# DUR Board Meeting
# March 2, 2016
# Brynhild Haugland Room
# State Capitol

north dakota
department of
human services

**North Dakota Medicaid**
**DUR Board Meeting Agenda**
**Brynhild Haugland Room**
**State Capitol**
**600 East Boulevard Avenue**
**Bismarck, ND**
**March 2, 2016**
**1pm**

1. Administrative items
    - Travel vouchers

2. Old business
    - Review and approval of minutes 12/15 meeting
    - Budget update
    - Review top 15 therapeutic categories/top 25 drugs
    - Second review of insulins
    - Second review of steroid inhalers
    - Second review of digestive enzymes
    - Second review of nasal steroids
    - Second review of otic anti-infectives
    - Second review of ulcer anti-infectives
    - Prior authorization review
        - >$3,000 – Buphenyl, phenoxybenzamine, tetrabenazine, Miacalcin, Carbaglu, Keveyis, Strensiq
        - PAH – Uptravi
        - PCSK9 – Repatha
        - Removed from PA – Crestor, Luzu, Finacea, Kadian (except 200 mg), Nucynta, Nucynta ER

3. New business
    - Review of Glumetza
    - Review of Narcan nasal spray
    - Review of kits
    - Review of naltrexone
    - Review of Edecrin
    - Review of Nucala
    - Review of acitretin
    - Review of lice medications
    - Review of $NK_1$ receptor antagonists
    - Review of Tirosint
    - 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**
**December 2, 2015**

**Members Present:** Tanya Schmidt, Laura Schield, Katie Kram, Wendy Brown, Michael Quast, Russ Sobotta, Peter Woodrow, Andrea Honeyman, Jeffrey Hostetter, Carlotta McCleary, Michael Booth, Leneika Roehrich

**Members Absent**: James Carlson, Steve Irsfeld

**Medicaid Pharmacy Department:** Brendan Joyce, Alexi Murphy, Gary Betting

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 September meeting. T. Schmidt moved that the minutes be approved, and P. Woodrow seconded the motion. Chair W. Brown called for a voice vote to approve the minutes. The motion passed with no audible dissent.

**New member introduction**
B. Joyce introduced Leneika Roehrich as a new pharmacist member appointed to the DUR Board.

**Budget update**
There are approximately 66,000 recipients currently enrolled in Medicaid with approximately 17,000 of these recipients receiving pharmacy benefits each month. The monthly drug spend is approximately $1.5 million (net of rebates). Every week, approximately $800,000 is paid to pharmacies for approximately 4,000 recipients obtaining 13,000 claims. The average cost per utilizer per month is around $200 and the average prescription cost is around $60.

**Second reviews**
A motion and second were made at the September meeting to place Marinol, inhaled corticosteroid/long-acting beta-2 agonists, medications used to treat IBS/OIC, medications used to treat ulcerative colitis, SGLT2 products, immediate release oxycodone, inhaled anti-infectives for cystic fibrosis, and leukotriene modifiers on prior authorization. The topics were brought up for a second review. Julie McDavitt and Jennifer Stoffel provided public comment. The motion to place these medications on prior authorization passed with one audible dissent for Marinol and no audible dissent for inhaled corticosteroid/long-acting beta-2 agonists, medications used to treat IBS/OIC, medications used to treat ulcerative colitis, SGLT2 products, immediate release oxycodone, inhaled anti-infectives for cystic fibrosis, and leukotriene modifiers.

**Immediate release narcotics in conjunction with immediate release narcotic combinations review**
A. Murphy shared with the Board that almost all of the immediate release narcotics used in conjunction with immediate release narcotic combinations is made up of tramadol + Percocet and tramadol + Norco. The remaining combinations were hydromorphone + Norco, oxycodone + Norco, and meperidine + Norco.

**Cytokine modulators review**
B. Joyce reviewed cytokine modulators with the Board. This class already has a prior authorization for indication. In the future, this class will be managed through the PDL and one product may be preferred over another. R. Troxell, representing Novartis, spoke.

**Insulin review**
B. Joyce reviewed insulin with the Board. A motion was made by J. Hostetter to allow the department to manage the class through prior authorization. The motion was seconded by M. Booth. There was no public comment. This topic will be reviewed at the next meeting.

**Steroid inhalers review**
B. Joyce reviewed steroid inhalers with the Board. A motion was made by P. Booth to allow the department to manage the class through prior authorization. The motion was seconded by M. Quast. Bradley Haas, representing AstraZeneca, spoke. This topic will be reviewed at the next meeting.

**Digestive enzymes review**
B. Joyce reviewed digestive enzymes with the Board. A motion was made by L. Schield to allow the department to manage the class through prior authorization. T. Schmidt seconded the motion. There was no public comment .This topic will be reviewed at the next meeting.

**Nasal steroids review**
B. Joyce reviewed nasal steroids with the Board. There was no public comment. J. Hostetter made a motion to allow the department to manage the class through prior authorization. M. Booth seconded the motion. This topic will be reviewed at the next meeting.

**Otic anti-infectives review**
B. Joyce reviewed otic anti-infectives with the Board. There was no public comment. K. Kram made a motion to allow the department to manage the class through prior authorization. P. Woodrow seconded the motion. This topic will be reviewed at the next meeting.

**Ulcer anti-infectives review**
B. Joyce reviewed ulcer anti-infectives with the Board. There was no public comment. T. Schmidt made a motion to allow the department to manage the class through prior authorization. L. Schield 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. J. Hostetter moved to approve the new criteria and P. Woodrow seconded the motion. Chair W. Brown called for a voice vote. The motion passed with no audible dissent.

**Annual prior authorization review**
The Board reviewed all forms and criteria that have previously been placed on prior authorization. There was no public comment.

The next DUR Board meeting will be held March 2, 2016 in Bismarck. L. Schield made a motion to adjourn the meeting. J. Hostetter seconded. The motion passed with no audible dissent. W. Brown adjourned the meeting.

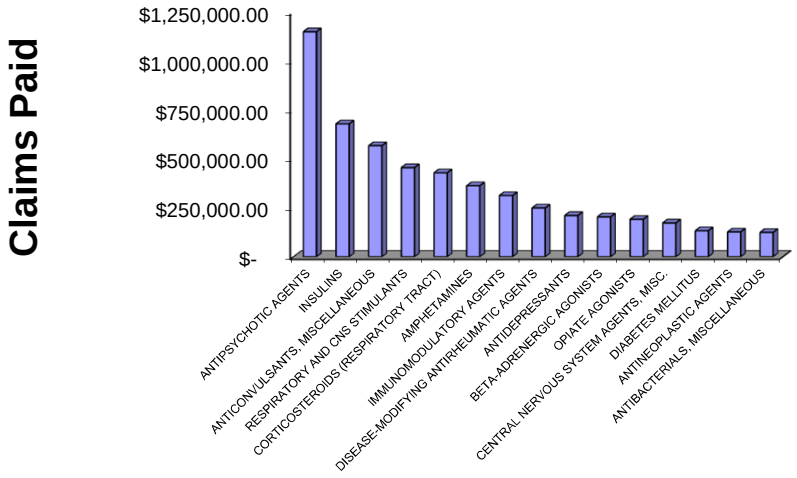
**NORTH DAKOTA MEDICAID**
**Cost Management Analysis**

**TOP 15 THERAPEUTIC CLASSES BY TOTAL COST OF CLAIMS FROM 07/01/2015 - 09/14/2015**

| AHFS Therapeutic Class | Rx | Paid | Paid/Rx | % Total Claims |
|---|---|---|---|---|
| ANTIPSYCHOTIC AGENTS | 4,707 | $ 1,148,656.66 | $ 244.03 | 4.28% |
| INSULINS | 1,418 | $ 679,524.00 | $ 479.21 | 1.29% |
| ANTICONVULSANTS, MISCELLANEOUS | 6,446 | $ 568,168.07 | $ 88.14 | 5.86% |
| RESPIRATORY AND CNS STIMULANTS | 3,626 | $ 456,121.37 | $ 125.79 | 3.30% |
| CORTICOSTEROIDS (RESPIRATORY TRACT) | 1,570 | $ 429,531.49 | $ 273.59 | 1.43% |
| AMPHETAMINES | 2,965 | $ 363,570.37 | $ 122.62 | 2.70% |
| IMMUNOMODULATORY AGENTS | 51 | $ 313,299.17 | $ 6,143.12 | 0.05% |
| DISEASE-MODIFYING ANTIRHEUMATIC AGENTS | 85 | $ 249,750.03 | $ 2,938.24 | 0.08% |
| ANTIDEPRESSANTS | 11,007 | $ 211,447.01 | $ 19.21 | 10.01% |
| BETA-ADRENERGIC AGONISTS | 3,113 | $ 204,389.57 | $ 65.66 | 2.83% |
| OPIATE AGONISTS | 6,583 | $ 191,959.15 | $ 29.16 | 5.99% |
| CENTRAL NERVOUS SYSTEM AGENTS, MISC. | 1,275 | $ 173,480.62 | $ 136.06 | 1.16% |
| DIABETES MELLITUS | 873 | $ 133,373.89 | $ 152.78 | 0.79% |
| ANTINEOPLASTIC AGENTS | 256 | $ 127,314.42 | $ 497.32 | 0.23% |
| ANTIBACTERIALS, MISCELLANEOUS | 390 | $ 124,934.61 | $ 320.35 | 0.35% |
| Total Top 15 | 44,365 | $ 5,375,520.43 | $ 121.17 | 40.35% |

| | |
|---|---|
| Total Rx Claims<br>From 07/01/2015 - 09/14/2015 | 109,946 |

**Top 15 Therapeutic Classes**
**Based on Total Cost of Claims**



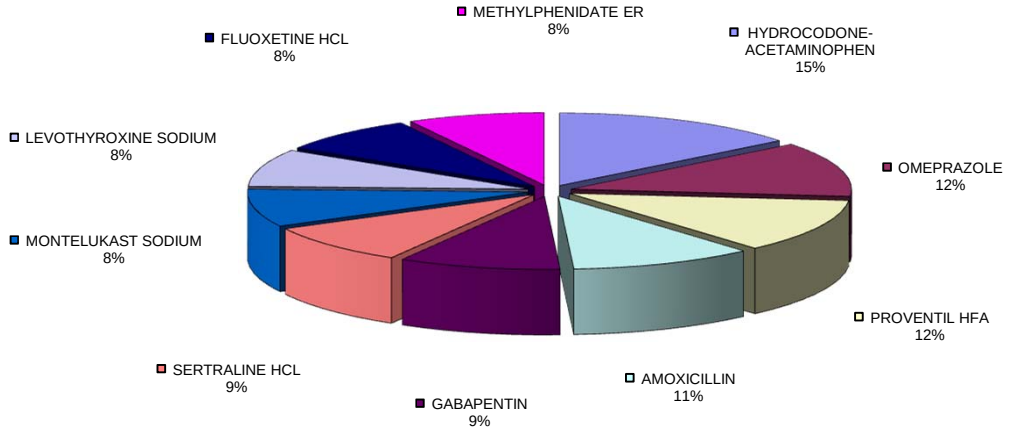
**NORTH DAKOTA MEDICAID**
**Cost Management Analysis**

**TOP 25 DRUGS BASED ON NUMBER OF CLAIMS FROM 07/01/2015 - 09/14/2015**

| Drug | AHFS Therapeutic Class | Rx | Paid | Paid/Rx | % Total Claims |
|---|---|---|---|---|---|
| HYDROCODONE-ACETAMINOPHEN | OPIATE AGONISTS | 2,611 | $ 55,048.01 | $ 21.08 | 2.37% |
| OMEPRAZOLE | PROTON-PUMP INHIBITORS | 2,217 | $ 23,544.14 | $ 10.62 | 2.02% |
| PROVENTIL HFA | BETA-ADRENERGIC AGONISTS | 2,171 | $ 155,692.87 | $ 71.71 | 1.97% |
| AMOXICILLIN | PENICILLINS | 1,922 | $ 19,590.11 | $ 10.19 | 1.75% |
| GABAPENTIN | ANTICONVULSANTS, MISCELLANEOUS | 1,694 | $ 36,453.50 | $ 21.52 | 1.54% |
| SERTRALINE HCL | ANTIDEPRESSANTS | 1,600 | $ 14,911.32 | $ 9.32 | 1.46% |
| MONTELUKAST SODIUM | LEUKOTRIENE MODIFIERS | 1,519 | $ 28,400.93 | $ 18.70 | 1.38% |
| LEVOTHYROXINE SODIUM | THYROID AGENTS | 1,515 | $ 25,789.64 | $ 17.02 | 1.38% |
| FLUOXETINE HCL | ANTIDEPRESSANTS | 1,478 | $ 9,833.97 | $ 6.65 | 1.34% |
| METHYLPHENIDATE ER | RESPIRATORY AND CNS STIMULANTS | 1,438 | $ 234,943.84 | $ 163.38 | 1.31% |
| TRAZODONE HCL | ANTIDEPRESSANTS | 1,393 | $ 9,912.21 | $ 7.12 | 1.27% |
| LISINOPRIL | ANGIOTENSIN-CONVERTING ENZYME INHIBITORS | 1,361 | $ 9,810.22 | $ 7.21 | 1.24% |
| VYVANSE | AMPHETAMINES | 1,153 | $ 209,366.95 | $ 181.58 | 1.05% |
| CLONIDINE HCL | CENTRAL ALPHA-AGONISTS | 1,135 | $ 8,961.66 | $ 7.90 | 1.03% |
| OXYCODONE-ACETAMINOPHEN | OPIATE AGONISTS | 1,135 | $ 37,580.49 | $ 33.11 | 1.03% |
| ATORVASTATIN CALCIUM | HMG-COA REDUCTASE INHIBITORS | 1,135 | $ 11,759.34 | $ 10.36 | 1.03% |
| AZITHROMYCIN | MACROLIDES | 1,105 | $ 18,304.19 | $ 16.56 | 1.01% |
| METFORMIN HCL | BIGUANIDES | 1,020 | $ 8,417.29 | $ 8.25 | 0.93% |
| ESCITALOPRAM OXALATE | ANTIDEPRESSANTS | 1,008 | $ 10,978.28 | $ 10.89 | 0.92% |
| CLONAZEPAM | BENZODIAZEPINES (ANTICONVULSANTS) | 1,002 | $ 7,385.68 | $ 7.37 | 0.91% |
| DEXTROAMPHETAMINE-AMPHET ER | AMPHETAMINES | 999 | $ 104,134.47 | $ 104.24 | 0.91% |
| TRAMADOL HCL | OPIATE AGONISTS | 999 | $ 8,355.04 | $ 8.36 | 0.91% |
| BUPROPION XL | ANTIDEPRESSANTS | 992 | $ 22,613.87 | $ 22.80 | 0.90% |
| QUETIAPINE FUMARATE | ANTIPSYCHOTIC AGENTS | 980 | $ 16,151.88 | $ 16.48 | 0.89% |
| LAMOTRIGINE | ANTICONVULSANTS, MISCELLANEOUS | 969 | $ 11,667.27 | $ 12.04 | 0.88% |
| TOTAL TOP 25 | | 34,551 | $ 1,099,607.17 | $ 31.83 | 31.43% |

| | |
|---|---|
| Total Rx Claims<br>From 07/01/2015 - 09/14/2015 | 109,946 |

**Top 10 Drugs**
**Based on Number of Claims**



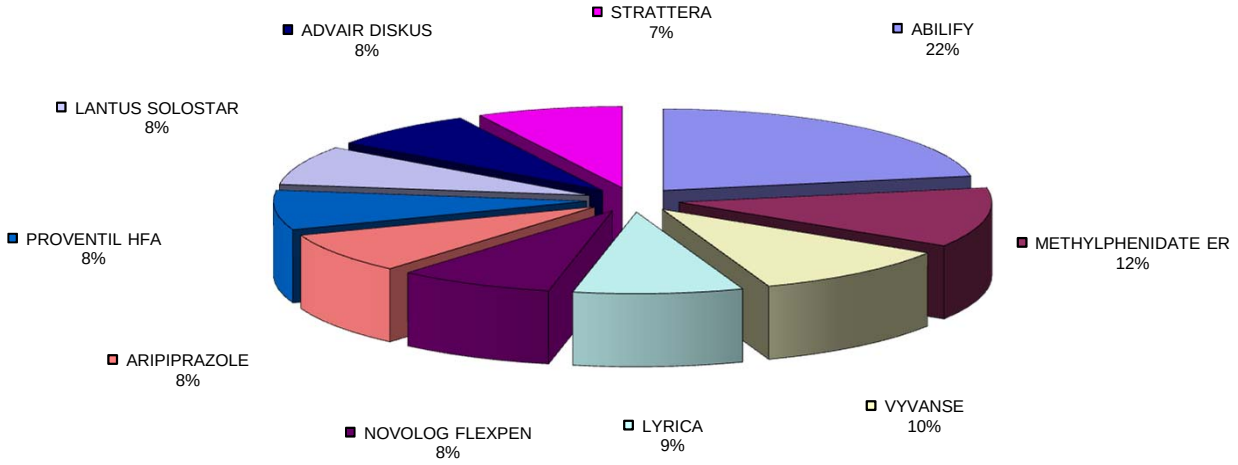
**NORTH DAKOTA MEDICAID**
**Cost Management Analysis**

**TOP 25 DRUGS BASED ON TOTAL CLAIMS COST FROM 07/01/2015 - 09/14/2015**

| Drug | AHFS Therapeutic Class | Rx | Paid | Paid/Rx | % Total Claims |
|---|---|---|---|---|---|
| ABILIFY | ANTIPSYCHOTIC AGENTS | 512 | $ 440,866.86 | $ 861.07 | 0.47% |
| METHYLPHENIDATE ER | RESPIRATORY AND CNS STIMULANTS | 1,438 | $ 234,943.84 | $ 163.38 | 1.31% |
| VYVANSE | AMPHETAMINES | 1,153 | $ 209,366.95 | $ 181.58 | 1.05% |
| LYRICA | ANTICONVULSANTS, MISCELLANEOUS | 476 | $ 174,129.31 | $ 365.82 | 0.43% |
| NOVOLOG FLEXPEN | INSULINS | 298 | $ 160,220.75 | $ 537.65 | 0.27% |
| ARIPIPRAZOLE | ANTIPSYCHOTIC AGENTS | 493 | $ 159,413.08 | $ 323.35 | 0.45% |
| PROVENTIL HFA | BETA-ADRENERGIC AGONISTS | 2,171 | $ 155,692.87 | $ 71.71 | 1.97% |
| LANTUS SOLOSTAR | INSULINS | 366 | $ 154,606.72 | $ 422.42 | 0.33% |
| ADVAIR DISKUS | CORTICOSTEROIDS (RESPIRATORY TRACT) | 464 | $ 150,104.11 | $ 323.50 | 0.42% |
| STRATTERA | CENTRAL NERVOUS SYSTEM AGENTS, MISC. | 494 | $ 149,758.88 | $ 303.16 | 0.45% |
| ENBREL | DISEASE-MODIFYING ANTIRHEUMATIC AGENTS | 40 | $ 124,112.51 | $ 3,102.81 | 0.04% |
| LEVEMIR FLEXTOUCH | INSULINS | 239 | $ 121,347.47 | $ 507.73 | 0.22% |
| COPAXONE | IMMUNOMODULATORY AGENTS | 19 | $ 118,457.89 | $ 6,234.63 | 0.02% |
| FREESTYLE LITE STRIPS | DIABETES MELLITUS | 782 | $ 117,921.15 | $ 150.79 | 0.71% |
| INVEGA SUSTENNA | ANTIPSYCHOTIC AGENTS | 71 | $ 115,514.63 | $ 1,626.97 | 0.06% |
| LATUDA | ANTIPSYCHOTIC AGENTS | 148 | $ 112,965.89 | $ 763.28 | 0.13% |
| BUDESONIDE | CORTICOSTEROIDS (RESPIRATORY TRACT) | 364 | $ 112,203.25 | $ 308.25 | 0.33% |
| DEXTROAMPHETAMINE-AMPHET ER | AMPHETAMINES | 999 | $ 104,134.47 | $ 104.24 | 0.91% |
| AUVI-Q | ALPHA- AND BETA-ADRENERGIC AGONISTS | 217 | $ 96,649.64 | $ 445.39 | 0.20% |
| HELIXATE FS | HEMOSTATICS | 4 | $ 72,416.74 | $ 18,104.19 | 0.00% |
| SEROQUEL XR | ANTIPSYCHOTIC AGENTS | 153 | $ 71,461.12 | $ 467.07 | 0.14% |
| SPIRIVA | ANTIMUSCARINICS/ANTISPASMODICS | 232 | $ 70,843.96 | $ 305.36 | 0.21% |
| AFINITOR | ANTINEOPLASTIC AGENTS | 7 | $ 70,472.65 | $ 10,067.52 | 0.01% |
| VIMPAT | ANTICONVULSANTS, MISCELLANEOUS | 116 | $ 63,751.81 | $ 549.58 | 0.11% |
| DIVALPROEX SODIUM ER | ANTICONVULSANTS, MISCELLANEOUS | 354 | $ 62,740.25 | $ 177.23 | 0.32% |
| TOTAL TOP 25 | | 11,610 | $ 3,424,096.80 | $ 294.93 | 10.56% |

| | |
|---|---|
| Total Rx Claims<br>From 07/01/2015 - 09/14/2015 | 109,946 |

**Top 10 Drugs**
**Based on Total Claims Cost**



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Prior Authorization Vendor for ND Medicaid

# Insulin
# Prior Authorization

**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 non-preferred insulin must first try a 30-day trial of one preferred agent in the past year.

- **Requires a trial and failure of a preferred agent in the past year**

**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 |
| **QUALIFICATIONS FOR COVERAGE:** | | | |

| Requested Drug and Dosage: | Diagnosis for this request: |
|---|---|
| Failed Therapy: | Start Date:<br><br>End Date: |
| Prescriber (or Staff) / Pharmacy Signature | Date |

**Part II: TO BE COMPLETED BY PHARMACY**

| PHARMACY NAME: | | | ND MEDICAID PROVIDER NUMBER: |
|---|---|---|---|
| PHONE NUMBER | FAX NUMBER | DRUG | NDC # |

**Part III: FOR OFFICIAL USE ONLY**

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

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Prior Authorization Vendor for ND Medicaid

# Steroid Inhalers
# Prior Authorization

**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 steroid inhaler must first try a 30-day trial of all preferred agents in the past year.

- **Requires a trial and failure of all preferred agents in the past year**

**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 |
| **QUALIFICATIONS FOR COVERAGE:** | | | |

| Requested Drug and Dosage: | Diagnosis for this request: |
|---|---|
| Failed Therapy (list all): | Start Date: End Date: |
| Prescriber (or Staff) / Pharmacy Signature | Date |

**Part II: TO BE COMPLETED BY PHARMACY**

| PHARMACY NAME: | | | ND MEDICAID PROVIDER NUMBER: |
|---|---|---|---|
| PHONE NUMBER | FAX NUMBER | DRUG | NDC # |

**Part III: FOR OFFICIAL USE ONLY**

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

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Prior Authorization Vendor for ND Medicaid

# Digestive Enzymes Prior Authorization

**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 non-preferred digestive enzyme must first try a 30-day trial of all preferred agents in the past year.

- **Requires a trial and failure of all preferred agents in the past year**

**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 |

**QUALIFICATIONS FOR COVERAGE:**

| Requested Drug and Dosage:<br><br>Is patient stable on a pancreatic enzyme written by a gastroenterologist or pancrease disease specialist? ☐ YES ☐ NO | Diagnosis for this request: |
|---|---|
| Failed Therapy (list all): | Start Date: End Date: |
| Prescriber (or Staff) / Pharmacy Signature | Date |

**Part II: TO BE COMPLETED BY PHARMACY**

| PHARMACY NAME: | | | ND MEDICAID PROVIDER NUMBER: |
|---|---|---|---|
| PHONE NUMBER | FAX NUMBER | DRUG | NDC # |

**Part III: FOR OFFICIAL USE ONLY**

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

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# Nasal Steroid
# Prior Authorization

**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 nasal steroid must first try a 30-day trial of fluticasone in the past year.

- **Requires a trial and failure of fluticasone**

**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 |
| **QUALIFICATIONS FOR COVERAGE:** | | | |

| Requested Drug and Dosage: | Diagnosis for this request: |
|---|---|
| Failed Therapy: | Start Date:<br><br>End Date: |
| Prescriber (or Staff) / Pharmacy Signature | Date |

**Part II: TO BE COMPLETED BY PHARMACY**

| PHARMACY NAME: | | | ND MEDICAID PROVIDER NUMBER: |
|---|---|---|---|
| PHONE NUMBER | FAX NUMBER | DRUG | NDC # |

**Part III: FOR OFFICIAL USE ONLY**

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

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# Otic Anti-Infectives Prior Authorization

**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 otic anti-infective must first try a 7-day trial of a preferred agent in the past 3 months.

- **Requires a trial and failure of a preferred agent**

**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 |
| **QUALIFICATIONS FOR COVERAGE:** | | | |

| Requested Drug and Dosage: | Diagnosis for this request: |
|---|---|
| Failed Therapy: | Start Date:<br><br>End Date: |
| Prescriber (or Staff) / Pharmacy Signature | Date |

**Part II: TO BE COMPLETED BY PHARMACY**

| PHARMACY NAME: | | | ND MEDICAID PROVIDER NUMBER: |
|---|---|---|---|
| PHONE NUMBER | FAX NUMBER | DRUG | NDC # |

**Part III: FOR OFFICIAL USE ONLY**

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

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# Ulcer Anti-Infectives Prior Authorization

**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 ulcer anti-infective must first try a 10-day trial of a preferred agent in the past 3 months.

- **Requires a trial and failure of a preferred agent**

**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 |
| **QUALIFICATIONS FOR COVERAGE:** | | | |
| Requested Drug and Dosage: | | Diagnosis for this request: | |
| Failed Therapy: | | Start Date:<br><br>End Date: | |
| Prescriber (or Staff) / Pharmacy Signature | | Date | |

**Part II: TO BE COMPLETED BY PHARMACY**

| PHARMACY NAME: | | | ND MEDICAID PROVIDER NUMBER: |
|---|---|---|---|
| PHONE NUMBER | FAX NUMBER | DRUG | NDC # |

**Part III: FOR OFFICIAL USE ONLY**

| Date Received | Initials: |
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| Denied: (Reasons) | |

| ANTIDIABETICS - INSULIN | | |
|---|---|---|
| **PA Criteria:** A thirty (30) day trial of one (1) preferred agent will be required in the past year before a non-preferred agent will be authorized. | | |
| **Preferred Agents** | **Non-Preferred Agents** | **PA Criteria** |
| HUMALOG (insulin lispro) VIAL | AFREZZA (insulin regular, human) | |
| HUMALOG MIX 50/50 (insulin NPL/insulin lispro) VIAL | APIDRA (insulin glulisine) VIAL | |
| HUMALOG MIX 75/25 (insulin NPL/insulin lispro) VIAL | APIDRA SOLOSTAR (insulin glulisine) INSULIN PEN | |
| HUMULIN 70/30 (insulin NPH human/regular insulin human) INSULIN PEN | HUMALOG (insulin lispro) CARTRIDGE | |
| HUMULIN 70/30 (insulin NPH human/regular insulin human) KWIKPEN | HUMALOG (insulin lispro) KWIKPEN | |
| HUMULIN 70/30 (insulin NPH human/regular insulin human) VIAL | HUMALOG MIX 50/50 (insulin NPL/insulin lispro) KWIKPEN | |
| HUMULIN N (insulin NPH human isophane) INSULIN PEN | HUMALOG MIX 75/25 (insulin NPL/insulin lispro) KWIKPEN | |
| HUMULIN N (insulin NPH human isophane) KWIKPEN | NOVOLIN 70-30 (insulin NPH human/regular insulin human) VIAL | |
| HUMULIN N (insulin NPH human isophane) VIAL | NOVOLIN N (insulin NPH human isophane) VIAL | |
| HUMULIN N (insulin NPH human isophane) VIAL | NOVOLIN R (insulin regular, human) VIAL | |
| HUMULIN R (insulin regular, human) VIAL | TOUJEO SOLOSTAR (insulin glargine) | |
| HUMULIN R U-500 (insulin regular, human) VIAL | | |
| LANTUS (insulin glargine) FLEXTOUCH | | |
| LANTUS (insulin glargine) VIAL | | |
| LEVEMIR (insulin detemir) VIAL | | |
| LEVEMIR (insulin glargine) FLEXTOUCH | | |
| NOVOLOG (insulin aspart) CARTRIDGE | | |
| NOVOLOG (insulin aspart) FLEXPEN | | |
| NOVOLOG (insulin aspart) VIAL | | |
| NOVOLOG MIX 70/30 (insulin aspart protamine/insulin aspart) INSULIN PEN | | |
| NOVOLOG MIX 70/30 (insulin aspart protamine/insulin aspart) VIAL | | |

| DIGESTIVE ENZYMES | | |
|---|---|---|
| **Category PA Criteria:** A thirty (30) day trial of all preferred agents in the past year will be required before a non-preferred agent will be authorized unless one (1) of the exceptions on the PA form is present. | | |
| **Preferred Agents** | **Non-Preferred Agents** | **PA Criteria** |
| CREON (lipase/protease/amylase) | PANCREAZE (lipase/protease/amylase) | |
| ZENPEP (lipase/protease/amylase) | PANCRELIPASE (lipase/protease/amylase) | |
| | PERTYZE (lipase/protease/amylase) | |
| | ULTRESA (lipase/protease/amylase) | |
| | VIOKACE (lipase/protease/amylase) | |
| | | |
| | | |

| OTIC ANTINFECTIVES - FLUOROQUINOLONES | | |
|---|---|---|
| **Category PA Criteria:** A seven (7) day trial of one (1) preferred agent in the past three (3) months will be required before a non-preferred agent will be authorized. | | |
| **Preferred Agents** | **Non-Preferred Agents** | **PA Criteria** |
| CIPRO HC (ciprofloxacin/hydrocortisone) | CILOXAN (ciprofloxacin) | |
| CIPRODEX (ciprofloxacin/dexamethasone) | OCUFLOX (ofloxacin) | |
| ciprofloxacin | ofloxacin | |

| STEROID INHALERS | | |
|---|---|---|
| **Category PA Criteria:** A thirty (30) day trial of all preferred agents in the past year will be required before a non-preferred agent will be authorized. | | |
| **Preferred Agents** | **Non-Preferred Agents** | **PA Criteria** |
| AEROSPAN (flunisolide) | ASMANEX HFA (mometasone) | A thirty (30) day trial of all preferred agents will be required before a non-preferred agent will be authorized. |
| ALVESCO (ciclesonide) | ARNUITY ELLIPTA (fluticasone) | |
| ASMANEX (mometasone) TWISTHALER | | |
| FLOVENT DISKUS (fluticasone) | | |
| FLOVENT HFA (fluticasone) | | |
| PULMICORT FLEXHALER (budesonide) | | |
| QVAR (beclomethasone) | | |

| ULCER ANTI-INFECTIVES | | |
|---|---|---|
| **Category PA Criteria:** A ten (10) day trial in the past three (3) months of all preferred agents will be required before a non-preferred agent will be authorized. | | |
| **Preferred Agents** | **Non-Preferred Agents** | **PA Criteria** |
| PYLERA (bismuth/methronidazole/tegracycline) | PREVPAC (lansoprazole/amoxicillin/clarithromycin) | |
| | lansoprazole/amoxicillin/clarithromycin | |
| | OMECLAMOX-PAK (omeprazole/clarithromycin/amoxicillin) | |

## PRODUCT DETAILS OF GLUMETZA

**INDICATIONS AND USE:**
Glumetza is a biguanide indicated as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus. Not for treatment of type 1 diabetes or diabetic ketoacidosis.

**ADMINISTRATION:**
Administer once daily with the evening meal. If naïve to metformin therapy, initiate with 500 mg daily. Individualize the dose based on effectiveness and tolerability while not exceeding the maximum recommended dosage of 2,000 mg daily.

**DOSAGE FORM AND STRENGTHS:**
Extended release tablets, 500 mg and 1,000 mg.

**CONTRAINDICATIONS:**
Renal impairment – metabolic acidosis, including diabetic ketoacidosis.

**WARNINGS AND PRECAUTIONS:**

- Lactic acidosis black box warning. Glumetza is not recommended in hepatic impairment and is contraindicated in renal impairment. Ensure normal renal function before initiation of therapy and at least annually thereafter. Warn against excessive alcohol intake.
- Temporarily discontinue in patients undergoing radiologic studies with intravascular administration of iodinated contrast materials or any surgical procedures necessitating restricted intake of food or fluids.
- Metformin may lower B12 levels.

**ADVERSE REACTIONS:**
The incidence of adverse reactions reported in >5% of patients versus placebo are hypoglycemia, diarrhea, and nausea.

**DRUG INTERACTIONS:**
Cationic drugs may reduce metformin elimination. Use with caution in patients who are taking cationic medications eliminated by renal tubular secretion.

References:

1. Glumetza [package insert]. Raleigh, NC: Salix Pharmaceuticals, Inc.; September, 2014.

## PRODUCT DETAILS OF NARCAN NASAL SPRAY

**INDICATIONS AND USE:**
Narcan nasal spray is indicated for the emergency treatment of known or suspected opioid overdose, as manifested by respiratory and/or central nervous system depression. Narcan nasal spray is intended for immediate administration as emergency therapy in settings where opioids may be present.

**ADMINISTRATION:**

- Administer Narcan nasal spray as quickly as possible to prevent prolonged respiratory depression.
- Additional doses may be required until emergency medical assistance becomes available.
- Each Narcan nasal spray contains a single dose of naloxone and cannot be reused.
- Re-administer with a new nasal spray ever 2-3 minutes if the patient does not respond or responds and then relapses.
- Administer in alternate nostrils with each dose.
- Recommended initial dose is one spray by intranasal administration delivering 4 mg of naloxone hydrochloride.

**DOSAGE FORM AND STRENGTHS:**
Nasal spray: 4 mg of naloxone hydrochloride in 0.1 mL

**WARNINGS AND PRECAUTIONS:**

- Risk of recurrent respiratory and CNS depression.
- Risk of limited efficacy with partial agonists or mixed agonists/antagonists
- Precipitation of severe opioid withdrawal
- Risk of cardiovascular effects

**ADVERSE REACTIONS:**
The following adverse reactions were observed in a clinical study: increased blood pressure, musculoskeletal pain, headache, nasal dryness, nasal edema, nasal congestion, and nasal inflammation.

References:

1. Narcan nasal spray [package insert]. Radnor, PA: Adapt Pharma, Inc.; November, 2015.

## PRODUCT DETAILS OF NALTREXONE

**INDICATIONS AND USE:**
Naltrexone is an opioid antagonist with high affinity for the mu-opioid receptor. Naltrexone can be used for the treatment of alcohol dependence and for the blockade of the effects of exogenously administered opioids.

**ADMINISTRATION:**

- Treatment of alcoholism – a dose of 50 mg once daily is recommended for most patients.
- Treatment of opioid dependence – initiate with 25 mg and if no withdrawal signs occur, the patient may be started on 50 mg a day thereafter.

**DOSAGE FORM AND STRENGTHS:**
Tablets: 50 mg of naltrexone hydrochloride

**WARNINGS AND PRECAUTIONS:**

- Risk of hepatic injury
- Opioid withdrawal
- Increased sensitivity to opioids
- Depression and suicidality

**ADVERSE REACTIONS:**
Serious adverse reactions that may be associated with naltrexone include accidental opioid overdose, depression, serious allergic reactions, and unintended precipitation of opioid withdrawal.

References:

1. Naltrexone. Facts & Comparisons eAnswers. 2016 Clinical Drug Information, LLC.

## PRODUCT DETAILS OF EDECRIN

**INDICATIONS AND USE:**
Edecrin is indicated for treatment of edema when an agent with greater diuretic potential than those commonly employed is required, including the following:

- Treatment of edema associated with congestive heart failure, cirrhosis of the liver, and renal disease, including the nephrotic syndrome.
- Short-term management of ascites caused by malignancy, idiopathic edema, and lymphedema.
- Short-term management of hospitalized children, other than infants, with congenital heart disease or the nephrotic syndrome.

**ADMINISTRATION:**

- The smallest dose required to produce gradual weight loss (about 1-2 pounds per day) is recommended.
- Onset of diuresis usually occurs at 50 to 100 mg for adults.
- After diuresis, the minimally effective doses (usually from 50 to 200 mg daily) may be given on a continuous or intermittent dosage schedule.
- Dosage adjustments are generally in 25 to 50 mg increments to avoid derangement of water and electrolyte excretion.

**CONTRAINDICATIONS:**

- All diuretics are contraindicated in anuria.
- If increasing electrolyte imbalance, azotemia, and/or oliguria occur during treatment of severe, progressive renal disease, the diuretic should be discontinued.
- Discontinue if severe, watery diarrhea occurs.

**DOSAGE FORM AND STRENGTHS:**
Tablets: 25 mg of ethacrynic acid

**WARNINGS AND PRECAUTIONS:**

- Electrolyte imbalance
- Cardiovascular effects
- Possible drug-related deaths
- Ototoxicity
- Hypomagnesemia

- Gastric hemorrhage associated with corticosteroid treatment
- Glucose effects
- GI effects
- Renal function impairment
- Hepatic function impairment

**ADVERSE REACTIONS:**
Adverse reactions that may be associated with ethacrynic acid include anorexia, malaise, abdominal discomfort or pain, dysphagia, nausea, vomiting, and diarrhea. Reversible hyperuricemia and acute gout have been reported. Hyperglycemia has been reported. Agranulocytosis or severe neutropenia has been reported. Deafness, tinnitus, vertigo with a sense of fullness in the ears, and blurred vision have been reported. Headache, fatigue, apprehension, and confusion have occurred.

References:

1. Edecrin. Facts & Comparisons eAnswers. 2016 Clinical Drug Information, LLC.

## PRODUCT DETAILS OF NUCALA

**INDICATIONS AND USE:**
Nucala is an interleukin-5 antagonist monoclonal antibody (IgG1 kappa) indicated for add-on maintenance treatment of patients with severe asthma aged 12 years and older, and with an eosinophilic phenotype. Nucala is not for treatment of other eosinophilic conditions and not for relief of acute bronchospasm or status asthmaticus.

**ADMINISTRATION:**
- 100 mg administered subcutaneously once every 4 weeks

**DOSAGE FORM AND STRENGTHS:**
Injection: 100 mg of lyophilized powder in a single-dose vial for reconstitution.

**WARNINGS AND PRECAUTIONS:**
- Hypersensitivity reactions.
- Do not use to treat acute bronchospasm or status asthmaticus.
- Herpes zoster infections have occurred in patients receiving Nucala.
- Do not discontinue systemic or inhaled corticosteroids abruptly upon initiation of therapy with Nucala. Decrease corticosteroids gradually, when appropriate.
- Treat patients with pre-existing helminth infections before therapy with Nucala. If patients become infected while receiving Nucala and do not respond to anti-helminth treatment, discontinue Nucala until parasitic infection resolves.

**ADVERSE REACTIONS:**
Most common adverse reactions (incidence greater than or equal to 5%) include headache, injection site reactions, back pain, and fatigue.

References:

1. Nucala [package insert]. Philadelphia, PA: GlaxoSmithKline LLC; November 2015.

## PRODUCT DETAILS OF ACITRETIN

**INDICATIONS AND USE:**
Treatment of severe psoriasis in adults.

**ADMINISTRATION:**
- Initial dosage – 25 to 50 mg daily given as a single dose with the main meal.
- Maintenance dosage – 25 to 50 mg daily given dependent upon an individual patient's response to initial treatment.

**CONTRAINDICATIONS:**
- Pregnancy
- Severe hepatic or renal dysfunction
- Chronic abnormally elevated blood lipid values
- Concomitant use with methotrexate or tetracyclines

**DOSAGE FORM AND STRENGTHS:**
Tablets: 10, 17.5, and 25 mg

**WARNINGS AND PRECAUTIONS:**
- Hepatotoxicity
- Skeletal abnormalities
- Lipid effects
- Visual disturbances
- Pseudotumor cerebri
- Capillary leak syndrome
- Exfoliative dermatitis
- Otic effects
- Ethanol use
- Depression
- Worsening of disease
- Blood donation
- Diabetes
- Pregnancy – teratogen
- Photosensitivity
- Pediatric growth potential effects

**ADVERSE REACTIONS:**
Serious adverse reactions that may be associated with Acitretin include cardiovascular effects, CNS effects, dermatologic effects, and vulvo-vaginitis.

References:

1. Acitretin. Facts & Comparisons eAnswers. 2016 Clinical Drug Information, LLC.

## MEDICATIONS FOR HEAD LICE

**PREVALENCE:**
In the United States, infestation with head lice is most common among school-age children and their household members. Head lice are predominantly spread by direct contact with the hair of an infested person. An estimated 6-12 million infestations occur each year among children 3 to 11 years of age with estimated direct and indirect costs at $1 billion.

**TREATMENT:**
Unless resistance has been seen in the community, pediatricians and parents should consider using over the counter medications containing 1 percent permethrin or pyrethrins as first line therapy. After applying the product, parents should follow with nit removal and wet combing.

**PRODUCTS THAT CAN BE EFFECTIVE FOR TREATMENT:**
Permethrin (1%) – (Nix)
Pyrethrins plus piperonyl butoxide – (RID)
Malathion (0.5%) – (Ovide)
Benzyl alcohol (5%) – (Ulesfia)
Spinosad (0.9%) – (Natroba)
Ivermectin (0.5%)
Lindane (1%)

**GUIDELINES:**

- Unless resistance, 1% permethrin or pyrethrins should be used first line
- If resistance or failure to available OTC products develops, benzyl alcohol 5% can be used for children older than 6 months or malathion 0.5% can be used for children 2 years or older. Spinosad and topical ivermectin are newer preparations that can be reserved for difficult cases.

References:


1. American Academy of Pediatrics. Head Lice; Pediatrics 2015;135;e1355.

2. Facts & Comparisons eAnswers. 2016 Clinical Drug Information, LLC.

3. Centers for Disease Control and Prevention. Available at www.cdc.gov. Accessed February 9, 2016.

## PRODUCT DETAILS OF $NK_1$ RECEPTOR ANTAGONISTS AND COMBINATION PRODUCTS

**INDICATIONS AND USE:**

Akynzeo (netupitant/palonosetron)

- Capsules – fixed combination of a $NK_1$ receptor antagonist and a 5-$HT_3$ receptor antagonist indicated for the prevention of acute and delayed nausea and vomiting associated with initial and repeat courses of cancer chemotherapy including, but not limited to, highly emetogenic chemotherapy. Oral palonosetron prevents nausea and vomiting during the acute phase and netupitant prevents nausea and vomiting during both the acute and delayed phase after cancer chemotherapy.

Emend (aprepitant)

- Oral suspension – in combination with other antiemetic agents, in patients 6 months of age and older, for prevention of acute and delayed nausea and vomiting associated with initial and repeat courses of highly emetogenic cancer chemotherapy (HEC), including cisplatin AND nausea and vomiting associated with initial and repeat courses of moderately emetogenic cancer chemotherapy (MEC).
- Capsules – in combination with other antiemetic agents, in patients 12 years of age and older, for prevention of acute and delayed nausea and vomiting associated with initial and repeat courses of highly emetogenic cancer chemotherapy (HEC), including cisplatin, AND nausea and vomiting associated with initial and repeat courses of moderately emetogenic cancer chemotherapy (MEC). Also can be used for prevention of postoperative nausea and vomiting (PONV) in adults.

Varubi (rolapitant)

- In combination with other antiemetic agents in adults for the prevention of delayed nausea and vomiting associated with initial and repeat courses of emetogenic cancer chemotherapy including, but not limited to, highly emetogenic chemotherapy.

**ADMINISTRATION:**

Akynzeo

- The recommended dose is 1 capsule administered approximately 1 hour prior to the start of chemotherapy.

Emend

- Recommended dose for prevention of chemotherapy induced nausea and vomiting (CINV): In adults and pediatric patients 12 years of age and older, take 125 mg capsule on day 1 and 80 mg capsule on days 2 and 3. Administer Emend 1 hour prior to chemotherapy on days 1, 2, and 3. If no chemotherapy is given on days 2 and 3, administer Emend in the morning.
- Recommended dose for PONV: Adults take 40 mg capsule within 3 hours prior to induction of anesthesia.

Varubi

- The recommended dosage is 180 mg rolapitant administered approximately 1 to 2 hours prior to the start of chemotherapy.
- Administer in combination with dexamethasone and a 5-$HT_3$ receptor antagonist.

**DOSAGE FORMS**

Akynzeo

- Capsules: 300 mg netupitant/0.5 mg palonosetron

Emend

- Capsules: 40 mg, 80 mg, and 125 mg
- Oral suspension: 125 mg

Varubi

- Tablets: 90 mg of rolapitant

References:


1. Facts & Comparisons eAnswers. 2016 Clinical Drug Information, LLC.
2. Akynzeo [package insert]. Woodcliff Lake, NJ. Eisai, Inc.; April 2015.
3. Emend [package insert]. Whitehouse Station, NJ. Merck & Co., Inc.; December 2015.
4. Varubi [package insert]. Waltham, MA. Tesaro, Inc.; September 2015.

## PRODUCT DETAILS OF TIROSINT

**INDICATIONS AND USE:**
Tirosint is indicated for treatment of hypothyroidism and pituitary thyrotropin stimulating hormone suppression.

**ADMINISTRATION:**
- Administer once daily before breakfast.
- Administer at least 4 hours before or after drugs and foods that are known to interfere with absorption.
- Starting dose depends on factors such as age, body weight, cardiovascular status, pregnancy, and concomitant medications.
- Peak therapeutic effect may not be attained for 4-6 weeks.
- Maintenance dose determined with periodic monitoring of TSH and/or $T_4$ as well as clinical status.

**CONTRAINDICATIONS:**
- Acute myocardial infarction
- Uncorrected adrenal insufficiency

**DOSAGE FORM AND STRENGTHS:**
Capsules: 13 mcg, 25 mcg, 50 mcg, 75 mcg, 88 mcg, 100 mcg, 112 mcg, 125 mcg, 137 mcg, 150 mcg

**WARNINGS AND PRECAUTIONS:**
- Proper dose titration critical to prevent the persistence of hypothyroidism or the development of hyperthyroidism.
- Initiate dose in the elderly and patients with cardiovascular disease at less than the full replacement dose.
- Suppression of thyroid nodules with levothyroxine is generally not recommended.
- Patients with concomitant adrenal insufficiency – treat with replacement glucocorticoids prior to initiation of treatment with levothyroxine.
- Long-term levothyroxine therapy can decrease bone mineral density. Give the lowest effective dose.

**ADVERSE REACTIONS:**
Common adverse reactions for levothyroxine are primarily those of hyperthyroidism due to therapeutic overdosage including: irregular heartbeat, chest pain, shortness of breath, leg cramps, headache, nervousness, irritability, insomnia, tremors, muscle weakness, change in appetite, weight change, diarrhea, heat intolerance, changes in menstrual periods, and skin rash.

References:

1. Tirosint [package insert]. Cranford, NJ: Akrimax Pharmaceuticals, LLC; March 2012.

# NORTH DAKOTA MEDICAID
# RETROSPECTIVE DRUG UTILIZATION REVIEW
# CRITERIA RECOMMENDATIONS
# 1ST QUARTER 2016

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

**1. Brexpiprazole / Overutilization- MDD** _____ _____

Alert Message: Rexulti (brexpiprazole) may be over-utilized. The manufacturer's recommended maximum daily dose of brexpiprazole for patients with major depressive disorder is 3 mg once daily.

Conflict Code: ER - Overutilization
Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Brexpiprazole | | Major Depressive Disorder |

Max Dose: 3 mg/day

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**2. Brexpiprazole / Overutilization - Schizophrenia** _____ _____

Alert Message: Rexulti (brexpiprazole) may be over-utilized. The manufacturer's recommended maximum daily dose of brexpiprazole for patients with schizophrenia is 4 mg once daily.

Conflict Code: ER - Overutilization
Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Brexpiprazole | | Schizophrenia |

Max Dose: 4 mg/day

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**3. Brexpiprazole 3 mg & 4 mg / Overutilization – MDD Hepatic Imp.** _____ _____

Alert Message: Rexulti (brexpiprazole) may be over-utilized. The manufacturer's recommended maximum daily dose of brexpiprazole for patients with major depressive disorder with moderate to severe hepatic impairment is 2 mg once daily.

Conflict Code: ER - Overutilization
Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Brexpiprazole 3 mg & 4 mg | Hepatic Impairment | Major Depressive Disorder |

Max Dose: 2 mg/day

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**4. Brexpiprazole 4 mg / Overutilization – Schizophrenia Hepatic Imp.** _____ _____

Alert Message: Rexulti (brexpiprazole) may be over-utilized. The manufacturer's recommended maximum daily dose of brexpiprazole for patients with schizophrenia with moderate to severe hepatic impairment is 3 mg once daily.

Conflict Code: ER - Overutilization

Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Brexpiprazole 4mg | Hepatic Impairment | Schizophrenia |

Max Dose: 3 mg/day

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**5. Brexpiprazole 3 mg & 4 mg / Overutilization – MDD Renal Imp. & ESRD** _____ _____

Alert Message: Rexulti (brexpiprazole) may be over-utilized. The manufacturer's recommended maximum daily dose of brexpiprazole for patients with moderate, severe, or end-stage renal impairment is 2 mg once daily.

Conflict Code: ER - Overutilization

Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Brexpiprazole 3 mg & 4 mg | CKD Stage 3, 4 & 5<br>ESRD | Major Depressive Disorder |

Max Dose: 2 mg/day

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**6. Brexpiprazole 4 mg / Overutilization – Schizophrenia Renal Imp & ESRD** _____ _____

Alert Message: Rexulti (brexpiprazole) may be over-utilized. The manufacturer's recommended maximum daily dose of brexpiprazole for patients with schizophrenia with moderate, severe, or end-stage renal impairment is 3 mg once daily.

Conflict Code: ER - Overutilization

Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Brexpiprazole 4 mg | CKD Stage 3, 4 & 5<br>ESRD | Schizophrenia |

Max Dose: 3 mg/day

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**7. Brexpiprazole / Therapeutic Appropriateness** _____ _____

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

Conflict Code: TA – Therapeutic Appropriateness

Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Brexpiprazole | | |

Age Range: 0-18 yoa

References:

Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**8. Brexpiprazole / Cardio & Cerebrovascular Disease** _____ _____

Alert Message: Rexulti (brexpiprazole) should be used with caution in patients with known cardiovascular disease, cerebrovascular disease, or conditions which would predispose patients to hypotension (e.g., dehydration, hypovolemia, treatment with antihypertensives). Brexpiprazole has been shown to cause orthostatic hypotension and these patients may be at increased risk.

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

Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Brexpiprazole | Heart Failure | |
| | Myocardial Infarction | |
| | Coronary Artery Disease | |
| | Ischemia | |
| | Conduction Abnormalities | |
| | Dehydration | |
| | Hypovolemia | |

References:

Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**9. Brexpiprazole / Antihypertensive Medications** _____ _____

Alert Message: Rexulti (brexpiprazole) should be used with caution in patients with known cardiovascular disease, cerebrovascular disease, or conditions which would predispose patients to hypotension (e.g., dehydration, hypovolemia, treatment with antihypertensives). Brexpiprazole has been shown to cause orthostatic hypotension and these patients may be at increased risk.

Conflict Code: DD – Drug/Drug Interaction

Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Brexpiprazole | Antihypertensives | |
| | ACEIs | |
| | ARBs | |
| | CCBs | |
| | B-Blockers | |
| | α-B Blockers | |
| | Direct Renin Inhibitors | |
| | Selective Aldosterone Antagonist | |
| | Diuretics | |
| | Centrally-Acting Adrenergics | |
| | Peripherally-Acting Adrenergics | |

References:

Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**10. Brexpiprazole / Seizures** _____ _____

Alert Message: Rexulti (brexpiprazole) should be used with caution in patients with a history of seizures or other conditions that potentially lower the seizure threshold.

Conflict Code: TA - Therapeutic Appropriateness
Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Brexpiprazole | | Seizures |

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**11. Brexpiprazole / Strong CYP3A4 Inhibitors** _____ _____

Alert Message: Concurrent use of Rexulti (brexpiprazole) with a strong CYP3A4 inhibitor may result in increased brexpiprazole exposure due to inhibition of brexpiprazole CYP3A4-mediated metabolism. Dosage reduction to half the usual brexpiprazole dose is recommended. If the strong CYP3A4 inhibitor is discontinued, adjust brexpiprazole dosage to its original level.

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

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

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**12. Brexpiprazole / Strong CYP2D6 Inhibitors** _____ _____

Alert Message: Concurrent use of Rexulti (brexpiprazole) with a strong CYP2D6 inhibitor may result in increased brexpiprazole exposure due to inhibition of brexpiprazole CYP2D6-mediated metabolism. Dosage reduction to half the usual brexpiprazole dose is recommended. If the strong CYP3A4 inhibitor is discontinued, adjust brexpiprazole dosage to its original level. Dosage adjustment is not required if brexpiprazole is used as adjunctive treatment of MDD with the strong 2D6 inhibitors, paroxetine or fluoxetine.

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

| Util A | Util B | Util C **(Negate)** |
|---|---|---|
| Brexpiprazole | Paroxetine | Major Depressive Disorder |
| | Fluoxetine | |
| | Quinidine | |
| | Bupropion | |

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**13. Brexpiprazole / Strong or Mod 3A4 Inh / Strong or Mod 2D6 Inhibitors** _____ _____

Alert Message: Concurrent use of Rexulti (brexpiprazole) with a strong or moderate CYP3A4 inhibitor plus a strong or moderate CYP2D6 inhibitor may result in increased brexpiprazole exposure due to inhibition of brexpiprazole CYP3A4- and CYP2D6-mediated metabolism. Dosage reduction to a quarter of the usual brexpiprazole dose is recommended. If the co-administered inhibitors are discontinued, adjust the brexpiprazole dosage to its original level.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Brexpiprazole | Nefazodone | Bupropion |
| | Clarithromycin | Fluoxetine |
| | Telithromycin | Paroxetine |
| | Saquinavir | Quinidine |
| | Ritonavir | Cinacalcet |
| | Indinavir | Terbinafine |
| | Nelfinavir | |
| | Cobicistat | |
| | Boceprevir | |
| | Ketoconazole | |
| | Itraconazole | |
| | Posaconazole | |
| | Voriconazole | |
| | Fluconazole | |
| | Aprepitant | |
| | Atazanavir | |
| | Fosamprenavir | |
| | Ciprofloxacin | |
| | Diltiazem | |
| | Verapamil | |
| | Erythromycin | |
| | Imatinib | |

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**14. Brexpiprazole / Strong CYP3A4 Inducers** _____ _____

Alert Message: Concurrent use of Rexulti (brexpiprazole) with a strong CYP3A4 inducer may result in decreased brexpiprazole exposure due to induction of brexpiprazole CYP3A4-mediated metabolism. Dosage adjustment is recommended to double the usual brexpiprazole dose over 1 to 2 weeks. If the inducer is discontinued, reduce the brexpiprazole dose to the original level over 1 to 2 weeks.

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

| Util A | Util B | Util C |
|---|---|---|
| Brexpiprazole | Phenobarbital | |
| | Primidone | |
| | Phenytoin | |
| | Carbamazepine | |
| | Rifabutin | |
| | Rifapentine | |
| | Rifampin | |

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**15. Brexpiprazole / Non-Adherence** _____ _____

Alert Message: Based on refill history, your patient may be under-utilizing Rexulti (brexpiprazole). 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 – Non-adherence
Drugs/Diseases
Util A Util B Util C
Brexpiprazole

References:
Rexulti Prescribing Information, July 2015, Otsuka American Pharmaceutical, Inc.
Theida P, et.al., An Economic Review of Compliance with Medication Therapy in the Treatment of Schizophrenia, Psychiatric Services, 2003;54:508-516.
Acsher-Svanum H, Zhu B, Faries DE, et al., The Cost of Relapse and the Predictors of Relapse in the Treatment of Schizophrenia. BMC Psychiatry 2010, 10:2.
Berger A, Edelsbery J, Sanders KN, et al., Medication Adherence and Utilization in Patients with Schizophrenia or Bipolar Disorder Receiving Aripiprazole, Quetiapine, or Ziprasidone at Hospital Discharge: A Retrospective Cohort Study. BMC Psychiatry 2012,12:99.
Stephenson JJ, Tuncelli O, Gu T, et al., Adherence to Oral Second-Generation Antipsychotic Medications in Patients with Schizophrenia and Bipolar Disorder: Physicians' Perceptions of Adherence vs. Pharmacy Claims. Int J Clin Pract, June 2012, 66, 6, 565-573.
Morken G, Widen JH, Grawe RW. Non-adherence to Antipsychotic Medication, Relapse and Rehospitalisation in Recent-Onset Schizophrenia. BMC Psychiatry. 2008, 8:32.

**16. Tiotropium/Olodaterol / Overutilization** _____ _____

Alert Message: The manufacturer's recommended dose of Stiolto Respimat (tiotropium/olodaterol) is 2 inhalations once daily. Do not use tiotropium/olodaterol inhalation more than two inhalations every 24 hours. Clinically significant cardiovascular effects and fatalities have been reported in association with excessive use of inhaled sympathomimetic drugs.

Conflict Code: ER – Overutilization
Drugs/Diseases
Util A Util B Util C
Tiotropium/Olodaterol

Max Dose: 2 inhalations/day (5mcg tiotropium/ 5mcg olodaterol)

References:
Stiolto Respimat Prescribing Information, June 2015, Boehringer Ingelheim Pharmaceuticals, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**17. Tiotropium/Olodaterol / Black Box Warning** _____ _____

Alert Message: Stiolto Respimat (tiotropium/olodaterol) is a combination agent which contains a long-acting beta-2 adrenergic agonist (LABA) and all LABAs increase the risk of asthma-related death. The safety and efficacy of olodaterol in patients with asthma have not been established. Olodaterol is not indicated for the treatment of asthma.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases
Util A Util B Util C
Tiotropium/Olodaterol

References:
Stiolto Respimat Prescribing Information, June 2015, Boehringer Ingelheim Pharmaceuticals, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**18. Tiotropium/Olodaterol / Cardiovascular, Convulsive Disorders, Diabetes & Thyrotoxicosis** _____ _____

Alert Message: Stiolto Respimat (tiotropium/olodaterol) should be used with caution in patients with cardiovascular or convulsive disorders, thyrotoxicosis, or sensitivity to sympathomimetic drugs. The olodaterol component of the combination product is a sympathomimetic amine and can exacerbate these conditions.

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

| Util A | Util B | Util C |
|---|---|---|
| Tiotropium/Olodaterol | Hypertension | |
| | Arrhythmias | |
| | Heart Failure | |
| | Diabetes | |
| | Seizures | |
| | Epilepsy | |

References:
Stiolto Respimat Prescribing Information, June 2015, Boehringer Ingelheim Pharmaceuticals, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**19. Tiotropium/Olodaterol / MAOIs, TCAs & Other QTc Prolonging Meds** _____ _____

Alert Message: Stiolto Respimat (tiotropium/olodaterol) should be administered with extreme caution to patients being treated with MAOIs, TCAs, or drugs known to prolong the QTc interval because the action of the adrenergic agonist, olodaterol, on the cardiovascular system may be potentiated by these agents.

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

| Util A | Util B | | | | Util C |
|---|---|---|---|---|---|
| Tiotropium/Olodaterol | 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 | Isocarboxazid |
| | Chlorpromazine | Fluoxetine | Nicardipine | Saquinavir | Phenelzine |
| | Ciprofloxacin | Foscarnet | Nilotinib | Sertraline | Tranylcypromine |
| | Citalopram | Fosphenytoin | Norfloxacin | Solifenacin | Linezolid |
| | Clarithromycin | Galantamine | Nortriptyline | Sotalol | Rasagiline |
| | Clomipramine | Gemifloxacin | Octreotide | Sunitinib | |
| | Clozapine | Granisetron | Ofloxacin | Tacrolimus | |
| | Dasatinib | Haloperidol | Ondansetron | Tamoxifen | |
| | Desipramine | Ibutilide | Paliperidone | Telithromycin | |
| | Diphenhydramine | Iloperidone | Paroxetine | Terbutaline | |

References:
Clinical Pharmacology, 2015 Elsevier/Gold Standard.
Stiolto Respimat Prescribing Information, June 2015, Boehringer Ingelheim Pharmaceuticals, Inc.

**20. Tiotropium/Olodaterol / Adrenergic Drugs** _____ _____

Alert Message: Caution should be exercised when Stiolto Respimat (tiotropium/olodaterol) is prescribed concurrently with other adrenergic sympathomimetic agents, administered by any route, because the sympathetic effects of the olodaterol component of the combination agent may be potentiated.

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

| Util A | Util B | | | Util C |
|---|---|---|---|---|
| Tiotropium/Olodaterol | Ephedrine | Methamphetamine | Phendimetrazine | |
| | Epinephrine | Methylphenidate | Naphazoline | |
| | Pseudoephedrine | Amphetamine | Oxymetazoline | |
| | Phenylephrine | Dextroamphetamine | Tetrahydrozoline | |
| | Albuterol | Lisdexamfetamine | | |
| | Pirbuterol | Diethylpropion | | |
| | Metaproterenol | Benzphetamine | | |
| | Terbutaline | Phentermine | | |

References:
Stiolto Respimat Prescribing Information, June 2015, Boehringer Ingelheim Pharmaceuticals, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**21. Tiotropium/Olodaterol / Nonselective β-Blockers / Selective β-Blockers** _____ _____

Alert Message: Concurrent use of a beta-adrenergic blocker with Stiolto Respimat (tiotropium/olodaterol) may diminish the pulmonary effect of olodaterol, the beta-agonist component in the combination product. Beta-blockers not only block the therapeutic effects of beta-agonists, but may produce severe bronchospasm in patients with asthma and COPD. If concomitant therapy cannot be avoided, consider a cardioselective beta-blocker, but administer with caution.

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

| Util A | Util B | Util C **(Negating)** |
|---|---|---|
| Tiotropium/Olodaterol | Carvedilol | Acebutolol |
| | Nadolol | Atenolol |
| | Labetalol | Betaxolol |
| | Penbutolol | Bisoprolol |
| | Pindolol | Metoprolol |
| | Propranolol | Nebivolol |
| | Sotalol | |
| | Timolol | |

References:
Stiolto Respimat Prescribing Information, June 2015, Boehringer Ingelheim Pharmaceuticals, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**22. Tiotropium/Olodaterol / Xanthine Deriv., Steroids, & K+ Depl. Diuretics** _____ _____

Alert Message: Caution should be exercised when Stiolto Respimat (tiotropium/olodaterol) is prescribed concurrently with xanthine derivatives, steroids, or non-potassium sparing diuretics because concomitant administration may potentiate the hypokalemic effect of olodaterol, the beta-agonist component of the combination agent. The ECG changes or hypokalemia that may result from the administration of non-potassium sparing diuretics can be acutely worsened by beta-agonists.

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

| Util A | Util B | | | Util C |
|---|---|---|---|---|
| Tiotropium/Olodaterol | Theophylline | Prednisolone | Chlorothiazide | |
| | Aminophylline | Prednisone | Chlorthalidone | |
| | Dyphylline | HCTZ | | |
| | Betamethasone | Indapamide | | |
| | Budesonide | Methyclothiazide | | |
| | Cortisone | Metolazone | | |
| | Dexamethasone | Furosemide | | |
| | Hydrocortisone | Bumetanide | | |
| | Methylprednisolone | Torsemide | | |

References:
Stiolto Respimat Prescribing Information, June 2015, Boehringer Ingelheim Pharmaceuticals, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**23. Tiotropium/Olodaterol / Anticholinergic Agents** _____ _____

Alert Message: The concurrent use of Stiolto Respimat (tiotropium/olodaterol) with other anticholinergic agents should be avoided. The tiotropium component of the combination product is an anticholinergic and concomitant use with other anticholinergics may lead to an increase in anticholinergic adverse effects.

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

| Util A | Util B | Util C |
|---|---|---|
| Tiotropium/Olodaterol | Trihexyphenidyl | |
| | Benztropine | |
| | Orphenadrine | |
| | Darifenacin | |
| | Fesoterodine | |
| | Flavoxate | |
| | Oxybutynin | |
| | Solifenacin | |
| | Tolterodine | |
| | Trospium | |
| | Hyoscyamine | |
| | Scopolamine | |
| | Propantheline | |
| | Glycopyrrolate | |
| | Mepenzolate | |
| | Methscopolamine | |
| | Dicyclomine | |

References:
Stiolto Respimat Prescribing Information, June 2015, Boehringer Ingelheim Pharmaceuticals, Inc.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**24. Tiotropium/Olodaterol / Non-adherence** _____ _____

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

Conflict Code: LR - Nonadherence
Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Tiotropium/Olodaterol | | |

References:
Stiolto Respimat Prescribing Information, June 2015, Boehringer Ingelheim Pharmaceuticals, Inc.
van Boven JF, Chavannes NH, van der Molen T, et al. Clinical and Economic Impact of Non-adherence in COPD: A Systematic Review. Respir Med. 2014 Jan;108(1):103-113.
Restrepo RD, Alvarez MT, Wittnebel LD, et al., Medication Adherence Issues in Patients Treated for COPD. International Journal of COPD. 2008;3(3):371-384.
Simoni-Wastila L, Wei Y, Qian J, et al., Association of Chronic Obstructive Pulmonary Disease Maintenance Medication Adherence With All-Cause Hospitalization and Spending in a Medicare Population. Am Jrnl Geriatr Pharmacother. 2012 Jun;10(3):201-210.
Lareau SC, Yawn BP. Improving Adherence with Inhaler Therapy in COPD. International Journal COPD. 2010 Nov 24;5:401-406.

**25. Disulfiram / Benzodiazepines Metabolized by Hepatic Oxidation** _____ _____

Alert Message: Concurrent use of disulfiram with a benzodiazepine that undergoes hepatic oxidation may potentiate the pharmacologic and adverse effects of the benzodiazepine due to inhibition, by disulfiram, of benzodiazepine metabolism. Dosage reduction of the benzodiazepine or changing to a benzodiazepine that is not cleared by hepatic oxidation (i.e., lorazepam or oxazepam) may be necessary.

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

| Util A | Util B | Util C |
|---|---|---|
| Disulfiram | Alprazolam | |
| | Chlordiazepoxide | |
| | Clonazepam | |
| | Clorazepate | |
| | Diazepam | |
| | Estazolam | |
| | Flurazepam | |
| | Midazolam | |
| | Quazepam | |
| | Temazepam | |
| | Triazolam | |

References:
Clinical Pharmacology, 2015 Elsevier/Gold Standard.
Facts & Comparisons, 2015 Updates, Wolters Kluwer Health, Inc.
Micromedex Healthcare Series, DrugDex Drug Evaluations, Truven Health Analytics.
Antabuse Prescribing Information, April 2012, Physicians Total Care, Inc.

**26. Tuzistra XR / Therapeutic Appropriateness** _____ _____

Alert Message: Safety and effectiveness of Tuzistra XR (codeine/chlorpheniramine extended-release oral suspension) in pediatric patients under 18 years of age have not been established. The use of codeine in children has been associated with fatal respiratory depression.

Conflict Code: TA – Therapeutic Appropriateness

| Util A | Util B | Util C |
|---|---|---|
| Codeine/chlorpheniramine extended-release | | |

Age Range: 0-17 yoa

References:
Tuzistra XR Prescribing Information, April 2015, Vernalis Therapeutics, Inc.
Facts & Comparisons, 2015 Updates, Wolters Kluwer Health.

**27. Tuzistra XR /Overutilization** _____ _____

Alert Message: Tuzistra XR (codeine/chlorpheniramine extended-release oral suspension) may be over-utilized. The manufacturer's maximum recommended daily dose of extended-release codeine/chlorpheniramine oral suspension is 20 ml/day.

Conflict Code: ER – Overutilization

| Util A | Util B | Util C |
|---|---|---|
| Codeine/chlorpheniramine extended-release | | |

Max dose: 20 ml/day

References:
Tuzistra XR Prescribing Information, April 2015, Vernalis Therapeutics, Inc.
Facts & Comparisons, 2015 Updates, Wolters Kluwer Health.

**28. DPP-4 Inhibitors / Arthralgia** _____ _____

Alert Message: Dipeptidyl peptidase-4 (DPP-4) inhibitors may cause joint pain that can be severe and disabling. Patients may start having symptoms from one day to years after they started taking a DPP-4 inhibitor. Health care professionals should consider DPP-4 inhibitors as a possible cause of severe joint pain and discontinue the drug if appropriate. Pain usually goes away in less than a month after discontinuing the drug.

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

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Linagliptin | | Arthralgia |
| Saxagliptin | | |
| Alogliptin | | |
| Sitagliptin | | |

References:
FDA MedWatch - DPP-4 Inhibitors for Type 2 Diabetes: Drug Safety Communication - May Cause Severe Joint Pain. [08/28/2015].
Clinical Pharmacology, 2016 Elsevier/Gold Standard.

**29. Dextroamphetamine-Amphetamine / PPIs** _____ _____

Alert Message: Patients receiving dextroamphetamine/amphetamine, IR or XR formulations, with a proton pump inhibitor (PPI) should be monitored for changes in clinical efficacy. Concurrent use of these agents has been shown to decrease the Tmax of dextroamphetamine/amphetamine but have no effect on AUC or Cmax.

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

| Util A | Util B | Util C |
|---|---|---|
| Dextroamphetamine/Amphetamine | Omeprazole | |
| | Esomeprazole | |
| | Lansoprazole | |
| | Rabeprazole | |
| | Pantoprazole | |

References:
Adderall Prescribing Information, Oct. 2015, Teva Pharmaceuticals USA.
Clinical Pharmacology, 2015 Elsevier/Gold Standard.

**30. Vivlodex / Overutilization** _____ _____

Alert Message: Vivlodex (meloxicam) may be over-utilized. The manufacturer's maximum recommended daily dose of this formulation of meloxicam is 10 mg per day. Exceeding the maximum dose may increase the risk of adverse events (e.g., heart attack, stroke, and gastrointestinal ulceration).

Conflict Code: ER - Overutilization
Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Meloxicam 5 mg & 10 mg | | |

Max Dose: 10 mg/day

References:
Clinical Pharmacology, 2015 Elsevier/Gold Standard.
Vivlodex Prescribing Information, Oct. 2015, Iroko Pharmaceuticals.

**31. Naloxegol / Overutilization** _____ _____

Alert Message: Movantik (Naloxegol) may be over-utilized. The manufacturer's recommended dose is 25 mg once daily in the morning. If patient is not able to tolerate naloxegol 25 mg, the dosage may be reduced to 12.5 mg once daily.

Conflict Code: ER – Overutilization
Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Naloxegol | | |

Max Dose: 25 mg/day

References:
Movantik Prescribing Information, Sept. 2014, AstraZeneca.
Clinical Pharmacology, 2015, Elsevier/Gold Standard.

**32. Naloxegol / Gastrointestinal Obstruction** _____ _____

Alert Message: Movantik (naloxegol) use is contraindicated in patients with known or suspected gastrointestinal obstruction and patients at increased risk of recurrent obstruction, due to the potential for gastrointestinal perforation. Monitor patients for the development of severe, persistent, or worsening abdominal pain and discontinue naloxegol in patients who develop this symptom.

Conflict Code: MC – Drug (actual) Disease Contraindication
Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Naloxegol | Intestinal Obstruction | |
| | Crohn's Disease | |

References:
Movantik Prescribing Information, Sept. 2014, AstraZeneca.
Clinical Pharmacology, 2015, Elsevier/Gold Standard.

**33. Naloxegol / Strong CYP3A4 Inhibitors** _____ _____

Alert Message: Concurrent use of Movantik (naloxegol) with a strong CYP3A4 inhibitor is contraindicated. Naloxegol is a CYP3A4 substrate and use with strong CYP3A4 inhibitors can significantly increase exposure to naloxegol which may precipitate opioid withdrawal symptoms such as hyperhidrosis, chills, diarrhea, abdominal pain, irritability, and yawning.

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

| Util A | Util B | | | Util C |
|---|---|---|---|---|
| Naloxegol | Nefazodone | Saquinavir | Boceprevir | |
| | Clarithromycin | Ritonavir | Cobicistat | |
| | Telithromycin | Nelfinavir | | |
| | Ketoconazole | Indinavir | | |
| | Itraconazole | Atazanavir | | |
| | Posaconazole | Darunavir | | |
| | Voriconazole | Tipranavir | | |

References:
Movantik Prescribing Information, Sept. 2014, AstraZeneca.
Clinical Pharmacology, 2015, Elsevier/Gold Standard.

**34. Naloxegol / Moderate CYP3A4 Inhibitors** _____ _____

Alert Message: Concurrent use of Movantik (naloxegol) with moderate CYP3A4 inhibitors should be avoided. If concurrent use is unavoidable the dosage of naloxegol should be reduced to 12.5 mg once daily and the patient monitored for adverse reactions. Naloxegol is a CYP3A4 substrate and use with moderate CYP3A4 inhibitors may increase exposure to naloxegol and risk of adverse effects.

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

| Util A | Util B | Util C |
|---|---|---|
| Naloxegol | Diltiazem | |
| | Verapamil | |
| | Fluconazole | |
| | Erythromycin | |
| | Atazanavir | |
| | Fosamprenavir | |
| | Imatinib | |
| | Ciprofloxacin | |
| | Aprepitant | |

References:
Movantik Prescribing Information, Sept. 2014, AstraZeneca.
Clinical Pharmacology, 2015, Elsevier/Gold Standard.

**35. Naloxegol / Strong CYP3A4 Inducers** _____ _____

Alert Message: Concurrent use of Movantik (naloxegol) with strong CYP3A4 inducers is not recommended. Naloxegol is a CYP3A4 substrate and use with strong CYP3A4 inducers can significantly decrease plasma naloxegol concentrations and may decrease the efficacy of naloxegol.

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

| Util A | Util B | Util C |
|---|---|---|
| Naloxegol | Rifampin | |
| | Carbamazepine | |
| | Phenytoin | |
| | Primidone | |
| | Phenobarbital | |

References:
Movantik Prescribing Information, Sept. 2014, AstraZeneca.
Clinical Pharmacology, 2015, Elsevier/Gold Standard.

**36. Naloxegol / Opioid Antagonists** _____ _____

Alert Message: Movantik (naloxegol) is an opioid antagonist and concurrent use with other opioid antagonists should be avoided due to the potential for additive effect and increased risk of opioid withdrawal.

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

| Util A | Util B | Util C |
|---|---|---|
| Naloxegol | Naloxone/Oxycodone | |
| | Naloxone/Buprenorphine | |
| | Naloxone/Pentazocine | |
| | Naltrexone | |

References:
Movantik Prescribing Information, Sept. 2014, AstraZeneca.
Clinical Pharmacology, 2015, Elsevier/Gold Standard.

**37. Naloxegol / Hepatic Impairment** _____ _____

Alert Message: The use of Movantik (naloxegol) should be avoided in patients with severe hepatic impairment as the pharmacokinetics of naloxegol have not been evaluated in this patient population. While slight decreases in the AUC of naloxegol were observed in clinical trial subjects with mild to moderate hepatic impairment compared to subjects with normal hepatic function, no dosage adjustment is required.

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

| Util A | Util B | Util C |
|---|---|---|
| Naloxegol | Severe Hepatic Impairment | |

References:
Movantik Prescribing Information, Sept. 2014, AstraZeneca.
Clinical Pharmacology, 2015, Elsevier/Gold Standard.

**38. Sacubitril/Valsartan / Overutilization** _____ _____

Alert Message: Entresto (sacubitril/valsartan) may be over-utilized. The manufacturer's recommended target maintenance dose of sacubitril/valsartan is 97/103 mg, twice daily (total 194/206 mg daily).

Conflict Code: ER - Overutilization

Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Sacubitril/Valsartan | | |

Max Dose: 194/206 mg per day

References:
Entresto Prescribing Information, July 2015, Novartis Pharmaceuticals Corporation.
Clinical Pharmacology 2015 Elsevier/Gold Standard.

**39. Sacubitril/Valsartan / Severe Hepatic Impairment** _____ _____

Alert Message: Entresto (sacubitril/valsartan) use is not recommended in patients with severe hepatic impairment (Child-Pugh Class C), as the product has not been studied in this patient population. A reduced starting dose of 24/26 mg twice daily is recommended in patients with moderate hepatic disease (Child-Pugh Class B); no dose adjustment is required in patients with mild hepatic impairment (Child-Pugh Class A).

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

Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Sacubitril/Valsartan | Hepatic Impairment | |

References:
Entresto Prescribing Information, July 2015, Novartis Pharmaceuticals Corporation.
Clinical Pharmacology 2015 Elsevier/Gold Standard.

**40. Sacubitril/Valsartan / ACE Inhibitors** _____ _____

Alert Message: The concurrent use of Entresto (sacubitril/valsartan) with an ACE inhibitor is contraindicated, due to the increased risk of angioedema. If switching from an ACE inhibitor to sacubitril/valsartan, or vice versa, allow a washout period of 36 hours between administration of the two drugs.

Conflict Code: DD – Drug/Drug Interaction

Drugs/Diseases

| Util A | Util B | | Util C |
|---|---|---|---|
| Sacubitril/Valsartan | Captopril | Quinapril | |
| | Enalaprilat | Perindopril | |
| | Lisinopril | Trandolapril | |
| | Ramipril | Moexipril | |
| | Fosinopril | Benazepril | |

References:
Entresto Prescribing Information, July 2015, Novartis Pharmaceuticals Corporation.
Clinical Pharmacology 2015 Elsevier/Gold Standard.

**41. Eluxadoline / Overutilization** _____ _____

Alert Message: The manufacturer's recommended maximum daily dose of Viberzi (eluxadoline) is 100 mg twice daily.

Conflict Code: ER - Overutilization

Drugs/Diseases

| Util A | Util B | Util C **(Negating)** | |
|---|---|---|---|
| Eluxadoline | | Hepatic Impairment | Telithromycin |
| | | Cyclosporine | Clarithromycin |
| | | Gemfibrozil | Cobicistat |
| | | Saquinavir | Rifampin |
| | | Ritonavir | |
| | | Lopinavir | |
| | | Atazanavir | |
| | | Tipranavir | |

Max Dose: 200 mg/day

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.

**42. Eluxadoline / Hepatic Impairment** _____ _____

Alert Message: The recommended maximum daily dose of Viberzi (eluxadoline) in patients with mild (Child Pugh Class A) to moderate (Child Pugh Class B) hepatic impairment is 75 mg twice daily. Eluxadoline plasma concentrations can increase by 4- and 6-fold, respectively, in these patients. Patients with mild to moderate hepatic impairment receiving eluxadoline should be monitored for impaired mental and physical abilities needed to perform potentially hazardous activities.

Conflict Code: ER - Overutilization

Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Eluxadoline 100 mg | | Hepatic Impairment |

Max Dose: 150 mg/day

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.

**43. Eluxadoline / Severe Hepatic Impairment** _____ _____

Alert Message: Viberzi (eluxadoline) is contraindicated in patients with severe hepatic impairment (Child-Pugh Class C) as plasma concentrations of eluxadoline increases significantly (16-fold) and there is no information to support the safety of eluxadoline in these patients.

Conflict Code: TA – Therapeutic Appropriateness

Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Eluxadoline | | Severe Hepatic Impairment |

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals

**44. Eluxadoline / OATP1B1 Inhibitors** _____ _____

Alert Message: The manufacturer's recommended maximum daily dose of Viberzi (eluxadoline) is 75 mg twice daily in patients who are receiving concomitant OATP1B1 inhibitors. Eluxadoline is an OATP1B1 substrate and use with an OATP1B1 inhibitor may increase eluxadoline exposure. Patients receiving eluxadoline and an OATP1B1 inhibitor should be monitored for impaired mental and physical abilities needed to perform potentially hazardous activities.

Conflict Code: ER - Overutilization
Drugs/Diseases

| Util A | Util B | | Util C |
|---|---|---|---|
| Eluxadoline 100mg | Cyclosporine | Telithromycin | |
| | Gemfibrozil | Clarithromycin | |
| | Saquinavir | Cobicistat | |
| | Ritonavir | | |
| | Lopinavir | | |
| | Atazanavir | | |
| | Tipranavir | | |
| | Rifampin | | |

Max Dose: 150 mg/day

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.
Karlgren M, Vildhede A, Norinder U, et al. Classification of Inhibitors of Hepatic Organic Anion Transporting Polypeptides (OATPs): Influence on Protein Expression on Drug-Drug Interactions. Jrnl Med Chem. 2012 May 24;55(10):4740-63.

**45. Eluxadoline / Obstr. of Biliary Duct & Sphincter of Oddi Dysfunction** _____ _____

Alert Message: Viberzi (eluxadoline) is contraindicated in patients with known or suspected biliary duct obstruction or sphincter of Oddi disease or dysfunction. Eluxadoline is a mu opioid receptor agonist and these patients are at increased risk for sphincter of Oddi spasm, resulting in pancreatitis or hepatic enzyme elevation associated with acute abdominal pain.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Eluxadoline | | Obstruction of Bile Duct |
| | | Sphincter of Oddi Dysfunction (576.5) |

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.

**46. Eluxadoline / Alcoholism & Alcohol Abuse** _____ _____

Alert Message: Viberzi (eluxadoline) is contraindicated in patients with alcoholism, alcohol abuse or alcohol addiction, or in patients who drink more than 3 alcoholic beverages per day due to the potential for increased risk of pancreatitis. Instruct all patients to avoid chronic or acute excessive alcohol use while taking eluxadoline.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Eluxadoline | | Alcohol Dependence |
| | | Alcohol Abuse |

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.

**47. Eluxadoline / Pancreatitis** _____ _____

Alert Message: Viberzi (eluxadoline) is contraindicated in patients with a history of pancreatitis, structural diseases of the pancreas, including known or suspected pancreatic duct obstruction. These patients are at increased risk for acute pancreatitis.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Eluxadoline | | Pancreatitis |
| | | Pancreatic Duct Obstruction |

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.

**48. Eluxadoline / Gastrointestinal Obstruction & Constipation** _____ _____

Alert Message: Viberzi (eluxadoline) is contraindicated in patients with chronic or severe constipation or sequelae from constipation, or known or suspected mechanical gastrointestinal obstruction. These patients may be at risk for severe complications of bowel obstruction. Eluxadoline therapy should be discontinued in patients who develop constipation lasting for more than 4 days.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Eluxadoline | | Gastrointestinal Obstruction |
| | | Constipation |

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.

**49. Eluxadoline / Strong CYP Inhibitors*** _____ _____

Alert Message: The concurrent use of Viberzi (eluxadoline) with strong CYP inhibitors may result in increased eluxadoline exposure and risk of eluxadoline-related adverse effects (e.g., impaired mental and physical abilities). Although the effect of CYP enzymes on the metabolism of eluxadoline has not been definitely established, the manufacturer recommends caution when administering eluxadoline with these agents.

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

| Util A | Util B | | Util C |
|---|---|---|---|
| Eluxadoline | Ciprofloxacin | Posaconazole | |
| | Nefazodone | Voriconazole | |
| | Fluconazole | Nelfinavir | |
| | Paroxetine | Boceprevir | |
| | Bupropion | Fluvoxamine | |
| | Fluoxetine | Ticlopidine | |
| | Ketoconazole | Itraconazole | |

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.
FDA: Drug Development and Drug Interactions: Tables of Substrates, Inhibitors and Inducers. Available at: http://www.fda.gov/Drugs/DevelopmentApprovalProcess/DevelopmentResources/DrugInteractionaLabeling/ucm093664.htm

***Per PI 2015 this drug interaction information is a precautionary measure due to incomplete information on the metabolism of eluxadoline. Some strong CYP inhibitors that are also OATP1B1 inhibitors with specific recommended max dose recommendations are included in #44.***

**50. Eluxadoline / CYP3A Substrates w/ Narrow Therapeutic Index** _____ _____

Alert Message: The concurrent use of Viberzi (eluxadoline) with an agent that is a CYP3A substrate with a narrow therapeutic index may result in increased CYP3A substrate plasma concentrations and risk adverse effects. Although the CYP3A inhibitory effects of eluxadoline have not been definitely established, the manufacturer recommends caution when administering eluxadoline with these agents.

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

| Util A | Util B | | Util C |
|---|---|---|---|
| Eluxadoline | Quinidine | Tacrolimus | |
| | Everolimus | Sirolimus | |
| | Fentanyl | Ergotamine | |
| | Pimozide | Dihydroergotamine | |

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.

**51. Eluxadoline / Drugs That Cause Constipation** _____ _____

Alert Message: The concurrent use of Viberzi (eluxadoline) with other agents that cause constipation should be avoided. The most common adverse reaction associated with eluxadoline therapy is constipation and co-administration of eluxadoline with these agents may increase the risk of developing constipation. If the patient develops severe constipation that lasts more than 4 days, eluxadoline therapy should be discontinued.

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

| Util A | Util B | | | Util C |
|---|---|---|---|---|
| Eluxadoline | Opioids | Fesoterodine | Tricyclic Antidepressants | |
| | Anticholinergics | Verapamil | | |
| | Alosetron | Clozapine | | |
| | Loperamide | Iron | | |
| | Cholestyramine | Sevelamer | | |
| | Colesevelam | Darifenacin | | |
| | Colestipol | Glycopyrrolate | | |

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.

**52. Eluxadoline / OATP1B1 & BCRP Substrates** _____ _____

Alert Message: The concurrent use of Viberzi (eluxadoline) with an agent that is an OATP1B1 and BCRP substrate may result in increased substrate plasma concentrations and risk for adverse effects. A drug interaction study with eluxadoline and rosuvastatin (an OATP1B1/BCRP substrate) resulted in an increase in the AUC (40%) and Cmax (18%) of rosuvastatin as compared to rosuvastatin alone. Dosing adjustment of the OATP1B1/BCRP substrate may be required.

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

| Util A | Util B | Util C |
|---|---|---|
| Eluxadoline | Rosuvastatin | |
| | Pitavastatin | |
| | Atorvastatin | |
| | Methotrexate | |

References:
Viberzi Prescribing Information, May 2015, Forest Pharmaceuticals, Inc.
Pharmacology Weekly Comprehensive Drug Reference Table. Available at:
http://www.pharmacologyweekly.com/content/pages/drug-reference-table-cyp-p450-ugt-enzymes-transporters-ab

**53. Synjardy / Overutilization** _____ _____

Alert Message: Synjardy (empagliflozin/metformin) may be over-utilized. The manufacturer's maximum recommended dose of empagliflozin/metformin is 12.5/1000 mg twice daily.

Conflict Code: ER - Overutilization

Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Empagliflozin/metformin | | |

Max Dose: 25/2000 mg/day

References:

Synjardy Prescribing Information, August 2015, Boehringer Ingelheim Pharmaceuticals.

**54. Synjardy / Mild Renal Impairment** _____ _____

Alert Message: Assessment of renal function is recommended prior to initiation of Synjardy (empagliflozin/metformin) and periodically thereafter. Do not initiate or continue empagliflozin/metformin in patients with serum creatinine levels greater than or equal to 1.5 mg/dL for males and 1.4 mg/dL for females. In patients eligible for empagliflozin/metformin based on creatinine cutoff criteria, do not initiate or continue empagliflozin/metformin if eGFR is persistently less 45 mL/min/1.73m2.

Conflict Code: TA – Therapeutic Appropriateness

Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Empagliflozin/metformin | | CKD Stage 1 & 2 |

References:

Synjardy Prescribing Information, August 2015, Boehringer Ingelheim Pharmaceuticals.

**55. Synjardy / Mod to Sev. Renal Impairment, ESRD & Dialysis** _____ _____

Alert Message: Synjardy (empagliflozin/metformin) use is contraindicated in patients with renal impairment (e.g., serum creatinine levels greater than or equal to 1.5 mg/dL for males or 1.4 mg/dL for females, or eGFR less than 45 mL/min/17.3m2), end-stage renal disease, or patients receiving dialysis. Based on its mechanism of action, inhibition of SGLT2 in the proximal renal tubules, empagliflozin is not expected to be effective in these patients.

Conflict Code: TA – Therapeutic Appropriateness

Drugs/Diseases

| Util A | Util B | Util C **(Include)** |
|---|---|---|
| Empagliflozin/metformin | | CKD Stage 3, 4 & 5 |
| | | ESRD |
| | | Dialysis |

References:

Synjardy Prescribing Information, August 2015, Boehringer Ingelheim Pharmaceuticals.

**56. Synjardy / Therapeutic Appropriateness (Age 0-17 yoa)** _____ _____

Alert Message: The safety and effectiveness of Synjardy (empagliflozin/metformin) in pediatric patients under 18 years of age have not been established.

Conflict Code: TA – Therapeutic Appropriateness
Drugs/Diseases

| Util A | Util B | Util C |
|---|---|---|
| Empagliflozin/metformin | | |

Age Range 0 - 17 yoa

References:
Synjardy Prescribing Information, August 2015, Boehringer Ingelheim Pharmaceuticals.

**57. Synjardy / Insulin & Sulfonylureas** _____ _____

Alert Message: The concurrent use of Synjardy (empagliflozin/metformin) with insulin or an insulin secretagogue can increase the risk of hypoglycemia. A lower dose of insulin or insulin secretagogue may be required to minimize the risk of hypoglycemia when used in combination with empagliflozin/metformin.

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

| Util A | Util B | Util C |
|---|---|---|
| Empagliflozin/metformin | Insulins | |
| | Chlorpropamide | |
| | Glimepiride | |
| | Glipizide | |
| | Glyburide | |
| | Tolazamide | |
| | Tolbutamide | |

References:
Synjardy Prescribing Information, August 2015, Boehringer Ingelheim Pharmaceuticals.

**58. Synjardy / Nonadherence** _____ _____

Alert Message: Based on refill history, your patient may be under-utilizing Synjardy (empagliflozin/metformin). 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 |
|---|---|---|
| Empagliflozin/metformin | | |

References:
Synjardy Prescribing Information, August 2015, Boehringer Ingelheim Pharmaceuticals.
Osterberg L, Blaschke T. Adherence to medication. N Engl J Med 2005;353:487-97.
Ho PM, Rumsfeld JS, Masoudi FA, et al., Effect of Medication Nonadherence in Diabetes Mellitus. Cardiology Review, April 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.
Butler RJ, Davis TK, Johnson WL, et al. Effects of Nonadherence with\Prescription Drugs Among Older Adults. Am J Manag Care. 2011 Feb; 17(2):153-60.