is a 5-HT(1D) receptor agonist used to treat headaches with or without aura. Its clinical efficacy is thought to be related to the activation of 5-HT(1D) receptors found in the intracranial blood vessel and in the arterio-venous anastomoses resulting in vasoconstriction.

Dihydroergotamine mesylate is not intended for the prophylactic therapy of migraine or for the management of hemiplegic or basilar migraine.

DOSAGE AND ADMINISTRATION:

- The recommended dose for cluster headache is 1 mg (1 mL) IM/SC/IV; repeat at 1 hour intervals to 3 mg (2 mg IV) per 24 hour period; MAX 6 mg per week.
- The recommended dose for migraine is 1 mg (1 mL) IM/SC/IV; repeat at 1 hour intervals to 3 mg (2mg IV) per DAY; MAX 6 mg per week; 1 spray (0.5 mg) each nostril, repeat after 15 minutes (total dose of 4 sprays – 2 mg).

DOSAGE FORM AND STRENGTHS:

- Injection solution: 1 mg/mL
- Nasal spray: 4 mg/mL

CONTRAINDICATIONS:

- Coadministration with potent CYP3A4 inhibitors
- Coadministration with central or peripheral vasoconstrictors
- Concomitant use or use within 24 hours of 5-hydroxytryptamine-1 receptor agonists, ergotamine containing or ergot type medications, or methysergide.
- Following vascular surgery
- Hemiplegic or basilar migraine
- Ischemic heart disease or symptoms consistent with coronary artery vasospasm, including Prinzmetal's variant angina
- Nursing mothers
- Peripheral arterial disease
- Pregnancy
- Sepsis
- Severe hepatic impairment
- Severe renal impairment
- Uncontrolled hypertension

WARNINGS AND PRECAUTIONS:

- Black box warning – serious and/or life-threatening peripheral ischemia has been associated with the coadministration of dihydroergotamine with potent CYP3A4 including protease inhibitors and macrolide antibiotics. Because CYP3A4 inhibition elevates the serum levels of dihydroergotamine, the risk for vasospasm leading to cerebral ischemia and/or ischemia of the extremities is increased. Concomitant use of these medications is contraindicated.

ADVERSE REACTIONS:

Serious cardiac reactions, including some that have been fatal, have occurred following use of the parenteral form of dihydroergotamine mesylate but are extremely rare. Events reported have included coronary artery vasospasm, transient myocardial ischemia, myocardial infarction, ventricular tachycardia, and ventricular fibrillation.

Fibrotic complications have been reported in association with long-term use of injectable dihydroergotamine mesylate.

References:

1. Facts & Comparisons eAnswers. Available at http://online.factsandcomparisons.com. Accessed on August 1, 2016.
2. Micromedex Solutions. Available at www.micromedexsolutions.com. Accessed on August 1, 2016.

PRODUCT DETAILS OF TETRACYCLINE

INDICATIONS AND USE:
Tetracycline is approved to treat acne vulgaris; actinomycotic infection when penicillin is contraindicated; Anthrax and syphilis when patient has an allergy to penicillin; amebic infection; bartonellosis; brucellosis; chancroid; chlamydia trachomatis infection; cholera; clostridial infection when penicillin is contraindicated; disease caused by rickettsiae; gonorrhea; granuloma inguinale; helicobacter pylori gastrointestinal infection; inclusion conjunctivitis; infection by Campylobacter fetus; infection of skin; listeriosis; lymphogranuloma venereum; mycoplasma pneumonia; nongonococcal urethritis due to Ureaplasma urealyticum; periodontitis (adjunct); plague; psittacosis; relapsing fever; respiratory tract infection; shigellosis; trachoma; tularemia; urinary tract infection; Vincent's infection; and Yaws.

DOSAGE AND ADMINISTRATION:
- Mild to moderate infections: 500 mg twice daily or 250 mg four times daily.
- Severe infections: 500 mg four times daily.

DOSAGE FORM AND STRENGTHS:
- Capsules: 250 mg and 500 mg

WARNINGS AND PRECAUTIONS:
- Increased BUN
- Intracranial hypertension
- Renal function impairment
- Hepatic function impairment
- Superinfection
- Photosensitivity
- Tooth discoloration during tooth development

ADVERSE REACTIONS:
- Dermatologic – maculopapular and erythematous rashes
- GI – anorexia, epigastric distress, nausea, vomiting, diarrhea
- Hematologic – anemia, hemolytic anemia, thrombocytopenia, thrombocytopenic purpura, neutropenia, and eosinophilia
- Hepatic – hepatic cholestasis
- Hypersensitivity – anaphylaxis; serum sickness-like reactions
- Renal – increases in BUN
- Miscellaneous – dizziness and headache
- Endocrine – brown-black microscopic discoloration of thyroid glands

COST

- Tetracycline 250 mg capsules are approximately $7
- Tetracycline 500 mg capsules are approximately $13.50

References:

1. Facts & Comparisons eAnswers. Available at http://online.factsandcomparisons.com. Accessed on August 1, 2016.
2. Micromedex Solutions. Available at www.micromedexsolutions.com. Accessed on August 1, 2016.

PRODUCT DETAILS OF SPIRIVA RESPIMAT

INDICATIONS AND USE:
Spiriva Respimat is an anticholinergic indicated for:

- The long-term, once-daily maintenance treatment of bronchospasm associated with chronic obstructive pulmonary disease (COPD), and for reducing COPD exacerbations.
- The long-term, once-daily maintenance treatment of asthma in patients 12 years of age and older.

DOSAGE AND ADMINISTRATION:

- COPD – 2 inhalations Spiriva Respimat 2.5 mcg once daily.
- Asthma – 2 inhalations of Spiriva Respimat 1.25 mcg once daily.

DOSAGE FORM AND STRENGTHS:

- Inhalation spray: 1.25 mcg or 2.5 mcg tiotropium per actuation

WARNINGS AND PRECAUTIONS:

- Not for acute use
- Immediate hypersensitivity reactions
- Paradoxical bronchospasm
- Worsening of narrow-angle glaucoma
- Worsening of urinary retention

ADVERSE REACTIONS:

- COPD – pharyngitis, cough, dry mouth, and sinusitis.
- Asthma – pharyngitis, sinusitis, bronchitis, and headache in adults.

DRUG INTERACTIONS:
May interact additively with concomitantly used anticholinergic medications. Avoid use with other anticholinergic-containing drugs.

COST:
The average cost per script of Spiriva Respimat is $337.20.

References:

1. Facts & Comparisons eAnswers. Available at http://online.factsandcomparisons.com. Accessed on August 1, 2016.
2. Micromedex Solutions. Available at www.micromedexsolutions.com. Accessed on August 1, 2016.
3. Spiriva Respimat [package insert]. Ridgefield, CT: Boehringer Ingelheim Pharmaceuticals, Inc.; June 2016.

PRODUCT DETAILS OF OPHTHALMIC CORTICOSTEROIDS

INDICATIONS AND USE:

Ophthalmic corticosteroids inhibit the inflammatory response by controlling the biosynthesis of potent mediators of inflammation. Corticosteroids inhibit fibrin disposition, leukocyte migration, capillary proliferation, fibroblast proliferation, deposition of collagen, edema, and scar formation.

MEDICATIONS INCLUDED:

Drug Name	How Supplied
Dexamethasone	Dexamethasone 0.1% (solution, suspension)
Difluprednate	Durezol 0.05% (emulsion)
Fluorometholone	Fluorometholone 0.1%, 0.25% (suspension, ointment)
Loteprednol	Alrex 0.2% suspension, Lotemax 0.5% (suspension, ointment, gel)
Prednisolone	Prednisolone 1%, 0.12% (suspension, solution)
Rimexolone	Vexol 1% (suspension)
Triamcinolone	Triesence 40 mg/mL (suspension)

SUMMARY OF INDICATIONS:

Indication	Dexamethasone	Difluprednate	Fluorometholone	Loteprednol	Prednisolone	Rimexolone	Triamcinolone
Anterior uveitis		√				√	
Corneal injury	√				√		
Ophthalmic inflammatory conditions							√
Otic inflammatory conditions	√						
Inflammatory conditions of the palpebral and bulbar conjunctiva, cornea, and anterior segment of the globe	√		√	√	√		
Postoperative inflammation and pain following ocular surgery		√		√		√	
Seasonal allergic conjunctivitis				√			
Sympathetic ophthalmia							√
Temporal arteritis							√
Uveitis							√
Vitrectomy							√

References:

1. Facts & Comparisons eAnswers. Available at http://online.factsandcomparisons.com. Accessed on August 1, 2016.
2. Micromedex Solutions. Available at www.micromedexsolutions.com. Accessed on August 1, 2016.

PRODUCT DETAILS OF ERYTHROPOIESIS-STIMULATING AGENTS

INDICATIONS AND USE:

Procrit/Epogen:

- Treatment of anemia due to chronic kidney disease, zidovudine in HIV-infected patients, concomitant myelosuppressive chemotherapy when there is an additional two months of planned chemotherapy.
- Reduction of allogeneic RBC transfusions in patients undergoing elective, noncardiac, nonvascular surgery.

Aranesp:

- Treatment of anemia associated with chronic kidney disease.
- The effects of concomitant myelosuppressive chemotherapy, and upon initiation, there is a minimum of two additional months of planned chemotherapy.

Mircera:

- Treatment of anemia associated with chronic kidney disease.

DOSAGE AND ADMINISTRATION:

Procrit/Epogen:

- CKD patients – initial dose 50 to 100 units/kg 3 times weekly. Individualize maintenance dose.
- Zidovudine-treated HIV-infected patients – 100 units/kg 3 times weekly.
- Cancer patients on chemotherapy – 40,000 units weekly or 150 units/kg 3 times weekly.
- Surgery patients – 300 units/kg per day daily for 15 days or 600 units/kg weekly.

Aranesp:

- CKD patients on dialysis – 0.45 mcg/kg weekly or 0.75 mcg/kg every 2 weeks.
- CKD patients not on dialysis – 0.45 mcg/kg at 4 week intervals.
- Cancer patients on chemotherapy – 2.25 mcg/kg weekly or 500 mcg every 3 weeks.

Mircera:

- CKD patients – 0.6 mcg/kg once every 2 weeks.

DOSAGE FORM AND STRENGTHS:

- Procrit – single dose vial 2000, 3000, 4000, 10,000, and 40,000 units/1 mL; multi-dose vial 20,000 units/2 mL and 20,000 units/1 mL.
- Epogen - single dose vial 2000, 3000, 4000, 10,000 units/1 mL; multi-dose vial 20,000 units/2 mL and 20,000 units/1 mL.
- Aranesp – single dose vial 25 mcg, 40 mcg, 60 mcg, 100 mcg, 200 mcg, 300 mcg, and 500 mcg/1 mL, and 150 mcg/0.75 mL. Single dose prefilled syringes 10

mcg/0.4 mL, 25 mcg/0.42 mL, 40 mcg/0.4 mL, 60 mcg/0.3 mL, 100 mcg/0.5 mL, 150 mcg/0.3 mL, 200 mcg/0.4 mL, 300 mcg/0.6 mL, and 500 mcg/1 mL.
- Mircera – 50 mcg/0.3 mL, 75 mcg/0.3 mL, 100 mcg/0.3 mL, 200 mcg/0.3 mL.

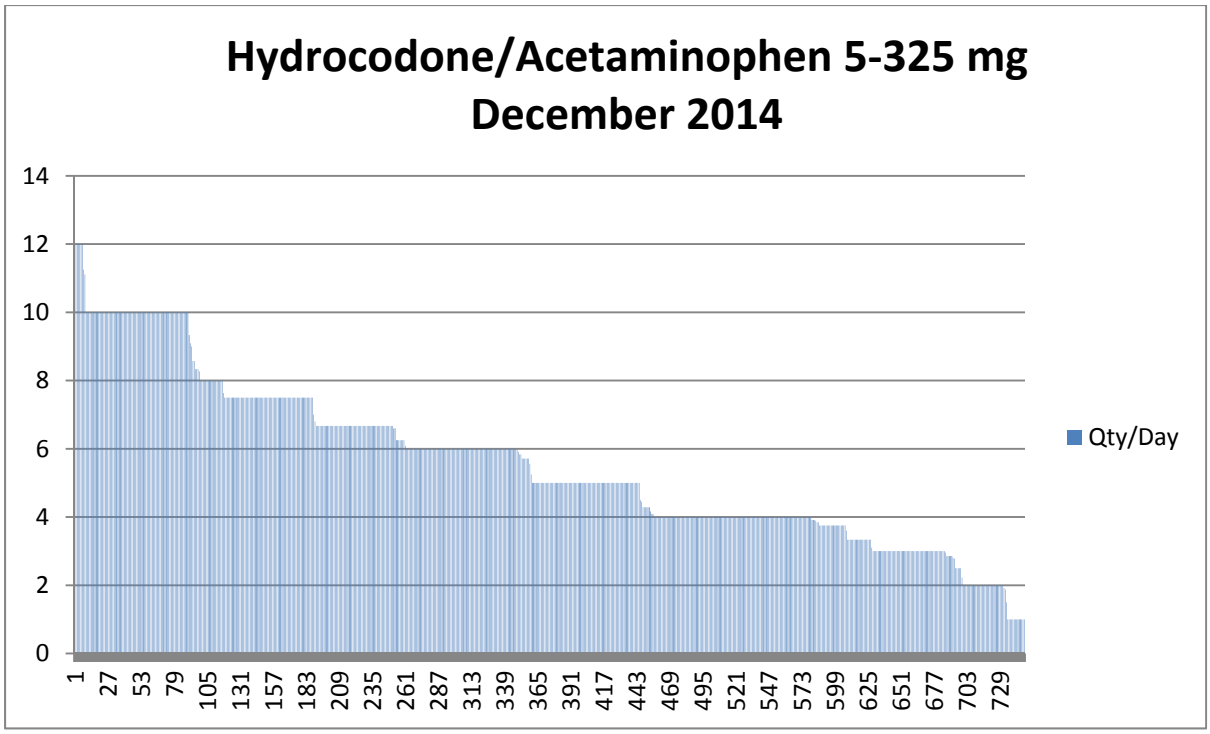
CONTRAINDICATIONS:
- Uncontrolled hypertension
- Pure red cell aplasia that begins after treatment
- Use of the multi-dose vials in neonates, infants, pregnant women, and nursing mothers

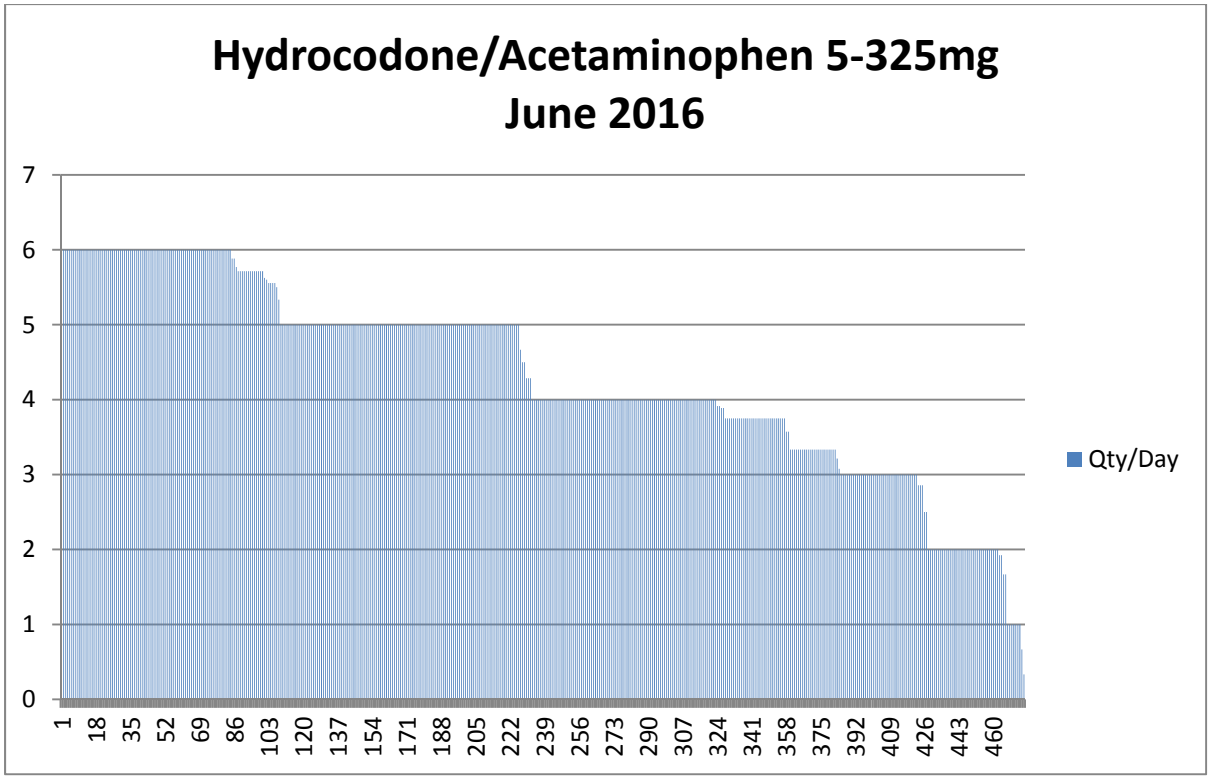
WARNINGS AND PRECAUTIONS:
- Increased mortality, MI, stroke, and thromboembolism
- Increased mortality and/or increased risk of tumor progression or recurrence in patients with cancer
- Hypertension
- Seizures
- PRCA

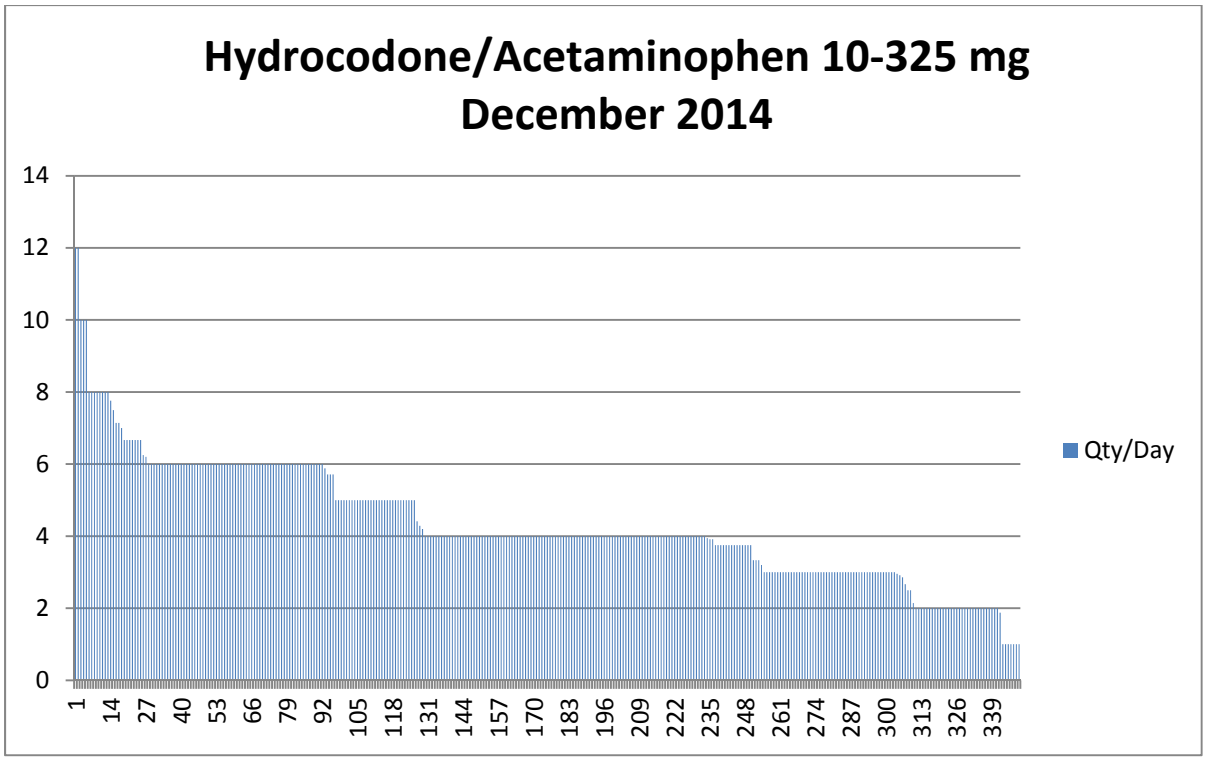
ADVERSE REACTIONS:
Hypertension, arthralgia, muscle spasm, pyrexia, dizziness, medical device malfunction, vascular occlusion, upper respiratory tract infection, cough, rash, injection site irritation, nausea, vomiting, myalgia, pruritus, headache, deep vein thrombosis, dyspnea, peripheral edema.

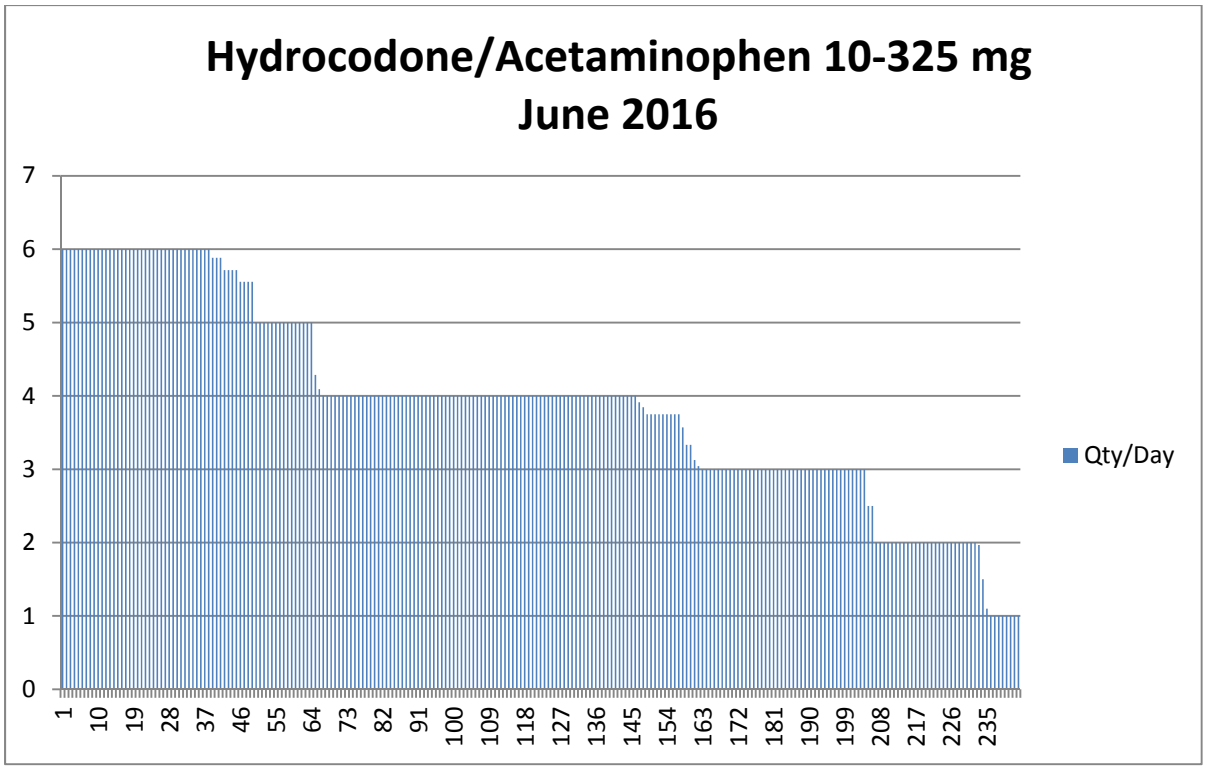
References:

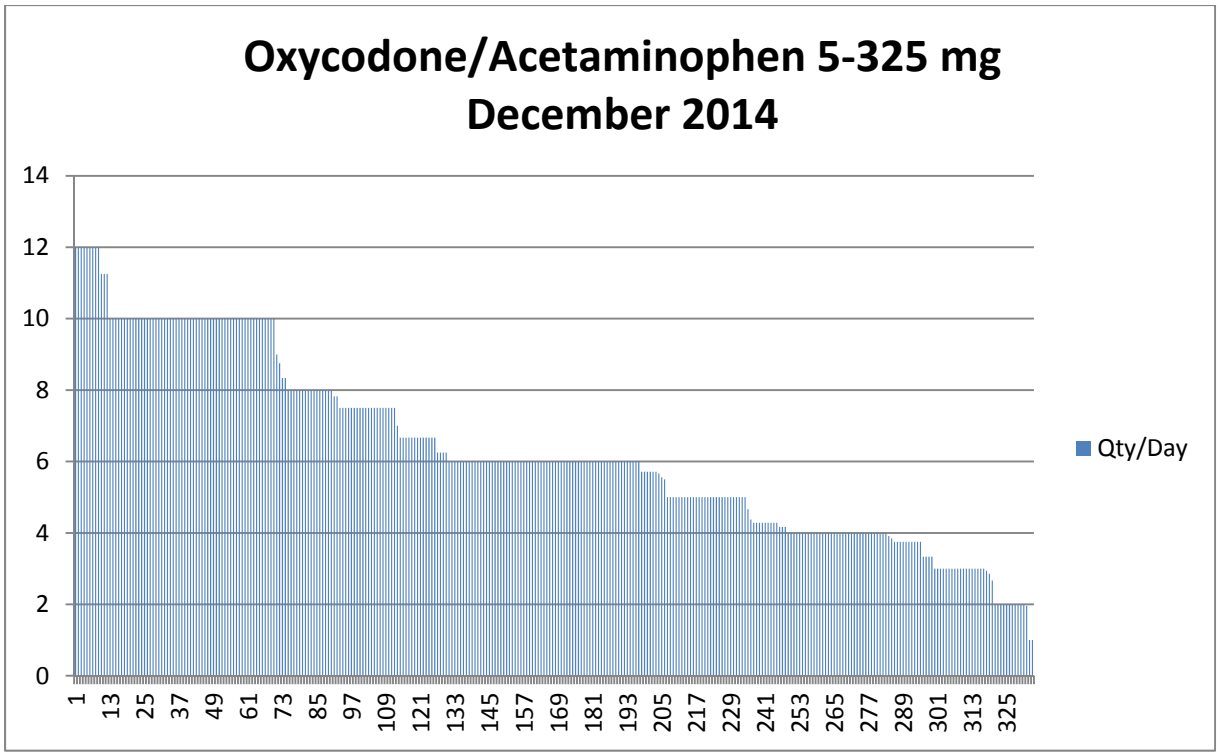
1. Facts & Comparisons eAnswers. Available at http://online.factsandcomparisons.com. Accessed on August 1, 2016.
2. Micromedex Solutions. Available at www.micromedexsolutions.com. Accessed on August 1, 2016.

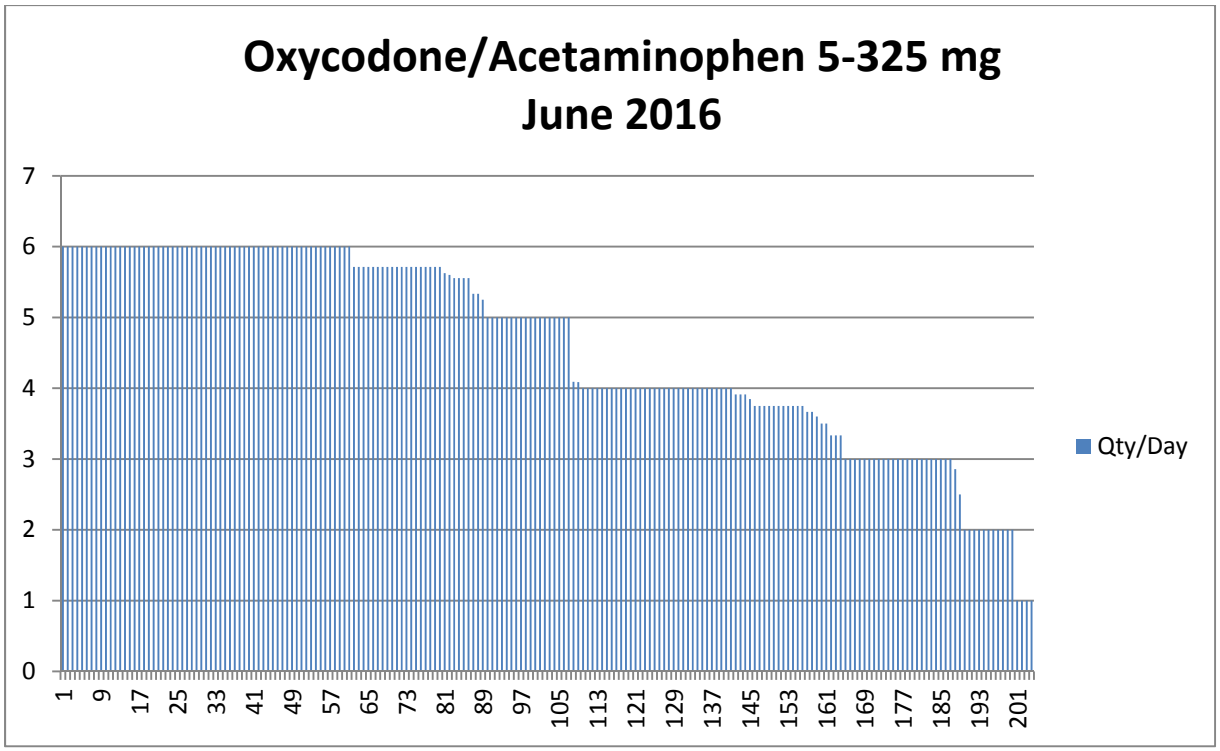

Hydrocodone/Acetaminophen 5-325 mg
December 2014
14
12
10
8
6
4
2
0
1
27
53
79
105
131
157
183
209
235
261
287
313
339
365
391
417
443
469
495
521
547
573
599
625
651
677
703
729
Qty/Day

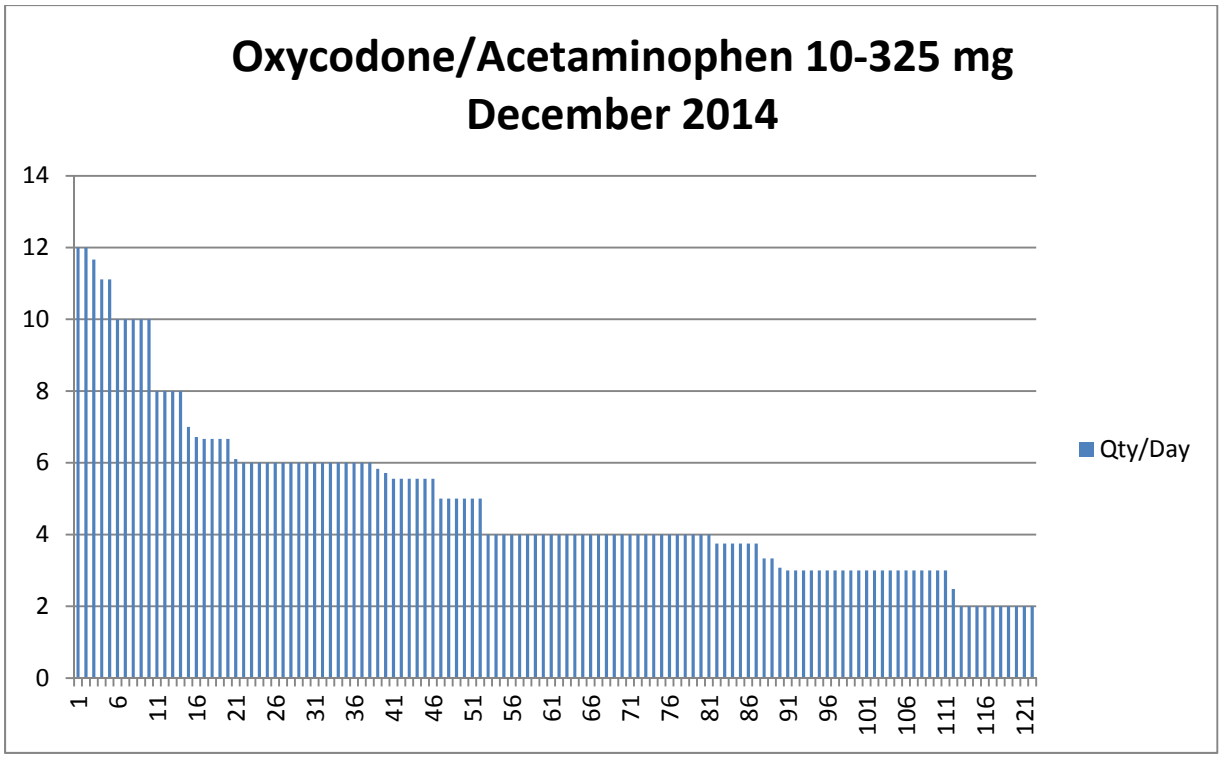

Hydrocodone/Acetaminophen 5-325mg
June 2016
7
6
5
4
3
2
1
0
1
18
35
52
69
86
103
120
137
154
171
188
205
222
239
256
273
290
307
324
341
358
375
392
409
426
443
460
Qty/Day

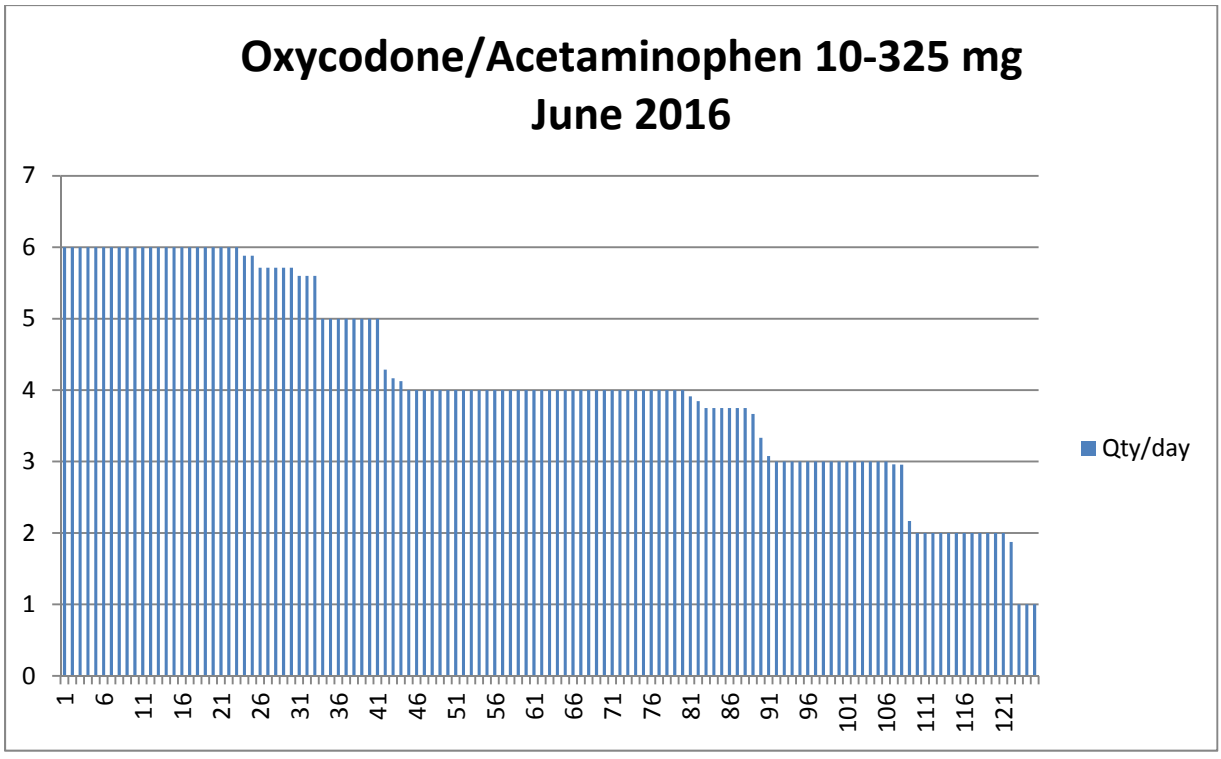

Hydrocodone/Acetaminophen 10-325 mg
December 2014
14
12
10
8
6
4
2
0
1
14
27
40
53
66
79
92
105
118
131
144
157
170
183
196
209
222
235
248
261
274
287
300
313
326
339
Qty/Day

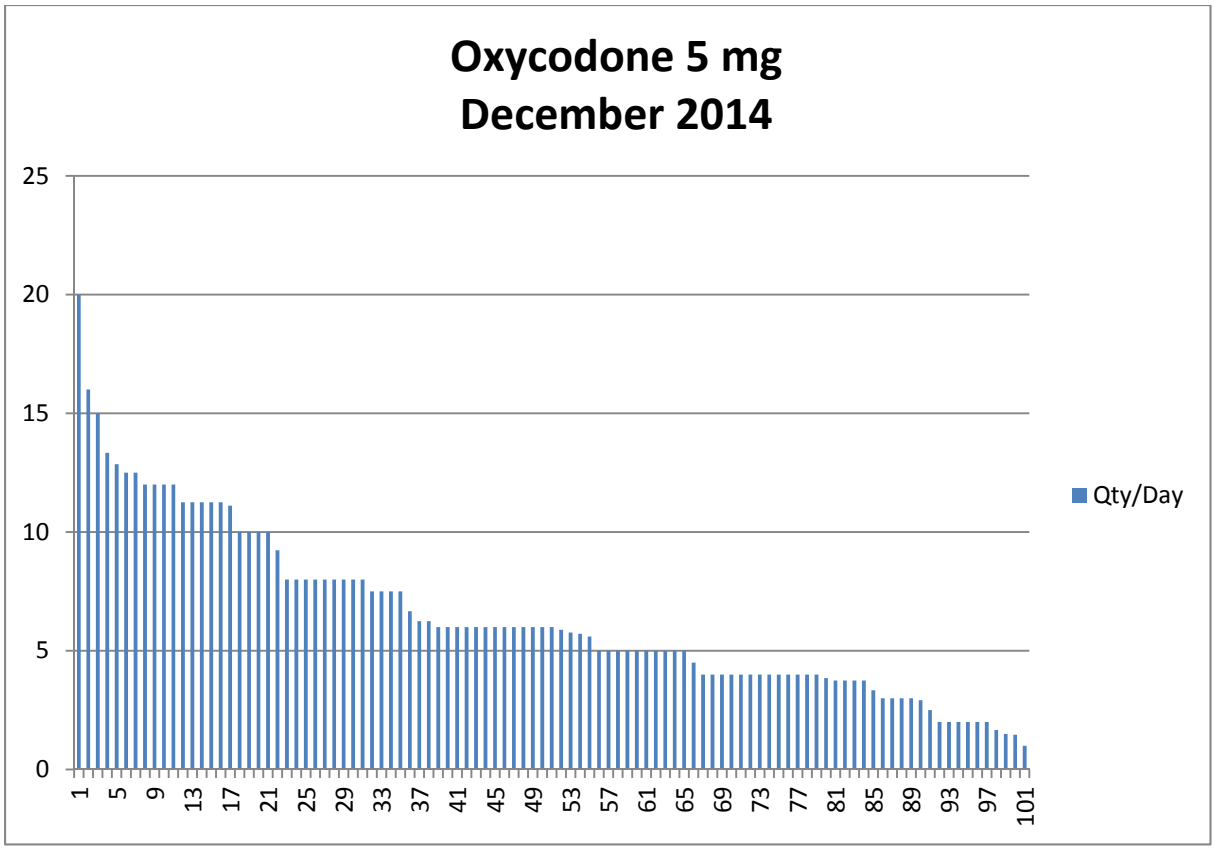

Hydrocodone/Acetaminophen 10-325 mg
June 2016
7
6
5
4
3
2
1
0
1
10
19
28
37
46
55
64
73
82
91
100
109
118
127
136
145
154
163
172
181
190
199
208
217
226
235
Qty/Day

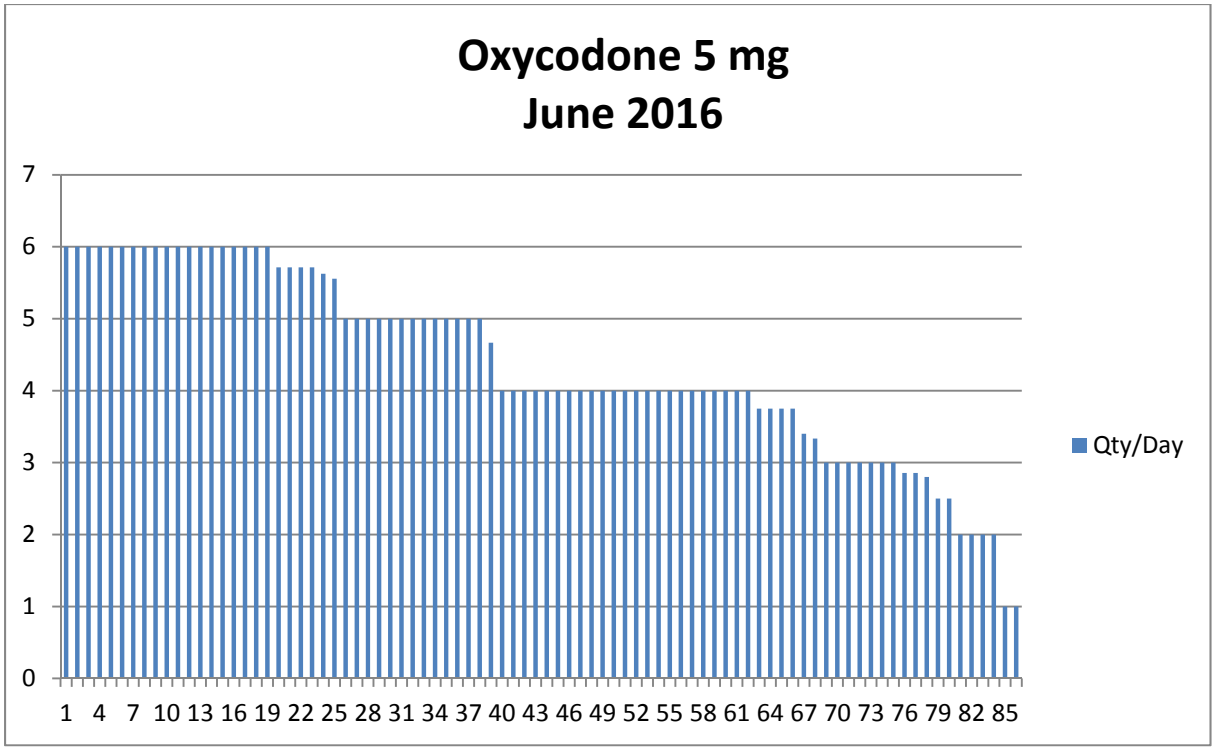

Oxycodone/Acetaminophen 5-325 mg
December 2014
14
12
10
8
6
4
2
0
1
13
25
37
49
61
73
85
97
109
121
133
145
157
169
181
193
205
217
229
241
253
265
277
289
301
313
325
Qty/Day

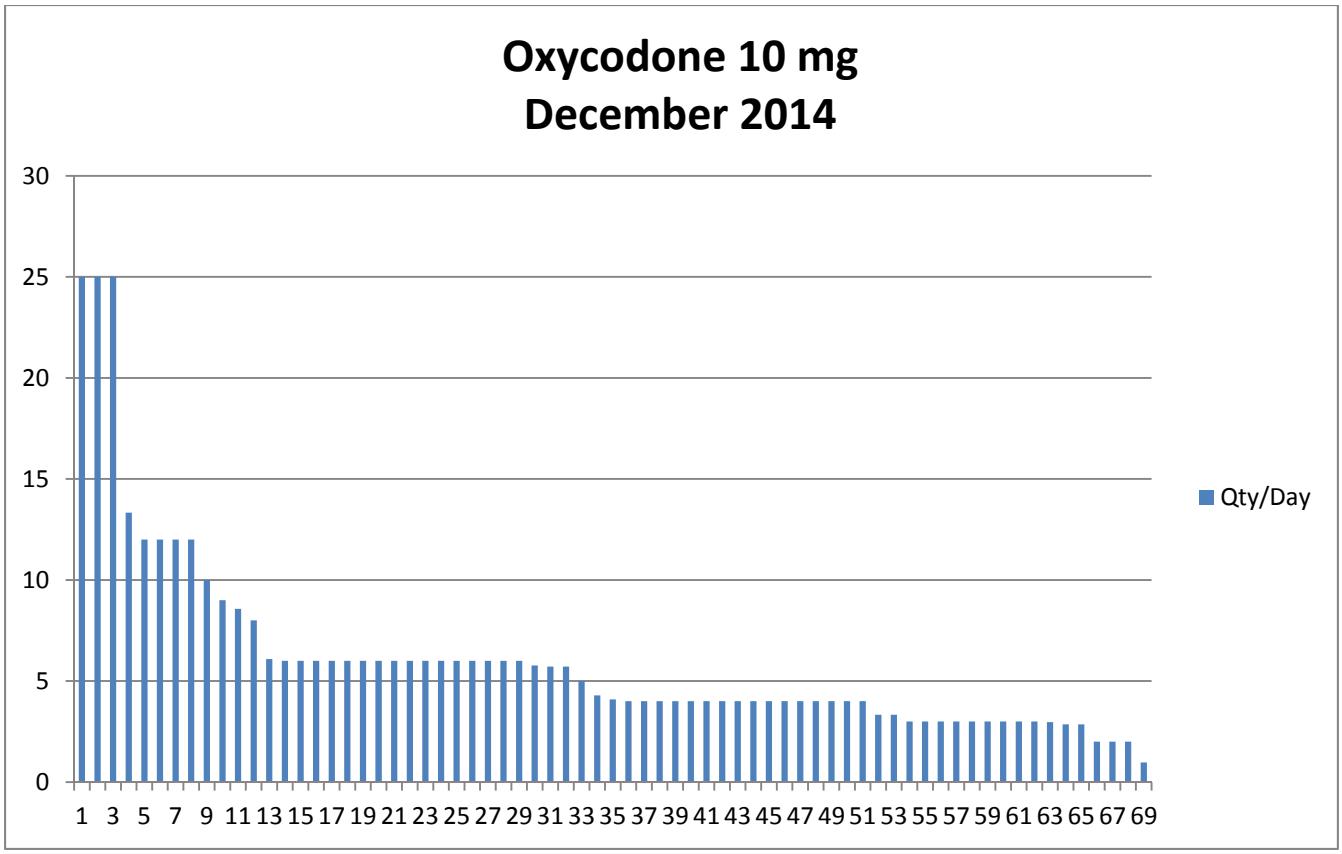

Oxycodone/Acetaminophen 5-325 mg
June 2016
7
6
5
4
3
2
1
0
1
9
17
25
33
41
49
57
65
73
81
89
97
105
113
121
129
137
145
153
161
169
177
185
193
201
Qty/Day

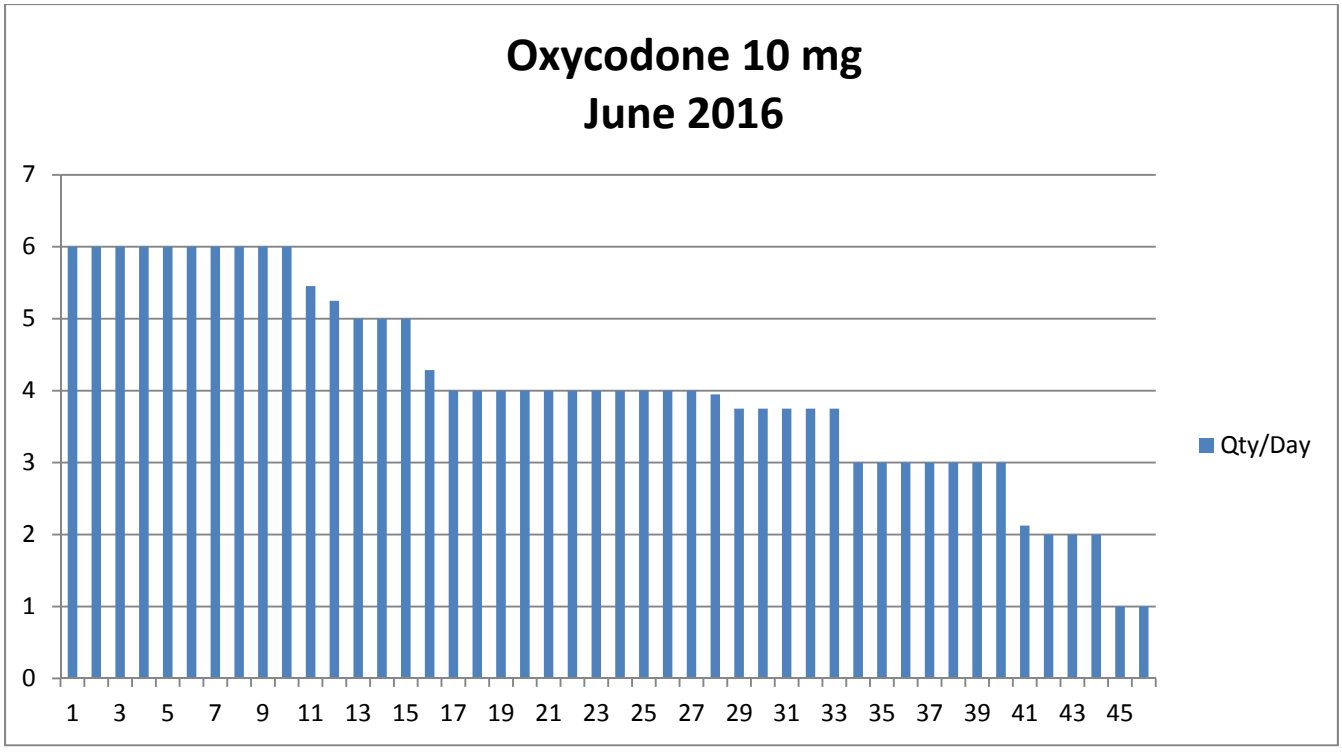

Oxycodone/Acetaminophen 10-325 mg
December 2014
14
12
10
8
6
4
2
0
1
6
11
16
21
26
31
36
41
46
51
56
61
66
71
76
81
86
91
96
101
106
111
116
121
Qty/Day

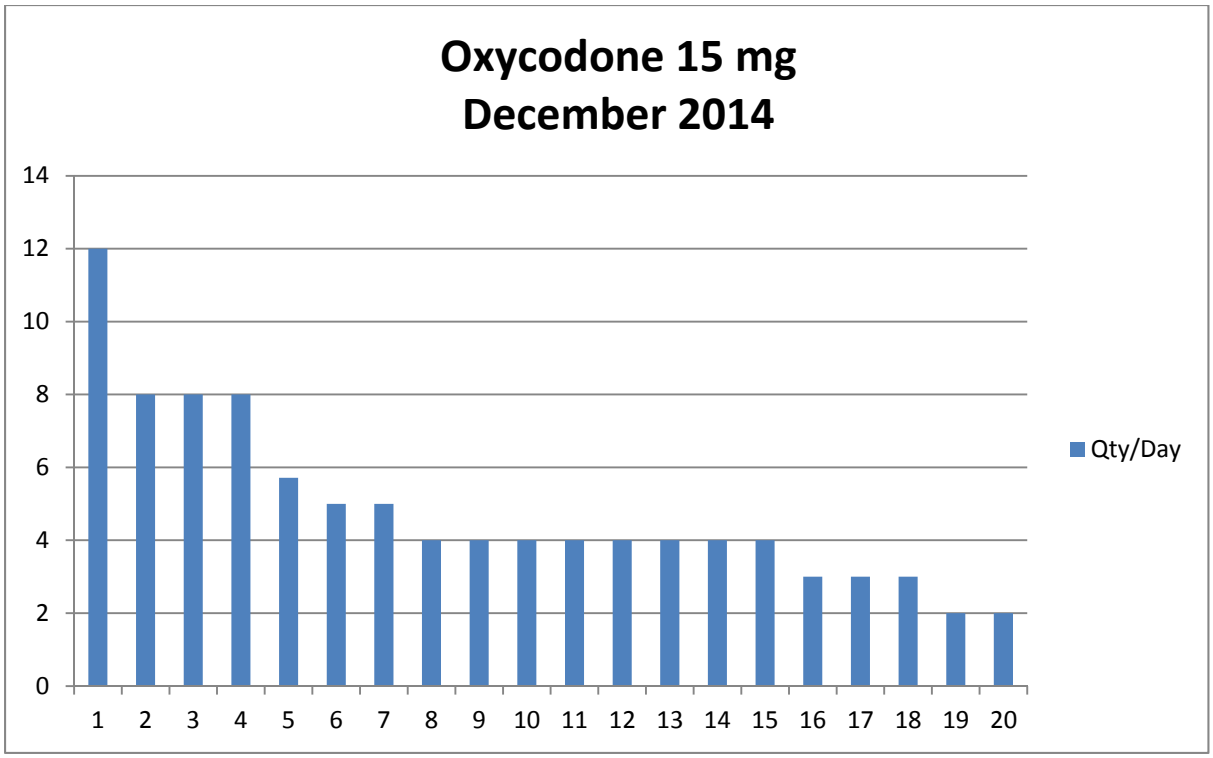

Oxycodone/Acetaminophen 10-325 mg
June 2016
7
6
5
4
3
2
1
0
1
6
11
16
21
26
31
36
41
46
51
56
61
66
71
76
81
86
91
96
101
106
111
116
121
Qty/day

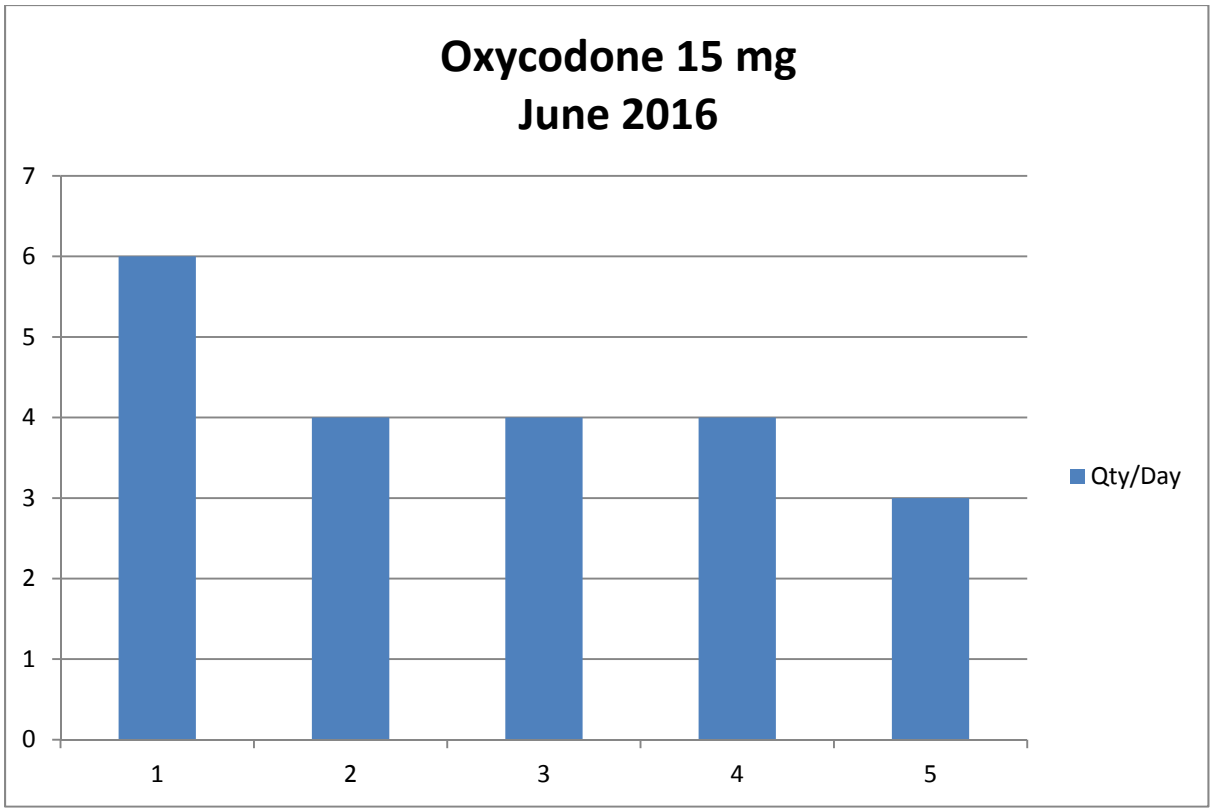

Oxycodone 5 mg
December 2014
25
20
15
10
5
0
1 5 9 13 17 21 25 29 33 37 41 45 49 53 57 61 65 69 73 77 81 85 89 93 97 101
Qty/Day

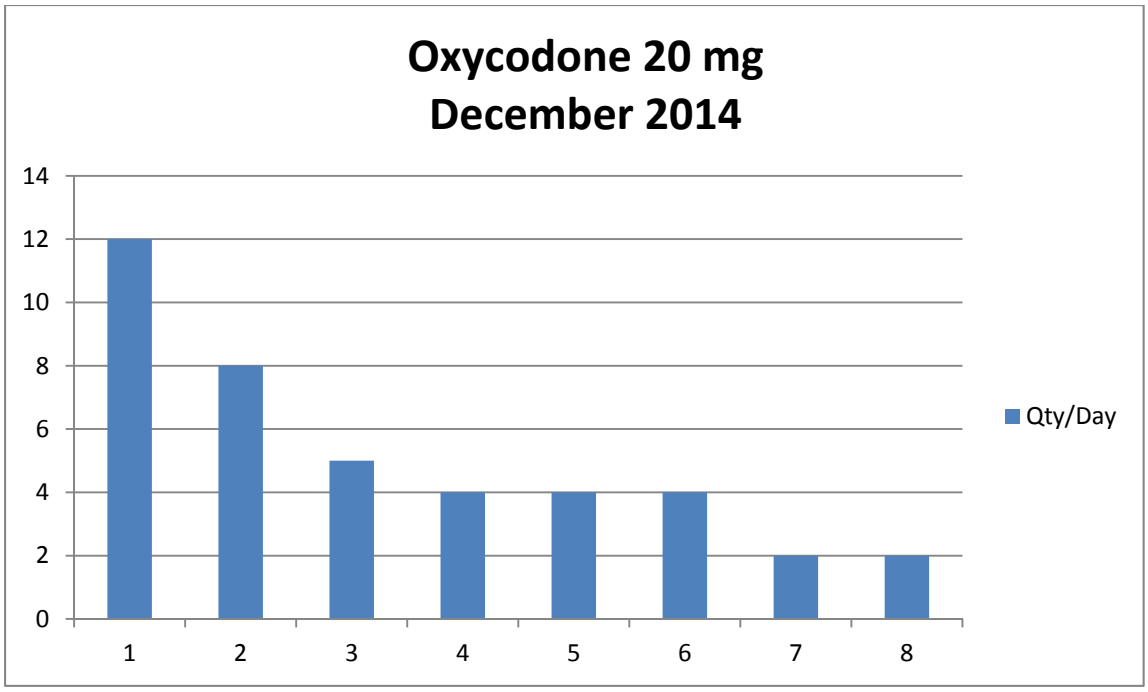

Oxycodone 5 mg
June 2016
7
6
5
4
3
2
1
0
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64 67 70 73 76 79 82 85
Qty/Day


Oxycodone 10 mg
December 2014
30
25
20
15
10
5
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69
Qty/Day

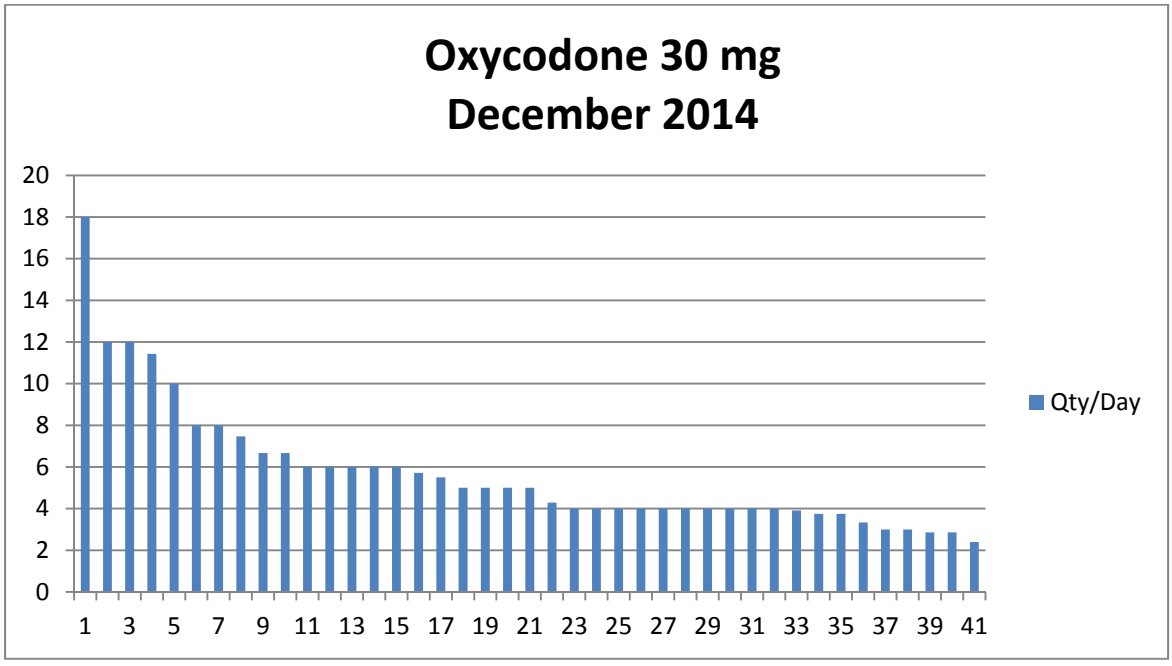

Oxycodone 10 mg
June 2016
7
6
5
4
3
2
1
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45
Qty/Day


Oxycodone 15 mg
December 2014
14
12
10
8
6
4
2
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Qty/Day

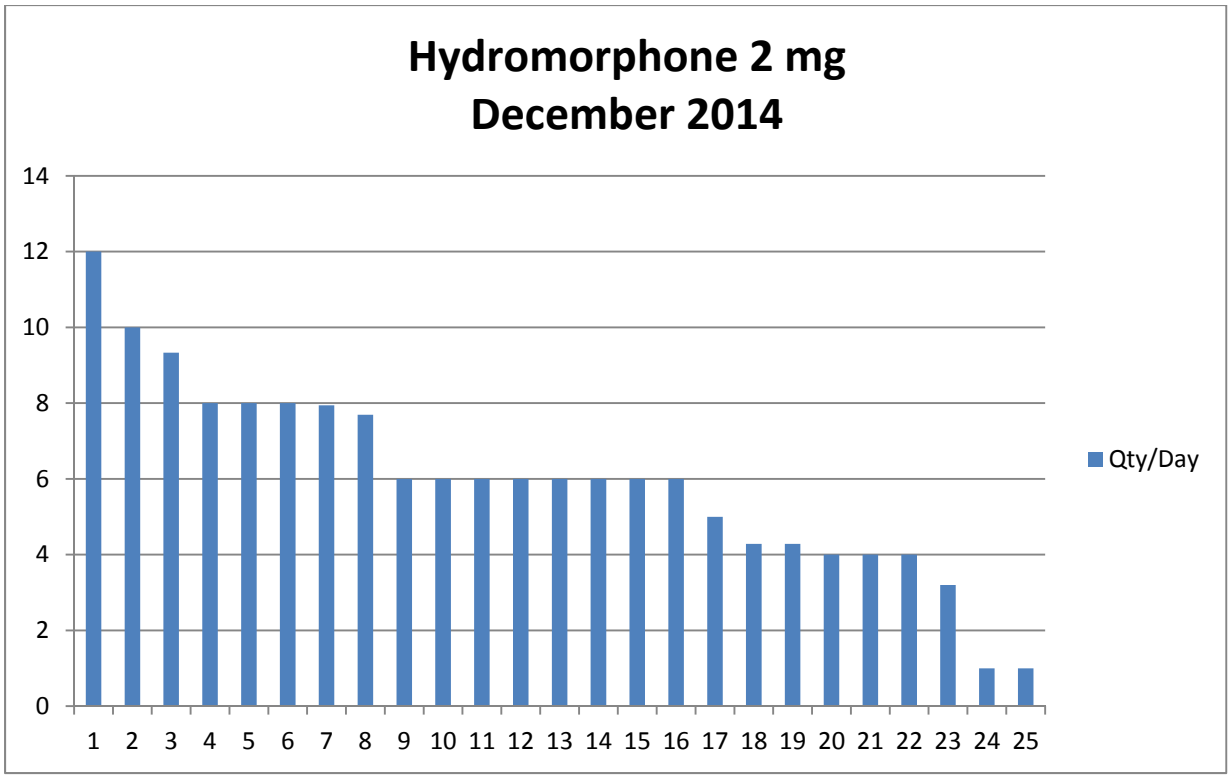

Oxycodone 15 mg
June 2016
7
6
5
4
3
2
1
0
1 2 3 4 5
Qty/Day

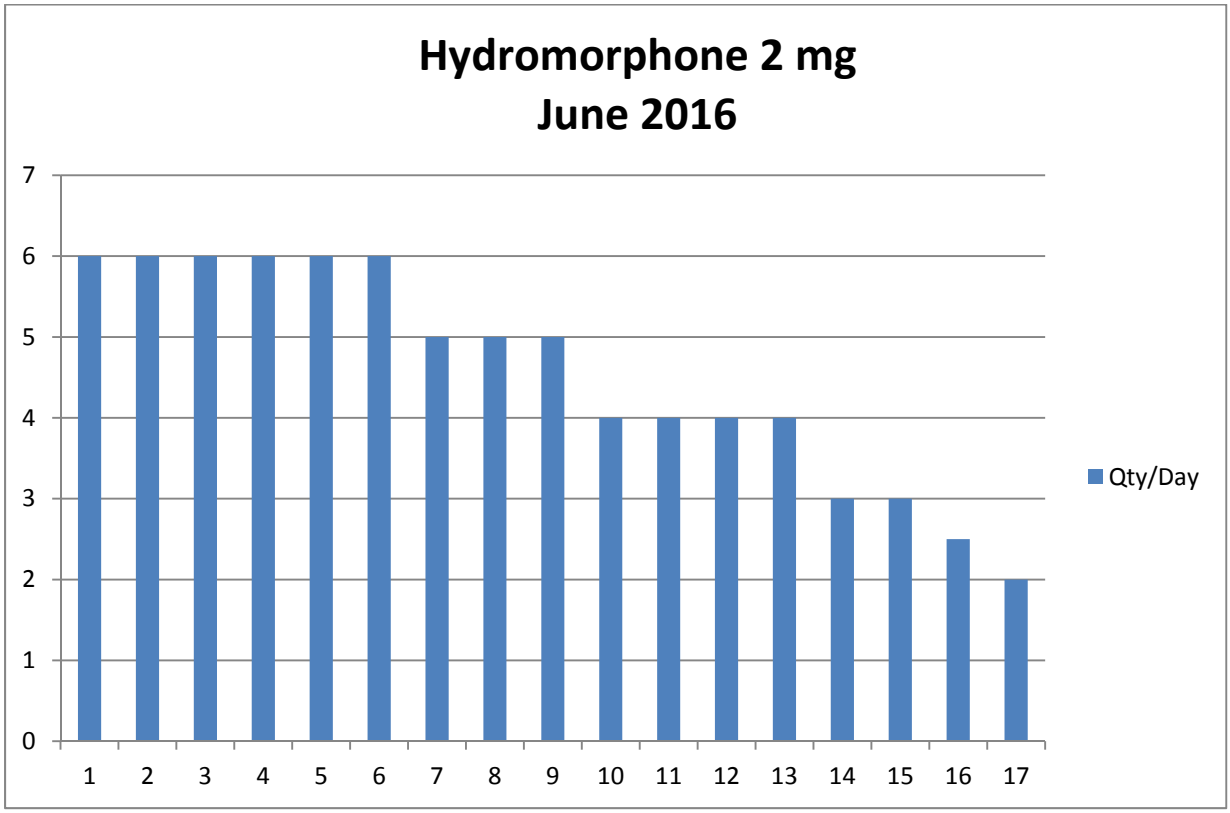


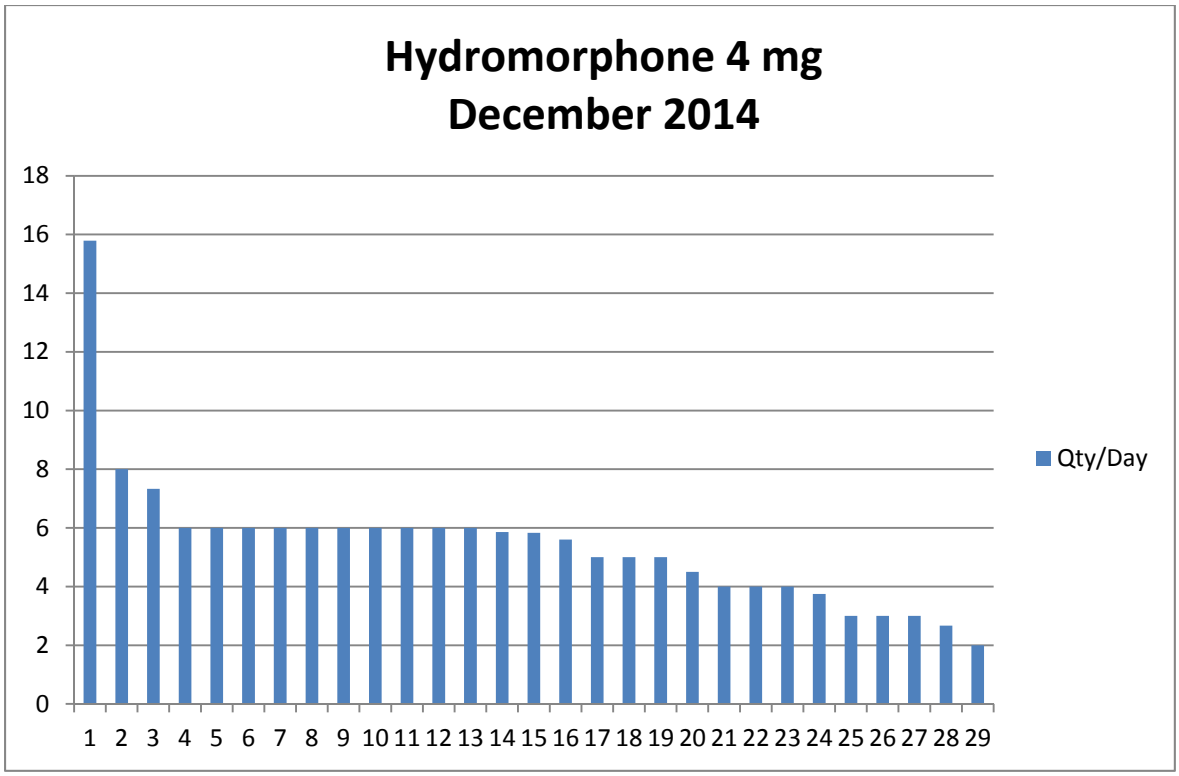
June 2016 – No prescriptions for Oxycodone 20 mg

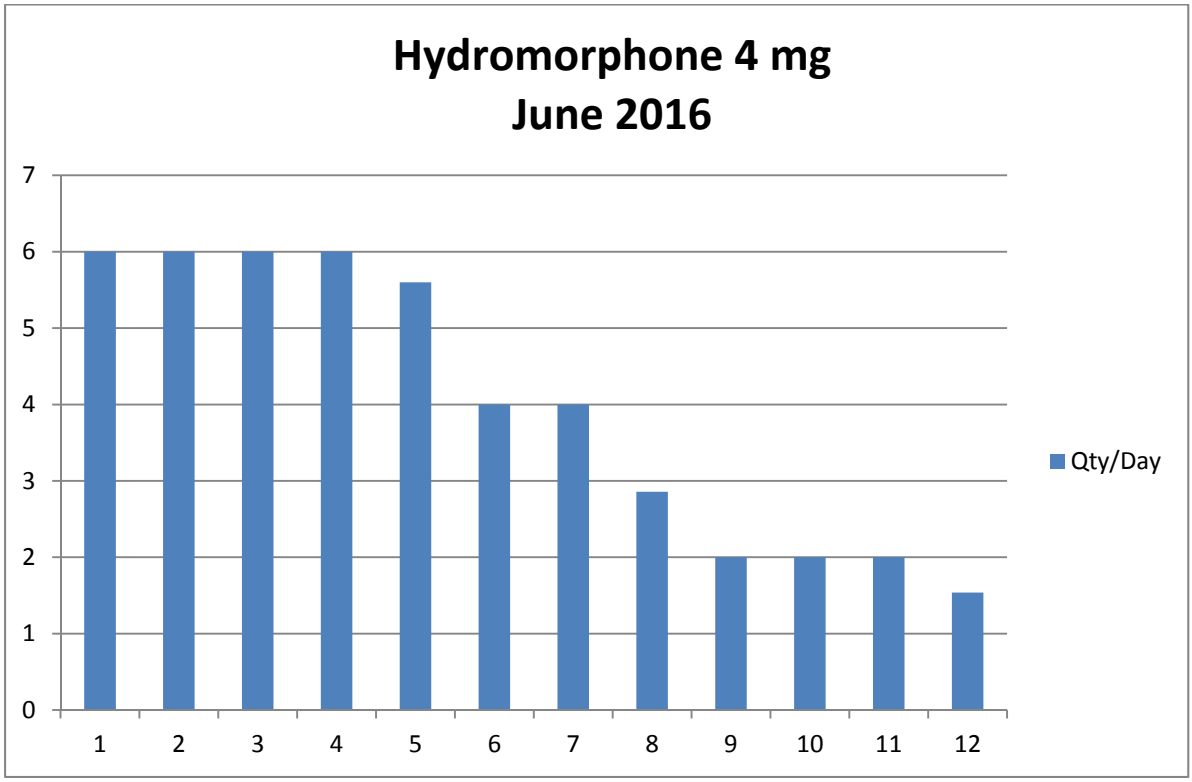


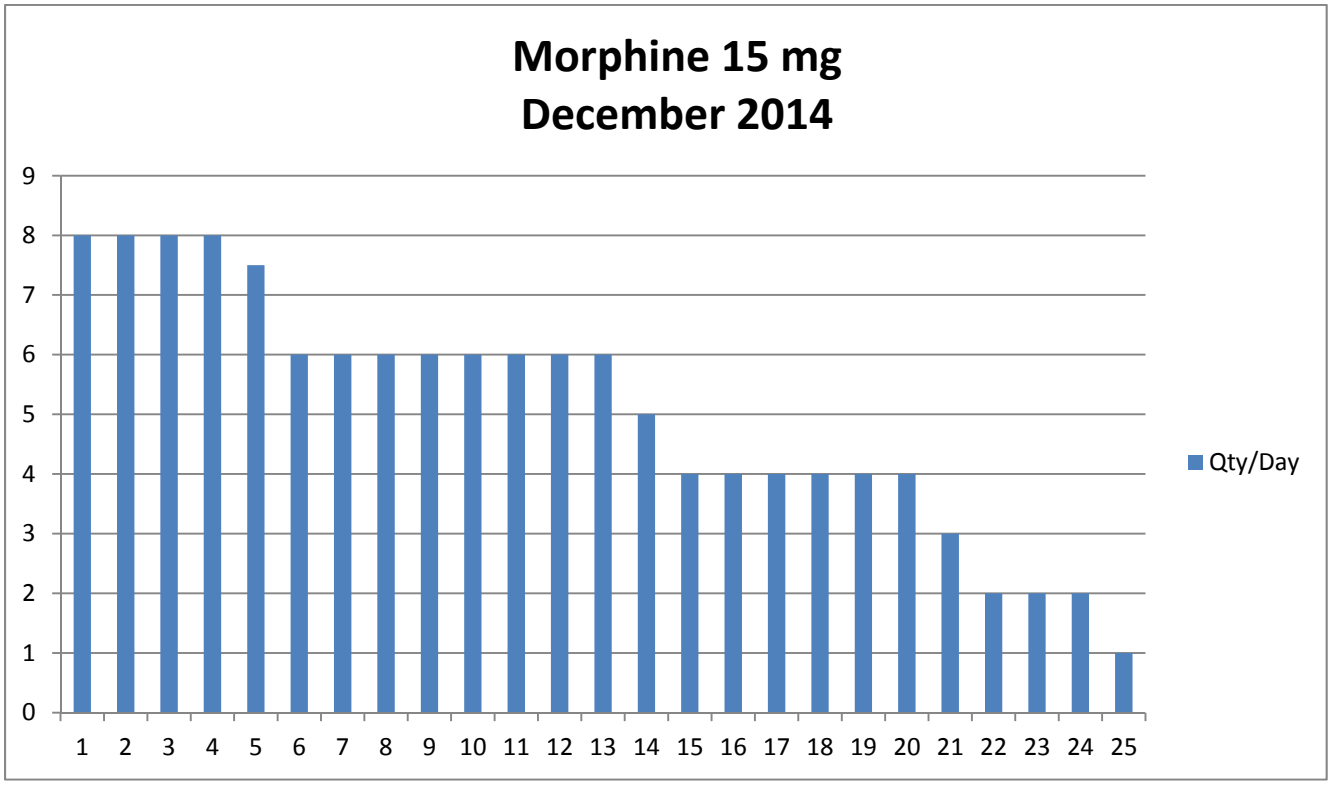
June 2016 – No prescriptions for Oxycodone 30 mg

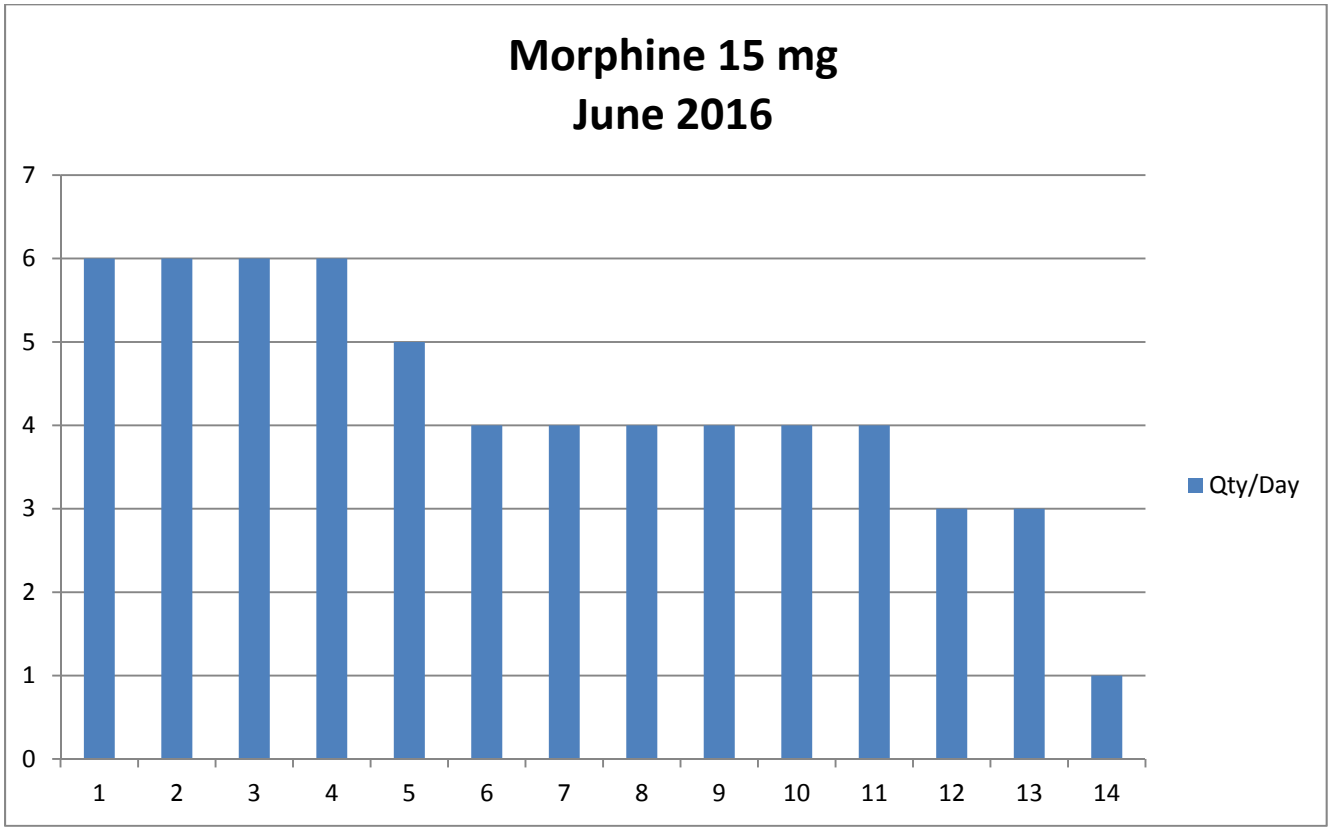

Hydromorphone 2 mg
December 2014
14
12
10
8
6
4
2
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Qty/Day

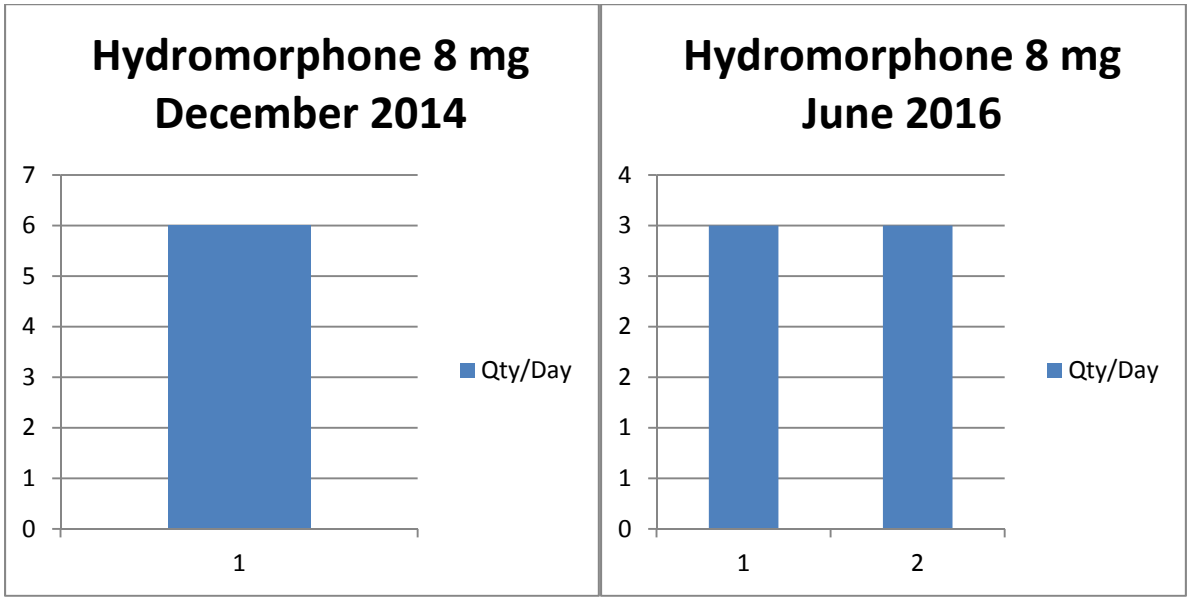

Hydromorphone 2 mg
June 2016
7
6
5
4
3
2
1
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
Qty/Day


Hydromorphone 4 mg
December 2014
18
16
14
12
10
8
6
4
2
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
Qty/Day

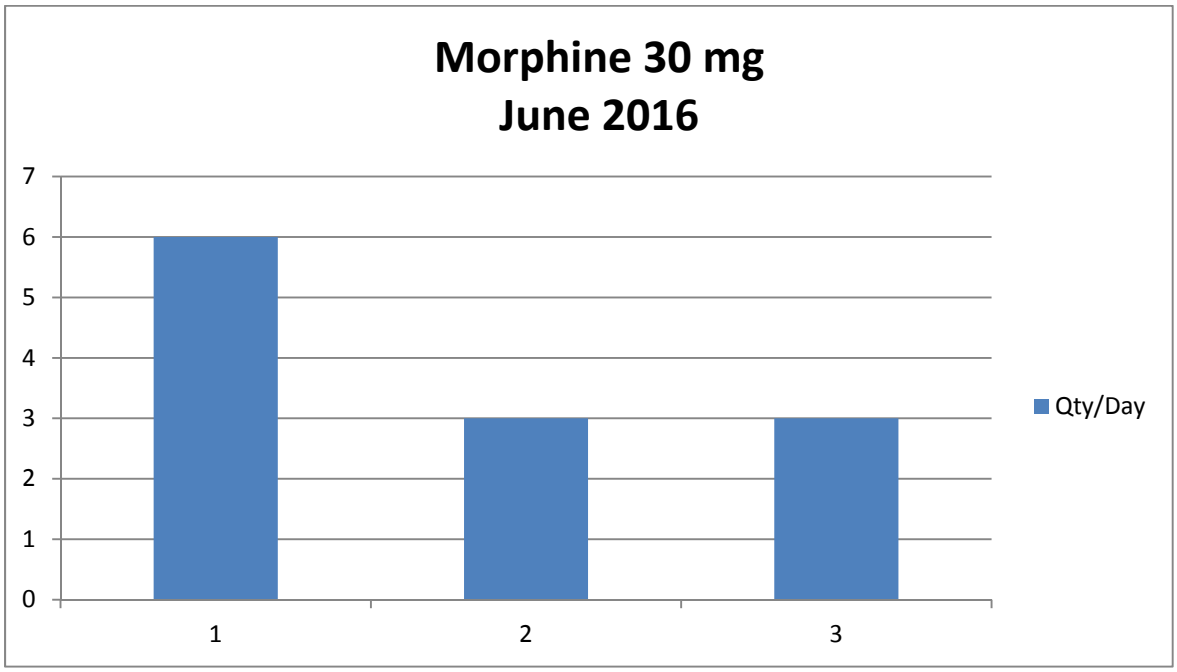

Hydromorphone 4 mg
June 2016
7
6
5
4
3
2
1
0
1 2 3 4 5 6 7 8 9 10 11 12
Qty/Day


Morphine 15 mg
December 2014
9
8
7
6
5
4
3
2
1
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Qty/Day


Morphine 15 mg
June 2016
7
6
5
4
3
2
1
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14
Qty/Day



December 2014 – No prescriptions for Morphine 30 mg



NORTH DAKOTA MEDICAID
RETROSPECTIVE DRUG UTILIZATION REVIEW
CRITERIA RECOMMENDATIONS
3RD QUARTER 2016

Criteria Recommendations ***Approved*** ***Rejected***

1. Naloxegol / Therapeutic Appropriateness _____ _____

Alert Message: The review did not reveal current use of opioid medication. Movantik (naloxegol) is approved for the treatment of opioid-induced constipation. Naloxegol should be discontinued if treatment with the opioid pain medication is discontinued.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Naloxegol		Opioids

References:
Movantik Prescribing Information, Sept. 2014, AstraZeneca.
Clinical Pharmacology, 2016, Elsevier/Gold Standard.
Facts& Comparisons, 2016 Updates, Wolters Kluwer Health.

2. Brivaracetam / Overutilization _____ _____

Alert Message: The manufacturer's maximum recommended daily dose of Briviact (brivaracetam) is 200 mg (100 mg twice daily).

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Brivaracetam		Hepatic Impairment

Max Dose: 200 mg/day

References:
Briviact Prescribing Information, Feb. 2016, UCB, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

3. Brivaracetam / Overutilization - Hepatic Impairment _____ _____

Alert Message: For all stages of hepatic impairment, the manufacturer's maximum recommended daily dose of Briviact (brivaracetam) is 150 mg (75 mg twice daily).

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C **(Include)**
Brivaracetam		Hepatic Impairment

Max Dose: 150 mg/day

References:
Briviact Prescribing Information, Feb. 2016, UCB, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

4. Brivaracetam / Psychiatric Adverse Reactions _____ _____

Alert Message: Briviact (brivaracetam) can cause psychiatric adverse reactions. Counsel patient concerning possible behavioral changes.

Conflict Code: MC – Drug (Actual) Disease Precaution
Drugs/Diseases

Util A	Util B	Util C
Brivaracetam	Hallucinations	
	Paranoia	
	Acute Psychosis	
	Anxiety	
	Nervousness	
	Agitation	
	Irritability/Anger	
	Hostility	

References:
Briviact Prescribing Information, Feb. 2016, UCB, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

5. Brivaracetam / Rifampin _____ _____

Alert Message: Concurrent use of Briviact (brivaracetam) with rifampin can decrease brivaracetam plasma concentrations by 45%. If the agents are co-administered, the manufacturer recommends that the brivaracetam dose should be increased by 100% (i.e., double the dose) while receiving concomitant treatment with rifampin.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Brivaracetam	Rifampin	

References:
Briviact Prescribing Information, Feb. 2016, UCB, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

6. Brivaracetam / Carbamazepine _____ _____

Alert Message: Concurrent use of Briviact (brivaracetam) with carbamazepine may result in increased exposure to carbamazepine-epoxide, the active metabolite of carbamazepine. Though available data did not reveal any safety concerns, if carbamazepine-related tolerability issues arise when the agents are co-administered, consider carbamazepine dose reduction.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Brivaracetam	Carbamazepine	

References:
Briviact Prescribing Information, Feb. 2016, UCB, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

7. Brivaracetam / Phenytoin _____ _____

Alert Message: Concurrent use of Briviact (brivaracetam) with phenytoin may increase phenytoin plasma concentrations by 20%. Phenytoin has a narrow therapeutic index and monitoring of phenytoin levels is recommended when brivaracetam is added to or discontinued from ongoing phenytoin therapy.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Brivaracetam	Phenytoin	

References:
Briviact Prescribing Information, Feb. 2016, UCB, Inc.

8. Brivaracetam / Levetiracetam _____ _____

Alert Message: In two clinical studies the co-administration of Briviact (brivaracetam) with a levetiracetam-containing product did not provide additional benefit. Brivaracetam is an analog of levetiracetam and concurrent use may result in increased adverse effects.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Brivaracetam	Levetiracetam	

References:
Briviact Prescribing Information, Feb. 2016, UCB, Inc.

9. Brivaracetam / Nonadherence _____ _____

Alert Message: Based on refill history, your patient may be under-utilizing Briviact (brivaracetam). Non-adherence to the prescribed dosing regimen may result in sub-therapeutic effects, which may lead to decreased patient outcomes and additional healthcare costs.

Conflict Code: LR – Nonadherence
Drugs/Diseases

Util A	Util B	Util C
Brivaracetam		

References:
Hodges JC, Treadwell J, Malphrus AD, et al., Identification and Prevention of Antiepileptic Drug Noncompliance: The Collaborative Use of State-Supplied Pharmaceutical Data. ISRN Pediatr. 2014 Feb 19;1-8.
Viswanathan M, Golin CE, Jones DC, et al., Interventions to Improve Adherence to Self-administered Medications for Chronic Disease in the United States: A Systematic Review. Ann Intern Med.2012;157:785-792.
Faught E, Duh MS, Weiner JR, et al. Nonadherence to Antiepileptic Drugs and Increased Mortality, Findings from the RANSOM Study. Neurology 2008;71(20): 1572-1578.
Faught ER, Weiner JR, Guerin A, et al. Impact of Nonadherence to Antiepileptic Drugs on Health Care Utilization and Costs: Findings from the RANSOM Study. Epilepsia 2009;50(3):501-509.
Osterberg L, Blaschke T. Adherence to Medication. N Engl J Med 2005; 353:487- 497.

10. Daclatasvir / Overutilization _____ _____

Alert Message: The recommended dose of Daklinza (daclatasvir) is 60 mg once daily with or without food.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Daclatasvir		Bosentan
		Dexamethasone
		Efavirenz
		Etravirine
		Modafinil
		Rifapentine

Max Dose: 60 mg/day

References:
Daklinza Prescribing Information, Feb. 2016, Bristol-Myers Squibb.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

11. Daclatasvir / Strong CYP3A4 Inducers _____ _____

Alert Message: Concurrent use of Daklinza (daclatasvir) with strong CYP3A4 inducers is contraindicated. Daclatasvir is a CYP3A4 substrate and co-administration with a strong CYP3A4 inducer (e.g., carbamazepine, phenytoin, and phenobarbital) may decrease daclatasvir plasma concentrations, potentially resulting in loss of virologic response and possible development of resistance.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Daclatasvir	Carbamazepine	
	Phenytoin	
	Phenobarbital	
	Primidone	
	Rifabutin	
	Rifampin	
	Enzalutamide	

References:
Daklinza Prescribing Information, Feb. 2016, Bristol-Myers Squibb.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

12. Daclatasvir 60 mg / Strong CYP3A4 Inhibitors _____ _____

Alert Message: The dosage of Daklinza (daclatasvir) should not exceed 30 mg once daily when daclatasvir is co-administered with strong CYP3A4 inhibitors (e.g., ketoconazole, nefazodone and cobicistat). Daclatasvir is a CYP3A4 substrate and use with a strong CYP3A4 inhibitor may result in increased daclatasvir plasma levels.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B			Util C
Daclatasvir 60mg	Nefazodone	Voriconazole	Saquinavir	
	Clarithromycin	Posaconazole	Ritonavir	
	Telithromycin	Boceprevir	Indinavir	
	Itraconazole	Cobicistat	Nelfinavir	
	Ketoconazole			

Max Dose: 30 mg/day

References:
Daklinza Prescribing Information, Feb. 2016, Bristol-Myers Squibb.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

13. Daclatasvir / Moderate CPY3A4 Inducers _____ _____

Alert Message: The dosage of Daklinza (daclatasvir) should be increased to 90 mg once daily when co-administered with moderate CYP3A4 inducers. Daclatasvir is a CYP3A4 substrate and co-administration with moderate CYP3A4 inducers may decrease daclatasvir plasma concentrations potentially resulting in loss of virologic response and possible development of resistance.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C **(Negate)**
Daclatasvir 60mg	Bosentan	Daclatasvir 30mg
	Dexamethasone	
	Efavirenz	
	Etravirine	
	Modafinil	
	Rifapentine	

Minimum Dose: 90 mg/day

References:
Daklinza Prescribing Information, Feb. 2016, Bristol-Myers Squibb.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

14. Daclatasvir / Amiodarone / Sofosbuvir _____ _____

Alert Message: The concurrent use of amiodarone with Daklinza (daclatasvir) in combination with Sovaldi (sofosbuvir) is not recommended due to the risk of serious symptomatic bradycardia. Patients taking amiodarone who have no alternative treatment options other than daclatasvir with sofosbuvir should be counseled about the risk of serious bradycardia and have cardiac monitoring conducted according to manufacturer's recommendations.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C **(Include)**
Daclatasvir	Amiodarone	Sofosbuvir

References:
Daklinza Prescribing Information, Feb. 2016, Bristol-Myers Squibb.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

15. Daclatasvir / Moderate CYP3A4 Inhibitors _____ _____

Alert Message: Concurrent use of Daklinza (daclatasvir), a CYP3A4 substrate, with moderate CYP3A4 inhibitors (e.g., diltiazem, verapamil, and erythromycin) may result in elevated daclatasvir plasma levels. The patient should be monitored for daclatasvir-related adverse effects (e.g., headache, fatigue, and diarrhea).

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Daclatasvir	Atazanavir	Ritonavir
	Fosamprenavir	Cobicistat
	Ciprofloxacin	
	Diltiazem	
	Verapamil	
	Erythromycin	
	Darunavir/ritonavir	
	Fluconazole	
	Aprepitant	

References:
Daklinza Prescribing Information, Feb. 2016, Bristol-Myers Squibb.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

16. Daclatasvir / Digoxin _____ _____

Alert Message: Concurrent use of Daklinza (daclatasvir) with digoxin may result in elevated digoxin plasma levels due to inhibition, by daclatasvir, of digoxin P-gp mediated transport. If initiating digoxin in a patient receiving daclatasvir, start digoxin at the lowest appropriate dosage, monitor digoxin concentrations, adjust digoxin dose if necessary, and continue monitoring. When initiating daclatasvir in a patient receiving digoxin, measure serum digoxin concentrations before initiating daclatasvir and reduce digoxin dose by 30% to 50%. Alternatively, the digoxin dose may be reduced by prolonging the dosing interval.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Daclatasvir	Digoxin	

References:
Daklinza Prescribing Information, Feb. 2016, Bristol-Myers Squibb.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

17. Daclatasvir / Statins _____ _____

Alert Message: Caution should be used when Daklinza (daclatasvir) is co-administered with an HMG CoA reductase inhibitor (statin) as they are substrates of OATP1B1, P-gp, and BCRP transporters. Daclatasvir is an inhibitor of these transporters and concurrent use with transporter substrates can result in increased statin plasma concentrations and increased risk for adverse events (e.g., myopathy and rhabdomyolysis). Patients should be monitored closely for statin-related adverse effects.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Daclatasvir	Lovastatin	
	Fluvastatin	
	Pravastatin	
	Simvastatin	
	Atorvastatin	
	Rosuvastatin	
	Pitavastatin	

References:
Daklinza Prescribing Information, Feb. 2016, Bristol-Myers Squibb.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Hirano M, Maeda K, Matsushima S, et al. Involvement of BCRP (ABCG2) in the Biliary Excretion of Pitavastatin. Molecu Pharmaco. 2005 Vol. 68(3):800 – 807.

18. Daclatasvir / Pregnancy / Pregnancy Negating _____ _____

Alert Message: No data are available for Daklinza (daclatasvir) use in pregnant women. Consider the benefits and risks of daclatasvir when prescribing its use in a pregnant woman.

Conflict Code: MC – Drug (Actual) Disease Precaution
Drugs/Diseases

Util A	Util B	Util C
Daclatasvir	Pregnancy	Miscarriage
		Abortion
		Delivery

References:
Daklinza Prescribing Information, Feb. 2016, Bristol-Myers Squibb.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

19. Daclatasvir / Pediatric _____ _____

Alert Message: The safety and effectiveness of Daklinza (daclatasvir) in pediatric patients younger than 18 years of age have not been established.

Conflict Code: TA - Therapeutic Effectiveness
Drugs/Diseases

Util A	Util B	Util C
Daclatasvir		

Age Range: 0-17 yoa

References:
Daklinza Prescribing Information, Feb. 2016, Bristol-Myers Squibb.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

20. Ixazomib / Strong CYP3A4 Inducers _____ _____

Alert Message: Concurrent user of Ninlaro (ixazomib), a CYP3A4 substrate, with strong CYP3A inducers should be avoided due to the potential for decreased ixazomib efficacy.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B		Util C
Ixazomib	Carbamazepine	Rifampin	
	Phenytoin	Rifapentine	
	Phenobarbital	Rifabutin	
	Primidone	Enzalutamide	

References:
Ninlaro Prescribing Information, Nov. 2015, Takeda Pharmaceuticals America.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

21. Ixazomib / Pregnancy / Pregnancy Negating _____ _____

Alert Message: Ninlaro (ixazomib) can cause fetal harm in a pregnant woman based on its mechanism of action and findings in animals. Females of reproductive potential should avoid becoming pregnant while taking ixazomib. Male and female patients of childbearing potential must use effective contraceptive measures during and for 90 days following the final ixazomib dose. If the patient becomes pregnant while taking ixazomib, apprise them of the potential hazard to the fetus.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Ixazomib	Pregnancy	Miscarriage
		Delivery
		Abortion

Age Range: 11-50

References:
Ninlaro Prescribing Information, Nov. 2015, Takeda Pharmaceuticals America.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

22. Selexipag / Overutilization _____ _____

Alert Message: Uptravi (selexipag) may be over-utilized. The manufacturer's recommended maximum dose is 1600 mcg twice daily (total 3200 mcg daily).

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C
Selexipag		

Max Dose: 3200 mcg/day

References:
Uptravi Prescribing Information, Dec. 2015, Actelion Pharmaceuticals US, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

23. Selexipag / Nonadherence _____ _____

Alert Message: Based on the refill history, your patient may be underutilizing Uptravi (selexipag). Non-adherence to the prescribed dosing regimen may result in sub-therapeutic effects, which may lead to decreased patient outcomes and additional healthcare costs. If treatment is missed for 3 days or more, selexipag should be restarted at a lower dose and then re-titrated.

Conflict Code: LR - Nonadherence
Drugs/Diseases

Util A	Util B	Util C
Selexipag		

References:
Uptravi Prescribing Information, Dec. 2015, Actelion Pharmaceuticals US, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Stewart T. Facilitating Pulmonary Arterial Hypertension Medication Adherence: Patient-centered Management. *Adv Pulm Hypertens.* 2010;8(4):228–231.

24. Selexipag / Hepatic Impairment _____ _____

Alert Message: A once-daily regimen is recommended in patients with moderate hepatic impairment (Child-Pugh class B) due to the increased exposure to Uptravi (selexipag) and its active metabolite. The starting dose in these patients should be 200 mcg once daily, increasing the dose by 200 mcg once daily at weekly intervals to the highest tolerated dose up to 1600 mcg daily. The use of selexipag should be avoided in patients with severe hepatic impairment. No dosage adjustment is necessary for patients with mild hepatic impairment.

Conflict Code: ER – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C **(Include)**
Selexipag		Hepatic Impairment

Max Dose: 1600 mcg/day

References:
Uptravi Prescribing Information, Dec. 2015, Actelion Pharmaceuticals US, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

25. Selexipag / Pulmonary Edema & Pulmonary Veno-Occlusive DX _____ _____

Alert Message: If signs or symptoms of pulmonary edema occur during treatment with Uptravi (selexipag), consider the possibility of pulmonary veno-occlusive disease (PVOD). If PVOD is confirmed, discontinue the use of selexipag.

Conflict Code: MC – Drug (Actual) Disease Precaution/Warning
Drugs/Diseases

Util A	Util B	Util C
Selexipag	Pulmonary Edema	

References:
Uptravi Prescribing Information, Dec. 2015, Actelion Pharmaceuticals US, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

26. Selexipag / Strong CYP2C8 Inhibitors _____ _____

Alert Message: Concurrent use of Uptravi (selexipag) with strong CYP2C8 inhibitors (i.e., gemfibrozil) should be avoided. Selexipag is a CYP2C8 substrate and concomitant use with 2C8 inhibitors may result in a significant increase in exposure to selexipag and its active metabolite, increasing the risk of selexipag-related adverse effects.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Selexipag	Gemfibrozil	

References:
Uptravi Prescribing Information, Dec. 2015, Actelion Pharmaceuticals US, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

27. Selexipag / Therapeutic Appropriateness _____ _____

Alert Message: The safety and effectiveness of Uptravi (selexipag) in pediatric patients have not been established.

Conflict Code: TA - Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C
Selexipag		

Age Range: 0 -17 yoa

References:
Uptravi Prescribing Information, Dec. 2015, Actelion Pharmaceuticals US, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

28. Dyanavel XR / Overutilization _____ _____

Alert Message: Dyanavel XR (amphetamine extended-release suspension) may be over-utilized. The manufacturer's recommended maximum dose is 20 mg daily.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C
Amphetamine ER Suspension		

Max Dose: 20 mg/day

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Dyanavel XR Prescribing Information, Oct. 2015, Tris Pharma, Inc.

29. Dyanavel XR / Therapeutic Appropriateness _____ _____

Alert Message: The safety and efficacy of Dyanavel XR (amphetamine extended-release suspension) in pediatric patients younger than 6 years old with ADHD have not been established.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C
Amphetamine ER Suspension		

Age Range: 0-5 yoa

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Dyanavel XR Prescribing Information, Oct. 2015, Tris Pharma, Inc.

30. Quillichew ER / Overutilization _____ _____

Alert Message: Quillichew ER (methylphenidate extended-release) may be over-utilized. The manufacturer's does not recommended a daily dosage above 60 mg.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C
Methylphenidate ER Chewable		

Max Dose: 60 mg/day

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Quillichew ER Prescribing Information, Dec. 2015, Pfizer, Inc.

31. Quillichew ER / Therapeutic Appropriateness _____ _____

Alert Message: The safety and efficacy of Quillichew ER (methylphenidate extended-release) in pediatric patients younger than 6 years old with ADHD have not been established.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C
Methylphenidate ER Chewable		

Age Range: 0-5 yoa

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Quillichew ER Prescribing Information, Dec. 2015, Pfizer, Inc.

32. Hydroxyzine / QT Prolongation _____ _____

Alert Message: Hydroxyzine is contraindicated in patients with prolonged QT interval. Post-marketing data indicate that hydroxyzine causes QT prolongation and torsade de pointes.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C **(Include)**
Hydroxyzine		QT Prolongation

References:
Vistaril Prescribing Information, Jan. 2016, Pfizer.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

33. IR Opioids / LA Opioid (Negating) _____ _____

Alert Message: Immediate-release opioids should be reserved for pain severe enough to require opioid treatment and for which alternative treatment options such as non-opioid analgesics are inadequate or not tolerated. These agents expose patients to the risks of opioid addiction, abuse, and misuse, potentially harmful drug interactions, and adverse effects on the endocrine system. Prolonged use of immediate-release opioids in pregnancy women can also result in NOWS.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Codeine		Morphine ER
Hydromorphone-IR		Oxycodone ER
Levorphanol		Fentanyl ER
Meperidine		Methadone
Hydrocodone-IR		Oxymorphone ER
Morphine-IR		Hydromorphone ER
Oxycodone-IR		Hydrocodone ER
Oxymorphone – IR		Tapentadol ER
Pentazocine		Tramadol ER
Fentanyl-IR		
Tapentadol-IR		
Tramadol-IR		

References:
FDA MEDWATCH Safety Alerts for Human Medical Products. Opioid Pain Medicines: Drug Safety Communications – New Safety Warnings Added to Prescription Opioid Medications [Posted 3/22/2016]. Available at: http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm491715.htm

34. IR Opioids / Pregnancy / LA Opioid (Negating) _____ _____

Alert Message: Chronic maternal use of immediate-release opioid analgesics during pregnancy can result in neonatal opioid withdrawal syndrome (NOWS), which may be life-threatening and require management by neonatology experts. Symptoms associated with NOWS include tachycardia, trembling, poor feeding, and excessive or high-pitched crying. These agents should be prescribed to pregnant women only if clearly needed.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Codeine	Pregnancy	Morphine ER
Hydromorphone-IR		Oxycodone ER
Levorphanol		Fentanyl ER
Meperidine		Methadone
Hydrocodone-IR		Oxymorphone ER
Morphine-IR		Hydromorphone ER
Oxycodone-IR		Hydrocodone ER
Oxymorphone – IR		Tapentadol ER
Pentazocine		Tramadol ER
Fentanyl-IR		
Tapentadol-IR		
Tramadol-IR		

References:
FDA MEDWATCH Safety Alerts for Human Medical Products. Opioid Pain Medicines: Drug Safety Communications – New Safety Warnings Added to Prescription Opioid Medications [Posted 3/22/2016]. Available at: http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm491715.htm
FDA News Release FDA Announces Enhanced Warnings for Immediate-Release Opioid Pain Medications Related to Risks of Misuse, Abuse, Addiction, Overdose and Death. [Release 03/22/2016].

35. Reslizumab / Helminth Infection _____ _____

Alert Message: The patient has a diagnosis of a helminth infection and is receiving Cinqair (reslizumab) which may adversely influence a patient's response against parasitic infections. Treat patients with pre-existing helminth infections before initiating therapy with reslizumab. If patients become infected while receiving treatment with reslizumab and do not respond to anti-helminth treatment, discontinue reslizumab treatment until infection resolves. Reslizumab is an interleukin-5 antagonist (IL-5), which reduces the production and survival of eosinophils.

Conflict Code: MC – Drug (Actual) Disease Precaution
Drugs/Diseases

Util A	Util B	Util C
Reslizumab	Helminth Infection (B83)	

References:
Cinqair Prescribing Information, March 2016, Teva Pharmaceuticals.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

36. Tofacitinib / Overutilization _____ _____

Alert Message: Xeljanz XR (tofacitinib) may be over-utilized. The manufacturer's recommended daily dose is one 11 mg tablet once daily.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C
Tofacitinib XR		

Max dose: 11 mg/day

References:
Xeljanz/Xeljanz XR Prescribing Information, Feb. 2016, Pfizer, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

37. Pimavanserin / Over-utilization _____ _____

Alert Message: Nuplazid (pimavanserin) may be over-utilized. The manufacturer's maximum recommended daily dose is 34 mg once daily.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C
Pimavanserin		

Max Dose: 34 mg/day

References:
Nuplazid Prescribing Information, April 2016, Acadia Pharmaceuticals Inc.

38. Pimavanserin / Strong CYP3A4 Inhibitors _____ _____

Alert Message: The recommended dose of Nuplazid (pimavanserin) is 17 mg once daily in patients receiving concurrent therapy with a strong CYP3A4 inhibitor (e.g., nefazodone, clarithromycin, and boceprevir). Pimavanserin is a CYP3A4 substrate and concomitant use with a strong CYP3A4 inhibitor may result in increased pimavanserin exposure and risk of adverse effects.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C **(Include)**		
Pimavanserin		Nefazodone	Indinavir	Itraconazole
		Clarithromycin	Nelfinavir	Posaconazole
		Telithromycin	Boceprevir	Voriconazole
		Saquinavir	Cobicistat	
		Ritonavir	Ketoconazole	

Max Dose: 17 mg/day

References:
Nuplazid Prescribing Information, April 2016, Acadia Pharmaceuticals Inc.

39. Pimavanserin / Strong CYP3A4 Inducers _____ _____

Alert Message: Concurrent use of Nuplazid (pimavanserin) with a strong CYP3A4 inducer (e.g., carbamazepine, phenytoin, and rifampin) may result in reduced pimavanserin exposure and potential for decreased pimavanserin efficacy. The patient should be monitored for reduced pimavanserin efficacy and the dosage may need to be increased.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B		Util C
Pimavanserin	Carbamazepine	Rifabutin	
	Phenytoin	Rifampin	
	Phenobarbital	Rifapentine	
	Primidone		

References:
Nuplazid Prescribing Information, April 2016, Acadia Pharmaceuticals Inc.

40. Pimavanserin / Severe Renal Impairment _____ _____

Alert Message: Use of Nuplazid (pimavanserin) is not recommended in patients with severe renal impairment (CrCL < 30 ml/min, Cockcroft-Gault). Pimavanserin has not been evaluated in this patient population. In clinical trials, patients with mild to moderate renal impairment showed similar exposure to pimavanserin as patients with normal renal function: therefore, no dosage adjustment is required.

Conflict Code: MC - Drug Disease Precaution
Drugs/Diseases

Util A	Util B	Util C
Pimavanserin	CKD 4 & 5	
	ESRD	

References:
Nuplazid Prescribing Information, April 2016, Acadia Pharmaceuticals Inc.

41. Pimavanserin / Hepatic Impairment _____ _____

Alert Message: Use of Nuplazid (pimavanserin) is not recommended in patients with hepatic impairment. Pimavanserin has not been evaluated in this patient population.

Conflict Code: MC - Drug Disease Precaution
Drugs/Diseases

Util A	Util B	Util C
Pimavanserin	Hepatic Impairment	

References:
Nuplazid Prescribing Information, April 2016, Acadia Pharmaceuticals Inc.

42. Pimavanserin / QT Prolongation _____ _____

Alert Message: Nuplazid (pimavanserin) prolongs the QT interval and its use should be avoided in patients with known QT prolongation or in combination with other drugs known to prolong the QT interval (e.g., procainamide, quinidine, amiodarone, and ziprasidone). Pimavanserin should also be avoided in patients with a history of cardiac arrhythmias as well as circumstances that increase the risk of occurrence of torsade de pointes and/or sudden death (e.g., bradycardia, hypokalemia, or hypomagnesemia), and in the presence of congenital prolongation of the QT interval.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C (Include)
Pimavanserin		QT Prolongation
		Bradycardia
		Hypokalemia
		Hypomagnesemia
		Cardiac Arrhythmias

References:
Nuplazid Prescribing Information, April 2016, Acadia Pharmaceuticals Inc.

Criteria Recommendations *Approved* *Rejected*

43. Pimavanserin / Drugs that Prolong the QT Interval _____ _____

Alert Message: Concurrent use of Nuplazid (pimavanserin) with drugs known to prolong the QT interval should be avoided. Pimavanserin has been shown to prolong the QT interval and co-administration with another agent that prolongs the QT interval may have additive QT effects and increase the risk of cardiac arrhythmia.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B			Util C
Pimavanserin	Albuterol	Galantamine	Moexipril/HCTZ	
	Alfuzosin	Gemifloxacin	Quinidine	
	Amiodarone	Granisetron	Quinine	
	Amitriptyline	Haloperidol	Ranolazine	
	Amantadine	Iloperidone	Risperidone	
	Amoxapine	Imipramine	Ritonavir	
	Anagrelide	Indacaterol	Salmeterol	
	Arformoterol	Indapamide	Saquinavir	
	Aripiprazole	Isradipine	Sertraline	
	Asenapine	Lapatinib	Solifenacin	
	Atomoxetine	Levalbuterol	Sorafenib	
	Azithromycin	Levofloxacin	Sotalol	
	Bedaquiline	Maprotiline	SMZ/TMP	
	Buprenorphine	Mefloquine	Sumatriptan	
	Chloroquine	Memantine	Sunitinib	
	Chlorpromazine	Metaproterenol	Tacrolimus	
	Ciprofloxacin	Methadone	Tamoxifen	
	Citalopram	Moxifloxacin	Telithromycin	
	Clarithromycin	Naratriptan	Terbutaline	
	Clomipramine	Ketoconazole	Tetrabenazine	
	Clozapine	Itraconazole	Thioridazine	
	Crizotinib	Posaconazole	Tizanidine	
	Dasatinib	Voriconazole	Tolterodine	
	Disopyramide	Nelfinavir	Toremifene	
	Dofetilide	Nilotinib	Trazodone	
	Dolasetron	Norfloxacin	Trimipramine	
	Doxepin	Nortriptyline	Umeclidinium/Vilanterol	
	Dronedarone	Octreotide	Vandetanib	
	Erythromycin	Ofloxacin	Vardenafil	
	Escitalopram	Olanzapine	Vemurafenib	
	Ezogabine	Ondansetron	Venlafaxine	
	Famotidine	Paliperidone	Vorinostat	
	Fesoterodine	Pasireotide	Ziprasidone	
	Fexofenadine	Pazopanib	Zolmitriptan	
	Felbamate	Perphenazine	Lenvatinib	
	Flecainide	Pimozide		
	Fluconazole	Pirbuterol		
	Fluoxetine	Procainamide		
	Fluphenazine	Prochlorperazine		
	Fluvoxamine	Protriptyline		
	Formoterol	Quetiapine		

References:
Nuplazid Prescribing Information, April 2016, Acadia Pharmaceuticals Inc.

44. Lenvatinib / Overutilization / Severe Renal & Hepatic Impairment _____ _____

Alert Message: Lenvima (lenvatinib) may be over-utilized. The manufacturer's maximum recommended dose of lenvatinib is 24 mg once daily.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Lenvatinib		CKD 4 & 5
		ESRD
		Cirrhosis
		Everolimus
		Renal Cell Carcinoma

Max Dose: 24 mg/day

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

45. Lenvatinib / Overutilization – Severe Renal & Hepatic Impairment _____ _____

Alert Message: Lenvima (lenvatinib) may be over-utilized. In patients with severe renal or hepatic impairment, the dose is 14 mg once daily in differentiated thyroid cancer (DTC) and 10 mg once daily in renal cell cancer (RCC).

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C **(Include)**
Lenvatinib		CKD 4 & 5
		ESRD
		Cirrhosis

Max Dose: 14 mg/day

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

46. Lenvatinib / Hypertension _____ _____

Alert Message: In clinical trials, hypertension was reported in 73% of Lenvima (lenvatinib) treated patients compared to 10% in the placebo group. Blood pressure should be controlled prior to treatment with lenvatinib. Withhold lenvatinib for Grade 3 hypertension despite optimal hypertensive therapy; resume at a reduced dose when hypertension is controlled at Grade 2 or less. Discontinue for Grade 4 hypertension and do not resume.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Lenvatinib	Hypertension	Antihypertensive Medications

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

47. Lenvatinib / Cardiac Failure _____ _____

Alert Message: In clinical studies, cardiac dysfunction was reported in 7% of Lenvima (lenvatinib) treated patients compared to 2% in the placebo group. Monitor patient for clinical symptoms or signs of cardiac decompensation. Withhold lenvatinib for development of Grade 3 cardiac dysfunction until improved to Grade 0 or 1 or baseline. Either resume lenvatinib at a reduced dose (per adjustments in official prescribing information) or discontinue depending on the severity and persistence of cardiac dysfunction. Discontinue for Grade 4 cardiac dysfunction.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C
Lenvatinib	Heart Failure	
	Pulmonary Edema	
	Orthopnea	
	Dyspnea	

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

48. Lenvatinib / Arterial Thromboembolic Event _____ _____

Alert Message: In clinical studies, arterial thromboembolic events were reported in 5% of Lenvima (lenvatinib) treated patients compared to 2% in the placebo group. Discontinue lenvatinib following an arterial thrombotic event. The safety of resuming lenvatinib has not been established.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C
Lenvatinib	Arterial Embolism and Thrombosis	

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

49. Lenvatinib / Hepatic Impairment _____ _____

Alert Message: In clinical studies, Lenvima (lenvatinib) has been shown to cause increases in ALT (4%) and AST (5%) that were Grade 3 or greater as compared to placebo (0%). Withhold lenvatinib for development of Grade 3 or greater liver impairment until resolved to Grade 0 or 1 or baseline. Either resume lenvatinib at a reduced dose (per adjustments in official prescribing information) or discontinue depending on the severity and persistence of hepatotoxicity. Discontinue for lenvatinib for hepatic failure.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C
Lenvatinib	Hepatic Failure	
	Hepatic Impairment	

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

50. Lenvatinib / Proteinuria _____ _____

Alert Message: In clinical studies, proteinuria was reported in 34% of Lenvima (lenvatinib) treated patients as compared to 3% in the placebo group. Monitor patient for proteinuria before initiation of and periodically during treatment. If urine dipstick proteinuria greater than or equal to 2+ is detected, obtain a 24 hour urine protein. Withhold lenvatinib for greater than or equal to 2 grams of proteinuria/24 hours and resume at a reduced dose (per adjustments in official prescribing information) when proteinuria is less than 2 gm/24 hours. Discontinue lenvatinib for nephrotic syndrome.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C
Lenvatinib	Proteinuria	

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

51. Lenvatinib / Renal Failure & Renal Impairment _____ _____

Alert Message: In clinical studies, renal impairment was reported in 14% of Lenvima (lenvatinib) treated patients as compared to 2% in the placebo group. Withhold lenvatinib for development of Grade 3 or 4 renal failure/impairment until resolved to Grade 0 to 1 or baseline. Either resume lenvatinib at a reduced dose (per adjustments in official prescribing information) or discontinue depending on the severity and persistence of renal impairment.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Lenvatinib	Renal Impairment	CKD 4 & 5
		ESRD

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

52. Lenvatinib / Gastrointestinal Perforation & Fistula Formation _____ _____

Alert Message: In clinical studies, gastrointestinal perforation or fistula were reported in 2% of Lenvima (lenvatinib) treated patients as compared to 0.8% in the placebo group. Discontinue lenvatinib in patients who develop gastrointestinal perforation or life-threatening fistula.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C
Lenvatinib	Perforation of Intestine	
	Gastrointestinal ulcer w/ perforation	
	Fistula of stomach or duodenum	
	Fistula of intestine	

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

53. Lenvatinib / QT Interval Prolongation _____ _____

Alert Message: Lenvima (lenvatinib) can cause QT interval prolongation. Monitor ECGs in patients with congenital long QT syndrome, heart failure, bradyarrhythmias, or those taking drugs known to prolong the QT interval. Also monitor and correct electrolyte abnormalities in all patients. Withhold lenvatinib for the development of QTc interval prolongation greater than 500 ms. Resume lenvatinib at a reduced dose (per adjustments in official prescribing information) when QTc prolongation resolves to baseline.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C
Lenvatinib	QT Long Syndrome	
	Heart Failure	
	Bradycardia	

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

54. Lenvatinib / Hypocalcemia _____ _____

Alert Message: In clinical studies, hypocalcemia, Grade 3 or greater, was reported in 9% of Lenvima (lenvatinib) treated patients as compared to 2% in the placebo group. Monitor blood calcium at least monthly and replace calcium as necessary during treatment. Interrupt and adjust lenvatinib dose as necessary (per adjustments in official prescribing information) depending on severity and persistence of hypocalcemia.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C
Lenvatinib	Hypocalcemia	

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

55. Lenvatinib / Reversible Posterior Leukoencephalopathy Syndrome _____ _____

Alert Message: Reversible Posterior Leukoencephalopathy Syndrome (RPSL) has been reported in patients receiving Lenvima (lenvatinib). If the diagnosis of RPSL is confirmed, withhold lenvatinib until fully resolved. Upon resolution, resume at a reduced dose (per adjustments in official prescribing information) or discontinue depending on severity and persistence of neurologic symptoms.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C
Lenvatinib	Reversible Posterior Leukoencephalopathy Syndrome	

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

56. Lenvatinib / Hemorrhagic Event _____ _____

Alert Message: In clinical studies, hemorrhagic events occurred in 35% of Lenvima (lenvatinib) treated patients as compared to 18% in the placebo group. Withhold lenvatinib for development of Grade 3 hemorrhage until resolved to Grade 0 to 1. Either resume at a reduced dose (per adjustments in official prescribing information) or discontinue depending on severity and persistence of hemorrhage. Discontinue lenvatinib in patients who experience Grade 4 hemorrhage.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C
Lenvatinib	Epistaxis	
	Intracranial Hemorrhage	
	Intracerebral Hemorrhage	
	Subdural Hemorrhage	
	Gastrointestinal Hemorrhage	

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

57. Lenvatinib / Pregnancy / Pregnancy Negating _____ _____

Alert Message: Based on its mechanism of action, Lenvima *(lenvatinib)* can cause fetal harm when administered to a pregnant woman. Advise females of reproductive potential to use effective contraception during treatment with Lenvima *(lenvatinib)* and for at least 2 weeks following completion of therapy.

Conflict Code: MC – Drug (Actual) Disease Warning/Precaution
Drugs/Diseases

Util A	Util B	Util C **(Negating)**
Lenvatinib	Pregnancy	Delivery
		Miscarriage
		Abortion

Age Range: 11-50 yoa
Gender: Female

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

58. Lenvatinib / Drugs Causing QT Interval Prolongation _____ _____

Alert Message: Lenvima (lenvatinib) can cause QT interval prolongation. Monitor ECGs in patients with congenital long QT syndrome, heart failure, bradyarrhythmias, or those taking drugs known to prolong the QT interval. Also monitor and correct electrolyte abnormalities in all patients. Withhold lenvatinib for the development of QTc interval prolongation greater than 500 ms. Resume lenvatinib at a reduced dose (per adjustments in official prescribing information) when QTc prolongation resolves to baseline.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B				Util C
Lenvatinib	Albuterol	Disopyramide	Imipramine	Pazopanib	Thioridazine
	Alfuzosin	Dofetilide	Indapamide	Pentamidine	Tizanidine
	Amantadine	Dolasetron	Isradipine	Pimozide	Tolterodine
	Amiodarone	Doxepin	Itraconazole	Posaconazole	Trazodone
	Amitriptyline	Dronedarone	Ketoconazole	Procainamide	TMP/SMZ
	Amphetamine	Droperidol	Lapatinib	Propafenone	Trimipramine
	Arsenic Trioxide	Ephedrine	Levalbuterol	Protriptyline	Vandetanib
	Asenapine	Epinephrine	Levofloxacin	Quetiapine	Vardenafil
	Atazanavir	Erythromycin	Lithium	Quinidine	Venlafaxine
	Atomoxetine	Escitalopram	Metaproterenol	Ranolazine	Ziprasidone
	Azithromycin	Felbamate	Methadone	Risperidone	Zolmitriptan
	Chloral Hydrate	Flecainide	Moexipril/HCTZ	Ritonavir	Ezogabine
	Chloroquine	Fluconazole	Moxifloxacin	Salmeterol	Rasagiline
	Chlorpromazine	Fluoxetine	Nicardipine	Saquinavir	Phenelzine
	Ciprofloxacin	Foscarnet	Nilotinib	Sertraline	Tranylcypromine
	Citalopram	Fosphenytoin	Norfloxacin	Solifenacin	Linezolid
	Clarithromycin	Galantamine	Nortriptyline	Sotalol	Hydroxyzine
	Clomipramine	Gemifloxacin	Octreotide	Sunitinib	
	Clozapine	Granisetron	Ofloxacin	Tacrolimus	
	Dasatinib	Haloperidol	Ondansetron	Tamoxifen	
	Desipramine	Isocarboxazid	Paliperidone	Telithromycin	
	Diphenhydramine	Iloperidone	Paroxetine	Terbutaline	

References:
Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.
Lenvima Prescribing Information, May 2016, Eisai Inc.

59. Descovy / Overutilization _____ _____

Alert Message: The manufacturer's maximum recommended daily dose of Descovy (emtricitabine/tenofovir alafenamide) is one tablet daily.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C
Emtricitabine/Tenofovir Ala		

Max Dose: 1 tablet/day

References:
Descovy Prescribing Information, April 2016, Gilead Sciences, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

60. Descovy / Therapeutic Appropriateness _____ _____

Alert Message: The safety and efficacy of Descovy (emtricitabine/tenofovir alafenamide), in combination with other antiretroviral agents, for the treatment of HIV-1 infection has not been established in pediatric patients less than 12 years of age or weighing less than 35 kg.

Conflict Code: TA – Therapeutic Appropriateness

Drugs/Diseases

Util A	Util B	Util C
Emtricitabine/Tenofovir Ala		

Age Range: 0-11 yoa

References:

Descovy Prescribing Information, April 2016, Gilead Sciences, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

61. Descovy / CKD 4, 5 & ESRD _____ _____

Alert Message: The use of Descovy (emtricitabine/tenofovir/alafenamide) is not recommended in patients with estimated creatinine clearance below 30 mL/min, as the fixed dose agent does not allow for dose reduction. The components of the antiretroviral agent are eliminated via the kidney and use in this patient population may result in significantly increased drug exposure. In addition, the tenofovir prodrug has been associated with development of renal toxicity.

Conflict Code: TA – Therapeutic Appropriateness

Drugs/Diseases

Util A	Util B	Util C
Emtricitabine/Tenofovir Ala		CKD 4 & 5
		ESRD

References:

Descovy Prescribing Information, April 2016, Gilead Sciences, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

62. Descovy / Rifabutin, Rifampin & Rifapentine _____ _____

Alert message: Concurrent use of Descovy (emtricitabine/tenofovir alafenamide) with an anticonvulsant that is a p-glycoprotein inducer (carbamazepine, phenytoin, and oxcarbazepine) should be avoided. The tenofovir component of the fixed dose combo antiretroviral agent is a p-glycoprotein substrate and concomitant use with a CYP3A4 inducer may result in significant decreases in the tenofovir plasma concentrations, leading to loss of virologic response and possible viral resistance. Consider alternative anticonvulsants in patients receiving Descovy.

Conflict Code: DD – Drug/Drug Interactions

Util A	Util B	Util C
Emtricitabine/Tenofovir Ala	Rifabutin	
	Rifampin	
	Rifapentine	

References:

Descovy Prescribing Information, April 2016, Gilead Sciences, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

63. Descovy / P-gp Inducer Anticonvulsants _____ _____

Alert message: Concurrent use of Descovy (emtricitabine/tenofovir alafenamide) with an anticonvulsant that is a p-glycoprotein inducer (carbamazepine, phenytoin, and oxcarbazepine) should be avoided. The tenofovir component of the fixed dose combo antiretroviral agent is a p-glycoprotein substrate and concomitant use with a CYP3A4 inducer may result in significant decreases in the tenofovir plasma concentrations, leading to loss of virologic response and possible viral resistance. Consider alternative anticonvulsants in patients receiving Descovy.

Conflict Code: DD – Drug/Drug Interactions

Util A	Util B	Util C
Emtricitabine/Tenofovir Ala	Carbamazepine	
	Phenytoin	
	Phenobarbital	
	Primidone	
	Oxcarbazepine	

References:
Descovy Prescribing Information, April 2016, Gilead Sciences, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

64. Descovy / Tipranavir / Ritonavir _____ _____

Alert message: Concurrent use of Descovy (emtricitabine/tenofovir alafenamide) with ritonavir boosted tipranavir is not recommended. The tenofovir component of the fixed dose combo antiretroviral agent is a p-glycoprotein substrate and concomitant use with the P-gp inducers, tipranavir and ritonavir, may result in significant decreases in tenofovir plasma concentrations leading to loss of virologic response and possible viral resistance.

Conflict Code: DD – Drug/Drug Interactions

Util A	Util B	Util C **(Include)**
Emtricitabine/Tenofovir Ala	Tipranavir	Ritonavir

References:
Descovy Prescribing Information, April 2016, Gilead Sciences, Inc.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

65. Descovy / Nonadherence _____ _____

Alert Message: Nonadherence to antiretroviral therapy may result in insufficient plasma levels and partial suppression of viral load leading to the development of resistance, HIV progression, and increased mortality.

Conflict Code: LR - Nonadherence
Drugs/Diseases

Util A	Util B	Util C
Emtricitabine/Tenofovir Ala		

References:
Descovy Prescribing Information, April 2016, Gilead Sciences, Inc.
Beer L, Heffelfinger J, Frazier E, et al. Use of and Adherence to Antiretroviral Therapy in a Large U.S. Sample of HIV-Infected Adults in Care, 2007-2008. Open AIDS J.2012;6:213-223.
Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the Use of Antiretroviral Agents in HIV-1 Infected Adults and Adolescents. Department of Health and Human Services. April 9, 2015.
Available at: http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf

66. Odefsey / Overutilization _____ _____

Alert Message: The manufacturer's maximum recommended daily dose of Odefsey (emtricitabine/rilpivirine/tenofovir alafenamide) is one tablet daily.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C
Emtricitabine/Rilpivirine/Tenofovir Ala		

Max Dose: 1 tablet/day

References:
Odefsey Prescribing Information, March 2016, Gilead Sciences, Inc.

67. Odefsey / Therapeutic Appropriateness _____ _____

Alert Message: The safety and efficacy of Odefsey (emtricitabine/rilpivirine/tenofovir alafenamide) as a complete regimen for the treatment of HIV-1 infection has not been established in pediatric patients less than 12 years of age or weighting less than 35 kg.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C
Emtricitabine/Rilpivirine/Tenofovir Ala		

Age Range: 0-11 yoa

References:
Odefsey Prescribing Information, March 2016, Gilead Sciences, Inc.

68. Odefsey / Contraindicated Drugs _____ _____

Alert message: A review of recent pharmacy claims shows that the patient is receiving concurrent therapy with Odefsey (emtricitabine/rilpivirine/tenofovir alafenamide) and a drug that is contraindicated with the fixed-dose antiretroviral combination product. Odefsey contains rilpivirine and tenofovir and co-administration with the identified agent may result in loss of virologic response and possible resistance to rilpivirine and tenofovir.

Conflict Code: DD – Drug/Drug Interactions

Util A	Util B	Util C
Emtricitabine/Rilpivirine/Tenofovir Ala	Carbamazepine	
	Oxcarbazepine	
	Phenobarbital	
	Phenytoin	
	Rifampin	
	Rifapentine	
	PPIs	
	Dexamethasone	

References:
Odefsey Prescribing Information, March 2016, Gilead Sciences, Inc.

69. Odefsey / Therapeutic Appropriateness _____ _____

Alert Message: The use of Odefsey (emtricitabine/rilpivirine/tenofovir alafenamide) is not recommended in patients with severe renal impairment (estimated creatinine clearance below 30 mL/min) as the fixed-dose combination product does not allow for dose reduction. The emtricitabine and tenofovir components of the antiretroviral agent are eliminated via the kidney and administration could result in significantly increased drug exposure. In addition, the tenofovir prodrug has been associated with development of renal toxicity.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C
Emtricitabine/Rilpivirine/Tenofovir Ala	CKD 4 & 5	
	ESRD	

References:
Odefsey Prescribing Information, March 2016, Gilead Sciences, Inc.

70. Odefsey / Rifabutin _____ _____

Alert message: Concurrent use of Odefsey (emtricitabine/rilpivirine/tenofovir alafenamide) and rifabutin is not recommended. The rilpivirine and tenofovir component of the antiretroviral agent are CYP3A4 substrates and concomitant use with rifabutin, a CYP3A4 inducer, may result in significant decreased in the plasma concentrations of the antiretroviral agents, leading to loss of virologic response and possible viral resistance.

Conflict Code: DD – Drug/Drug Interactions

Util A	Util B	Util C
Emtricitabine/Rilpivirine/Tenofovir Ala	Rifabutin	

References:
Odefsey Prescribing Information, March 2016, Gilead Sciences, Inc.

71. Odefsey / All other Antiretroviral Agents _____ _____

Alert message: The patient appears to be receiving other antiretroviral therapy in addition to Odefsey (emtricitabine/rilpivirine/tenofovir alafenamide). Odefsey is a complete regimen for the treatment of HIV-1 infections and should not be administered with other antiretroviral medications.

Conflict Code: DD – Drug/Drug Interactions

Util A	Util B	Util C
Emtricitabine/Rilpivirine/Tenofovir Ala	Cellular chemokine Receptor Antagonist	
	Fusion Inhibitors	
	Integrase Inhibitors	
	NNRTIs	
	NRTIs	
	Protease Inhibitors	

References:
Odefsey Prescribing Information, March 2016, Gilead Sciences, Inc.

72. Odefsey / Nonadherence _____ _____

Alert Message: Nonadherence to antiretroviral therapy my result in insufficient plasma levels and partial suppression of viral load leading to the development of resistance, HIV progression, and increased mortality.

Conflict Code: LR - Nonadherence
Drugs/Diseases

Util A	Util B	Util C
Emtricitabine/Rilpivirine/Tenofovir Ala		

References:
Odefsey Prescribing Information, March 2016, Gilead Sciences, Inc.
Beer L, Heffelfinger J, Frazier E, et al. Use of and Adherence to Antiretroviral Therapy in a Large U.S. Sample of HIV-Infected Adults in Care, 2007-2008. Open AIDS J.2012;6:213-223.
Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the Use of Antiretroviral Agents in HIV-1 Infected Adults and Adolescents. Department of Health and Human Services. April 9, 2015.
Available at: http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf

73. Ixekizumab / Tuberculosis _____ _____

Alert Message: Patients should be evaluated for tuberculosis (TB) prior to initiating treatment with Taltz (ixekizumab). Do not administer ixekizumab to patients with active TB infection. Initiate treatment of latent TB prior to administering ixekizumab. Consider anti-TB therapy prior to initiating ixekizumab in patients with a past history of latent or active TB in whom an adequate course of treatment cannot be confirmed. Patients receiving ixekizumab should be monitored closely for signs and symptoms of active TB during and after treatment.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C **(Include)**
Ixekizumab		Tuberculosis

References:
Taltz Prescribing Information, March 2016, Eli Lilly and Company.

74. Ixekizumab / Crohn's & Ulcerative Colitis _____ _____

Alert Message: Taltz (ixekizumab) should be used cautiously in patients with inflammatory bowel disease, including Crohn's disease and ulcerative colitis. In clinical trials, Crohn's disease (0.1%) and ulcerative colitis (0.2%), including exacerbations, occurred at a greater frequency in patients receiving ixekizumab as compared to those receiving placebo (0%). During ixekizumab treatment, monitor patients for onset or exacerbation of inflammatory bowel disease.

Conflict Code: MC – Drug Disease Precaution
Drugs/Diseases

Util A	Util B	Util C
Ixekizumab	Crohn's Disease Ulcerative Colitis	

References:
Taltz Prescribing Information, March 2016, Eli Lilly and Company.

75. Ixekizumab / Infections _____ _____

Alert Message: Taltz (ixekizumab) may increase the risk of infection. Instruct patients treated with ixekizumab to seek medical advice if signs or symptoms of clinically important chronic or acute infection occur. If a patient develops a serious infection or is not responding to standard therapy, monitor the patient closely and discontinue ixekizumab until the infection resolves.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C
Ixekizumab		

References:
Taltz Prescribing Information, March 2016, Eli Lilly and Company.
Clinical Pharmacology 2016 Elsevier/Gold Standard.

76. Vemurafenib / Overutilization _____ _____

Alert Message: The manufacturer's recommended daily dose of Zelboraf (vemurafenib) is 960 mg twice daily taken approximately 12 hours apart.

Conflict Code: ER - Overutilization
Drugs/Diseases

Util A	Util B	Util C
Vemurafenib		

Max Dose: 1920 mg/day

References:
Zelboraf Prescribing Information, May 2016, Genentech.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

77. Vemurafenib / Strong CYP3A4 Inhibitors _____ _____

Alert Message: The concurrent use of Zelboraf (vemurafenib), a CYP3A4 substrate, with a strong CYP3A4 inhibitor should be avoided due to risk of elevated vemurafenib plasma concentrations and risk of vemurafenib-related adverse effects (e.g. QT prolongation, hepatotoxicity, and rash).

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B		Util C
Vemurafenib	Nefazodone	Ketoconazole	
	Clarithromycin	Itraconazole	
	Telithromycin	Voriconazole	
	Saquinavir	Posaconazole	
	Ritonavir	Boceprevir	
	Indinavir	Cobicistat	
	Nelfinavir		

References:
Zelboraf Prescribing Information, May 2016, Genentech.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

78. Vemurafenib / Strong CYP3A4 Inducers _____ _____

Alert Message: Concurrent use of Zelboraf (vemurafenib), a CYP3A4 substrate, with a strong CYP3A4 inducer should be avoided. Concurrent use of these agents may result in decreased vemurafenib plasma concentrations and loss of vemurafenib therapeutic effect.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B		Util C
Vemurafenib	Carbamazepine	Rifampin	
	Phenytoin	Rifabutin	
	Phenobarbital	Rifapentine	

References:
Zelboraf prescribing Information, May 2016, Genentech.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

79. Vemurafenib / CYP1A2 Substrates with Narrow Therapeutic Indices _____ _____

Alert Message: Concurrent use of Zelboraf (vemurafenib), a CYP1A2 inhibitor, with a CYP1A2 substrate that has a narrow therapeutic index (e.g., theophylline and tizanidine) should be avoided due to the risk of increased substrate concentrations. If co-administration cannot be avoided, monitor closely for toxicities and consider dose reduction of CYP1A2 substrate.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Vemurafenib	Theophylline	
	Tizanidine	
	Mexiletine	

References:
Zelboraf Prescribing Information, May 2016, Genentech.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

80. Vemurafenib / P-gp Substrates with Narrow Therapeutic Indices _____ _____

Alert Message: Concurrent use of Zelboraf (vemurafenib), a P-glycoprotein (P-gp) transport inhibitor, with a P-gp substrate that has a narrow therapeutic index (e.g., digoxin, quinidine, and sirolimus) should be avoided due to the risk of increased substrate concentrations. If co-administration cannot be avoided, monitor closely for toxicities and consider dose reduction of the P-gp substrate.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Vemurafenib	Digoxin	
	Quinidine	
	Cyclosporine	
	Fentanyl	
	Sirolimus	

References:
Zelboraf Prescribing Information, May 2016, Genentech.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

81. Vemurafenib / Therapeutic Appropriateness _____ _____

Alert Message: Safety and effectiveness of Zelboraf (vemurafenib) has not been established in pediatric patients below the age of 18.

Conflict Code: TA – therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C
Vemurafenib		

Age Range: 0 – 17 yoa

References:
Zelboraf Prescribing Information, May 2016, Genentech.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

82. Vemurafenib / Pregnancy / Pregnancy Negating _____ _____

Alert Message: Zelboraf (vemurafenib) can cause fetal harm when administered to pregnant women based on its mechanism of action. There are no adequate and well-controlled studies in pregnant women. If the drug is used during pregnancy or if the patient becomes pregnant while taking this drug, apprise the patient of the potential hazard to the fetus.

Conflict Code: TA – therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C (Negating)
Vemurafenib	Pregnancy	Delivery
		Miscarriage
		Abortion

Age Range: 11 – 50 yoa
Gender: Female

References:
Zelboraf Prescribing Information, May 2016, Genentech.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

83. Vemurafenib / QT Prolongation _____ _____

Alert Message: Concurrent use of Zelboraf (vemurafenib) with another drug known to prolong the QT interval may lead to an increased risk of serious cardiac adverse events. If concurrent therapy is required, monitor patient for QT prolongation.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B					Util C
Vemurafenib	Albuterol	Disopyramide	Imipramine	Pazopanib	Thioridazine	
	Alfuzosin	Dofetilide	Indapamide	Pentamidine	Tizanidine	
	Amantadine	Dolasetron	Isradipine	Pimozide	Tolterodine	
	Amiodarone	Doxepin	Itraconazole	Posaconazole	Trazodone	
	Amitriptyline	Dronedarone	Ketoconazole	Procainamide	TMP/SMZ	
	Amphetamine	Droperidol	Lapatinib	Propafenone	Trimipramine	
	Arsenic Trioxide	Ephedrine	Levalbuterol	Protriptyline	Vandetanib	
	Asenapine	Epinephrine	Levofloxacin	Quetiapine	Vardenafil	
	Atazanavir	Erythromycin	Lithium	Quinidine	Venlafaxine	
	Atomoxetine	Escitalopram	Metaproterenol	Ranolazine	Ziprasidone	
	Azithromycin	Felbamate	Methadone	Risperidone	Zolmitriptan	
	Chloral Hydrate	Flecainide	Moexipril/HCTZ	Ritonavir	Ezogabine	
	Chloroquine	Fluconazole	Moxifloxacin	Salmeterol	Rasagiline	
	Chlorpromazine	Fluoxetine	Nicardipine	Saquinavir	Phenelzine	
	Ciprofloxacin	Foscarnet	Nilotinib	Sertraline	Tranylcypromine	
	Citalopram	Fosphenytoin	Norfloxacin	Solifenacin	Linezolid	
	Clarithromycin	Galantamine	Nortriptyline	Sotalol		
	Clomipramine	Gemifloxacin	Octreotide	Sunitinib		
	Clozapine	Granisetron	Ofloxacin	Tacrolimus		
	Dasatinib	Haloperidol	Ondansetron	Tamoxifen		
	Desipramine	Isocarboxazid	Paliperidone	Telithromycin		
	Diphenhydramine	Iloperidone	Paroxetine	Terbutaline		

References:
Zelboraf Prescribing Information, May 2016, Genentech.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

84. Vemurafenib / QT Prolongation _____ _____

Alert Message: Zelboraf (vemurafenib) is associated with concentration-dependent QT prolongation. Do not start vemurafenib in patients with uncorrectable electrolyte abnormalities, QTc > 500 ms, or long QT syndrome, or in patients taking agents known to prolong the QT interval. Withhold vemurafenib for QTc of 500 ms or greater. Upon recovery to QTc of 500 ms or less, restart vemurafenib at a reduced dose. Permanently discontinue vemurafenib if QTc interval remains > 500 ms and increased 60 ms from pre-treatment values after controlling cardiac risk factors for QT prolongation.

Conflict Code: TA – therapeutic Appropriateness
Drugs/Diseases

Util A	Util B	Util C
Vemurafenib	QT Prolongation	

References:
Zelboraf Prescribing Information, May 2016, Genentech.
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

85. Rolapitant / Thioridazine _____ _____

Alert Message: Concurrent use of Varubi (rolapitant) with thioridazine is contraindicated. Thioridazine is a CYP2D6 substrate and use the moderate CYP2D6 inhibitor rolapitant may result in a significant increase in thioridazine plasma concentrations and increased risk of QT prolongation and torsade de pointes. The inhibitory effect of rolapitant on CYP2D6 isoenzyme lasts at least 7 days after a single dose.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Rolapitant	Thioridazine	

References:
Varubi Prescribing Information, September 2015, Tesaro.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

86. Rolapitant / Pimozide _____ _____

Alert Message: Concurrent use of Varubi (rolapitant) with pimozide, a CYP2D6 substrate, should be avoided due to the increased risk for QT prolongation and torsade de pointes. Rolapitant is a moderate CYP2D6 inhibitor and concomitant use with pimozide may significantly increase pimozide concentrations. The inhibitory effect of rolapitant on CYP2D6 isoenzyme lasts at least 7 days after a single dose. Monitor patient for QT prolongation if co-administration cannot be avoided.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Rolapitant	Pimozide	

References:
Varubi Prescribing Information, September 2015, Tesaro.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

87. Rolapitant / CYP2D6 Substrates with Narrow Therapeutic Indices _____ _____

Alert Message: Caution should be exercised when Varubi (rolapitant) is used concurrently with a drug that is a CYP2D6 substrate and has a narrow therapeutic index. Rolapitant is a moderate CYP2D6 inhibitor and its inhibitory effect on CYP2D6 isoenzyme lasts at least 7 days after a single dose. Monitor patient for adverse reactions if concomitant use with a CYP2D6 substrate with a narrow therapeutic index cannot be avoided.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Rolapitant	Flecainide	
	Propafenone	
	Mexiletine	
	Warfarin	

References:
Varubi Prescribing Information, September 2015, Tesaro.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

88. Rolapitant / BCRP Substrates with Narrow Therapeutic Indices _____ _____

Alert Message: Caution should be exercised when Varubi (rolapitant) is used concurrently with a drug that is a BCRP substrate with a narrow therapeutic index. Rolapitant is an inhibitor of BCRP transport and concomitant use with a BCRP substrate may result in increased BCRP substrate concentrations and potential for adverse effects. Monitor patient for adverse reactions if concomitant use with a BCRP substrate with a narrow therapeutic index cannot be avoided.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Rolapitant	Methotrexate	
	Topotecan	
	Irinotecan	

References:
Varubi Prescribing Information, September 2015, Tesaro.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

89. Rolapitant / P-gp Substrates with Narrow Therapeutic Indices _____ _____

Alert Message: Caution should be exercised when Varubi (rolapitant) is used concurrently with a drug that is a P-gp substrate with a narrow therapeutic index. Rolapitant is a P-gp efflux inhibitor and concomitant use with a P-gp substrate may result in increased P-gp substrate concentrations and risk of adverse reactions. If concomitant therapy cannot be avoided, monitor patient for P-gp-related adverse reactions.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Rolapitant	Digoxin	
	Cyclosporine	
	Quinidine	
	Tacrolimus	

References:
Varubi Prescribing Information, September 2015, Tesaro.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

90. Rolapitant / Strong CYP3A4 Inducers _____ _____

Alert Message: Avoid the use of Varubi (rolapitant) in patients who require chronic administration of a strong CYP3A4 inducer. Rolapitant is a CYP3A4 substrate and concomitant use with a CYP3A4 inducer may result in significantly reduced rolapitant plasma concentrations and decreased efficacy.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Rolapitant	Carbamazepine	
	Phenytoin	
	Phenobarbital	
	Primidone	
	Rifampin	
	Rifapentine	

References:
Varubi Prescribing Information, September 2015, Tesaro.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

91. Linagliptin/Metformin XR / Nonadherence _____ _____

Alert Message: Based on refill history, your patient may be under-utilizing Jentadueto XR (linagliptin/metformin extended release). Non-adherence to the prescribed dosing regimen may result in loss of glycemic control and an increased risk of developing diabetic-related complications.

Conflict Code: LR - Nonadherence
Drugs/Diseases

Util A	Util B	Util C
Linagliptin/Metformin XR		

References:

Osterberg L, Blaschke T. Adherence to medication. N Engl J Med 2005;353:487-97.
Miller KE, Medication Nonadherence Affects Diabetes Treatment. Am Family Phys. Vol. 75 No. 6, March 15, 2007.
Currie CJ, Peyrot M, Morgan CL, et al. The Impact of Treatment Noncompliance on Mortality in People With Type 2 Diabetes. Diabetes Care 35:1279-1284, June 2012.
Banerji MA, Dunn JD. Impact of Glycemic Control on Healthcare Resource Utilization and Costs of Type 2 Diabetes: Current and Future Pharmacologic Approaches to Improving Outcomes. Am Health Drug Benefits. 2013 Sep:6(7):382-92.

92. Oxycodone / CYP2D6 Inhibitors _____ _____

Alert Message: Concurrent use of an oxycodone-containing product with a CYP2D6 inhibitor may lead to increased oxycodone plasma concentrations due to inhibition of oxycodone CYP2D6-mediated metabolism. Co-administration may result in increased or prolonged opioid effects. Dosage adjustment may be necessary until stable drug effects are achieved.

Conflict Code: DD – Drug/Drug Interaction
Drugs/Diseases

Util A	Util B	Util C
Oxycodone	Paroxetine	
	Fluoxetine	
	Quinidine	
	Bupropion	

References:

Clinical Pharmacology, 2016 Elsevier/Gold Standard.
Facts & Comparisons, 2016 Updates, Wolters Kluwer Health, Inc.