Division of Medicaid
Office of the Governor
State of Mississippi
Drug Utilization Review (DUR) Board Meeting

August 16, 2012 at 2:00pm

Woolfolk Building, Room 117

Jackson, MS

Prepared by:

The University of Mississippi School of Pharmacy

Evidence-Based DUR Initiative, MS-DUR

Drug Utilization Review Board

Gera Bynum, R.Ph.
Pharmacy Director, Scott Regional Hospital
371 Highway 13S
Morton, MS 39117
Term Expires: June 30, 2012

Lee Merritt, R.Ph. *
Medfusion
2211 5th Street North
Columbus, MS 39705
Term Expires: June 30, 2013

Jason Dees, D.O. *
New Albany Medical Group
West Longview Drive
New Albany, MS 38652
Term Expires: June 30, 2012

Paul Read, Pharm.D.
CVS Pharmacy #5744
3910 Hardy Street
Hattiesburg , MS 39402
Term Expires: June 30, 2012

Edgar Donahoe, M.D. (Co-Chair)
Indianola Family Medicine Group
122 Baker Street
Indianola, MS 38751
Term Expires: June 30, 2013

Mark Reed, M.D. (Chair)
University of MS Medical Center
2500 North State Street, Trailer 16
Jackson, MS 39216
Term Expires: June 30, 2013

Laura Gray, M.D.
905 Garfield Street
Tupelo, MS 38801
Term Expires: June 30, 2012

Dennis Smith, R.Ph.
Polk's Discount Pharmacy
1031 Star Rd
Brandon, MS 39042
Term Expires: June 30, 2014

Antoinette M. Hubble, M.D.
McComb Children's Clinic
300 Rawls Dr. Ste 100
McComb, MS 39648
Term Expires: June 30, 2014

Cynthia Undesser, M.D.
MS Children's Home Services
402 Wesley Ave
Jackson, MS 39202
Term Expires: June 30, 2014

Cherise McIntosh, Pharm.D.
UMC Dept of Pharmacy
2500 North State St.
Jackson, MS 39216
Term Expires: June 30, 2014

Vicky Veazey, R.Ph.
MS State Hospital , Bldg 50
Whitfield, MS 39193
Term Expires: June 30, 2013
Vicky Veazey, R.Ph.

2012 DUR Board Meeting Dates

February 16, 2012
May 17, 2012
August 16, 2012
November 15, 2012

Board tenure ended

*Resigned due to employment change

As with any analysis, great efforts are made to ensure that the information reported in this document is accurate. The most recent administrative claims data available are being used at the time the reports are generated, which includes the most recent adjudication history. As a result, values may vary between reporting periods and between DUR Board meetings, reflecting updated reversals and claims adjustments.

Only Mississippi Medicaid beneficiaries with fee-for-service claims are included in the analyses, including dual enrollees with Medicare Part D. MississippiCAN data is not being reported unless otherwise specified. Further, reported dollar figures represent reimbursement to providers and are not representative of overall Medicaid costs.

The preferred drug list (PDL) indicators found in the resource utilization report are only included for reference and to facilitate discussion among the DUR Board members. As a result, the PDL indicators should not be considered the official PDL list. Please refer to the Mississippi Division of Medicaid website for the official PDL list.

MISSISSIPPI DIVISION OF MEDICAID

OFFICE OF THE GOVERNOR

DRUG UTILIZATION REVIEW BOARD

AGENDA

August 16, 2012

Welcome Mark Reed, M.D. (Chair)

Old Business Mark Reed, M.D. (Chair)

- Approval of February 2012 Meeting Minutes
- Approval of May 2012 Meeting Minutes

Resource Utilization Review Kyle D. Null, Pharm.D., Ph.D.

- Program Summary Report
- Top 15 Drug Classes and Top 25 Drug Detail – Amount Paid*
- Top 15 Drug Classes and Top 25 Drug Detail – Number of Claims

Pharmacy Program Update Judith Clark, R.Ph.

- DUR Process and DUR Board Responsibilities
- Update: Pharmacy Lock-in Program Recommendations for Program Integrity

New Business Kyle D. Null, Pharm.D.,Ph.D.

Special Analysis Projects

- Revisited: Review of Sedative Hypnotic Therapy Switches
- Safety Issues Related to Proton Pump Inhibitor Length of Therapy
- Comparative Utilization of Insulin Vials versus Insulin Pens
- Mental Health Treatment of Foster Children and Other Children In the Mississippi Medicaid Program — Ben Banahan, Ph.D.

Exceptions Monitoring

- Exceptions Monitoring Criteria Recommendations (May 2012 DUR Board Meeting)
- Exceptions Monitoring Criteria Recommendations (New Proposed Criteria)

Next Meeting Information Mark Reed, M.D. (Chair)

DUR Board Meeting Minutes

MISSISSIPPI DIVISION OF MEDICAID
DRUG UTILIZATION REVIEW (DUR) BOARD
MINUTES OF THE AUGUST 16, 2012 MEETING

DUR Board Members:	Present	Absent
Edgar Donahoe, M.D. **(Co-Chair)**	✓	
Antoinette M. Hubble, M.D.	✓	
Cherise McIntosh, Pharm.D.	✓	
Mark Reed, M.D. **(Chair)**	✓	
Dennis Smith, R.Ph.	✓	
Cynthia Undesser, M.D.	✓	
Vicky Veazey, R.Ph.	✓	
Total	**7**	**0**

Note: New members replacing those going off board have not yet been approved by Governor's Office.

Also Present:

DOM Staff:
Judith Clark, R.Ph., Division of Medicaid (DOM) Pharmacy Bureau Director; Shannon Hardwick, R.Ph., DOM Clinical Pharmacist, DUR Coordinator; Terri Kirby, R.Ph., DOM Clinical Pharmacist; Otis Washington, Jr. Program Integrity; Jennifer Grant, DOM.

MS-DUR Staff:
Kyle Null, Pharm.D., Ph.D., Clinical Director; Ben Banahan, Ph.D., Project Director, Leah Simmons, UM Student on DUR rotation.

ACS Staff:
Leslie Leon, Pharm.D.

Visitors:
John Harris, Abbott; Phil Hecht, Abbott; Danny Duke, Merck.

Call to Order:
Dr. Mark Reed, Chairman of the Board, called the meeting to order at 1:57 pm. Dr. Reed noted that all of the current members of the Board were present and expressed gratitude that everyone could attend for a quorum. Dr. Reed proceeded to ask for a motion to accept the minutes from the previous meetings. **Dr. Hubble made a motion to approve the minutes from the February and May 2012 meetings.** The motion was seconded by Dr. Undesser and approved unanimously.

Resource Utilization Review:
Dr. Null noted that no major shifts or trends were found in the resource utilization report. Mr. Smith questioned the jump in monthly trends for antihemophilic factor and then the dip in May. Dr. Null noted that a cyclical fill pattern was often observed in drug utilization. Dr. Banahan suggested MS-DUR conduct an analysis on expenditures and the number of children using these drugs to gain a better perspective on utilization trends in the hemophilic population. There were no other comments or questions about the resource utilization report.

Pharmacy Program Update:
Ms. Clark thanked everyone for making effort to attend. Ms. Clark noted that new DUR Board appointments are still at the Governor's Office awaiting approval. Ms. Clark also mentioned that Mr. Merritt has retired and moved out of state since the last meeting and has resigned from the Board as a result. Thus, there are five new members being appointed for this cycle. Ms. Clark discussed changes made in the 2012 Legislative session that allow preferred brands to not count toward the two brand limit in monthly prescription limits when the brand is less expensive to Medicaid than the generic. Dr. Donahoe and others discussed problems with pharmacists still not understanding brand preferred. Ms. Clark concluded that the DOM may need to look into sending messages to pharmacies and will continue to provide outreach to providers to help educate on this area. Dr. Donahoe asked if a more provider friendly version of the PDL could be developed, focusing on treatment categories. An example was given for searching for antibiotics as a group, rather than looking for the generic class of the product. Ms. Clark noted that the PDL vendor, GHS, was responsible for generating the PDL list and continuous improvements are being made to the list. The Board members discussed frustrations with E-prescribing systems and EHR systems not providing good feedback on formulary at time of prescribing. Dr. McIntosh pointed out that the SmartPA criteria are not always clear to the providers. An example was provided regarding stable criteria requirement stating must have "X" number of days on therapy but does not state the continuation fill requirement. Dr. Donahoe asked about the "grandfathering" requirement on the PDL. Ms. Clark explained that it is the stable therapy requirement that was discussed.

Ms. Clark informed board that PDL will have a new class added for "miscellaneous" that will include products where brand is less expensive than generic when class is not reviewed or products that do not fit into major classes. She also stated that the PDL will be updated annually in the future on January 1 each year, rather than twice a year as it currently is updated. Ms. Clark noted that minor changes may still be made during the year to account for new products and other things. Discussions are being held regarding integrating the fee-for-service PDL and the MS-CAN PDLs, but this is still in the early stages. Ms. Clark noted that prenatal vitamins will be added as a class to the PDL at some point in the future.

Ms. Clark discussed a CMS requirement that a prescriber must be a Medicaid provider in order for Medicaid to pay for prescriptions and it will most likely be implemented in October of this year. Ms. Clark noted that this will create some problems at the pharmacy level due to prescribers not being enrolled in the program. Dr. Donahoe asked if ER physicians would be affected. Ms. Clark noted they would have to be Medicaid providers as well. Dr. Reed and Dr. McIntosh expressed concerns about communication directly to UMC to be sure that residents are covered. Questions were raised about residents being able to be a Medicaid provider while they have a temporary license during residency.

Ms. Hardwick noted that the Summer 2012 pharmacy program newsletter is included in the packet. Ms. Clark notified the board that benzodiazepines will be moved to Part D in October. Medicaid will no longer be able to pay for these medications for dual beneficiaries. Ms. Clark noted that injectable antipsychotics will be denied at the point of sale beginning November 1st. Dr. Banahan provided update on Suboxone. It was noted that Suboxone materials were sent to prescribers and pharmacies informing them of the coverage changes effective September 1st.

New Business:

Special analysis projects:

Pharmacy Lock-in Program Recommendations for Program Integrity (PI)

Mr. Washington commented on the initial PI list provided by MS-DUR. The PI staff evaluated all of the beneficiaries identified using the initial MS-DUR criteria. MSCAN beneficiaries were turned over to MS-CAN with instructions that they be evaluated for possible lock-in. Medicaid had 69 beneficiaries in FFS that were reviewed by PI. These are being evaluated to determine if an informational or lock in letter will be sent to these beneficiaries. Mr. Washington wanted to encourage the DUR Board to continue applying these criteria and providing lists for referral to PI.

Dr. Null informed the board that a meeting was held with PI and that MS-DUR is working on additional criteria and information to be provided in future quarterly reports to PI. Dr. Null asked the Board for input on whether all Suboxone patients should be in lock-in. Dr. Donahoe stated that he thought all of them should be in the pharmacy lock-in program. Mr. Washington pointed out that DOM has to be careful about protecting beneficiaries' rights. **Dr. Donahoe made a motion that beneficiaries receiving Suboxone, Subutex, or Methadone should be placed in lock in with only one MD and one pharmacy.** Beneficiaries should have choice on pharmacy and the appropriate appeal process needs to be available. Dr. Undesser seconded motion. The motion passed unanimously.

Sedative Hypnotic Therapy Switches

Dr. Null provided an overview of the problem with therapy switches. During discussion at the last meeting where a quorum did not exist, it was noted that one therapy change and one dosage change should be allowed on sedative-hypnotics within a 1 year period. **A motion was made by Dr. McIntosh and seconded by Dr. Hubble.** The motion passed unanimously.

Safety Issues Related to Proton Pump Inhibitor Length of Therapy

Dr. Null reviewed the results from the MS-DUR analysis. Results found that a large number of beneficiaries on long term use of PPIs have no recorded diagnosis appearing in the medical claims for the last year. Dr. Donahoe asked about the safety problems that have been reported. Dr. Null replied that the safety issues were rare, but there was increased risk following a year or greater of therapy. Dr. Donahoe stated that until the FDA becomes clearer about guidelines he does not think DOM needs to do anything through DUR. Ms. Clark indicated that this issue is getting attention by CMS and others and that continued monitoring this category is necessary. Mr. Smith agreed it may be premature to take action now, but agreed that it needs to be monitored.

Comparative Utilization of Insulin Vials versus Insulin Pens

Ms. Clark gave background information noting that the rebates on the vials makes these products very inexpensive for DOM compared to the insulin pens. However, there are situations where patients may not be able to use syringes and vials. Mr. Smith pointed out that pens usually have more units than vials, so some of the comparisons may not be possible. Dr. Donahoe indicated that with Part D plans, pens are not even a consideration. Dr. McIntosh said she works with diabetic patients. Some patients do need pens due to blindness, arthritis, etc., but some patients also need pens because they are working or their lifestyle is such that they cannot be near a refrigerator. Some of the issues identified included: lifestyle needs, differences between Type 1 and Type 2 patients, LTC could easily be restricted to vials. Mr. Smith questioned whether we want to do anything that might restrict adherence with care due to the high percentage of diabetes in the state. Dr. McIntosh stated that she has patients that have been more compliant and better managed because they were offered a pen. Ms. Clark said that compliance and access are both important issues with this population. Ms. Clark mentioned that this

issue is being addressed in other states and that DOM may have to revisit this issue in the future. Consensus was not reached on how to handle the use of pens in the adult population**. Dr. Donahoe made a motion that LTC be limited to vials only.** The motion was seconded by Mr. Smith and approved unanimously.

Mental Health Treatment of Foster Children and Other Children
Dr. Banahan reviewed the mental health treatment of children report. Dr. Banahan stated that the report in the DUR Board packet was a summary of a larger report that was conducted in conjunction with DOM. Dr. Banahan mentioned that the full report is available at www.msdur.org. The analysis included quality of care indicators for this population and presented data which compared Mississippi to other states on these quality indicators.

Dr. Banahan reviewed the recommendations following the report, including duplicate therapy criteria and recommendations for monitoring and interventions. Dr. Undesser pointed out that almost all antipsychotics have age edits that require PA review so duplicative therapy check may not be necessary. Dr. Donahoe indicated that what we are currently doing appears to be working well and we may not need to do much more. Dr. Undesser stated that we should apply the same criteria to adults as we do for children for antipsychotics. Dr. Donahoe thought that additional data may be needed for adults and duplicative therapy, etc. Dr. Donahoe mentioned that stimulants may be problematic since changes are often made in therapy to get the patient stabilized. Dr. Banahan mentioned that Ms. Clark will be attending a meeting in the coming weeks that will address these issues and that we will revisit this topic following that meeting.

Exceptions Monitoring
Dr. Null pointed out that there are two meetings worth of new safety warnings currently being recommended for monitoring. The exceptions monitoring recommendations were taken as block vote. **The motion was made by Dr. Reed to accept the exceptions monitoring criteria as written.** The motion was seconded by Mr. Smith and was unanimously approved.

Other Business
No other business was introduced.

Next Meeting Information:
Dr. Reed announced next meeting date is November 15, 2012 at 2:00 P.M. and thanked everyone for making the effort to attend the DUR Board meeting in order to have a quorum. The meeting adjourned at 3:54 P.M.

Submitted,
Evidence-Based DUR Initiative, MS-DUR

MISSISSIPPI DIVISION OF MEDICAID
DRUG UTILIZATION REVIEW (DUR) BOARD
MINUTES OF THE MAY 17, 2012 MEETING

DUR Board Members:	Present	Absent
Gera Bynum, R.Ph.	✓	
Edgar Donahoe, M.D. **(Co-Chair)**		✓
Laura Gray, M.D.		✓
Antoinette M. Hubble, M.D.	✓	
Cherise McIntosh, Pharm.D.		✓
Lee Merritt, R.Ph.		✓
Paul Read, Pharm.D.	✓	
Mark Reed, M.D. **(Chair)**	✓	
Dennis Smith, R.Ph.	✓	
Cynthia Undesser, M.D.	✓	
Vicky Veazey, R.Ph.		✓
Total	**6**	**5**

Also Present:

DOM Staff:
Judith Clark, R.Ph., DOM Pharmacy Bureau Director; Shannon Hardwick, R.Ph., DOM Clinical Pharmacist, DUR Coordinator; Terri Kirby, R.Ph., DOM Clinical Pharmacist; Otis Washington, Jr. Program Integrity; Tammy Bailey, RN, BSN, Program Integrity; Tamiko Young, Program Integrity.

MS-DUR Staff:
Kyle Null, Pharm.D., Clinical Director; Ben Banahan, Ph.D., Project Director; Thomas Chapman, M.S., Analyst.

ACS Staff:
Leslie Leon, Pharm.D.

Goold Health Systems (GHS) Staff:
Chad Bissell, Pharm.D., Account Manager; James Clair, CEO

Visitors:
John Harris, Abbott; Steve Curry, Meda Pharmaceuticals; Callista Goheen, Medimmune; Pat Harvey, Sunovion; Lee Ann Griffin, Pfizer.

Call to Order:
Dr. Mark Reed, Chairman of the Board, called the meeting to order at 2:00 pm. Dr. Reed noted there were not enough members present for a quorum, so no official business could be conducted. Minutes from the February 2012 meeting will be tabled for approval at the next meeting.

Resource Utilization Review:
Dr. Null provided an overview of Synagis® utilization during the 2011-2012 RSV season. Dr. Null noted this last season ran from October 2011 to March 2012, based on epidemiologic data from the Center for

Disease Control (CDC). Each beneficiary was eligible for a total of 5 injections, based on the 2009 Redbook guidelines. Dr. Null mentioned the cost per beneficiary being somewhat higher this year. This appears to be related to (1) an increase in "second season" babies being treated, (2) an increase in number of doses received per beneficiary, and (3) five high risk babies over the age of 24 months being treated.

Dr. Null noted that no major shifts or trends were found in resource utilization report.

Pharmacy Program Update:
Ms. Hardwick passed out a list summarizing the PDL changes that will go into effect in July 2012, and noted the list is also posted on the DOM website. Ms. Hardwick also pointed out a provider education sheet (posted on the MS-DUR and DOM websites) related to the proton pump inhibitor PDL changes and their use in PEG tubes.

Ms. Clark noted that effective July 1, 2012 all injectable antipsychotics will be reimbursed only through medical benefits and no longer through point-of-sale (POS), except in the case of long term care residents. Ms. Clark mentioned that when office administered drugs first came to market many of the community mental health centers were not able to bill on a medical claim for these drugs, so in order to allow for access, injectable antipsychotics were able to be billed through POS. Ms. Clark continued by stating that the DOM has been systematically moving any office-administered drug to be billed through the medical claims. Ms. Clark noted that billing these drugs through the POS would take up a "mark" for the month, reducing the total number of drugs the beneficiary could receive for the month. She noted that this will be included in the next DOM Provider Bulletin.

Ms. Hardwick informed the DUR Board that effective July 1, 2012 DOM will begin accepting ICD-9 codes through pharmacy POS for drugs that currently have clinical edits for diagnosis. This will be a pilot program in 2012 in preparation for required implementation of ICD-9/10 codes being required on prescription claims. Ms. Clark noted that this effort will prevent providers from having to submit paper prior authorizations on the drugs included in the pilot program. She noted that this information will be included in the next DOM Provider Bulletin.

Ms. Clark discussed safety issues raised by the FDA on long-term use of PPIs, specifically the increased incidence of *C. difficile* and fractures. Currently, DOM has a quantity limit but no duration limit on PPIs. Several other states have already adopted duration of use limits and DOM will be working on development and implementation of duration of use limits for PPIs. She asked for input from Board members with respect to criteria that might be appropriate for new guidelines. Data will be provided for a discussion at the next Board meeting and if the analysis indicates significant problems DOM will take action before then.

Ms. Clark informed the Board that there has been a lot of activity from the Department of Health and Human Services (DHHS) and the Centers for Medicare & Medicaid Services (CMS) related to antipsychotic use among foster children. A state plan is being developed and may be implemented shortly. Ms. Clark noted that the DOM DUR program will be responsible for monitoring the use of antipsychotics and other mental health drugs in this population. Dr. Undesser noted that many of these children appear to be enrolled in MS-CAN. Ms. Clark pointed out that DOM cannot be responsible for monitoring use if the children are enrolled in MS-CAN, but the DUR Board would focus on DOM beneficiaries. Ms. Clark mentioned that she will be attending another meeting with the state Department of Human Services (DHS) later in the week as part of the ongoing development of the state

plan. Ms. Clark informed the Board that Dr. Sabeen Javaid, a psychiatry resident at UMC studying with Dr. Undesser, has been provided data by DOM and MS-DUR to support a presentation on this issue at Grand Rounds in June.

New Business:

Special analysis projects:

Review of Sedative Hypnotic Therapy Switches

Dr. Null noted that the review of sedative hypnotic switches came from the prior authorization (PA) team. The PA team started seeing a large number of PAs after a rejection in SmartPA for sedative hypnotics based on the current criteria for implementing the quantity limits on these drugs. MS-DUR analysis indicated that many of these rejections are the result of dose changes and therapy changes causes new prescription fills to exceed the current quantity limit criteria. MS-DUR is seeking Board input on potential changes in the current algorithm to eliminate this problem. MS-DUR is recommending a change that would allow one therapy change (dose change or drug change) in a 12-month period. Ms. Bynum suggested that it might be necessary to allow one dose change and one drug change per year. Dr. Paul Read reported that he sees changes such as these fairly frequently. Dr. Mark Reed noted that proposal was reasonable. The DUR Board members present concurred that implementing this change had merit; however, an official motion would be sought at the next meeting due to lack of a quorum.

Dr. Mark Reed inquired about the possibility of achieving a quorum through electronic means, so that action would not have to be suspended due to lack of a physical quorum. Ms. Clark replied that the attorney general's office currently does not allow for public meetings to be held in an electronic forum. Dr. Mark Reed noted that it might be a good idea to address this idea. Dr. Undesser noted that "Go to Meeting" will be considered a billable patient contact beginning on July 1, 2012 so it would make sense that other official business may be conducted in such a way. Ms. Clark noted she would inquire about it.

Pharmacy Lock-in Program Recommendations for Program Integrity

Ms. Clark explained how DOM has various bureaus that handle different components of the overall program. Program Integrity (PI) is responsible for auditing and assuring compliance with DOM policies and procedures. Staff from the PI introduced themselves to the DUR Board. Ms. Clark noted that nationally, there is a big push to better monitor and manage controlled substance use. PI has initiated a beneficiary lock-in program and would welcome reports from DUR and the Pharmacy Bureau for potential diversion problems that need to be further evaluated for possible enrollment in the lock-in program. Ms. Clark requested that PI speak to the DUR Board. Otis Washington thanked the DUR Board for having them as guests at the meeting and acknowledged their desire to have MS-DUR recommend beneficiaries to the pharmacy lock-in program, based on discussion with the DUR Board and working directly with PI to identify appropriate criteria based on retrospective claims review by MS-DUR.

Dr. Null noted that one of the recommendations for addressing drug diversion from CMS is to look across programs, including Medicare Part D data, which can be made available for program purposes. PI noted that would be a good approach. Dr. Null reviewed the analysis by MS-DUR on unique pharmacies and unique prescribers being used by beneficiaries for narcotic analgesics. Input was sought from the Board on what drugs should be included in this analysis, as well as a "cut point" for the number of unique prescribers and pharmacies to identify potentially inappropriate activities by beneficiaries. Ms. Clark noted that the NPI number may be associated with a clinic and not necessarily with an individual prescriber. Dr. Null concurred with Ms. Clark, but also noted when filling a prescription, especially for a controlled substance, that he would personally check that the NPI matched a prescriber and not a clinic. Dr. Banahan noted that one limitation of a claims-based approach is that DUR is only able to identify the

prescribers and pharmacies based on the NPI numbers submitted on the claims. Dr. Banahan also pointed out that the number of unique pharmacies and prescribers was selected to reduce the possibility of false positives and to provide PI with a manageable list of beneficiaries to review. Dr. Banahan noted the need for a set of criteria that would identify outlier beneficiaries that would warrant a manual review by PI.

Dr. Mark Reed suggested that it might be helpful to eliminate post-surgery care for 10-days to 2 weeks. PI indicated that having a diagnosis in the reports would be helpful. Mr. Smith posited that the muscle relaxants would closely match the analgesics. Dr. Null noted that in a separate analysis not reported to the Board the distribution of unique prescribers/pharmacies only changed slightly when including/excluding other drug categories. Dr. Null also noted that this analysis was limited to narcotic analgesics, but that it would be expanded to other categories for the PI reports. Ms. Bynum noted that this analysis only includes Medicaid FFS claims and not claims paid for by cash. Dr. Banahan asked the staff from PI what would be most useful for them to receive from MS-DUR. Mr. Washington replied that the current discussion and report included some of the same elements they had been discussing internally. Mr. Washington asked that drugs such as [benzodiazepines] be included. PI noted that it would be helpful to include Medicare Part D data from these beneficiaries in such an analysis, as well as diagnosis codes from the medical claims. Dr. Null noted that MS-DUR does not have access to the prescription drug monitoring program (PDMP) database to allow for combining it with the Medicaid claims data, but that Medicare Part D data for Mississippi residents may be available for use in such a way. Ms. Clark noted that combining Medicaid data with Medicare Part D data would be helpful. Ms. Clark noted that dual-eligibles taking benzodiazepines are currently paid for by Medicaid, even though benzodiazepines are not typically covered in the Medicaid fee-for-service program.

Dr. Null asked for comments on using findings from these routine drug abuse analyses for coordination of care or other provider outreach. Dr. Undesser commented that getting letters notifying prescribers and pharmacies about patients getting multiple prescriptions from multiple prescribers would be helpful to the providers. Dr. Paul Read commented on the current quantity limits associated with some of the drugs of abuse and noted that it was a very helpful, preventative measure already in place. Ms. Bynum noted that the presence of multiple prescribers was not as concerning as multiple pharmacies or the combination multiple prescribers and multiple pharmacies. Dr. Mark Reed proposed an alternative method of identifying beneficiaries by taking a distribution-based approach and targeting the outliers, rather than the count-based approach. Dr. Banahan noted the data are highly positively skewed, with most individuals using 1 or 2 prescriber/pharmacies. Items identified as possible additional criteria for analysis include variation in zip codes for pharmacies, possible identification of multiple stores for the same chain, and diagnosis codes such as surgeries. PI noted that beneficiaries remain in the pharmacy lock-in program for one (1) year, which entails receiving all medications from one pharmacy and visiting only one general practitioner. Specialist referrals are allowed from the primary general practitioner. Ms. Clark indicated DOM and MS-DUR will conduct the initial analysis, provide a report to PI, and report on results of this initiative at the next Board meeting.

Utilization of Provigil/Nuvigil

Dr. Null noted that Tennessee had a spike in Provigil/Nuvigil use a year ago and reported this at the American Drug Utilization Review Society (ADURS) annual meeting. The issue was examined by MS-DUR to determine if Mississippi had a similar trend. The clinical criteria for Mississippi is very similar to Tennessee's, with the exception that Tennessee requires failure of a continuous positive airway pressure (CPAP) or bilevel positive airway pressure (BiPAP). The analysis indicated that Mississippi's total

utilization appears to be trending downward. As a result, MS-DUR does not recommend any changes at this time because of this trend and the existing criteria that are in place.

Valturna (aliskiren/valsartan) Withdrawal
Valturna is being pulled from the market for use in diabetics patients as of July 20, 2012. MS-DUR ran an analysis and determined that there will be minimal impact in the Medicaid program and concluded that no additional action is required.

Exceptions Monitoring
Review and action tabled until a quorum is reached at next meeting.

Other Business
Ms. Clark reported on changes in CMS requirements that penalize state Medicaid programs for newer line extensions of existing products, e.g., XR or CR versions of products. The final ruling has not been released, but DOM has already begun addressing this issue with changes that will be made in the PDL list effective July 2012. Ms. Clark introduced Chad Bissell from Goold Health Systems (GHS), the PDL vendor for Mississippi Medicaid, and requested that he comment on the new PDL list and line extension ruling from CMS. Dr. Bissell reported that the changes regarding rebates and line extensions will be retroactive to January 2010, requiring back-payment to CMS for line-extensions paid since that time. Gould Health Systems is working with DOM to minimize the impact of the new regulations.

Mr. Smith asked for clarification on why some products were recently removed from the 90-day list. Ms. Clark reported that the legislature defines the prescription limits for Medicaid. DOM is allowed to have a 90-day list for a limited number of medications. A recent review by an outside consultant recommended that the change with lovastatin be made because more effective drugs in the same category have been made available generically since the 90-day list was last updated. Mr. Smith indicated that use of the 90-day list was a great way to help patients manage the prescription limits. Dr. Null indicated that the new 90-day list was mailed out to the top 300-plus prescribers using the products on the list as part of the education surrounding this change.

Next Meeting Information:
Dr. Reed announced next meeting date is August 16, 2012 at 2:00 P.M. and thanked everyone for making the effort to attend the DUR Board meeting in order to have a quorum. The meeting adjourned at 3:17 P.M.

Submitted,
Evidence-Based DUR Initiative, MS-DUR

Resource Utilization Report

Top 15 Drugs by Class

Top 25 Drug Detail

By Amount Paid* and Number of Claims

Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Amount Paid*ł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Antipsychotics (atypical And Typical)	**$2,733,436.25**	**8,176**	**$2,333,741.05**	**7,133**	**$2,852,692.93**	**8,319**	**$7,919,870.23**	**23,628**
Aripiprazole	$1,021,771.58	1,655	$957,848.18	1,493	$1,058,477.85	1,624	$3,038,097.61	4,772
Quetiapine	$470,199.89	1,008	$335,781.47	713	$647,214.72	1,528	$1,453,196.08	3,249
Risperidone	$340,305.59	3,050	$303,417.35	2,727	$324,790.27	2,811	$968,513.21	8,588
Olanzapine	$373,575.92	536	$271,971.61	481	$321,044.07	508	$966,591.60	1,525
Paliperidone	$219,780.87	207	$184,730.81	169	$210,868.97	188	$615,380.65	564
Ziprasidone	$104,842.55	206	$85,643.50	165	$94,212.29	233	$274,130.74	533
Asenapine	$63,506.27	135	$64,376.73	140	$67,562.61	143	$195,445.61	418
Lurasidone	$36,867.07	68	$39,382.60	74	$40,135.78	80	$116,385.45	222
Haloperidol	$25,402.91	528	$22,653.63	483	$25,768.81	533	$73,825.35	1,544
Clozapine	$21,354.50	132	$19,262.73	123	$22,586.07	132	$63,203.30	387
Iloperidone	$14,080.51	22	$12,843.84	21	$13,055.99	20	$39,980.34	63
Chlorpromazine	$28,521.74	280	$22,685.98	220	$24,168.84	244	$29,470.38	288
Perphenazine	$3,790.26	60	$4,175.58	64	$3,813.48	60	$11,779.32	184
Fluphenazine	$2,214.11	51	$2,731.83	61	$2,351.67	55	$7,297.61	167
Prochlorperazine	$1,971.20	124	$1,601.56	102	$2,085.64	118	$5,658.40	344
Loxapine	$1,515.55	17	$1,210.54	14	$1,588.69	19	$4,314.78	50

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Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Amount Paid*ł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Trifluoperazine	$1,442.80	26	$1,365.18	26	$1,385.60	27	$4,193.58	79
Thioridazine	$1,234.47	44	$1,098.69	38	$1,339.44	45	$3,672.60	127
Pimozide	$568.39	6	$612.33	4	$323.78	3	$1,504.50	13
Thiothixene	$490.07	21	$346.91	15	$485.96	19	$1,322.94	55
Hemostatics	**$1,312,111.66**	**71**	**$806,823.08**	**50**	**$2,276,254.89**	**76**	**$4,395,189.63**	**197**
Antihemophilic Factor	$272,331.57	15	$206,722.15	8	$1,415,595.97	33	$1,894,649.69	56
Anti-inhibitor Coagulant Complex	$609,858.50	8	$443,778.58	4	$748,434.63	5	$1,802,071.71	17
Antihemophilic Factor-von Willebrand Factor	$179,201.63	5	$75,918.49	5	$77,374.29	3	$332,494.41	13
Coagulation Factor Viia	$193,627.37	7	$65,127.82	2			$258,755.19	9
Coagulation Factor Ix	$52,396.02	3	$11,090.89	2	$29,434.93	2	$92,921.84	7
Tranexamic Acid	$4,627.51	32	$3,771.47	26	$4,020.67	28	$12,419.65	86
Aminocaproic Acid	$69.06	1	$413.68	3	$1,394.40	5	$1,877.14	9
Leukotriene Modifiers	**$1,498,927.70**	**8,955**	**$1,182,019.86**	**7,067**	**$1,210,118.29**	**7,213**	**$3,891,065.85**	**23,235**
Montelukast	$1,497,723.24	8,947	$1,180,351.70	7,060	$1,209,504.79	7,207	$3,887,579.73	23,214
Zafirlukast	$675.87	7	$611.88	6	$613.50	6	$1,901.25	19
Zileuton	$528.59	1	$1,056.28	1			$1,584.87	2
Adrenals	**$1,425,423.43**	**14,445**	**$1,245,122.40**	**11,633**	**$1,120,646.10**	**10,422**	**$3,791,191.93**	**36,500**
Budesonide	$1,072,369.60	3,316	$950,884.98	2,914	$837,667.30	2,548	$2,860,921.88	8,778
Prednisolone	$119,769.06	6,293	$90,714.17	4,820	$74,552.59	4,071	$285,035.82	15,184
Fluticasone	$64,243.61	449	$56,209.76	388	$52,867.68	362	$173,321.05	1,199

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	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Budesonide-formoterol	$59,062.94	266	$51,837.95	232	$60,402.38	260	$171,303.27	758
Beclomethasone	$35,716.26	264	$30,419.05	231	$32,097.55	240	$98,232.86	735
Mometasone	$25,517.51	240	$19,067.24	156	$20,631.10	163	$65,215.85	559
Formoterol-mometasone	$15,790.49	72	$18,350.18	82	$16,345.99	74	$50,486.66	228
Methylprednisolone	$13,629.65	1,101	$11,417.68	929	$10,548.08	869	$35,595.41	2,899
Prednisone	$9,565.48	1,862	$7,020.81	1,402	$6,797.85	1,376	$23,384.14	4,640
Dexamethasone	$4,618.21	418	$3,406.88	320	$3,913.46	316	$11,938.55	1,054
Hydrocortisone	$2,054.59	80	$2,540.01	78	$2,324.34	76	$6,918.94	234
Flunisolide Nasal	$1,459.56	20	$2,030.13	29	$1,106.40	15	$4,596.09	64
Fludrocortisone	$1,348.71	59	$1,192.88	49	$1,340.04	50	$3,881.63	158
Amphetamines	**$1,364,347.03**	**8,257**	**$1,100,169.93**	**6,662**	**$1,065,950.37**	**6,458**	**$3,530,467.33**	**21,377**
Amphetamine-dextroamphetamine	$709,743.57	4,318	$582,456.39	3,545	$572,919.39	3,495	$1,865,119.35	11,358
Lisdexamfetamine	$641,580.05	3,839	$505,003.82	3,021	$477,454.73	2,857	$1,624,038.60	9,717
Dextroamphetamine	$13,023.41	100	$12,709.72	96	$15,576.25	106	$41,309.38	302
Anticonvulsants, Miscellaneous	**$979,336.13**	**10,336**	**$882,698.40**	**9,365**	**$999,100.01**	**10,630**	**$2,861,134.54**	**30,331**
Divalproex Sodium	$166,662.47	1,644	$156,380.15	1,485	$171,306.72	1,661	$494,349.34	4,790
Pregabalin	$135,302.17	652	$126,543.52	612	$133,189.40	658	$395,035.09	1,922
Oxcarbazepine	$129,899.45	996	$117,010.12	954	$136,078.75	1,011	$382,988.32	2,961
Levetiracetam	$109,513.41	1,283	$88,964.01	1,039	$112,893.81	1,324	$311,371.23	3,646
Gabapentin	$92,557.63	2,445	$82,670.37	2,246	$98,953.13	2,586	$274,181.13	7,277

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Lamotrigine	$84,627.93	888	$77,503.67	826	$87,507.66	925	$249,639.26	2,639
Topiramate	$60,396.12	1,160	$52,314.65	1,048	$62,512.65	1,182	$175,223.42	3,390
Lacosamide	$59,499.65	135	$54,159.64	127	$60,406.74	145	$174,066.03	407
Carbamazepine	$35,103.89	613	$30,511.18	541	$33,991.54	603	$99,606.61	1,757
Vigabatrin	$36,023.36	7	$31,456.35	8	$31,591.40	6	$99,071.11	21
Rufinamide	$24,326.66	34	$21,801.95	35	$26,424.42	37	$72,553.03	106
Felbamate	$16,482.28	24	$15,096.22	21	$14,201.95	20	$45,780.45	65
Zonisamide	$12,206.52	257	$11,684.68	240	$13,140.30	267	$37,031.50	764
Valproic Acid	$8,878.40	185	$8,139.41	171	$9,022.91	189	$26,040.72	545
Tiagabine	$7,687.65	10	$8,462.48	12	$7,687.65	10	$23,837.78	32
Anorex., Resp. & Cerebral Stim., Misc.	**$1,085,505.84**	**6,351**	**$858,067.69**	**4,997**	**$808,919.00**	**4,663**	**$2,752,492.53**	**16,011**
Methylphenidate	$717,128.98	4,140	$564,309.89	3,239	$531,670.75	3,008	$1,813,109.62	10,387
Dexmethylphenidate	$354,090.01	2,194	$281,180.24	1,741	$263,737.66	1,636	$899,007.91	5,571
Modafinil	$11,375.41	10	$9,250.20	9	$9,351.39	9	$29,977.00	28
Armodafinil	$2,911.44	7	$3,327.36	8	$4,159.20	10	$10,398.00	25
Antineoplastic Agents	**$788,678.16**	**1,528**	**$655,749.47**	**1,364**	**$857,186.56**	**1,483**	**$2,301,614.19**	**4,375**
Everolimus	$110,247.42	16	$96,432.84	16	$172,558.30	24	$379,238.56	56
Leuprolide	$120,993.24	80	$87,556.48	64	$94,752.06	58	$303,301.78	202
Sunitinib	$52,497.02	6	$103,662.40	14	$104,995.84	14	$261,155.26	34
Imatinib	$75,792.20	11	$72,380.66	10	$75,792.20	11	$223,965.06	32

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	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Capecitabine	$57,215.59	25	$56,148.69	21	$46,626.75	20	$159,991.03	66
Sorafenib	$72,578.92	12	$4,425.22	2	$44,241.28	8	$121,245.42	22
Erlotinib	$52,451.37	10	$25,918.27	5	$41,223.30	8	$119,592.94	23
Nilotinib	$40,322.40	5	$24,193.44	3	$32,257.92	4	$96,773.76	12
Anastrozole	$29,503.88	112	$24,285.80	90	$27,340.84	108	$81,130.52	310
Letrozole	$25,930.60	70	$26,346.58	72	$28,133.12	76	$80,410.30	218
Dasatinib	$17,283.62	2	$34,564.24	4	$17,280.62	2	$69,128.48	8
Megestrol	$21,278.92	174	$23,287.10	196	$24,832.84	204	$68,013.88	574
Methotrexate	$25,278.28	720	$16,790.76	600	$19,313.48	640	$61,382.52	1,960
Lapatinib	$24,036.62	6	$6,867.86	2	$8,584.38	2	$39,488.86	10
Temozolomide	$23,779.01	9	$10,070.38	5	$5,249.75	4	$39,099.14	18
Histrelin					$32,975.82	2	$32,975.82	2
Rituximab					$26,717.36	2	$26,717.36	2
Bevacizumab	$8,195.32	3	$10,085.00	2	$5,042.50	1	$23,322.82	6
Tamoxifen	$6,865.36	140	$6,355.34	136	$6,693.10	138	$19,913.80	414
Bortezomib	$6,214.41	1	$6,214.41	1	$6,214.41	1	$18,643.23	3
Pazopanib			$6,520.09	1	$6,520.09	1	$13,040.18	2
Bicalutamide	$4,481.94	34	$4,104.68	30	$3,892.04	28	$12,478.66	92
Tretinoin	$4,691.14	1	$2,346.02	1	$3,988.52	2	$11,025.68	4
Hydroxyurea	$2,802.52	57	$3,417.18	62	$3,417.38	70	$9,637.08	189
Mercaptopurine	$2,333.72	24	$1,369.78	19	$2,914.20	28	$6,617.70	71

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	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Topotecan					$6,041.72	2	$6,041.72	2
Exemestane	$1,208.16	6	$805.44	4	$2,457.40	12	$4,471.00	22
Interferon Alfa-2b					$4,428.72	1	$4,428.72	1
Fulvestrant	$3,600.64	2					$3,600.64	2
Mitotane			$948.16	1	$948.16	1	$1,896.32	2
Cyclophosphamide	$480.84	2			$638.99	3	$1,119.83	5
Goserelin					$795.92	2	$795.92	2
Procarbazine			$619.30	1			$619.30	1
Proton-pump Inhibitors	**$767,353.42**	**6,419**	**$690,295.22**	**5,670**	**$771,576.42**	**6,312**	**$2,229,225.06**	**18,401**
Lansoprazole	$332,117.33	1,597	$286,818.86	1,334	$334,722.98	1,575	$953,659.17	4,506
Omeprazole	$242,831.17	3,571	$216,957.05	3,119	$242,061.71	3,456	$701,849.93	10,146
Dexlansoprazole	$153,962.28	1,117	$151,885.44	1,105	$160,606.25	1,165	$466,453.97	3,387
Amoxicillin/clarithromycin/lansoprazole	$23,075.07	49	$21,973.35	45	$21,988.35	45	$67,036.77	139
Esomeprazole	$13,591.92	62	$11,398.12	52	$10,208.18	48	$35,198.22	162
Pantoprazole	$1,374.17	21	$860.92	13	$1,587.47	21	$3,822.56	55
Rabeprazole	$254.17	1	$254.17	1	$254.17	1	$762.51	3
Insulins	**$706,256.72**	**3,124**	**$641,925.04**	**2,772**	**$716,829.34**	**3,160**	**$2,065,011.10**	**9,056**
Insulin Glargine	$208,357.47	870	$193,752.95	772	$218,361.96	872	$620,472.38	2,514
Insulin Aspart	$173,545.76	651	$152,895.57	568	$172,450.73	658	$498,892.06	1,877
Insulin Aspart-insulin Aspart Protamine	$103,919.77	266	$95,735.04	251	$96,365.03	255	$296,019.84	772

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Insulin Detemir	$74,857.93	321	$70,593.49	283	$79,080.80	327	$224,532.22	931
Insulin Isophane-insulin Regular	$55,972.91	318	$50,441.40	277	$57,982.72	322	$164,397.03	917
Insulin Isophane	$42,466.79	365	$37,386.47	321	$43,801.51	390	$123,654.77	1,076
Insulin Regular	$25,454.77	247	$21,351.62	224	$24,198.69	254	$71,005.08	725
Insulin Lispro	$14,794.27	67	$13,529.03	61	$14,513.14	59	$42,836.44	187
Insulin Lispro-insulin Lispro Protamine	$5,110.88	10	$4,260.08	6	$8,095.37	14	$17,466.33	30
Insulin Glulisine	$1,776.17	9	$1,979.39	9	$1,979.39	9	$5,734.95	27
Corticosteroids	**$791,932.37**	**7,080**	**$617,675.89**	**5,579**	**$621,425.87**	**5,916**	**$2,031,034.13**	**18,575**
Mometasone Nasal	$472,420.32	3,706	$350,027.02	2,753	$293,992.73	2,305	$1,116,440.07	8,764
Ciprofloxacin-dexamethasone Otic	$133,265.06	923	$122,006.21	849	$184,693.03	1,283	$439,964.30	3,055
Fluticasone Nasal	$124,933.63	1,119	$96,823.31	867	$76,980.44	688	$298,737.38	2,674
Dexamethasone-tobramycin Ophthalmic	$23,969.86	300	$17,989.76	227	$19,669.62	233	$61,629.24	760
Hydrocortisone/neomycin/polymyxin B Otic	$12,975.64	475	$13,268.61	488	$25,396.15	924	$51,640.40	1,887
Loteprednol Ophthalmic	$5,204.83	40	$3,808.67	25	$3,724.52	28	$12,738.02	93
Tobramycin Ophthalmic	$3,221.74	253	$2,999.29	257	$3,101.20	215	$9,322.23	725
Dexamethasone/neomycin/polymyxin B Ophthalmi	$3,799.23	231	$2,367.36	139	$2,518.27	177	$8,684.86	547
Hydrocortisone/neomycin/polymyxin B Ophth	$3,544.22	37	$1,887.60	20	$3,017.16	32	$8,448.98	89
Prednisolone Ophthalmic	$1,924.58	127	$1,569.88	107	$1,959.30	132	$5,453.76	366
Acetic Acid-hydrocortisone Otic	$2,261.53	14	$501.89	3	$2,062.98	14	$4,826.40	31
Flunisolide Nasal	$1,459.56	20	$2,030.13	29	$1,106.40	15	$4,596.09	64
Ciprofloxacin-hydrocortisone Otic	$1,423.71	9	$666.36	5	$1,362.82	9	$3,452.89	23

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Colistin/hc/neomycin/thonzonium Otic	$807.99	11	$988.09	13	$1,611.22	21	$3,407.30	45
Triamcinolone Nasal	$616.30	5	$1,229.60	10	$1,229.60	10	$3,075.50	25
Loteprednol-tobramycin Ophthalmic	$1,338.20	10	$921.76	5	$265.24	2	$2,525.20	17
Prednisolone-sulfacetamide Sodium Ophthalmic	$991.15	20	$214.78	8	$471.41	13	$1,677.34	41
Bacitracin/neomycin/polymyxin B Ophthalmic	$385.52	8	$470.25	13	$390.98	11	$1,246.75	32
Fluorometholone Ophthalmic	$509.68	26	$339.67	18	$337.97	19	$1,187.32	63
Beclomethasone Nasal	$146.58	1	$290.16	2	$729.90	5	$1,166.64	8
Fluocinolone Otic	$150.75	5	$179.21	6	$267.15	9	$597.11	20
Bacitracin/hc/neomycin/polymyxin B Ophthalmic	$196.97	4	$233.58	4	$131.31	3	$561.86	11
Difluprednate Ophthalmic	$108.73	1	$326.19	3	$108.73	1	$543.65	5
Beta-adrenergic Agonists	**$776,243.37**	**11,775**	**$613,455.16**	**9,159**	**$639,455.10**	**8,865**	**$2,029,153.63**	**29,799**
Albuterol	$408,575.92	10,183	$315,665.36	7,862	$306,730.79	7,473	$1,030,972.07	25,518
Fluticasone-salmeterol	$292,085.73	1,211	$236,622.72	979	$265,158.86	1,081	$793,867.31	3,271
Albuterol-ipratropium	$55,914.79	241	$49,222.34	208	$51,862.89	213	$157,000.02	662
Levalbuterol	$13,018.83	44	$6,618.46	30	$10,978.11	41	$30,615.40	115
Terbutaline	$3,084.78	80	$2,223.76	66	$1,581.12	42	$6,889.66	188
Formoterol	$2,008.51	10	$2,233.46	12	$1,762.29	10	$6,004.26	32
Arformoterol	$1,273.56	3	$869.06	2	$1,245.93	4	$3,388.55	9
Pirbuterol	$1,280.47	8	$576.25	3	$1,485.43	10	$3,342.15	21

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AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Cephalosporins	**$690,778.58**	**10,485**	**$555,507.04**	**8,381**	**$469,762.91**	**7,541**	**$1,716,048.53**	**26,407**
Cefdinir	$332,398.56	4,287	$267,705.90	3,454	$224,493.78	2,968	$824,598.24	10,709
Cefixime	$167,599.97	679	$142,522.03	555	$114,377.63	476	$424,499.63	1,710
Cefprozil	$114,568.64	1,926	$85,391.30	1,433	$63,996.76	1,097	$263,956.70	4,456
Cephalexin	$45,383.23	2,965	$38,459.44	2,401	$39,400.16	2,510	$123,242.83	7,876
Ceftriaxone	$13,205.69	112	$8,487.56	92	$13,401.52	78	$35,094.77	282
Cefuroxime	$7,823.23	356	$7,103.60	324	$6,123.73	286	$21,050.56	966
Cefadroxil	$6,067.74	134	$4,484.58	107	$3,270.39	106	$13,822.71	347
Cefepime	$2,417.98	9	$615.51	3	$2,973.44	7	$6,006.93	19
Cefaclor	$503.39	10	$337.05	6	$316.30	5	$1,156.74	21
Cefpodoxime	$457.32	5	$86.59	2	$256.51	3	$800.42	10
Ceftaroline					$643.42	1	$643.42	1
Antiretrovirals	**$567,807.83**	**604**	**$508,106.80**	**547**	**$632,003.78**	**693**	**$1,707,918.41**	**1,844**
Efavirenz/emtricitabine/tenofovir	$159,317.49	90	$142,906.78	82	$166,849.83	98	$469,074.10	270
Emtricitabine-tenofovir	$78,627.97	67	$78,822.46	68	$100,965.74	91	$258,416.17	226
Atazanavir	$51,416.15	51	$55,453.77	56	$64,905.84	66	$171,775.76	173
Lopinavir-ritonavir	$43,540.96	58	$32,978.68	45	$42,188.04	58	$118,707.68	161
Raltegravir	$37,964.66	36	$32,951.42	31	$44,349.94	42	$115,266.02	109
Lamivudine-zidovudine	$34,416.82	44	$23,350.34	30	$31,840.06	45	$89,607.22	119
Tenofovir	$28,117.40	37	$25,881.21	32	$25,745.10	31	$79,743.71	100

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Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Amount Paid*ł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Abacavir-lamivudine	$21,510.54	22	$14,688.76	15	$23,873.56	24	$60,072.86	61
Darunavir	$20,011.39	21	$18,057.78	19	$20,728.54	20	$58,797.71	60
Abacavir/lamivudine/zidovudine	$19,789.75	13	$13,567.47	9	$25,015.26	18	$58,372.48	40
Ritonavir	$15,677.28	56	$19,623.54	61	$20,764.30	69	$56,065.12	186
Efavirenz	$12,530.21	23	$11,514.09	21	$16,053.84	35	$40,098.14	79
Nelfinavir	$6,756.69	9	$5,673.07	7	$10,327.56	15	$22,757.32	31
Enfuvirtide	$5,719.56	2	$2,859.78	1	$5,719.56	2	$14,298.90	5
Abacavir	$7,171.99	13	$6,879.75	12	$6,288.91	11	$14,111.66	26
Nevirapine	$4,620.51	8	$4,700.06	8	$3,664.22	6	$12,984.79	22
Etravirine	$4,313.55	5	$3,451.44	4	$5,175.66	6	$12,940.65	15
Fosamprenavir	$3,339.60	3	$4,173.98	4	$5,008.36	5	$12,521.94	12
Lamivudine	$3,808.30	11	$3,545.09	12	$4,568.17	16	$11,921.56	39
Maraviroc	$4,227.04	4	$3,170.28	3	$3,170.28	3	$10,567.60	10
Didanosine	$2,026.77	9	$1,665.83	7	$1,759.41	7	$5,452.01	23
Zidovudine	$1,391.66	15	$1,295.26	14	$1,699.67	19	$4,386.59	48
Stavudine	$824.80	5	$658.64	4	$658.64	4	$2,142.08	13
Emtricitabine	$203.48	1	$237.32	2	$683.29	2	$1,124.09	5
Central Nervous System Agents, Miscellaneo	**$566,959.78**	**2,820**	**$489,973.92**	**2,418**	**$504,964.51**	**2,515**	**$1,561,898.21**	**7,753**
Guanfacine	$393,713.64	2,156	$337,738.37	1,860	$351,840.18	1,935	$1,083,292.19	5,951
Atomoxetine	$115,586.38	586	$97,003.75	488	$102,151.35	516	$314,741.48	1,590
Tetrabenazine	$36,972.24	6	$36,975.24	6	$38,341.05	6	$112,288.53	18

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Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Amount Paid*ł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Memantine	$12,764.34	58	$11,343.91	56	$11,155.27	53	$35,263.52	167
Sodium Oxybate	$4,317.31	1	$4,317.31	1			$8,634.62	2
Dextromethorphan-quinidine	$3,092.96	10	$2,244.28	5	$1,125.60	3	$6,462.84	18
Acamprosate	$512.91	3	$351.06	2	$351.06	2	$1,215.03	7

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Amount Paid*ł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Montelukast	**$1,497,723.24**	**8,947**	**$1,180,351.70**	**7,060**	**$1,209,504.79**	**7,207**	**$3,887,579.73**	**23,214**
Singulair	$1,497,723.24	8,947	$1,180,351.70	7,060	$1,209,504.79	7,207	$3,887,579.73	23,214
Aripiprazole	**$1,021,771.58**	**1,655**	**$957,848.18**	**1,493**	**$1,058,477.85**	**1,624**	**$3,038,097.61**	**4,772**
Abilify	$1,015,760.22	1,641	$952,606.40	1,482	$1,054,872.21	1,619	$3,023,238.83	4,742
Abilify Discmelt	$6,011.36	14	$5,241.78	11	$3,605.64	5	$14,858.78	30
Budesonide	**$1,072,369.60**	**3,316**	**$950,884.98**	**2,914**	**$837,667.30**	**2,548**	**$2,860,921.88**	**8,778**
Budesonide	$858,574.14	2,890	$745,593.40	2,494	$673,931.36	2,212	$2,278,098.90	7,596
Pulmicort Respules	$197,562.90	320	$189,820.02	316	$151,194.56	250	$538,577.48	886
Pulmicort Flexhaler	$16,232.56	106	$15,471.56	104	$12,541.38	86	$44,245.50	296
Antihemophilic Factor	**$272,331.57**	**15**	**$206,722.15**	**8**	**$1,415,595.97**	**33**	**$1,894,649.69**	**56**
Advate Rahf-pfm	$161,181.69	10	$90,152.69	3	$1,245,580.04	28	$1,496,914.42	41
Helixate Fs	$71,231.07	4	$32,349.82	1	$50,391.16	1	$153,972.05	6
Recombinate			$43,753.11	1	$62,910.43	2	$106,663.54	3
Xyntha	$39,918.81	1			$39,918.81	1	$79,837.62	2

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Amount Paid*ł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Hemofil-m			$16,795.53	1	$16,795.53	1	$33,591.06	2
Kogenate Fs With Bioset			$23,671.00	2			$23,671.00	2
Amphetamine-dextroamphetamine	**$709,743.57**	**4,318**	**$582,456.39**	**3,545**	**$572,919.39**	**3,495**	**$1,865,119.35**	**11,358**
Adderall Xr	$596,852.52	2,738	$490,157.44	2,249	$474,480.18	2,117	$1,561,490.14	7,104
Amphetamine-dextroamphetamine	$82,691.92	1,396	$68,297.41	1,152	$75,021.80	1,234	$226,011.13	3,782
Amphetamine-dextroamphetamine Er	$30,199.13	184	$24,001.54	144	$23,417.41	144	$77,618.08	472
Methylphenidate	**$717,128.98**	**4,140**	**$564,309.89**	**3,239**	**$531,670.75**	**3,008**	**$1,813,109.62**	**10,387**
Methylphenidate Hydrochloride Er	$467,590.23	2,510	$382,159.25	2,059	$360,725.71	1,934	$1,210,475.19	6,503
Concerta	$127,870.53	579	$90,275.55	395	$79,589.29	345	$297,735.37	1,319
Metadate Cd	$58,090.88	323	$45,712.83	247	$45,052.33	249	$148,856.04	819
Daytrana	$46,582.02	247	$33,771.94	179	$33,337.31	175	$113,691.27	601
Methylphenidate Hydrochloride	$9,611.21	421	$7,681.42	318	$7,987.39	266	$25,280.02	1,005
Methylin	$5,412.44	37	$3,268.62	25	$3,461.53	26	$12,142.59	88
Ritalin La	$1,378.06	7	$1,062.10	5	$1,221.26	5	$3,661.42	17
Methylphenidate Hydrochloride Sr	$392.73	13	$285.28	8	$269.95	7	$947.96	28
Anti-inhibitor Coagulant Complex	**$609,858.50**	**8**	**$443,778.58**	**4**	**$748,434.63**	**5**	**$1,802,071.71**	**17**
Feiba Nf	$488,003.01	7	$318,218.47	3	$748,434.63	5	$1,554,656.11	15
Feiba Vh Immuno	$121,855.49	1	$125,560.11	1			$247,415.60	2

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Amount Paid*ł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Lisdexamfetamine	**$641,580.05**	**3,839**	**$505,003.82**	**3,021**	**$477,454.73**	**2,857**	**$1,624,038.60**	**9,717**
Vyvanse	$641,580.05	3,839	$505,003.82	3,021	$477,454.73	2,857	$1,624,038.60	9,717
Quetiapine	**$470,199.89**	**1,008**	**$335,781.47**	**713**	**$647,214.72**	**1,528**	**$1,453,196.08**	**3,249**
Seroquel	$285,430.98	646	$180,702.99	400	$149,347.29	342	$615,481.26	1,388
Seroquel Xr	$184,768.91	362	$155,078.48	313	$172,819.48	343	$512,666.87	1,018
Quetiapine Fumarate					$325,047.95	843	$325,047.95	843
Cetirizine	**$470,436.45**	**15,678**	**$363,451.02**	**12,001**	**$333,967.98**	**11,062**	**$1,167,855.45**	**38,741**
Cetirizine Hydrochloride	$468,566.55	15,482	$361,908.08	11,835	$332,191.51	10,867	$1,162,666.14	38,184
All Day Allergy	$1,570.96	183	$1,294.89	155	$1,343.49	171	$4,209.34	509
All Day Allergy Children's	$298.94	13	$248.05	11	$432.98	24	$979.97	48
Mometasone Nasal	**$472,420.32**	**3,706**	**$350,027.02**	**2,753**	**$293,992.73**	**2,305**	**$1,116,440.07**	**8,764**
Nasonex	$472,420.32	3,706	$350,027.02	2,753	$293,992.73	2,305	$1,116,440.07	8,764
Guanfacine	**$393,713.64**	**2,156**	**$337,738.37**	**1,860**	**$351,840.18**	**1,935**	**$1,083,292.19**	**5,951**
Intuniv	$393,713.64	2,156	$337,738.37	1,860	$351,840.18	1,935	$1,083,292.19	5,951
Guanfacine Hydrochloride	$11,639.95	841	$10,420.58	718	$11,465.53	776	$33,526.06	2,335

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Amount Paid*ł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Albuterol	**$408,575.92**	**10,183**	**$315,665.36**	**7,862**	**$306,730.79**	**7,473**	**$1,030,972.07**	**25,518**
Ventolin Hfa	$226,128.64	4,986	$180,776.23	3,999	$181,361.55	4,022	$588,266.42	13,007
Albuterol Sulfate	$168,583.49	4,949	$122,113.02	3,636	$112,706.83	3,223	$403,403.34	11,808
Proventil Hfa	$13,634.75	233	$12,547.05	213	$12,512.05	219	$38,693.85	665
Risperidone	**$340,305.59**	**3,050**	**$303,417.35**	**2,727**	**$324,790.27**	**2,811**	**$968,513.21**	**8,588**
Risperidone	$281,222.19	2,976	$246,394.67	2,659	$265,107.83	2,739	$792,724.69	8,374
Risperdal Consta	$58,676.17	72	$56,667.02	67	$59,326.78	71	$174,669.97	210
Risperdal	$407.23	2	$355.66	1	$355.66	1	$1,118.55	4
Olanzapine	**$373,575.92**	**536**	**$271,971.61**	**481**	**$321,044.07**	**508**	**$966,591.60**	**1,525**
Olanzapine	$296,442.08	410	$197,667.32	345	$246,417.01	396	$740,526.41	1,151
Zyprexa	$59,699.26	103	$64,851.51	110	$63,920.45	95	$188,471.22	308
Zyprexa Zydis	$17,434.58	23	$9,452.78	26	$10,706.61	17	$37,593.97	66
Lansoprazole	**$332,117.33**	**1,597**	**$286,818.86**	**1,334**	**$334,722.98**	**1,575**	**$953,659.17**	**4,506**
Prevacid Solutab	$326,155.66	1,554	$282,135.99	1,303	$324,409.92	1,500	$932,701.57	4,357
Lansoprazole	$5,961.67	43	$4,682.87	31	$10,313.06	75	$20,957.60	149
Somatropin	**$314,296.86**	**96**	**$299,709.87**	**91**	**$320,540.13**	**91**	**$934,546.86**	**278**
Nutropin Aq Nuspin 20	$63,391.14	14	$80,816.47	16	$114,079.82	19	$258,287.43	49

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Amount Paid*ł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Genotropin	$64,382.40	17	$72,205.82	21	$51,995.19	15	$188,583.41	53
Nutropin Aq Nuspin 10	$57,196.25	24	$54,801.61	19	$54,025.54	23	$166,023.40	66
Nutropin Aq Pen 20 Cartridge	$44,659.83	7	$20,903.05	5	$22,183.38	4	$87,746.26	16
Genotropin Miniquick	$22,522.37	11	$27,481.46	14	$24,332.27	13	$74,336.10	38
Nutropin Aq Pen 10 Cartridge	$13,485.09	9	$13,476.37	6	$17,439.69	8	$44,401.15	23
Saizen	$16,450.76	2			$16,450.76	2	$32,901.52	4
Norditropin Flexpro Pen	$10,340.09	3	$9,944.62	3	$9,894.62	2	$30,179.33	8
Tev-tropin	$10,062.55	2	$10,062.55	2			$20,125.10	4
Nutropin Aq Nuspin 5	$7,137.03	3	$5,549.72	2	$5,549.72	2	$18,236.47	7
Nutropin Aq	$2,379.01	1	$2,379.01	1	$2,379.01	1	$7,137.03	3
Omnitrope Pen 10 Cartridge	$386.90	2	$2,089.19	2	$1,889.19	1	$4,365.28	5
Humatrope	$1,903.44	1			$320.94	1	$2,224.38	2
Dexmethylphenidate	**$354,090.01**	**2,194**	**$281,180.24**	**1,741**	**$263,737.66**	**1,636**	**$899,007.91**	**5,571**
Focalin Xr	$338,655.07	1,812	$6,324.56	34	$251,785.30	1,353	$596,764.93	3,199
Focalin Xr	$8,235.05	43	$269,491.97	1,445	$8,861.29	47	$286,588.31	1,535
Dexmethylphenidate Hydrochloride	$14,712.53	369	$11,031.54	283	$11,446.32	272	$37,190.39	924
Focalin	$722.41	13	$656.73	13	$506.04	11	$1,885.18	37

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Amount Paid*ł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Azithromycin	**$379,219.90**	**12,430**	**$272,133.65**	**8,856**	**$208,215.69**	**6,814**	**$859,569.24**	**28,100**
Azithromycin	$303,633.68	9,115	$222,995.20	6,678	$172,908.17	5,235	$699,537.05	21,028
Azithromycin 5 Day Dose Pack	$71,265.94	3,130	$46,378.20	2,061	$32,904.74	1,468	$150,548.88	6,659
Azithromycin 3 Day Dose Pack	$4,320.28	185	$2,760.25	117	$2,402.78	111	$9,483.31	413
Cefdinir	**$332,398.56**	**4,287**	**$267,705.90**	**3,454**	**$224,493.78**	**2,968**	**$824,598.24**	**10,709**
Cefdinir	$332,398.56	4,287	$267,705.90	3,454	$224,493.78	2,968	$824,598.24	10,709
Adalimumab	**$251,077.90**	**112**	**$275,354.50**	**110**	**$275,360.12**	**116**	**$801,792.52**	**338**
Humira Pen	$157,932.90	72	$166,025.92	70	$206,514.68	86	$530,473.50	228
Humira	$81,000.98	38	$76,943.92	34	$68,845.44	30	$226,790.34	102
Humira Pen Crohn's Disease Starter Package	$12,144.02	2	$24,288.04	4			$36,432.06	6
Humira Pen Psoriasis Starter Package			$8,096.62	2			$8,096.62	2
Fluticasone-salmeterol	**$292,085.73**	**1,211**	**$236,622.72**	**979**	**$265,158.86**	**1,081**	**$793,867.31**	**3,271**
Advair Diskus	$268,953.72	1,125	$213,322.86	888	$239,148.45	980	$721,425.03	2,993
Advair Hfa	$23,132.01	86	$23,299.86	91	$26,010.41	101	$72,442.28	278
Medroxyprogesterone	**$257,994.12**	**7,911**	**$220,995.72**	**6,708**	**$247,004.55**	**7,287**	**$725,994.39**	**21,906**
Medroxyprogesterone Acetate	$188,739.33	4,320	$164,580.21	3,708	$189,291.93	4,263	$542,611.47	12,291
Depo-provera Contraceptive	$58,280.31	3,195	$51,389.70	2,802	$54,015.18	2,958	$163,685.19	8,955

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Prepared by the Evidence-Based DUR Initiative, MS-DUR

Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Amount Paid*ł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Depo-provera Contraceptive	$58,280.31	3,195	$51,389.70	2,802	$1,754.88	96	$111,424.89	6,093
Depo-subq Provera 104	$10,974.48	396	$5,025.81	198	$3,697.44	66	$19,697.73	660
Omeprazole	**$242,831.17**	**3,571**	**$216,957.05**	**3,119**	**$242,061.71**	**3,456**	**$701,849.93**	**10,146**
Omeprazole	$242,312.68	3,568	$216,269.63	3,116	$241,716.05	3,454	$700,298.36	10,138
Prilosec	$518.49	3	$687.42	3	$345.66	2	$1,551.57	8
Amoxicillin-clavulanate	**$275,003.62**	**4,929**	**$204,839.85**	**3,715**	**$177,246.68**	**3,229**	**$657,090.15**	**11,873**
Amoxicillin-clavulanate	$274,070.72	4,917	$204,257.01	3,708	$176,608.29	3,220	$654,936.02	11,845
Amoxicillin-clavulanate	$65,789.34	1,042	$51,061.38	824	$47,883.18	773	$164,733.90	2,639
Augmentin	$1,543.64	15	$517.48	6	$2,588.27	21	$4,649.39	42
Augmentin	$817.26	10	$2,079.66	16	$593.52	8	$3,490.44	34

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Prepared by the Evidence-Based DUR Initiative, MS-DUR

Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Number of Claimsł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Opiate Agonists	**$497,346.87**	**23,841**	**$443,118.74**	**20,528**	**$489,584.94**	**22,992**	**$1,430,050.55**	**67,361**
Acetaminophen-hydrocodone	$224,628.92	15,314	$197,835.16	13,297	$223,483.70	14,985	$645,947.78	43,596
Acetaminophen-codeine	$27,055.10	3,248	$22,092.24	2,642	$24,317.67	2,916	$73,465.01	8,806
Acetaminophen-oxycodone	$59,122.03	2,004	$51,090.23	1,677	$61,348.52	2,047	$171,560.78	5,728
Tramadol	$8,170.37	1,496	$7,119.24	1,322	$7,206.03	1,371	$22,495.64	4,189
Fentanyl	$85,397.61	378	$78,349.72	327	$79,960.81	342	$243,708.14	1,047
Morphine	$40,487.26	343	$37,641.31	306	$41,023.45	333	$119,152.02	982
Oxycodone	$30,676.59	286	$28,728.00	268	$31,582.07	280	$90,986.66	834
Acetaminophen-tramadol	$6,036.64	222	$6,831.84	234	$6,806.64	226	$19,675.12	682
Hydrocodone-ibuprofen	$5,937.81	243	$4,581.95	177	$5,723.22	210	$16,242.98	630
Hydromorphone	$2,429.82	82	$2,972.36	77	$2,485.19	82	$7,887.37	241
Methadone	$517.76	64	$518.97	64	$572.11	65	$1,608.84	193
Meperidine	$845.00	86	$731.43	77	$783.96	77	$1,668.63	164
Apap/caffeine/dihydrocodeine	$3,140.16	54	$3,031.33	48	$2,424.46	40	$8,595.95	142
Aspirin-oxycodone	$262.93	10	$108.05	6	$235.23	8	$606.21	24
Oxymorphone	$2,453.76	5	$1,100.05	3	$3,255.75	7	$6,809.56	15
Tapentadol	$1,119.77	3	$369.05	2	$519.47	2	$1,921.63	7

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Prepared by the Evidence-Based DUR Initiative, MS-DUR

Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Number of Claimsł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Penicillins	**$427,927.02**	**19,932**	**$327,969.44**	**15,323**	**$287,889.65**	**14,035**	**$1,043,786.11**	**49,290**
Amoxicillin	$133,272.70	13,485	$104,364.23	10,397	$92,125.97	9,501	$329,762.90	33,383
Amoxicillin-clavulanate	$275,003.62	4,929	$204,839.85	3,715	$177,246.68	3,229	$657,090.15	11,873
Penicillin V Potassium	$15,321.41	1,341	$12,044.71	1,072	$13,262.95	1,157	$40,629.07	3,570
Ampicillin	$1,604.31	141	$1,295.12	111	$1,409.54	122	$4,308.97	374
Penicillin G Benzathine	$647.20	14	$519.83	12	$446.43	7	$1,613.46	33
Dicloxacillin	$170.66	10	$226.45	10	$208.66	12	$605.77	32
Piperacillin-tazobactam	$892.91	9	$757.61	2	$2,727.63	4	$4,378.15	15
Ampicillin-sulbactam	$1,139.91	2	$1,431.04	1			$2,570.95	3
Oxacillin			$1,453.06	1	$363.95	1	$1,817.01	2
Penicillin G Potassium			$988.62	1			$988.62	1
Benzodiazepines	**$206,335.34**	**16,472**	**$190,964.99**	**14,370**	**$177,689.75**	**16,593**	**$574,990.08**	**47,435**
Lorazepam	$50,945.10	7,530	$44,015.67	6,468	$52,019.88	7,662	$146,980.65	21,660
Alprazolam	$37,019.14	4,691	$34,423.53	4,196	$38,932.72	4,791	$110,375.39	13,678
Diazepam	$108,014.86	3,038	$103,529.64	2,648	$76,133.84	2,908	$287,678.34	8,594
Temazepam	$6,636.72	855	$5,800.85	736	$6,699.27	854	$19,136.84	2,445
Clorazepate	$2,210.48	205	$2,112.58	200	$2,371.15	226	$6,694.21	631
Triazolam	$447.83	59	$334.64	50	$364.31	50	$1,146.78	159
Chlordiazepoxide	$423.51	51	$328.71	40	$527.71	62	$1,279.93	153
Oxazepam	$500.86	16	$312.21	10	$500.98	14	$1,314.05	40

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Prepared by the Evidence-Based DUR Initiative, MS-DUR

Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Number of Claimsł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Second Generation Antihistamines	**$506,998.33**	**18,832**	**$391,856.99**	**14,402**	**$361,701.96**	**13,335**	**$1,260,557.28**	**46,569**
Cetirizine	$470,436.45	15,678	$363,451.02	12,001	$333,967.98	11,062	$1,167,855.45	38,741
Loratadine	$16,419.21	2,305	$12,630.07	1,783	$11,531.07	1,689	$40,580.35	5,777
Cetirizine-pseudoephedrine	$10,522.05	560	$7,553.19	394	$7,306.62	364	$25,381.86	1,318
Loratadine-pseudoephedrine	$3,137.77	206	$2,416.90	151	$2,156.06	129	$7,710.73	486
Levocetirizine	$5,189.47	69	$4,704.47	61	$5,239.65	73	$15,133.59	203
Acrivastine-pseudoephedrine	$901.35	9	$616.43	5	$546.47	7	$2,064.25	21
Fexofenadine	$242.26	4	$199.28	5	$487.98	8	$929.52	17
Desloratadine	$149.77	1	$163.59	1	$466.13	3	$629.72	4
Adrenals	**$1,425,423.43**	**14,445**	**$1,245,122.40**	**11,633**	**$1,120,646.10**	**10,422**	**$3,791,191.93**	**36,500**
Prednisolone	$119,769.06	6,293	$90,714.17	4,820	$74,552.59	4,071	$285,035.82	15,184
Budesonide	$1,072,369.60	3,316	$950,884.98	2,914	$837,667.30	2,548	$2,860,921.88	8,778
Prednisone	$9,565.48	1,862	$7,020.81	1,402	$6,797.85	1,376	$23,384.14	4,640
Methylprednisolone	$13,629.65	1,101	$11,417.68	929	$10,548.08	869	$35,595.41	2,899
Fluticasone	$64,243.61	449	$56,209.76	388	$52,867.68	362	$173,321.05	1,199
Dexamethasone	$4,618.21	418	$3,406.88	320	$3,913.46	316	$11,938.55	1,054
Budesonide-formoterol	$59,062.94	266	$51,837.95	232	$60,402.38	260	$171,303.27	758
Beclomethasone	$35,716.26	264	$30,419.05	231	$32,097.55	240	$98,232.86	735
Mometasone	$25,517.51	240	$19,067.24	156	$20,631.10	163	$65,215.85	559
Hydrocortisone	$2,054.59	80	$2,540.01	78	$2,324.34	76	$6,918.94	234

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Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Number of Claimsł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Formoterol-mometasone	$15,790.49	72	$18,350.18	82	$16,345.99	74	$50,486.66	228
Fludrocortisone	$1,348.71	59	$1,192.88	49	$1,340.04	50	$3,881.63	158
Flunisolide Nasal	$1,459.56	20	$2,030.13	29	$1,106.40	15	$4,596.09	64
Nonsteroidal Anti-inflammatory Agents	**$142,402.92**	**13,272**	**$115,446.87**	**10,920**	**$118,167.94**	**11,359**	**$376,017.73**	**35,551**
Ibuprofen	$56,241.09	6,340	$43,603.04	4,946	$40,239.29	4,868	$140,083.42	16,154
Naproxen	$39,493.91	2,592	$32,703.66	2,141	$35,879.99	2,263	$108,077.56	6,996
Aspirin	$5,810.38	1,768	$5,525.54	1,696	$5,953.98	1,850	$17,289.90	5,314
Meloxicam	$9,787.38	1,348	$8,253.71	1,142	$9,188.48	1,298	$27,229.57	3,788
Apap/butalbital/caffeine	$19,296.27	924	$16,481.66	810	$20,079.81	894	$55,857.74	2,628
Ketorolac	$4,599.69	414	$3,704.83	332	$4,069.62	388	$12,374.14	1,134
Diclofenac	$9,046.15	363	$8,267.97	325	$7,965.20	329	$25,279.32	1,017
Indomethacin	$3,203.99	147	$2,531.28	118	$2,797.99	132	$8,533.26	397
Etodolac	$2,146.05	84	$1,616.20	63	$1,705.88	67	$5,468.13	214
Celecoxib	$8,488.73	50	$6,340.97	36	$7,419.34	43	$22,249.04	129
Sulindac	$956.73	42	$765.39	33	$860.49	36	$2,582.61	111
Ketoprofen	$386.22	36	$309.85	26	$254.80	20	$950.87	82
Asa/butalbital/caffeine	$825.92	33	$618.86	25	$616.43	22	$2,061.21	80
Salsalate	$142.38	6	$226.41	6	$209.64	6	$578.43	18
Diflunisal	$257.94	5	$78.46	1	$247.37	6	$583.77	12
Diclofenac-misoprostol	$218.19	2	$240.86	2	$395.22	2	$854.27	6

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Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Number of Claimsł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Antidepressants	**$383,323.69**	**11,636**	**$353,753.73**	**10,618**	**$409,945.45**	**11,635**	**$1,147,022.87**	**33,889**
Citalopram	$18,162.64	2,364	$16,285.48	2,109	$17,210.39	2,276	$51,658.51	6,749
Bupropion	$119,640.08	1,316	$104,812.86	1,210	$132,099.84	1,416	$356,552.78	3,942
Fluoxetine	$19,012.64	1,294	$17,871.14	1,180	$18,325.57	1,283	$55,209.35	3,757
Trazodone	$10,570.31	1,286	$9,260.57	1,151	$10,733.27	1,262	$30,564.15	3,699
Sertraline	$14,797.23	1,864	$13,210.24	1,671	$14,068.56	1,772	$28,959.29	3,647
Amitriptyline	$3,978.77	743	$3,497.96	666	$3,782.55	712	$11,259.28	2,121
Desvenlafaxine	$73,926.23	500	$70,443.15	483	$79,111.32	540	$223,480.70	1,523
Mirtazapine	$17,839.52	457	$17,429.60	445	$19,309.95	496	$54,579.07	1,398
Doxepin	$5,045.54	412	$5,420.52	438	$5,739.98	446	$16,206.04	1,296
Paroxetine	$8,297.58	549	$7,417.90	481	$7,240.62	514	$16,431.62	1,085
Imipramine	$6,432.85	185	$7,340.15	162	$9,162.12	183	$22,935.12	530
Duloxetine	$37,457.98	163	$35,312.17	152	$36,180.06	163	$108,950.21	478
Venlafaxine	$23,474.59	165	$21,689.50	151	$21,884.21	150	$67,048.30	466
Nortriptyline	$1,124.79	122	$882.50	103	$1,003.82	117	$3,011.11	342
Fluvoxamine	$8,217.46	72	$7,746.72	71	$9,338.16	72	$25,302.34	215
Amitriptyline-perphenazine	$2,826.90	53	$2,445.78	49	$3,073.24	54	$8,345.92	156
Escitalopram	$3,025.06	19	$3,069.62	22	$12,450.45	104	$18,545.13	145
Amitriptyline-chlordiazepoxide	$1,453.32	29	$1,656.17	31	$1,779.85	30	$4,889.34	90
Clomipramine	$977.49	27	$837.23	26	$948.71	27	$2,763.43	80
Fluoxetine-olanzapine	$6,934.50	13	$6,949.84	13	$6,293.34	12	$20,177.68	38

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Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Number of Claimsł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Sulfonamides	**$150,698.44**	**10,993**	**$121,636.87**	**9,348**	**$140,905.54**	**10,743**	**$413,240.85**	**31,084**
Sulfamethoxazole-trimethoprim	$148,821.10	10,930	$119,800.90	9,302	$139,260.48	10,692	$407,882.48	30,924
Sulfasalazine	$1,205.96	62	$1,023.00	44	$973.68	50	$3,202.64	156
Sulfadiazine	$671.38	1	$812.97	2	$671.38	1	$2,155.73	4
Anticonvulsants, Miscellaneous	**$979,336.13**	**10,336**	**$882,698.40**	**9,365**	**$999,100.01**	**10,630**	**$2,861,134.54**	**30,331**
Gabapentin	$92,557.63	2,445	$82,670.37	2,246	$98,953.13	2,586	$274,181.13	7,277
Divalproex Sodium	$166,662.47	1,644	$156,380.15	1,485	$171,306.72	1,661	$494,349.34	4,790
Levetiracetam	$109,513.41	1,283	$88,964.01	1,039	$112,893.81	1,324	$311,371.23	3,646
Topiramate	$60,396.12	1,160	$52,314.65	1,048	$62,512.65	1,182	$175,223.42	3,390
Oxcarbazepine	$129,899.45	996	$117,010.12	954	$136,078.75	1,011	$382,988.32	2,961
Lamotrigine	$84,627.93	888	$77,503.67	826	$87,507.66	925	$249,639.26	2,639
Pregabalin	$135,302.17	652	$126,543.52	612	$133,189.40	658	$395,035.09	1,922
Carbamazepine	$35,103.89	613	$30,511.18	541	$33,991.54	603	$99,606.61	1,757
Zonisamide	$12,206.52	257	$11,684.68	240	$13,140.30	267	$37,031.50	764
Valproic Acid	$8,878.40	185	$8,139.41	171	$9,022.91	189	$26,040.72	545
Lacosamide	$59,499.65	135	$54,159.64	127	$60,406.74	145	$174,066.03	407
Rufinamide	$24,326.66	34	$21,801.95	35	$26,424.42	37	$72,553.03	106
Felbamate	$16,482.28	24	$15,096.22	21	$14,201.95	20	$45,780.45	65
Tiagabine	$7,687.65	10	$8,462.48	12	$7,687.65	10	$23,837.78	32
Vigabatrin	$36,023.36	7	$31,456.35	8	$31,591.40	6	$99,071.11	21

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Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Number of Claimsł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Macrolides	**$427,049.97**	**13,222**	**$309,269.97**	**9,464**	**$240,850.99**	**7,380**	**$977,170.93**	**30,066**
Azithromycin	$379,219.90	12,430	$272,133.65	8,856	$208,215.69	6,814	$859,569.24	28,100
Clarithromycin	$41,118.69	695	$30,367.62	516	$25,157.93	482	$96,644.24	1,693
Erythromycin	$6,309.97	84	$6,314.65	77	$7,231.13	76	$19,855.75	237
Erythromycin-sulfisoxazole	$401.41	13	$454.05	15	$246.24	8	$1,101.70	36
Beta-adrenergic Agonists	**$776,243.37**	**11,775**	**$613,455.16**	**9,159**	**$639,455.10**	**8,865**	**$2,029,153.63**	**29,799**
Albuterol	$408,575.92	10,183	$315,665.36	7,862	$306,730.79	7,473	$1,030,972.07	25,518
Fluticasone-salmeterol	$292,085.73	1,211	$236,622.72	979	$265,158.86	1,081	$793,867.31	3,271
Albuterol-ipratropium	$55,914.79	241	$49,222.34	208	$51,862.89	213	$157,000.02	662
Terbutaline	$3,084.78	80	$2,223.76	66	$1,581.12	42	$6,889.66	188
Levalbuterol	$13,018.83	44	$6,618.46	30	$10,978.11	41	$30,615.40	115
Formoterol	$2,008.51	10	$2,233.46	12	$1,762.29	10	$6,004.26	32
Pirbuterol	$1,280.47	8	$576.25	3	$1,485.43	10	$3,342.15	21
Arformoterol	$1,273.56	3	$869.06	2	$1,245.93	4	$3,388.55	9
Contraceptives	**$419,355.75**	**9,146**	**$359,513.36**	**7,855**	**$413,510.29**	**9,446**	**$1,192,379.40**	**26,447**
Ethinyl Estradiol-norgestimate	$86,556.30	3,182	$76,518.91	2,785	$94,764.18	3,497	$257,839.39	9,464
Ethinyl Estradiol-norethindrone	$178,372.04	2,920	$150,951.64	2,436	$166,769.30	2,768	$496,092.98	8,124
Norethindrone	$27,536.18	960	$23,726.00	824	$29,392.00	1,082	$80,654.18	2,866
Ethinyl Estradiol-etonogestrel	$39,934.50	549	$36,141.07	491	$40,347.29	563	$116,422.86	1,603
Ethinyl Estradiol-levonorgestrel	$31,930.79	493	$25,277.30	417	$26,680.67	454	$83,888.76	1,364

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Prepared by the Evidence-Based DUR Initiative, MS-DUR

Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Number of Claimsł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Ethinyl Estradiol-norelgestromin	$43,946.32	485	$41,353.65	457	$45,649.91	504	$99,649.98	1,166
Ethinyl Estradiol-norgestrel	$7,790.99	274	$6,481.78	227	$7,593.61	267	$21,866.38	768
Drospirenone-ethinyl Estradiol	$12,896.35	197	$10,314.55	158	$12,584.17	197	$35,795.07	552
Desogestrel-ethinyl Estradiol	$6,285.87	174	$5,523.22	152	$5,654.85	160	$17,463.94	486
Drospirenone/ethinyl Estradiol/levomefolate	$15,990.47	180	$12,003.33	140	$13,166.01	149	$41,159.81	469
Ethinyl Estradiol-ethynodiol	$584.82	19	$527.90	17	$482.42	17	$1,595.14	53
Dienogest-estradiol	$1,462.17	17	$1,548.18	18	$1,376.16	16	$4,386.51	51
Levonorgestrel	$464.98	12	$150.26	4	$307.62	8	$922.86	24
Mestranol-norethindrone	$109.39	4	$295.47	9	$218.61	8	$623.47	21
Cephalosporins	**$690,778.58**	**10,485**	**$555,507.04**	**8,381**	**$469,762.91**	**7,541**	**$1,716,048.53**	**26,407**
Cefdinir	$332,398.56	4,287	$267,705.90	3,454	$224,493.78	2,968	$824,598.24	10,709
Cephalexin	$45,383.23	2,965	$38,459.44	2,401	$39,400.16	2,510	$123,242.83	7,876
Cefprozil	$114,568.64	1,926	$85,391.30	1,433	$63,996.76	1,097	$263,956.70	4,456
Cefixime	$167,599.97	679	$142,522.03	555	$114,377.63	476	$424,499.63	1,710
Cefuroxime	$7,823.23	356	$7,103.60	324	$6,123.73	286	$21,050.56	966
Cefadroxil	$6,067.74	134	$4,484.58	107	$3,270.39	106	$13,822.71	347
Ceftriaxone	$13,205.69	112	$8,487.56	92	$13,401.52	78	$35,094.77	282
Cefaclor	$503.39	10	$337.05	6	$316.30	5	$1,156.74	21
Cefepime	$2,417.98	9	$615.51	3	$2,973.44	7	$6,006.93	19
Cefpodoxime	$457.32	5	$86.59	2	$256.51	3	$800.42	10
Ceftaroline					$643.42	1	$643.42	1

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Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Number of Claimsł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Anti-inflammatory Agents	**$169,558.18**	**8,574**	**$144,649.86**	**7,381**	**$153,767.08**	**8,048**	**$467,975.12**	**24,003**
Hydrocortisone Topical	$24,889.48	2,217	$21,403.83	1,926	$24,237.64	2,139	$70,530.95	6,282
Mometasone Topical	$72,911.99	2,162	$61,070.49	1,835	$66,120.22	1,970	$200,102.70	5,967
Triamcinolone Topical	$29,856.17	2,488	$26,750.86	2,141	$27,602.63	2,368	$58,267.49	4,951
Fluticasone Nasal	$124,933.63	1,119	$96,823.31	867	$76,980.44	688	$298,737.38	2,674
Nystatin-triamcinolone Topical	$7,828.17	590	$8,084.40	566	$9,417.13	645	$25,329.70	1,801
Desonide Topical	$11,504.73	538	$8,425.99	409	$9,620.10	437	$29,550.82	1,384
Betamethasone Topical	$4,630.41	176	$3,769.70	160	$4,220.10	164	$12,620.21	500
Clobetasol Topical	$3,425.54	163	$3,671.52	166	$3,404.99	157	$10,502.05	486
Fluocinonide Topical	$3,402.06	143	$2,814.31	96	$2,456.31	110	$8,672.68	349
Hydrocortisone	$2,054.59	80	$2,540.01	78	$2,324.34	76	$6,918.94	234
Hydrocortisone-pramoxine Topical	$2,685.41	35	$2,914.89	39	$2,637.06	33	$8,237.36	107
Fluocinolone Topical	$5,281.88	48	$2,965.43	28	$3,321.75	28	$11,569.06	104
Halobetasol Topical	$467.43	17	$565.75	21	$283.24	10	$1,316.42	48
Hydrocortisone-lidocaine Topical	$1,163.48	7	$453.88	3	$1,212.84	6	$2,830.20	16
Betamethasone-calcipotriene Topical	$3,386.83	5	$3,096.98	5	$1,685.97	3	$8,169.78	13
Amcinonide Topical	$714.18	4	$174.98	1	$497.19	3	$1,386.35	8
Desoximetasone Topical			$524.11	4	$133.84	1	$657.95	5
Antipsychotics (atypical And Typical)	**$2,733,436.25**	**8,176**	**$2,333,741.05**	**7,133**	**$2,852,692.93**	**8,319**	**$7,919,870.23**	**23,628**
Risperidone	$340,305.59	3,050	$303,417.35	2,727	$324,790.27	2,811	$968,513.21	8,588

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Resource Utilization Report
Drug Class Report
Top 15 Classes By Quarterly Number of Claimsł

AHFS Class / Generic Molecule	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Aripiprazole	$1,021,771.58	1,655	$957,848.18	1,493	$1,058,477.85	1,624	$3,038,097.61	4,772
Quetiapine	$470,199.89	1,008	$335,781.47	713	$647,214.72	1,528	$1,453,196.08	3,249
Haloperidol	$25,402.91	528	$22,653.63	483	$25,768.81	533	$73,825.35	1,544
Olanzapine	$373,575.92	536	$271,971.61	481	$321,044.07	508	$966,591.60	1,525
Paliperidone	$219,780.87	207	$184,730.81	169	$210,868.97	188	$615,380.65	564
Ziprasidone	$104,842.55	206	$85,643.50	165	$94,212.29	233	$274,130.74	533
Asenapine	$63,506.27	135	$64,376.73	140	$67,562.61	143	$195,445.61	418
Clozapine	$21,354.50	132	$19,262.73	123	$22,586.07	132	$63,203.30	387
Prochlorperazine	$1,971.20	124	$1,601.56	102	$2,085.64	118	$5,658.40	344
Chlorpromazine	$28,521.74	280	$22,685.98	220	$24,168.84	244	$29,470.38	288
Lurasidone	$36,867.07	68	$39,382.60	74	$40,135.78	80	$116,385.45	222
Perphenazine	$3,790.26	60	$4,175.58	64	$3,813.48	60	$11,779.32	184
Fluphenazine	$2,214.11	51	$2,731.83	61	$2,351.67	55	$7,297.61	167
Thioridazine	$1,234.47	44	$1,098.69	38	$1,339.44	45	$3,672.60	127
Trifluoperazine	$1,442.80	26	$1,365.18	26	$1,385.60	27	$4,193.58	79
Iloperidone	$14,080.51	22	$12,843.84	21	$13,055.99	20	$39,980.34	63
Thiothixene	$490.07	21	$346.91	15	$485.96	19	$1,322.94	55
Loxapine	$1,515.55	17	$1,210.54	14	$1,588.69	19	$4,314.78	50
Pimozide	$568.39	6	$612.33	4	$323.78	3	$1,504.50	13

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Number of Claimsł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Acetaminophen-hydrocodone	**$224,628.92**	**15,314**	**$197,835.16**	**13,297**	**$223,483.70**	**14,985**	**$645,947.78**	**43,596**
Acetaminophen-hydrocodone Bitartrate	$224,558.57	15,309	$899.79	57	$223,420.34	14,978	$448,878.70	30,344
Acetaminophen-hydrocodone Bitartrate	$1,211.45	64	$197,800.63	13,293	$974.05	65	$199,986.13	13,422
Cetirizine	**$470,436.45**	**15,678**	**$363,451.02**	**12,001**	**$333,967.98**	**11,062**	**$1,167,855.45**	**38,741**
Cetirizine Hydrochloride	$468,566.55	15,482	$361,908.08	11,835	$332,191.51	10,867	$1,162,666.14	38,184
All Day Allergy	$1,570.96	183	$1,294.89	155	$1,343.49	171	$4,209.34	509
All Day Allergy Children's	$298.94	13	$248.05	11	$432.98	24	$979.97	48
Amoxicillin	**$133,272.70**	**13,485**	**$104,364.23**	**10,397**	**$92,125.97**	**9,501**	**$329,762.90**	**33,383**
Amoxicillin	$133,272.70	13,485	$103,936.78	10,394	$91,701.52	9,498	$328,911.00	33,377
Moxatag			$427.45	3	$424.45	3	$851.90	6
Sulfamethoxazole-trimethoprim	**$148,821.10**	**10,930**	**$119,800.90**	**9,302**	**$139,260.48**	**10,692**	**$407,882.48**	**30,924**
Sulfamethoxazole-trimethoprim	$108,346.20	6,486	$84,761.14	5,368	$98,748.58	6,194	$291,855.92	18,048
Sulfamethoxazole-trimethoprim Ds	$40,171.80	4,402	$34,470.60	3,862	$39,969.42	4,430	$114,611.82	12,694
Smz-tmp Ds	$303.10	42	$569.16	72	$542.48	68	$1,414.74	182

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Number of Claimsł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Azithromycin	**$379,219.90**	**12,430**	**$272,133.65**	**8,856**	**$208,215.69**	**6,814**	**$859,569.24**	**28,100**
Azithromycin	$303,633.68	9,115	$222,995.20	6,678	$172,908.17	5,235	$699,537.05	21,028
Azithromycin 5 Day Dose Pack	$71,265.94	3,130	$46,378.20	2,061	$32,904.74	1,468	$150,548.88	6,659
Azithromycin 3 Day Dose Pack	$4,320.28	185	$2,760.25	117	$2,402.78	111	$9,483.31	413
Albuterol	**$408,575.92**	**10,183**	**$315,665.36**	**7,862**	**$306,730.79**	**7,473**	**$1,030,972.07**	**25,518**
Ventolin Hfa	$226,128.64	4,986	$180,776.23	3,999	$181,361.55	4,022	$588,266.42	13,007
Albuterol Sulfate	$168,583.49	4,949	$122,113.02	3,636	$112,706.83	3,223	$403,403.34	11,808
Proventil Hfa	$13,634.75	233	$12,547.05	213	$12,512.05	219	$38,693.85	665
Montelukast	**$1,497,723.24**	**8,947**	**$1,180,351.70**	**7,060**	**$1,209,504.79**	**7,207**	**$3,887,579.73**	**23,214**
Singulair	$1,497,723.24	8,947	$1,180,351.70	7,060	$1,209,504.79	7,207	$3,887,579.73	23,214
Clonazepam	**$61,790.84**	**7,918**	**$55,748.02**	**7,230**	**$62,042.88**	**7,964**	**$179,581.74**	**23,112**
Clonazepam	$61,790.84	7,918	$55,748.02	7,230	$62,042.88	7,964	$179,581.74	23,112
Medroxyprogesterone	**$257,994.12**	**7,911**	**$220,995.72**	**6,708**	**$247,004.55**	**7,287**	**$725,994.39**	**21,906**
Medroxyprogesterone Acetate	$188,739.33	4,320	$164,580.21	3,708	$189,291.93	4,263	$542,611.47	12,291
Depo-provera Contraceptive	$58,280.31	3,195	$51,389.70	2,802	$54,015.18	2,958	$163,685.19	8,955
Depo-provera Contraceptive	$58,280.31	3,195	$51,389.70	2,802	$1,754.88	96	$111,424.89	6,093
Depo-subq Provera 104	$10,974.48	396	$5,025.81	198	$3,697.44	66	$19,697.73	660

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Number of Claimsł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Lorazepam	**$50,945.10**	**7,530**	**$44,015.67**	**6,468**	**$52,019.88**	**7,662**	**$146,980.65**	**21,660**
Lorazepam	$50,945.10	7,530	$44,015.67	6,468	$52,019.88	7,662	$146,980.65	21,660
Diphenhydramine	**$29,983.84**	**6,300**	**$26,055.16**	**5,388**	**$27,711.00**	**5,864**	**$83,750.00**	**17,552**
Q-dryl	$18,055.16	3,644	$14,710.24	2,968	$15,931.40	3,192	$48,696.80	9,804
Diphenhydramine Hydrochloride	$5,894.92	1,432	$6,264.48	1,380	$6,714.64	1,616	$18,874.04	4,428
Diphenhist	$3,101.72	592	$2,528.40	492	$2,750.44	528	$8,380.56	1,612
Banophen	$2,075.28	480	$1,722.52	400	$1,850.08	440	$5,647.88	1,320
Diphedryl	$307.36	56	$292.28	52	$68.44	16	$668.08	124
Complete Allergy	$210.52	36	$241.96	40	$90.28	16	$542.76	92
Multivitamin, Prenatal	**$197,122.44**	**5,634**	**$178,467.00**	**5,024**	**$192,896.26**	**5,528**	**$568,485.70**	**16,186**
Prenatal Plus	$12,857.92	1,326	$10,152.24	1,096	$12,795.84	1,314	$35,806.00	3,736
Concept Dha	$16,810.74	570	$16,782.08	568	$19,128.12	648	$52,720.94	1,786
Vitafol-one	$21,840.48	384	$22,727.60	414	$25,387.14	438	$69,955.22	1,236
Taron-c Dha	$9,836.94	346	$9,904.08	348	$10,875.96	378	$30,616.98	1,072
Nestabs Dha	$13,440.16	270	$16,118.56	326	$17,264.56	342	$46,823.28	938
Prenaplus	$3,056.60	280	$3,215.44	292	$3,571.08	310	$9,843.12	882
Prefera Ob-one	$17,363.14	232	$13,566.06	180	$18,409.04	242	$49,338.24	654
Nexa Select With Dha	$14,045.94	174	$17,958.68	202	$15,443.18	184	$47,447.80	560

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Number of Claimsł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Citranatal Assure	$8,554.04	170	$9,844.38	180	$11,978.74	200	$30,377.16	550
Preferaob+dha	$9,889.20	182	$7,744.10	144	$7,953.16	148	$25,586.46	474
Pnv-dha	$12,728.90	230	$6,949.80	122	$4,669.02	82	$24,347.72	434
Preferaob	$11,064.90	156	$8,322.48	126	$9,929.02	146	$29,316.40	428
Vol-plus	$1,534.28	132	$1,044.00	92	$1,394.68	116	$3,972.96	340
Concept Ob	$3,413.56	116	$3,296.28	108	$3,129.92	112	$9,839.76	336
Prenatal 19	$1,736.30	130	$1,166.80	80	$1,343.18	94	$4,246.28	304
Prennaissance With Dha	$6,991.14	92	$8,855.16	116	$6,914.88	92	$22,761.18	300
Citranatal 90 Dha	$3,884.86	78	$4,893.50	92	$5,627.44	94	$14,405.80	264
Prenexa With Dha	$8,845.92	110	$6,594.12	78	$6,127.60	76	$21,567.64	264
Paire Ob Plus Dha	$3,064.50	82	$3,669.46	88	$3,717.30	90	$10,451.26	260
Zatean-pn Dha	$3,774.84	66	$4,553.80	82	$5,577.30	102	$13,905.94	250
Relnate Dha					$13,442.30	230	$13,442.30	230
Pnv Select	$6,671.06	106	$3,695.30	62	$3,390.62	58	$13,756.98	226
Citranatal Harmony	$2,648.78	50	$5,606.48	70	$6,532.46	104	$14,787.72	224
Folivan-ob	$1,699.56	70	$1,755.90	64	$2,282.36	88	$5,737.82	222
Tricare Dha One	$6,051.20	94	$4,231.22	70	$2,937.44	52	$13,219.86	216
Prenatal Plus	$531.90	52	$653.20	60	$870.70	84	$2,055.80	196
Tricare Dha One	$6,051.20	94	$4,231.22	70	$742.92	12	$11,025.34	176
Prenatal Ad	$585.28	42	$658.96	52	$754.56	62	$1,998.80	156

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Number of Claimsł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Prenatabs Rx	$753.02	62	$524.96	44	$532.16	46	$1,810.14	152
Se-natal 19	$703.42	52	$619.22	42	$626.32	46	$1,948.96	140
Zatean-pn Plus	$3,050.08	50	$1,624.80	30	$2,868.00	54	$7,542.88	134
Citranatal Harmony	$2,952.00	48	$1,761.76	36	$1,535.94	30	$6,249.70	114
Citranatal Dha	$1,900.02	38	$1,312.04	26	$2,482.64	44	$5,694.70	108
Citranatal B-calm	$981.60	24	$1,632.48	36	$1,869.56	40	$4,483.64	100
Prenaissance Plus	$2,043.36	42	$1,062.36	22	$1,803.12	34	$4,908.84	98
Preque 10	$979.72	26	$680.90	18	$1,772.08	46	$3,432.70	90
Prenatal Plus Iron	$146.80	18	$220.32	24	$228.86	28	$595.98	70
Natelle One Dha	$1,459.78	14	$1,658.16	16	$3,520.34	34	$6,638.28	64
Triveen Ten	$1,314.62	40	$502.40	14	$265.90	10	$2,082.92	64
Tl-select	$1,366.56	22	$1,335.46	20	$1,167.64	18	$3,869.66	60
Prenatabs Fa	$176.40	20	$245.76	28	$107.34	12	$529.50	60
Prenate Elite Plus Iron	$2,137.20	24	$1,947.10	22	$1,246.70	14	$5,331.00	60
B-nexa	$326.60	8	$598.72	16	$1,436.34	30	$2,361.66	54
Prenate Essential	$2,006.94	24	$1,407.86	16	$897.80	10	$4,312.60	50
Vitafol-ob+dha	$463.58	10	$209.36	4	$1,327.90	28	$2,000.84	42
Zatean-pn	$559.56	12	$632.92	14	$740.08	16	$1,932.56	42
Folcal Dha	$899.96	14	$678.48	14	$715.26	14	$2,293.70	42

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Resource Utilization Report
Drug Detail Report
Top 25 Drugs By Quarterly Number of Claimsł

Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Vinate Care	$185.82	6	$421.58	14	$421.58	14	$1,028.98	34
Ob Complete With Dha	$394.92	6	$932.76	14	$801.84	12	$2,129.52	32
Folcaps Omega 3	$371.50	10	$365.50	10	$291.20	8	$1,028.20	28
Gesticare Dha	$316.20	4	$942.60	12	$709.36	10	$1,968.16	26
Vemavite Prx 2	$379.36	8	$468.20	10	$379.36	8	$1,226.92	26
Macnatal Cn With Dha	$493.80	10	$296.28	6	$389.04	8	$1,179.12	24
Pr Natal 430	$65.44	2	$314.64	10	$261.76	8	$641.84	20
Viva Dha	$513.84	8	$398.88	6	$404.88	6	$1,317.60	20
Pnv-dha Plus Docusate	$278.52	6	$94.84	2	$468.20	10	$841.56	18
Taron-prx Plus Dha	$346.96	8	$173.48	4	$254.22	6	$774.66	18
Folivan-prx Dha			$466.56	12	$159.52	4	$626.08	16
Duet Dha Balanced	$519.28	8	$343.64	4	$181.64	4	$1,044.56	16
Duet Dha Balanced	$343.64	4	$434.46	6	$343.64	4	$1,121.74	14
Zatean-ch	$328.76	8	$159.50	4	$82.26	2	$570.52	14
Ibuprofen	**$56,241.09**	**6,340**	**$43,603.04**	**4,946**	**$40,239.29**	**4,868**	**$140,083.42**	**16,154**
Ibuprofen	$49,217.46	5,174	$38,061.49	3,992	$33,686.85	3,746	$120,965.80	12,912
Ibu	$5,548.87	997	$4,608.70	844	$4,917.03	890	$15,074.60	2,731
Ibuprofen Children's	$1,223.23	140	$756.18	89	$705.37	77	$2,684.78	306
Ibu					$780.34	138	$780.34	138

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Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Childrens Ibuprofen	$235.99	27	$176.67	21	$149.70	17	$562.36	65
Hydroxyzine	**$94,060.72**	**5,530**	**$81,498.00**	**4,688**	**$91,130.82**	**5,314**	**$266,689.54**	**15,532**
Hydroxyzine Hydrochloride	$77,487.54	3,872	$67,744.82	3,294	$74,715.96	3,698	$219,948.32	10,864
Hydroxyzine Pamoate	$16,573.18	1,658	$13,753.18	1,394	$16,414.86	1,616	$46,741.22	4,668
Promethazine	**$69,905.44**	**5,874**	**$54,728.74**	**4,562**	**$56,862.12**	**4,920**	**$181,496.30**	**15,356**
Promethazine Hydrochloride	$61,880.52	5,512	$47,563.12	4,202	$7,571.02	570	$117,014.66	10,284
Promethazine Hydrochloride	$7,640.92	576	$7,229.56	532	$51,625.80	4,566	$66,496.28	5,674
Promethegan	$6,639.96	266	$5,742.00	264	$3,445.50	232	$15,827.46	762
Phenadoz	$1,384.96	96	$1,423.62	96	$1,790.82	122	$4,599.40	314
Prednisolone	**$119,769.06**	**6,293**	**$90,714.17**	**4,820**	**$74,552.59**	**4,071**	**$285,035.82**	**15,184**
Prednisolone Sodium Phosphate	$31,505.90	2,477	$23,703.89	1,935	$18,924.79	1,625	$74,134.58	6,037
Prednisolone	$30,873.79	2,243	$23,894.12	1,740	$19,690.37	1,451	$74,458.28	5,434
Veripred 20	$40,785.97	1,364	$28,931.00	967	$24,529.15	856	$94,246.12	3,187
Orapred Odt	$14,652.20	147	$12,013.58	126	$10,516.68	106	$37,182.46	379
Millipred	$1,368.17	56	$991.63	43	$680.86	31	$3,040.66	130
Flo-pred	$521.95	4	$1,045.40	4	$185.25	1	$1,752.60	9

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Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Alprazolam	**$37,019.14**	**4,691**	**$34,423.53**	**4,196**	**$38,932.72**	**4,791**	**$110,375.39**	**13,678**
Alprazolam	$33,020.03	4,647	$29,806.64	4,148	$33,975.62	4,737	$96,802.29	13,532
Alprazolam Er	$3,999.11	44	$4,616.89	48	$4,957.10	54	$13,573.10	146
Amoxicillin-clavulanate	**$275,003.62**	**4,929**	**$204,839.85**	**3,715**	**$177,246.68**	**3,229**	**$657,090.15**	**11,873**
Amoxicillin-clavulanate	$274,070.72	4,917	$204,257.01	3,708	$176,608.29	3,220	$654,936.02	11,845
Amoxicillin-clavulanate	$65,789.34	1,042	$51,061.38	824	$47,883.18	773	$164,733.90	2,639
Augmentin	$1,543.64	15	$517.48	6	$2,588.27	21	$4,649.39	42
Augmentin	$817.26	10	$2,079.66	16	$593.52	8	$3,490.44	34
Brompheniramine/dextromethorph/phenyle	**$50,336.42**	**5,448**	**$32,950.68**	**3,566**	**$21,459.63**	**2,344**	**$104,746.73**	**11,358**
Rynex Dm	$48,740.71	5,214	$31,993.38	3,421	$20,897.71	2,259	$101,631.80	10,894
Adderall Xr	$596,852.52	2,738	$490,157.44	2,249	$474,480.18	2,117	$1,561,490.14	7,104
Amphetamine-dextroamphetamine	$82,691.92	1,396	$68,297.41	1,152	$75,021.80	1,234	$226,011.13	3,782
Amphetamine-dextroamphetamine Er	$30,199.13	184	$24,001.54	144	$23,417.41	144	$77,618.08	472
Dimaphen Dm	$817.37	134	$625.25	101	$323.42	54	$1,766.04	289
Cold & Cough Childrens	$523.06	68	$177.16	24	$123.76	17	$823.98	109
Cefdinir	**$332,398.56**	**4,287**	**$267,705.90**	**3,454**	**$224,493.78**	**2,968**	**$824,598.24**	**10,709**
Cefdinir	$332,398.56	4,287	$267,705.90	3,454	$224,493.78	2,968	$824,598.24	10,709

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Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Metronidazole	**$24,559.46**	**3,730**	**$20,723.52**	**3,256**	**$23,299.94**	**3,628**	**$68,582.92**	**10,614**
Metronidazole	$24,559.46	3,730	$20,723.52	3,256	$23,299.94	3,628	$68,582.92	10,614
Methylphenidate	**$717,128.98**	**4,140**	**$564,309.89**	**3,239**	**$531,670.75**	**3,008**	**$1,813,109.62**	**10,387**
Methylphenidate Hydrochloride Er	$467,590.23	2,510	$382,159.25	2,059	$360,725.71	1,934	$1,210,475.19	6,503
Concerta	$127,870.53	579	$90,275.55	395	$79,589.29	345	$297,735.37	1,319
Methylphenidate Hydrochloride	$9,611.21	421	$7,681.42	318	$7,987.39	266	$25,280.02	1,005
Metadate Cd	$58,090.88	323	$45,712.83	247	$45,052.33	249	$148,856.04	819
Daytrana	$46,582.02	247	$33,771.94	179	$33,337.31	175	$113,691.27	601
Methylin	$5,412.44	37	$3,268.62	25	$3,461.53	26	$12,142.59	88
Methylphenidate Hydrochloride Sr	$392.73	13	$285.28	8	$269.95	7	$947.96	28
Ritalin La	$1,378.06	7	$1,062.10	5	$1,221.26	5	$3,661.42	17
Omeprazole	**$242,831.17**	**3,571**	**$216,957.05**	**3,119**	**$242,061.71**	**3,456**	**$701,849.93**	**10,146**
Omeprazole	$242,312.68	3,568	$216,269.63	3,116	$241,716.05	3,454	$700,298.36	10,138
Prilosec	$518.49	3	$687.42	3	$345.66	2	$1,551.57	8
Lisdexamfetamine	**$641,580.05**	**3,839**	**$505,003.82**	**3,021**	**$477,454.73**	**2,857**	**$1,624,038.60**	**9,717**
Vyvanse	$641,580.05	3,839	$505,003.82	3,021	$477,454.73	2,857	$1,624,038.60	9,717

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Generic Molecule / Drug Name	April 2012		May 2012		June 2012		Quarter	
	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims	Total Paid*	Total Claims
Ethinyl Estradiol-norgestimate	**$86,556.30**	**3,182**	**$76,518.91**	**2,785**	**$94,764.18**	**3,497**	**$257,839.39**	**9,464**
Tri-sprintec	$20,248.28	847	$16,902.49	709	$18,966.54	798	$56,117.31	2,354
Trinessa	$21,763.22	713	$17,543.85	586	$19,705.79	663	$59,012.86	1,962
Ortho Tri-cyclen Lo	$53,197.10	558	$14,137.73	361	$49,553.36	519	$116,888.19	1,438
Ortho Tri-cyclen Lo	$13,677.64	363	$44,023.16	448	$19,974.22	534	$77,675.02	1,345
Sprintec	$8,335.91	432	$7,484.92	375	$9,197.28	475	$25,018.11	1,282
Mononessa	$8,489.44	304	$6,804.35	251	$8,286.39	295	$23,580.18	850
Ortho Tri-cyclen	$5,388.90	223	$226.90	5	$9,176.03	365	$14,791.83	593
Ortho Tri-cyclen	$5,388.90	223	$5,598.86	217	$231.86	7	$11,219.62	447
Tri-previfem	$4,363.65	129	$4,151.79	118	$4,636.51	135	$13,151.95	382
Ortho-cyclen	$1,974.11	98	$34.39	1	$2,988.16	168	$4,996.66	267
Ortho-cyclen	$1,974.11	98	$2,080.58	109	$34.39	1	$4,089.08	208
Previfem	$2,315.15	73	$1,814.34	59	$1,833.26	64	$5,962.75	196
Ethinyl Estradiol-norgestimate	$2,014.54	59	$1,519.22	44	$1,838.37	54	$5,372.13	157

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Pharmacy Program Update

Drug Utilization Review (DUR) Board Background and Responsibilities

Background

Title 42 of the Code of Federal Regulations (CFR), Section 456, Subpart K outlines the requirements for the Division of Medicaid's drug utilization review program to ensure appropriate use of drug therapy. These requirements can be divided into two components:

1. Retrospective drug use review
2. Educational program

The following is an excerpt from Title 42, Section 456, Subpart K of the CFR:

§ 456.709 Retrospective drug use review

(a) *General.* The State plan must provide for a retrospective DUR program for ongoing periodic examination (no less frequently than quarterly) of claims data and other records in order to identify patterns of fraud, abuse, gross overuse, or inappropriate or medically unnecessary care among physicians, pharmacists, and Medicaid recipients, or associated with specific drugs or groups of drugs. […]

(b) *Use of predetermined standards.* Retrospective DUR includes, but is not limited to, using predetermined standards to monitor for the following:

(1) Therapeutic appropriateness, that is, drug prescribing and dispensing that is in conformity with the predetermined standards.
(2) Overutilization and underutilization, as defined in § 456.702.
(3) Appropriate use of generic products, that is, use of such products in conformity with State product selection laws.
(4) Therapeutic duplication as described in § 456.705(b)(1).
(5) Drug-disease contraindication as described in § 456.705(b)(2).
(6) Drug-drug interaction as described in § 456.705(b)(3).
(7) Incorrect drug dosage as described in § 456.705(b)(4).
(8) Incorrect duration of drug treatment as described in § 456.705(b)(5).
(9) Clinical abuse or misuse as described in § 456.705(b)(7).

§ 456.711 Educational program

The State plan must provide for ongoing educational outreach programs that, using DUR Board data on common drug therapy problems, educate practitioners on common drug therapy problems with the aim of improving prescribing and dispensing practices. The program may be established directly by the DUR Board or through contracts with accredited health care educational institutions, State medical societies or State pharmacists associations/ societies, or other organizations. The program must include the interventions listed in paragraphs (a) through (d) of this section. The DUR Board determines the content of education regarding common therapy problems and the circumstances in which each of the interventions is to be used.

(a) Dissemination of information to physicians and pharmacists in the State concerning the duties and powers of the DUR Board and the basis for the standards required by § 456.705(c) for use in assessing drug use.
(b) Written, oral, or electronic reminders containing patient-specific or drug-specific information (or both) and suggested changes in prescribing or dispensing practices. These reminders must be conveyed in a manner designed to ensure the privacy of patient-related information.
(c) Face-to-face discussions, with follow up discussions when necessary, between health care professionals expert in appropriate drug therapy and selected prescribers and pharmacists who have been targeted for educational intervention on optimal prescribing, dispensing, or pharmacy care practices.
(d) Intensified review or monitoring of selected prescribers or dispensers.

Update: Pharmacy Lock-in Program Recommendations for Program Integrity

Background/Issue

At the May 2012 DUR Board meeting, a preliminary analysis of criteria to identify beneficiaries for the pharmacy program lock-in recommendation was reviewed. MS-DUR provided the Division of Medicaid's (DOM) Program Integrity with a target list of beneficiaries for consideration into the pharmacy lock in program. In July 2012, DOM and MS-DUR met with Program Integrity to review the criteria.

Analysis

Beneficiaries with any narcotic analgesic prescription (e.g., products containing hydrocodone, codeine, oxycodone, meperidine, tapentadol), buprenorphine (Suboxone), or methadone filled since March 1, 2012 were identified. Beneficiaries with evidence of a cancer diagnosis (ICD-9 140xx-239xx) in the medical claims since May 1, 2011 were removed from the list. All prescriptions for narcotic analgesics, buprenorphine, and methadone since May 1, 2011 were reviewed, summing the number of unique NPIs for prescribers and for pharmacies.

Results

A total of 118 beneficiaries with 7 or more unique physician AND pharmacy NPI numbers were identified and provided to Program Integrity. The list did not distinguish between clinics with multiple prescribers and no one was excluded on the basis of whether the prescriber NPI number was associated with a clinic or an individual prescriber. Program Integrity will provide an update at the August 2012 DUR Board meeting.

Recommendation

MS-DUR proposes a quarterly analysis to generate potential leads for Program Integrity. Additionally, DOM is seeking input from the DUR Board on moving all beneficiaries on buprenorphine into the pharmacy lock-in program.

New Business

Special Analysis Projects

Revisited: Review of Sedative Hypnotic Therapy Switches

BACKGROUND

This item was initially reviewed at the May 2012 DUR Board meeting; however, due to lack of a quorum at that meeting this review is being revisited.

The Mississippi Division of Medicaid (DOM) currently has a clinical edit in SmartPA regarding sedative hypnotics to allow for a cumulative 31 unit quantity in 31 days. Sedative hypnotic agents are rejected at the point-of-sale (POS) if the current claim plus the history of all sedative hypnotics exceeds 31 units in the past 25 days (i.e., may refill after the 26th day of a 31 day supply). The prior authorization team at DOM recognized that therapy switches and strength changes were being rejected at the POS and were requiring prior authorization. The DOM requested MS-DUR to review rejected sedative hypnotic claims to determine the extent of this occurrence and to seek a recommendation from the DUR Board based on the results of the analysis.

ANALYSIS

All prescription claims from August 1, 2011 to April 20, 2012 for sedative hypnotics listed in Table 1 were selected. Claims that appeared to be rejected due to an early refill were flagged and reviewed for the presence of therapy switches and dose changes.

Table 1: Sedative hypnotics, including quantity limits

Sedative/Hypnotics Included in Analysis		Quantity
Generic Name	***Brand Name***	**Limit**
Doxepin	Sinequan	n/a
Estazolam	Prosom	31
Eszopiclone	Lunesta	31
Flurazepam	Dalmane	31
Ramelteon	Rozerem	31
Temazepam	Restoril	31
Triazolam	Halcion	31
Zaleplon	Sonata	31
Zolpidem	Ambien IR/CR	31

RESULTS

A total of 21,898 paid claims for sedative/hypnotics were identified, which represents 5,667 unique beneficiaries. All claim rejects following a paid claim were reviewed. A total of 2,403 claims appeared to be rejected due to an early refill and 342 of those claims were associated either with a therapy change (n=208) or a dose change (n=134) from the previous paid claim. The other claims appeared to be rejected because of other reasons, primarily due to exceeding the monthly service limit (5 prescriptions per month; max of 2 brand name). MS-DUR also reviewed the submitted quantities associated with sedative hypnotic claims. Only six paid claims exceeding the quantity limit were identified and all were

for the same beneficiary and each had been issued a prior authorization. Table 1 includes a list of quantity limits established by the DOM.

RECOMMENDATION

MS-DUR recommends editing the current sedative hypnotic criteria to allow for one (1) therapy change with another sedative hypnotic AND one (1) a strength change on the current therapy within a 12 month period. This recommendation differs from the initial recommendation presented at the May 2012 DUR Board meeting. At the May 2012 DUR Board meeting, one Board member suggested allowing for one dose change AND one drug change per year. Several Board members concurred with this suggestion.

Safety Issues Related to Proton Pump Inhibitor Length of Therapy

BACKGROUND

Recent FDA drug labeling changes and safety communications regarding the association between long-term use of proton pump inhibitors (PPI) and hip, wrist, and spine fractures and *Clostridium difficile*-associated diarrhea (CDAD) has prompted many Medicaid programs to review the utilization of proton pump inhibitors.[1,2] Some state Medicaid programs have implemented a step therapy edit requiring H_2 receptor antagonist therapy prior to a PPI or as a step-down following a course of PPI therapy. The following has been included in the Warnings and Precautions section of the package insert for PPIs:

> **Bone Fracture**
> Several published observational studies suggest that proton pump inhibitor (PPI) therapy may be associated with an increased risk for osteoporosis-related fractures of the hip, wrist, or spine. The risk of fracture was increased in patients who received high-dose, defined as multiple daily doses, and long-term PPI therapy (a year or longer). Patients should use the lowest dose and shortest duration of PPI therapy appropriate to the condition being treated. Patients at risk for osteoporosis-related fractures should be managed according to the established treatment guidelines.[1]

The FDA safety communication regarding the association between PPI use and CDAD also mentions that "patients should use the lowest dose and shortest duration of PPI therapy appropriate to the condition being treated."[2]

The FDA is currently reviewing H2 receptor blockers to determine the risk of CDAD in those individuals. The typical course of therapy is less than 8 weeks for gastroesophageal reflux disease (GERD), peptic ulcer disease (PUD), and healing erosive esophagitis. Pathological hypersecretory conditions (e.g., Zollinger-Ellison), maintenance treatment for erosive esophagitis, and reduction of ulcer risk with non-steroidal anti-inflammatory (NSAID) therapy allow for longer periods of therapy. MS-DUR reviewed Mississippi Medicaid claims data for PPI therapy to assess the extent of long-term utilization in light of the FDA safety drug labeling changes.

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[1] FDA Drug Safety Communication: Possible increased risk of fractures of the hip, wrist, and spine with the use of proton pump inhibitors. March 2011. Available at: http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm229526.htm. Accessed: July 10, 2012.

[2] FDA Drug Safety Communication: Clostridium difficile-associated diarrhea can be associated with stomach acid drugs known as proton pump inhibitors (PPIs). February 2011. Available at: http://www.fda.gov/Drugs/DrugSafety/ucm290510.htm. Accessed: July 10, 2012.

ANALYSIS

Using Mississippi Medicaid pharmacy and medical claims data from 2010 through 2012, users of proton pump inhibitors were identified and stratified based on diagnoses (ICD-9 codes) for peptic ulcer disease (PUD) (531, 533.xx, v12.71), gastro-esophageal reflux disease (GERD) (530.81), Barrett's esophagus (530.85), Zollinger-Ellison (ZE) syndrome (251.5), and duodenal ulcer (532.xx). Claims associated with an endoscopy procedure (CPT codes C9724, G8247, G8250, S2215 or ICD-9 codes 45.11, 45.21, 56.35, 45.12, 45.22, 45.13) were also reviewed.

RESULTS

A total of 34,702 beneficiaries had at least one prescription for a PPI in 2010, 2011, and 2012. In 2010, 20,305 beneficiaries were on PPIs, while in 2011 and 2012, 16235 and 9346 beneficiaries were on PPIs respectively. Among these, patients with a diagnosis of Barrett's syndrome, GERD, endoscopy, ZE syndrome, PUD, and duodenal ulcer were identified. Pregnant women were also identified. No claims for duodenal ulcers, endoscopy, systemic mastocytosis, and endocrine neoplasia were found in those beneficiaries with a PPI claim. The distribution of PPI duration of therapy for the remaining conditions is provided in the table below.

	Cumulative Days on Therapy						
Condition	**<30**	**31-60**	**61-93**	**93-180**	**181-365**	**366-730**	**>730**
GERD	6,697	2,975	1,717	2,875	2,104	1,078	181
PUD	14	4	0	1	1	0	0
Barrett's Esophagus	29	21	10	33	24	13	4
Zollinger-Ellison (ZE)	0	0	0	0	2	0	0
H. pylori infection	580	241	133	138	107	40	7
No related Diagnosis	9,261	2,746	1,447	2,049	1,235	629	129
Pregnancy	17	8	2	4	2	-	-
Total	15,843	5,621	3,178	4,858	3,280	1,679	243

*Note: The total does not represent the addition of each column because the diagnoses are not necessarily mutually exclusive.

CONCLUSIONS

The majority of long-term PPI use (greater than 365 cumulative days on therapy) occurs in beneficiaries with a GERD diagnosis and in individuals with no related diagnosis identified in the medical claims. It is likely these individuals have a relevant diagnosis, but none could be identified since 2010. The DOM is seeking the DUR Board's input on addressing the long-term use of PPIs. Possible considerations include step-therapy, duration of therapy limits, requiring appropriate diagnoses, and/or targeted educational outreach.

Comparative Utilization of Insulin Vials versus Insulin Pens

BACKGROUND

As a delivery device, insulin pens have an advantage of being easier to use compared to vials, which is particularly important for individuals with vision impairment, severe disabilities, and for pediatric beneficiaries. The cost of insulin pens is greater than insulin vials. The use of insulin pens as a delivery device is warranted in some situations, but in others, the extra expense may not be cost effective. MS-DUR reviewed prescription claims for insulin pens and vials.

ANALYSIS

Use of insulin vials versus insulin pens was assessed from June 1, 2011 to May 31, 2012. Results are reported by age category in Table 2. Comparisons were made between insulin vial and pen use between long-term care (LTC) (Plan ID 200) and non-LTC beneficiaries (Table 3). Several informal interviews with LTC pharmacy managers were conducted to determine the impact of allowing only vials for LTC beneficiaries.

RESULTS

Based on informal interviews with LTC pharmacy managers, the impact of limiting LTC beneficiaries to only vials was very limited. None interviewed reported any foreseeable problems with limiting LTC beneficiaries to vials because medicines generally are not self-administered in a LTC setting. The demographic profile of insulin users is provided in Table 1.

Table 1: Demographic Profile of Insulin Users

Characteristic	Frequency (n=5,490) (%)
Gender	
Male	1,499 (27.30)
Female	3,991 (72.70)
Age (years)	
<= 12	350 (6.38)
13-18	337 (6.14)
19-64	4,783 (87.12)
>= 65	20 (0.36)
Long-term care	
Yes	393 (7.16)
No	5,097 (92.84)

The average reimbursement per prescription for beneficiaries aged 19-64 years is $136.77 higher for insulin pens ($334.46) compared to insulin vials ($197.69) (Table 2).

Table 2: Comparison of dosage forms in each age category

Age group (years)	Dosage form	# of benes	Total # of Rxs	Total cost	Avg. Reimb./Rx
<=12	Insulin pens	86	463	$125,527.33	$271.12
	Insulin vials	324	3,642	$603,880.46	$165.81
	*Total**	*410*	*4,105*	*$729,407.79*	*$177.69*
13-18	Insulin pens	104	616	$171,788.99	$278.88
	Insulin vials	294	2,627	$546,628.36	$208.08
	*Total**	*398*	*3,243*	*$718,417.35*	*$221.53*
19-64	Insulin pens	1,018	3,616	$1,209,409.11	$334.46
	Insulin vials	4,121	22,724	$4,492,347.05	$197.69
	*Total**	*5,139*	*26,340*	*$5,701,756.16*	*$216.47*
>= 65	Insulin pens	4	16	$3,704.91	$231.56
	Insulin vials	17	103	$11,470.24	$111.36
	*Total**	*21*	*119*	*$15,175.15*	*$127.52*
Grand Total		**5,968**	**33,790**	**$7,162,030.32**	**$211.96**

*The total numbers do not match the total number of patients in each age category in Table 1 because several patients used both dosage forms.

The higher cost for the insulin pens in this group may be partially due to differences in the total insulin dose per prescription. The use of insulin pens by LTC beneficiaries is very small compared the non-LTC population (Table 3).

Table 3: Comparison of insulin dosage forms in each age category

Dosage form	LTC (Plan 200)				Non-LTC			
	# of benes	Total # of Rxs	Total cost	Avg Reimb. per Rx	# of benes	Total # of Rxs	Total cost	Avg Reimb. per Rx
Pens	5	13	$2,403.71	$184.90	729	2971	$980,031.68	$329.87
Vials	354	4,009	$489,412.7	$122.08	3,924	22575	$4,660,525.4	$206.45
Both	34	485	$68,737.78	$141.73	444	3754	$963,625.22	$256.69
Total	**393**	**4,507**	**$560,554.1**	**$124.37**	**5,097**	**29,300**	**$6,604,182.3**	**$225.40**

*The total numbers do not match the total number of patients in each age category in Table 1 because several patients used both dosage forms.

CONCLUSION

DOM is requesting input from the DUR Board on fiscally responsible methods of addressing insulin pen utilization, specifically seeking comments on limiting insulin pens to non-adult and non-LTC beneficiaries.

Mental Health Treatment of Foster Children and Other Children In the Mississippi Medicaid Program

BACKGROUND

MS-DUR and DOM have been working on an in-depth analysis of the use of antipsychotics and other mental health medications among children enrolled in the Medicaid FFS program. A major objective of this analysis was to examine the care provided to foster children and how this compared to the care received by other children enrolled in Medicaid. The background of this project was shared with the DUR Board at the May meeting.

METHODOLOGY

Data used for the analysis included all fee-for-service claims from January 2008 through December 2011. All beneficiaries were included in the sample for care received up through the date at which they turned 21 years of age. Beneficiaries were included if they were less than 21 years of age and eligible for services for at least one month during the observation year. The analysis indicates that each year approximately 450,000 children were enrolled in Medicaid at some time during the calendar year and approximately 5,500-6,000 were eligible for benefits as foster children.

MS-DUR used criteria similar to that used in the 16-state study in order to provide benchmark numbers that can be used to evaluate how well Mississippi is doing with each measure[3]. In addition to examining the prevalence of mental health diagnoses and the use of mental health medications, the analysis examined the five quality of care indicators or "flags" that were identified in the 16-state study:

- Use of antipsychotics in children under 5 years of age
- Use of high doses of antipsychotic medications
- Use of multiple antipsychotic medications at any time during the year
- Maximum gap in between refills when taking antipsychotic medications
- Use of multiple mental health drugs at any time during year

RESULTS

This summary for the DUR Board includes selected sections from the full report prepared for DOM. Not all Tables and Figures have been included. The table and figure numbers have been retained from the full report to avoid confusion when referring to tables and figures in this summary and the final report and discussions of results from the full report prepared for DOM.

[3] Medicaid Medical Directors Learning Network and Rutgers Center for Education and Research on Mental Health Therapeutics. *Antipsychotic Medication Use in Medicaid Children and Adolescents: Report and Resource Guide from a 16-State Study.* MMDLN/Rutgers CERTs Publication #1. July 2010. (http://chsr.rutgers.edu/MMDLNAPKIDS.html).

Foster children were identified using the following Medicaid code of eligibility (COE) values:

- 003 Title IV Foster Care / Adoption Assistance Related
- 005 Protected Foster Care Child
- 026 CWS Foster Care / Adoption Assistance Child

The distributions of beneficiaries each year with each of the COEs are shown in Figure 1. The distribution has been fairly consistent during the last four years with more than half of the foster children having a COE of 003. Protected foster care children (COE 005) are children over age 18 that are still covered by Medicaid. This subgroup is fairly small.

Figure 1: COEs Used to Identify Foster Children

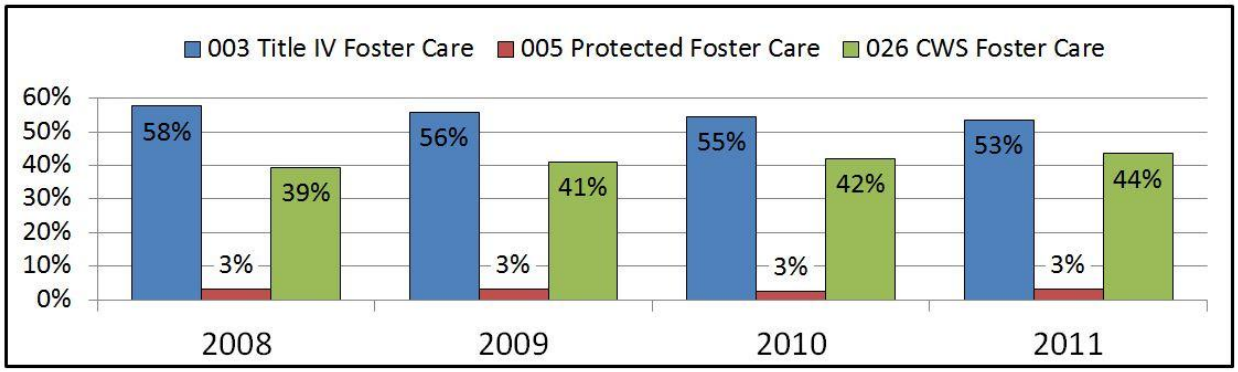


Table 1 includes the demographic characteristics of foster children and all other children for each year. The total number of children eligible for benefits each year has generally increased each year; as has the number of foster children. However, the percentage of children in foster care has been fairly constant at 1.3% to 1.4%.

Foster children do not differ on gender from all other children who are eligible, but do significantly differ with respect to race and age. Foster children are more than one and a half times more likely to be white than are other children in Medicaid. This may be a result of the stronger social support network often found in the minority populations that would prevent a child from becoming a ward of the state. Foster children are more evenly spread across all age categories than are all other children. All other children are most likely to be five years of age or less and much younger overall than are foster children. Race and age were also found to be significantly related to the prevalence of mental health conditions and the use of mental health medications. Therefore, estimates of the prevalence of mental health conditions and mental health medication use are reported as unadjusted rates as well as weighted rates where adjustments were made to standardize the rates across years to the race and age group distribution observed for other children in 2011. The weighted rates provide the best comparison of the relative rates between the two groups of children.

TABLE 1
Characteristics of Foster Children and All Other Children
Enrolled Mississippi Medicaid Fee-For-Service Program

Characteristic		2008		2009		2010		2011	
		Foster Children[a] (n = 5,777)	All Other Children (n = 418,391)	Foster Children[a] (n = 6,076)	All Other Children (n = 441,814)	Foster Children[a] (n = 6,287)	All Other Children (n = 461,742)	Foster Children[a] (n = 5,811)	All Other Children (n = 434,809)
Gender	Male	48.5%	47.9%	48.6%	48.4%	48.8%	48.8%	49.1%	48.9%
	Female	51.5%	52.0%	51.3%	51.5%	51.2%	51.1%	50.9%	51.0%
	Unknown	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%
Race*	White	43.4%	32.0%	43.5%	32.3%	45.1%	32.7%	46.0%	32.0%
	African-American	47.9%	58.8%	48.3%	58.5%	47.2%	58.3%	47.5%	58.7%
	Hispanic	0.6%	2.7%	0.7%	2.9%	0.8%	3.1%	0.8%	3.0%
	Other	8.1%	6.6%	7.5%	6.3%	6.9%	6.0%	5.7%	6.3%
Age * (July 1 of year)	<= 5 years	22.1%	42.7%	21.9%	42.2%	21.1%	41.0%	21.2%	38.0%
	6 - 11 years	30.0%	25.8%	28.7%	26.4%	28.1%	27.0%	29.7%	28.7%
	12 - 14 years	17.9%	10.9%	15.8%	10.9%	15.3%	11.1%	16.4%	11.8%
	15 - 18 years	25.6%	14.7%	26.5%	14.6%	25.7%	14.6%	25.5%	14.9%
	19 - 20 years	4.5%	6.0%	7.2%	6.0%	9.9%	6.3%	7.3%	6.7%
COE	Other		100.0%		100.0%		100.0%		100.0%
	003 - Foster Federal	57.6%		55.9%		54.6%		53.4%	
	007 - Protected foster	3.1%		3.1%		2.5%		3.1%	
	026 - Foster state	39.3%		41.0%		42.9%		43.5%	

[a] *Includes children eligible for Medicaid as foster children (COE =003, 007, 026) for at least one month during reporting year.*

** Percentages ARE significantly different for groups ($p < 0.01$).*

Weighted prevalence rates for mental health diagnoses are reported in Table 3. When rates are adjusted to standardize race and age group distributions, foster children were 2.8 times more likely than other children to have a mental health diagnosis. (41.7% compared to 15.0% in 2011).

TABLE 3
Prevalence of Mental Health Diagnoses Among
Children in the Mississippi Medicaid Fee-For-Service Program (Weighted Rates[a])

Diagnosis[c]	Beneficiaries With Diagnosis in Medical Claims During Reporting Year							
	2008		2009		2010		2011	
	Foster Children[b] (n = 5,777)	All Other Children (n = 418,391)	Foster Children[b] (n = 6,076)	All Other Children (n = 441,814)	Foster Children[b] (n = 6,287)	All Other Children (n = 461,742)	Foster Children[b] (n = 5,811)	All Other Children (n = 434,809)
Any mental heatlh diagnosis below*	37.5%	13.3%	39.0%	13.8%	39.9%	14.1%	41.7%	15.0%
Adjustment reactions (other)*	9.3%	1.2%	10.4%	1.3%	10.6%	1.4%	11.8%	1.5%
Anxiety disorders*	2.2%	1.2%	2.3%	1.2%	2.6%	1.3%	2.3%	1.6%
Attention deficit disorder (ADD)*	16.3%	5.7%	16.8%	5.9%	17.4%	6.3%	19.6%	6.8%
Bipolar*	1.9%	0.5%	2.2%	0.5%	2.1%	0.5%	2.0%	0.4%
Conduct disorder*	7.4%	1.9%	7.5%	2.0%	7.9%	2.1%	8.1%	2.2%
Depression*	4.9%	1.5%	5.2%	1.5%	4.5%	1.5%	4.5%	1.4%
Drug abuse / dependence*	2.0%	0.7%	1.7%	0.7%	1.5%	0.7%	1.9%	0.7%
Oppositional defiance disorder (ODD)*	9.7%	2.2%	8.5%	2.3%	8.5%	2.3%	9.5%	2.4%
Schizophrenia / delusion*	1.3%	0.4%	1.1%	0.3%	1.2%	0.4%	0.9%	0.4%
Stress reactions*	3.1%	0.5%	2.8%	0.5%	3.1%	0.5%	2.9%	0.6%
Suicide / attempted suicide	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%
Miscellaneous other mental health diagnoses*	7.2%	1.3%	6.4%	1.4%	7.0%	1.5%	7.2%	1.5%
Mental retardation*[(2008)] (not included in Any Mental Health Diagnosis)	0.9%	0.4%	0.8%	0.4%	0.7%	0.4%	0.7%	0.4%

a Annual rates weighted to age group and race distribution of "all other" children in 2011.

[b] Includes children eligible for Medicaid as foster children (COE = 003, 007, 026) for at least one month during reporting year.

[c] Beneficiary classified as having condition if diagnosis code appeared in medical claims during reporting year. (ICD-9 codes are listed in Appendices).

** Percentages ARE significantly different for two groups (p < 0.01).*

As shown in Figure 3, the higher rate of mental health diagnoses among foster children was observed for most of the individual mental health diagnoses. The ratio of the rate for foster children to other children varied from a low of 1.4 for anxiety (ANX) to a high of 7.9 for adjustment reactions other (ARO). In 2011, foster children were 2.3 times more likely than other children to have a recorded diagnosis of schizophrenia (SCH) and 5.0 times more likely for a diagnosis of bipolar (BIP).

Figure 3: Prevalence of Mental Health Diagnoses in 2011 for Foster and Other Children

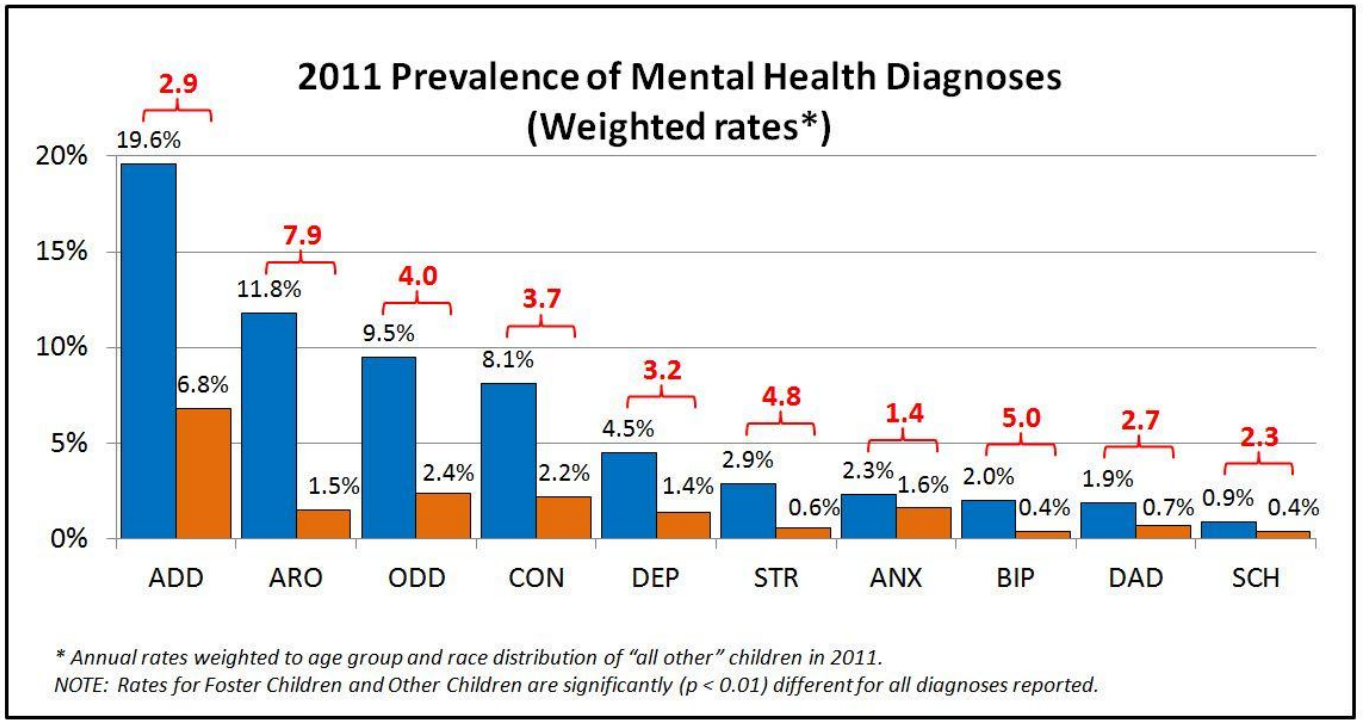


Table 6 shows the weighted rates for mental health medication use among foster and other children. After adjusting for race and age group distribution, foster children were approximately three times more likely than other children to be taking a mental health medication (22.4% versus 7.5%, respectively).

TABLE 6
Use of Mental Health Medicaions Among
Children in the Mississippi Medicaid Fee-For-Service Program (Weighted Rates[a])

Drug Class[c]	Beneficiaries Filling One or More Prescriptions During Observation Year							
	2008		2009		2010		2011	
	Foster Children[b] (n = 5,777)	All Other Children (n = 418,391)	Foster Children[b] (n = 6,076)	All Other Children (n = 441,814)	Foster Children[b] (n = 6,287)	All Other Children (n = 461,742)	Foster Children[b] (n = 5,811)	All Other Children (n = 434,809)
ANY of the mental heatlh drugs below*	20.7%	7.1%	20.3%	7.3%	20.6%	7.3%	22.4%	7.5%
Mean # different MH drugs*	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
Barbiturates	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Benzodiazepines*(2008, 2011)	0.5%	0.2%	0.3%	0.2%	0.4%	0.2%	0.6%	0.2%
Misc. anxiolytics, sedatives and hypnotics*	0.8%	0.3%	0.6%	0.3%	0.6%	0.3%	0.5%	0.3%
Central nervous system stimulants*	14.5%	5.1%	15.0%	5.3%	15.4%	5.3%	16.4%	5.5%
Antidepressants - ANY*	6.7%	2.0%	6.3%	2.1%	6.2%	2.1%	6.1%	2.0%
Phenylpiperazine antidepressants*	1.7%	0.3%	1.7%	0.4%	1.4%	0.4%	1.5%	0.3%
SSNRI antidepressants*(2009)	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%
SSRI antidepressants*	4.5%	1.3%	3.9%	1.4%	4.1%	1.4%	4.7%	1.4%
Tetracyclic antidepressants*	0.8%	0.2%	0.7%	0.2%	0.6%	0.2%	0.3%	0.1%
Tricyclic antidepressants*	0.9%	0.4%	1.1%	0.4%	0.9%	0.4%	0.7%	0.4%
Antipsychotics - ANY*	8.3%	1.9%	8.0%	1.9%	8.2%	2.0%	9.2%	2.0%
Atypical antipsychotics*	8.2%	1.9%	7.8%	1.9%	8.1%	1.9%	9.1%	1.9%
Conventinal (typical) antipsychotics*	1.0%	0.2%	0.9%	0.2%	1.2%	0.2%	0.9%	0.2%
Anticonvulsants - without seizure Dx*	3.6%	1.1%	3.5%	1.1%	3.2%	1.0%	3.4%	1.0%
SELECTED OTHER MEDICATIONS								
Anticonvulsants ANY*	5.2%	2.0%	5.3%	2.1%	5.0%	2.0%	4.9%	2.0%
Anticonvulsants - with seizure Dx*	1.6%	0.9%	1.8%	1.0%	1.7%	1.0%	1.5%	1.0%
Narcotic analgesics*	9.4%	11.5%	9.4%	12.0%	8.6%	10.8%	9.0%	11.1%

a Annual rates weighted to age group and race distribution of "all other" children in 2011.

[b] Includes children eligible for Medicaid as foster children (COE = 003, 007, 026) for at least one month during reporting year.

[c] Beneficiaries filling at least one prescription for drug class.

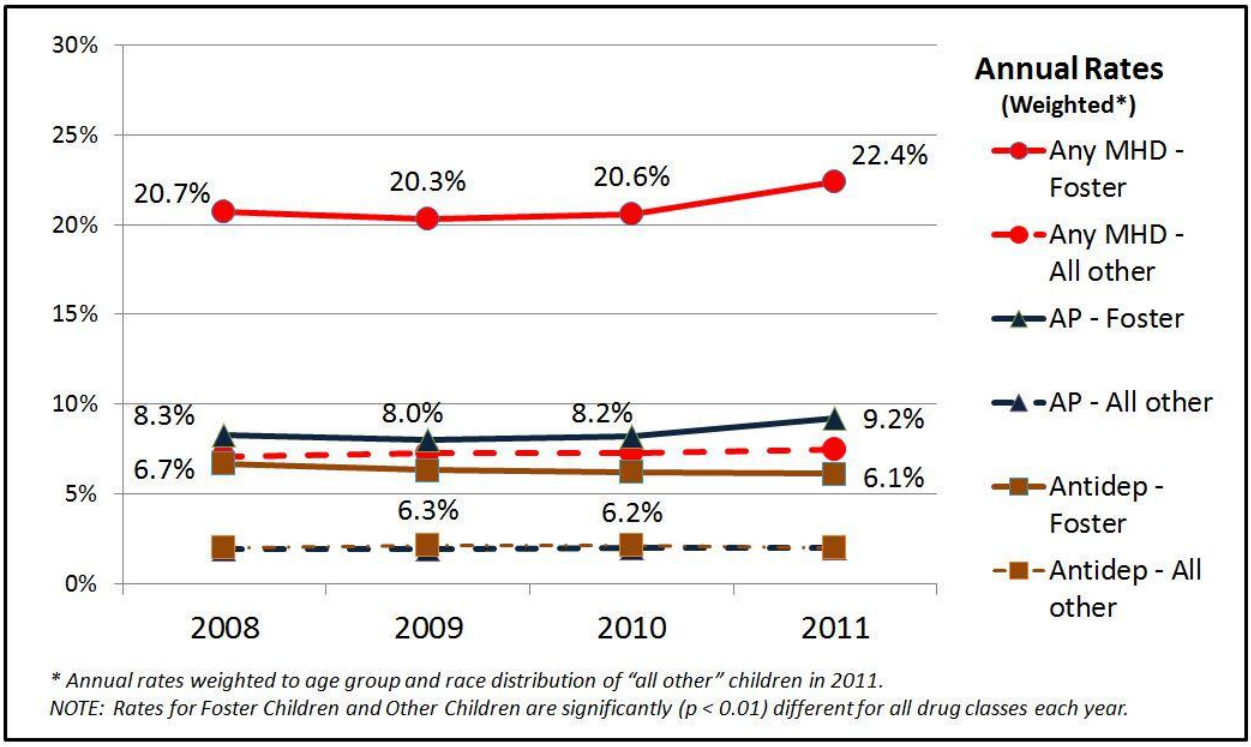
** Percentages ARE significantly different for two groups ($p < 0.01$).*

In 2011, after adjustment, foster children were 4.6 times as likely to be taking an antipsychotic than were other children. Although antipsychotics could be used for other indications, this ratio is much higher than the ratio of 2.25 for having a schizophrenia diagnosis. Since the ratios for an ADD diagnosis and the use of stimulants were very similar, the higher ratio for antipsychotic use may indicate a further need to evaluate and monitor appropriateness of use for antipsychotics among foster children. Although these results show a much higher rate of mental health medication use among foster children than other children, other studies have indicated that this may be justified based on the stress, trauma, and mental health needs of foster children. The GAO report concluded:

> *Foster children in the five states GAO analyzed were prescribed psychotropic drugs at higher rates than non-foster children in Medicaid during 2008, which according to research, experts consulted, and certain federal and state officials, could be due in part to foster children's greater mental health needs, greater exposure to traumatic experiences and the challenges of coordinating their medical care. However, prescriptions to foster children in these states were also more likely to have indicators of potential health risks.*

Figure 8 shows the annual rates of use for any mental health medication, antipsychotics, and antidepressants among foster and other children. From 2008 through 2010, the rates of use of any mental health drug and antipsychotics were basically flat. A slight increase in both rates among foster children appears to occur in 2011. All of the rates for other children and the rates for use of antidepressants among foster children showed no real change over the four year period.

Figure 8: Trend in Use of Mental Health Medications by Foster and Other Children



** Annual rates weighted to age group and race distribution of "all other" children in 2011.*
NOTE: Rates for Foster Children and Other Children are significantly ($p < 0.01$) different for all drug classes each year.

Various quality of care measures have been used in other studies and may be considered for adoption by CMS eventually. This analysis included several measures that were used in the 16-state study conducted by Rutgers. The quality measures addressed in this report include:

- Rate of Use of any antipsychotic
- Use of any antipsychotics at greater than maximum dose
- Use of 2 or more antipsychotics in a year
- Gap in antipsychotic therapy
- Use of 4 or more mental health medications in the same year
- Use of multiple MDs as prescribers of mental health drugs

The thresholds used for the maximum dose measure are multiples of the doses in the Texas Foster Care Report.[4] The thresholds are listed in Table 7.

TABLE 7
Reference Levels Used for "High Dose" Measure

Medication	Max Dose (mg per day)
Aripiprazole	30
Clozapine	600
Haloperidol	10
Olanzapine	20
Perphenazine	32
Quetiapine	600
Risperidone	6
Ziprasidone	180

Dose tables are based on the Psychotropic Medication Utilization Parameters for Foster Children, page 6 and 7, available at: http://www.dshs.state.tx.us/mhprograms/pdf/PsychotropicMedicationUtilizationParametersFosterChildren.pdf.

The results for five of the measures are reported for foster and other children each year in Table 8. Foster children had significantly higher rates on four of the five measures – AP use in children 5 years or younger, high AP dose, multiple AP medications in the calendar year, and multiple mental health medications in a calendar year. Both groups of children had high rates for gaps in AP therapy prescription claims.

[4] Heiligenstein. (2010). *Psychotropic Medication Utilization Parameters for Foster Children*. Office of the Commissioner, Texas Department of Family and Protective Services. Available at: http://www.dfps.state.tx.us/Child_Protection/Medical_Services/guide-psychotropic.asp

Table 8. Children Exceeding Flags Indicating Potential Safety or Quality Issues For Children Enrolled In the Mississippi Medicaid Fee-For-Service Program								
	2008		2009		2010		2011	
Flags	Foster Children[a]	All Other Children	Foster Children[a]	All Other Children	Foster Children[a]	All Other Children	Foster Children[a]	All Other Children
AP Medication Use in Children 5 Years and Younger*								
N	1,276	178,577	1,331	186,459	1,325	189,520	1,230	165,086
% on AP	1.6%	0.2%	1.1%	0.2%	1.2%	0.2%	2.0%	0.2%
High AP Dose, Among AP Users* (2008, 2010, 2011)								
N	630	7,702	638	8,122	657	8,692	668	8,688
< Max	88.4%	92.9%	91.1%	93.8%	90.4%	94.0%	89.2%	94.6%
≥ Max and < 2 x Max	10.2%	6.2%	8.3%	5.5%	8.4%	5.4%	10.3%	5.0%
≥ 2 x Max	1.4%	0.9%	0.6%	0.7%	1.2%	0.6%	0.5%	0.4%
AP Medications in a Calendar Year, Among AP Users (> 15 days use)*								
N	622	7,550	636	8,003	653	8,532	662	8,539
1	72.0%	81.5%	74.1%	82.7%	71.1%	82.8%	70.4%	84.0%
2 +	28.0%	18.5%	25.9%	17.3%	28.9%	17.2%	29.6%	16.0%
Maximal AP Gap in Prescription Claims (days), Among AP Users								
N	504	5,345	553	6,509	577	6,912	602	7,127
>20 - 40days	24.8%	23.0%	14.7%	18.1%	21.0%	19.6%	13.6%	14.2%
>40 days	52.0%	54.0%	63.8%	62.5%	62.4%	60.7%	68.8%	67.1%
Mental Health Medications in a Calender Year, Among MHD Users (> 15 days use)*								
N	1,529	29,258	1,546	32,109	1,566	33,828	1,624	34,173
1	43.6%	58.0%	42.6%	57.3%	45.5%	59.0%	47.9%	61.4%
4 +	14.7%	6.6%	14.9%	6.9%	14.3%	6.1%	12.4%	5.3%

[a] *Includes children eligible for Medicaid as foster children (COE = 003, 007, 026) for at least one month during reporting year.*

** Percentages ARE significantly different for two groups ($p < 0.01$).*

The percentages of children taking multiple AP medications during the calendar year are shown by age group in Table 9. Use of multiple AP medications increases with age for both groups of children. Multiple AP use is higher among foster children for every age group. In 2011, the difference was significantly higher for age groups 12-14, 15-18, and 19-20. It is important to note that this measure is multiple APs used anytime during the year and is not a polypharmacy measure of multiple APs concomitantly. Even without concomitant use, use of multiple AP medications by children may be an indicator of safety problems that need to be addressed through clinical edits, monitoring, and intervention activities.

Table 9. Multiple AP Use Among AP Users by Age Group
For Children Enrolled In the Mississippi Medicaid Fee-For-Service Program

Age (July 1 of year)	Flags	2008		2009		2010		2011	
		Foster Children[a]	All Other Children	Foster Children[a]	All Other Children	Foster Children[a]	All Other Children	Foster Children[a]	All Other Children
	AP Medications in a Calendar Year, Among AP Users (> 15 days use)**								
<= 5 years	N	20	416	15	372	16	380	24	393
	1	80.0%	90.1%	93.3%	96.1%	93.8%	94.0%	79.2%	92.6%
	2 +	20.0%	9.9%	6.7%	6.2%	6.2%	6.0%	20.8%	7.4%
6 - 11 years* (2008, 2010)	N	171	2,674	178	2,766	184	2,997	163	2,948
	1	79.5%	87.0%	82.6%	86.4%	78.8%	86.9%	84.1%	88.4%
	2 +	20.5%	13.0%	17.4%	13.6%	21.2%	13.1%	15.9%	11.6%
12 - 14 years* (2008, 2009, 2011)	N	167	1,813	165	1,865	160	1,990	165	2,045
	1	68.3%	79.7%	71.5%	82.3%	72.5%	79.8%	69.7%	83.3%
	2 +	31.7%	20.3%	28.5%	17.7%	27.5%	20.2%	30.3%	16.7%
15 - 18 years*	N	248	2,143	256	2,378	269	2,513	282	2,509
	1	69.0%	76.2%	68.4%	78.3%	62.1%	79.8%	63.1%	78.7%
	2 +	31.0%	23.8%	31.6%	21.7%	37.9%	20.2%	36.9%	21.3%
19 - 20 years* (2011)	N	16	504	22	622	24	651	28	644
	1	68.8%	74.0%	77.3%	77.8%	87.5%	78.5%	60.7%	81.4%
	2 +	31.2%	26.0%	22.7%	22.2%	12.5%	21.5%	39.3%	18.6%

[a] Includes children eligible for Medicaid as foster children (COE = 003, 007, 026) for at least one month during reporting year.

** Percentages ARE significantly different for two groups (p < 0.01).*

The percentages of children taking multiple mental health medications during the calendar year are shown by age group in Table 10. Use of multiple mental health medications increases with age for both groups of children. Multiple AP use is higher among foster children for every age group. In 2011, the differences were significantly higher for age groups 6-11 and above. As with the multiple AP measure, it is important to note that this measure is multiple mental health medications used anytime during the year and is not a polypharmacy measure of multiple mental health medications used concomitantly.

Table 10. Multiple Mental Health Medciations Among MHD Users by Age Group For Children Enrolled In the Mississippi Medicaid Fee-For-Service Program

Age (July 1 of year)	Flags	2008		2009		2010		2011	
		Foster Children[a]	All Other Children	Foster Children[a]	All Other Children	Foster Children[a]	All Other Children	Foster Children[a]	All Other Children
	Mental Health Medications in a Calender Year, Among MHD Users (> 15 days use)**								
<= 5 years* (2008, 2009)	N	72	1,920	75	1,911	78	1,953	79	1,917
	1	50.0%	64.3%	62.7%	69.0%	66.7%	69.2%	59.5%	71.5%
	2 - 3	40.3%	31.9%	28.0%	28.1%	26.9%	28.1%	35.4%	26.7%
	4 +	9.7%	3.8%	9.3%	2.9%	6.4%	2.7%	5.1%	1.8%
6 - 11 years*	N	594	12,824	600	14,110	608	15,041	589	15,277
	1	47.8%	59.1%	48.2%	57.3%	51.8%	60.4%	57.2%	63.4%
	2 - 3	41.6%	35.1%	38.3%	36.4%	37.8%	34.7%	36.5%	32.5%
	4 +	10.6%	5.8%	13.5%	6.3%	10.4%	4.9%	6.3%	4.1%
12 - 14 years*	N	381	5,992	355	6,513	352	6,984	376	7,265
	1	43.0%	55.6%	37.2%	55.2%	41.8%	57.0%	43.3%	60.2%
	2 - 3	40.9%	36.5%	48.7%	36.9%	43.5%	35.5%	41.0%	33.4%
	4 +	16.0%	7.9%	14.1%	7.8%	14.8%	7.5%	15.7%	6.4%
15 - 18 years*	N	454	6,705	473	7,535	469	7,734	519	7,690
	1	37.7%	55.9%	36.4%	56.0%	36.0%	55.6%	38.9%	56.5%
	2 - 3	43.8%	36.4%	44.8%	35.5%	43.3%	36.5%	43.6%	36.2%
	4 +	18.5%	7.7%	18.8%	8.5%	20.7%	7.9%	17.5%	7.3%
19 - 20 years* (2008, 2011)	N	28	1,817	43	2,040	59	2,116	61	2,024
	1	42.9%	59.7%	44.2%	58.0%	49.1%	58.0%	47.5%	59.3%
	2 - 3	25.0%	33.3%	48.8%	35.6%	39.0%	35.7%	36.1%	34.2%
	4 +	32.1%	7.0%	7.0%	6.4%	11.9%	6.3%	16.4%	6.5%

[a] *Includes children eligible for Medicaid as foster children (COE = 003, 007, 026) for at least one month during reporting year.*

** Percentages ARE significantly different for two groups (p < 0.01).*

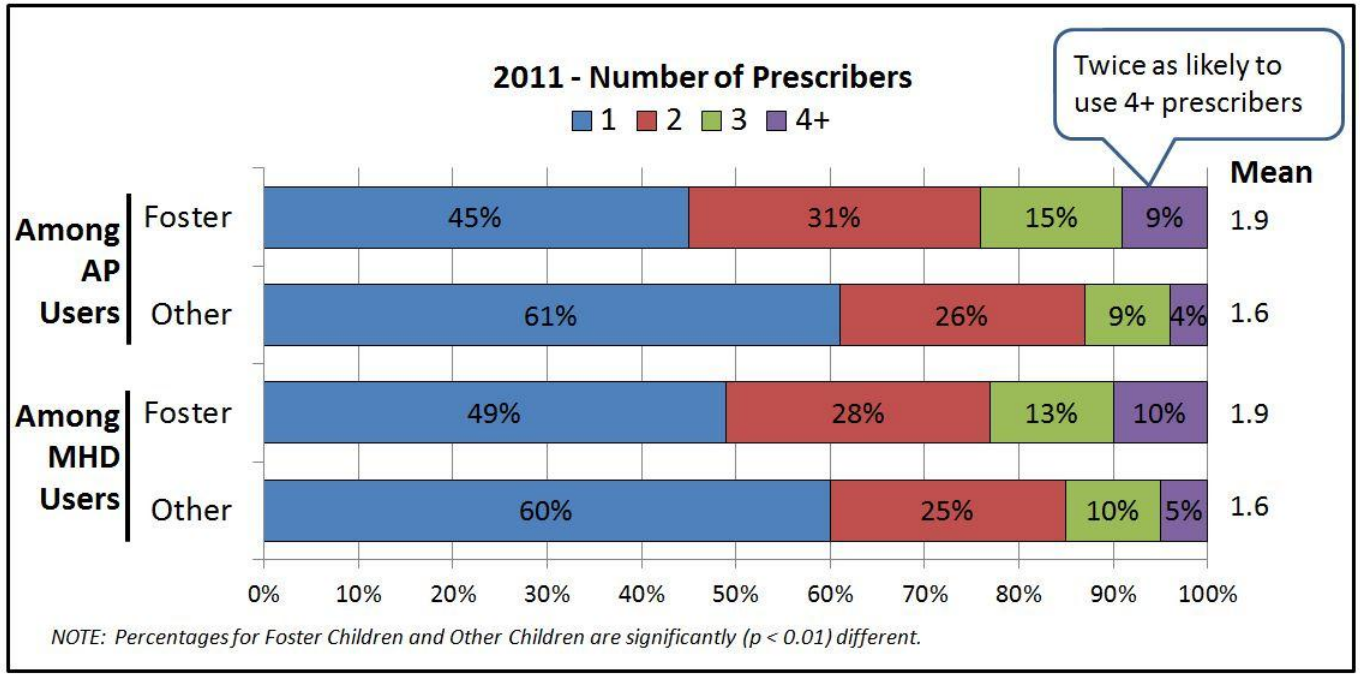
Table 11 shows the number of different prescribers that children taking AP and mental health medications had during each calendar year. The number of prescribers was determined as the number of different national prescriber identifications (NPIs) associated with the AP or mental health medication prescriptions. Foster children had significantly more prescribers associated with the AP and mental health medications they took each year. Multiple prescribers can indicate potential problems with respect to coordination of care. In 2011 among foster children 24% had 3 or more prescribers for AP medications and 23% had multiple prescribers for mental health medications. Although these rates were lower among other children, 12% of other children had 3+ prescribers for AP medications and 15% had 3+ prescribers for mental health medications. These results indicate that safety problems could arise from the lack of coordination of care and a DUR monitoring/intervention that would notify prescribers when a beneficiary is receiving mental health prescriptions from more than one prescriber may be needed and beneficial. The number of prescribers for AP medications and mental health medications in 2011 are illustrated in Figure 9.

Table 11. Number of Prescribers for APs and MHDs Among Medication Users For Children Enrolled In the Mississippi Medicaid Fee-For-Service Program

	2008		2009		2010		2011	
	Foster Children[a]	All Other Children	Foster Children[a]	All Other Children	Foster Children[a]	All Other Children	Foster Children[a]	All Other Children
Number of Prescribers for AP Medications in a Calender Year, Among AP Users*								
N	630	7,702	638	8,122	657	8,692	668	8,688
1	43.0%	62.0%	47.0%	61.1%	44.9%	61.5%	44.8%	61.1%
2	31.4%	24.6%	27.7%	25.9%	25.9%	24.3%	31.4%	26.0%
3	14.6%	9.1%	14.9%	8.6%	16.0%	9.7%	15.1%	8.9%
4+	11.0%	4.3%	10.3%	4.4%	13.2%	4.5%	8.7%	3.9%
Mean	2.0	1.6	1.9	1.6	2.0	1.6	1.9	1.6
Number of Prescribers for Mental Health Medications in a Calender Year, Among MHD Users*								
N	1,496	28,265	1,513	31,083	1,526	32,855	1,588	33,138
1	43.5%	59.1%	44.4%	59.6%	45.7%	59.6%	49.2%	60.3%
2	29.8%	25.0%	30.3%	25.4%	27.1%	24.9%	27.9%	25.2%
3	14.8%	10.4%	12.6%	9.5%	14.7%	10.0%	13.0%	9.7%
4+	11.9%	5.6%	12.6%	5.4%	12.5%	5.5%	10.0%	4.8%
Mean	2.0%	1.7%	2.0%	1.6%	2.0%	1.6%	1.9%	1.6%

[a] Includes children eligible for Medicaid as foster children (COE = 003, 007, 026) for at least one month during reporting year.
** Percentages ARE significantly different for two groups (p < 0.01).*

Figure 9: Number of Prescribers for APs and MHDs Among Foster and Other Children Being Treated With Medications in 2011



HOW DO WE COMPARE TO OTHER STATES

Two major studies have been conducted that provide some ability to benchmark the performance of the Mississippi DOM on quality indicators used in this study and by others. The methodology for these two studies and comparative results are provided below.

Interstate variation in trends of psychotropic medication use among Medicaid-enrolled children in foster care

This first study was published in a recent issue of *Children and Youth Services Review* by David Rubin, Meredith Matone, Yuan-Shung Huang, Susan dosReis, Chris Feudtner, and Russell Localio.

Methodology: A retrospective analysis of Centers for Medicare and Medicaid Services Medicaid Analytic Extract data files for 47 states and the District of Columbia for years 2002–2007. The study sample included an average of 686,080 children annually aged 3–18 years of age with foster care Medicaid eligibility. Repeated cross-sectional design conducted with multilevel logistic regression, clustered at the state level and controlling for patient demographics. Main outcome measures were rates of filled prescriptions for any antipsychotic medication and for psychotropic polypharmacy (defined as concurrent use of 3 or more psychotropic medication classes for at least 30 days during the year).

Although this study did not include other children, the results for foster children provide a good benchmark for evaluating the performance of Mississippi DOM. Major results from this study comparing the different Medicaid programs are presented in Tables 15 and 16 and Figures 11 and 12. Table 15 and Figure 11 show how the states compare on the quality indicator of any antipsychotic use by children 3 – 18 years of age. In 2007, Mississippi had a rate of use for antipsychotics among foster children of 12.0%. This placed Mississippi 17th among the 48 Medicaid programs included in the study. A major focus of this study was to examine trends in rates from 2002 to 2007. Mississippi was ranked 3rd out of the 48 programs on change during this time period; with a decline of 2.8%.

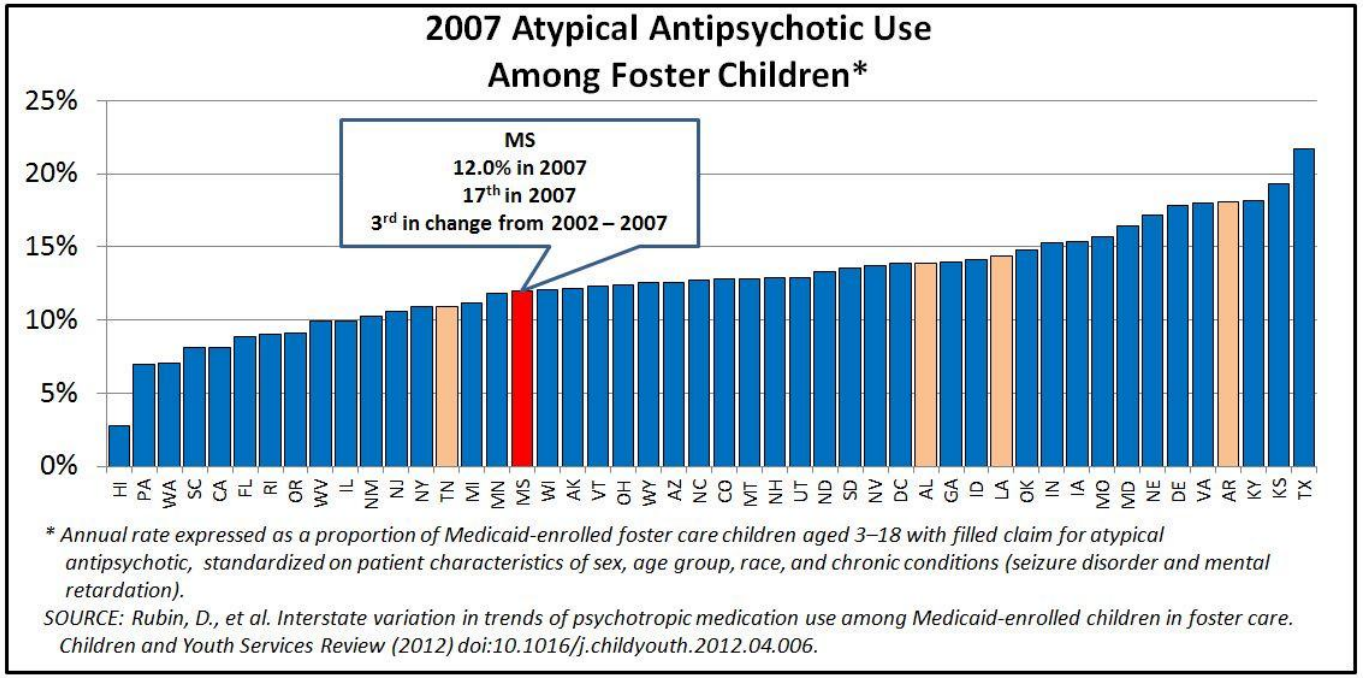
TABLE 15
Second Generation Antipsychotic Use Among Medicaid-Enrolled Foster Care Children 2002 to 2007 by State

	2002			2007			% Change 2007-2002	
State	Population	Rate[a]	Rank	Population	Rate[a]	Rank	Change	Rank
HI	3,961	3.2%	1	5,897	2.8%	1	-11.7%	1
PA	38,860	6.0%	6	44,841	7.0%	2	17.1%	10
WA	12,095	4.2%	2	14,579	7.1%	3	67.9%	45
SC	7,067	5.7%	5	9,841	8.1%	5	41.3%	31
CA	130,765	5.5%	4	126,171	8.1%	4	48.4%	38
FL	32,246	7.2%	10	35,781	8.9%	6	25.0%	15
RI	3,740	5.4%	3	2,983	9.0%	7	68.0%	46
OR	10,622	6.5%	7	12,540	9.1%	8	40.8%	30
WV	5,106	7.3%	11	6,325	9.9%	10	35.1%	24
IL	57,707	6.9%	8	49,332	9.9%	9	44.6%	34
NM	3,060	7.7%	15	4,489	10.3%	11	34.9%	23
NJ	15,395	9.7%	25	20,028	10.6%	12	9.8%	7
NY	13,327	8.5%	19	17,833	10.9%	14	28.1%	19
TN	11,773	7.0%	9	15,553	10.9%	13	54.9%	42
MI	29,789	7.5%	12	32,266	11.2%	15	48.9%	39
MN	7,568	7.6%	13	6,729	11.8%	16	55.9%	43
MS	2,642	12.3%	40	4,006	12.0%	17	-2.8%	3
WI	8,663	8.6%	20	8,228	12.1%	18	41.3%	32
AK	1,633	8.9%	22	2,754	12.2%	19	36.6%	28
VT	1,470	8.5%	18	1,576	12.3%	20	45.1%	35
OH	21,828	10.5%	31	26,769	12.4%	21	18.2%	11
WY	1,449	8.7%	21	2,169	12.6%	23	44.1%	33
AZ	6,573	7.7%	14	11,109	12.6%	22	64.1%	44
NC	13,291	9.4%	24	16,952	12.7%	24	35.6%	25
CO	10,723	11.7%	37	13,201	12.8%	26	9.6%	6
MT	3,132	8.3%	17	3,437	12.8%	25	54.3%	41
NH	2,216	11.4%	35	2,297	12.9%	28	13.0%	8
UT	4,341	10.2%	27	6,150	12.9%	27	26.1%	16
ND	1,353	11.4%	34	1,513	13.3%	29	16.2%	9
SD	1,995	7.9%	16	2,656	13.6%	30	71.0%	47
NV	3,436	10.5%	30	5,609	13.7%	31	31.1%	20
DC	3,554	10.6%	32	3,094	13.9%	33	31.5%	21
AL	4,631	9.1%	23	6,227	13.9%	32	52.2%	40
GA	15,904	10.9%	33	25,770	14.0%	34	28.0%	18
ID	1,735	10.4%	28	2,545	14.1%	35	36.5%	27
LA	7,845	11.6%	36	10,003	14.4%	36	23.7%	14
OK	12,481	10.0%	26	11,685	14.8%	37	48.3%	37
IN	11,476	12.4%	41	15,346	15.3%	38	23.4%	13
IA	7,270	14.2%	44	6,558	15.4%	39	8.5%	5
MO	21,973	14.8%	45	24,063	15.7%	40	6.4%	4
MD	13,319	12.2%	39	13,525	16.4%	41	33.8%	22
NE	8,425	12.7%	42	10,666	17.2%	42	35.6%	26
DE	1,431	12.2%	38	1,796	17.8%	43	45.9%	36
VA	8,356	12.9%	43	12,038	18.0%	44	39.4%	29
AR	4,191	10.5%	29	5,439	18.1%	45	71.9%	48
KY	7,876	15.3%	47	11,150	18.2%	46	18.7%	12
KS	9,369	15.2%	46	11,382	19.3%	47	27.1%	17
TX	26,131	23.7%	48	41,711	21.7%	48	-8.4%	2

[a] Annual rate expressed as a proportion of Medicaid-enrolled foster care children aged 3–18 with filled claim for atypical antipsychotic, standardized on patient characteristics of sex, age group, race, and chronic conditions (seizure disorder and mental retardation).

SOURCE: Rubin, D., et al. Interstate variation in trends of psychotropic medication use among Medicaid-enrolled children in foster care. Children and Youth Services Review (2012) doi:10.1016/j.childyouth.2012.04.006.

Figure 11: State Rates for Antipsychotic Use Among Foster Children in 2007



** Annual rate expressed as a proportion of Medicaid-enrolled foster care children aged 3–18 with filled claim for atypical antipsychotic, standardized on patient characteristics of sex, age group, race, and chronic conditions (seizure disorder and mental retardation).*

SOURCE: Rubin, D., et al. Interstate variation in trends of psychotropic medication use among Medicaid-enrolled children in foster care. Children and Youth Services Review (2012) doi:10.1016/j.childyouth.2012.04.006.

Table 16 and Figure 12 show how the programs compared on the quality indicator of polypharmacy defined as taking 3 or more psychotropics with 30 days or more overlap. In 2007, Mississippi had a polypharmacy rate of 4.1% which was 10th out of 48 Medicaid programs included in the study. From the period 2002 to 2007, the rate in Mississippi declined 32.8% which was the 2nd best rate of change among the 48 programs.

TABLE 16
Polypharmacy Use Among Medicaid-Enrolled Foster Care Children
2002 to 2007 by State

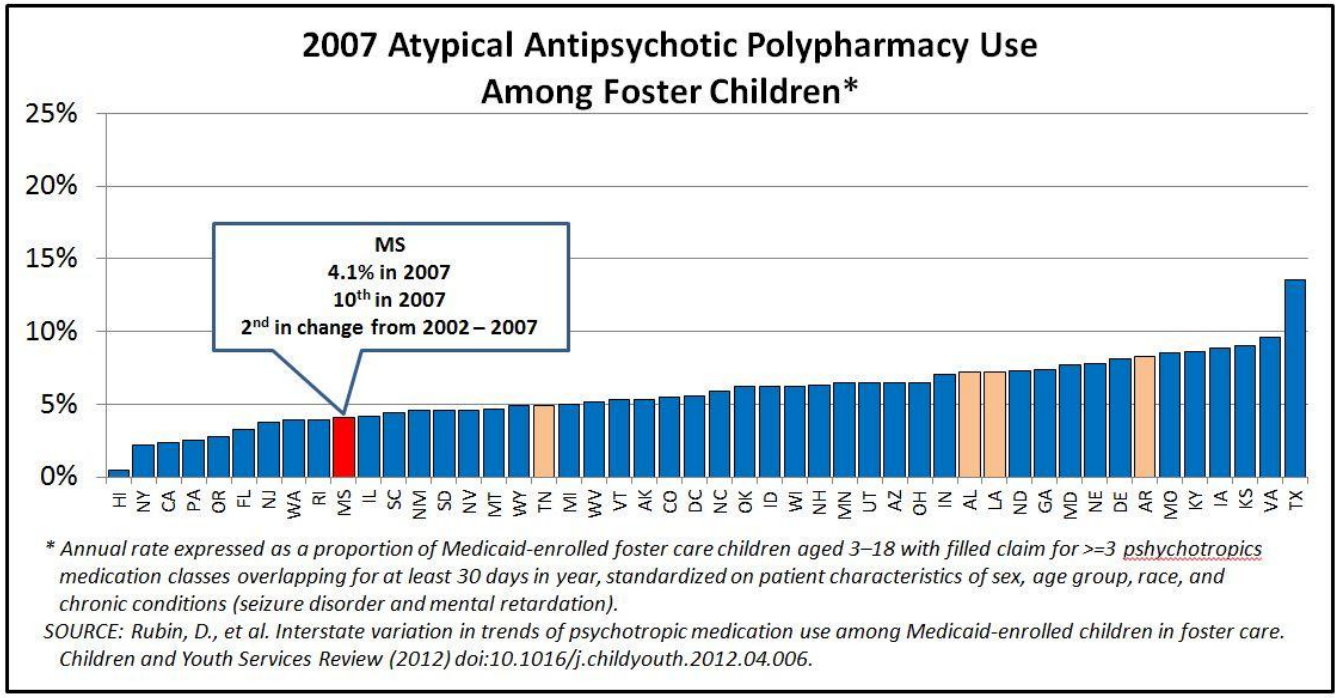
	2002			2007			% Change 2007-2002	
State	Population	Rate[a]	Rank	Population	Rate[a]	Rank	Change	Rank
HI	3,961	1.5%	1	5,897	0.5%	1	-66.7%	1
NY	13,327	1.9%	2	17,833	2.2%	2	15.8%	41
CA	120,765	2.3%	3	126,171	2.4%	3	4.4%	30
PA	38,860	3.0%	6	44,841	2.5%	4	-16.7%	7
OR	10,622	2.7%	4	12,540	2.8%	5	3.7%	29
FL	32,246	4.2%	13	35,781	3.3%	6	-21.5%	6
NJ	15,395	4.9%	14	20,028	3.8%	7	-22.5%	5
WA	12,095	2.9%	5	14,579	3.9%	8	34.5%	48
RI	3,740	3.6%	7	2,983	3.9%	9	8.3%	32
MS	2,634	6.1%	29	3,931	4.1%	10	-32.8%	2
IL	57,707	4.1%	9	49,332	4.2%	11	2.4%	26
SC	7,067	5.2%	18	9,841	4.4%	12	-15.4%	9
NM	3,060	3.7%	8	4,489	4.6%	13	24.3%	47
SD	1,995	4.2%	12	2,656	4.6%	14	9.5%	35
NV	3,436	6.0%	27	5,609	4.6%	15	-23.3%	4
MT	3,132	4.2%	11	3,437	4.7%	16	11.9%	37
WY	1,449	5.7%	24	2,169	4.9%	17	-14.0%	11
TN[b]	11,773	--		15,553	4.9%	18	-8.1%	17
MI	29,789	4.2%	10	32,266	5.0%	19	19.1%	44
WV	5,106	5.1%	16	6,325	5.2%	20	2.0%	25
VT	1,470	5.5%	20	1,576	5.3%	21	-3.6%	22
AK	1,633	5.7%	23	2,754	5.3%	22	-7.0%	18
CO	10,723	6.1%	28	13,201	5.5%	23	-9.8%	15
DC	3,554	6.2%	31	3,094	5.6%	24	-9.7%	16
NC	13,291	5.2%	17	16,952	5.9%	25	13.5%	39
OK	12,481	5.0%	15	11,685	6.2%	26	24.0%	46
ID	1,735	5.7%	21	2,545	6.2%	27	8.8%	33
WI	8,663	5.7%	22	8,228	6.2%	28	8.8%	34
NH	2,216	7.1%	35	2,297	6.3%	29	-11.3%	14
MN	7,568	5.3%	19	6,729	6.5%	30	22.6%	45
UT	4,341	5.8%	25	6,150	6.5%	31	12.1%	38
AZ	6,573	5.9%	26	11,109	6.5%	32	10.2%	36
OH	21,828	6.4%	32	26,769	6.5%	33	1.6%	24
IN	11,476	8.1%	38	15,346	7.1%	34	-12.4%	13
AL	4,631	6.2%	30	6,227	7.2%	35	16.1%	42
LA	7,845	8.4%	40	10,003	7.2%	36	-14.3%	10
ND	1,353	8.7%	43	1,513	7.3%	37	-16.1%	8
GA	15,904	6.5%	33	25,770	7.4%	38	13.9%	40
MD	13,319	8.1%	37	13,525	7.7%	39	-4.9%	20
NE	8,425	8.2%	39	10,666	7.8%	40	-4.9%	21
DE	1,431	7.9%	36	1,796	8.1%	41	2.5%	28
AR	4,191	7.0%	34	5,439	8.3%	42	18.6%	43
MO	21,973	9.8%	46	24,063	8.5%	43	-13.3%	12
KY	7,876	8.5%	41	11,150	8.6%	44	1.2%	23
IA	7,270	8.7%	42	6,558	8.9%	45	2.4%	27
KS	9,369	9.5%	45	11,382	9.0%	46	-5.3%	19
VA	8,356	9.0%	44	12,038	9.6%	47	6.7%	31
TX	26,131	18.1%	47	41,711	13.6%	48	-24.9%	3

[a] Annual rate expressed as a proportion of Medicaid-enrolled foster care children aged 3–18 with filled claims for ≥3 psychotropic medication classes overlapping for at least 30 days in the year, standardized on patient characteristics of sex, age group, race, and chronic conditions (seizure disorder and mental retardation).

[b] Data projected from 2003 to 2007 due to limited availability of data on stimulants in 2002.

SOURCE: Rubin, D., et al. Interstate variation in trends of psychotropic medication use among Medicaid-enrolled children in foster care. Children and Youth Services Review (2012) doi:10.1016/j.childyouth.2012.04.006.

Figure 12: State Rates for Antipsychotic Polypharmacy Among Foster Children in 2007



** Annual rate expressed as a proportion of Medicaid-enrolled foster care children aged 3–18 with filled claim for >=3 pshychotropics medication classes overlapping for at least 30 days in year, standardized on patient characteristics of sex, age group, race, and chronic conditions (seizure disorder and mental retardation).*

SOURCE: Rubin, D., et al. Interstate variation in trends of psychotropic medication use among Medicaid-enrolled children in foster care. Children and Youth Services Review (2012) doi:10.1016/j.childyouth.2012.04.006.

Antipsychotic Medication Use In Medicaid Children And Adolescents: Report And Resource Guide From A 16-State Study

This report was conducted by the Medicaid Medical Directors Learning Network and Rutgers Center for Education and Research on Mental Health Therapeutics and published in July 2010. It is distributed by Rutgers CERTs at http://rci.rutgers.edu/~cseap/MMDLNAPKIDS.html.

Methodology: A retrospective study of the FFS Medicaid population (excluding the small number of Medicaid children and youth who are dually eligible for Medicare and Medicaid) in 16 States, comparing pharmacy claims data for the calendar years 2004-2007. The study concentrated on AP medication use but also captured claims for a broader group of prescription mental health drugs (MHDs). For the purpose of these analyses, MHDs included AP medications, attention-deficit hyperactivity disorder (ADHD) drugs, antidepressants, anxiolytic/hypnotics, mood stabilizers, and others. In addition to the characterization of AP medication use for children and adolescents in the 16 Medicaid States, the project examined five core measures that served as preliminary measures to flag potential quality and safety issues in AP medication and total MHD therapy:

- Use of AP medications in children 5 years and younger;
- Use of high doses of AP medications;
- Use of multiple AP medications at any time during a calendar year (including both concurrent and non-concurrent use);
- Maximal gap in days between AP medication claims, which may reflect medication adherence; and
- Use of multiple MHDs at any time during a calendar year (including both concurrent and non-concurrent use).

Many of these core measures stem from the Texas Foster Care Study[4] and from a consensus based on discussion among project participants.

The estimates for antipsychotic use rates based on the 16-state study are shown in Table 17. In 2007, the pooled rate for antipsychotic use among all children was 1.6% and for foster children it was 12.4%. In order to get an idea of how Mississippi compares to the states included in this study, charts were made depicting the pooled rate and the low and high rate reported for each measure. The comparable rate for Mississippi using 2011 data was then plotted against this range from the 16-state study. Antipsychotic use rates for all children, by age group and for

foster and non-foster children are compared in Figure 13. Mississippi rates for antipsychotic use for all of these subgroups were very close to the pooled rates from the 16-state study.

TABLE 17
Antipsychotic Medication Utilization Rates Among Medicaid Children
(Rutgers Center for Education and Research on Mental Health Therapeutics)

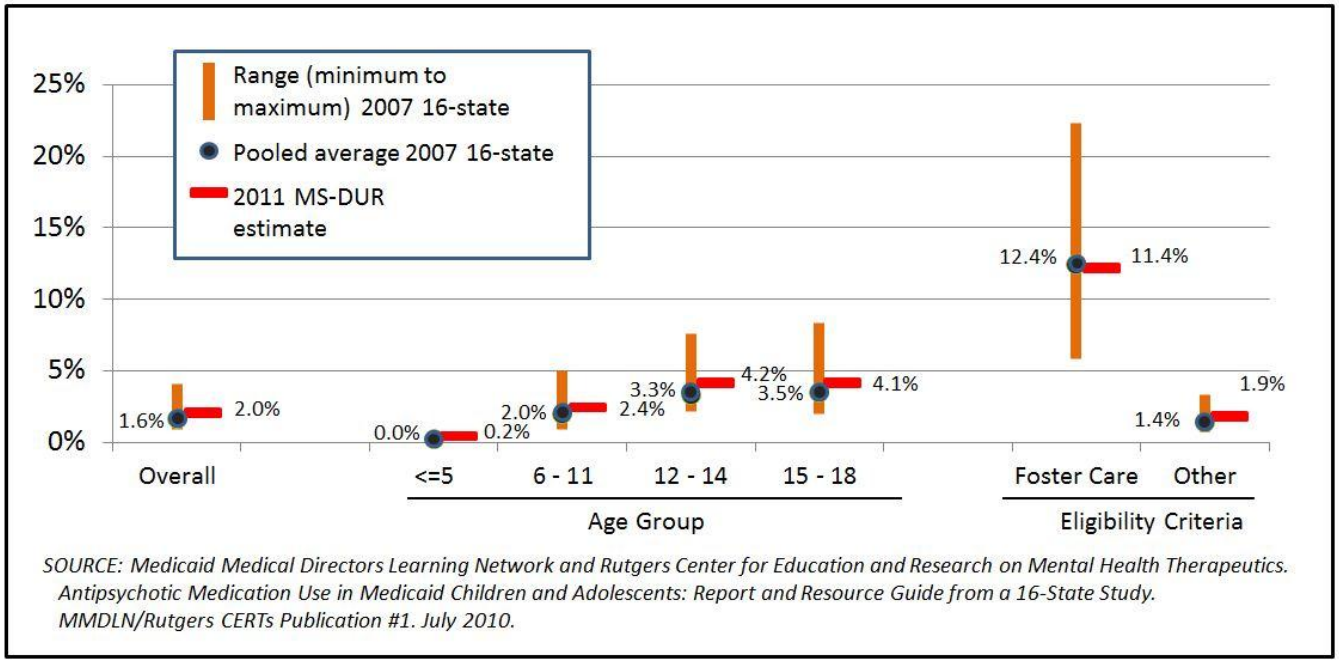
		AP Use Rate					
		2004			2007		
		Pooled	Min	Max	Pooled	Min	Max
Total		1.5%	0.9%	3.3%	1.6%	0.9%	4.1%
Age	<=5	0.2%	0.1%	0.5%	0.2%	0.0%	0.7%
	6 - 11	1.8%	0.9%	4.0%	2.0%	0.9%	5.0%
	12 - 14	3.0%	1.9%	6.6%	3.3%	2.1%	7.6%
	15 - 18	3.0%	1.6%	7.2%	3.5%	2.0%	8.3%
Foster Care**	No	1.3%	0.6%	2.7%	1.4%	0.7%	3.3%
	Yes	11.7%	5.4%	23.7%	12.4%	5.8%	22.3%

** 16 states include Alabama, California, Colorado, Illinois, Indiana, Maine, Massachusetts, Missouri, New Hampshire, New York, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Washington.*

*** Includes all states except New Hampshire, New York and Oklahoma.*

SOURCE: Medicaid Medical Directors Learning Network and Rutgers Center for Education and Research on Mental Health Therapeutics. Antipsychotic Medication Use in Medicaid Children and Adolescents: Report and Resource Guide from a 16-State Study. MMDLN/Rutgers CERTs Publication #1. July 2010. Distributed by Rutgers CERTs at http://rci.rutgers.edu/~cseap/MMDLNAPKIDS.html.

Figure 13: 16-State Estimates for 2007 and DOM Estimates for 2011 on Antipsychotic Use in Children



SOURCE: Medicaid Medical Directors Learning Network and Rutgers Center for Education and Research on Mental Health Therapeutics. Antipsychotic Medication Use in Medicaid Children and Adolescents: Report and Resource Guide from a 16-State Study. MMDLN/Rutgers CERTs Publication #1. July 2010.

The estimates other quality indicators are shown in Table 18. The comparable rates for Mississippi using 2011 data are shown in Figures 14 and 15. As shown in Figure 14, the 2011 rates for multiple AP use among children was on the low end of the reported range for all groups except 15-18 years olds where Mississippi was just above the pooled rate.

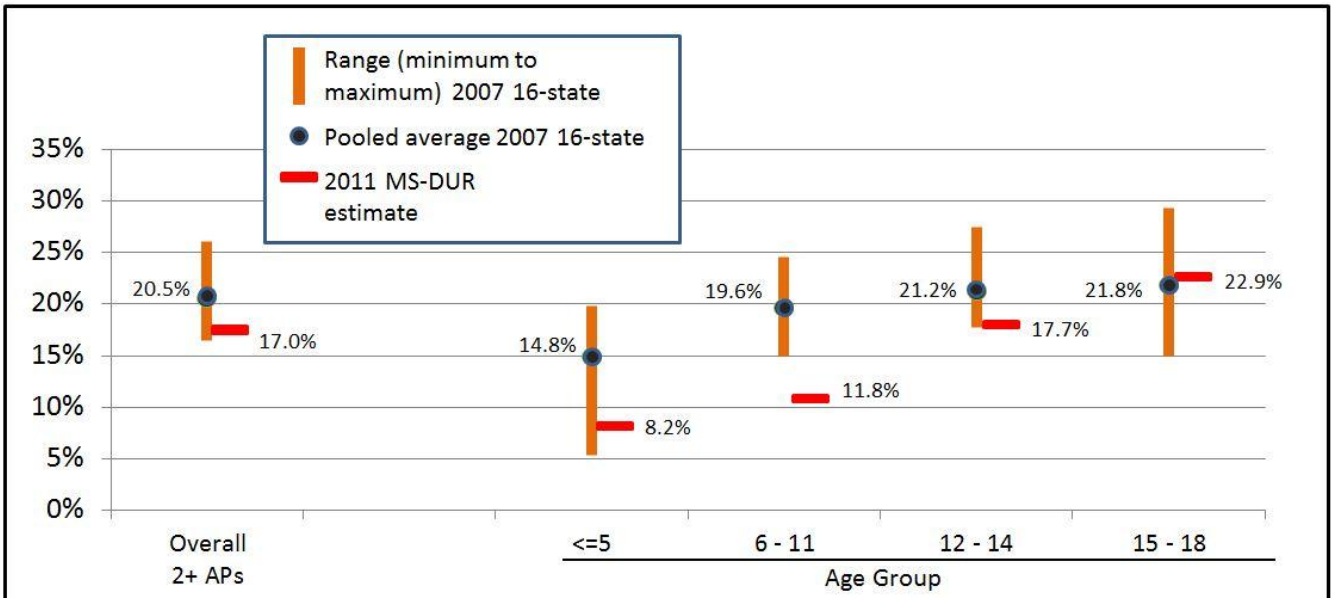
Table 18
Percentage of Children Exceeding Flags Indicating Potential Safety or Quality Issues in Medicaid FFS*
(Rutgers Center for Education and Research on Mental Health Therapeutics)

		2004				2007			
		N	Pooled Rate	Min	Max	N	Pooled Rate	Min	Max
AP Medication Use in Children 5 Years and Younger		11,985	0.2%	0.1%	0.5%	11,183	0.2%	0.0%	0.7%
High AP Dose, Among AP Users	< max	199,364	91.5%	83.6%	99.3%	214,866	91.1%	82.1%	98.7%
	>= max	18,602	8.5%	0.7%	16.4%	21,049	8.9%	1.3%	17.9%
	>= 2x max	2,754	1.3%	0.1%	2.6%	2,459	1.0%	0.0%	2.9%
AP Medications in a Calendar Year, Among AP Users (> 15 days use)									
All children	One	122,676	76.9%	72.5%	80.9%	142,498	79.5%	73.9%	83.6%
	>= Two	36,914	23.1%	19.2%	27.5%	36,775	20.5%	16.4%	26.1%
<= 5	One	7,374	83.3%	0.0%	88.6%	8,177	85.2%	80.3%	94.7%
	>= Two	1,484	16.8%	0.0%	22.2%	1,433	14.8%	5.3%	19.8%
6 - 11	One	44,646	77.8%	73.3%	81.9%	50,398	80.4%	75.5%	85.1%
	>= Two	12,739	22.2%	18.1%	26.7%	12,322	19.6%	15.0%	24.6%
12 - 14	One	33,039	75.9%	70.4%	81.4%	35,797	78.8%	72.5%	82.3%
	>= Two	10,478	24.1%	18.6%	29.6%	9,643	21.2%	17.7%	27.5%
15 - 18	One	37,617	75.5%	71.4%	80.5%	48,125	78.2%	70.7%	85.1%
	>= Two	12,233	24.5%	19.5%	28.6%	13,555	21.8%	14.9%	29.3%
Maximal AP Gap in Prescription Claims (days), Among AP Users	0	19,950	15.1%	2.3%	34.9%	20,113	13.7%	2.4%	28.7%
	>20	51,810	39.3%	25.3%	49.1%	58,640	39.9%	23.3%	48.3%
	>=40	26,860	20.3%	9.8%	26.9%	31,072	21.1%	9.4%	27.8%
Mental Health Medications in a Calender Year, Among MHD Users (> 15	One	316,714	51.9%	43.6%	61.5%	318,099	52.4%	37.2%	63.1%
	Four	71,767	11.8%	4.7%	16.4%	66,224	10.9%	4.6%	19.9%

** 16 states include Alabama, California, Colorado, Illinois, Indiana, Maine, Massachusetts, Missouri, New Hampshire, New York, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Washington.*

SOURCE: Medicaid Medical Directors Learning Network and Rutgers Center for Education and Research on Mental Health Therapeutics. Antipsychotic Medication Use in Medicaid Children and Adolescents: Report and Resource Guide from a 16-State Study. MMDLN/Rutgers CERTs Publication #1. July 2010. Distributed by Rutgers CERTs at http://rci.rutgers.edu/~cseap/MMDLNAPKIDS.html.

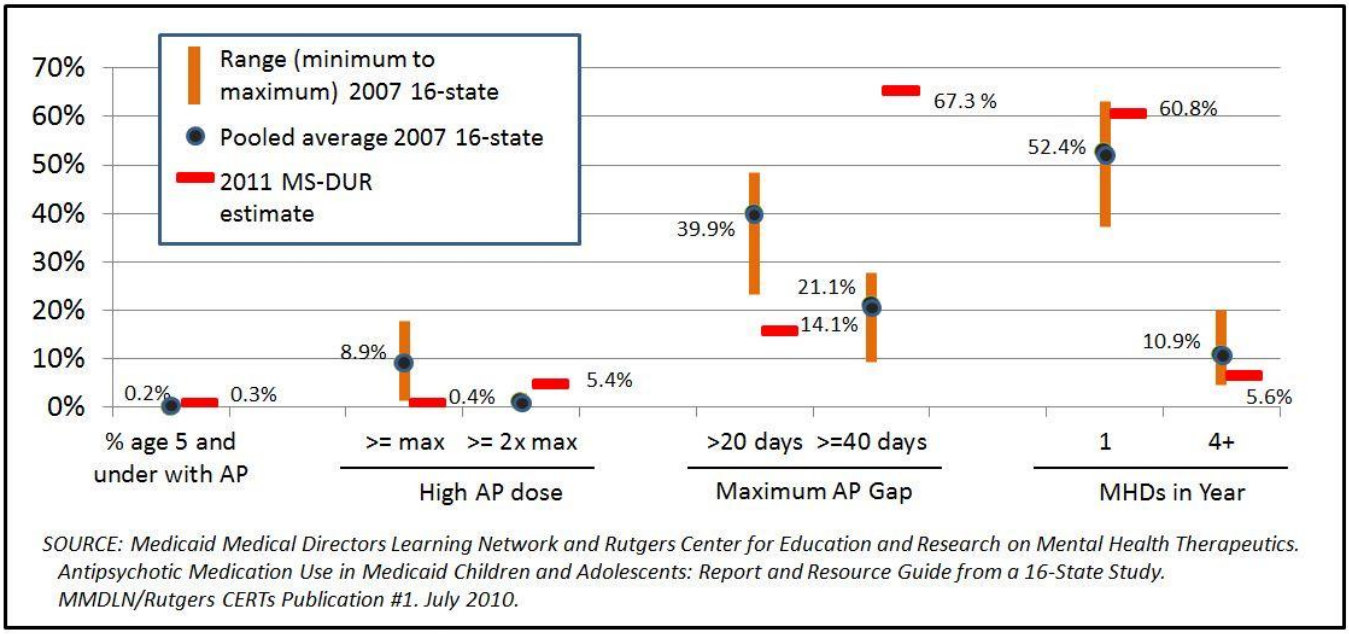
Figure 14: 16-State Estimates for 2007 and DOM Estimates for 2011 on Multiple Antipsychotic Use Among Children



SOURCE: Medicaid Medical Directors Learning Network and Rutgers Center for Education and Research on Mental Health Therapeutics. Antipsychotic Medication Use in Medicaid Children and Adolescents: Report and Resource Guide from a 16-State Study. MMDLN/Rutgers CERTs Publication #1. July 2010. Distributed by Rutgers CERTs at http://rci.rutgers.edu/~cseap/MMDLNAPKIDS.html..

As shown in Figure 15, the Mississippi rate in 2011 for AP use in children age 5 and under was comparable to the pooled rate from the 16-state study. The Mississippi rates were also close to the pooled rates from the 16-state study for high AP doses and multiple mental health medications. Rates for maximum AP gap were not consistent, but may be due to criteria used in computing these measures.

Figure 15: 16-State Estimates for 2007 and DOM Estimates for 2011 on Selected Indicators



SOURCE: Medicaid Medical Directors Learning Network and Rutgers Center for Education and Research on Mental Health Therapeutics. Antipsychotic Medication Use in Medicaid Children and Adolescents: Report and Resource Guide from a 16-State Study. MMDLN/Rutgers CERTs Publication #1. July 2010.

CONCLUSIONS

Mississippi DOM has actively addressed the use of antipsychotics in children during the last decade. Some of the actions that have been taken previously include:

- September 2003 DUR Board added therapeutic duplication of atypical antipsychotics to monitoring and initiating aggressive intervention strategy among prescribers.
- September 2008 FDA minimum age limits implemented on all atypical antipsychotics as part of point-of-sale (POS) clinical edits.
- February 2009 DUR Board began another review of atypical antipsychotic use in children and review of potential actions needed.
- September 2010 changed Quetiapine XR age limit to >/=18 years of age in POS clinical edits.
- February 2011 added Latuda age limit of >/=18 years in POS clinical edits.

Through these and other actions, Mississippi DOM has aggressively monitored and managed antipsychotic use in children. The success of these actions is evident when data have existed for comparing rates of quality indicators in Mississippi to other state Medicaid programs. Based on the results from this study and from information about clinical edits, etc. utilized in other states, the following actions are being presented to the DUR Board meeting for discussion and action.

Retro-DUR Monitoring and Intervention

- Reactivate monitoring and physician letter intervention for therapeutic duplication of atypical antipsychotics among children. This intervention was initially approved at the September2003 DUR Board meeting based on a criterion of 2+ APs with 90+ days overlap.

  DUR Board action requested: Input on (a) whether criteria for determining duplicate therapy should be 60+ or 90+ days and (b) whether action should be expanded to adults.

- Monitor and send physician letters when multiple prescribers appear for concomitant use of mental health medications.

  DUR Board action requested: Approval of recommendation for monitoring and intervention. Input on criteria for (a) determining duplicate therapy overlap and (b) whether action should apply to adults and children.

SmartPA POS Clinical Edit

DUR Board action requested: Discussion and input on possible new edits. As part of the retro-DUR activities above, MS-DUR will evaluate the impact of these potential new edits before a formal recommendation is made to the DUR Board and DOM.

- Require manual PA for 2nd antipsychotic for child if overlap is greater than 30 days. Initial fill of 2nd antipsychotic would be automatically approved with letter sent notifying prescriber that a refill with overlapping therapy will require a manual PA. This criteria would allow initial overlap for change in therapy and will prevent laps in therapy.

- Require manual PA for 2nd long acting stimulant for children using same criteria as above for 2nd antipsychotic.

Exceptions Monitoring Criteria Recommendations

MISSISSIPPI MEDICAID
RETROSPECTIVE DRUG UTILIZATION REVIEW
EXCEPTIONS MONITORING CRITERIA RECOMMENDATIONS

Criteria Recommendations

1. Concomitant use of PPIs with methotrexate

Message: The FDA updated the labeling of esomeprazole (Nexium) in January 2012 to include a warning that concomitant use of PPIs with methotrexate (primarily at high doses) may elevate and prolong serum levels of methotrexate and/or its metabolite hydroxymethotrexate, possibly leading to methotrexate toxicities. In high-dose methotrexate administration a temporary withdrawal of the PPI may be considered in some patients.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
Drug Class: Proton pump inhibitors	methotrexate

References:
FDA Drug Safety Labeling Changes. January 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm290946.htm

2. Renin Inhibitors

Message: The FDA updated the labeling of aliskiren (Tekurna), aliskiren/hydrochlorothiazide (Tekurna HCT), amlodipine/aliskiren/hydrochlorothiazide (Amturnide), amlodipine/aliskiren (Tekamko), and aliskiren/valsartan (Valturna) in January 2012 to include a warning that the co-administration of Non-Steroidal Anti-Inflammatory Agents (NSAIDs), including Selective Cyclooxygenase Inhibitors *(*COX-2) inhibitors with agents acting on the renin-angiotensin system, including aliskiren, may result in deterioration of renal function, including possible acute renal failure in patients who are elderly, volume-depleted (including those on diuretic therapy), or with compromised renal function.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
Aliskiren	NSAIDs
	COX-2 inhibitors

References:
FDA Drug Safety Labeling Changes. January 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm290727.htm

3. Renal Impairment and ezetimibe (Zetia)

Message: In January 2012, the FDA updated the labeling of ezetimibe (Zetia) to include use in renal impairment as reflect in the results of the Study of Heart and Renal Protection (SHARP) trial. No dosage adjustment of ezetimibe (Zetia) monotherapy is necessary. However, because renal impairment is a risk factor for statin-associated myopathy, doses of simvastatin exceeding 20 mg should be used with caution and close monitoring when administered concomitantly with ezetimibe in patients with moderate to severe renal impairment.

Exception Type: DDC - Drug-disease contraindication

Field 1	Field 2	Field 3
ezetimibe	simvastatin >20mg	renal impairment

References:
FDA Drug Safety Labeling Changes. January 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm176808.htm

4. Use of ACE inhibitors and antidiabetic medications

Message: In January 2012, the FDA updated the labeling of trandolapril (Mavik) to include a new section under drug-interaction that the concomitant use of ACE inhibitors and antidiabetic medicines (insulin or oral hypoglycemic agents) may cause an increased blood glucose lowering effect with greater risk of hypoglycemia.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
ACE inhibitors	insulin
	oral hypoglycemic agents

References:
FDA Drug Safety Labeling Changes. January 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm211812.htm

5. Avoid use of Benicar in pregnancy

Message: The FDA updated the labeling of olmesartan (Benicar) in February 2012 to include a warning recommending that olmesartan be discontinued as soon as pregnancy is detected. The use of drugs that act directly on the renin-angiotensin-aldosterone system during pregnancy can cause fetal and neonatal morbidity and death.

Exception Type: DCC - Drug-condition contraindication

Field 1	Field 2
Benicar	pregnancy

References:
FDA Drug Safety Labeling Changes. February 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm258781.htm

6. Risk of fetal toxicity with the use of aliskiren

Message: The FDA updated the labeling of aliskiren (Tekurna), aliskiren/hydrochlorothiazide (Tekurna HCT), amlodipine/aliskiren/hydrochlorothiazide (Amturnide), amlodipine/aliskiren (Tekamko), and aliskiren/valsartan (Valturna) in February 2012 to include a warning to discontinue aliskiren as soon as pregnancy is detected. The use of drugs that act directly on the renin-angiotensin-aldosterone system during pregnancy can cause fetal and neonatal morbidity and death.

Exception Type: DCC - Drug-condition contraindication

Field 1	Field 2
aliskiren	pregnancy

References:
FDA Drug Safety Labeling Changes. February 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm279774.htm

7. Olmesartan use in children less than 1 year of age

Message: The FDA updated the labeling of olmesartan (Benicar) in February 2012 to include a warning recommending that children <1 year of age must not receive olmesartan for hypertension. Drugs that act directly on the renin-angiotensin aldosterone system (RAAS) can have effects on the development of immature kidneys.

Exception Type: CAP - Pediatric warning

Field 1	Field 2
olmesartan	children <1 year of age

References:
FDA Drug Safety Labeling Changes. February 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm258781.htm

8. Letairis Education and Access Program (LEAP)

Message: In February 2012, the FDA updated the labeling of ambrisentan (Letairis) to include a warning do not to administer ambrisentan to a pregnant woman because it may cause fetal harm, consistently seen in animal studies. Because of the risk of birth defects, ambrisentan is available only through a restricted program under a Risk Evaluation and Mitigation Strategy (REMS) called the Letairis Education and Access Program (LEAP). As a component of the Letairis REMS, prescribers, patients, and pharmacies must enroll in the program.

Exception Type: DDC - Drug-disease contraindication

Field 1	Field 2
ambrisentan	pregnancy

References:
FDA Drug Safety Labeling Changes. February 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm233391.htm

9. Risk of fetal toxicity with the use of enalapril

Message: The FDA updated the labeling of enalapril (Vasotec) and enalapril/hydrochlorothiazide (Vaseretic) in February 2012 to include a warning recommending the discontinuation of enalapril as soon as pregnancy is detected. The use of drugs that act directly on the renin-angiotensin-aldosterone system during pregnancy can cause fetal and neonatal morbidity and death.

Exception Type: DCC - Drug-condition contraindication

Field 1	Field 2
enalapril	pregnancy

References:
FDA Drug Safety Labeling Changes. February 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm295767.htm

10. Co-administration of enalapril with NSAIDs/COX-2 inhibitors

Message: The FDA updated the labeling of enalapril (Vasotec) and enalapril/hydrochlorothiazide (Vaseretic) in February 2012 to include a precaution that the co-administration of Non-Steroidal Anti-Inflammatory Agents (NSAIDs), including selective cyclooxygenase inhibitors *(*COX-2) inhibitors with agents acting on the renin-angiotensin system may result in deterioration of renal function, including possible acute renal failure in patients who are elderly, volume-depleted (including those on diuretic therapy), or with compromised renal function.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
enalapril	NSAIDS
	COX-2 inhibitors

References:
FDA Drug Safety Labeling Changes. February 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm295767.htm

11. Exogenous estrogen use in patients with thrombotic disorders

Message: The FDA updated the labeling of drospirenone and estradiol (Angeliq), estradiol gel (Elestrin), conjugated estrogens (Premarin), and conjugated estrogens/medroxyprogesterone acetate (Prempro, Premphase) in February 2012 to include a contraindication in patients with known protein C, protein S, or antithrombin deficiency, or other known thrombophilic disorders.

Exception Type: DDC - Drug-disease contraindication

Field 1	Field 2
conjugated estrogens	thrombotic disorders
estradiol	

References:
FDA Drug Safety Labeling Changes. February 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm296119.htm

12. Exogenous estrogens use in patients with hereditary angioedema

Message: The FDA updated the labeling of drospirenone and estradiol (Angeliq), estradiol gel (Elestrin), conjugated estrogens (Premarin), and conjugated estrogens/medroxyprogesterone acetate (Prempro, Premphase) in February 2012 to include a warning that exogenous estrogens may exacerbate symptoms of angioedema in women with hereditary angioedema.

Exception Type: DDC - Drug-disease contraindication

Field 1	Field 2
conjugated estrogens	hereditary angioedema
estradiol	

References:
FDA Drug Safety Labeling Changes. February 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm296119.htm

13. Co-administration of boceprevir (Victrelis) and ritonavir-boosted HIV protease inhibitors

Message: In February 2012, the FDA informed healthcare professionals and patients that drug interactions between the hepatitis C virus (HCV) protease inhibitor boceprevir (Victrelis) and certain ritonavir-boosted HIV protease inhibitors can potentially reduce the effectiveness of these medicines when they are used together.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
boceprevir	HIV protease inhibitors
	tipranavir (Aptivus)
	indinavir (Crixivan)
	saquinavir (Invirase)
	fosamprenavir (Lexiva)
	nelfinavir (Viracept)

References:
FDA Safety Communication. February 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm291119.htm

14. Statin dose limitations with protease inhibitors

Message: In March 2012, the FDA updated prescribing information concerning interactions between protease inhibitors and certain statin drugs. Concomitant use of drugs labeled as having a strong inhibitory effect on CYP3A4 pathway can raise the plasma levels of statins and may increase the risk of myopathy.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
atorvastatin	tipranavir + ritonavir
	telaprevir
	lopinavir + ritonavir
	darunavir + ritonavir
	fosamprenavir
	fosamprenavir + ritonavir
	saquinavir + ritonavir
	nelfinavir

References:
FDA Safety Communication. March 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm293877.htm

15. Statin dose limitations with protease inhibitors

Message: In March 2012, the FDA updated prescribing information concerning interactions between protease inhibitors and certain statin drugs. Concomitant use of drugs labeled as having a strong inhibitory effect on CYP3A4 pathway can raise the plasma levels of statins and may increase the risk of myopathy.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
lovastatin	HIV protease inhibitors
	boceprevir
	telaprevir

References:
FDA Safety Communication. March 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm293877.htm

16. Statin dose limitations with protease inhibitors

Message: In March 2012, the FDA updated prescribing information concerning interactions between protease inhibitors and certain statin drugs. Concomitant use of drugs labeled as having a strong inhibitory effect on CYP3A4 pathway can raise the plasma levels of statins and may increase the risk of myopathy.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
Pitavastatin	atazanavir ± ritonavir
	darunavir + ritonavir
	lopinavir + ritonavir

References:
FDA Safety Communication. March 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm293877.htm

17. Statin dose limitations with protease inhibitors

Message: In March 2012, the FDA updated prescribing information concerning interactions between protease inhibitors and certain statin drugs. Concomitant use of drugs labeled as having a strong inhibitory effect on CYP3A4 pathway can raise the plasma levels of statins and may increase the risk of myopathy.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
pravastatin	darunavir + ritonavir
	lopinavir + ritonavir

References:
FDA Safety Communication. March 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm293877.htm

18. Statin dose limitations with protease inhibitors

Message: In March 2012, the FDA updated prescribing information concerning interactions between protease inhibitors and certain statin drugs. Concomitant use of drugs labeled as having a strong inhibitory effect on CYP3A4 pathway can raise the plasma levels of statins and may increase the risk of myopathy.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
rosuvastatin	atazanavir ± ritonavir
	lopinavir + ritonavir

References:
FDA Safety Communication. March 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm293877.htm

19. Statin dose limitations with protease inhibitors

Message: In March 2012, the FDA updated prescribing information concerning interactions between protease inhibitors and certain statin drugs. Concomitant use of drugs labeled as having a strong inhibitory effect on CYP3A4 pathway can raise the plasma levels of statins and may increase the risk of myopathy.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
simvastatin	HIV protease inhibitors
	boceprevir
	telaprevir

References:
FDA Safety Communication. March 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm293877.htm

20. High dose citalopram and potential risk of abnormal heart rhythms

Message: In March 2012, the FDA clarified dosing and warning recommendations for citalopram. Citalopram should no longer be used at doses >40 mg per day due to potentially dangerous abnormalities in the electrical activity of the heart. Use at any dose is discouraged in patients with certain conditions due to risk of QT prolongation, and caution needs to be taken when citalopram is used in such patients. Lower doses should be used in patients >60 years of age.

Exception Type: IDO - High dose alert

Field 1
citalopram >40 mg/day

References:
FDA Safety Communication. March 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm297391.htm

21. High dose citalopram and potential risk of abnormal heart rhythms

Message: In March 2012, the FDA clarified dosing and warning recommendations for citalopram. Citalopram should no longer be used at doses >40 mg per day due to potentially dangerous abnormalities in the electrical activity of the heart. Use at any dose is discouraged in patients with certain conditions due to risk of QT prolongation, and caution needs to be taken when citalopram is used in such patients. Lower doses should be used in patients >60 years of age.

Exception Type: CAP - Elderly warning

Field 1	Field 2
citalopram >40 mg/day	Age >60 years

References:
FDA Safety Communication. March 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm297391.htm

22. High dose citalopram and potential risk of abnormal heart rhythms

Message: In March 2012, the FDA clarified dosing and warning recommendations for citalopram. Citalopram should no longer be used at doses > 40 mg per day due to potentially dangerous abnormalities in the electrical activity of the heart. Use at any dose is discouraged in patients with certain conditions due to risk of QT prolongation, and caution needs to be taken when citalopram is used in such patients. Lower doses should be used in patients >60 years of age.

Exception Type: DDC - Drug-disease contraindication

Field 1	Field 2
citalopram	QT prolongation

References:
FDA Safety Communication. March 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm297391.htm

23. Combination of aliskiren with ARBs or ACEIs in patients with diabetes or renal impairment

Message: In April 2012, FDA notified healthcare professionals of possible risks when using blood pressure medicines containing aliskiren with other drugs called angiotensin converting enzyme inhibitors (ACEIs) and angiotensin receptor blockers (ARBs) in patients with diabetes or kidney (renal) impairment. Concomitant use of aliskiren with ARBs or ACEIs in patients with diabetes is contraindicated because of the risk of renal impairment, hypotension, and hyperkalemia. Avoid use of aliskiren with ARBs or ACEIs in patients with renal impairment where GFR < 60 mL/min.

Exception Type: DDC - Drug-disease contraindication

Field 1	Field 2	Field 3
aliskiren	ARB	Diabetes
	ACEI	

References:
FDA Safety Communication. April 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm300889.htm

24. Co-administration of boceprevir (Victrelis) and ritonavir-boosted HIV protease inhibitors

Message: In April 2012, FDA has revised the Victrelis drug label to state that co-administration of Victrelis with ritonavir-boosted Reyataz (atazanavir), ritonavir-boosted Prezista (darunavir), or Kaletra (lopinavir/ritonavir) to patients infected with both chronic HCV and HIV is not recommended at this time as concomitant use can potentially reduce the effectiveness of these medicines.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
boceprevir	lopinavir+ritonavir (Kaletra)
	darunavir (Prezista)
	atazanavir (Reyataz)

References:
FDA Safety Communication. April 2012. Available at:
http://www.fda.gov/Drugs/DrugSafety/ucm301616.htm

MISSISSIPPI MEDICAID
RETROSPECTIVE DRUG UTILIZATION REVIEW
EXCEPTIONS MONITORING CRITERIA RECOMMENDATIONS

Criteria Recommendations

1. **Risk of fetal toxicity with the use of Aceon (perindopril)**
   Message: The FDA updated the labeling of Aceon (perindopril) in April 2012 to include a boxed warning recommending the discontinuation of perindopril as soon as pregnancy is detected (Pregnancy Category D). The use of drugs that act directly on the renin-angiotensin-aldosterone system during pregnancy can cause fetal and neonatal morbidity and death.

   Exception Type: DCC - Drug-condition contraindication

Field 1	Field 2
perindopril	pregnancy

   References:
   FDA Drug Safety Labeling Change. April 2012. Available at:
   http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm239914.htm

2. **Risk of fetal toxicity with the use of Altace (ramipril)**
   Message: The FDA updated the labeling of Altace (ramipril) in April 2012 to include a boxed warning recommending the discontinuation of ramipril as soon as pregnancy is detected (Pregnancy Category D). The use of drugs that act directly on the renin-angiotensin-aldosterone system during pregnancy can cause fetal and neonatal morbidity and death.

   Exception Type: DCC - Drug-condition contraindication

Field 1	Field 2
ramipril	pregnancy

   References:
   FDA Drug Safety Labeling Change. April 2012. Available at:
   http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm233254.htm

3. **Risk of fetal toxicity with the use of Atacand (candesartan)**
   Message: The FDA updated the labeling of Atacand (candesartan) in April 2012 to include a boxed warning recommending the discontinuation of candesartan as soon as pregnancy is detected (Pregnancy Category D). The use of drugs that act directly on the renin-angiotensin-aldosterone system during pregnancy can cause fetal and neonatal morbidity and death.

   Exception Type: DCC - Drug-condition contraindication

Field 1	Field 2
candesartan	pregnancy

   References:
   FDA Drug Safety Labeling Change. April 2012. Available at:
   http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm303851.htm

4. Coadministration of Sporanox (itraconazole) with felodipine

Message: In April 2012, the FDA updated the labeling of Sporanox (itraconazole) to include a boxed warning that the coadministration of itraconazole capsules or oral solution with felodipine is contraindicated. A clinical study showed that felodipine exposure was increased by coadministration of itraconazole, resulting in approximately a 6-fold increase in the AUC and an 8-fold increase in the C_{max}.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
itraconazole	felodipine

References:
FDA Drug Safety Labeling Change. April 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm303524.htm

5. Coadministration of Advicor (extended release niacin/lovastatin) with strong CYP3A4 inhibitors

Message: In April 2012, the FDA updated the labeling of Advicor (extended release niacin/lovastatin) to include a contraindication regarding concomitant administration of extended release niacin/lovastatin with strong CYP3A4 inhibitors (e.g., itraconazole, ketoconazole, posaconazole, HIV protease inhibitors, boceprevir, telaprevir, erythromycin, clarithromycin, telithromycin and nefazodone). If treatment with itraconazole, ketoconazole, erythromycin, clarithromycin or telithromycin is unavoidable, therapy with lovatatin should be suspended during the course of treatment.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
extended release niacin/lovastatin	Strong 3A4 inhibitors[1]

References:
FDA Drug Safety Labeling Change. April 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm243486.htm

[1] An exhaustive list of “strong” 3A4 inhibitors identified from the literature is used to program this exception

6. Coadministration of Altoprev (lovastatin extended release) with strong CYP3A4 inhibitors

Message: In April 2012, the FDA updated the labeling of Altoprev (lovastatin extended release) to include a contraindication regarding concomitant administration of lovastatin extended release with strong CYP3A4 inhibitors (e.g., itraconazole, ketoconazole, posaconazole, HIV protease inhibitors, boceprevir, telaprevir, erythromycin, clarithromycin, telithromycin and nefazodone). If treatment with itraconazole, ketoconazole, erythromycin, clarithromycin or telithromycin is unavoidable, therapy with lovatatin should be suspended during the course of treatment.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
lovastatin extended release	Strong 3A4 inhibitors[1]

References:
FDA Drug Safety Labeling Change. April 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm303638.htm

7. Coadministration of nelfinavir (Viracept) with rifampin

Message: In April 2012, the FDA updated the labeling of nelfinavir (Viracept) to include a contraindication regarding concomitant administration of nelfinavir with rifampin. Plasma concentrations of nelfinavir can be reduced by concomitant use of rifampin. This may lead to loss of therapeutic effect and possible development of resistance to Viracept or other coadministered antiretroviral agents.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
nelfinavir	rifampin

References:
FDA Drug Safety Labeling Change. April 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm302545.htm

8. Coadministration of nelfinavir (Viracept) with ergot derivatives

Message: In April 2012, the FDA updated the labeling of nelfinavir (Viracept) to include a contraindication regarding concomitant administration of nelfinavir with ergot derivatives. Coadministration may lead to potential for serious and/or life threatening reactions such as ergot toxicity characterized by peripheral vasospasm and ischemia of the extremities and other tissues.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
nelfinavir	dihydroergotamine ergotamine methylergonovine

References:
FDA Drug Safety Labeling Change. April 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm302545.htm

9. Coadministration of nelfinavir (Viracept) with cisapride

Message: In April 2012, the FDA updated the labeling of nelfinavir (Viracept) to include a contraindication regarding concomitant administration of nelfinavir with cisapride (Propulsid). Coadministration increases the potential for serious and/or life threatening reactions such as cardiac arrhythmias.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
nelfinavir	cisapride

References:
FDA Drug Safety Labeling Change. April 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm302545.htm

10. Gilenya (fingolimod) is contraindicated in patients with select cardiovascular conditions

Message: In May 2012, the FDA revised the Gilenya (fingolimod) label to include a contraindication for patients who in the last 6 months experienced myocardial infarction, unstable angina, stroke, TIA, decompensated heart failure requiring hospitalization or Class III/IV heart failure. This contraindication also includes patients with a baseline QTc interval ≥500 ms, history or presence of Mobitz Type II second-degree or third-degree atrioventricular (AV) block or sick sinus syndrome, unless the patient has a functioning pacemaker.

Exception Type: DDC - Drug-disease contraindication

Field Type 1	Field Type 2
ginfolimod	myocardial infarction
	unstable angina
	stroke
	heart failure

References:
FDA Drug Safety Labeling Changes. May 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm266123.htm

11. Gilenya (fingolimod) potential drug-drug interaction with drugs that prolong the QT interval

Message: In May 2012, the FDA revised the Gilenya (fingolimod) label to include a potential drug-drug interaction with drugs that prolong the QT interval. The FDA notes that GILENYA has not been studied in patients treated with drugs that prolong the QT interval. Drugs that prolong the QT interval have been associated with cases of torsades de pointes in patients with bradycardia. Since initiation of GILENYA treatment results in decreased heart rate and may prolong the QT interval, patients on QT prolonging drugs with a known risk of torsades de pointes (e.g., citalopram, chlorpromazine, haloperidol, methadone, erythromycin) should be monitored overnight with continuous ECG in a medical facility.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
fingolimod	Drugs with a known risk of Torsades de Pointes[2]

References:
FDA Drug Safety Labeling Changes. May 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm266123.htm

12. Use of Cellcept (mycophenolate mofetil) during pregnancy

Message: In June 2012, the FDA updated the labeling of CellCept (mycophenolate mofetil) capsules, tablets, and oral suspension to include a warning that use of mycophenolate mofetil during pregnancy is associated with increased risks of first trimester pregnancy loss and congenital malformations. The FDA recommends that females of reproductive potential must be counseled regarding pregnancy prevention and planning when on this drug.

Exception Type: DDC - Drug-disease contraindication

Field 1	Field 2
mycophenolate mofetil	Pregnancy

References:
FDA Drug Safety Labeling Changes. July 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm310868.htm

[2] An exhaustive list of drugs with a known risk of Torsades de Pointes identified from the literature is used to program this exception

13. Prinivil (lisinopril) and Prinzide (lisinopril/hydrochloride) tablets during pregnancy

Message: In June 2012, the FDA updated the labeling of Prinivil (lisinopril) and Prinzide (lisinopril/hydrochloride) tablets to include a warning that use of lisinopril and/or lisinopril/hydrochloride be discontinued as soon as pregnancy is detected. The use of drugs that act directly on the renin-angiotensin-aldosterone system during pregnancy can cause fetal and neonatal morbidity and death.

Exception Type: DDC - Drug-disease contraindication

Field 1	Field 2
lisinopril lisinopril/hydrochloride	Pregnancy

References:
FDA Drug Safety Labeling Changes. July 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm311025.htm

14. Coadministration of Noxafil (posaconazole) with HMG-CoA reductase inhibitors

Message: In June 2012, the FDA updated the labeling of Noxafil (posaconazole) oral suspension to include a contraindication of coadministration of posaconazole with HMG-CoA reductase inhibitors that are primarily metabolized through CYP3A4 (e.g., atorvastatin, lovastatin, and simvastatin). Increased plasma concentration of these drugs can lead to rhabdomyolysis.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
posaconazole	Drug class: HMG-CoA reductase inhibitors

References:
FDA Drug Safety Labeling Changes. July 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm228417.htm

15. Coadministration of Noxafil (posaconazole) with anti-HIV drug fosamprenavir

Message: In June 2012, the FDA updated the labeling of Noxafil (posaconazole) oral suspension to include a contraindication in patients concomitantly using fosamprenavir (anti-HIV drug) which may lead to decreased posaconazole plasma concentrations thus reducing its effect (treating fungal infections). If concomitant administration is required, close monitoring for breakthrough fungal infections is recommended.

Exception Type: DDI - Drug-drug interaction

Field 1	Field 2
posaconazole	fosamprenavir

References:
FDA Drug Safety Labeling Changes. July 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm228417.htm

16. Use of Estrogen-Alone Therapy in post-menopausal women

Message: The FDA updated the labeling of Estraderm (estradiol) transdermal system in June 2012 to include a warning that estrogen therapy without a progestin may lead to increased risk of endometrial hyperplasia, which may be a precursor to endometrial cancer. The FDA recommends that adequate diagnostic measures, including directed or random endometrial sampling when indicated, should be undertaken to rule out malignancy in postmenopausal women with undiagnosed persistent or recurring abnormal genital bleeding.

Exception Type: APU - Concomitant Therapy

Field 1	Field 2
Estradiol	progestins

References:
FDA Drug Safety Labeling Changes. July 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm310883.htm

17. Use of estrogen-alone therapy (oral conjugated estrogens) in post-menopausal women.

Message: In June 2012, the FDA issued a labeling change to include a warning that estrogen-alone oral therapy is associated with a risk of developing cardiovascular disease or dementia. The Women's Health Initiative (WHI) estrogen-alone sub-study reported increased risks of stroke and deep vein thrombosis (DVT) in postmenopausal women (50 to 79 years of age) during 7.1 years of treatment with daily oral conjugated estrogens (CE) [0.625 mg]-alone, relative to placebo. The WHI Memory Study (WHIMS) estrogen-alone ancillary study of the WHI reported an increased risk of developing probable dementia in postmenopausal women 65 years of age or older during 5.2 years of treatment with CE (0.625 mg)-alone, relative to placebo.

Exception Type: APU - Concomitant Therapy

Field 1	Field 2
conjugated estrogens (0.625mg)	progestins

References:
FDA Drug Safety Labeling Changes. July 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm310883.htm

18. Administration of Methergine (methylergonovine maleate) tablet and injection among patients with coronary artery disease or risk factors for coronary artery disease.

Message: The FDA issued a labeling change to include a warning that methylergonovine maleate tablets are associated with a risk of developing myocardial ischemia and infarction in patients with coronary artery disease or risk factors for coronary artery disease.

Exception Type: DDC - Drug-disease contraindication

Field 1	Field 2
methylergonovine maleate	myocardial ischemia myocardial infarction

References:
FDA Drug Safety Labeling Changes. July 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm310728.htm

19. Use of Zyflo (zileuton) tablets in pediatric patients under 12 years.

Message: The FDA issued a labeling change to include a warning that use of zileuton in pediatric patients under 12 years is not recommended (due to the risk of hepatotoxicity).

Exception Type: CAP - Pediatric warning

Field 1	Field 2
zileuton	Age < 12 years

References:
FDA Drug Safety Labeling Changes. July 2012. Available at:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/ucm310876.htm