JADENU / EXJADE UTILIZATION AND COSTS

BACKGROUND

Deferasirox (Exjade/Jadenu) is indicated for the treatment of chronic iron overload due to blood transfusions in patients 2 years of age and older, and chronic iron overload in non-transfusion-dependent thalassemia syndromes (NTDT) in patients 10 years of age and older.

Chronic iron overload can affect people with sickle cell disease, thalassemia and myelodysplastic syndrome. Thalassemia is a blood disorder, which is inherited, in which the body makes an abnormal form of hemoglobin and large numbers of red blood cells are destroyed; leading to anemia. Myelodysplastic syndromes (MDS) are conditions that can occur when the blood-forming cells in the bone marrow are damaged which leads to low numbers of one or more type of blood cells. MDS is considered a type of cancer.

Exjade, a tablet formulation for oral suspension, was first approved in November 2005. Jadenu (deferasirox) is a new formulation

Exjade and Jadenu are both weight-based dosed. One advantage is an improvement in palatability, thus enhanced tolerability compared to Exjade. Jadenu simplifies the daily dosage regimen and can be taken with or without food. Exjade must be dissolved into an oral suspension and should be taken on an empty stomach.

WARNING: RENAL FAILURE, HEPATIC FAILURE, AND GASTROINTESTINAL HEMORRHAGE

See full prescribing information for complete boxed warning.

JADENU may cause serious and fatal:

- **renal toxicity, including failure (5.1)**
- **hepatic toxicity, including failure (5.2)**
- **gastrointestinal hemorrhage (5.3)**

JADENU therapy requires close patient monitoring, including laboratory tests of renal and hepatic function. (5)

Both products have a black box warning that was recently updated to also include grastrointestinal hemorrhage.

Due to a significant increases in the utilization of these products, MS-DUR conducted an evaluation to evaluate whether any utilization management actions were needed to assure appropriate utilization is occurring.

METHODS

A retrospective analysis, which included claims for all Medicaid programs – fee-for-services (FFS) and both coordinated care organizations (CCOs), was conducted of Exjade and Jadenu claims for the period January 2014 through July 2015. This time frame represents the last month for complete data from CCOs at the time of the analysis.

RESULTS

Table 1 and Figure 1 show the number of Exjade and Jadenu prescriptions paid for each month. In 2014, DOM averaged 46.3 Exjade prescriptions per month with fairly stable utilization. The first prescription claim for Jadenu was paid in April 2015 and since then, DOM has experienced an increase in the total number of patients treated with deferasirox each month. In July 2015 the total number of prescriptions had increased to 86 per month with 80% of these prescriptions written for Jadenu.

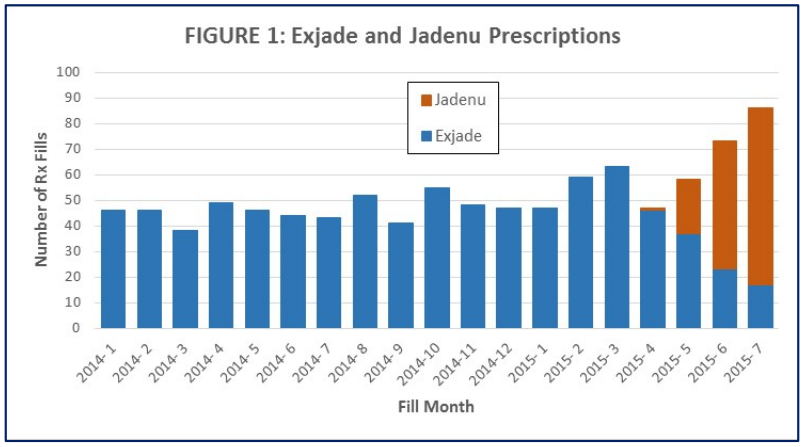

TABLE 1: Number of Exjade and Jadenu Prescription Fills by Month

Fill Month	Number of Rx Fills		
	Exjade	Jadenu	Total
2014- 1	46	0	46
2014- 2	46	0	46
2014- 3	38	0	38
2014- 4	49	0	49
2014- 5	46	0	46
2014- 6	44	0	44
2014- 7	43	0	43
2014- 8	52	0	52
2014- 9	41	0	41
2014-10	55	0	55
2014-11	48	0	48
2014-12	47	0	47
2015- 1	47	0	47
2015- 2	59	0	59
2015- 3	63	0	63
2015- 4	46	1	47
2015- 5	37	21	58
2015- 6	23	50	73
2015- 7	17	69	86

Table 2 illustrates the dollar amounts paid for Exjade and Jadenu prescriptions during the period May – August 2015. The amounts paid for the three strengths for the two products are fairly comparable. The average cost per prescription for the three strengths have been comparable; with Jadenu prescriptions being slightly lower.

TABLE 2: Amount Paid for Exjade and Jadenu Prescriptions
(May - August 2015)

DRUG	Total Paid	Number of Fills	Average Paid / Fill	Average Paid / Unit
Exjade all strengths	$413,156	51	$8,101	
Exjade 125	$5,994	2	$2,997	$29.38
Exjade 250	$73,616	10	$7,362	$59.85
Exjade 500	$333,546	39	$8,552	$111.82
Jadenu all strengths	$1,107,576	166	$6,672	
Jadenu 90	$19,960	15	$1,331	$29.03
Jadenu 180	$219,465	47	$4,669	$51.83
Jadenu 360	$868,152	104	$8,348	$104.17

NOTE: Includes claims for fee-for-service (FFS) and coordinated care organizations (CC

TABLE 3: Amount Paid for Patients Treated With Exjade and Jadenu by Month

Fill Month	# Fills	Total Amount Paid
2014- 1	46	$259,855
2014- 2	46	$242,378
2014- 3	38	$222,158
2014- 4	49	$283,805
2014- 5	46	$286,051
2014- 6	44	$272,223
2014- 7	43	$248,047
2014- 8	52	$327,207
2014- 9	41	$254,429
2014-10	55	$297,568
2014-11	48	$268,209
2014-12	47	$274,190
2015- 1	47	$262,590
2015- 2	59	$378,209
2015- 3	63	$400,731
2015- 4	47	$314,132
2015- 5	58	$386,032
2015- 6	73	$496,233
2015- 7	86	$605,810

NOTE: Includes claims and coordinated care

Table 3 shows the total number of prescriptions processed and the amount paid for all beneficiaries treated with Exjade and Jadenu on a monthly basis. Dosing for both products is weight-based and thus some fluctuations can occur in the amounts paid each month due to which patients are being treated and their individual weights. Even though the previous table showed that the average cost per fill for Jadenu was comparable to, if not slightly lower than the average cost per fill for Exjade, the introduction of Jadenu has resulted in a significant increase in the total number of prescription fills each month.

Since January 2014, the number of prescriptions per month for this therapy has increased 87% while the amount paid per month for the treatment has increased 133%. Some of the increase in utilization may be attributed to Jadenu's enhanced tolerability profile which could translate into better product adherence.

TABLE 4: Provider Types Prescribing Exjade and Jadenu

Provider Type	Number of Prescriptions
Hospital	9
MD-Hem/Onc	586
MD-IM	27
MD-Ped	140
NP	20
NP-FM	12
NP-Ped	188
Prov-Other	61

Clinical edits that could be considered for assuring appropriate utilization of these products would normally include limiting use of these products to certain specialties, approved diagnoses, and/or specific ages. Table 4 depicts the classification of provider types who wrote prescriptions for Exjade and Jadenu. Based on the indications for the products, these specialties appear to be appropriate for prescribing the products; thus a restriction by provider type does not appear to be needed.

Table 5 shows the number of unique beneficiaries treated with these products and whether indicated diagnoses were found in the medical claims during the observation period. The target diagnoses examined included:

- Sickle cell (ICD-9 282.6x)
- Thalassemia (ICD-9 282.4x)
- Myelodysplastic syndromes (ICD-9 238.72 – 238.75)
- Hemochromatosis due to transfusions (ICD-9 275.02)
- Hemochromatosis – other (ICD-9 275.03)

A total of 146 beneficiaries were treated with these products during the observation period. Almost half of these beneficiaries had a diagnosis of sickle cell disease present in the medical claims. Hemochromatosis due to transfusions was documented for 71 beneficiaries. Among children 2-9 years of age, only 13% did not have any target diagnosis in the medical claims. Overall, 29% of the beneficiaries taking these drugs did not have a target diagnosis found in the medical claims. Although not every beneficiary taking Exjade or Jadenu had a target diagnosis recorded in the medical claims, this is not an unusual finding. The data does not indicate a significant problem with respect to inappropriate utilization of these medications.

TABLE 5: Number of Beneficiaries by Age at First Treatment and Prescence of Target Diagnoses During Observation Period

			Diagnoses Present in Medical Claims (Number of Beneficiaries)						
		Number of Beneficiaries Treated	Sickle Cell	Thalassemia	Myelodysplastic Syndrome	Hemochromatosis - Transfusions	Hemochromatosis - Other	Any Target Dx	No Target Dx
Age at First Treatment (Years)	2 - 9	23	10	0	0	19	2	20	3
	10 - 20	54	18	1	0	24	1	36	18
	21 +	69	41	0	0	28	5	48	21
	TOTAL	146	69	1	0	71	8	104	42

Table 6 shows the number of beneficiaries by the number of Exjade and Jadenu prescriptions they had filled during the observation period. Only 12 of the 79 beneficiaries who have taken Jadenu did not have prior treatment with Exjade during the observation period. It is not known if these beneficiaries had tried Exjade prior to January 2014. Although Jadenu has only been on the market for a few months, the utilization observed indicates that Exjade patients are being switched to Jadenu.

TABLE 6: Number of Beneficiaries by Number of Exjade and Jadenu Prescription Fills					
		Number of Rx Fills for Jadenu			
		0	1	2	3+
Number of Rx Fills for Exjade	0	0	6	2	4
	1	12	3	2	1
	2	13	7	3	2
	3+	42	12	14	23

CONCLUSIONS AND RECOMMENDATIONS:

Jadenu is a new formulation of Exjade, with the advantages of palatability and compliance.

- Utilization of deferasirox has increased significantly with the introduction of Jadenu.
- Although there are only a limited number of beneficiaries receiving treatment, this number has the potential to increase, which will result in an increase in the total cost of this therapy.
- The amount paid for treatment with Jadenu is comparable to treatment with Exjade.
- However, the net cost of Exjade to DOM may be lower since it has been on the market longer and may have a larger Federal rebate.
- Current utilization of deferasirox appears to be clinically appropriate with respect to the conditions being treated, the age of beneficiaries being treated, and the type of providers prescribing the products.
- The only area for potential utilization control could be in requiring a diagnosis. However, this will most likely just result in assuring documentation of a diagnosis and is unlikely to have a significantly impact on utilization since more than two-thirds of current patients were found to have a diagnosis already present in the medical claims.

Actions Needed From DUR Board:

- Provide comments on report.
- Recommendation that Goold Health Systems (the UPDL vendor) evaluate the net costs after rebates for Jadenu and Exjade to determine if they need to refer these products to P&T Committee for placing these products on the UPDL and/or recommending clinical edits be developed, if appropriate.