A Study on Generic Prescription Substitution Policy as a Cost Containment Approach for Michigan's Medicaid System

Khandaker Nayeemul Islam
Western Michigan University, khandaker.n.islam@wmich.edu

Follow this and additional works at: https://scholarworks.wmich.edu/ichita_transactions

Part of the Health Information Technology Commons

WMU ScholarWorks Citation
https://scholarworks.wmich.edu/ichita_transactions/42

This Article is brought to you for free and open access by the Center for Health Information Technology Advancement at ScholarWorks at WMU. It has been accepted for inclusion in Transactions of the International Conference on Health Information Technology Advancement by an authorized administrator of ScholarWorks at WMU. For more information, please contact wmu-scholarworks@wmich.edu.
A Study on Generic Prescription Substitution Policy as a Cost Containment Approach for Michigan’s Medicaid System

Khandaker Nayemul Islam, Ph.D. candidate,
School of Public Affairs and Administration
Western Michigan University
Phone: 269-830-3554, email: khandaker.n.islam@wmich.edu

Abstract: High health care costs have left millions of people unable to buy health insurance and has broadened the state’s responsibility to protect low-income families through Medicaid programs. Increasing health care costs have created severe toll on fiscal management of federal and state governments. Prescription drugs are a significant part of Michigan’s Medicaid costs. Due to the economic recession and the downsizing of auto sector the number of Medicaid beneficiaries in Michigan has increased over the years. Thus it has increased Medicaid prescription drugs program costs at a fast pace, which creates fiscal burden on Michigan in administering the program and providing prescription drugs for its beneficiaries. Michigan has implemented several strategies for cost containment of Medicaid since 2001. These strategies have brought modest results in terms of cost containment in Medicaid prescription drugs program. This study examined whether a generic substitution policy of Medicaid prescription drugs in Michigan would be an efficient and effective cost-containment strategy. In doing so, it emphasizes three questions: First, will a generic substitution policy be an efficient strategy in containing Medicaid prescription drug program costs for Michigan? Second, if not in general, are there any “heavily used” brand drugs for which generic substitutes are available that can Michigan safely reduce Medicaid costs by implementing a higher use of generic substitution, thus saving the state in prescription drug costs through the generic substitution policy? Third, if the answer is yes for the two previous questions, then approximately how much money can Michigan save per year by implementing the generic substitution policy? This research found generic substitution policy as an efficient way in cost containment in Michigan Medicaid prescription drugs program.

INTRODUCTION

The cost of rising health care, especially Medicaid costs, have taken a tremendous toll on the fiscal management of the federal and state governments, because of the responsibility of financing the Medicaid program to ensure health care for the low-income groups of the population. Currently, states have spent almost 16% of their budget for Medicaid, which is the second largest item in the budget for most (Kaiser Foundation, 2010). This responsibility has been broadened significantly by the Patient Protection and Affordable Care Act (P.L. 111-148) commonly known as the health care reform bill signed by President Obama on March 23, 2010. In Michigan, due to the effect of the recent federal health care reform bill, it is estimated that the Medicaid expansion will add 375,000 individuals to the Medicaid program (Angelotti and Fosdick, 2010). Both federal and state governments have launched policies/strategies to control health care costs. Thus, and especially in the current economic downturn, Medicaid cost containment has become one of the focal points of federal and state governments’ fiscal policy. More and more studies are being conducted, searching for reasons for health care cost escalation and ways to contain Medicaid costs (James and Bayley, 2006; Delaune and Everett, 2008; Dalen, 2010, Kelly and Fabius, 2010).

Background - Medicaid Prescription Drug Costs in Michigan

In 2007, one and half million Michigan low-income residents received health care coverage through Medicaid at an annual cost of $9 billion (Fairgrive and Stauff, 2007). One in every seven Michigan people or 15% of the total Michigan population depends on Medicaid. More than 30% of Michigan’s 2.5 million children were enrolled in Medicaid in 2007. Seventy-five percent of Medicaid recipients are from lower income families, including pregnant women, children, and parents or other care-giver relatives (Fairgrive and Stauff,
Medicaid has received significant attention as a potential source due to its potential advantages over any other containment efforts. Of all the policies and strategies for cost containment, savings from prescription drugs in Medicaid has received significant attention as a potential source due to its potential advantages over any other structural or policy adjustment in this regard (Kibicho, 2006). Michigan has implemented the following four specific policies to contain Medicaid prescription drug costs: 1) in February 2002, introducing a preferred drug list for Medicaid beneficiaries known as the Michigan Preferred Product List (MPPL); 2) in February 2003, implementing the Michigan Multistate Pooling Agreement (MMSPA), a joint purchasing arrangement with Vermont, also known as the National Medicaid Pooling Initiative (NMP); 3) in November 2003, establishing a maximum allowable cost for pharmacy reimbursement; and 4) in May 2004, coordinating a Michigan multi-state purchasing arrangement (Kibicho, 2006). Although these cost-containment initiatives contributed a considerable savings, in reality, these cost-savings strategies achieved only modest success in limiting the escalation of Medicaid prescription drug expenditures in terms of total state shares (Grabowski, 2008).

In containing costs of prescription drugs, a generic substitution policy has received considerable attention. Research findings show that increases in the use of generic drugs for prescriptions can reduce a significant amount of costs for the Medicaid program (DHHS, 2010; OIG, 2006). Additionally, the DHHS (2010) stated that the quality of generic drugs is similar to brand-name and non-generic drugs, while generic drugs are priced much less compared to brand-name/non-generic drugs (DHHS, 2010; OIG, 2006). In recent times, ten states (Florida, Kentucky, Massachusetts, New Jersey, New Mexico, Oregon, Rhode Island, Tennessee, West Virginia and Wyoming) have implemented a generic substitution policy for Medicaid prescription drugs (Shrank et al., 2010).

In the context of Michigan Medicaid prescription drug cost containment, a generic-substitution policy becomes a viable option because Michigan has the potential to use more generic substitutions. A report prepared by DHHS determined that in 2004 55% of drugs prescribed to Michigan Medicaid patients were generic (Grabowski, 2008). According to Cox et al. (2006), the generic fill rate in Michigan was 52.7% in 2006. 2009 data of Center for Medicare and Medicaid (CMS) shows that a total of only 66% generic drugs are utilized for Medicaid beneficiaries, which, can be considered moderate. According to CMS data 2009, a 1% increase of generic drug use could potentially save the Michigan’s state share $4,616,125, and a 5% increase in generic use could save the state share over $23 million. Based on the CMS estimate Michigan can save nearly $64.5 million a year in Medicaid prescription drugs if it can optimize the use of 80% of generic drugs instead of the current 66% use of generic. A Lewin Group (2011) report estimated that Michigan can save a net $453.5 million over the next ten years (from 2012 to 2021) if the Medicaid pharmacy program—including increased amounts of generics in Medicaid prescription drug use—was optimally managed. All this previous research and data suggest that Michigan can increase generic substitutions at least 14% to 23% and even more to achieve the maximum limit of using generic drugs and thus, can save a significant amount of money from its Medicaid prescription drug expenditures.

The present study emphasizes two crucial issues related to Medicaid cost containment in Michigan. First, this study asks, if implementation of a generic substitution policy be an effective and efficient strategy for containing prescription drugs costs in Michigan Medicaid? Second, if yes, then what amount Michigan can save by the generic substitution policy and from which therapeutic classes?

**RESEARCH APPROACH, DESIGN AND METHODOLOGY**

The current study uses a cost benefit approach in examining the above-mentioned research issues and to analyze the potential savings by a generic substitution policy regarding cost containment of prescription drugs in the Michigan Medicaid program. The cost-benefit analysis is “a technique for systematically estimating the efficiency impacts of policies” (Weimer and Vining, 2005, p. 380). In the policy context “a particular matching of resources to use is efficient if and only if there exist no better alternative allocation of those same resources” (Munger, 2000, p. 32). In other words, efficiency can be defined as an effort to achieve as much public good as possible for the available dollars, and accomplish a public goal by using the fewest possible dollars (Fredericson, 1997).

Despite the criticism of cost benefit analysis in analyzing public policy, arguing that the approach ignores issues of fairness, social equity, social justice, and ethics, which are derived from constitutional, political, and judicial bases of public administration (Rosenbloom, 1983), advantage of using cost-benefit analysis in the current study is apparent. As Stokey and Zeckhauser (1978) argued “One of the great virtues of benefit-cost approach is that
the interests of individuals who are poorly organized or less closely involved are counted...The benefit and cost accruing to all—to the highway builders, the environmentalists, the ‘little people,’ the users and providers of services, the taxpaying public—will be counted on a dollar-for-dollar basis. Benefit-cost analysis is a methodology with which we pursue efficiency and which has the effect of limiting the vagaries of the political process” (p. 151). Besides, cost benefit approach works better when policy deals with efficiency measures, as its emphasis is on the cost issue of any public policy (Weimer and Vining, 2005).

Assumptions

The current research makes the following assumptions regarding the proposed hypotheses:

1. Generic drugs are similar to single-source or brand drugs in treating diseases. The reason for this assumption is that generic drugs are chemically identical to single-source brand drugs (OIG, 2006). Additionally, the Food and Drug Administration (FDA) states that generic drugs are not only therapeutically equivalent to brand drugs but are also required to have the same active ingredient and the same strength, dosage form, and route of administration as the brand name (or reference) product. In addition, a generic drug must be bioequivalent to the brand drug; that is, there must be no significant difference between the generic and brand product in the rate or the extent to which the active ingredient is delivered to the patient. There can be some variability between brand name and generic drugs, but the FDA puts limits on how much variability is acceptable (DHHS, 2010).

2. Pharmacies cannot or will not increase costs of generic drugs to make up for lost profits on single-source brand drugs.

Figure 1: Model of cost benefit analysis- status quo and mandatory generic substitution policy
Hypothesis

Based on the research questions, the current study examined the following specific hypothesis:

In case of some brand drugs or therapeutic classes Michigan may have the potential to reduce Medicaid prescription drug costs by mandating a higher use of generic substitution whenever available by the generic substitution policy. By using the cost benefit analysis the current research analyzed the following specific policies regarding Michigan Medicaid prescription drug costs:

1) Status quo or the current policy regarding Medicaid prescription drug without mandating generic substitution.
2) Introducing a new alternative policy regarding Medicaid prescription drugs by mandating generic substitution where available.
3) In analyzing the potential generic substitution policy for Michigan Medicaid prescription drugs, the program’s major components of cost and benefit are as follows: yearly costs/expenditures (for sample data set) of prescription drugs, total state share of Michigan in prescription drugs reimbursement, and potential total savings of Michigan in Medicaid prescription drugs reimbursement. A diagrammatic representation of the model is shown in Figure 1.

The main idea is to examine whether a mandatory use of higher percentage of generic drugs in Medicaid prescription drugs program can benefit the state of Michigan more than the status quo or existing policy of not mandating the use of generic drugs in the Medicaid prescription drug program in terms of cost savings. If an alternative policy (policy 2) can achieve more benefits, then it is better than the status quo.

DATA COLLECTION METHOD

The current research uses State Drug Utilization data and CMS 64 Quarterly Expense data provided by the Center for Medicaid and Medicare Services (CMS). These data sets are used by Shrank et al. (2008), Shrank et al. (2010), and Brill (2011) in analyzing costs and savings issues of state Medicaid programs. For this purpose, data of 1999 and every other year from 2002 to 2010 have accessed for Michigan.

By using the descriptive measure of averages, the current research calculates percentage of state share in Medicaid, generic utilization rate, generic prescribing rate, average cost of generics, total generic scripts, percent of generic scripts dispensed, single-source drugs prescribing rate, average costs of single-source drugs, total single-source drug scripts, and percent of single-source drug scripts dispensed for Michigan.

DATA ANALYSIS

The goal of the current research is to examine if Michigan can introduce a generic substitution policy to contain its prescription drug costs. In general, a generic substitution policy refers to a policy that mandates the prescription of generic drugs when available, instead of brand drugs or single-source drugs, although states have varied ways to implement this policy. Although Michigan has improved the use of generic utilization rate over the years, still there is scope to increase the current rate of generics in its Medicaid prescription drug program. One of the crucial issues in Medicaid prescription drugs cost containment is that costs of brand drugs include major shares of total expenditure of Medicaid prescription drug programs. For example,
### Table 1: MICHIGAN SAMPLE

<table>
<thead>
<tr>
<th>Year</th>
<th>MI Units Reimbursed</th>
<th>MI No. of Prescriptions</th>
<th>MI Amount Reimbursed</th>
<th>MI Medicaid Amount Reimbursed $</th>
<th>MI Non-Medicaid Amount Reimbursed $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>305816310.7</td>
<td>4749093</td>
<td>205047795.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2002</td>
<td>579294000.1</td>
<td>9995281</td>
<td>553806427.6</td>
<td>77818723.48</td>
<td>4634298</td>
</tr>
<tr>
<td>2004</td>
<td>719217135.9</td>
<td>12738792</td>
<td>784847037.3</td>
<td>216595625.5</td>
<td>13549157</td>
</tr>
<tr>
<td>2006</td>
<td>304193547.2</td>
<td>5171836</td>
<td>368336406.9</td>
<td>263460846.1</td>
<td>2441734</td>
</tr>
<tr>
<td>2008</td>
<td>233975864.9</td>
<td>3876283</td>
<td>421436081.4</td>
<td>380880959.4</td>
<td>40555122</td>
</tr>
<tr>
<td>2010</td>
<td>650376695.6</td>
<td>11308819</td>
<td>658795004.1</td>
<td>623213699.7</td>
<td>35581304.4</td>
</tr>
</tbody>
</table>

### Table 2: Brand Drugs with Therapeutically Equivalent (TE) Reimbursed in MI Medicaid: Unit, Amount, and Prescription

<table>
<thead>
<tr>
<th>Year</th>
<th>MI Brand drug unit reimbursed with TE</th>
<th>No. of prescriptions for Brand drug with TE</th>
<th>MI Brand drug with TE amount reimbursed in $</th>
<th>Brand Drug with TE reimbursed amount in MI Medicaid in $</th>
<th>Non Medicaid Brand Drugs with TE reimbursed amount in $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>96644743.02</td>
<td>1261508</td>
<td>72,921,904.31</td>
<td>11,637,213.74</td>
<td>4,38,818</td>
</tr>
<tr>
<td>2002</td>
<td>88991515.14</td>
<td>1279224</td>
<td>57,326,219.59</td>
<td>12,469,453.9</td>
<td>10,28,217</td>
</tr>
<tr>
<td>2004</td>
<td>91553571.26</td>
<td>1261508</td>
<td>47,645,639.14</td>
<td>16,820,737.41</td>
<td>12,37,590</td>
</tr>
<tr>
<td>2006</td>
<td>30153814.88</td>
<td>386506</td>
<td>16,820,737.41</td>
<td>11,710,460.61</td>
<td>12,37,590</td>
</tr>
<tr>
<td>2008</td>
<td>43394872.2</td>
<td>525216</td>
<td>39,698,035.96</td>
<td>35,759,334.02</td>
<td>44,69,075</td>
</tr>
<tr>
<td>2010</td>
<td>60138530.47</td>
<td>824309</td>
<td>39,790,835.66</td>
<td>35,759,334.02</td>
<td>40,31,501</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$274203372.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 3: MICHIGAN SAVINGS

<table>
<thead>
<tr>
<th>Year</th>
<th>MI Average per unit costs of brand drug</th>
<th>MI Average costs of per TE Brand prescriptions</th>
<th>MI Average per unit costs of generic drug</th>
<th>Avg. costs diff between TE brand and generics</th>
<th>Cost @ price of avg. generic $</th>
<th>Savings @ generics $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>0.754536</td>
<td>44.8132771</td>
<td>0.249658</td>
<td>24,128,086</td>
<td>48793818.05</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>0.644176</td>
<td>48.8132771</td>
<td>0.332965</td>
<td>29,631,041</td>
<td>27695178.62</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>0.520413</td>
<td>37.7687966</td>
<td>0.226987</td>
<td>20,781,428</td>
<td>26864210.73</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>0.557831</td>
<td>43.5199904</td>
<td>0.182533</td>
<td>5,504,079</td>
<td>11316658.1</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>0.914809</td>
<td>75.5842099</td>
<td>0.218089</td>
<td>9,463,956</td>
<td>30234079.59</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>0.661653</td>
<td>48.2717472</td>
<td>0.233959</td>
<td>14,069,953</td>
<td>25720882.39</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$41.46</td>
<td>$103,578,545</td>
<td>$170624827.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Calculation is based on CMS State Drug Utilization Data 1999-2010
approximately 53% brand drugs contained almost 91.5% costs of Medicaid prescription drug programs in Michigan in 2008. In 2010, approximately 21% brand drugs accounted for almost 95% costs of Medicaid prescription drug programs in Michigan. Thus higher generic substitution policy with various provisions has received significant consideration in the Medicaid prescription drug cost containment efforts.

By employing a descriptive statistics technique, I chose to calculate the simple average of different measures as mentioned before related to brand drugs with therapeutic equivalents or generics available in the market at the prescription period (Table 2&3). In doing so, first I categorized all reimbursed drugs under the Medicaid prescription drugs program into two groups—brand or generic—as State Drug Utilization data or CMS 64 Quarterly database do not provide brand or generic classification. Using the corresponding National Drug Code (NDC) of each drug provided by the State Drug Utilization database I cross-checked two FDA databases, Old National Drug Code Directory and National Drug Code Directory, to determine if a drug is brand or generic.

After determining the drug category, I selected all brand drugs that had therapeutically equivalent or generic available at the time of prescription in Michigan Medicaid prescription drug program. Then, I calculated the average unit price of those ‘brand-to- generic’ matches, and then I calculated the price difference between the total brand drug dispensed that had the therapeutically equivalent and the price of its generic equivalents, which could be the savings. I calculated this savings as the total amount reimbursed and the Medicaid amount reimbursed in sample years.

Research findings reveal that within the sample years of 1999-2010, the Michigan Medicaid prescription drug program spent approximately $274 million for brand drugs that had generic or therapeutically equivalent drugs available in the prescription period. At the average rate of available generic drugs within the sample years, these brand drugs could cost approximately a total of $103.5 million. Thus Michigan Medicaid could save a total of more than $170.5 million by prescribing only generics instead of brand drugs.

From a public policy context, findings of these descriptive statistics appear as valuable. For example, the average cost of per unit brand drug was 90 cents in 1999 and $3.88 in 2010, whereas the average costs of per unit generic drugs was estimated at 18 cents to 33 cents within 1999-2010. Similarly, average costs of per prescription with brand drugs is estimated at $37.75 to $75.58 within 1999-2010, whereas average costs of per generic prescription contained therapeutically equivalent generics varied from $11.94 to $20.43 within 1999-2010. Thus Michigan Medicaid prescription drug program could save approximately $49million, $28 million, $27 million, $11 million, $30 million and $25 million in 1999, 2002,2004,2006, 2008 and 2010 respectively by using generic drugs instead of brand drugs used that had generic equivalent available at the time of prescription.

Findings of the descriptive analysis are similar to other recent research findings. Brill (2010) analyzed 2009 Medicaid data reimbursement of all states for a selected twenty brand drugs and found $271 million in overspending in Medicaid prescription drug programs due to the use of brand drugs instead of generic.

In quest of the research hypothesis that if there exists any specific “heavily used” brand drugs where Michigan can save costs in prescription drugs, this research identifies ten specific drugs areas of savings. In doing so, this research uses Michigan 2010 Medicaid prescription data as the reference. All brand drugs with therapeutically equivalent prescribed are identified with total number of units, number of prescriptions, total amount and total medical amount. The ten most costly and highly prescribed brand drugs with therapeutic equivalents in the market are identified. For each of these ten brand drugs with therapeutic equivalents actual prescription drug program costs, average costs of actual per unit drugs, average costs of actual per prescription for brand drugs with therapeutically equivalent drugs; average costs of per generic drug unit in Michigan in 2010 are calculated. Then average costs of per unit brand drugs with therapeutically equivalent are calculated at the rate of average per unit generic drug costs, and finally savings are calculated by deducting the amount from actual reimbursement costs of brand drugs with the therapeutically equivalent and calculated amount at the rate of average per unit generic drug costs. Then the total amount of savings are calculated by adding savings of all ten brand drugs with therapeutically equivalent.
### Table 4: Brand drugs with Therapeutically Equivalent Reimbursement in Michigan Prescription Drug Program in 2010: Costs and Potential Savings

Table 4 shows that in 2010, Michigan Medicaid prescription drug programs reimbursed an estimated total of $17,764,179.3 for ten most “heavily used” brand drugs, which have generic equivalents. Research findings reveal that an average $0.23 per unit generic drug price in 2010 Michigan prescription drug program could save an estimated approximately $4.25; $2.0; $1.5; $2.0; $1.0; $1.0; $1.0; and $1.0 million respectively from these most reimbursed ten brand drugs such as ‘Plavix’, ‘Prograf’, Lamictal’ ‘Duragesic’ ‘Zithromax’ ‘Risperidon’, ‘Topamax’, ‘Trileptal’, ‘Pulmicort’ and ‘Depakotes’ as shown in the table. At an average rate of generic, these ten brand drugs could cost approximately only $1.5 million. In other words, 90% costs for these ten drugs could be offset by using generics.

### FINDINGS, RECOMMENDATIONS AND CONCLUSION

This research examined if there exist any “heavily used” brand drugs for which generic substitutes are available that Michigan can safely reduce Medicaid costs by implementing a higher use of generic substitution, thus saving the state share in prescription drug costs through the generic substitution policy? In addition this research also examined if the answer is ‘yes’ for the previous question, then approximately what amount can Michigan save per year by implementing the generic substitution policy?

Findings of the research are following:

1. Brand drugs with therapeutically equivalent that are prescribed could be a potential area of savings. In the case of Michigan’s Medicaid prescription drug program, savings could be significant if generic drugs are prescribed instead of brand drugs with a therapeutic equivalent.
2. Research findings reveal that within the sample years of 1999-2010 Michigan Medicaid prescription drug program spent $274.20 million for brand drugs that had generic or therapeutically equivalent drugs available in prescription period. At the rate of available generic drugs in those respective years these brand drugs could cost a total of $103.58 million. Thus, Michigan Medicaid could save a total of $170.62 million by prescribing only generics instead of those brand drugs.
3. The more specific area for potential savings for the Michigan Medicaid prescription drug program could be using more generic drugs, instead of prescribing brand drugs such as ‘Plavix’, ‘Prograf’, Lamictal’ ‘Duragesic’ ‘Zithromax’ ‘Risperidon’, ‘Topamax’, ‘Trileptal’, ‘Pulmicort’ and ‘Depakotes’. These are the top ten most expensive brand drugs, which have prescribed in the Michigan Medicaid prescription drugs program even though generic therapeutically equivalent available in the market for all these brands.

---

<table>
<thead>
<tr>
<th>FDA Approved drug name</th>
<th>Units Reimbursed</th>
<th>No. of Prescriptions</th>
<th>Actual Total BTE Amount Reimbursed ($)</th>
<th>Avg. cost per unit BTE ($)</th>
<th>Avg. cost per generic unit ($)</th>
<th>BTE costs @ per generic unit ($)</th>
<th>Avg. BTE cost per prescription @ per generic unit ($)</th>
<th>Savings of BTE cost @ per unit generic ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLAVIX</td>
<td>839193</td>
<td>27561</td>
<td>4,443,039.27</td>
<td>5.294419</td>
<td>0.233959</td>
<td>196,336.7874</td>
<td>7.12371784</td>
<td>4,246,702</td>
</tr>
<tr>
<td>PROGRAF</td>
<td>416732.1</td>
<td>3685</td>
<td>2,223,677.36</td>
<td>5.335987</td>
<td>0.233959</td>
<td>97,498.2495</td>
<td>2.6458141</td>
<td>2,126,179</td>
</tr>
<tr>
<td>LAMICTAL</td>
<td>374526</td>
<td>4048</td>
<td>1,867,966.3</td>
<td>4.987548</td>
<td>0.233959</td>
<td>87,623.7599</td>
<td>1.780,343</td>
<td></td>
</tr>
<tr>
<td>DURAGESIC</td>
<td>38524</td>
<td>4428</td>
<td>1,743,863.81</td>
<td>5.826955</td>
<td>0.233959</td>
<td>90,133.0832</td>
<td>1.734,851</td>
<td></td>
</tr>
<tr>
<td>ZITHROMAX</td>
<td>1136136</td>
<td>72139</td>
<td>1,623,367.64</td>
<td>5.428851</td>
<td>0.233959</td>
<td>92,502.0289</td>
<td>1.357,358</td>
<td></td>
</tr>
<tr>
<td>RISPERIDON</td>
<td>1620172</td>
<td>3025</td>
<td>3,374,779.71</td>
<td>0.84854</td>
<td>0.233959</td>
<td>379,053.7879</td>
<td>1.249971245</td>
<td></td>
</tr>
<tr>
<td>TOPAMAX</td>
<td>3841682</td>
<td>2785</td>
<td>1,312,345.86</td>
<td>4.618201</td>
<td>0.233959</td>
<td>66,483.7259</td>
<td>24.04474716</td>
<td></td>
</tr>
<tr>
<td>TRILEPTAL</td>
<td>1375522</td>
<td>4142</td>
<td>1,196,764.6</td>
<td>0.870044</td>
<td>0.233959</td>
<td>321,815.8161</td>
<td>874,948.8</td>
<td></td>
</tr>
<tr>
<td>PULMICORT</td>
<td>190546.1</td>
<td>2155</td>
<td>1,030,490.95</td>
<td>5.408094</td>
<td>0.233959</td>
<td>44,579.9748</td>
<td>20.68676315</td>
<td></td>
</tr>
<tr>
<td>DEPAKOTE S</td>
<td>2841682</td>
<td>2785</td>
<td>1,312,345.86</td>
<td>4.618201</td>
<td>0.233959</td>
<td>66,483.7259</td>
<td>24.04474716</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6823384</td>
<td>155668</td>
<td>17,764,179.3</td>
<td>1.730141</td>
<td>0.233959</td>
<td>128,177.9732</td>
<td>28.99954145</td>
<td>16,167,787</td>
</tr>
</tbody>
</table>

Source: calculated based on CMS’s ‘State Drug Utilization data’ 2010
4. Research findings show that an estimated $17.5 million was reimbursed for total ten most expensive brand drugs in the Michigan Medicaid prescription drug program in 2010, which have generic equivalent. At an average rate of generic these top ten brand drugs could cost only $1.5 million.

5. Thus, Michigan Medicaid prescription drugs program could save an estimated more than $16 million in 2010 by only prescribing generic instead of those top ten most expensive drugs.

Thus the current research finds a potential relationship between ‘generic substitution policy’ and Medicaid prescription drugs costs. The costs variation between brand drugs and the brand with therapeutic classes reveals an opportunity for the Michigan Medicaid program to save a significant amount by implementing ‘generic substitute policy.’

Figure 2 is a modified schematic representation of figure 1 as shown in page 4. In figure 2, a comparative cost benefit analysis is shown between “status quo” or having ‘no generic substitution’ policy and a policy of potential generic substitution policy in Michigan Medicaid prescription drugs program. Based on the findings it reveals that a generic substitution policy depicted as policy 2 is more efficient than “status quo” or policy 1 in terms of savings or in other words cost and benefit in real monetary term between policy 1 or status quo and policy 2 or mandatory generic substitution policy. It shows that Michigan could save over $170.5 million by using therapeutically equivalent generics instead of using brand drugs through a mandating a generic substitution policy within sample years of 1999-2010.

**Figure 2:** Model of cost benefit analysis in real monetary term- status quo and mandatory generic substitution policy
Cost increase in prescription drugs is a complex phenomenon. Many factors contribute to the cost escalation, which includes high cost of research and development, advance treatment, promotional and advertisement costs, growing groups of an aging population with more needs for prescription drugs, and higher insurance coverage for prescriptions. These factors and many others influence in escalating drug price and its utilization and thus overall costs for Medicaid prescription drug programs (Kreling, Mott, and Wiederholt, 2001). Thus, cost containment in Medicaid drug programs also needs multifaceted policies and actions. As already mentioned, Medicaid costs have appeared as the second largest expenditure for Michigan, and created severe pressure on state and local government. In the midst of cost escalation of Medicaid prescription drug programs, the Michigan state government must implement appropriate measures to tackle this issue. Implementation of a generic substitution policy could be a viable policy option for the state government of Michigan. Implementation of a generic substitution policy could be an effective and efficient measure to address the issue.

In containing costs of the Michigan Medicaid prescription drug program, implementing a generic substitution policy has some distinct advantages over any other strategies proposed for controlling Medicaid prescription drug programs from a public policy context. For example, implementing a generic substitution policy does not need to make huge fundamental structural change such as creating a new bureau for Medicaid cost control. Implementation of a generic substitution policy most probably has the lowest potential as a political challenge for state government than any other policy implementation, which includes such huge numbers of beneficiaries (Kibicho, 2006). One of the most intriguing advantages of implementation of a generic policy is that its outcomes are not uncertain, as some other states have already been implementing the same policy for years.

Thus analysis of this research provides a basis of the implementation of a potential generic substitute policy as an efficient approach in containing prescription drugs expenditure in the Michigan Medicaid program. This research, therefore, strongly suggests implementing a generic substitution policy without a prior consent provision for Michigan in containing costs of its Medicaid prescription drug program.

REFERENCES


Shrank, W. H., Choudhry, N. K., Agnew-Blais, J., Federman, A.D., Liberman, J. N.,


