

their circular A-4, the Office of Management and Budget requires all benefit-cost analyses to use a 7 percent discount rate (r), which is the rate used to adjust cost and benefit streams for the time-value of money.<sup>16</sup> We also calculated net benefits using a 3 percent discount rate. The Office of Management and Budget has indicated that a 3 percent discount rate better approximates the individual rate of time preference.

As noted in the introduction to this analysis, we believe that potential card sponsors will find it profitable to participate in this program. The cost of capital to a private firm choosing to implement this program is the interest rate of a corporate bond. Lehman Brothers estimate that AAA and A average corporate bond yields to maturity are 2.89 percent and 3.93 percent respectively.<sup>17</sup> These low rates also reflect the return on capital for such a short investment. The program will last roughly 24 months. In order to avoid the influence of inflation on nominal interest rates, in Tables 10 and 11 we have removed all inflation adjustments from cost estimates, adjusted the nominal benefit stream of enrollment fee revenue for inflation in 2004 and 2005, and calculated present values in 2003 dollars. Net present value in Table 10 is calculated:

$$NPV = \text{Year1Net} + [\text{Year2Net} / (1+r)] + [\text{Transition PeriodNet} / (1+r)^2]$$

As shown in Table 10, a positive net present value exists for both the low and high cost estimates when discounted by 3 percent. A positive net present value exists for the low cost estimate when discounted by 7 percent, and a slightly negative net present value exists for the high cost estimate when discounted by 7 percent. Endorsed sponsors with modern information systems and experience administering pharmacy benefits, who also selectively target their information and outreach efforts will realize a large economic profit if they choose to charge the maximum enrollment fee of \$30. We estimate that these endorsed sponsors could, in total, realize a net present value of approximately \$9.5 million to \$9.8 million over the life of the program. At a endorsed sponsor's option, to distinguish its endorsed program's offering, these profits could be channeled to deeper discounts on drugs or to additional drug-related products and services to benefit discount card enrollees.

Endorsed sponsors using older mainframe systems, or who have less experience with direct enrollment, and who make greater investments in information and outreach materials, and who have chosen to be a special endorsed sponsor, can cover all or almost all of their costs if they choose to charge the maximum annual enrollment fee of \$30. We stated earlier that we believe 3 percent to be an appropriate discount rate for this program. Using a 3 percent discount rate, we estimate that endorsed sponsors with the highest administrative costs could realize a net present value of \$134 thousand with an annual enrollment fee of \$30. However, using the higher discount rate of 7 percent results in a slight loss for endorsed card sponsors with the highest costs. Such a finding does not preclude these potential card sponsors from participating because they can choose to cover their administrative costs by passing less rebate and other price concession revenues on to their discount card enrollees in the form of higher negotiated prices.

The highest cost estimates are for sponsors who receive a special endorsement to process claims for long-term care pharmacies. Sponsors with high administrative costs, excluding the effect of claims processing for LTC pharmacies, and dealing only with non-institutionalized enrollees could easily cover their costs, realizing a net present value of \$442 thousand to \$601 thousand with an annual enrollment fee of \$30. We also believe that endorsed sponsors stand to further benefit from the amortization of certain cost components, thereby yielding a more attractive net present value in both the low and high ranges.

Calculating Benefit-Cost ratios is another means of assessing the profitability of a program. In Table 11 we estimate present value benefit-cost ratios. These are calculated by discounting costs and benefits for each year, summing over the years of the program and setting total present value benefits over total present value costs. As with the net present value calculations, we removed the effect of inflation from these estimates and calculate benefit-cost ratios in 2003 dollars. For endorsed sponsors with low administrative costs, we estimate a benefit-cost ratio of approximately 1.68 for the 3 percent discount rate and 1.67 for the 7 percent discount rate, and for endorsed sponsors with high administrative costs, we estimate a benefit-cost ratio of 1.01 and 1.00 respectively. In both instances, the benefit-cost ratio equals or exceeds one,

demonstrating the feasibility of programs offered by each type of endorsed sponsor relative to anticipated revenue.

We have estimated costs for an average endorsed sponsor of 430 thousand enrolled individuals. Realistically, enrollment may not be evenly distributed when this program is implemented. We expect that some national endorsed programs will garner a large proportion of discount card enrollees, and that their participation will fulfill the geographic requirement that discount card eligible individuals have access to at least 2 programs. We also expect that other endorsed programs will enroll the remainder. The benefit-cost ratio for high estimated costs at 430 thousand enrolled equals or exceeds one, indicating that profitability for a endorsed sponsor with very high administrative costs will depend on enrolling all anticipated enrollment. There is very little room to absorb the impact of reduced enrollment through enrollment fees alone. This is not because fixed costs are large, the endorsement criteria require endorsed sponsors to already have most of the infrastructure needed to offer a drug discount card. Rather it is because very high variable costs leave little room to spread these minimal fixed costs across a reduced level of enrollment.

On the other hand, the benefit-cost ratios for low estimated costs, 1.67 and 1.68, clearly demonstrates enough room to absorb the costs of reduced enrollment. We believe that efficient endorsed sponsors can easily reach profitability with a moderate level of enrollment. Efficiencies are not necessarily due to economies of scale and can be achieved through new technology and smarter business practices. Finally, if, for some reason, endorsed sponsors enroll fewer individuals than anticipated, costs could be recouped through rebate and other price concessions.

This analysis has demonstrated that the maximum enrollment fee of \$30 in Years One and Two gives endorsed sponsors with very different operating environments, levels of commitment, technological efficiency, and business investment strategies the flexibility to recoup their costs through enrollment revenue. Endorsed sponsors with the highest administrative costs can collect sufficient enrollment revenue to cover all or almost all of their expenditures. Card sponsors experiencing any minimal net loss can cover these costs with earnings from rebate dollars. Endorsed sponsors with lower administrative costs can easily collect sufficient enrollment revenue to cover

<sup>16</sup> Office of Management and Budget, Circular A-4, September 17, 2003.

<sup>17</sup> Lehman Brothers Credit Index, Yield by Quality, September 30, 2003.