

Public Policy Monograph

January 2004

The Impact of
Consumer-Driven
Health Plans on
Health Care Costs:
A Closer Look at
Plans with Health
Reimbursement Accounts



AMERICAN ACADEMY *of* ACTUARIES

AMERICAN ACADEMY *of* ACTUARIES

The American Academy of Actuaries is the public policy organization for actuaries practicing in all specialties within the United States. A major purpose of the Academy is to act as the public information organization for the actuarial profession. The Academy is non-partisan and assists the public policy process through the presentation of clear and objective actuarial analysis. The Academy regularly prepares testimony for Congress, provides information to federal elected officials, comments on proposed federal regulations, and works closely with state officials on issues related to insurance. The Academy also develops and upholds actuarial standards of conduct, qualification and practice, and the Code of Professional Conduct for all actuaries practicing in the United States.

Prepared by the American Academy of Actuaries'
Defined Contribution Health Plan Work Group

James J. Murphy, F.S.A., M.A.A.A., *Chairperson*

Karen Bender, A.S.A., F.C.A., M.A.A.A.

Patrick L. Collins, F.S.A., M.A.A.A.

William J. Falk, F.S.A., M.A.A.A.

Brent Lee Greenwood, A.S.A., M.A.A.A.

Penny R. Hahn, A.S.A., M.A.A.A.

D. Michael Jones, A.S.A., E.A., M.A.A.A.

William P. McNamara, A.S.A., M.A.A.A.

Jean Moore, F.S.A, M.C.A., M.A.A.A.

Donna C. Novak, A.S.A., M.A.A.A.

David F. Ogden, F.S.A., M.A.A.A.

Sunit R. Patel, F.S.A., M.A.A.A.

Jeffrey P. Petertil, A.S.A., M.A.A.A.

Daniel R. Plante, A.S.A., M.A.A.A.

Brett A. Roush, F.S.A., M.A.A.A.

Harry L. Sutton, Jr., F.S.A., M.A.A.A.

David Mark Tuomala, F.S.A., M.A.A.A.

George Wagoner, F.S.A., F.C.A. M.A.A.A.

Mark Wernicke, F.S.A., M.A.A.A.



January 2004

Richard C. Lawson, Executive Director

Noel Card, Director of Communications

Craig Hanna, Director of Public Policy

Cori E. Uccello, Senior Health Fellow

Holly Kwiatkowski, Senior Health Policy Analyst, Federal

American Academy of Actuaries

1100 Seventeenth Street NW

Seventh Floor

Washington, DC 20036

Tel (202) 223-8196

Fax (202) 872-1948

www.actuary.org

The Impact of Consumer-Driven Health Plans on Health Care Costs: A Closer Look at Plans with Health Reimbursement Accounts

Table of Contents

Background on Consumer-Driven Health Plans	1
A Typical Consumer-Driven Health Plan	2
Participant Cost Sharing Requirements, by Health Care User Levels	3
Potential Selection	4
Product Features That Can Influence CDHP Costs	5
Simulating the Impact of HRA Features on Health Costs.....	7
Impact of Consumer Driven Health Plans on Health System Participants.....	12
Employees/Participants	12
Employers/Plan Sponsors	13
Health Plans.....	14
Health Care Providers.....	14
Summary.....	17
Endnotes	18

Continued increases in medical spending are causing employers to search for new methods to control costs without sacrificing the health care quality available in traditional health plans. Alternatives with increased employee involvement are emerging. These plans aim to slow the growth in medical costs by providing participants with educational resources, decision-making tools and financial incentives that will lead them to make more efficient health care decisions.

We described a continuum of such plans in the first of our series of issue briefs on this topic, *Understanding Defined Contribution Health Plans*. As the concept has evolved so has the terminology used to refer to this range of health plan approaches. Defined contribution was one term, along with others such as “consumer-driven,” “consumer-directed,” “e-health,” and “self-directed.” Today, the usage of the term Consumer Driven Health Plan (CDHP) predominates and we use it throughout this document.

A key question regarding CDHPs is whether they will indeed help stem the tide of double-digit premium increases. While we are beginning to see emerging data relating to these kinds of programs, the results are limited and inconclusive. This is an area that will involve many studies and analyses in the near future. Therefore, for the purpose of this monograph, we have used an actuarial model to illustrate the impact of CDHPs on health costs. We also examine the theoretical impact of a shift to CDHPs on the various health care system participants.

Background on Consumer-Driven Health Plans

Before turning to our analysis of the impact of CDHPs on health costs, we first provide some background on CDHP plans. As noted in our first issue brief, CDHPs can be described along a continuum of health plans with varying degrees of employer/sponsor and employee/participant responsibility. Over the past year, the most common consumer driven model in the marketplace has been a catastrophic (high deductible) insurance plan combined with a health care spending account. The catastrophic insurance component is intended to cover high-severity, low-incidence health services. The health care spending account, known by many names and recently termed a Health Reimbursement Arrangement (HRA) by the IRS, is commonly used to cover high-incidence low-severity health services, such as office visits.

The HRA, provided by the employer, is a specified benefit amount used to pay for eligible medical expenses as defined by the employer. For example, eligible expenses for HRAs might be defined to include out-of-pocket expenses of the employee associated with the deductible and coinsurance values of the catastrophic insurance component, and other medical services not normally eligible under a traditional health insurance plan (e.g., routine dental care, cosmetic surgery, eyewear, etc.). In some plans, upon termination or retirement, the employer may give employees the option to apply any unused balance in their HRAs toward the purchase of COBRA or retiree health. (An HRA rollover plan should be distinguished from a high deductible plan with a medical savings account (MSA). An MSA is similar to an HRA, except that the unused account balance can be paid in cash to the individual at specified points in time or used to fund future services, as with an HRA.)

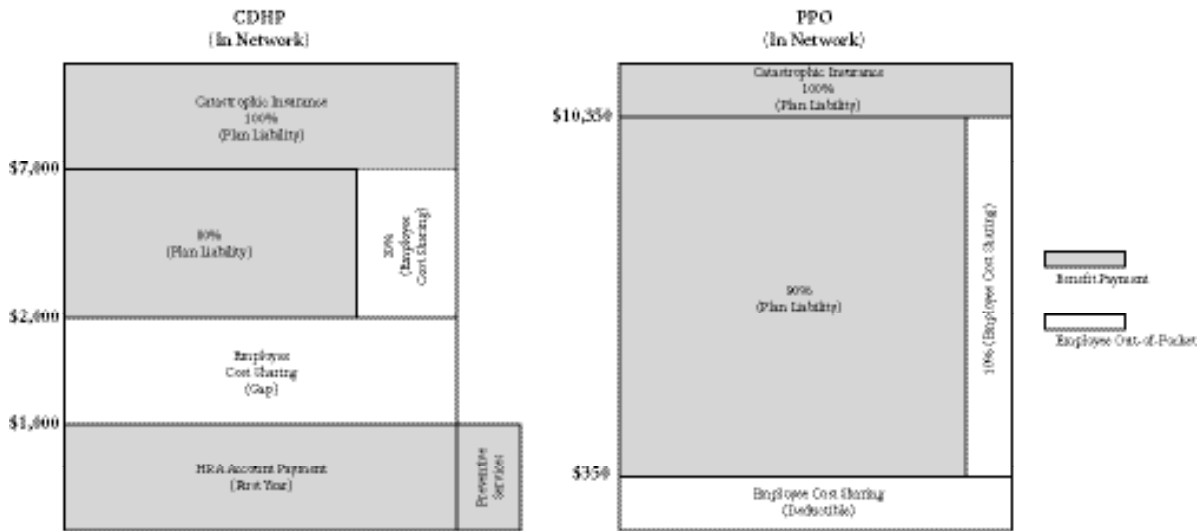
Employees have an incentive to spend more carefully when purchasing health care services because most plans of this nature allow unused amounts in the HRA to be rolled over and used to cover health expenses in subsequent years. This is fundamentally different from existing traditional insurance and flexible spending accounts. Under existing traditional insurance, an employee who uses less in health care benefits than the premium they pay does not receive an additional benefit next year. Similarly, employees who do not use the entire amount of their employee-funded flexible spending account currently lose any unused balances at the end of the year. The CDHP is unique, in that employees can benefit from using fewer and less costly services through the HRA’s rollover provision. This built-in financial incentive, combined with the availability of consumer decision support tools relating to cost, treatment and quality, is a

key cost containment component of the CDHP. However, all of this can be quite confusing to the employee and must be supplemented by an effective communication and education program.

A Typical Consumer-Driven Health Plan

Figure 1 illustrates an example of a CDHP having an HRA component. Although CDHP designs will vary depending on the employer’s benefit plan strategy, they typically follow this basic structure. Because most of a plan’s claims are incurred “in-network,” our comparison focuses on in-network benefits. In our example, the CDHP design for a single contract specifies a \$1,000 annual contribution to an HRA and a catastrophic insurance policy with an annual \$2,000 deductible. Employees would use the HRA to pay for the first \$1,000 in eligible medical expenses. After exhausting their \$1,000 HRA, employees would be responsible for paying the next \$1,000 of expenses out of pocket. The difference between the HRA amount and the deductible amount is typically referred to as the “employee gap.” To avoid the possibility of discouraging individuals from seeking preventive care, many of these plans offer comprehensive coverage of preventive services separate from the HRA and catastrophic insurance.

Figure 1. Illustrative CDHP and PPO Plan Designs, Single Contract



After meeting the \$2,000 catastrophic insurance deductible, the plan covers health expenditures, with a 20 percent coinsurance requirement from the employee. Once the out-of-pocket maximum is reached, however, the plan pays 100 percent of eligible expenses. In this example, the out-of-pocket maximum is \$3,000, which includes the amount paid from the HRA, the employee gap, and coinsurance payments. The out-of-pocket maximum will be reached when total expenditures reach \$7,000.¹ The definition of eligible services, the level of deductible, the amount of the HRA, and the coinsurance rate can be designed in a variety of ways in order to influence the overall cost of such a product.

For comparative purposes Figure 1 also shows an “actuarially equivalent” PPO benefit design. In other words, the sample PPO plan is estimated to result in the same level of total claims paid as the sample CDHP (including amounts paid from the HRA and catastrophic insurance), given the same insured population and health services received. Under these conditions, an equivalent PPO plan could have an annual \$350 deductible, with 10 percent coinsurance up to an out-of-pocket maximum of \$1,350, including the deductible. Thereafter, eligible medical expenses would be paid at 100 percent. The out-of-pocket maximum would be reached when total expenditures reach \$10,350.² Note that other combinations of deductibles, coinsurance requirements, and out-of-pocket maximums could also result in a plan design actuarially equivalent to the sample CDHP.

Comparing the sample CDHP to the PPO design reveals important distinctions between these two types of plans. Under the PPO (like other traditional insurance plans), employee cost sharing usually takes place at the beginning of the contract year through an up-front deductible, co-payment, and/or coinsurance requirement. In contrast, the CDHP essentially provides full coverage at the beginning of the contract year, up to the maximum level of the HRA. Employees bear cost-sharing responsibilities only after health expenditures exceed the HRA.

Because the HRA value can increase over time when unused balances are allowed to be carried over, employees who consistently incur low levels of health spending can actually increase their plan benefits under such a program in subsequent contract years. For instance, an employee having a \$1,000 HRA who only spends \$600 in a year will have a carry-over balance of \$400. In the second year, this will be combined with an additional \$1,000 for a total HRA balance of \$1,400. This larger balance obviously moves the employee closer to satisfying the \$2,000 deductible. This potential “increasing benefit” requires an employer to carefully develop a HRA benefit design (including possibly limiting the amount of rollover) that will be cost effective not only in the short term but long term as well.

Participant Cost Sharing Requirements, by Health Care User Levels

One way to assess the impact of a CDHP on participant spending and cost sharing is to examine how participant spending differs between the plans by overall spending levels. Differences by plan type can vary dramatically by whether the participant is a low, medium, or high user of health care services in a particular year. Table 1 compares the spending by four hypothetical health care users under an illustrative traditional PPO design and a CDHP high deductible plan with employer-provided HRA. The example focuses on a single year’s claims, and the two plans are assumed to be actuarially equivalent with respect to the employer’s cost. The illustration assumes no utilization change. In other words, the underlying health care services received by a consumer are assumed to be identical in each plan design; only the cost sharing features affect the participant’s cost. In practice, significant differences in utilization between these plans may occur. (We will examine this later in this paper.)

Table 1: Illustrative Plan Design Impacts, by Health Care User Level				
	Health Care User Level			
	None	Low	Medium	High
Participant Health Care Spending (does not vary by plan type)				
Preventive Care	0	200	300	300
Non-Preventive Care	<u>0</u>	<u>250</u>	<u>3,600</u>	<u>32,000</u>
Total Health Care Service Costs	0	450	3,900	32,300
Participant Cost Sharing—PPO PLAN				
Preventive Care	0	200	300	300
Non-Preventive Care	<u>0</u>	<u>160</u>	<u>405</u>	<u>1,050</u>
Total Participant Responsibility	0	360	705	1,350
Participant Cost Sharing—CDHP				
Preventive Care	0	0	0	0
Non-Preventive Care	<u>0</u>	<u>250</u>	<u>2,320</u>	<u>3,000</u>
Total Participant Responsibility	0	250	2,320	3,000
Less Amount Paid from HRA	<u>0</u>	<u>250</u>	<u>1,000</u>	<u>1,000</u>
Net Participant Responsibility	0	0	1,320	2,000
Remaining HRA to Carry Forward	1,000	750	0	0
CDHP vs. PPO				
Difference in Net Participant Responsibility (CDHP less PPO)	0	-360	615	650
Remaining HRA to Carry Forward	1,000	750	0	0

<u>Plan Provisions</u>	<u>PPO</u>	<u>CDHP</u>
Deductible	350	2,000
Coinsurance	10%	20%
Max OOP	1,350	3,000
Preventive @100%	0	500
HRA	N/A	1,000

Most notably, the illustration reveals how the impact of different plan designs varies by the level of health care utilization. Participants with low spending levels and mainly preventive services will spend \$360 less out of pocket under the CDHP than under the PPO plan. In addition, low users would have a \$750 carryover balance in the HRA account. Consequently, although the CDHP has a higher deductible (\$2,000 versus \$350) and higher cost sharing (20 percent versus 10 percent), the HRA balance more than covers the spending for participants with low health care spending.

In contrast, participants with medium or high levels of health care spending will spend more out of pocket under the CDHP than the PPO plan. They will spend \$615 and \$650 more out of pocket respectively in the CDHP, and neither will have any balances in their HRA to carry over to the next year. In addition, the increase in net participant spending by utilization level is more dramatic under the CDHP than the PPO. Under the CDHP, high spenders incur out-of-pocket costs \$2,000 greater than low spenders; the differential is about half that (\$990) under the PPO plan.

The impact of plan design on high-claims individuals could vary over time depending on whether these incentives change their health care consumption behaviors. In the situation where a CDHP is the only plan offered, high-claims individuals would face high-cost sharing responsibilities. After CDHPs have been operational for several years, however, newly emerging high-cost users could have had several prior years with low claims, allowing them to build up large HRA balances. This may result in similar cost-sharing responsibilities between low users and high users.

We must again emphasize that the illustration assumes no utilization change. High users may be able to control utilization and make more cost-effective choices to partially offset the potential increased personal cost. From the perspective of potential utilization changes, the medium-cost user may be the key to success in controlling the plan's overall costs. In the example the medium-cost user spends about \$600 more under the CDHP and does not have any HRA account carryover. With personal funds at risk through the HRA and employee gap (but with no catastrophic claims to trigger stop-loss coverage), we would expect such users to carefully manage their utilization of services.

This illustration provides a very simplified analysis of the potential financial impacts on individual participants. Only a single year of health costs is included. However, an individual's health spending can vary from one year to the next; they can be a low spender one year, but a high spender the next, or vice versa. Therefore, it is important to also examine impacts over a longer term. Depending on what, if any, preventive services are fully covered, as well as possible benefit design considerations for maintenance drugs and out-of-pocket limits, even a high user with a chronic condition may find a CDHP advantageous from a financial perspective in the long term. Also, this discussion has focused solely on financial impacts. CDHPs may offer other advantages to participants such as lower employee contributions, or even non-financial ones such as access to valuable health related information.

Potential Selection

As illustrated above, participants who are low users can often benefit financially from a CDHP product. If low cost participants are allowed to choose from multiple plan offerings, they would likely choose a CDHP design. Conversely, high users are more likely to prefer remaining in a traditional plan. As a result, multiple plan offerings may result in significant selection issues. If this type of selection is anticipated by

health plans, high users will pay up front for their higher care costs in the form of higher premiums. If the adverse selection is not anticipated by the health plan there will be a lag of a year or two, but eventually premiums for traditional plans will reflect their consistently higher cost experience. The impact of adverse selection on multiple parties — participants, employers, and plans — can potentially worsen over time as high and low users become increasingly segmented and no longer spread costs among both groups. Compounding this potential problem is that higher medical costs accompany aging, and older individuals may be even less willing to switch to new plan designs.

The potential for adverse selection problems already exists in multiple-option offerings; they are by no means unique to CDHP products. As in current multiple-option environments, plan designs and plan sponsor contribution strategies must be chosen carefully to mitigate the problems. Offering only a CDHP is one way to eliminate the potential for adverse selection, but this may not be acceptable to participants during the initial years because these plans are still in the introductory phase. Once the plans have been in effect for a few years, participants have an incentive to stay in the CDHP rather than changing back to a traditional plan because they will lose any accumulated HRA balances.

Product Features That Can Influence CDHP Costs

One of the keys to success for CDHPs will be how well they help contain the growth in health costs. Along with many features that are similar to those in traditional health plans, CDHPs contain many unique features that can impact costs. Below is a summary of the key product features (both unique and traditional) that can influence an employer's short- and long-term health costs.

- **Level of catastrophic insurance coverage** — Like traditional insurance, the value of deductibles, coinsurance, and out-of-pocket maximums can greatly influence the cost of such plans. However, the deductibles and out-of-pocket maximums typically found in a CDHP having an HRA component are much greater than those generally found in traditional insurance, and these higher levels can result in lower costs. Somewhat offsetting this, leveraging may result in higher cost increases, unless deductibles are increased over time consistent with inflationary costs of insurance. In other words, with a fixed deductible, the deductible each year represents a smaller share of the services used by the insured, so that the plan's cost will increase more on a percentage basis than the total cost. In addition, more individuals' total costs will exceed the deductible amount as costs increase. The higher the deductible, the greater the leveraging effect of higher trend. A lower deductible relative to the cost of health care may also significantly impact utilization under the plan.
- **Amount of HRA (Unique)** — The HRA must be large enough to be valuable to the employee and encourage responsible purchasing of health care services. On the other hand, it cannot be so large that it minimizes the "employee gap," thus removing any financial incentive to be a responsible health care shopper. There is also an issue of whether the HRA should vary by family status (single or family), age, tenure, income, or other factors.
- **Employee Gap (Unique)** — Recall that the employee gap represents the difference between the HRA and the catastrophic deductible. After depleting the HRA, an employee will incur "true" out-of-pocket expenses. The relationship between the catastrophic deductible and the HRA amount is quite important when evaluating the cost of a CDHP, from both a benefit and incentive perspective. Because most plans allow unused HRA balances to be carried over, the employee gap can get smaller from one year to the next. However, it can never exceed the gap established in the first year, unless the benefit design is changed.

- **Eligible services covered by HRA** — Some CDHP products follow traditional insurance definitions for eligible medical services, while others limit eligible services to just office related services. More comprehensive CDHP products expand the eligible service definition to include services commonly covered by health care flexible spending accounts, such as dental, vision, cosmetic surgery, etc. Even though this expanded list of eligible services may be covered by the HRA, they are not usually covered by the catastrophic insurance component. The definition of eligible services can obviously have a significant impact on the cost of these products, especially if these costs were not originally covered by an employer’s traditional medical benefit plan. A real challenge in designing a CDHP with a HRA component is how it integrates with an employer’s flexible spending account.
- **HRA carry-over provision (Unique)** — Most CDHPs allow for the carry-over of unused balances of the HRA into the next year. Recent IRS clarification supports the carry-over provision of unused portions of the HRA. When designing a HRA component, the employer must decide whether the carry-over will be unlimited or possibly capped at a multiple of the HRA amount. Of course, the cost impact of an unlimited carry-over is greater than one where the HRA carry-over is capped.
- **HRA forfeiture provision (Unique)** — How the forfeiture provision is defined can have an impact on plan costs, especially in the long term, considering HRA balances will continue to accumulate. Most of these emerging plans require a terminating employee to forfeit any unused HRA balances back to the employer. Other variations of the forfeiture provision may allow unused HRA balances to be used toward the purchase of COBRA upon termination, or possibly retiree health care. The issue of portability also falls within this provision. If an employee is given the opportunity to transfer funds to a new employer’s plan or in some manner pay for future coverage, then this would represent a “real” cash expenditure to the employer, rather than just an accounting entry to a notional HRA.
- **Accounting for unused portion of HRA (Unique)** — Many employers will keep an accounting record of an employee’s HRA balance and pay claim expenses from a general fund whether they are incurred through the HRA or the catastrophic insurance plan design. Requiring employers to establish and fund a liability associated with the unused HRA balance (based on their likelihood of payment) could significantly increase the cost of these plans. To offset this potential increased cost, employers would have to reevaluate their existing benefit designs, and make appropriate changes. While this issue has yet to be addressed directly, it is an issue that will gain interest from policy-makers as enrollment in these products grow. Both the overall legal treatment and the possibly different treatment of insured and self-insured plans could greatly impact how CDHPs evolve.
- **Multiple option offering** — As discussed above, if the new CDHP is offered alongside other existing traditional plans as a competing choice, potential for selection exists. Employers offering CDHPs will need to evaluate and predict what type of individual will more likely enroll in a CDHP versus other medical benefit plan offerings. Therefore, care must be taken when pricing any plan within a multiple offering setting. Because CDHPs are so new, it is difficult to know what type of selection will take place until credible data becomes available.
- **Access to and use of health care information** — While access to health care information and decision support tools is not a unique concept, the actively promoted use of such information and tools

by consumers is central to CDHPs. When given easy access to health care information (cost, treatment and quality) and ownership of the HRA, it is expected that consumers will be empowered to change their health care purchasing behavior. Behavior patterns will not likely change all at once, but could evolve over a period of time, with somewhat gradual year-to-year changes which can accumulate to significant changes in the long term.

Simulating the Impact of HRA Features on Health Costs

The cost savings potential of a CDHP model having an HRA component is of significant interest to both employees and plan sponsors.³ Assessing the impact of these plans on health costs will require many years of claims experience data, due to the unique features of CDHPs that influence long-term costs. To date, the enrollment in these plans is limited and the emerging experience is inconclusive. Some emerging experience indicates positive results while other experience is not as encouraging. Until credible information can be studied and presented, one of the ways we can estimate the cost of these new CDHP products is through the use of actuarial models. Typically, these models estimate CDHP impacts on medical benefit costs by examining traditional plan data and making assumptions related to the effects of cost sharing and other unique CDHP characteristics affecting consumer behavior.⁴ In particular, actuarial models can be used to evaluate the impact of specific product features on benefit costs.

As described above, a CDHP model with an HRA component has several plan features that can influence its overall cost. In addition, it could be offered alongside other options, thereby greatly increasing the number of possible combinations between plan designs and overall plan offerings. While it is possible to model each of them independently or in combination, for this paper we have decided to model the cost impacts by concentrating on two key features:

- The amount of the HRA (in relation to the deductible)
- The level of catastrophic insurance (deductible, coinsurance and maximum out-of-pocket expenses)

We examine the impact of changes in these features on costs, assuming no change in consumer behavior. If consumers do not become engaged and change their health care purchasing patterns, then any cost savings will result primarily from cost shifting through lowering the HRA or decreasing the catastrophic insurance benefits (higher deductible, lower coinsurance, higher maximum out of pocket limit). On the other hand, if the package of CDHP along with health information and decision support tools engage employees, then savings will result from their changed behavior, without necessitating benefit design changes. Therefore, we also examine the impact of changes in consumer behavior on costs in the baseline plan.

1. *Baseline CDHP*

Our modeling exercise focuses on a block of single employees and begins with a cost comparison of an “average” single contract between a traditional PPO benefit design and a typical CDHP benefit design, exclusive of prescription drug coverage, which we assume is covered separately. Table 2 presents our baseline PPO and CDHP plans, which have been designed so that the “paid” benefits are actuarially equivalent in the first year. That is, benefit costs are equivalent under the two plans, assuming the same enrolled population.⁵ After the first year, however, the benefits will not necessarily be actuarially equivalent because of the HRA’s carry-over provision.

Table 2
Actuarially Equivalent Benefits
Single Contract

<u>In-Network Benefits</u>	<u>PPO</u>	<u>CDHP 1</u>
Deductible	\$350	\$2,000
Coinsurance	90%	80%
Maximum OOP (including deductible)	\$1,350	\$3,000
Preventive Services	Included Above	100% Coverage
HRA Amount [1]	N/A	\$1,000

[1] The HRA can be applied to both the deductible and coinsurance. Eligible services are defined consistent with traditional insurance coverage. HRAs for new employees are prorated and terminating employees forfeit any remaining HRA balances.

Table 3 compares the paid claims and the employee out-of-pocket expense between the PPO and CDHP plans. For the purposes of this modeling exercise we have identified but not incorporated the potential liability associated with the HRA balance that would exist for many employees at the end of the year.

Table 3^e
Projected Annual Claim Costs
Average Single Contract

	<u>PPO</u>	<u>CDHP 1</u>
Insured Benefit Payments	\$ 2,130	\$1,540
HRA Payments	n/a	590
Subtotal Benefit Payment (Employer)	\$2,130	\$2,130
Employee OOP	480	480
Total Allowed	\$2,610	\$2,610
Average Remaining HRA Balance [1]	n/a	\$370

[1] The sum of HRA payments and HRA balance do not add to \$1,000 because of the HRA for new employees being prorated and terminating employees having their HRA balances forfeited to the employer.

In both the PPO and CDHP plans, benefit payments for the average single contract total \$2,130 and the employee out-of-pocket costs are \$480. However, whereas the total benefits payments under the PPO plan are from the insured plan, the payments from the CDHP are from the insured plan (\$1,540), and HRA (\$590). As illustrated in the above example, there is an average remaining balance in the HRA equal to \$370. While an employer is not legally obligated to book this liability because it was not actually paid (HRA being a notional account), this potential liability could influence an employer’s decision relating to benefit design. For example, some employers prefer a CDHP benefit design that is actuarially equivalent between the paid claims of the PPO and the ultimate liability of the CDHP (paid from the HRA and insured component plus HRA unpaid balance).

We will compare alternative design and consumer behavior scenarios to this baseline. We first separately model alternative plan designs assuming that consumers have not changed their behavior, so the best way for an employer to create cost savings (in relation to the PPO plan) is to increase the employee cost sharing through changes in the design of the HRA and/or the catastrophic insurance. Then we relax this assumption and model the baseline scenario, but include changes in consumer behavior.

2. Reduce the HRA amount from \$1,000 to \$800

Table 4 illustrates the impact of reducing the HRA from \$1,000 to \$800, with no commensurate change in the catastrophic deductible and assuming no change in behavior. Such a reduction would decrease the employer’s annual cost by \$90 (4 percent) and increase the employee cost sharing by the same \$90 (18 per-

Table 4			
Reduce HRA from \$1000 to \$800 – CDHP 2			
Average Single Contract			
	<u>CDHP 1</u>	<u>CDHP 2</u>	<u>% Change</u>
Insured Benefit Payment	\$1,540	\$1,540	0%
HRA Payment	590	510	-15%
Subtotal Benefit Payment (Employer)	\$2,130	\$2,040	-4%
Employee OOP	480	570	18%
Total Allowed	\$2,610	\$2,610	0%
Average Remaining HRA Balance	\$370	\$270	-29%

cent). The amount paid by the insured component remains the same, and all of the reduction is a result of reduced payments from the HRA. As expected, the average amount remaining in the HRA at year-end drops, by \$100 (29 percent). By lowering the HRA amount, the employer is simply shifting the cost to the employee.

3. Increase the catastrophic deductible for a single employee from \$2,000 to \$2,500, with the maximum out-of-pocket limit also increasing by \$500 (\$3,000 to \$3,500).

In this illustration we keep the HRA constant, but show the affect of changing the deductible and out-of-pocket limits. Table 5 illustrates the impact of increasing the catastrophic deductible (and the maximum out-of-pocket limit) by \$500, assuming no change in consumer behavior. The employer’s annual cost would decrease by \$100 (5 percent), while the employee cost sharing increases by the same \$100 (20 percent). In comparison to the alternative above that reduces the HRA, the amount cost shifted is similar but achieved through changes in the design of the catastrophic insured component. As a result, the amount paid from the HRA and the amount remaining in the HRA at year-end remain unchanged.

Table 5			
Increase Deductible and OOP Maximum – CDHP 3			
Average Single Contract			
	<u>CDHP 1</u>	<u>CDHP 3</u>	<u>% Change</u>
Insured Benefit Payment	\$1,540	\$1,440	-6%
HRA Payment	590	590	0%
Subtotal Benefit Payment (Employer)	\$2,130	\$2,030	-5%
Employee OOP	480	580	20%
Total Allowed	\$2,610	\$2,610	0%
Average Remaining HRA Balance	\$370	\$370	0%

Although the magnitude of the change is similar in the above examples, there is a distinct difference as to how these changes impact particular employees. In the first alternative, all employees would be affected by the reduced HRA because it represents first dollar coverage. In the second alternative, increases in the deductible and out-of-pocket maximum impact only those employees who incur medical expenses in excess of \$2,000.

The above scenarios illustrate the impact on costs if consumers do not change their behavior. However, one of the primary arguments for CDHPs is that they will encourage consumers to purchase their health care more efficiently, resulting in lower utilization, and therefore lower costs. The next two modeling exercises illustrate the potential impact a change in consumer behavior could have on utilization and costs even without changing benefit design.

In particular, we examine the impact under two levels of behavioral change — modest and aggressive, and assume that the magnitude of such changes will differ depending on the type of service they are seeking — hospital or physician. We have illustrated the impact of behavioral changes, assuming they occur during the first year. However, changes in behavior will likely evolve over time. Therefore, the results under the modest behavioral change assumptions are more likely representative of changes in the short run, and the results under the more aggressive behavioral change assumptions are more likely representative of changes in the long run.⁷

4. Baseline plan, with modest change in behavior

Table 6 presents the results for the baseline CDHP design (CDHP 1) assuming no change in benefits, but a modest change in behavior (no change in hospital use and a minimal change for physician services.) In particular, we assume that the CDHP will reduce employees’ utilization of non-preventive acute office visits and their related services (lab, x-ray and other diagnostic tests), resulting in a 3 percent reduction in physician-related costs.

Under these assumptions, the employer’s annual cost decreases by \$40 (2 percent), while the employee’s out of pocket expense decreases by \$10 (2 percent). This results from employees being more prudent

	<u>CDHP 1</u>	<u>CDHP 4</u>	<u>% Change</u>
Insured Benefit Payment	\$1,540	\$1,500	-2%
HRA Payment	590	590	-1%
Subtotal Benefit Payment (Employer)	\$2,130	\$2,090	-2%
Employee OOP	480	470	-2%
Total Allowed	\$2,610	\$2,560	-2%
Average Remaining HRA Balance	\$370	\$380	1%

health care purchasers. However, compared to the illustrations related to benefit design change, the magnitude of the savings is much smaller. Because these savings are a result of changing behavior, all cost categories are reduced. The only category that increases is the average balance of the HRA at the end of the year. This would be expected and one of the likely goals of the employees, given their change in behavior.

5. Baseline plan, with substantial change in behavior

Table 7 presents the results using the baseline CDHP design (CDHP 1) assuming no change in benefits, but a more substantial change in behavior (minimal change in hospital use and a greater change for physician services). In particular, we assume that the CDHP will reduce an employee’s use of hospital services, either by using a more appropriate place of service (outpatient vs. inpatient), a more cost-efficient provider qualified for the treatment required, or a reduction in the length of stay. For physician services, we assume the CDHP will reduce the cost of acute office visits and related services, as well as professional services related to the hospital services described above. Overall, we assumed a 2 percent reduction in hospital-related costs and a 7 percent reduction in physician-related costs.

	<u>CDHP 1</u>	<u>CDHP 5</u>	<u>% Change</u>
Insured Benefit Payment	\$1,540	\$1,440	-6%
HRA Payment	590	580	-2%
Subtotal Benefit Payment (Employer)	\$2,130	\$2,020	-5%
Employee OOP	480	460	-4%
Total Allowed	\$2,610	\$2,480	-5%
Average Remaining HRA Balance	\$370	\$380	3%

Under these assumptions, the employer’s annual cost decreases by \$110 (5 percent), while the employee’s out of pocket expense decreases by \$20 (4 percent). It appears that a behavioral change of this magnitude is needed in order to equate to the potential savings from the benefit design changes illustrated in this paper. Again both the employer’s cost and employee cost sharing is reduced, while the average HRA balance increases.

These examples illustrate that CDHPs have the potential to reduce plan costs, either through cost shifting via benefit design, or by implementing a program that will enhance the ability for employees to make more efficient health care purchasing decisions. Table 8 summarizes the results of the modeling exercise, and compares the costs under various plan design and behavioral change assumptions to those in the baseline.

	<u>CDHP 2</u> <u>Reduce HRA</u>	<u>CDHP 3</u> <u>Increase Ded and</u> <u>Max OOP</u>	<u>CDHP 4</u> <u>Modest Change in</u> <u>Behavior</u>	<u>CDHP 5</u> <u>Aggressive</u> <u>Change in</u> <u>Behavior</u>
Employer Cost	-4%	-5%	-2%	-5%
Employee OOP	18%	20%	-2%	-4%
Total Allowed	0%	0%	-2%	-5%
HRA Carryover	-29%	0%	1%	3%

The issue of whether HRA plans will reduce utilization relative to traditional plans is of critical importance in judging the cost effectiveness of these plans. If employees view the money in the HRA as their own, and use the decision support tools to make prudent consumer purchasing decisions, utilization savings can be material. While early data will provide us with “directional” insights as to whether these products are influencing behavior, we will not likely have fully credible and substantiated studies until the end of 2004. It is hoped these studies will not only provide information on the CDHP products, but also the impact these products have had on the other traditional health care products such as PPO, POS and HMO, when offered alongside.

Impact of Consumer Driven Health Plans on Health System Participants

When assessing the potential effect of consumer driven health plans, it is important to consider impacts other than costs on the various participants in the health care system. In this section, we will examine the benefits and drawbacks of CDHPs for (1) employees / participants, (2) employers / plan sponsors, (3) health plans, and (4) health care providers. Some of these changes and impacts are unique to CDHPs. Others are likely to occur even in existing health designs, however, the CDHP movement will usher in these changes more rapidly.

Employees / Participants

Under CDHPs, in theory, health care consumers — the end users of health care — will fundamentally change how they purchase services. Though CDHP products are not the only way to increase participant involvement and responsibility, they emphasize providing greater information to participants and making them more financially responsible for the choices made.

One key to CDHPs is providing information to participants on treatment options, provider quality, and service prices. Such information can better equip participants to make decisions. Participants who actively use the medical information tools usually offered alongside CDHP products will better understand their medical condition. They should be more capable of asking appropriate questions that will lead to a better-informed course of treatment, through a provider whom they feel comfortable.

The desire to better understand one's health should provide an incentive to use the information tools. Additionally, through higher deductibles and coinsurance, CDHPs provide financial incentives to use appropriate available resources. Finally, HRA plan designs — with their account carryover provisions — may help participants perceive health care as an ongoing, lifetime process to be actively managed rather than a series of single-year, independent benefit periods to be used or forfeited.

Although the availability of information upon which participants can make their health care decisions is critical to CDHPs, such information may be unavailable due to a lack of credible data and systematic, comprehensive methods of accumulating and disseminating such data. Even if credible data is available, it may not be equally accessible to all users. Further, some may not be savvy enough to navigate the technology developed to disseminate information. This could result both in poor medical plan elections made at the time of enrollment as well as poor ongoing treatment and health care provider choices made at the time of service. This can be addressed in new plan designs — for example, a health plan design that focuses on low out-of-pocket limits for all initial enrollments (to at least limit the financial penalties). Over time the hope is that such infrastructure barriers should lessen.

Another potential problem is that even if information is successfully gathered, individuals may not yet have the necessary skills to effectively evaluate what they have gathered. Will personal health care and medical knowledge become more of a formal basic education requirement or will it be left to those who wish to pursue such knowledge independently?

Along with the problem of retrieving and evaluating information, there is the potential for participant apathy toward the whole process. Those who choose to take a passive role and act as they have in the past for their health care decisions would likely incur increased cost sharing compared to those who actively seek out cost-efficient services — a different consequence than has historically occurred.

The HRA component of a CDHP may affect the timing of treatment. In particular, participants may postpone treatment until the HRA has enough available funds to cover the employee gap or until it is funded next year. The HRA component can also affect employment decisions. Under current CDHP designs, accumulated HRA balances that have rolled over from prior years are typically forfeited if the employee leaves. A low user could accumulate several thousand dollars after a few years and see that as an additional cost to changing jobs, or it could provide them with incentive to incur elective services before leaving employment.

Employers / Plan Sponsors

The potential impacts of CDHPs are significant both from a financial and health care standpoint for the participants, who are the end users of health care. For employers and plan sponsors, though, the effects are mainly financial although increased knowledge of health care costs by employees could be of great value. Of course, there is also the obvious impact that the employer/plan sponsor needs to become an agent of change and communication for the CDHP package to be successful.

An HRA plan design offers numerous financial efficiencies from the plan sponsor's perspective. First, the increased cost sharing associated with the CDHP shifts costs from the health plan to the employee, resulting in lower premiums for the employer. The HRA contributions, of course, offset the premium savings and must be set carefully to meet the employer's goals. Second, any utilization decreases would lower overall costs, thereby also lowering employer premiums. Along with lower claims costs, lower administrative costs may result from emphasis on more efficient, often on-line systems for enrollment and reporting. On the other hand, administrative costs must also consider the cost of tracking amounts in the HRA; if savings are not available elsewhere, HRAs could result in increasing administrative costs.

Lower claims and administrative costs are integral aspects to CDHPs, but are also possible within traditional plan designs. What is unique to CDHPs, however, is that they may reduce the employer's role as health plan selector; certain plans allow employees to essentially design their own provider networks, and present much greater plan design flexibility. This may be desirable especially to smaller firms without dedicated benefits staff, and may reduce potential employer liability with regard to employee health outcomes.

Switching to a CDHP with an HRA may provide some minor cash flow benefits since employee accounts can be unfunded; the money is only provided on an as-needed basis as opposed to the fixed up-front premiums of an insurance plan. In addition, any accumulated HRA balances are typically forfeited by employees when they leave the company. However, savvy employees could ensure they use any remaining HRA balance before leaving the company. And for some employers, having the less certain cash flows that depend on the timing of employee claims may be a drawback, compared to the fixed monthly premium payments of fully insured group insurance.

Monetary savings do not come without potential non-monetary costs to employers. One example is a need for employers to be aware of employees' productivity as they make the transition to CDHP. When will employees educate themselves regarding health care decisions and their consequences? Many will likely use the Internet-based decision support systems at the office, especially if they do not own a computer at home. Any losses in employees' productivity as they "surf" the plan website should be short-lived, and it is hoped that cost efficiencies in the CDHP program would offset any losses.

Another potential non-monetary cost to employers is employee morale. Each employee's medical situation is unique and in some cases switching to CDHP could be seen as difficult to understand or as providing lesser benefits. An employer must evaluate both the existing plan offerings and any non-CDHP options being offered alongside the CDHP, and then consider how employees will react.

Savings may be short-lived if employee cost sharing (including employee premium contributions) increases at a higher rate than salaries. Employees may see greater cost sharing as requiring higher base salaries, which would place pressure on employers to increase compensation. Employers in turn would be able to respond due to targeting a rate of growth for total compensation — salary and benefits combined. Decreases in the health trends to employers would permit them to implement higher wage increases. Total compensation would return to levels customary before the CDHP product was implemented, the only difference being that more would be paid as wages and salary, with less as benefits.

Health Plans

One of the most important aspects of CDHPs has already impacted the health marketplace: the general sense of a need for change, a need for health plans to actively address spiraling medical costs and introduce additional potential solutions.

The introduction of CDHPs has spurred a reevaluation of plan designs, and may lead to new participant behaviors emphasizing long-term health as well as provider reimbursement strategies emphasizing and rewarding outcomes as opposed to production of services. As the providers of administrative and risk services, health plans will be looked to as the primary product innovators. They will need to adopt changes to improve administrative efficiencies through the use of technology. Health plans will need to achieve a better understanding of how providers are evaluated and included in their networks. This should lead to increased contracting with cost-efficient providers. None of these changes for health plans are unique to CDHPs, but because of them all these issues have recently received greater scrutiny.

Another major concern of health plans is the administrative requirements of CDHPs. Significant up-front investment in administrative systems can be required. Health plans will be expected to provide information infrastructure such as medical information, decision support tools, and provider quality and cost evaluations. Such information sharing will require implementation of extensive delivery systems that maintain users' privacy. Additional reports may need to be developed, such as a provider rating system.

Back-end administration (after claims have occurred) presents additional challenges. The provider rating system that is developed may require some kind of ongoing evaluation process. Product features (such as HRA balance information) may require additional reporting requirements. Also, adjudication of claims when a rollover account is involved will increase the complexity of coordination between the account administrator, FSA administrator, catastrophic insurance carrier, and provider. Different claims processes may need to be in place depending on where the funds are coming from that pay for the claim.

Risk spreading and adverse selection issues present a great challenge to health plans. As discussed earlier, CDHPs may encourage segregation of healthy and unhealthy populations. Health plans will be expected to address this problem via plan designs, underwriting, and contribution strategies, and if done incorrectly they will bear much of the financial burden for their mistakes. The interaction between underwriting needs and legislative requirements (such as guaranteed issue) will determine how much this is a problem limited to specific health plans or a problem for the general health care market.

A final drawback of a CDHP system is the potential for health plans to expose themselves to greater liability. Will the health plan be blamed for poor decisions made by the participants, since such decisions were based on information provided by the health plan? Further, health plans will need to consider legal ramifications from any provider rating system they endorse. They must actively address both these administrative and risk issues in order to compete effectively in a market that increasingly is unwilling to tolerate the price of traditional products.

Health Care Providers

If participants react as anticipated in a CDHP environment then health care providers will find themselves facing a very different market. They will be serving a population much more conscious of cost and quality, and the health care market will be more reflective of an open market system. This will enhance provider competition for patients. As CDHP enrollment grows, competition for patients could create more competitive fee schedules, or even allow more individualized negotiations between the patient and provider. As providers are compared and more extensively evaluated, they will be held more accountable for outcomes as well as for providing perceived value. In this scenario, cost efficient providers should see an increase in their patient base. Providers may find greater professional satisfaction in dealing with a better-informed patient base, one that assumes more active management of its health.

Working within this more competitive marketplace may introduce some inefficiencies and inappropriate incentives to health care providers. The current health care market already has what some consider significant inefficiencies and inappropriate incentives. The ones described below may represent a different set that will take the place of current market problems.

Without consistent and established definitions of quality or outcomes, providers receiving lower ratings will likely argue against the validity of the rating systems. The very implementation of a rating system will likely consume significant time and be subject to many complaints about its inefficiencies. Administrative requirements to satisfy data needs of rating systems as well as contention over the resulting ratings may divert resources from providers' primary objective of administering medical services. All of this focus on their "product" quality will represent somewhat of a change in philosophy for the health care industry.

Ratings and quality will be one method of attracting patients. Another method that is present in any competitive market — advertisement directly to consumers — will likely become more prevalent. Depending on the savvyness of participants and the regulations on advertising, providers who are effective marketers may receive a disproportionate number of patients regardless of whether they are effective caregivers.

Some feel a CDHP environment will undermine existing network discounts. Nevertheless, price competition may be able to overcome the potential inefficiencies and keep costs at "network discount" levels even if the network discount structure no longer exists.

Finally, as with individual participants, providers facing new dynamic and expanded responsibilities in a competitive marketplace may be subject to apathy. Demand for health care under traditional plans will remain high in the near future, lessening incentives to implement changes required by CDHPs. Such providers will continue with their own strategies to manage patient loads and generate revenue and may, if significant enough in numbers, inhibit development of an efficient market.

Table 9 presents a summary of potential benefits and drawbacks to the various players in the health care marketplace. These impacts will of course affect individuals differently, especially individuals who participate in both a CDHP and traditional world — for example employees who switch between an employer with a CDHP selection and one without, or health care providers who have patients insured by both products.

Table 9: Summary of Potential Benefits and Drawbacks	
Potential Benefits of CDHPs	Potential Problems of CDHPs
Employees / Participants	
<p>Better information regarding personal health.</p> <p>Greater accountability for health choices; perception of health care as ongoing process to manage actively.</p> <p>Winners—some will be better off financially under CDHP products vs. traditional products.</p>	<p>Ability to gather and evaluate information may differ among individuals.</p> <p>Passive and / or frustrated users.</p> <p>Losers — some will be worse off financially under CDHP products vs. traditional products.</p>
Employers / Plan Sponsors	
<p>Higher cost sharing = lower employer costs.</p> <p>HRA forfeitures may be a source of favorable actual expense vs. budgeted expense comparisons.</p> <p>HRA contribution amounts are easier to budget than premium increases.</p> <p>Decreased role as health care plan selector.</p> <p>Possibility of reduced utilization.</p>	<p>Employee acceptance.</p> <p>Pressure to increase HRA contribution level or salary to offset cost sharing increases.</p> <p>Administrative issues.</p>
Health Plans	
<p>Plan design innovations accepted by marketplace.</p> <p>More efficient, Internet-based admin systems (e.g. for enrollment and benefit information).</p>	<p>High development costs of admin systems.</p> <p>Liability exposure based on information-providing sites and provider ranking systems.</p> <p>Adverse selection.</p>
Health Care Providers	
<p>More efficient providers should be rewarded.</p> <p>More knowledgeable patient base.</p> <p>More direct patient relationships / less dependent upon network membership for patient base.</p>	<p>Best known, not necessarily the most efficient, providers may be rewarded.</p> <p>Rating system admin costs and hassle of verifying services and prices are reflected appropriately.</p>

This paper makes no attempt to estimate how the parties will react to the changes they face. However, by presenting these changes it is hoped we can better understand the drivers of plan-level and even system-wide impacts. With better understanding, it is likewise hoped that the marketplace will be better prepared to address whatever issues arise.

Summary

While on the surface the CDHP product may appear simple, it is complex and involves many interrelated parts. How the product is designed and implemented will have a direct influence over its potential success (or not), for a particular plan sponsor. The introduction of such a product will also have an impact on many parties participating in the health insurance market.

The tables in this monograph illustrate, based on an actuarial model, the effect of modification of benefits on both the employee and employer share of benefit costs under a typical CDHP, as compared to a more typical PPO plan. The underlying costs of the two plans are identical in the initial tables included in the monograph. Later tables illustrate the effect of changes in the cost sharing patterns of the population if it shifts from the PPO health plan to the CDHP, reflecting changes in utilization patterns. This is only to illustrate the potential size of these changes for the parties involved. Since CDHPs are relatively new, there is little or no research on the long-term changes in utilization patterns that the employees may adopt under this structure.

It is important to note that while there is discussion of the possibility of selection, there is very little data available at this time to look at the effects on enrollment of the various characteristics of employees, such as age/sex, health status, etc. Consequently, the tables do not attempt to measure the differences in cost for subsets of the population where the employees have choices of plans. If the employer has only one plan, with all employees in the CDHP, then the utilization differences are illustrative of an average group of employees. The claim experience of the employees must be taken into account before projecting the effects of changing the benefit plan to a CDHP. Since the change in employee utilization patterns is likely to be spread out over many years, longitudinal studies of a constant group of employees will be of vital interest.

The later pages of the monograph look at potential effects on the various parties to the CDHP: employees and their dependents; employers/plan sponsors; health plans, carriers, and TPAs; physicians, hospitals and other medical providers; the general public and the uninsured, who may have access to more medical cost and quality information, and possibly increased opportunity for health coverage.

The Academy plans to follow the evolution of the CDHP and track the development of a significant amount of credible and consistent data that can be evaluated and analyzed to better address the issues introduced in this monograph. We will then consider additional issue briefs or monographs as the actual enrollment/migration patterns and claim experience emerge. In particular, the question of anti-selection in these trends, particularly where employee health plan choices exist, is critical to whether health costs are being modified.

Endnotes

¹ \$3000 out-of-pocket maximum = \$1000 HRA + \$1000 employee gap + 20% coinsurance * (\$7000 total expenditures-\$2000 deductible)

² \$1350 out-of-pocket maximum = \$350 deductible + 10% coinsurance * (\$10,350 total expenditures-\$350 deductible)

³ A plan sponsor as referenced in this paper is defined as being Insurers, HMOs and employer plans.

⁴ Although more efficient processes could also lead to savings in administrative expenses, most actuarial models do not address these savings.

⁵ The term “benefit cost” refers to paid claims, which for the CDHP is the amount paid from the HRA plus that paid from the catastrophic insurance component, plus the costs of any preventive care services.

⁶ Please note that in all model results presented the totals are rounded and therefore may not sum exactly as shown.

⁷ Although it is likely that the degree of behavioral change will vary from individual to individual, especially with differences in health status, we are unable to simulate changes at an individual level. Instead, our model assumes that average savings apply uniformly to all individuals.

AMERICAN ACADEMY OF ACTUARIES
1100 SEVENTEENTH STREET NW
SEVENTH FLOOR
WASHINGTON, DC 20036
TEL (202) 223-8196
FAX (202) 872-1948
www.actuary.org