ebri.org
Employee Benefit Research Institute

March 2014 • Vol. 35, No. 3

Notes

AT A GLANCE

Brand-Name and Generic Prescription Drug Use After Adoption of a Full-Replacement, Consumer-Directed Health Plan With a Health Savings Account, *by Paul Fronstin, Ph.D., Employee Benefit Research Institute, and M. Christopher Roebuck, Ph.D., RxEconomics*

- A full-replacement HSA plan was associated with a 4.7 percentage-point rise in the generic-drug dispensing rate (GDR) after one year, and settled 3.4 percentage points higher after four years. The GDR for maintenance medications experienced a similar effect, while for nonmaintenance conditions the GDR rose by 4.1 percentage points after one year, but was just 1.7 percentage points higher after four years.
- At the end of the four-year follow-up period, GDR was greater by 4.5 percentage points for hypertension, 15.4 percentage points for dyslipidemia, and 7.8 percentage points for asthma/COPD. No significant effects were detected for diabetes GDR, but the measure for depression was lower by 8.4 percentage points after 2010.
- GDR increases were due to individuals discontinuing use of brand-name drugs without substituting generic therapy. After one year under the full-replacement HSA plan, 0.43 fewer generic and 0.95 fewer brand-name prescriptions were filled, on average.

How Would Defined Contribution Participants React to Lifetime Income Illustrations? Evidence from the 2014 Retirement Confidence Survey, *by Jack VanDerhei, Ph.D., EBRI*

- In May 2013, the U.S. Department of Labor's Employee Benefits Security Administration (EBSA) published an advance notice of proposed rulemaking (ANPRM) focusing on lifetime income illustrations. The 2014 Retirement Confidence Survey (RCS) included a series of questions concerning monthly income illustrations similar in many respects to those provided by the EBSA's online Lifetime Income Calculator.
- The vast majority of respondents said the retirement income projection was useful; more than 1 in 3 (36 percent) of the respondents thought that it was very useful to hear an estimate of the monthly retirement income they might expect from their plan, and another 49 percent thought it was somewhat useful.
- A total of 17 percent of the respondents indicated that this information would lead them to increase the amount they were contributing. However, of those responding that their illustrated value was much less or somewhat less than expected, 35 percent indicated they would increase their contributions.

Brand-Name and Generic Prescription Drug Use After Adoption of a Full-Replacement, Consumer-Directed Health Plan With a Health Savings Account

By Paul Fronstin, Ph.D., Employee Benefit Research Institute, and M. Christopher Roebuck, Ph.D., RxEconomics

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The following organizations provide the funding for EBRI CRHBI: American Express, Ameriprise, Aon Hewitt, Blue Cross Blue Shield Association, Boeing, Deseret Mutual, Federal Reserve Employee Benefits System, General Mills, Healthways, IBM, JP Morgan Chase, Mercer, and Pfizer. Any views expressed in this report are those of the authors and should not be ascribed to the officers, trustees, or other sponsors of EBRI, Employee Benefit Research Institute-Education and Research Fund (EBRI-ERF), or their staffs. Neither EBRI nor EBRI-ERF lobbies or takes positions on specific policy proposals. EBRI invites comment on this research.

Introduction

The body of research on how consumer-directed health plans (CDHPs) affect the use and costs of health care services—while still relatively small—is growing (Bundorf, 2012). In recent work, EBRI has examined these relationships using panel data from a large employer that implemented a full-replacement CDHP with a health savings account (HSA) (Fronstin and Roebuck, 2013; Fronstin, Sepulveda, and Roebuck, June 2013; Fronstin, Sepulveda, and Roebuck, December 2013). Among other salient results, it was found that adoption of the HSA plan reduced both the number of prescriptions filled and overall pharmacy costs over a four-year follow-up period. A closer examination revealed that the reduction in prescription utilization also involved a decreased use of maintenance medications for chronic disease, and a worsening of adherence. This report looks at the effects of the HSA plan on the absolute and relative use of brand-name and generic drugs. It was expected that patients were more likely to choose a generic over a brand-name drug under the terms of the newly imposed HSA plan.

Prior Research

Studies of CDHPs have examined a variety of prescription-drug-use measures including spending (Charlton et al., 2011; Fronstin and Roebuck, 2013; Nair et al., 2009; Parente, Feldman, and Chen, 2008; Parente, Feldman, and Xu, 2010); number of drug fills (Charlton et al., 2011; Chen, Levin and Gartner, 2010; Fronstin, Sepulveda, and Roebuck, June 2013; Greene et al., 2008; Nair et al., 2009); medication adherence (Chen, Levin and Gartner, 2010; Fronstin, Sepulveda, and Roebuck, December 2013; Greene et al., 2008; Nair et al., 2009; Parente, Feldman, and Chen, 2008); mail order use (Parente, Feldman, and Chen, 2008; Feldman, Parente, and Christianson, 2007); and generic and brand-name dispensing rates (Feldman, Parente, and Christianson, 2007; Greene et al., 2008; Haviland et al., 2011; Parente, Feldman, and Chen, 2008).

The findings on generic and brand-name dispensing rates are mixed. Feldman, Parente, and Christianson (2007) found that CDHP enrollees tended to use a higher proportion of brand-name drugs than other cohorts, while Parente, Feldman, and Chen (2008) reported some evidence of less generic drug use. On the other hand, results by Greene et al. (2008) suggested that the introduction of a CDHP did not greatly influence the use of generic drugs. Only Haviland et al. (2011) found a lower brand-name dispensing rate.

Data and Methods

For this study, pharmacy and medical claims and insurance eligibility data were obtained from a large employer. The data covered the five-year period of Jan. 1, 2006 through Dec. 31, 2010. This Midwest manufacturer completely replaced its preferred provider organization (PPO) with an HSA plan, which commenced on Jan. 1, 2007, for all active employees and their dependents. Therefore, data were available from one year before and four years after implementation of the HSA plan.

Members were allowed to choose between two deductible categories: 1) $1,250 per individual, $2,500 per family or 2) $2,150 per individual, $4,300 per family. Most enrollees (89 percent) selected the higher deductibles—probably because the lower-deductible plan had annual premiums of almost $300 per worker (for individual coverage), whereas the (otherwise comparable) higher deductible plan's premium was $0. The employer deposited the same amount into the enrollee's HSA regardless of which deductible level was chosen, although this contribution was higher for workers with family coverage.

Study and Control Groups

This analysis began with a study group of 13,203 active workers (younger than 65 years of age) and their dependents continuously covered by the employer throughout the five-year period of analysis. Next, a control group was created using data from another, larger, national employer that maintained PPO coverage during the full five years.[1]

Dependent Variables

The impact of the HSA plan was estimated on both the absolute and relative use of generic and brand-name prescription drugs, and analyses were conducted on several levels. Overall use of prescription drugs, maintenance vs. nonmaintenance medications, and condition-specific therapies were examined for hypertension, dyslipidemia (abnormal cholesterol), diabetes, asthma/chronic obstructive pulmonary disease (COPD), and depression. For each of these categories, four dependent variables were examined:

1) The number of 30-day adjusted generic fills.

2) The number of 30-day, adjusted brand fills.

3) The total number of 30-day adjusted fills.

4) The generic dispensing rate (GDR), which equals the number of generic fills divided by the total number of fills (both 30-day adjusted). The GDR is a metric routinely used by pharmacy benefit managers (PBMs) to assess plan design effectiveness (e.g., CVS Caremark, 2013).

Statistical Analysis

For each of the dependent variables, a difference-in-differences, ordinary least squares regression model was estimated.[2]

Results

Figure 1 presents variable means for the study and control groups at baseline (2006). The sample consisted of 51 percent males, 42–43 percent policyholders, 23 percent spouses, and 34–35 percent dependent children. The average age was 30-31 years, and workers had been with their respective employer for a mean of 13 years. Concerning health-services utilization, patients consumed 0.15 to 0.16 inpatient hospital days, 0.13 to 0.14 emergency department visits, 3.59 to 3.64 outpatient physician office/clinic visits, and just over 10 prescriptions during the year prior to the introduction of the HSA plan (Figure 2). Two-thirds of these fills were generics, and 71 percent were maintenance medications for chronic disease management.

The impact of the HSA plan on the GDR is shown in Figure 3. Overall, the new plan design was associated with a 4.7 percentage-point rise in GDR after the first year, and—before inclining slightly in the second year—settled to a

Figure 1
Baseline (2006) Variable Means

Variable	Study Group (N=13,093)	Control Group (N=13,093)	% Bias	p-value
Age:				
Average (years)	30.74	30.48	1.40	0.25
<18	0.32	0.34	-2.30	0.07
18–24	0.03	0.02	5.40	0.00
25–34	0.16	0.16	1.50	0.21
35–44	0.17	0.19	-4.80	0.00
45–54	0.25	0.22	5.20	0.00
55–64	0.06	0.07	-3.00	0.02
Male	0.51	0.51	0.30	0.79
Policyholder	0.43	0.42	0.80	0.49
Spouse	0.23	0.23	0.20	0.90
Child	0.34	0.35	-1.00	0.41
Years of tenure	13.49	13.20	2.80	0.02
Household size	3.13	3.13	0.10	0.94
Charlson Comorbidity Index	0.14	0.14	-0.70	0.56

Source: EBRI estimates based on administrative claims data.

Figure 2
Baseline (2006) Health Care Services Utilization Means

Variable	Study Group (N=13,093)	Control Group (N=13,093)	% Bias	p-value
Inpatient hospital days	0.16	0.15	0.60	0.63
Emergency department visits	0.13	0.14	-0.50	0.67
Outpatient physician's office and clinic visits	3.59	3.64	-1.30	0.29
All prescriptions				
Generic	6.86	7.04	-1.60	0.19
Brand	3.38	3.58	-2.70	0.03
Maintenance prescriptions				
Generic	4.59	4.69	-1.00	0.40
Brand	2.69	2.89	-2.90	0.02
Nonmaintenance prescriptions				
Generic	2.27	2.36	-2.10	0.09
Brand	0.69	0.69	-0.20	0.85
Hypertension prescriptions				
Generic	1.03	1.03	0.10	0.96
Brand	0.32	0.35	-1.60	0.19
Dyslipidemia prescriptions				
Generic	0.32	0.34	-1.30	0.30
Brand	0.45	0.51	-2.70	0.03
Diabetes prescriptions				
Generic	0.16	0.17	-0.60	0.61
Brand	0.13	0.14	-0.20	0.88
Asthma/COPD[a] prescriptions				
Generic	0.12	0.13	-1.70	0.16
Brand	0.38	0.39	-0.70	0.59
Depression prescriptions				
Generic	0.59	0.62	-1.30	0.31
Brand	0.21	0.22	-0.30	0.80

Source: EBRI estimates based on administrative claims data.
[a] COPD=chronic obstructive pulmonary disease.

level that was higher by 3.4 percentage points after four years. These results were nearly identical for the GDR of maintenance medications. The GDR for nonmaintenance conditions also rose by 4.1 percentage points after one year, but was just 1.7 percentage points higher after four years. The adoption of the HSA plan also prompted increases in most condition-specific GDRs. At the end of the four-year follow-up period, GDR was greater by 4.5 percentage points for hypertension, 15.4 percentage points for dyslipidemia, and 7.8 percentage points for asthma/COPD. No significant effects were detected for diabetes GDR, but the measure for depression was lower by 8.4 percentage points after 2010.

As a relative measure, GDR can increase either through higher generic use or lower total utilization. Plan sponsors would likely consider members choosing generic equivalents/alternatives over brands to be a desirable and efficient outcome after adopting an HSA plan. However, if individuals discontinue use of brand-name drugs without substituting generic therapy, that may not represent a net economic benefit—particularly if the reduced utilization leads to illness exacerbations and subsequent emergency-department use and inpatient hospitalization. Thus, the HSA plans' impact on the number of brand and generic drug fills must be examined. Results from these analyses are reported in Figure 4.

After one year under the CDHP, 0.43 fewer generic and 0.95 fewer brand-name prescriptions were filled, on average. Both maintenance and non-maintenance medications experienced decreases, although non-maintenance utilization did not remain significantly lower after four years. Brand use also declined in the first year in hypertension and dyslipidemia, whereas for depression, generic fills were lower after one year. Dyslipidemia generic fills were higher by 0.14 at the end of the four-year period, and brand fills were lower by 0.20. Finally, generic prescriptions for depression stayed significantly lower (-0.14 fills) after four years.

Discussion

The premise of CDHPs is that members will be more cost-conscious when making their health-care-consumption decisions than when they were not covered by a CDHP. For example, when spending is below the (high) deductible, individuals are presumably less likely to visit an emergency department for relatively mild ailments, such as the common cold. In the context of prescription-drug utilization, it is thought that the higher patient cost-sharing of CDHPs encourages enrollees to choose less expensive generics over brand names if they view those medications as equivalents or comparatively effective alternatives. In this analysis, evidence is mixed that this is the case.

PBMs routinely cite the GDR attained via their management of prescription drug benefits (e.g., CVS Caremark, 2013). A GDR that is higher than the metric's underlying, secular trend suggests that plan design and other programs designed to drive generic drug use are having their intended effect. In this analysis, the adoption of a full-replacement CDHP with an HSA generally led to increases in GDR that commenced within the first year and continued for at least four years post-implementation. This was true for overall, maintenance, nonmaintenance, hypertension, dyslipidemia, and asthma/COPD drugs. No changes in GDR were detected for diabetes, while the depression GDR actually declined over the follow-up period.

Of course, GDR can rise if its numerator (the number of generic fills) increases or its denominator (the number of total fills) decreases, or a combination of the two. In response to the HSA plan, it was found that higher GDRs were largely reached through reductions in utilization. Specifically, the number of brand fills declined under the new plan for overall, maintenance, nonmaintenance, hypertension, and dyslipidemia—effects that persisted over four years. Even the fill rates for generics in some cases were lower as a result of the HSA plan with two exceptions: 1) there were more generic prescriptions filled for dyslipidemia medications in the third and fourth years, and 2) there were more generic fills for Asthma/COPD in the second and third years.

Although reductions in prescription-drug utilization can result in pharmacy expenditure savings for employer plan sponsors, increases in downstream medical costs may eclipse those benefits. A large body of literature has documented the net economic value of medication adherence for chronic disease (e.g., Roebuck et al., 2011). Moreover, the Congressional Budget Office (CBO) recently announced that in scoring relevant policies, it now assumes that a 1 percent increase in Medicare Part D prescription-drug utilization will result in a 0.2 percent reduction in medical costs (Congressional Budget Office, 2012). Given the potential for the medical-cost offsets, CDHPs and other plan designs that raise patient cost-sharing for prescription drugs would seem to be counter-productive, particularly in light of the results presented in this analysis. Instead, value-based insurance designs (VBID) that reduce or eliminate prescription-drug copays in order to bolster adherence may be a more effective and efficient strategy (Chernew, Rosen and Fendrick, 2007). Alternatively, CDHP plan sponsors may push to have maintenance medications defined as preventive, and (like cancer screenings) exempted from the deductible.

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Endnotes

[1] Specifically, this analysis estimated a propensity score probit model on membership in the study group (i.e., the employer implementing the HSA plan) using as regressors pre-period (2006) values of the following variables: gender, age, age times gender, indicators for spouse and child, years of tenure, and number of members in the household. The Charlson Comorbidity Index was incorporated into the model as a measure of general health status (Charlson et al., 1987; Deyo, Cherkin, and Ciol, 1992; Quan et al., 2005). Also included were baseline measures of the number of inpatient hospital days, emergency department visits, physician’s office visits, and prescription drug fills—the dependent variables described below. Finally, to help achieve covariate balance between the study and control groups, higher-order (squared and cubed) terms for all continuous measures also entered the specification. Following guidance offered by Austin (2011), this analysis performed a 1:1 nearest-neighbor match within 1/5th of a standard deviation of the propensity score. After reducing to the area of common support, the final study and control groups each contained 13,093 individuals. As reported in Figure 1, standardized differences (% bias) in covariates across the two groups at baseline (in 2006) were lower than the commonly cited 10 percent threshold of tolerance, which suggested the control group adequately resembled the study group prior to introduction of the CDHP with HSA (Austin, 2011).

[2] The regression model included the study group flag, all covariates used in the propensity score model, as well as geographic region and year dummies. Four interaction terms between the study group flag and the post-period year indicators were also added to the models (i.e., the difference-in-differences estimators). This analysis presents coefficient estimates from these specifications with robust standard errors. All analyses were conducted using Stata/MP 12.0. More information about difference-in-difference models can be found in Fronstin and Roebuck (2013).

Figure 3

Impact of CDHP[a] on Generic Dispensing Rate

	CDHP Effect After One Year (2007)	CDHP Effect After Two Years (2008)	CDHP Effect After Three Years (2009)	CDHP Effect After Four Years (2010)
Generic Dispensing Rate (GDR)				
All prescriptions	0.047 ***	0.051 ***	0.046 ***	0.034 ***
Maintenance prescriptions	0.048 ***	0.045 ***	0.038 ***	0.035 ***
Nonmaintenance prescriptions	0.041 ***	0.041 ***	0.039 ***	0.017 ***
Hypertension prescriptions	0.026	0.008	0.022	0.045 **
Dyslipidemia prescriptions	0.077 ***	0.127 ***	0.147 ***	0.154 ***
Diabetes prescriptions	0.006	0.040	0.030	0.051
Asthma/COPD[b] prescriptions	0.073 ***	0.112 ***	0.104 ***	0.078 ***
Depression prescriptions	-0.071 ***	-0.087 ***	-0.095 ***	-0.083 ***

Source: EBRI estimates based on administrative claims data.

[a] CDHP=consumer-directed health plan.

[b] COPD=chronic obstructive pulmonary disease.

All prescription drug measures are adjusted using 30-days' supply equivalents.

Presented are coefficient estimates of the CDHP effect in each of four follow-up years (compared to baseline) from ordinary, least squares models, which included indicators for male, policyholder, three geographic regions, five age groups, four years, CDHP, and four CDHP times year interaction terms (presented difference-in-differences estimates), as well as Charlson Comorbidity Index, years of tenure, and household size.

Statistical significance based upon robust standard errors denoted as follows: *** p<0.01; ** p<0.05; * p<0.10.

Figure 4

Impact of CDHP[a] on Prescription Drug Utilization

	CDHP Effect After One Year (2007)	CDHP Effect After Two Years (2008)	CDHP Effect After Three Years (2009)	CDHP Effect After Four Years (2010)
Generic Fills				
All prescriptions	-0.43 **	0.04	0.17	0.19
Maintenance prescriptions	-0.29 *	-0.02	0.13	0.13
Nonmaintenance prescriptions	-0.14 **	0.07	0.04	0.06
Hypertension prescriptions	-0.04	-0.01	0.06	0.07
Dyslipidemia prescriptions	-0.02	0.05	0.09 **	0.14 ***
Diabetes prescriptions	0.00	0.02	0.03	0.01
Asthma/COPD[b] prescriptions	0.02 *	0.03 **	0.02 *	0.01
Depression prescriptions	-0.13 ***	-0.09 **	-0.10 **	-0.14 ***
Brand Fills				
All prescriptions	-0.95 ***	-0.74 ***	-0.63 ***	-0.69 ***
Maintenance prescriptions	-0.71 ***	-0.59 ***	-0.48 ***	-0.58 ***
Nonmaintenance prescriptions	-0.24 ***	-0.15 ***	-0.15 ***	-0.11 ***
Hypertension prescriptions	-0.08 **	-0.03	-0.05	-0.08 ***
Dyslipidemia prescriptions	-0.10 ***	-0.14 ***	-0.15 ***	-0.20 ***
Diabetes prescriptions	-0.02	-0.03	-0.01	-0.03
Asthma/COPD[b] prescriptions	-0.05	-0.04	-0.03	-0.01
Depression prescriptions	0.00	0.02	0.04	0.00
Total Fills				
All prescriptions	-1.39 ***	-0.69 ***	-0.46 *	-0.50 *
Maintenance prescriptions	-1.00 ***	-0.61 ***	-0.35	-0.46 **
Nonmaintenance prescriptions	-0.38 ***	-0.08	-0.11	-0.04
Hypertension prescriptions	-0.11	-0.05	0.01	-0.01
Dyslipidemia prescriptions	-0.12 **	-0.09 *	-0.06	-0.06
Diabetes prescriptions	-0.02	-0.01	0.02	-0.01
Asthma/COPD[b] prescriptions	-0.03	-0.02	0.00	0.00
Depression prescriptions	-0.12 **	-0.07	-0.07	-0.14 **

Source: EBRI estimates based on administrative claims data.

[a] CDHP=consumer-directed health plan.

[b] COPD=chronic obstructive pulmonary disease.

All prescription drug measures are adjusted using 30-days' supply equivalents.

Presented are coefficient estimates of the CDHP effect in each of four follow-up years (compared to baseline) from ordinary least squares models which included indicators for male, policyholder, three geographic regions, five age groups, four years, CDHP, and four CDHP times year interaction terms (presented difference-in-differences estimates), as well as Charlson Comorbidity Index, years of tenure, and household size.

Statistical significance based upon robust standard errors denoted as follows: *** p<0.01; ** p<0.05; * p<0.10.

How Would Defined Contribution Participants React to Lifetime Income Illustrations? Evidence from the 2014 Retirement Confidence Survey

By Jack VanDerhei, Ph.D., Employee Benefit Research Institute

Introduction

In May 2013, the U.S. Department of Labor's Employee Benefits Security Administration (EBSA) published an advance notice of proposed rulemaking (ANPRM) focusing on lifetime income illustrations in periodic, defined-contribution-pension-plan benefit statements. The ANPRM sets forth certain language and concepts EBSA is considering as part of future proposed regulations. The language and concepts would be part of the regulatory framework under Sec. 105 of the Employee Retirement Income Security Act of 1974 (ERISA), and under which:[1]

- A participant's pension benefit statement (including his or her 401(k) statement) would show his or her current account balance and an estimated lifetime income stream of payments based on that balance. This lifetime income illustration would assume the participant had reached normal retirement age as of the date of the benefit statement, regardless of his or her actual age or planned retirement date.
- For a participant who has not yet reached normal retirement age, his or her pension benefit statement also would show a probable account balance and an estimated lifetime income stream based on the participant's current account balance projected to what would be available at the participant's normal retirement age based on assumed future contributions and investment returns. The projected account balance would then be converted to an estimated lifetime income stream of payments, assuming that the participant would retire at normal retirement age. This projected account balance and the related lifetime income payment would be expressed in current dollars on the pension benefit statement.
- Both lifetime income streams (i.e., the one based on the current account balance and the one based on the projected account balance) would be presented as estimated monthly payments based on the expected mortality of the participant. In addition, if the participant has a spouse, the lifetime income streams would be based on the joint lives of the participant and spouse.
- According to the ANPRM, the pension benefit statements would also contain an "understandable explanation" of the assumptions behind the lifetime income stream illustrations. Pension benefit statements also would contain a statement that projections and lifetime income stream illustrations are estimates, not guarantees.

As noted above, the lifetime income illustrations contemplated by the ANPRM depend heavily on the use of certain assumptions. Moreover, the ANPRM requires that plan administrators use only "reasonable" assumptions, taking into account certain professional standards when developing lifetime income illustrations. However, it provides legal safe harbors to the plan administrators under which certain assumptions are deemed reasonable.[2]

Since the presentation of lifetime income illustrations on defined contribution statements contemplated by the ANPRM is a relatively new innovation, little empirical evidence exists regarding potential participant response. Goda, Manchester and Sojourner (2013) used administrative data, prior to and following the provision of income and balance projections, to measure the effect on the level of contributions. They found that participants who were sent retirement income projections were not only more likely to change their contribution levels, but they also increased their annual contributions by $85 more than the control group.[3] While their study benefited from using administrative data with a six-month follow-up to record changes in contribution elections, it also relied on the use of hypothetical, additional contribution amounts and retirement ages to illustrate future retirement income. Moreover, the authors did

not have access to current account balances and therefore could not accurately provide total projected retirement income.

In an attempt to provide some additional evidence with respect to potential defined-contribution-participant reaction, the Employee Benefit Research Institute (EBRI) included a series of questions in the 2014 Retirement Confidence Survey (RCS)[4] concerning monthly income illustrations similar in many respects to those provided by the EBSA's online Lifetime Income Calculator.[5] The major differences are:

- Rather than simply using normal retirement age for the calculation, the RCS respondent was asked his or her expected retirement age.
- Since the age of the spouse was not known for married respondents, only the single life annuity income illustration was used.
- Additionally, given that the information was being provided to the RCS respondent during a phone interview, only the projected monthly income (based on the projected account balance) was provided to the respondent.

Respondents to the 2014 RCS who were currently contributing to an employer plan were asked:

> "In recent years, a number of organizations have developed calculators to estimate how much a retirement plan will provide as monthly income for life. Your answers to the next two questions will allow us to estimate that monthly amount for you to react to.
>
> - First, how much money do you currently have saved in your employer-sponsored plan in total?
> - Next, how much money in total do you and your employer currently contribute to your employer-sponsored plan annually?"

A total of 223 respondents provided a definite response for both of these variables in addition to the age at which they expected to retire. At that point, the monthly income available at their stated retirement age was estimated based on the methodology described in the ANPRM using the safe harbor assumptions and the modifications mentioned above, and provided to the respondents as follows:

> "If you and your employer were to continue contributing at the same percentage of compensation until you retire, some retirement calculators estimate that your employer-sponsored plan could provide a monthly retirement income for life of **[$ amount]**. Keep in mind that this does not account for any retirement savings that you might have outside of your employer-sponsored plan."

Respondents were then asked a series of questions to determine:

- Whether the monthly amount was more, less or about what they had expected.
- Whether hearing that monthly-amount figure would cause them to adjust their future contributions (and by how much).
- Whether hearing that monthly-amount figure would cause them to adjust their expected retirement age (and in which direction).
- How hearing this estimate of retirement income affected their confidence in their ability to save enough to live comfortably in retirement.
- How useful it was to hear an estimate of the monthly retirement income they might expect from their plan.

The weighted[6] median (or midpoint) for the money currently saved in the employer-sponsored plan as reported in the RCS was $50,000, and the weighted median for the total annual contribution was $6,900. The median, weighted, projected monthly retirement income (in current dollars) was $2,012.[7]

Was the Monthly Amount More, Less, or about What Had Been Expected?

Only 8 percent of the respondents indicated that the monthly amount was much less than expected, though nearly 1 in 5 (19 percent) replied that it was somewhat less than expected. More than half (58 percent) thought that it was about what they had expected, while another 7 percent replied that it was somewhat more than expected, and 5 percent said it was much more than expected.[8]

Figure 1 shows how the illustrated monthly income deviated from the amount expected as a function of the quartile of illustrated income. While 18 percent of those in the lowest-income quartile, when ranked by the value of illustrated monthly income, thought the value was much less than expected, only 12 percent of those in the second quartile had a similar assessment. The weighted percentage of respondents that thought the illustrated values were much lower than expected were even smaller for those with larger monthly illustrations: 3 percent for those in the third quartile and 1 percent for those in the highest-income quartile. Combining the "much less" and "somewhat less" categories resulted in 41 percent of those in the lowest quartile for illustrated monthly income indicating that the value was less than expected. This percentage declined to 36 percent for the second quartile, 22 percent for the third quartile and only 9 percent for the highest quartile.

Figure 2 shows how the illustrated monthly income deviated from the amount expected, as a function of household income. While 13 percent of those with household incomes of less than $60,000 thought the value was much less than expected, 10 percent of those with household incomes between $60,000 and $99,999 had a similar assessment. The weighted percentage of respondents that thought the illustrated value was much lower than expected was only 4 percent for those with household incomes of $100,000 or more. Combining the "much less" and "somewhat less" categories, 42 percent of those with household incomes of less than $60,000 indicated that the value was less than they expected. This percentage declined to 30 percent for those with household incomes between $60,000 and $99,999 and only 12 percent for those with household incomes of $100,000 or more.

Eleven percent of the respondents indicating that they expect to retire at or before the median age of 65 thought the value was much less than expected, while only 6 percent of those expecting to retire after age 65 had a similar assessment. Combining the "much less" and "somewhat less" categories resulted in 31 percent of those with expected retirement ages of 65 or earlier indicating that the value was less than expected. This percentage declined to 23 percent for those expecting to retire after age 65.

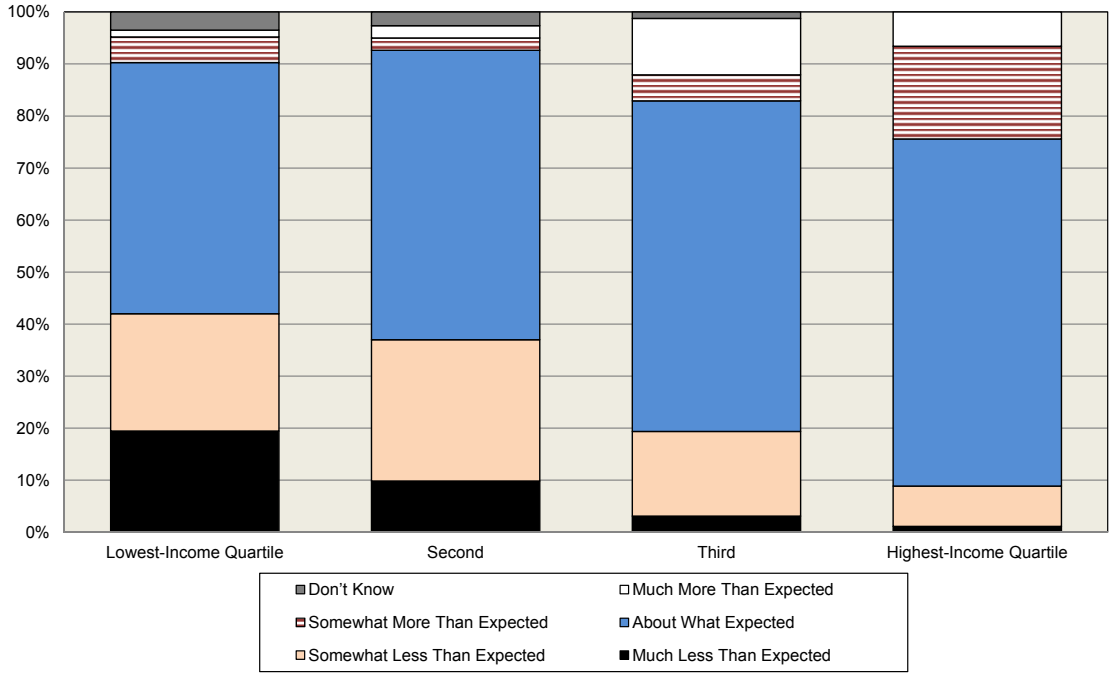
Does Hearing the Monthly Amount Figure Cause an Adjustment in Expectations for Future Contributions?

A total of 81 percent of the respondents indicated that they would continue to contribute at their current rates after hearing the projected monthly income amount, while 17 percent replied that this information would lead them to increase the amount they were contributing. Of those responding that their illustrated value was much less or somewhat less than expected, 35 percent indicated they would increase their contributions. Only 10 percent of those indicating the illustrated amount was what they expected would increase their contributions. Likewise, only 10 percent of those indicating the illustrated amount was much more or somewhat more than what they expected would increase their contributions.

Of those indicating they would increase contributions, 69 percent thought they would increase the dollar amount by 10 percent, while another 13 percent said they would increase it by about 25 percent. Three percent indicated they would increase it by 50 percent, while another 8 percent thought they would double it. Seven percent did not know

Figure 1

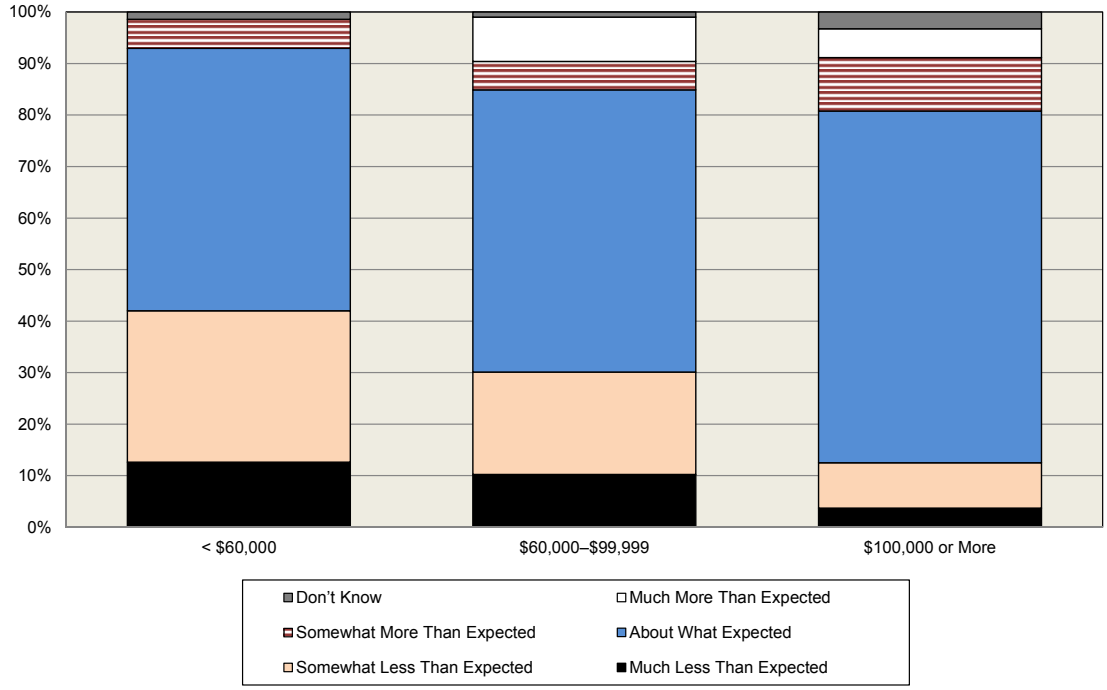
Deviation of the Illustrated Monthly Income from the Amount Expected, as a Function of the Quartile of Illustrated Income



Source: Employee Benefit Research Institute and Greenwald & Associates, 2014 Retirement Confidence Survey.

Figure 2

Deviation of the Illustrated Monthly Income from the Amount Expected, as a Function of Household Income



Source: Employee Benefit Research Institute and Greenwald & Associates, 2014 Retirement Confidence Survey.

how much they would increase their contributions. The average conditional increase in 2014 contributions for all respondents was $927.[9] When the stated intention to increase contributions was associated with the quartile of monthly income illustrated, 23 percent of those in both of the bottom two quartiles mentioned they would increase their contributions. This decreased to 17 percent for those in the third quartile and 7 percent for those in the highest quartile.

Does Hearing the Monthly Amount Figure Change Expected Retirement Age?

Less than 1 percent of the respondents replied that they would retire sooner as a result of the new information, but 9 percent indicated that they would retire later as a result.[10] The vast majority (89 percent) did not believe this information would impact their expected retirement age. A total of 19 percent of those who thought that their illustrated monthly income was much less than expected indicated that they would retire later as a result, while 13 percent of those who thought their illustrated amounts were somewhat less than expected indicated they would take this action. Only 9 percent of those who thought their illustrated amounts were equal to their expectations indicated they would retire later, but none of those with illustrated amounts more than what they expected indicated they would retire later.

When the stated intention to defer retirement was associated with the quartile of monthly income illustrated, 22 percent of those in the bottom quartile mentioned they would increase their retirement age, but only 13 percent of those in the second quartile were similarly inclined. This percentage decreased to 2 percent for those in the third quartile and 1 percent for those in the highest quartile.

Does Hearing the Monthly Amount Figure Affect Confidence in the Ability to Save Enough to Live Comfortably in Retirement?

Only 3 percent of the respondents indicated that they were much less confident in their ability to save enough to live comfortably in retirement as a result of this information, but 17 percent replied that they were then somewhat less confident. However, more than 3 in 5 respondents (62 percent) indicated that the new information did not impact their confidence, while 13 percent felt somewhat more confident, and 6 percent felt much more confident as a result of the information.

More than 4 in 10 (43 percent) of those much less or somewhat less confident as a result of hearing the information mentioned they would increase their contributions. In comparison, 11 percent of those who were more confident or did not have a change in confidence indicated they would increase their contributions.

When the change in confidence was associated with the quartile of monthly income illustrated, 29 percent of those in the bottom quartile mentioned they were much less or somewhat less confident, but only 23 percent of those in the second quartile and 21 percent of those in the third quartile were in this category. This percentage decreased to 7 percent for those in the highest quartile.

Was it Useful to Hear an Estimate of the Monthly Retirement Income?

The vast majority of respondents said the retirement income projection was useful; more than 1 in 3 (36 percent) of the respondents thought that it was very useful to hear an estimate of the monthly retirement income they might expect from their plan, and another 49 percent thought it was somewhat useful. Only 5 percent thought it was not too useful and 10 percent thought it was not useful at all.

A total of 90 percent of those whose illustrated values were lower than expected found the estimates somewhat or very useful, and nearly as many (86 percent) of those whose values were equal to what they expected also found the estimates somewhat or very useful. A somewhat lower proportion (79 percent) of those with illustrated values higher than expected found the estimates somewhat or very useful.[11]

Conclusion

As defined contribution plans have continued to evolve into the primary form of employer-sponsored retirement plan in the private sector, public policy analysis has been increasingly concerned that employee decision making regarding savings and decumulation decisions may be subject to errors associated with an inability to accurately determine how much monthly retirement income can be generated from an account balance at retirement age. While today very few retirees convert their entire defined contribution and/or IRA balances to an annuity at retirement age, the monthly income that could be purchased provides a very convenient method of illustrating the approximate amounts that the account balances could "safely" generate in terms of monthly retirement income. The proposed methodology in the advance notice of proposed rulemaking (ANPRM) by the U.S. Department of Labor's Employee Benefits Security Administration (EBSA) would take this approach and expand it to include the prospective accumulation period for someone not yet at retirement age.

Of course, any such projection is necessarily required to make a number of critical assumptions—including future contribution activity, future rates of return, future asset allocation, and future annuity purchase prices.[12] Consequently, a full cost-benefit analysis of imposing a regulatory mandate similar to that contained in the EBSA's ANPRM would have to consider the impact of doing so in terms of standardization of disclosures, both in terms of mitigating plan sponsors' ERISA liability, as well as the potential confusion that could arise among workers who have previously received voluntary disclosures of comparable information from their employers. A number of service providers and defined-contribution-plan sponsors have given significant thought to the best method to illustrate the impact of changing these assumptions on projected monthly income through a series of sensitivity analyses.

The results in the 2014 Retirement Confidence Survey (RCS) suggest that less than 1 in 10 (8 percent) of the defined contribution participants said the monthly amount was much less than expected, while about a quarter (27 percent) had been overestimating the amount of retirement income that they would likely receive from their defined contribution plan (at least as calculated using the EBSA's safe harbor assumptions and the modified methodology mentioned above). The fact that more than half (58 percent) thought that the illustrated monthly income was in line with their expectations may help explain why this information not only did not engender a major shift in retirement confidence or anticipated retirement age, but for most also did not translate into an intention to increase current contribution levels (only 17 percent of the respondents indicated they would increase their contributions as a result of hearing the monthly income estimate).

It is, of course, possible that these respondents' current participation in employment-based plans has already provided them the education and information necessary for an appreciation both of the projected total and the monthly income estimate, and thus a greater alignment of those projections with their expectations.

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VanDerhei, Jack. "Reality Checks: A Comparative Analysis of Future Benefits from Private-Sector, Voluntary-Enrollment 401(k) Plans vs. Stylized, Final-Average-Pay Defined Benefit and Cash Balance Plans" *EBRI Issue Brief,* no. 387 (Employee Benefit Research Institute, June 2013).

Endnotes

[1] http://www.dol.gov/ebsa/newsroom/fsanprm.html

[2] According to EBSA, when projecting account balances, it is reasonable for a plan administrator to assume:

Contributions continue to normal retirement age at the current annual dollar amount, increased at a rate of 3 percent per year.

- Investment returns are 7 percent per year (nominal).
- A discount rate of 3 percent per year, in order to show the projected account balance in today's dollars.

When converting current and projected account balances into lifetime income streams, it is reasonable for a plan administrator to assume:

- A rate of interest equal to the 10-year constant maturity Treasury securities rate.
- Mortality as reflected in the applicable mortality table under Sec. 417(e)(3) of the Internal Revenue Code.
- If married, the participant's spouse is the same age as the participant.
- Payments commence immediately once the participant reaches normal retirement age, if the participant is younger than normal retirement age.

[3] The conditional increase was approximately $1,150 per year.

[4] The RCS is cosponsored by EBRI, a private, nonprofit, nonpartisan, public-policy research organization, and Greenwald & Associates, a Washington, D.C.-based market-research firm. The 2014 RCS data collection was funded by grants from approximately two dozen organizations. The full report, RCS Fact Sheets, and other resources are online at www.ebri.org/surveys/RCS/2014

[5] http://www.askebsa.dol.gov/lia/home

[6] All data were weighted by age, sex, and education to reflect the actual proportions in the adult population.

[7] The 25th percentile was $831, and the 75th percentile was $4,799.

[8] Another 2 percent responded that they did not know.

[9] The conditional median was $750.

[10] A total of 4 percent indicated that they would both retire later and increase their contributions.

[11] Approximately the same percentage of respondents found the illustration useful regardless of their quartile of illustrated income amount.

[12] See VanDerhei (2013) for an example of the impact of the annuity purchase price on the comparative value of a defined contribution plan vs. a defined benefit plan.

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Notes

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