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Beneficiary-Centered Assignment for Medicare Part D: Testing Alternative Approaches for Ten Beneficiary Portfolios in Five Regions

FINAL REPORT

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Executive Summary

Medicare's drug benefit (Part D) includes premium and cost-sharing assistance for low-income beneficiaries, including all dual eligible beneficiaries, those enrolled in Medicare Savings Programs, and others who meet certain income and asset requirements. Unless they select a plan on their own, the Medicare program assigns beneficiaries who receive the low-income subsidy (LIS) randomly to one of the qualifying plans in their region. Similarly, LIS beneficiaries are reassigned randomly when their previously assigned plan no longer qualifies for a full premium subsidy. In a 2007 report for MedPAC, we found that because of differences in plan formularies and cost sharing structures, there were large potential variations in both government and beneficiary costs for individual medications, depending on a beneficiary's random assignment.[1]

As opposed to random assignment, beneficiary-centered assignment would assign beneficiaries according to the best possible match between their current portfolio of drugs and the available plan formularies, according to a pre-determined set of rules. The goal of this project is to determine whether such an approach can reduce out-of-pocket costs for the beneficiary, the government's cost of subsidizing a low-income beneficiary, or ideally both. In addition to reducing costs, beneficiary-centered assignment would likely also reduce the confusion faced by the beneficiary as a result of being transferred to a plan that does not cover his or her drugs, from coverage under Medicaid or under a different Part D plan that did cover those drugs.

In this project, we developed 10 sample portfolios of drugs, based on actual spending by low-income beneficiaries in the MCBS. The beneficiaries in our sample – not designed to be statistically representative of the low-income population – all used at least four different drugs. We then determined beneficiary and government spending for those portfolios in every plan eligible for enrollment of low-income subsidy (LIS) beneficiaries in 5 different drug plan regions.

[1] Jack Hoadley, Laura Summer, Jennifer Thompson, Elizabeth Hargrave, and Katie Merrell, "The Role of Beneficiary-Centered Assignment for Medicare Part D," Final Report, submitted to MedPAC, June 2007, http://www.medpac.gov/documents/June07_Bene_centered_assignment_contractor.pdf.

We found compelling evidence that both beneficiary costs and government costs vary widely across the plans that are eligible to be assigned LIS beneficiaries. In particular, beneficiary costs can range considerably – in the most extreme case from about $160 to $6,600 out of pocket. The higher amount is nearly two-thirds of the total income for a single person at the poverty level.

The largest factor affecting cost differences across plans (for both the beneficiary and the government) is whether the beneficiary's drugs are off formulary in a particular plan. Unless the LIS beneficiary stops taking the off-formulary drug or switches to a different drug, he or she must pay the total cost and the government incurs no costs. Switching to a different drug might allow a beneficiary to minimize costs once placed in a given plan, but alternative drugs are not always clinically feasible and a switch always involves consultations with the beneficiary's physician. Furthermore, it is not practical to make assumptions about substitution when assigning beneficiaries to plans. Premiums are a less important factor driving cost differences. With some exceptions, premiums typically represent 10 percent or less of the government's costs.

In general, policies for beneficiary-centered assignment can generate significant savings for beneficiaries, especially when compared to the average results of random assignment. The plan that minimized beneficiary costs for an individual beneficiary saved the ten sample beneficiaries an average of about $525 (ranging from $1 to over $2,300) compared to assignment to the median plan (our proxy for random assignment). This assignment approach matches what an LIS beneficiary would select using the Plan Finder on the Medicare.gov website. An alternative approach that minimized the number of drugs off formulary was nearly as good for most beneficiaries, but added considerable costs for a few beneficiaries in some regions.

The government incurs some added costs for beneficiary-centered assignment compared to random assignment, depending on the assignment rule. Purely minimizing beneficiary costs resulted in government costs averaging about $150 more for the sample beneficiaries than in the "random" LIS plan. However, assigning beneficiaries to plans by minimizing the number of off-formulary drugs had only slightly higher government costs than the "random" plan. In any of these situations, higher government costs may be offset by lower medical costs such as the cost for additional physician visits to make prescription changes or monitor the effect of any changes. But this project has not attempted to estimate any such savings.

Expanding plan options to include some enhanced plans with basic premiums below the benchmark also has the possibility of saving money for both beneficiaries and the government. Considering a larger set of plan options offers opportunities to locate a plan that creates savings for either the beneficiary or the government.

Overall, policy options had similar effects across the five regions selected for this report. But in regions where fewer plans were eligible for LIS assignment, there was more variation in costs for both the beneficiary and the government. In these areas, beneficiaries are less likely to find at least

one plan with all their drugs on formulary. Thus, under every assignment rule we tested, beneficiary costs were higher in those regions.

Despite the added costs for the government, the approach to beneficiary-centered assignment that minimizes beneficiary costs may be a rational approach that can reduce both costs and uncertainty for low-income beneficiaries. Further refinement might make possible a decision rule that would assign beneficiaries to a plan that reduces the government's costs without a large effect on affordability for beneficiaries. (Although the additional options considered here did not accomplish that goal, it is possible that other options might do so.) Policymakers might also want to consider taking into account whether the assigned plan applies restrictions such as prior authorization to the beneficiary's current drugs.

Beneficiary-Centered Assignment for Medicare Part D: Testing Alternative Approaches for Ten Beneficiary Portfolios in Five Regions

The Issue

In creating the Medicare Part D benefit for outpatient prescription drugs, the Congress shifted all dually eligible beneficiaries from Medicaid drug coverage to Medicare Part D. To ensure that these beneficiaries were enrolled in time for the start of the program, the Centers for Medicare and Medicaid Services (CMS) assigned them to a plan. Beneficiaries retained the option of rejecting that assignment and choosing a different plan, as well as the option of switching plans any time during the year. To avoid steering beneficiaries into any particular plan and to help establish a stable Part D market for plans, CMS chose to assign beneficiaries randomly to eligible plans.

For a plan to receive a share of randomly assigned beneficiaries, it must offer a standard benefit (or one actuarially equivalent to the standard benefit) and not offer enhanced benefits. An eligible plan must also have a premium below a benchmark premium level set for each region based on an average of premiums for standalone drug plans and Medicare Advantage drug plans. After the benefit's first year, the federal government reassigns any beneficiary who had been randomly assigned to a plan that no longer meets the eligibility requirements. One exception allowed by CMS in 2007 and 2008, using its demonstration authority, was that a beneficiary enrolled in a plan with a premium exceeding the benchmark by a de minimis amount could remain in the same plan. Starting in 2009, CMS ended this demonstration.

The Medicare Modernization Act required that the average premium used in the benchmark calculations be weighted by plan enrollments, but CMS used demonstration authority to phase in enrollment weighting in 2007 and 2008. This has resulted in higher benchmarks than would have occurred with full enrollment weighting. Even with this phase-in, a substantial number of beneficiaries were randomly reassigned for both years. For 2009, CMS published a final rule establishing a new methodology for calculating the regional benchmark premium whereby benchmarks will be weighted based on enrollment of beneficiaries qualifying for the low-income subsidy (LIS) rather than total Part D enrollment. The agency suggested that this method, like the phase-in, will raise the benchmarks in at least some regions and thus reduce the number of reassignments from what it would have been under a full phase-in of enrollment weighting.

Beneficiaries may qualify for a low-income subsidy based on income and asset thresholds or through their enrollment in a state Medicaid program. LIS beneficiaries who enroll in an eligible plan (one with a premium below the regional benchmark) pay no premium. Furthermore, they pay only modest cost sharing for their drugs before reaching catastrophic coverage, and they do not have to meet a deductible or face a coverage gap.[2] The federal government pays plans for these costs on behalf of the subsidized beneficiaries, covering any difference between what the LIS beneficiary pays and what a non-subsidized beneficiary would pay in the same plan. The government does not cover the cost of any drugs that are off formulary or do not meet the plan's standards for prior authorization or other utilization management measures.

Our Previous Report

In our 2007 report for MedPAC, we considered the potential impact on beneficiaries and the federal government of using either random assignment or a system of beneficiary-centered assignment, to enroll eligible low-income beneficiaries to drug plans.[3] That report was based on both interviews with state officials who had experience with beneficiary-centered assignment and an analysis of how Medicare drug plans cover 100 drugs commonly used by Medicaid beneficiaries.

State officials reported on their successful experience with beneficiary-centered assignment in Medicaid and state pharmacy assistance programs, finding that its use was not costly to the state and did not disrupt the drug plan markets in their states. Officials further indicated that beneficiaries had improved access to drugs under this approach to assignment and saw a potential for savings.

In the data analysis for the 2007 report, we performed an analysis of costs to beneficiaries of individual drugs commonly prescribed for dual eligible beneficiaries. We found that there were substantial differences in whether particular plans list drugs on formulary and in the cost sharing amounts they apply to drugs (based on both benefit design and tier assignment). As a result, there were large variations across plans in both beneficiary and government costs for a given drug. Random assignment might place the beneficiary in a plan with the drug off formulary, leading to high beneficiary costs but low government costs. Or, random assignment might place the beneficiary in a plan with the drug on a non-preferred tier, giving the beneficiary access to subsidized copayments but leading to higher government costs than in other plans.

Based on this analysis, the report concluded that beneficiary-centered assignment could be designed to avoid situations where beneficiaries take drugs that are off formulary or face some type of

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[2] Some beneficiaries qualify for partial subsidies. They pay a partial premium, face a modified deductible, and are charged higher cost sharing amounts than other LIS beneficiaries.

[3] Jack Hoadley, Laura Summer, Jennifer Thompson, Elizabeth Hargrave, and Katie Merrell, "The Role of Beneficiary-Centered Assignment for Medicare Part D," Final Report, submitted to MedPAC, June 2007, http://www.medpac.gov/documents/June07_Bene_centered_assignment_contractor.pdf.

utilization management. Alternatively, it could be designed to reduce programs costs for federal and state governments. But policymakers need to decide how to balance these goals as well as other factors such as the disruption that could result from frequent reassignments and the implications that a revised system might have on risk selection and payment fairness.

The Beneficiary Portfolios

Because most beneficiaries actually take multiple drugs, it is important to understand whether these issues remain when looking at the costs for larger portfolios of drugs. The previous report did not take into account the complexities involved in moving beyond a drug-by-drug analysis nor of the impact of premiums and deductibles on total costs for beneficiaries and the government. For this report, MedPAC asked us to continue our analysis of the impact of current Part D random assignment policies for beneficiaries receiving the low-income subsidy. Specifically, MedPAC asked us to expand to an analysis of total program costs (including premiums, deductible, and copayments) for individual beneficiaries who take multiple drugs.

The first step was to select ten beneficiary profiles for individuals with multiple chronic conditions who qualify for the low-income subsidy based either on income or on enrollment in Medicaid. After considering several different data sources, we decided to base the selection of profiles on data from the 2004 Medicare Current Beneficiary Survey. The ten profiles were selected to provide variation in terms of beneficiary age, income, Medicaid status, number of drugs used, and variety of drugs used. The ten beneficiaries, given false names for ease of reference, are summarized in Table 1.

Table 1. Summary of Beneficiary Profiles

Portfolio	Has Medicaid	<$10K	Age	Sex	# of Drugs	Cardiovascular	Pain/Inflammation	Diabetes	Genitourinary	Depression	Thyroid Supp.	Gastrointestinal	Anti-psychotic	Respiratory	Dementia	HIV	Gout
Alice	Y	Y	74	F	5	X				X	X						
Betty	Y	Y	83	F	9	X	X										X
Carla	Y	Y	44	F	11	X		X									
Doris	Y	Y	92	F	4	X							X				
Ellen	Y	Y	61	F	10	X	X		X	X		X					
Frank	Y		65	M	6	X											
George		Y	70	M	8	X		X									
Helen		Y	73	F	15	X	X	X									
Irene	Y		85	F	5	X			X						X		
Jason	Y	Y	45	M	5									X		X	

A more detailed description of the methodology for selecting beneficiary profiles and collecting and analyzing the data for this report, along with complete lists of the drugs in each portfolio, is found in Appendix A. Because the purpose of the analysis was to look at beneficiaries using multiple drugs, we considered only beneficiaries with at least two drugs. Our selection process resulted in a group of beneficiaries each taking at least four drugs potentially covered by Part D. In the LIS beneficiary population as a whole, MCBS data show that 43 percent actually use two or fewer drugs. As a result, the ten beneficiary profiles selected for this analysis are not intended to be representative of the overall LIS population. Appendix A has additional summary information on the drug use of the LIS population.

Total drug costs vary widely across the sample beneficiaries and across plans. Frank's drugs are the least expensive overall. Including all costs paid by the beneficiary, the plan, or the government, total costs for his drugs are as low as $650 for the year in one plan. By contrast, total costs for Jason's drugs, which include some costly treatments for HIV/AIDS, were about $23,000. Most of the sample beneficiaries have costs between those extremes averaging around $5,000 annually.

Because the mix of plans qualifying for assignment of LIS beneficiaries varies considerably across drug plan regions, we tested the impact of different assignment policies in five regions that vary by geography, population, and in the number of eligible plans. Four single-state regions were selected – New York, Florida, Mississippi, and California – as well as Region 25, which covers seven states in the upper Midwest (Iowa, Minnesota, Montana, Nebraska, North Dakota, South Dakota, and Wyoming). In each state, a single zip code was selected for purposes of collecting data on drug coverage and prices. Table 2 summarizes key characteristics of the five selected regions.

Table 2. Summary of Differences among Selected Regions

Region (Zip Code)	2008 benchmark	Change 2007-2008	# of LIS PDPs (no waiver) 2008	# of LIS waiver PDPs 2008	Total # enhanced PDPs below benchmark 2008	Share of US duals
3 /New York (10001)	$24.18	-1.1%	12	3	8	8.7%
11/ Florida (33309)	$19.16	-15.3%	5	3	6	6.2%
20/ Mississippi (39202)	$31.35	-1.1%	13	2	15	2.1%
25/ Midwest (50303)	$30.61	+3.8%	14	2	15	3.4%
32/ California (91711)	$19.80	-5.8%	9	0	7	15.0%
Minimum across regions	$15.92	-25.5%	2	0		0.2%
Maximum across regions	$36.42	+11.1%	19	4		15.0%

In the main section of this report, we show results from a single region (region 3, which includes New York State). In general, we found the results in the other regions were similar to those for the New York region. Where the results from other regions lead to different conclusions, they are discussed in the report. The most significant characteristic driving differences appears to be the number of eligible plans. As shown in Table 2, two regions (Florida and California) have the fewest eligible plans compared to the other regions. These regions have lower benchmarks, at least in part because of the higher enrollment in Medicare Advantage plans in these regions. Selected tables for one of these regions (Region 11, Florida) are shown in Appendix B.

Variation in the Treatment of Drugs Across Plan Formularies

For each of our individual beneficiaries, there is modest variation in the total costs incurred for their portfolio of drugs from one LIS-eligible plan to the next, without regard to whether the plan or the beneficiary (or the government on behalf of the beneficiary) pays the costs for the drugs. Jason's total drug costs, for example, vary by less than 1 percent across the plans eligible for random assignment of LIS beneficiaries. But for a few people, total drug costs ranged more widely, with Frank's drugs roughly doubling in cost from the plan with the lowest prices to the plan with the highest. These variations tend to represent pricing differences across plans.

More important than the differences among plans in the total prices of drugs are variations in plan formularies, including both whether particular drugs are listed on formulary and the cost sharing assigned to the drugs. In our previous analysis of individual drugs, we found large variations across plans in costs faced by low-income beneficiaries and by the government. When considering a larger drug portfolio, cost differences among drugs do not cancel each other out. For most of our sample beneficiaries, both beneficiary and government costs vary widely depending on the assigned plans (Table 3). Variations in beneficiary costs are heavily driven by the appearance of off-formulary drugs. Variations in government costs are driven by copays for covered drugs (due in part to whether drugs are on non-preferred tiers or whether expensive drugs are on tiers with percentage coinsurance) and by plan premiums.

The least variation in both beneficiary spending and government spending is for Frank, whose drugs are all generic and thus uniformly covered with only small cost-sharing differences; George, whose drugs are nearly all generic with similar results; and Jason, whose drugs are mostly in protected classes and thus cannot be omitted from plan formularies.

Table 3. Range of Annual Spending by LIS Beneficiary and by the Federal Government, Region 3

	LIS Beneficiary Spending			Government Spending		
	Min	Median	Max	Min	Median	Max
Alice	$88	$1,160	$1,730	$498	$668	$1,549
Betty	$178	$1,039	$3,345	$867	$2,837	$4,182
Carla	$357	$815	$1,902	$2,613	$3,449	$4,141
Doris	$42	$74	$413	$771	$878	$1,396
Ellen	$161	$2,752	$6,622	$1,049	$3,845	$4,352
Frank	$24	$74	$76	$488	$646	$839
George	$70	$124	$125	$1,553	$2,005	$2,461
Helen	$487	$910	$1,600	$2,836	$3,967	$4,168
Irene	$93	$112	$1,027	$2,591	$3,646	$4,185
Jason	$38	$40	$41	$5,063	$5,153	$5,197

NOTE: Includes only LIS-eligible plans (without using the de minimis waiver). LIS beneficiary spending includes copayments for covered drugs and the full cost of off-formulary drugs. Government spending includes premiums plus the difference between the LIS copay and the plan's full copay for covered drugs.

For other beneficiaries, the plan assignment can make a large difference in costs for both the beneficiary and the government. For example, Ellen's out-of-pocket costs can vary from $161 to $6,622 depending on which plan she is assigned to randomly. For Ellen, that highest cost would represent nearly two-thirds of her income under the assumption that she is single with income at exactly the federal poverty level. Similarly, the government's costs for Ellen can vary from $1,049 to $4,352. Five of the ten beneficiaries face out-of-pocket costs of at least $800 in the median plan – representing about 8 percent of income at the poverty level.

One additional question of interest is the degree to which the government's costs are dependent on premiums. For below-benchmark plans, annual premiums for 2008 range generally between $200 and $300. As described above, total drug costs for our sample beneficiaries range from about $2,000 to $23,000 (although these totals include the share of costs that are incurred by the health plans during the initial coverage period and under catastrophic coverage regardless of a patient's low-income subsidy status).[4] For this set of 10 beneficiaries, premiums are generally less than half of the government's total costs, and often much less. For beneficiaries using fewer medications, premiums may be more of a consideration in plan assignment.

For each beneficiary, we can see the impact of premiums by comparing the share of total government costs on behalf of LIS beneficiaries in the plan (from Table 3 above) that represent the minimum possible government spending with the plan that has the highest government spending.

[4] A portion of these costs are subsidized by the government through premium subsidies and through reinsurance payments for drugs covered under the catastrophic phase of the benefit. These government costs, which are not unique to LIS beneficiaries, are excluded from this project.

Thus if Alice is placed in the plan with the lowest government spending, nearly half (48 percent) of the government's cost for that plan would be payment of the plan premium. By contrast, the premium represents only 17 percent of the government's cost if Alice is placed in the plan with the highest government spending. Across all beneficiaries and regions, premiums represent about one-fifth of the government's costs – but as Table 4 shows, that share can vary considerably.

Table 4. Plan Premiums as a Share of Government Spending on Behalf of Low-Income Subsidy Beneficiaries, Region 3

	Plan with Minimum Government Spending	Plan with Maximum Government Spending
Alice	48%	17%
Betty	28%	7%
Carla	8%	7%
Doris	34%	21%
Ellen	23%	7%
Frank	49%	32%
George	17%	10%
Helen	7%	7%
Irene	10%	7%
Jason	5%	5%

NOTE: Includes only LIS-eligible plans (without using the de minimis waiver). Government spending includes premiums plus the difference between the LIS copay and the plan's full copay for covered drugs.

Policies for Selecting an Optimal Plan for Beneficiary-Centered Assignment

The variations described in the previous section make it clear that an approach to assignment that ignores individual beneficiary differences comes at a potential cost to beneficiaries, the government, or both. The goal of beneficiary-centered assignment is to see whether an approach other than random assignment of beneficiaries into an eligible plan can reduce the remaining out-of-pocket costs for the beneficiary, the government's cost of subsidizing a low-income beneficiary, or ideally both types of costs. To the extent that this approach offers the best possible match between a beneficiary's current portfolio of drugs and the assigned plan's formulary, it should not only reduce the beneficiary's out-of-pocket costs but also reduce the amount of confusion faced by the beneficiary as a result of switching to the assigned plan from coverage under Medicaid or under a different Part D plan.

In the next several sections, we present several different assignment policies and look at total costs for the beneficiary and the government under these different policies. We also compare costs under these policies with a proxy for random assignment. In the last of these sections, we discuss the impact of expanding the range of eligible plans to some plans with enhanced benefits.

As identified in our previous report for MedPAC, beneficiary costs and government costs tend to be inversely correlated, that is, plans with low government costs for a particular beneficiary tend to have high out-of-pocket costs for the beneficiary. When a drug is not on a plan's formulary, the beneficiary is wholly responsible for paying the cost out of pocket if he or she wishes to continue taking that drug. Thus in general, the government tends to have lower costs and the beneficiary has higher costs when more drugs are off formulary. Even though a beneficiary in this situation could switch to an alternative drug or request an exception, doing so is often difficult.[5] Furthermore, there is no easy way during the assignment process to determine whether the particular drugs in question meet this criterion for a particular beneficiary. As a result of its high cost to the beneficiary, a policy of minimizing government costs was not tested further for this report.

The key policy question, if Medicare were to move to beneficiary-centered assignment, is how much the beneficiary should be asked to pay – or in other words, how to allocate the costs between the beneficiary and the government. In the next sections, we assess three assignment rules that each implement a different policy approach for beneficiary-centered assignment:

- Rule 1. Beneficiaries are assigned to the plan that would minimize beneficiary costs under LIS rules (if two plans are tied, we pick the plan with lower government costs).

- Rule 2. Beneficiaries are assigned to the plan that would minimize the number of off-formulary drugs that the beneficiary currently uses. Then, among the plans with the same number of off-formulary drugs, beneficiaries are assigned to the plan with lowest total amount charged by the plan for their drugs, regardless of how those costs will be split between the government and the beneficiary.[6]

- Rule 3. Beneficiaries are assigned to the plan that would minimize total costs paid per beneficiary, thus, the sum of the costs paid by the LIS beneficiary and the government's LIS costs (if two plans are tied, we pick the plan with the lower premium).

From the sole perspective of the beneficiary, the first rule would work best – and in fact is the plan that an LIS beneficiary would select using the Plan Finder. But in some cases, it may result in high government costs for small beneficiary gains. Some of the government costs for drugs might be

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[5] No data exist to date on how often beneficiaries facing this situation switch drugs, receive an exception, pay out of pocket, or stop taking the drug altogether.

[6] We also tried other versions of Rule 2, for example, by first minimizing the number of off-formulary drugs and then government costs. This version produces the best results for our set of ten beneficiary profiles.

offset by lower costs for other Medicare services (especially physician visits for new prescriptions or monitoring the impact of medication changes) that would be unnecessary with a better match of the beneficiary's drug needs to a plan. But incorporating such costs or savings is beyond the scope of this project.

The other rules represent two potential approaches to balancing government and beneficiary costs, particularly to avoid those cases where a small additional savings for the beneficiary comes at considerably higher government costs. The second rule is based on the premise that if plans can be identified with none of the beneficiary's drugs off formulary, then there is only minimal variation across plans in the beneficiary's remaining out-of-pocket costs. When that happens, the government might achieve savings relative to Rule 1. As we will show below, this rule may not work as well when no plan has all of a particular beneficiary's drugs on formulary. The third decision rule would minimize costs that would be paid by the beneficiary if he or she were not eligible for the low-income subsidy. This is the plan that would be identified on the Plan Finder as having the lowest overall costs for the non-LIS beneficiary. While this plan has the lowest overall costs, however, it may have significantly higher beneficiary costs under LIS if some drugs are off-formulary.

Throughout the analysis of these rules, we assumed that beneficiaries make no changes in the drugs they take to conform to plan formularies. We did assume throughout that generic drugs are substituted for the brand version of the same chemical entity. Therapeutic substitution among drugs in the same class may be appropriate for some patients and not for others, but making such a change can be difficult. At the least, it requires consultation with the patient's physician. In any case, it is unlikely that a plan assignment process could take into account whether it is appropriate to switch a particular drug for a particular beneficiary.

Example: One Beneficiary's Plan Options in One Region

Ellen's drug portfolio provides an interesting story with the nine plans in Region 32 (Table 5). Since Ellen's drug portfolio is one of the costliest of the ten studied for this report, it faces a more complex set of choices than many of the others. But it illustrates the types of issues that are possible in trying to assign beneficiaries to plans, and shows clearly that the choice of plans matters a lot from both Ellen's and the government's perspective.

None of the plans cover all ten of Ellen's current drugs, and in fact eight of the ten are off formulary for at least one plan (in another region, she can find a plan with all ten drugs and annual out-of-pocket costs of $160).[7] The number of drugs off formulary ranges from one in First Health Premier to six in Wellcare Classic. These cases create a direct tradeoff: When a drug is off formulary, Ellen

[7] As noted earlier, we chose not to consider options for therapeutic substitution in this analysis. For example, Ellen's doctor might likely be willing to substitute a different drug for Prevacid, the only off-formulary drug in First Health (as we learned in our focus groups, physicians are particularly comfortable with drug switches in this drug class).

pays the full cost; when it is on formulary, Ellen pays a very low cost and the government pays the rest of the copay, which can be quite high. Thus, Ellen generally does better where the government's costs are higher and worse where the government's costs are lower. As a result, Ellen's annual out-of-pocket costs with the LIS subsidy in place vary from $1,411 (Blue Cross) to $6,622 (Bravo Rx), while the government's costs range from $1,026 (Bravo Rx) to $4,187 (First Health Premier).

Table 5. Cost for Ellen's Drugs in LIS-Eligible Plans in Region 32 (California)

Plan	# of Off-Formulary Drugs	Costs of Drugs				Assignment Rule by Which Plan is Chosen
		Total, including Plan Share	Total for Non-LIS Beneficiary	Total for LIS Beneficiary	Total for Government	
First Health Premier	1	$8,779	$6,751	$2,564	$4,187	Rule 2
HealthSpring PDP	2	$7,620	$6,122	$2,286	$3,836	
Prescription Pathway Bronze	2	$7,695	$5,561	$1,472	$4,090	Rule 3
Blue Cross Medicare Rx Value	2	$7,753	$5,564	$1,411	$4,153	Rule 1
Health Net Orange Option 1	3	$7,675	$6,632	$3,456	$3,176	
MedicareRx Rewards Standard	4	$7,733	$6,216	$3,915	$2,301	
MedicareRx Rewards Value	4	$7,733	$6,548	$3,015	$3,533	Median "Random" Plan
Bravo Rx	5	$9,116	$7,648	$6,622	$1,026	
Wellcare Classic	6	$7,588	$7,415	$6,235	$1,180	

Under our random assignment proxy, Ellen is at risk for being assigned to one of the plans (Bravo Rx or Wellcare Classic) where her out-of-pocket costs would then be over $6,000 per year. Although the government's costs would be minimized (just over $1,000) with these assignments, the result would not be desirable. In such an extreme case, it seems more likely that Ellen (or someone assisting her) would figure out that she should pick a different plan.

The three rules proposed above lead to three different plan assignments, as shown in Table 5: Blue Cross (Rule 1), First Health Premier (Rule 2), and Prescription Pathway Bronze (Rule 3). Ellen can minimize her costs at $1,411 if she is assigned to Blue Cross even though it has two drugs off formulary because these drugs are less expensive overall than the single off-formulary drug for First Health Premier (her assignment under Rule 2). Thus Rule 2 would increase her costs by $1,153 compared to Rule 1 (Blue Cross). Rule 3 (Prescription Pathway Bronze, in this example) saves the government $63 compared to Blue Cross (or $97 compared to First Health Premier). But this plan adds $61 to Ellen's costs to save the government $63.

Under our proxy for random assignment (where we select the plan with the median value for beneficiary out-of-pocket costs, as elaborated further below), Ellen would be assigned to MedicareRx Rewards Value. Any of the three tested rules for beneficiary-centered assignment would save Ellen money over this randomly assigned plan – about $1,500 under either Rule 1 or Rule 3 and about $450 under Rule 2). Meanwhile, the government's costs would increase by about $550 to $650.

The next sections describe the range of outcomes across the ten beneficiaries.

Summary of the Impact of the Rules Across Regions

Before elaborating on how these rules work in individual cases for a single region, we consider the overall impact of the rules averaged across the ten beneficiary portfolios for each of the five regions (Figure 1).[8] As explained above, the ten portfolios were not selected to be representative of the overall low-income beneficiary population, and the averages presented here are simple unweighted averages of these ten cases and thus are not estimates of the LIS population. Furthermore, as noted in Appendix A, many LIS beneficiaries use two or fewer drugs – situations excluded from this analysis.

By definition, the lowest costs for the beneficiary are achieved under Rule 1. If Rule 2 is used, beneficiary costs rise by an average of $41. The government sees its costs reduced by an average of $150 under this rule. Under Rule 3, the government saves even more money on average (nearly $400), but this comes at the expense of nearly $200 on average for the beneficiary.

These overall results vary slightly by region (Table 6), and are affected by the number of plans qualifying for LIS assignments with premiums below the benchmark. Regions 11 (Florida) and 32 (California) have only 5 and 9 qualifying plans, respectively. In these areas, beneficiaries are less likely to find at least one plan with all their drugs on formulary. Thus, under every rule, beneficiary costs are higher in those regions. The last row of Table 6 shows the results averaged across the three regions we studied which each had 12 to 14 plans – regions 3 (New York), 20 (Mississippi), and 25 (upper Midwest). These regions have lower optimal beneficiary spending under Rule 1. Under Rules 2 and 3, the government saves more than in Regions 11 and 32, at a lower added cost for the beneficiary.

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[8] In this and the next three sections of the report, we only considered basic plans that are below the region's benchmark without applying the de minimis waiver rule. In a later section of the report, we show the impact of modifying that assumption.

Figure 1. Spending Under Three Beneficiary-Centered Assignment Rules (Average of 10 Beneficiaries across 5 Regions)

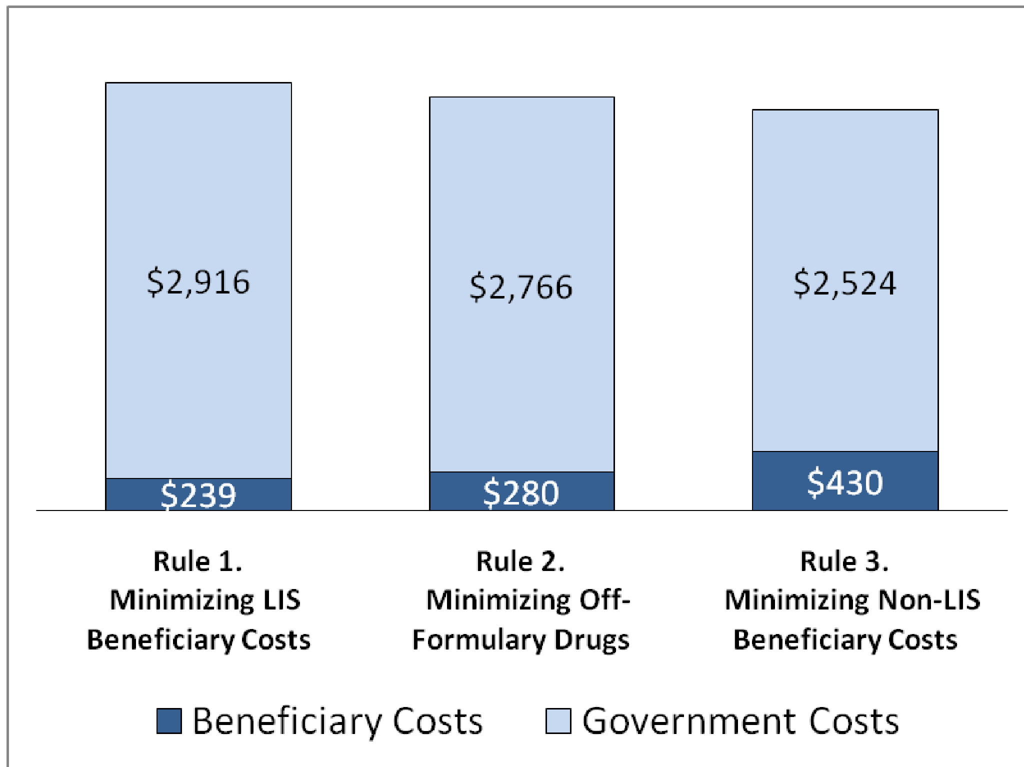


Table 6. Average Impact of LIS Assignment Rules, Five Regions

Region	Rule 1. Minimizing LIS Beneficiary Costs		Rule 2. Minimizing Off-Formulary Drugs		Rule 3. Minimizing Non-LIS Beneficiary Costs	
	Average Beneficiary Costs	Average Government Costs	Average Beneficiary Costs	Average Government Costs	Average Beneficiary Costs	Average Government Costs
3	$153	$2,921	$170	$2,745	$287	$2,565
11	$471	$2,757	$488	$2,654	$664	$2,423
20	$149	$3,014	$173	$2,777	$290	$2,607
25	$146	$3,020	$169	$2,851	$364	$2,578
32	$278	$2,868	$401	$2,805	$547	$2,451
AVERAGE	$239	$2,916	$280	$2,766	$430	$2,524
Difference from Rule 1			+$41	-$150	+$191	-$392
3 Regions with Most LIS Plans	$149	$2,985	+$22	-$194	+$165	-$402

Beneficiary-Level Impact of Three Rules for Assigning Plans

Before concluding that Rule 1 is the best rule, we consider how the rules work in more detail for individual beneficiaries. Here we first look at the plans to which beneficiaries would be assigned under the three rules, as well as the rule that would minimize government costs (Table 7). We also show the costs for the beneficiary and the government under each of the selections (Table 8).

Minimizing Beneficiary and Government Costs are Mutually Exclusive. As expected, the plan that minimizes LIS beneficiary costs is never the plan that minimizes government costs. In fact, Table 8 shows that the plan minimizing government costs is often substantially more expensive for the beneficiary. This establishes clearly that minimizing government costs is not a helpful rule for assigning beneficiaries.

Table 7. Optimal Plans, Region 3

	Rule 1. Plan Minimizing LIS Beneficiary Costs	Rule 2. Plan Minimizing Off-Formulary Drugs, then Non-LIS Beneficiary Costs	Rule 3. Plan Minimizing Non-LIS Beneficiary Costs	Plan Minimizing Government LIS Costs
Alice	Cigna One	Cigna One	Cigna One	CCRx Basic
Betty	Aetna Essentials	Cigna One	Cigna One	MedicareRx Rewards Standard
Carla	SilverScript	Prescription Pathway Bronze	Cigna One	Advantage Star
Doris	CCRx Basic	Cigna One	Cigna One	Cigna One
Ellen	Aetna Essentials	Aetna Essentials	Aetna Essentials	Bravo Rx
Frank	HealthNet Orange 1	CCRx Basic	CCRx Basic	CCRx Basic
George	HealthNet Orange 1	Cigna One	Cigna One	Cigna One
Helen	CCRx Basic	Cigna One	Advantage Star	HealthSpring PDP
Irene	CCRx Basic	Cigna One	Cigna One	HealthNet Orange 1
Jason	CCRx Basic	HealthSpring PDP	HealthSpring PDP	HealthNet Orange 1

NOTE: Includes only LIS-eligible plans (without using the de minimis waiver).

Table 8. Costs Under Optimal Plans, Region 3

	Rule 1. Plan Minimizing LIS Beneficiary Costs		Rule 2. Plan Minimizing Off-Formulary Drugs, then Non-LIS Beneficiary Costs		Rule 3. Plan Minimizing Non-LIS Beneficiary Costs		Plan Minimizing Government Costs	
	Bene Costs	Govt Costs	Bene Costs	Govt Costs	Bene Costs	Govt Costs	Bene Costs	Govt Costs
Alice	$88	$783	$88	$783	$88	$783	$1,158	$498
Betty	$178	$4,182	$182	$3,302	$182	$3,302	$3,343	$867
Carla	$357	$4,141	$367	$4,080	$765	$3,144	$1,355	$2,613
Doris	$42	$878	$75	$771	$75	$771	$75	$771
Ellen	$161	$4,352	$161	$4,352	$161	$4,352	$6,622	$1,049
Frank	$24	$499	$25	$488	$25	$488	$25	$488
George	$70	$1,669	$125	$1,553	$125	$1,553	$125	$1,553
Helen	$487	$4,047	$527	$3,929	$1,302	$3,065	$1,600	$2,836
Irene	$93	$3,489	$112	$3,105	$112	$3,105	$1,027	$2,591
Jason	$31	$5,167	$38	$5,088	$38	$5,088	$1,117	$5,063

NOTE: Includes only LIS-eligible plans (without using the de minimis waiver).

The Plans that Minimize Non-LIS Beneficiary Costs (Rule 3). The approach of minimizing non-LIS beneficiary costs is usually not the option with lowest costs for LIS beneficiaries, who do not have to pay premiums or higher cost sharing for non-preferred drugs. However, as shown in Table 8, beneficiary costs go up only modestly for most beneficiaries compared to Rule 1, with some exceptions. Carla and Helen would see out-of-pocket costs that are double or triple compared to those in their optimal plan ($765 versus $357 for Carla, $1,302 versus $487 for Helen). The approach under Rule 3 does, however, lower the government's costs.

Little Concentration by Plan. One concern of these non-random approaches is whether most beneficiaries would be assigned to just one or two plans. In fact, under Rule 1 the ten beneficiaries are assigned to six different plans. There is more concentration under Rule 2 and Rule 3, with six or seven beneficiaries being assigned to Cigna's Plan One in each case (although not all the same beneficiaries under each rule). The explanation seems to be that Cigna has the lowest average drug prices of all the plans across the universe of drugs in our sample. This result would thus reward plans for negotiating lower drug costs. (Premium is not the explanation, since Cigna has only the eighth lowest premium among the 12 eligible plans).

Plans Selected Under Rules 1 and 2. The plans selected under Rules 1 and 2 are frequently different. In fact, only Alice and Ellen keep the same plans under these two rules. However, in Region 3, out of our ten portfolios, the most beneficiary costs would go up under Rule 2 is $56 annually (Table 9).

Under Rule 2, the government saves an average of about $175 per beneficiary compared to the plan that minimizes LIS beneficiary costs. Thus, there is a tradeoff between the two rules: compared to Rule 1, Rule 2 creates a small extra cost for the beneficiary to achieve larger savings for the government. However, compared to the median under the status quo, both would lower beneficiary costs on average – as discussed in the next section.

This pattern of more government savings at a small cost to the beneficiary breaks down for one person in one region.[9] Table 10 is a replication of Table 9 for Region 32 (California). For nine of ten beneficiaries, there is a similar tradeoff between Rules 1 and 2 of modestly higher beneficiary costs for a larger savings for the government (though the government savings are more modest overall). But Ellen would face an increase of $1,153 in her out-of-pocket costs. The details of Ellen's case (as outlined earlier) show that Rule 2 puts her in a plan with a single expensive drug off formulary (Prevacid, $2,388 per year) whereas Rule 1 places her in a plan with two less expensive drugs off formulary (Skelaxin at $342 and Sular at $888 per year). The government spends about the same for Ellen in both plans.

Table 9. Change in Beneficiary and Government Costs, Plans Selected under Rule 2 versus Plans Selected under Rule 1, Region 3

	Change in Costs for LIS Beneficiary	Change in Costs for Government
Alice	$0	$0
Betty	$4	-$880
Carla	$11	-$61
Doris	$33	-$107
Ellen	$0	$0
Frank	$1	-$11
George	$56	-$116
Helen	$40	-$118
Irene	$19	-$383
Jason	$7	-$80
TOTAL	$171	-$1,756

[9] We tested a different version of Rule 2, which was costly to one person in two regions. It is difficult to generalize from the ten portfolios in this study to know how often any one approach would be substantially more costly.

Table 10. Change in Beneficiary and Government Costs, Plans Selected under Rule 2 versus Plans Selected under Rule 1, Region 32

	Change in Costs for LIS Beneficiary	Change in Costs for Government
Alice	$0	$0
Betty	$0	$0
Carla	$0	$0
Doris	$33	-$47
Ellen	$1,153	$34
Frank	$4	-$7
George	$0	$0
Helen	$18	-$110
Irene	$18	-$487
Jason	$8	-$16
TOTAL	$1,233	-$632

The question remains whether another approach to beneficiary-centered assignment would lower the government's costs without a substantial increase in the beneficiary's costs. Although we have already established that selecting the plan that minimizes the government's costs overall is not a good choice for the beneficiary, the large differences in government costs across plans may make it worth looking for another alternative. But it seems unlikely that any single alternative identifies the "best" mix of low beneficiary costs and low government costs.

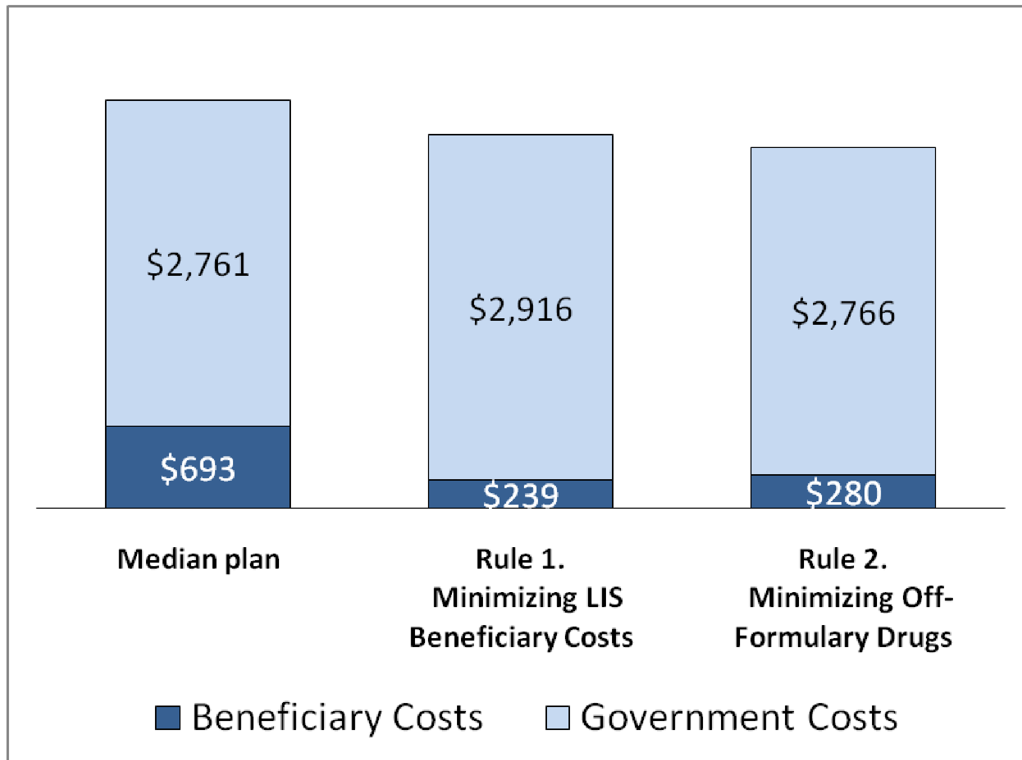
Comparing Beneficiary-Centered Assignment to Random Assignment

In the sections above, we have shown first that assignments matter – that both beneficiary and government costs can vary widely across the universe of below-benchmark plans. Second, we have identified two preferred rules for beneficiary-centered assignment among these plans, i.e., minimizing beneficiary costs and minimizing off-formulary drugs. To simplify the presentation, we exclude further presentation of Rule 3 results, since it seem less suitable than the other two assignment rules. In this section, we compare the results of applying those rules against the results under random assignment.

Instead of actually making a random assignment, we opted for an average plan – the "expected value" that results from random assignment. We selected the plan with the median LIS beneficiary costs so that we could use an actual plan, which would not be possible with the mean. Under actual random assignment, some beneficiaries with costly assignments would have substantial savings under the rules we are testing, while others would be randomly placed in the "best" plan.

On average, both Rule 1 and Rule 2 create substantial savings for our ten beneficiaries compared to the median plan, which we will call the randomly assigned plan (Figure 2). Under Rule 1, our ten beneficiaries spend an average of $454 less while the government spends an average of $155 more. Under Rule 2, our ten beneficiaries save nearly as much on average -- $413 -- compared to random assignment, while the government spends only $5 more than it would under random assignment.

Figure 2. Spending in "Random" (Median) Plan Compared to Two Beneficiary Assignment Rules (Average of 10 Beneficiaries in 5 Regions)



The picture is slightly more complicated when looking at individual beneficiaries (Table 11). The first two columns compare the plan that minimizes beneficiary costs (Rule 1) to the "randomly" assigned (median) plan. By definition, the plan that minimizes beneficiary costs always produces savings for the beneficiary. Those savings are over $100 for half of the ten beneficiaries and are greater than $1,000 for Alice and Ellen (and nearly so for Betty). For other beneficiaries, the change is minimal. As noted above, Rule 1 produces a net increase in costs for the government for the ten beneficiaries we selected. Specifically, the government saves money in four of the ten cases, but spends at least $200 more for Alice, Betty, Ellen, and Helen. In this region, the government's average cost for these ten portfolios is $148 more per beneficiary compared to the randomly assigned plan.

Table 11. Differences Compared to "Random" (Median) Plan, Region 3

	Rule 1. Plan Minimizing LIS Beneficiary Costs		Rule 2. Plan Minimizing Off-Formulary Drugs, then Non-LIS Beneficiary Costs	
	Extra Bene Costs (+) or Savings (-) Compared to Median Plan	Extra Govt Costs (+) or Savings (-) Compared to Median Plan	Extra Bene Costs (+) or Savings (-) Compared to Median Plan	Extra Govt Costs (+) or Savings (-) Compared to Median Plan
Alice	-$1,070	$285	-$1,070	$285
Betty	-$858	$1,229	-$853	$349
Carla	-$435	$27	-$425	-$33
Doris	-$31	$9	$2	-$97
Ellen	-$2,328	$474	-$2,328	$474
Frank	-$50	-$63	-$49	-$74
George	-$54	-$360	$2	-$476
Helen	-$417	$248	-$377	$130
Irene	-$19	-$371	$0	-$754
Jason	-$1	-$2	$6	-$82
TOTAL	-$5,263	$1,477	-$5,090	-$280

As expected for this region, beneficiary savings are only slightly reduced by the rule that assigns the beneficiary to the plan minimizing the number of off-formulary drugs (Rule 2). The government's position is shifted from a net cost to a small net savings for these ten beneficiaries. But as discussed previously, this alternative rule has different effects in Region 32. Table 12 shows the range of results across the five regions.

The results shown here confirm substantial beneficiary savings can be achieved in each region under either of the rules for beneficiary-centered assignment. However, if Rule 2 is used instead of Rule 1, beneficiary savings are reduced in every region, especially Region 32. As in Region 3, using beneficiary-centered assignment under Rule 1 costs the government money compared to random assignment on average across these ten portfolios. Switching to Rule 2 would leave the government essentially neutral compared to random assignment, with the government saving money in three regions and facing added costs in two regions. Without further refinement, this result comes at the expense of higher costs for certain beneficiaries (such as Ellen in California, discussed above).

Table 12. Impact of LIS Assignment Rules Compared to Random Assignment, Average of Ten Portfolios, Five Regions

	Rule 1. Plan Minimizing LIS Beneficiary Costs		Rule 2. Plan Minimizing Off-Formulary Drugs, then Non-LIS Beneficiary Costs	
Region	Average Beneficiary Savings (-)	Average Government Costs (+) or Savings (-)	Average Beneficiary Savings (-)	Average Government Costs (+) or Savings (-)
3	-$526	+$148	-$509	-$28
11	-$277	+$57	-$259	-$46
20	-$495	+$163	-$471	-$75
25	-$522	+$244	-$499	+$76
32	-$450	+$164	-$327	+$101
AVERAGE	-$454	+$155	-$413	+$5

As shown in Table 3, both beneficiary and government costs can vary substantially across the plans that qualify for assignment of LIS beneficiaries. Under the actual random assignment policy currently in use, a beneficiary could be assigned to a plan with much lower or higher costs than the median plan we use here to represent the "expected value" of the random assignment process. Thus, the costs or savings from assignments for the beneficiary or the government under either beneficiary-centered assignment rule could be much different than the average experience shown in Tables 11 and 12. One result of a beneficiary-assignment approach would in fact be the elimination of this uncertainty.

More extensive modeling would be required to determine how these government costs and savings would average out over the full LIS population. As noted earlier, our ten beneficiaries and five regions are not randomly selected from the population of LIS beneficiaries and are disproportionately users of multiple drugs. Furthermore, although the tables in this section could be the building blocks of an effort to score government costs or savings of a policy change to beneficiary-centered assignment, other factors would have to be taken into account for scoring purposes. For example, scoring would also have to take into effect beneficiaries who voluntarily shifted away from their randomly assigned plans. We can assume that these beneficiaries nearly always shifted toward plans that lower their costs and in doing so, would be switching to plans with higher government costs. This adjustment would lower government costs or increase government savings due to beneficiary-centered assignment, especially considering that those who can benefit most from switching plans are probably more likely to make such a switch on their own or with help from family members or counselors.

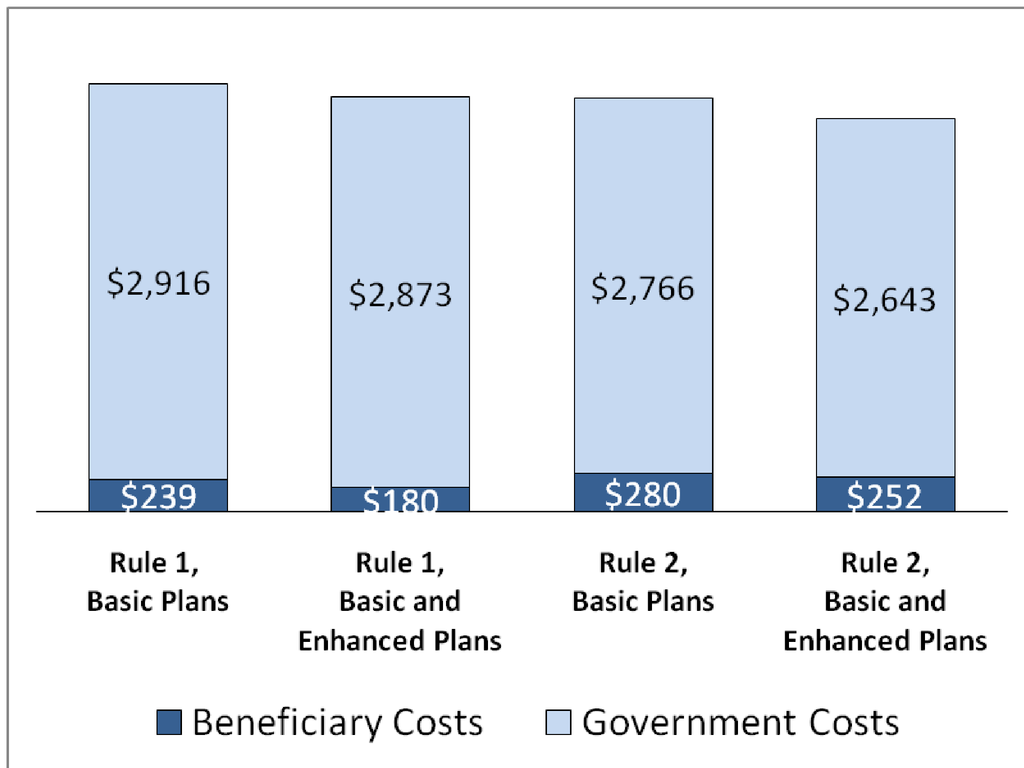
Broadening the Choices to Include Enhanced Plans

Under current policy, the government only assigns beneficiaries to plans that qualify as below-benchmark plans. As such, it does not consider plans that have higher premiums or plans that have enhanced benefits. It may turn out that removing the constraint of considering only below-benchmark basic plans could produce lower costs for the beneficiary, the government, or both. The policy we test here maintains the constraint that the plan's premium for its basic benefits must be below the regional benchmark. Thus, we expand the universe of plans to include enhanced plans whose premium for the basic portion of the benefits is still below the benchmark. This maintains the incentive for plans to submit low bids, while allowing either beneficiaries or the government to save money with the extra value in these enhanced plans. This is the same tradeoff considered by any beneficiary who uses the Plan Finder or other information to choose an enhanced plan when it leads to savings.

Under both Rule 1 and Rule 2, the inclusion of below-benchmark enhanced plans saves money for both beneficiaries and the government, on average across our ten beneficiary portfolios and five regions (Figure 3). Considering a larger set of plan options offers opportunities to locate a plan that creates savings for either the beneficiary or the government, and sometimes for both. However, the results are quite uneven across the ten sample beneficiaries and the five regions.

This expansion of the set of eligible plans nearly doubles the number of eligible plans across the five regions selected for this study. In Region 3, 8 plans would be added to the 12 that are eligible are current policy. In Region 11, where only 5 plans are eligible under current law, another 6 plans would become eligible under this policy option.

Figure 3. Spending Under Two Beneficiary Assignment Rules, With and Without Inclusion of Below-Benchmark Enhanced Plans (Average of 10 Beneficiaries in 5 Regions)



In Region 3, there are some beneficiaries who would be assigned to different plans with more plans in the mix (Table 13). Two beneficiaries get different assignments under Rule 1, while five would get different assignments under Rule 2. Once again, there is no particular concentration of assignment to just a few plans.

Under the rule of minimizing beneficiary costs (Rule 1), there are essentially no changes to beneficiary costs in region 3 (Table 14). This table displays the change in beneficiary and government costs as a result of applying the same rules for selecting plans to the larger set of plans. By definition, beneficiary costs cannot be higher when using Rule 1 to select from the expanded set of plans. But the government's costs can be higher or lower in the newly elected plan. Thus, for example, in region 3, the government's costs are slightly higher for Carla and slightly lower for Alice.

Under Rule 2, the beneficiary's costs are relatively unchanged in Region 3 (Table 14). Beneficiary costs rise modestly for Carla and Ellen, because one of the enhanced plans has the same number of off-formulary drugs as before, and Rule 2 selects a plan with lower government costs. The government always does better under Rule 2 with the additional plan options included.

Table 13. Optimal Plans When Enhanced Plans are Allowed, Region 3

	LIS PLANS ONLY	WITH ENHANCED PLANS	LIS PLANS ONLY	WITH ENHANCED PLANS
	Rule 1. Plan Minimizing LIS Beneficiary Costs		Rule 2. Plan Minimizing Off-Formulary Drugs, then Non-LIS Beneficiary Costs	
Alice	Cigna One	Humana Enhanced	Cigna One	Humana Enhanced
Betty	Aetna Essentials	Same	Cigna One	Same
Carla	SilverScript	Prescription Pathway Gold	Prescription Pathway Bronze	First Health Secure
Doris	CCRx Basic	Same	Cigna One	First Health Secure
Ellen	Aetna Essentials	Same	Aetna Essentials	Humana Enhanced
Frank	HealthNet Orange 1	Same	CCRx Basic	Same
George	HealthNet Orange 1	Same	Cigna One	Same
Helen	CCRx Basic	Same	Cigna One	Same
Irene	CCRx Basic	Same	Cigna One	SilverScript Plus
Jason	CCRx Basic	Same	HealthSpring PDP	Same

Table 14. Change in Costs for Same Decision Rules When Options are Expanded to Include Enhanced Plans, Region 3

	Rule 1. Plan Minimizing LIS Beneficiary Costs		Rule 2. Plan Minimizing Off-Formulary Drugs, then Non-LIS Beneficiary Costs	
	Change for LIS Beneficiary	Change for Government	Change for LIS Beneficiary	Change for Government
Alice	$0	-$74	$0	-$74
Betty	NA	NA	NA	NA
Carla	-$1	$60	$15	-$238
Doris	NA	NA	$0	-$128
Ellen	NA	NA	$29	-$68
Frank	NA	NA	NA	NA
George	NA	NA	NA	NA
Helen	NA	NA	NA	NA
Irene	NA	NA	$0	-$228
Jason	NA	NA	NA	NA
TOTAL	-$1	-$14	$44	-$736

In some of the other regions, there are cases of substantial savings for the beneficiary as a result of considering enhanced plans (Table 15). In region 11, Alice would save $438 and Betty would save $842 under Rule 1, while Ellen would save $1,221 in region 32 under the same rule – leading to more substantial average savings in those regions. Because these two regions have fewer eligible plans under current rules, the additional plans are more likely to include options with more drugs on formulary for our beneficiaries. For the government, the added options lead to savings in four of the five regions under Rule 1. Under Rule 2, both the beneficiary and the government experience savings as a result of the additional plan options on average across our ten beneficiary portfolios. However, beneficiary savings are due to the fact that Ellen's out-of-pocket costs are substantially lower ($2,374 less than that paid in the assigned plan based on Rule 2 among the current-policy set of options) in Region 32. In the other four regions, beneficiaries experience a small increase in costs when enhanced plans are considered under Rule 2.

Table 15. Changes in Costs When Options are Expanded to Include Enhanced Plans, Five Regions

	Rule 1. Plan Minimizing LIS Beneficiary Costs		Rule 2. Plan Minimizing Off-Formulary Drugs, then Non-LIS Beneficiary Costs	
Region	Average Change for LIS Beneficiary	Average Change for Government	Average Change for LIS Beneficiary	Average Change for Government
3	$0	-$1	+$4	-$74
11	-$133	+$59	+$81	-$110
20	-$19	-$113	$0	-$107
25	-$20	-$142	+$5	-$215
32	-$122	-$18	-$232	-$111
AVERAGE	-$59	-$43	-$28	-$123

Other Questions

Would consideration of plans' utilization management restrictions affect plan selections?

In the analysis for this report, we did not take into consideration the utilization management restrictions that most plans apply to at least some drugs. For example, most plans require prior authorization before paying for certain drugs. In some cases, prior authorization is used to ensure that a drug is appropriate to the clinical circumstances of a particular patient, so the requirement

should not be an obstacle to obtaining the drug if the circumstances are appropriate. But we have learned in focus groups conducted for the Commission that such requirements nearly always delay the patient's prescription and that sometimes patients or doctors fail to complete the necessary procedures and the patient goes without the drug.[10]

A beneficiary-centered rule could be designed to take into account plan utilization management restrictions. But the best choice for the beneficiary in any given case may be difficult to make. It may be reasonable to consider assigning beneficiaries to plans where their drugs are not subject to utilization management requirements, all else being equal (or even where out-of-pocket costs would be only modestly higher). We took a preliminary look at the potential impact of such a policy by considering how often drugs have prior authorization or step therapy requirements for Region 3 among the plans with the lowest out-of-pocket costs for the beneficiary, thus the plans selected under Rule 1 and those that came closest to the selected plans.

Of the ten beneficiaries in this study for Region 3, the plan selected for Betty under Rule 1 requires prior authorization for Celebrex and step therapy for Lescol. Betty's second-best plan in terms of cost includes neither of these requirements, and thus might be a better option from her perspective. The only other beneficiary where considering utilization management requirements might be a consideration is Ellen, whose lowest-cost plan has prior authorization required for three of her ten drugs (Celebrex, Prevacid, and Skelaxin) and step therapy for one (Lexapro). In her case, the next lowest-cost plan removes these requirements while applying step therapy to her Lipitor. But that plan triples her out-of-pocket costs from $161 to $504, so it is unclear which plan would be the better choice.

What is the potential for generic and therapeutic substitution in the therapeutic classes most used by dual eligibles?

In considering all of the examples for this report, we established the rule that beneficiaries' prescriptions would always be filled with a generic version of a particular drug, where available. This seems to be the normal expectation of patients and physicians, and the policies of many plans would tend to ensure that the generic substitution is made.

By contrast, we did not make any therapeutic substitutions for our beneficiaries. This would include both cases where a preferred brand drug could be substituted for a non-preferred brand drug or where a generic alternative could be substituted in the same class as the prescribed drug. Either of these situations normally requires the intervention of the physician to change the prescription, and

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[10] Elizabeth Hargrave et al., "Experiences Obtaining Drugs under Part D: Focus Groups with Beneficiaries, Physicians, and Pharmacists," Contractor report, May 2008, http://www.medpac.gov/documents/May08_PartDFocusGroup_CONTRACTOR_JS.pdf

cannot be made unilaterally by the plan or by the pharmacist. In focus groups we have conducted for MedPAC, we have learned that many physicians are willing to make such substitutions.[11]

Willingness to make substitutions varies by drug and by drug class. In one example raised earlier in the report, Ellen would have an option to substitute an on-formulary proton pump inhibitor for Prevacid, the drug she has been using. This class of drugs is an example of a class where evidence seems to support the willingness of physicians to make substitutions. Another drug used by several of our beneficiaries that is frequently off formulary is Lescol, one of the statins used to treat high cholesterol. Today there are three statins in this class that are off patent, and many plans now either list the brand-name alternatives (Lescol, Lipitor, and Crestor) on their non-preferred tiers or leave them off formulary. But the evidence on substitutability among statins is more mixed, and substitution for Lescol might not be appropriate for some patients.

In practice, in many situations where beneficiaries are assigned to plans with some of their drugs off formulary, physicians are likely to make substitutions. But as we have learned in focus groups, physicians sometimes require the beneficiary to come for an office visit to make that substitution or to come for additional office visits to monitor the patient for any adverse effects. In other cases, the patient may simply leave the pharmacy and not fill any prescription – at least until his or her next doctor's appointment.

Do cost differences change over time as prices and formularies vary? (i.e., how stable are cost differences among plans?)

We have not conducted an over-time analysis of price and formulary changes for this project. We know from other work on Part D drug benefits that formularies for the most part do not change within the year. The major exception is when new drugs are introduced or when drugs go off patent and new generic alternatives are approved for marketing.

We saw one example of the latter situation for the recently approved generic drug metoprolol succinate (equivalent to Toprol XL). In this case, we observed that some plans had not added the generic drug at the time of data collection (some plans seem to move more quickly than others in this regard). Because of the way the Plan Finder works, selecting the option for generic substitution (the default option in the Plan Finder) automatically changed the patient's drug to generic metoprolol succinate, whether or not the plan whose prices were being checked had added metoprolol succinate to its formulary. As a result, some plans showed metoprolol as being an off-formulary drug, even when the brand version of Toprol XL was on formulary. We treated this situation precisely the way the Plan Finder does and called the generic drug an off-formulary drug. In practice, the pharmacist would probably either get approval from the plan to fill the prescription with the generic alternative or would go ahead and fill the prescription with the brand version.

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[11] Elizabeth Hargrave et al., "Experiences Obtaining Drugs under Part D: Focus Groups with Beneficiaries, Physicians, and Pharmacists."

Plans are permitted to make price changes on a regular basis, and there is considerable anecdotal evidence that such changes occur. Several consumer-oriented groups have published studies showing price changes for the most prescribed drugs. In future work, we could compare prices obtained from the Plan Finder at different times.

If we analyzed the same beneficiary profiles with data collected several months after the data collected for this project, we would expect to find that changing prices would have led to some switches in which plan is the optimal plan under the various rules tested. The larger effects would be on the government's costs and on the costs to the beneficiary for any off-formulary drugs they have. But we would not expect to see systematic changes in the magnitude of costs and cost differences found in this report.

APPENDIX A – Methodology for Selecting Beneficiary Profiles and Detailed Descriptions of the Profiles

The 2004 Medicare Current Beneficiary Survey (MCBS) includes about 12,000 beneficiaries in its sample, of whom about 32 percent are low-income, based on our criteria of being Medicaid eligible or with an individual income below $10,000. Table A-1 shows several summary measures of drug use, and Table A-2 shows the distribution of the sample by number of drugs (distinct chemical entities) used per year.

For purposes of this summary, we defined spending, prescriptions, and drugs as referring to drugs that we could classify into a Part D covered drug class. Thus we exclude drugs that are by statute not covered under Part D as well as drugs with names that could not be matched (on average, we excluded 1 drug, 3 prescriptions, and $133 in spending). The number of prescriptions includes actual prescriptions filled over the year for the same drug and has not been converted into monthly prescriptions. The number of Part D drugs refers to the number of distinct chemical entities.

Table A-1. Drug Utilization and Spending by LIS and non-LIS Beneficiaries, 2004 MCBS

	Not LIS	LIS
Median Total Spending	$1,024	$695
Mean Total Spending	$1,627	$1,528
Median Number of Prescriptions	17	15
Mean Number of Prescriptions	23	26
Median Number of Drugs	4	3
Mean Number of Drugs	5.1	4.5
Share of Sample	68%	32%

Table A-2. Number of Prescriptions Taken by LIS and non-LIS Beneficiaries, 2004 MCBS

Number of Part D Drugs	Not LIS	LIS
0	15%	31%
1-2	16%	12%
3-4	20%	15%
5-7	25%	18%
8-12	20%	17%
over 12	5%	7%
Total	100%	100%

Although CMS staff does some cleaning of drug names before release of the survey data, there are still considerable variations in drug names. We matched drug names to the drug names in the database we created for analysis of Part D formularies (a separate project for MedPAC) and then hand-checked the most commonly occurring non-matching cases. Drugs were then grouped into drug classes. In the first step below, we used the drug class groupings for two reasons. It was easier to place some ambiguous drug names into a drug class, and frequency counts were substantially larger at the drug class level.

Step 1. We selected the 40 most commonly occurring pairs of drug classes in the entire MCBS (precisely all pairs based on the 32 most commonly occurring drug classes) – taking advantage of the larger size of the full sample. We then added 8 additional groups to ensure inclusion of certain health conditions or characteristics more common in the low-income population than elsewhere: individuals using drugs for Alzheimer's disease, HIV/AIDS, multiple sclerosis, Parkinson's disease, bipolar disease, those using any anti-psychotic drug, those using no cardiovascular drug, and those under 65.

Step 2. We defined the low-income population based on anyone who was either a Medicaid beneficiary or had individual income below $10,000.

Step 3. We randomly selected one low-income individual from each of the 48 "seed groups" described in Step 1 and identified the exact drugs for that particular person.

Step 4. After reviewing these 48 beneficiary profiles, we selected 10 profiles. In doing so, we considered demographic characteristics (age, income, Medicaid status), the number of drugs, and variations in drugs used across the selected individuals. Of the 10 selected profiles, 8 came from those selected based on commonly occurring pairs of drug classes (all from the 12 most commonly occurring pairs) and 2 came from the additional groups (specifically those selected based on drugs used for Alzheimer's disease and HIV/AIDS).

Step 5. For these 10 beneficiaries, we reviewed the actual drugs reported on the MCBS, considering details of the form, strength, and quantity of drugs used. Based on that review, we eliminated several drugs that appeared to represent switches during the year between similar drugs. We also filled in missing data for the form, strength, and quantity of drugs used. Although most drugs were for chronic use, we made sure that the quantity used for all reported instances of acute drugs was appropriate. The resulting drug profiles were reviewed by a practicing primary care physician, who made minor adjustments to ensure that the combination of drugs was appropriate. In all cases where generic drugs are currently approved for the market, we assumed that the prescription would be filled with the generic version. We did not introduce any new brand-name drugs that might have entered the market since the time the survey data were collected.

Step 6. We then assigned exact forms, strengths, and numbers of pills to each drug, based on a combination of information from the MCBS and the options available in the Medicare Prescription Drug Plan Finder – similar to the process used by any beneficiary in selecting a drug plan. Table A-3 provides the specifics of the final portfolios used for each of our ten sample beneficiaries.

Step 7. We then collected data from the plan finder for all drugs in the 10 profiles for the 5 selected regions (selecting a representative zip code in each region, but not designating any particular pharmacy) for all plans participating in Part D for 2008. Data were collected with assistance of Kosali Simon of Cornell University, using a web-crawler program, in December 2007 or January 2008.

Step 8. We developed software to calculate total plan, government, and out-of-pocket costs for each individual in each plan in each region, following current-law rules and then the options put forth in this report.

Table A-3. Drug Profiles for Ten Sample Beneficiaries

Drug, Form, and Strength as listed on Plan Finder	Form	Strength	Quantity used on Plan Finder
Alice: 74 years old, female, Medicaid, income under $10K			
Lescol XL TAB 80mg	TAB	80mg	30 per Month
LEVOTHYROXINE SODIUM TAB 100MCG	TAB	100mcg	30 per Month
METOPROLOL SUCCINATE ER TAB 200MG	TAB	200mg	30 per Month
QUINAPRIL HCL TAB 40MG	TAB	40mg	30 per Month
SERTRALINE HCL TAB 50MG	TAB	50mg	30 per Month
Betty: 83 years old, female, Medicaid, income under $10K			
ALLOPURINOL TAB 100MG	TAB	100mg	30 per Month
ATENOLOL TAB 50MG	TAB	50mg	30 per Month
Celebrex CAP 200mg	CAP	200mg	60 per Month
CLARITHROMYCIN TAB 500MG	TAB	500mg	14 Per year
HYDROCODONE/APAP TAB 5-500MG	TAB	5-500mg	30 Per year
Lescol CAP 20mg	CAP	20mg	30 per Month
Nifediac CC TAB 30mg ER	TAB	30mg	30 per Month
Plavix TAB 75mg	TAB	75mg	30 per Month
POTASSIUM CHLORIDE ER TAB 20MEQ ER	TAB	20meq	30 per Month
Carla: 44 years old, female, Medicaid, income under $10K			
Actos TAB 15mg	TAB	15mg	30 per Month
ATENOLOL TAB 50MG	TAB	50mg	30 per Month
Cozaar TAB 100mg	TAB	100mg	30 per Month
Folbee TAB	TAB		30 per Month
FUROSEMIDE TAB 20MG	TAB	20mg	30 per Month
Humalog INJ 100u/Ml	INJ	100u/Ml	10 ML VIAL, 1 per Month
Lantus INJ 100/Ml	INJ	100/Ml	10 ML VIAL,1 per Month
METFORMIN HCL TAB 500MG ER	TAB	500mg	120 per Month
QUINAPRIL HCL TAB 40MG	TAB	40mg	60 per Month
SIMVASTATIN TAB 80MG	TAB	80mg	30 per Month
Zyrtec-D TAB 5-120mg	TAB	5-120mg	30 per Month
Doris: 92 years old, female, Medicaid, income under $10K			
FUROSEMIDE TAB 40MG	TAB	40mg	30 per Month
HALOPERIDOL TAB 5MG	TAB	5mg	30 per Month
Plavix TAB 75mg	TAB	75mg	30 per Month
POTASSIUM CHLORIDE ER TAB 20MEQ ER	TAB	20meq	60 per Month
Ellen: 61 years old, female, Medicaid, income under $10K			
Celebrex CAP 200mg	CAP	200mg	30 per Month
Detrol TAB 1MG	TAB	1mg	30 per Month
ENALAPRIL MALEATE TAB 20MG	TAB	20mg	60 per Month
Lexapro TAB 10mg	TAB	10mg	30 per Month
Lipitor TAB 20mg	TAB	20mg	30 per Month
METOPROLOL SUCCINATE ER TAB 100MG	TAB	100mg	30 per Month
Prevacid CAP 30mg DR	CAP	30mg	30 per Month
RANITIDINE HCL TAB 150MG	TAB	150mg	90 Per year
Skelaxin TAB 800mg	TAB	800mg	120 Per year
Sular TAB 20mg CR	TAB	20mg	30 per Month

Continued on next page

Table A-3. Drug Profiles for Ten Sample Beneficiaries (continued)

Drug, Form, and Strength as listed on Plan Finder	Form	Strength	Quantity used on Plan Finder
Frank: 65 years old, male, Medicaid, income over $10K			
AMLODIPINE BESYLATE TAB 5MG	TAB	5mg	30 per Month
FUROSEMIDE TAB 40MG	TAB	40mg	30 per Month
HYDRALAZINE HCL TAB 50MG	TAB	50mg	30 per Month
ISOSORBIDE MONONITRATE ER TAB 60MG ER	TAB	60mg	30 per Month
METOPROLOL SUCCINATE ER TAB 25MG ER	TAB	25mg	30 per Month
SIMVASTATIN TAB 20MG	TAB	20mg	30 per Month
George: 70 years old, male, no Medicaid, income under $10K			
Actos TAB 45mg	TAB	45mg	30 per Month
FUROSEMIDE TAB 40MG	TAB	40mg	30 per Month
GLIPIZIDE TAB 10MG	TAB	10mg	60 per Month
LISINOPRIL TAB 20MG	TAB	20mg	30 per Month
LOVASTATIN TAB 20MG	TAB	20mg	60 per Month
METOPROLOL TARTRATE TAB 100MG	TAB	100mg	30 per Month
NIFEDIPINE ER TAB 30MG ER	TAB	30mg	30 per Month
WARFARIN SODIUM TAB 5MG	TAB	5mg	30 per Month
Helen: 73 years old, female, no Medicaid, income under $10K			
ALPRAZOLAM TAB 0.5MG	TAB	0.5mg	30 per Month
Cosopt SOL	SOL		5 ML BOTTLE, 1 per Month
DIGOXIN TAB 0.125MG	TAB	0.125mg	30 per Month
FUROSEMIDE TAB 40MG	TAB	40mg	30 per Month
Humulin N INJ U-100	INJ	U-100	10 ML VIAL,1 per Month
HYDRALAZINE HCL TAB 50MG	TAB	50mg	30 per Month
Lantus INJ 100/Ml	INJ	100/Ml	10 ML VIAL, 1 per Month
LISINOPRIL TAB 20MG	TAB	20mg	30 per Month
METOPROLOL SUCCINATE ER TAB 100MG	TAB	100mg	30 per Month
NITROGLYCERIN CR CAP 9MG CR	CAP	9mg	30 per Month
Plavix TAB 75mg	TAB	75mg	30 per Month
PRAVASTATIN SODIUM TAB 40MG	TAB	40mg	30 per Month
PROPOXYPHENE-N/APAP TAB 50/325	TAB	50/325	30 per Month
SPIRONOLACTONE TAB 25MG	TAB	25mg	30 per Month
Travatan SOL 0.004%	SOL	0.004%	2.50 ML BOTTLE, 1 per Month
Irene: 85 years old, female, Medicaid, income over $10K			
Aricept TAB 10mg	TAB	10mg	30 per Month
CARBIDOPA/LEVODOPA TAB 25-250MG	TAB	25-250mg	90 per Month
Namenda TAB 10mg	TAB	10mg	60 per Month
OXYBUTYNIN CHLORIDE ER TAB 10MG ER	TAB	10mg	30 per Month
SIMVASTATIN TAB 20MG	TAB	20mg	30 per Month
Jason: 45 years old, male, Medicaid, income under $10K			
Combivent AER	AER		14.70 GM inhaler,1 per Month
Invirase CAP 500mg	CAP	500mg	120 per Month
Norvir CAP 100mg	CAP	100mg	60 per Month
PROMETHAZINE HCL TAB 25MG	TAB	25mg	150 Per year
Viread TAB 300mg	TAB	300mg	30 per Month

APPENDIX B – Selected Tables from Region 11 (Florida)

In this Appendix, selected tables from the report are shown for Region 11 (Florida). As noted in the report, Florida has only five eligible plans – the fewest of any in this study. As a result, there are larger shifts in beneficiary costs across different assignment policies. The tables are numbered to match the corresponding tables in the main report.

Table B-7. Optimal Plans, Region 11

	Rule 1. Plan Minimizing LIS Beneficiary Costs	Rule 2. Plan Minimizing Off-Formulary Drugs, then Government LIS Costs	Rule 3. Plan Minimizing Non-LIS Beneficiary Costs	Plan Minimizing Government LIS Costs
Alice	Health Net Orange 1	Health Net Orange 1	Health Net Orange 1	Health Net Orange 1
Betty	CCRx Basic	Advantage Star	Advantage Star	Health Net Orange 1
Carla	Prescription Pathway Bronze	Prescription Pathway Bronze	Advantage Star	Advantage Star
Doris	CCRx Basic	CCRx Basic	CCRx Basic	Prescription Pathway Bronze
Ellen	Advantage Star	Advantage Star	Advantage Star	MedicareRx Rewards Standard
Frank	CCRx Basic	Health Net Orange 1	Health Net Orange 1	Health Net Orange 1
George	CCRx Basic	Health Net Orange 1	Health Net Orange 1	Health Net Orange 1
Helen	CCRx Basic	MedicareRx Rewards Standard	Advantage Star	Advantage Star
Irene	CCRx Basic	Advantage Star	Advantage Star	Health Net Orange 1
Jason	CCRx Basic	MedicareRx Rewards Standard	MedicareRx Rewards Standard	Health Net Orange 1

NOTE: Includes only LIS-eligible plans (without using the de minimis waiver).

Table B-9. Change in Beneficiary and Government Costs, the Plans Selected under Rule 2 versus the Plans Selected under Rule 1, Region 11

	Change in Costs for LIS Beneficiary	Change in Costs for Government
Alice	$0	$0
Betty	$12	-$516
Carla	$0	$0
Doris	$0	$0
Ellen	$0	$0
Frank	$48	-$65
George	$50	-$224
Helen	$44	-$60
Irene	$19	-$137
Jason	$1	-$31
TOTAL	+$174	-$1,032

Table B-11. Differences Compared to "Random" (Median) Plan, Region 11

	Rule 1. Plan Minimizing LIS Beneficiary Costs		Rule 2. Plan Minimizing Off-Formulary Drugs, then Non-LIS Beneficiary Costs	
	Extra Bene Costs (+) or Savings (-) Compared to Median Plan	Extra Govt Costs (+) or Savings (-) Compared to Median Plan	Extra Bene Costs (+) or Savings (-) Compared to Median Plan	Extra Govt Costs (+) or Savings (-) Compared to Median Plan
Alice	-$70	-$65	-$70	-$65
Betty	-$116	$569	-$104	$53
Carla	-$470	$658	-$470	$658
Doris	-$31	-$3	-$31	-$3
Ellen	-$1,586	$33	-$1,586	$33
Frank	-$48	-$216	$0	-$282
George	-$51	-$604	-$1	-$828
Helen	-$376	$41	-$332	-$19
Irene	-$19	$137	$0	-$0
Jason	-$1	$20	$0	-$10
TOTAL	-$2,768	+$569	-$2,594	-$463

Table B-13. Optimal Plans When Enhanced Plans are Allowed, Region 11

	LIS PLANS ONLY	WITH ENHANCED PLANS	LIS PLANS ONLY	WITH ENHANCED PLANS
	Rule 1. Plan Minimizing LIS Beneficiary Costs		Rule 2. Plan Minimizing Off-Formulary Drugs, then Non-LIS Beneficiary Costs	
Alice	Health Net Orange 1	Quality Rx Plus	Health Net Orange 1	Same
Betty	CCRx Basic	First Health Secure	Advantage Star	First Health Secure
Carla	Prescription Pathway Bronze	Quality Rx Plus	Prescription Pathway Bronze	Quality Rx Plus
Doris	CCRx Basic	Quality Rx Plus	CCRx Basic	First Health Secure
Ellen	Advantage Star	Same	Advantage Star	CCRx Gold
Frank	CCRx Basic	Same	Health Net Orange 1	Same
George	CCRx Basic	Same	Health Net Orange 1	Same
Helen	CCRx Basic	Same	MedicareRx Rewards Standard	Quality Rx Plus
Irene	CCRx Basic	Quality Rx Plus	Advantage Star	CCRx Gold
Jason	CCRx Basic	Same	MedicareRx Rewards Standard	Quality Rx Plus

Table B-14. Change in Costs for Same Decision Rules When Options are Expanded to Include Enhanced Plans, Region 11

	Rule 1. Plan Minimizing LIS Beneficiary Costs		Rule 2. Plan Minimizing Drugs Off Formulary, then Non-LIS Beneficiary Costs	
	Change for LIS Beneficiary	Change for Government	Change for LIS Beneficiary	Change for Government
Alice	-$438	$597	NA	NA
Betty	-$842	$314	-$854	$830
Carla	-$44	-$215	-$44	-$215
Doris	-$5	-$176	$33	-$199
Ellen	NA	NA	$1,603	-$184
Frank	NA	NA	NA	NA
George	NA	NA	NA	NA
Helen	NA	NA	$65	-$165
Irene	-$6	$66	$0	-$509
Jason	NA	NA	$5	-$657
TOTAL	-$1,335	+$586	+$807	-$1,100