U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy

ASSESSING THE POTENTIAL OF SUBSIDIZED HEALTH AND RETIREMENT SAVINGS ACCOUNTS

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Office of the Assistant Secretary for Planning and Evaluation

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INTRODUCTION

Long-term care spending is expected to soar in coming decades as the population ages (Johnson, Toohey, & Wiener 2007). Because Medicaid and Medicare together finance about two-thirds of the nation's formal long-term care costs (Georgetown University Long-Term Care Financing Project 2007), the expected surge in usage could further strain government budgets that are already stretched thin. One solution might be to increase private saving for long-term care needs, thereby increasing the pool of funds that could finance future services and reducing reliance on public resources. Recent efforts to boost private saving for long-term care have focused on encouraging people to purchase private long-term care insurance, but they have not been very successful. Only about 9 percent of adults ages 55 and older had private coverage in 2002, the number of policies sold has declined steadily since 2002, and tax incentives do not appear to stimulate coverage rates very much (Congressional Budget Office 2008; Johnson, Schaner, Toohey, & Uccello 2007).

An alternative way of encouraging people to save for future long-term care costs might be to create special government-subsidized savings accounts to fund future long-term care needs. These so-called Health and Retirement Savings Accounts (HRSAs) would allow workers to make tax-advantaged contributions to investment accounts that could be used to purchase long-term care insurance. Because few workers contribute the maximum amount permitted under law to existing tax-favored savings vehicles such as individual retirement accounts (IRA) and defined-contribution (DC) pension plans, the government would likely need to offer additional incentives to spur participation, such as by matching worker contributions.

This report examines the potential for these government-subsidized savings accounts to fund future long-term care needs. It simulates long-term care account accumulations for today's young workers under various scenarios for government matching contributions. The study compares participation and accumulations by demographic group and projects Medicaid savings, lost tax revenue, and government spending on matching contributions.

SPECIFYING HEALTH AND RETIREMENT SAVINGS ACCOUNTS

We simulate participation in HRSAs that would allow participants to accumulate savings tax-free to cover future long-term care expenses. The accounts we model have the following features:

- Participants would contribute pre-tax dollars.

- To limit the loss of tax revenue to the Federal Government, total contributions from participants and the government could not exceed $1,000 per year in 2008.

The maximum annual total contribution would grow over time at the same rate as economy-wide average wages. This contribution ceiling would permit participants who contribute steadily beginning at age 25 to accumulate more than enough funds to cover the one-time cost of a comprehensive lifetime long-term care insurance policy at age 55 (which we estimate would cost about $16,000 in today's dollars).

- Both participant and government contributions would accumulate tax-free.

- Participants accumulating enough funds to purchase a long-term care insurance policy at age 55 would be required to obtain coverage. Participants with an account balance that is insufficient to cover the full one-time cost of a lifetime policy could use their account balances only to cover future long-term care expenses. Participants with excess funds after purchasing long-term care insurance could use funds for selected other purposes (such as medical costs).

Under the baseline scenario the HRSA would not include a government match, and all adults, regardless of income level, could participate beginning at age 25. In alternative scenarios the government would match individual contributions, at rates of 20 percent, 50 percent, 100 percent, or 150 percent. Additionally, because policy makers may want to limit government matching contributions to low and moderate-income workers, we simulate additional scenarios in which participation is limited to individuals with income below either 200 percent or 400 percent of the federal poverty line (FPL).

METHODS

We estimate participation rates in HRSAs and contribution amounts based on IRA contributions observed in the Survey of Income and Program Participation (SIPP) and on the results of an experiment measuring the impact of matching contributions (Duflo et al. 2005). We apply the estimated participation rates and contribution amounts to the Urban Institute's DYNASIM3 microsimulation model to project what adults turning age 25 between 2008 and 2013 might accumulate by age 55. First we identify adults in DYNASIM3 who would likely participate in HRSAs based on their characteristics at age 40. We base the lifetime participation decision on age 40 characteristics, even though individual circumstances change over time, to keep the analysis tractable, given the project's budget. This approach likely overstates participation, however. We then simulate contributions in each year for those predicted to participate.

One complication with this analysis is that many workers currently do not take full advantage of pre-tax retirement savings vehicles or even employer-matching contributions (Kawachi, Smith, & Toder 2006). Since workers would have less discretion over the use of funds in HRSAs than funds in IRAs and DC retirement accounts, we assume workers would not contribute to HRSAs in years in which they could make contributions under the same terms (or better) to an existing savings vehicle.

We also assess the government budgetary implications of HRSAs. To estimate Medicaid savings, we simulate Medicaid long-term care expenditures in the absence of HRSAs based on published projections of future expenditures and recent estimates of the likelihood that adults experience Medicaid-financed nursing home stays (Johnson & Mermin 2008; Kemper, Komisar, & Alecxih 2005). To estimate the annual cost of subsidizing HRSAs we also simulate participation and contributions in 2008 among all adults in DYNASIM3 ages 25 and older (not just those turning age 25 between 2008 and 2013). All financial amounts are reported in inflation-adjusted 2008 dollars. See the appendix for further details on the methods.

RESULTS

Table 1 shows the proportion of adults turning age 25 between 2008 and 2013 who would have better savings options than HRSAs at age 40. We identify someone as having a better saving option than the HRSA if they have not maxed out their tax-deferred DC plan contributions or IRA contributions (according to our projections), and the match (if any) on those contributions is at least as generous as the HRSA match. The results indicate that the government would have to match HRSA contributions to achieve any significant level of participation, particularly among low and moderate-income families. Without government matches, 94 percent of adults would have better savings options than HRSAs, including all adults in the bottom half of the income distribution, because few workers contribute the maximum to their IRAs or DC pensions. If the government were to offer matching contributions, however, HRSAs become a potentially viable option for most people. With a 20 percent and 50 percent government match, fewer than 10 percent of adults have better savings options, although the share increases with income because high earners are more likely to participate in DC retirement plans than low earners. Virtually no adults have better options than the HRSAs with a 100 percent or 150 percent government match rate. Of course, the requirement that some funds be used to purchase long-term care insurance might make HRSAs less appealing than other savings vehicles, even with high match rates, especially if workers believe that the government will pay for their long-term care if they do not save.

Table 2 describes outcomes under HRSAs with various match rates, assuming no income restriction on who can participate. Consistent with Table 1, very few people would contribute to HRSAs without government matching contributions. Only 1 percent of adults would participate if there were no match, and less than one-half of these participants would accumulate enough funds to purchase a private long-term care insurance policy at age 55.

Offering matching contributions would boost participation rates and generate significant account balances among participants. We project that almost 10 percent of adults would participate if the match rate was 20 percent, and nearly all participants would accumulate enough funds to purchase a long-term care policy at age 55. Average account balances per participant--nearly $70,000--and average individual contributions--about $45,000--would exceed the combined cost of government matching contributions and lost federal tax revenue--about $18,400. We estimate that account accumulations would reduce average Medicaid expenditures per participant by about $19,100, resulting in net government savings of about $700 per participant. On average participants' account balances would exceed $53,000 after subtracting the cost of purchasing private long-term care policies.

Although accumulations per participant are substantial under a 20 percent match, higher match rates are necessary to induce more than 1 in 10 adults to participate. Participation rates increase to 15 percent, 26 percent, and 37 percent under the 50 percent, 100 percent, and 150 percent match scenarios. Account accumulations per participant increase only modestly with higher match rates because participants would contribute the maximum amount in most years under all of the matching scenarios, partly because we assume that participants contribute every year in which they do not have better savings options. Because total individual and government contributions are limited to $1,000 and we estimate that participants generally contribute the maximum amount, increasing the match rate reduces individual contributions per participant. Individual contributions per participant fall from $45,000 with a 20 percent match to $23,500 with a 150 percent match, while the government's cost per participant increases from $9,000 to $35,000. Nonetheless, accumulations per participant exceed the cost to the government under the higher match scenarios, though government costs exceed Medicaid savings.

While accumulations *per participant* increase only modestly under higher match rates, the increase in participation results in greater accumulations *per adult* (regardless of HRSA participation). Accumulations per adult increase from less than $7,000 with a 20 percent match to nearly $28,000 with a 150 percent match.

Because government matches crowd out individual contributions, matching contributions become less efficient as match rates increase. With a 20 percent match $1 of government spending increases total individual contributions by about $2.5 and total accumulations by about $3.8. Both of these figures decline as the match rate increases, with every additional dollar of government spending with a 150 percent match generating an additional $0.6 in individual contributions and $1.9 in total accumulations.

Table 3 and Table 4 present outcomes for scenarios in which individuals can contribute only in years in which their incomes fall below certain thresholds. The Table 3 threshold equals 400 percent of FPL in 2008, and then grows over time at the same rate as economy-wide wages. The Table 4 threshold is set at 200 percent of FPL in 2008.[1] Account accumulations per participant are significantly lower when only adults

[1] Because the FPL increases with the price level and wages grow faster than prices over the long run, the thresholds as a percentage of FPL will increase over time.

with incomes below 400 percent of FPL can contribute, and especially when only those with incomes below 200 percent of FPL can contribute. Average account accumulations at age 55 range from about $69,500 to $75,000 per participant when there are no income restrictions on contributions, from $37,000 to $42,000 when contributions are restricted to those below 400 percent of FPL, and from $23,500 to $25,000 when contributions are restricted to those below 200 percent of FPL. Net government savings per participant increase when annual contributions are income-restricted because the government spends less money subsidizing accumulations beyond levels necessary for purchasing long-term care policies. The government also saves more when high-income workers are excluded from the program because they are less likely to go on to use Medicaid-financed long-term care. The portion *ever* participating declines only slightly when contributions are limited to years in which income falls below 400 percent of FPL and declines modestly when participation is restricted to those with incomes below 200 percent of FPL.[2]

Table 5 shows account participation by educational attainment and lifetime earnings quintile. Better educated individuals and those with higher lifetime earnings are more likely to participate than those with less education and lower earnings. Under the matching contribution scenarios participation rates are 5-7 percentage points higher for college graduates than those who did not complete high school and 8-12 percentage points higher for adults in the top lifetime earnings quintile than those in the bottom quintile.

Table 6 and Table 7 show participation rates and account accumulations by education and earnings group when annual contributions are restricted to those with incomes below 400 percent and 200 percent of FPL, respectively. When contributions are restricted to adults with incomes below 400 percent of FPL, accumulations decline with education and lifetime earnings. College graduates who participate accumulate between $29,500 and $33,500 on average by age 55, compared with about $52,000-$55,000 for adults without a high school diploma. Participants in the top lifetime earnings quintile accumulate only about $12,500-$13,500, on average, while those in the bottom quintile accumulate between $66,500 and $70,000. Although accumulations decline with education and lifetime earnings, the percentage ever participating does not fall, because few workers exceed the threshold in every year. When the income threshold falls to 200 percent of FPL the percentage ever participating is lower for those near the top of the income distribution than for those near the bottom. With 150 percent matching contributions, only 15.5 percent of adults in the top earnings quintile ever participate and they accumulate average balances of less than $5,500, compared with more than 31 percent of adults in the bottom earnings quintile participating and final average account balances of nearly $56,500.

[2] The income restrictions have less impact on the portion ever participating than on accumulations primarily because of the way we simulate these outcomes. To keep the approach manageable, we simulate participation only once, based on age 40 characteristics, not at every age. Because family income varies over time and we do not wish to disqualify someone from ever participating based only on age 40 income, the income restriction does not affect the participation prediction. The income restriction does, however, affect contributions each year.

Table 8 shows total government outlays and tax expenditures in 2008 when we simulate HRSA participation and contributions among all adults ages 25 and older (as opposed to the cohort turning age 25 between 2008 and 2013). With no income restriction total government costs range from $3.4 billion with a 20 percent match to $28.8 billion with a 150 percent match. Government costs are substantially lower under the income-restricted scenarios. For instance, with a 150 percent match total costs are $15.8 billion if contributions are restricted to adults with incomes below 400 percent of FPL and $7.6 billion if the income cutoff is set at 200 percent of FPL.

DISCUSSION

We find that HRSAs with government matching contributions could result in significant savings for long-term care expenses for a subset of the population. These accumulations could reduce Medicaid long-term care expenditures and, if matching contributions were income-restricted, HRSAs could actually save the government money. For instance, with 50-percent matching contributions restricted to adults with incomes below 400 percent of FPL, the government might save $3,000 per participant.

Our conclusions, however, are somewhat tentative. The estimates hinge crucially on the results of a study of the impact of matching contributions on IRA contributions among H&R Block customers. Use of funds in HRSAs would be more restricted than funds in IRAs, suggesting that our estimates are likely upper bounds on participation. Another reason we would expect HRSA participation to be lower than in the H&R Block study is that tax-preparers asked individuals in the study if they would like to contribute and completed the necessary paperwork for them. Studies have shown that availability of information and ease of participation can spur participation in savings vehicles. Participation in HRSAs would likely require substantial initiative by consumers.

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TABLES

TABLE 1. Percent of Adults Turning 25 Between 2008 and 2013 with Better Savings Options Than HRSAs at Age 40, by Government Matching Scenario					
	No Match	20 Percent Match	50 Percent Match	100 Percent Match	150 Percent Match
All	93.5	9.1	8.1	1.0	0.1
Income Quartile at Age 40					
Bottom	100.0	3.3	3.0	0.2	0.0
Second	100.0	6.1	5.7	0.4	0.0
Third	93.5	9.5	8.6	1.4	0.0
Top	85.4	14.2	12.3	1.5	0.2

SOURCE: Authors' calculations based on DYNASIM3.
NOTE: Respondents have better savings options if they can contribute to IRAs or DC pension plans on terms at least as favorable as HRSAs.

TABLE 2. HRSA Outcomes, by Government Match Rate					
	No Match	20 Percent Match	50 Percent Match	100 Percent Match	150 Percent Match
Pct. of Adults Ever Participating	1.0	9.7	15.2	26.3	37.1
Pct. of Participants Accumulating Enough Funds to Purchase Private LTC Insurance	42.3	99.3	99.1	100.0	100.0
Mean Value at Age 55 Per Participant (2008 $)					
Accumulations	19,048	69,655	69,724	74,663	74,120
Excess Accumulations	7,627	53,379	53,454	58,373	58,830
Individual Contributions	15,825	45,296	36,321	29,242	23,539
Government Contributions	---	9,059	18,161	29,242	35,308
Tax Expenditures	4,304	9,376	7,399	5,922	4,742
Medicaid Savings	8,899	19,141	17,352	17,728	17,913
Net Government Cost	-4,595	-705	8,208	17,435	22,138
Mean Value at Age 55 Per Adult (2008 $)					
Accumulations	189	6,778	10,627	19,616	27,900
Excess Accumulations	76	5,194	8,147	15,336	21,849
Individual Contributions	157	4,408	5,536	7,683	8,742
Government Contributions	---	882	2,768	7,683	13,114
Tax Expenditures	43	912	1,128	1,556	1,761
Medicaid Savings	88	1,863	2,645	4,658	6,653
Net Government Cost	-46	-69	1,251	4,581	8,222
Total Accumulations/(Total Government Contributions + Tax Expenditures)	4.4	3.8	2.7	2.1	1.9
Total Individual Contributions/ (Total Government Contributions + Tax Expenditures)	3.7	2.5	1.4	0.8	0.6

SOURCE: Authors' calculations based on IRA participation in the SIPP, the impact of matching contributions in the H&R Block experiment (Duflo et al. 2005), and DYNASIM3.
NOTE: Contributions and tax expenditures are expressed as future values at age 55 using a 3 percent real discount rate. Medicaid savings are expressed as the expected present value at age 55. A private long-term care insurance policy is assumed to cost $16,000 at age 55 in today's dollars.

TABLE 3. HRSA Outcomes by Government Match Rate, Contributions Restricted to Adults with Incomes Below 400 Percent of FPL				
	20 Percent Match	**50 Percent Match**	**100 Percent Match**	**150 Percent Match**
Pct. Ever Participating	9.2	14.5	25.2	35.8
Pct. of Participants Accumulating Enough Funds to Purchase Private LTC Insurance	76.3	77.2	81.1	81.3
Mean Value at Age 55 Per Participant (2008 $)				
Accumulations	37,036	38,495	41,456	41,938
Excess Accumulations	22,545	23,842	26,543	27,009
Individual Contributions	23,531	19,649	15,923	12,899
Government Contributions	4,706	9,824	15,923	19,348
Tax Expenditures	3,541	2,954	2,390	1,930
Medicaid Savings	17,535	15,718	16,302	16,453
Net Government Cost	-9,288	-2,940	2,011	4,825
Mean Value at Age 55 Per Adult (2008 $)				
Accumulations	3,391	5,575	10,467	14,996
Excess Accumulations	2,064	3,453	6,702	9,658
Individual Contributions	2,155	2,846	4,020	4,612
Government Contributions	431	1,423	4,020	6,918
Tax Expenditures	324	428	603	690
Medicaid Savings	1,606	2,276	4,116	5,883
Net Government Cost	-851	-426	508	1,725
Total Accumulations/(Total Government Contributions + Tax Expenditures)	4.5	3.0	2.3	2.0
Total Individual Contributions/(Total Government Contributions + Tax Expenditures)	2.9	1.5	0.9	0.6

SOURCE: Authors' calculations based on IRA participation in the SIPP, the impact of matching contributions in the H&R Block experiment (Duflo et al. 2005), and DYNASIM3.

NOTE: Contributions and tax expenditures are expressed as future values at age 55 using a 3 percent real discount rate. Medicaid savings are expressed as the expected present value at age 55. A private long-term care insurance policy is assumed to cost $16,000 at age 55 in today's dollars.

TABLE 4. HRSA Outcomes by Government Match Rate, Contributions Restricted to Adults with Incomes Below 200 Percent of FPL				
	20 Percent Match	**50 Percent Match**	**100 Percent Match**	**150 Percent Match**
Pct. Ever Participating	6.7	11.1	20.1	28.5
Pct. of Participants Accumulating Enough Funds to Purchase Private LTC Insurance	50.0	50.0	50.9	51.8
Mean Value at Age 55 Per Participant (2008 $)				
Accumulations	23,438	23,628	24,684	25,046
Excess Accumulations	11,705	11,981	12,846	13,097
Individual Contributions	14,821	12,015	9,448	7,674
Government Contributions	2,964	6,008	9,448	11,511
Tax Expenditures	1,774	1,434	1,125	914
Medicaid Savings	14,987	13,258	13,294	13,618
Net Government Cost	-10,249	-5,816	-2,721	-1,192
Mean Value at Age 55 Per Adult (2008 $)				
Accumulations	1,575	2,626	4,953	7,142
Excess Accumulations	786	1,331	2,578	3,735
Individual Contributions	996	1,335	1,896	2,188
Government Contributions	199	668	1,896	3,282
Tax Expenditures	119	159	226	261
Medicaid Savings	1,007	1,473	2,668	3,883
Net Government Cost	-689	-646	-546	-340
Total Accumulations/(Total Government Contributions + Tax Expenditures)	4.9	3.2	2.3	2.0
Total Individual Contributions/(Total Government Contributions + Tax Expenditures)	3.1	1.6	0.9	0.6

SOURCE: Authors' calculations based on IRA participation in the SIPP, the impact of matching contributions in the H&R Block experiment (Duflo et al. 2005), and DYNASIM3.
NOTE: Contributions and tax expenditures are expressed as future values at age 55 using a 3 percent real discount rate. Medicaid savings are expressed as the expected present value at age 55. A private long-term care insurance policy is assumed to cost $16,000 at age 55 in today's dollars.

TABLE 5. HRSA Participation by Education and Income					
	No Match	**20 Percent Match**	**50 Percent Match**	**100 Percent Match**	**150 Percent Match**
All	1.0	9.7	15.2	26.3	37.1
Education					
Less Than High School	0.0	7.2	13.5	23.9	34.8
High School Graduate	0.4	7.3	12.5	23.4	34.1
Some College	0.7	8.2	13.9	24.4	34.8
College Graduate	1.9	13.2	18.7	30.2	41.5
Lifetime Earnings Quintile					
Bottom	0.1	6.3	11.3	21.2	31.2
Middle	0.8	9.4	14.6	25.4	36.7
Top	2.3	14.3	19.7	31.6	43.3

SOURCE: Authors' calculations based on IRA participation in the SIPP, the impact of matching contributions in the H&R Block experiment (Duflo et al. 2005), and DYNASIM3.
NOTE: Lifetime earnings quintiles are based on household earnings. Household earnings include an individual's entire value in years he or she is single and half of the couple's value in years he or she is married.

TABLE 6. HRSA Participation and Average Accumulations Per Participant at Age 55 by Education and Earnings Annual Contributions Are Restricted to Adults with Incomes Below 400 Percent of FPL								
	20 Percent Match		50 Percent Match		100 Percent Match		150 Percent Match	
	Participation (percent)	Accumulations (real dollars)	Participation (percent)	Accumulations (real dollars)	Participation (percent)	Accumulations (real dollars)	Participation (percent)	Accumulations (real dollars)
All	9.2	37,036	14.5	38,495	25.3	41,456	35.8	41,938
Education								
Less Than High School	7.1	52,650	13.4	52,149	23.8	54,894	34.6	53,868
High School Graduate	7.1	46,466	12.2	46,523	23.0	49,103	33.6	49,067
Some College	8.0	38,580	13.6	40,447	23.7	42,613	33.8	43,177
College Graduate	12.0	29,486	17.2	30,247	28.3	32,845	38.9	33,505
Lifetime Earnings Quintile								
Bottom	6.3	66,786	11.3	66,663	21.2	69,609	31.2	69,774
Middle	9.4	40,400	14.6	40,804	25.4	44,654	36.7	45,137
Top	11.5	12,918	16.1	12,599	26.6	13,441	36.6	13,186

SOURCE: Authors' calculations based on IRA participation in the SIPP, the impact of contributions in the H&R Block experiment (Duflo et al. 2005), and DYNASIM3.
NOTE: Lifetime earnings quintiles are based on household earnings. Household earnings include an individual's entire value in years he or she is single and half of the couple's value in years he or she is married.

TABLE 7. HRSA Participation and Average Accumulations Per Participant at Age 55 by Education and Earnings Annual Contributions Are Restricted to Adults with Incomes Below 200 Percent of FPL								
	20 Percent Match		50 Percent Match		100 Percent Match		150 Percent Match	
	Participation (percent)	Accumulations (real dollars)	Participation (percent)	Accumulations (real dollars)	Participation (percent)	Accumulations (real dollars)	Participation (percent)	Accumulations (real dollars)
All	6.7	23,438	11.1	23,628	20.1	24,684	28.5	25,046
Education								
Less Than High School	6.8	34.002	12.8	33,057	22.7	34,604	33.2	33,490
High School Graduate	6.0	27,608	10.5	26,837	20.5	28,195	29.7	28,535
Some College	5.7	23,551	10.6	23,906	19.1	24,019	27.5	24,092
College Graduate	7.8	18,396	11.5	18,418	19.5	19,015	26.9	19,667
Lifetime Earnings Quintile								
Bottom	6.3	53,947	11.3	53,682	21.2	56,497	31.2	56,429
Middle	8.2	14,235	13.0	13,495	23.8	13,679	34.3	13,757
Top	4.4	6,291	6.4	5,810	10.9	5,446	15.4	5,418

SOURCE: Authors' calculations based on IRA participation in the SIPP, the impact of contributions in the H&R Block experiment (Duflo et al. 2005), and DYNASIM3.
NOTE: Lifetime earnings quintiles are based on household earnings. Household earnings include an individual's entire value in years he or she is single and half of the couple's value in years he or she is married.

TABLE 8. Government Outlays and Tax Expenditures for HRSA by Match Rate, 2008 (thousands of dollars)					
	No Match	**20 Percent Match**	**50 Percent Match**	**100 Percent Match**	**150 Percent Match**
No Income Restriction					
Outlays	---	1,678,277	5,282,474	14,787,591	25,391,943
Tax Expenditure	89,841	1,717,539	2,111,427	2,963,958	3,371,952
Totals	89,841	3,395,817	7,393,901	17,751,549	28,763,895
Contributions Restricted, Incomes < 400% of FPL					
Outlays	---	888,940	2,967,445	8,280,958	14,375,892
Tax Expenditure	---	658,219	876,922	1,227,915	1,419,580
Totals	---	1,547,159	3,844,367	9,508,873	15,795,473
Contributions Restricted, Incomes < 200% of FPL					
Outlays	---	421,779	1,442,100	4,013,856	7,014,550
Tax Expenditure	---	252,068	343,984	478,971	557,150
Totals	---	673,847	1,786,084	4,492,828	7,571,699

SOURCE: Authors' calculations based on IRA participation in the SIPP, the impact of matching contributions in the H&R Block experiment (Duflo et al. 2005), and DYNASIM3.
NOTE: Total government cost estimates based on simulating participation and contributions among all adults age 25 and older.

METHODS APPENDIX

We assess the potential of HRSAs to increase private saving for future long-term care needs by simulating participation and account balances in DYNASIM3, the Urban Institute's microsimulation model. Simulated HRSA participation rates and contribution amounts are based on observed patterns of IRA contributions in the SIPP. We use results from an H&R Block random assignment experiment of the impact of matching contributions on IRA saving to account for government matching of HRSA contributions. The simulations project individual contributions, account accumulations, government spending, and Medicaid savings at age 55 for adults turning age 25 between 2008 and 2013. We project outcomes under different scenarios that vary by government matching contributions and whether higher income people would be allowed to participate. To estimate the annual cost of subsidizing HRSAs we also simulate participation and contributions in 2008 among all adults in DYNASIM3 ages 25 and older.

Literature Review

To gain insight into who might contribute to HRSAs and the impact of government matching contributions we reviewed the literature on the determinants of IRA and DC retirement plan participation and contribution amounts. Previous research shows that participation and contributions increase with earnings, income, education, and age (Andrews 1992; Bassett, Fleming, & Rodrigues 1998; Clark & Schieber 1998; Clark, Goodfellow, Schieber, & Warwick 2000; Hinz & Turner 1998; Holden & VanDerhei 2001; Kusko, Poterba, & Wilcox 1998; Munnell, Sundén, & Taylor 2003; Smith, Johnson, & Muller 2004). DC plan participation rates also increase when employers make enrollment easy or provide their workers with financial education (Bernheim & Garrett 2003; Choi, Laibsen, & Madrian 2004; Duflo & Saez 2003).

Matching contributions (usually by employers) appear to increase participation in savings vehicles, although the size of the impact is unclear. Estimates of the impact of matching contributions on DC plan participation range from 1 to 33 percentage points (Bassett, Fleming, & Rodrigues 1998; Clark & Schieber 1998; Clark, Goodfellow, Schieber, & Warwick 2000; Even & Macpherson 1994, 2004; Huberman, Iyengar, & Jiang 2007; Papke 1995; Papke, Petersen, & Poterba 1996). However, most of these studies fail to account for the potential endogoneity of employer match rates and employee savings behavior, potentially biasing their results (Even & Macpherson 2004). The best evidence of the impact of matching contributions comes from an experimental study that offered matching funds for IRA contributions to a random sample of H&R Block customers seeking tax-preparation assistance (Duflo et al. 2005). It finds that a 50 percent match would increase the likelihood of contributing by 10 percentage points.

Matching contributions' impact on contribution amounts for those who contribute is even less certain than the impact on the likelihood of contributing. Some studies find that employer-matching reduces worker contributions to DC plans (because matches allow participants to reach a given target account balance by contributing less money than they could without the match), whereas others find opposite effects (Andrews

1992; Clark & Schieber 1998; Munnell, Sundén, & Taylor 2003). Again, the best evidence comes from the H&R Block study, which finds that a 50 percent match increases contributions by nearly $350 (Duflo et al. 2005).

We base our analysis on IRA contributions rather than on DC plan contributions because, like IRAs, HRSAs would not be administered by employers. Additionally, the H&R Block's IRA study provides the most convincing evidence on the impact of matching contributions on savings behavior.

Estimating IRA Participation and Contributions

We begin by estimating the likelihood of contributing to an IRA and contribution amounts among contributors in Wave 7 of the 2001 SIPP panel. The SIPP is a nationally representative longitudinal survey administered by the U.S. Census Bureau. The core survey collects basic information on demographics, employment, income, and program participation, and special modules collect additional information on various topics, including assets and IRA contributions. The reference period for Wave 7 is February-May 2003.

We estimate a probit model of the likelihood of contributing to an IRA and an ordinary least squares (OLS) model of contributions among contributors. We restrict the probit sample to 9,128 respondents ages 35-45 because we base HRSA participation on age 40 characteristics. The OLS sample consists of 714 respondents ages 25-55--the group eligible to contribute to the HRSA--who contribute to IRAs. About 4 percent of adults in our probit sample contribute to IRAs, and the average contribution among contributors in our OLS sample is $2,200. The models control for gender, age, marital status, race, education, employment status, homeownership, defined-benefit pension coverage, household income, and household wealth.[3] We measure contribution amounts, as well as household income and wealth, relative to average Social Security-covered earnings, because that is how we measure them in the simulations.

Table A1 reports the model results. The likelihood of contributing to IRAs at ages 35-44 increases with education and household income, and is higher among employed adults and homeowners than other groups. African Americans and Hispanics are less likely to contribute than Whites, and married and (especially) divorced adults are less likely to contribute than never married adults. Among contributors, contribution amounts increase with household income and wealth, and are lower among African Americans and Hispanics than among Whites.

To account for the impact of government matching contributions on HRSA participation, we use results from the H&R Block study to adjust our SIPP estimates. Regression coefficients from Duflo et al. (2005) show the impact of 20 percent and 50 percent match rates on the likelihood of contributing to an IRA by income quintile,

[3] Household wealth includes bank accounts, stocks, bonds, housing, other real estate, vehicles, and businesses, net of mortgage and other debt.

marital status, homeownership, receipt of investment income, and DC pension participation. We extrapolate impacts for 100 percent and 150 percent match rates based on the 50 percent match rate coefficients. We then apply these differentials effects, reported in Table A2, to our simulations. For instance, under the 50 percent matching scenario we increase the participation rate for married homeowners in the top income quintile by 11.8 percentage points (8.3 + 4.5 + 2.3 – 3.2).

Simulating HRSAs in DYNASIM

We next apply participation and contribution rates based on the SIPP and the H&R Block study to the Urban Institute's DYNASIM3 microsimulation model to project long-term care account accumulations at age 55. DYNASIM3 starts with the 1990-1993 panels of the SIPP and forecasts future demographic, social, and economic characteristics of the population by simulating births, deaths, marriages, divorces, work decisions, disability, and earnings.[4] Our simulation sample consists of adults turning age 25 in 2008-2013.

When simulating HRSAs we first predict whether individuals in DYNASIM3 would participate based on their characteristics at age 40 and the estimated parameters from our SIPP model, adjusted by the H&R Block experiment results. We then simulate contributions in each year for those we identify as participants. One complication with this analysis is that many workers do not now take full advantage of pre-tax retirement savings vehicles or even employer-matching contributions. Since workers would have less discretion over the use of funds in HRSAs than funds in IRAs and DC retirement accounts, we assume that individuals predicted to participate would not in fact contribute to the new accounts in years in which they could contribute to an existing savings vehicle on equal or better terms. For instance, we assume individuals would not contribute in years in which they belonged to DC pension plans with employer match rates at least as generous as what the government would provide for HRSAs, unless they contribute enough to their pensions to maximize employer-matching contributions. Similarly, we assume individuals would not contribute to HRSAs in years in which they are eligible for IRAs but contribute less than the maximum amount, unless the HRSA includes a government match.

We also simulate outcomes when contributions are restricted to low-income adults. Under these scenarios, we predict participation based on characteristics at age 40 in the same manner as the non-restricted scenarios but do not allow participants to contribute in years in which their incomes exceed the specified threshold. The income restrictions reduce participation rates only for cases in which individuals predicted to participate exceed the income threshold in all years. Consequently the income restrictions have larger impacts on account accumulations than on participation rates.

[4] See Favreault & Smith (2004) for more information on DYNASIM3.

Rate of Return

We assume HRSA participants would invest 50 percent of their portfolio in stock-index funds and 50 percent in bond-index funds, yielding a real return of 4.6 percent. These are the same assumptions used by the Social Security actuaries when evaluating personal account reform proposals (Social Security Administration 2002). We assume an annual discount rate of 3 percent in our present and future value calculations.

Cost of Long-Term Care Policy

We estimate the cost of a long-term care policy at age 55 in 2037 to be $16,000 in today's dollars. The estimate is based on the expected present value of insurance premiums for a plan from the Federal Long-Term Care Insurance Program which currently provides benefits of $100 per day for up to 3 years, with maximum lifetime benefits of $109,500. In 2008 this policy charges a new 55-year-old policy holder annual premiums of $912 (Federal Long Term Care Insurance Program 2008). We assume that real long-term care costs, and hence the inflation-adjusted price of private long-term care insurance, will grow at the same rate as average real wages, because long-term care services are quite labor intensive. We use the Social Security trustees' assumption that real wages increase each year by 1 percent.

Medicaid Savings

To estimate how much money HRSAs could save Medicaid, we first simulate the present value at age 55 of Medicaid long-term expenditures in the absence of HRSAs for each adult in our sample. Kemper, Komisar, & Alecxih (2005) project the average distribution of future Medicaid long-term care expenditures for all older adults. Johnson & Mermin (2008) estimate how the likelihood of any Medicaid long-term care expenditures vary by lifetime earnings for men and women. We combine these two sources of information and our assumption about long-term care cost inflation to estimate expected Medicaid long-term care expenditures by lifetime earnings quintile, as reported in Table A3. The estimates assume that lifetime earnings affect the likelihood of ever using Medicaid-financed long-term care expenditures, but not the level of costs incurred by recipients.

We then simulate Medicaid savings for each individual based on their expected Medicaid long-term care expenditures in the absence of HRSAs, whether the individual has enough funds to purchase long-term care insurance, and the size of any remaining account balance. We assume insurance benefits and HRSA balances reduce Medicaid expenditures dollar-for-dollar, and that adults with account balances that exceed the cost of a long-term care policy would spend half of their excess funds on non-long-term care expenses before they use any long-term care services. For adults with long-term care insurance, Medicaid savings equal expected Medicaid long-term care expenditures in the absence of HRSAs if these expenses are less than the policy's maximum lifetime benefits plus half the excess funds in the HRSA; otherwise Medicaid savings equals the policy's maximum lifetime benefits plus half the remaining HRSA funds. For adults without insurance, savings equal expected Medicaid long-term care expenditures if they fall short of the account balance; otherwise savings equal the account balance. Table A4 shows Medicaid savings under alternative assumptions about the use of excess funds--that participants save all exceed funds for long-term care expenses or that they spend all of the funds on other expenses.

Lost Tax Revenue

We assume that HRSA participants would have paid federal income taxes on their annual account contributions if HRSAs did not exist. We estimate these foregone tax payments using the marginal tax rate that the individual would face, based on family income and number of dependents, assuming that 2008 tax rates continued indefinitely. Our estimate of lost tax revenue equals the discounted value of this stream.

Limitations

There are a number of important limitations to this analysis which together imply that our results should be interpreted as upper bounds on HRSA participation and accumulations.

Restricted Use of Funds May Limit Participation

The most speculative aspect of this analysis is basing participation and contributions on IRAs that have far fewer restrictions on the use of account balances than the HRSAs we modeled. We partially address this issue by assuming that participants do not contribute in years in which they can contribute to IRAs and DC pension plans on terms that are at least as favorable. But some people may actually prefer contributing to existing pre-tax retirement accounts with less-favorable financial terms than HRSAs because they can use IRA and DC plan account balances however they choose in retirement. Additionally, people may be reluctant to invest in HRSAs if they believe that the government will cover their future long-term care costs.

Participation Should be Dynamic

We assume participants contribute to HRSAs in all years between ages 25 and 55, when in fact participation would almost assuredly vary over time. We partially address this issue by assuming that participants do not contribute in years in which they would have better savings options or in years in which their incomes exceed the specified thresholds in income-tested scenarios. Estimating fully dynamic participation models is beyond the scope of this project. If we had simulated participation each year, the proportion ever participating would be higher than our current estimates, and the average accumulations per participant would be lower.

H&R Block Experiment Made Contributing Easy

In the H&R Block experiment tax-preparers asked individuals seeking tax-preparation help if they wanted to contribute to an IRA, thus simplifying the participation process. Research suggests that access to information and ease of participation can significantly boost participation rates in DC pension plans, so our simulations may overstate HRSA participation.

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Tables

TABLE A1. Coefficients from HRSA Participation and Contribution Models		
	Likelihood of Contributing	**Contribution Amount**
Female	-0.077 (0.051)	-0.003 (0.003)
Age		
25-34 spline	---	0.001 (0.001)
35-44 spline	---	0.073 (0.048)
45-54 spline	---	-0.001 (0.001)
35-44 indicator	---	0.048 (0.035)
45-54 indicator	---	0.000 (0.000)
Marital Status		
[Reference: Never married]	---	---
Married	-0.192 *** (0.076)	-0.006 (0.004)
Widowed	-0.458 (0.440)	-0.002 (0.019)
Divorced	-0.336 *** (0.109)	-0.005 (0.006)
Education		
Did not complete high school	-0249 * (0.142)	-0.006 (0.010)
[Reference: High school graduate]	---	---
Some college	0.153 ** (0.072)	0.001 (0.004)
College graduate	0.467 *** (0.072)	0.000 (0.004)
Graduate degree	0.540 *** (0.084)	0.004 (0.005)
Race and Ethnicity		
[Reference: White]	---	---
African American	-0.313 *** (0.108)	-0.017 *** (0.007)
Hispanic	-0.329 *** (0.113)	-0.020 *** (0.008)
Other race	-0.109 (0.112)	-0.011 (0.007)
Employed	0.242 *** (0.076)	-0.005 (0.004)
Homeowner	0.308 *** (0.072)	0.002 (0.004)
Defined-Benefit Pension	-0.069 (0.060)	-0.005 (0.003)
Family Income	0.044 *** (0.012)	0.002 *** (0.001)
Household Wealth	0.0005 (0.0005)	0.001 *** (0.0001)
Constant	-2.198 *** (0.110)	0.021 (0.034)
N	9,128	714
R^2	---	0.1265

SOURCE: Authors' estimates, based on data from the 6th and 7th Waives of the 2001 SIPP.
NOTE: Standard errors are in parentheses. Participation is based on a probit model for adults ages 35 and 44. Contributions are based or an OLS model for participants ages 25-55. Contributions, family income, and household wealth are expressed as fractions of average earnings covered by Social Security. Social Security average earnings in 2002 were $33,252.

* p < 0.10; ** p < 0.05; *** p < 0.01.

TABLE A2. Impact of Match Rates on Participation Probabilities				
	20 Percent	**50 Percent**	**100 Percent**	**150 Percent**
Base Impact on All Adults	3.0	8.3	16.6	24.8
Additional Impact				
Income Quartile				
Second	2.5	2.6	5.3	7.9
Third	0.0	3.6	7.2	10.8
Top	3.0	4.5	9.0	13.5
Married	2.3	2.3	4.5	6.8
Homeowner	-0.3	-3.2	-6.4	-9.6
Contributes to 401(k)	-1.6	1.5	2.9	4.4

SOURCE: Authors' calculations based on Duflo et al. (2005).
NOTE: We adjust participation probabilities by the base impact for all adults in our sample. Participation probabilities are further adjusted for adults in higher income quartiles, married adults, homeowners, and adults contributing to 401(k)s. Impacts for 20 percent and 50 percent match rates are based on a linear probability model of participation from Duflo et al. (2005). Base impacts combine the effect of match rate dummies and their interactions with adult receives a tax refund, has investment income, and is a return H&R Block customer. Additional impacts are coefficients from the interactions of income quartile, marital status, homeowner, and contributes to 401(k) with match rate dummies. We extrapolate impacts for 100 percent and 150 percent match rates based on the 50 percent match rate coefficients.

TABLE A3. Probability Distribution of the Present Value of Medicaid Long-Term Care Expenditures at Age 55, by Gender and Lifetime Earnings Quintile						
	Expenditure Level (2008 Dollars)					
	0	**6,850**	**23,975**	**86,625**	**222,625**	**342,500**
Men's Lifetime Earnings Quintile						
Bottom	59.2	13.6	5.4	12.2	6.8	2.7
Second	84.0	5.3	2.1	4.8	2.7	1.1
Third	81.2	6.3	2.5	5.7	3.1	1.3
Fourth	87.4	4.2	1.7	3.8	2.1	0.8
Top	92.0	2.7	1.1	2.4	1.3	0.5
Women's Lifetime Earnings Quintile						
Bottom	33.0	22.3	8.9	20.1	11.2	4.5
Second	55.3	14.9	6.0	13.4	7.4	3.0
Third	61.3	12.9	5.2	11.6	6.5	2.6
Fourth	79.4	6.9	2.7	6.2	3.4	1.4
Top	83.6	5.5	2.2	4.9	2.7	1.1

SOURCE: Authors' calculations based on published projections of future Medicaid long-term care expenditures (Kemper, Komisar, & Alecxih 2005) and recent analysis of how the likelihood that adults experience Medicaid-financed nursing home stays varies by lifetime earnings (Johnson & Mermin 2008).
NOTE: Expenditure levels are mid-points of ranges projected by Kemper, Komisar, & Alecxih, adjusted for expected growth in long-term care costs to 2038, the year our sample begins to reach age 55. Lifetime earnings quintiles are based on household earnings. Household earnings include the individual's full value in years he or she is single and half of the combined value of the individual and spouse in years he or she is married.

TABLE A4. Medicaid Savings Per Participant by Match Rate					
	No Match	**20 Percent**	**50 Percent**	**100 Percent**	**150 Percent**
No Income Restriction					
Spend all excess	8,798	17,702	16,086	16,307	16,452
Spend ½ of all excess	8,899	19,141	17,352	17,728	17,913
Save all excess	9,000	20,580	18,618	19,150	19,374
Contributions Restricted to Those with Incomes < 400% of FPL					
Spend all excess	---	16,727	15,003	15,441	15,550
Spend ½ of all excess	---	17,535	15,718	16,302	16,453
Save all excess	---	18,343	16,433	17,163	17,356
Contributions Restricted to Those with Incomes < 200% of FPL					
Spend all excess	---	14,494	12,819	12,807	13,119
Spend ½ of all excess	---	14,987	13,258	13,294	13,618
Save all excess	---	15,480	13,697	13,782	14,116

SOURCE: Authors' calculations based on IRA participation in the SIPP, the impact of matching contributions in the H&R Block experiment (Duflo et al. 2005), DYNASIM3, published projections of the share of adults with various levels of Medicaid long-term care expenditures (Kemper, Komisar, & Alecxih 2005), and recent estimates of the likelihood of adults experiencing Medicaid-financed nursing home stays by lifetime earnings (Johnson & Mermin 2008).

NOTE: Contributions and tax expenditures are expressed as future values at age 55 using a 3 percent real discount rate. Medicaid savings are expressed as the expected present value at age 55 in 2008 dollars.

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