



Prescription drug benefit design: The building blocks and their impact on cost

by Frank Kopenski, A.S.A., M.A.A.A

Prescription drug benefit designs in the group insurance market change so frequently, it's hard to tell what, if anything, is working to reduce prescription drug costs. Despite a recent slowdown in annual drug cost trends, for most employers, the percentage of total healthcare expenditures due to prescription drug utilization continues to grow.

If you look for a cost-containment solution by focusing only on benefit design, you're getting ahead of yourself. You've overlooked the more fundamental problem, which is to understand the prescription drug benefit's building blocks and how they fit together.

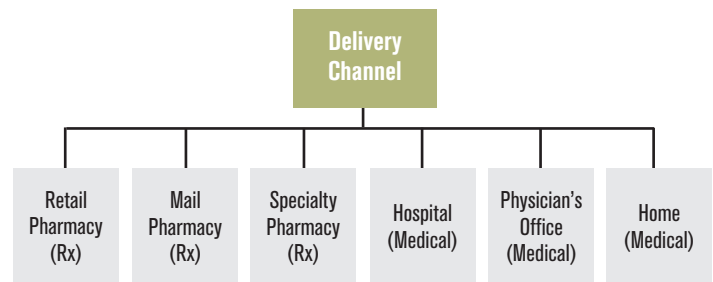
So, what are the basic building blocks that go into prescription drug benefit design? Multiple delivery channels, complex provider contracting, and a vast range of drug products.

Admittedly, they're not *that* basic, but a better understanding of these fundamentals can lead to better design decisions and a prescription drug benefit that's cost effective for employers and beneficial to employees.

Benefit changes alone, unfortunately, are not sufficient to solve the problem of cost. This article describes how delivery (dispensing), provider contracting, drug products, and benefit design all have to work together to produce a more effective pharmacy benefit program.

Prescription drug delivery channel

The delivery channel, the physical location where the prescription is dispensed, may include any and all of the following:



The cost of prescription drugs varies widely by delivery channel, so delivering drugs through the lowest-cost channel(s) can decrease overall costs.

The fundamental problem is to understand the prescription drug benefit's building blocks and how they fit together.

As shown in the diagram above, the Retail/Mail/Specialty delivery channels are generally included in the prescription drug benefit, while the Hospital/Physician's Office/Home delivery channels are generally included in the medical benefit. It is important to look at the resulting net cost to the plan from each delivery channel, when benefits are eventually established. Just because the pharmacy discount appears favorable doesn't mean the plan cost is minimized.

Mail-order pharmacies typically provide deeper discounts and lower dispensing fees, particularly for brand medica-

tions. However, many prescription drug benefit designs encourage members to utilize mail dispensing by lowering member cost sharing too much, in some cases making mail order more costly than retail.

A specialty pharmacy is a pharmacy mainly equipped to dispense injectable, often biotech, products, which require special handling and storage. It has become a portal for moving drugs from the medical benefit to the prescription drug benefit. This results in significant savings when treating people with high-cost conditions, such as rheumatoid arthritis, multiple sclerosis, and cancer.

Pharmacy products obtained through the physician's office, hospital outpatient facility, or home health care professional (where these injectable drugs typically have been dispensed) have generally been excluded from provider fee schedules and thus can be significantly overpriced. Specialty pharmacy programs are an attractive alternative.

However, some prescription drug benefit designs discourage member use of the specialty pharmacy by increasing member cost sharing too much. Does it make sense to have an out-of-pocket limit for drugs as part of the medical benefit but not as part of the prescription drug benefit? This issue is debatable. There is no debate, however, that most of these drugs are expensive when compared to the average drug cost and therefore are a concern to benefit managers.

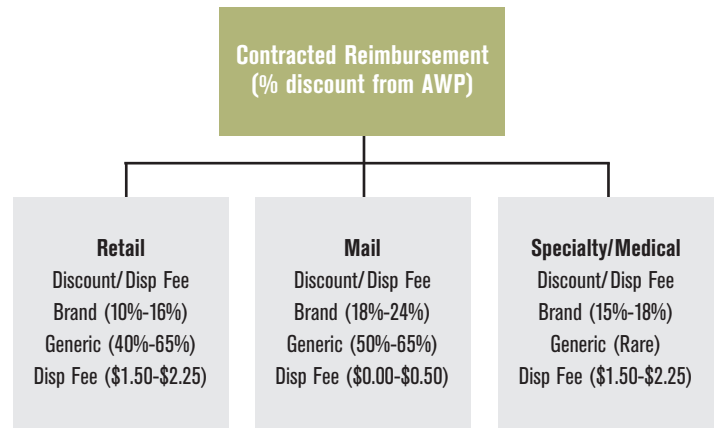
By not understanding and managing the delivery channel, money is often wasted on prescription drugs. Benefit design decision making can be misaligned.

Provider contracting

Provider contracting determines the amount paid to obtain the drug product from various delivery channels. This becomes more complex when a pharmacy benefit management (PBM) company is involved.

Pharmacy contracts under the prescription drug benefit will have varying reimbursement provisions (see the following diagram) based on the delivery channel. When contracting through a PBM, the pharmacy reimbursement may include some of the cost for additional services the PBM provides the

employer, or it may include only the cost of the drug with applicable dispensing cost. (The two approaches are often referred to as "lock-in" and "pass-through" pricing.)



Actual contracting is much more detailed, but the diagram above puts discounts and dispensing fees into some perspective.

Pharmacy contracts typically have deeper discounts and dispensing fees for generic and mail-order drugs. But it is essential to look beyond comparisons of average wholesale price (AWP) discounts. Many variables make high-level comparisons unreliable, including usual and customary pricing, maximum allowable cost pricing, and copayments that exceed the cost of the drug and dispensing fee (zero-balance claims).

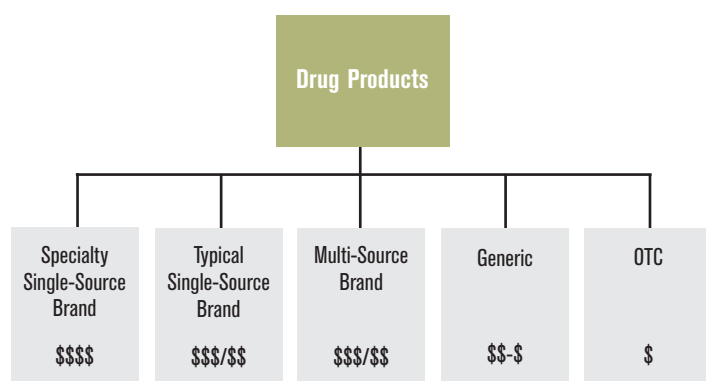
In addition, recent legal issues with AWP, repackaging of products, and dispensing portions of larger package sizes mean detailed scrutiny is required. A thorough review of the various reimbursement measures to be used by the contracting vendor can help minimize undesirable surprises down the road.

Pharmacy contract terms should be revisited at least every two years, and employers should research what other organizations are receiving in terms of pharmacy reimbursement and pharmacy cost-management programs. The annual Pharmacy Benefit Management Institute (PBMI) drug trend study produced by Takeda is one good source for such information. PBMI's *2006 Prescription Drug Benefit Cost and Plan Design Survey Report* is available at www.pbmi.com/product.asp?id=2.

Drug products

During and after contracting, it is essential to focus on what drug products are available. (The “drug product” designation denotes Federal Drug Administration (FDA) patent protection status and whether a drug can be dispensed without a prescription.)

Generic and over-the-counter (OTC) drugs are cheaper than multi-source brand drugs, which are generally cheaper than single-source brand drugs. Competition drives price, so when there is no competition, biological or therapeutic, a manufacturer can demand a higher price for that drug product. Some single-source brand drugs, including biotech/specialty products, may cost considerably more than the typical single-source brand drug.



Maximizing generic dispensing should produce lower overall pharmacy costs, excluding the impact of manufacturer rebates. Most PBMs have a number of pharmacy cost-management programs designed to maximize generic utilization. In addition, formularies (i.e., a list of preferred or non-preferred medications by drug therapy class) can reduce the average amount spent on brand medications.

But one cannot take these programs for granted. For instance, when a brand drug loses patent protection and litigation issues are cleared, the first generic manufacturer typically has a six-month exclusivity period. It may actually be more costly to the employer if members are encouraged to change to the generic product during this period. In addition, a formulary is not written in stone; the drug marketplace is continuously changing. What appears to be a clinically- and cost-effective strategy today may be an ineffective strategy tomorrow. Regular monitoring is recommended.

Benefit designs should be explained in detail to employees so cost saving objectives can be achieved.

Benefit design

After studying these fundamental building blocks, a good benefit design can be developed. (Benefit design should not be used as a means to correct delivery-channel or contracting issues, as is too often the case.) To develop an effective benefit design, keep the following goals in mind.

- 1) Select benefit designs that do not undermine the cost-saving strategies put in place by the earlier building blocks.
 - As a rule of thumb, mail copayments should be at least 2.5 times retail copayments to prevent mail dispensing from costing the employer more than retail dispensing.
 - If the objective is to maximize the specialty pharmacy delivery channel to take advantage of the significantly better point-of-sale pricing, compare medical and pharmacy benefits for similar drugs to develop a pharmacy benefit strategy that is more attractive to employees.
 - Use varying deductibles, copayments, and coinsurance as a steering mechanism to get employees to use specific drug types (i.e., generic, preferred brand, non-preferred brand, and specialty) or specific drug products (e.g., Lipitor, OTC Prilosec, etc.)
 - Determine employee cost-sharing penalties and levels of cost sharing based on what the employee can control. It is not the employee's fault if there is only one treatment option and it is necessary and expensive.
- 2) Be aware of benefit designs that can create employee out-of-pocket cost sharing in excess of some threshold (e.g., \$1,000, \$1,500) and consider implementing out-of-pocket limits as you would with medical benefits. Or as an alternative, use maximum copayment limits per prescription.
- 3) Benefit designs should be structured to achieve desired employer and employee funding objectives.

- As with any purchased product, determine how much you want to spend and then determine what those funds will buy in terms of benefits.
 - Consider benefit designs that will limit annual cost trend leveraging by changing the member cost sharing automatically.
 - Weigh the difference between increased member cost sharing and increased member funding (i.e., member contribution to premium or self-insured working rate).
- 4) Benefit designs should be explained in detail to employees so cost saving objectives can be achieved.
- Employees and retirees and their families cannot be expected to make good consumer choices if they don't understand the benefits or the ramifications of their decisions.
 - Prescription drug purchasing is one of the few health-care services that rely on the individual patient rather than the healthcare professional.
- 5) Be aware of the impact of benefit design and benefit-design changes on the average member and especially on employees with unusual levels of annual expenditure. Benefit changes that seem to have a minimal impact on the average employee may have a significantly negative impact on employees with high-cost conditions, as well as other unexpected cost-shift consequences.

The following table illustrates the cost characteristics of members with varying annual pharmacy expenditures.

Benefit changes will affect the behavior of roughly 25% of the total membership (in blue above). Little will be saved from people who have \$0 to \$500 in expenditures, while people with more than \$10,000 are best served by disease management or medication therapy management programs. Members whose annual expenditures exceed \$10,000 generally have high-cost conditions, over which they have little control and limited alternatives. The burden of unlimited cost sharing can be significant for these members.

SAMPLE DISTRIBUTION OF GROSS ANNUAL PRESCRIPTION DRUG EXPENDITURES				
Annual Cost	% of Members	Gross per member per year	Average Annual Scripts/Member	Generic Scripts as % of Total
\$0 - \$500	72.9%	\$76.41	3.1	65.8%
\$501 - \$1,000	11.3%	\$86.71	14.1	51.1%
\$1,001 - \$2,500	10.1%	\$171.12	23.5	46.1%
\$2,501 - \$5,000	3.8%	\$132.94	38.3	43.4%
\$5,001 - \$10,000	1.4%	\$93.12	56.0	43.6%
\$10,001 - \$50,000	.5%	\$83.40	62.1	44.7%
\$50,001 - \$100,000	.0027%	\$2.46	68.7	33.6%
\$100,001+	.0005%	\$1.30	38.8	32.3%
Total	100.0%	\$647.46	8.8	51.3%

Source: 2006 Milliman Health Cost Guidelines with Rating Assumptions

- 6) Individual market benefit designs (e.g., Medicare Part D) may not be acceptable choices in the group employer market setting.
- One of the keys to success in the individual market-place is to attract the best risks and structure products to avoid high-risk individuals.
 - As an employer, the first priority is to attract the best employees and then retain them. (Benefits are not usually structured to exclude high-risk individuals from a healthcare cost perspective.)

Prescription drugs are a complex and difficult part of health-care benefits and should be treated as such. Employers will do well to understand and revisit the pharmacy benefit building blocks periodically before changing plan design. Ultimately, aligning all aspects of the pharmacy benefit is the best and only way to help control drug benefit costs and at the same time promote greater employee satisfaction.

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DB plan risk management: Finding a better match between assets and liabilities

by Paul Morgan, Senior Investment Consultant, and Alan Perry, Consulting Actuary

By better aligning a defined benefit (DB) plan's assets and liabilities, plan sponsors can avoid problems associated with funding status volatility created, in part, by the Pension Protection Act of 2006 and FAS 158. A well-considered pension risk budgeting process will help.

According to the *Milliman 2007 Pension Funding Study*¹, the overall funded status of the 100 largest U.S. corporate pension plans significantly improved during 2006, almost reaching 100% (up from 91.4% from the prior year), as liability increases were slowed by an increase in discount rates, and strong investment returns boosted assets.

On a projected benefit obligation (PBO) basis, 40 out of the 100 companies reported their funded status in a surplus position at the end of 2006, double the 20 in 2005 (after being as low as 12 companies in 2002), although significantly less than the 90 that had surplus assets at the end of 1999.

Under the new FAS 158 accounting rules, most companies posted the funded status of their pension plans and other postretirement benefits on their balance sheets. For 2006, the post-tax charge to shareholder equity due to the new rules was \$133 billion for these 100 sponsors.

Despite the overall improvement in the funded status of these pension plans over the past four years, the median asset allocation (64% equities, 28% fixed income, the remainder in real estate and other financial instruments including cash) remained the same as it was the year before.

The upshot is that many DB plans' assets and liabilities are still woefully mismatched.

High equity allocations and intermediate-duration fixed-income assets are being used to fund long-duration pension liabilities. The resulting low correlation between assets and liabilities is exposing plans to potentially severe funded status volatility.

The upshot is that many DB plans' assets and liabilities are still woefully mismatched.

Based on our analysis, a traditional pension plan with the aforementioned asset mix could experience funded status volatility of more than 10% a year. Given a normal distribution curve, a fully funded plan's funded status could deteriorate to less than 90% (or increase to more than 110%) in one out of three years. And it could deteriorate to less than 80% (or increase to more than 120%) in one out of 10 years.

More volatility ahead

The year 2007 has been one of reassessment, as plan sponsors respond to the Pension Protection Act of 2006, new accounting standards (FAS 158), funded status improvements, and emerging demographic trends.

Traditional approaches to pension asset management have been ineffective at controlling funded status volatility, contribution requirements, and financial statement risk measures. And the new pension funding and accounting rules will likely increase funded status volatility and corresponding financial risks, making multi-year projections of alternative funding and investment strategies a valuable and necessary planning tool.

Many pension plan sponsors now recognize that the true DB plan investment benchmark should be the market-based growth rate of the plan's liabilities (the change in the discounted present value of pension obligations, due to the passage of time, and changes in the interest rates used for discounting). As a consequence, many companies are investigating investment strategies that establish a stronger dynamic link between asset values and liabilities in order to preserve the funded status and reduce pension financial risks to an acceptable level. Liability-driven investing (LDI) is an approach that is gaining traction among plan sponsors.

¹ The entire *Milliman 2007 Pension Funding Study* can be downloaded at <http://www.milliman.com/expertise/employee-benefits/products-tools/pension-funding-study/index.php>.

In response to below-average expected returns for equity and fixed income markets, many companies are also investigating creative investment strategies to diversify their equity exposure with investments in real estate, private equity, hedge funds, portable alpha, absolute return strategies, and even leverage.

The most financially efficient investment programs, those that optimize a plan's surplus risk/return characteristics, will have two components: one to hedge the interest rate risk of the liabilities, in keeping with the idea of liability driven investing, and the other to generate excess returns above the market-based growth rate of the liabilities. (The return on surplus is the difference between the return earned on a plan's assets and the market-based growth rate in its liabilities.)

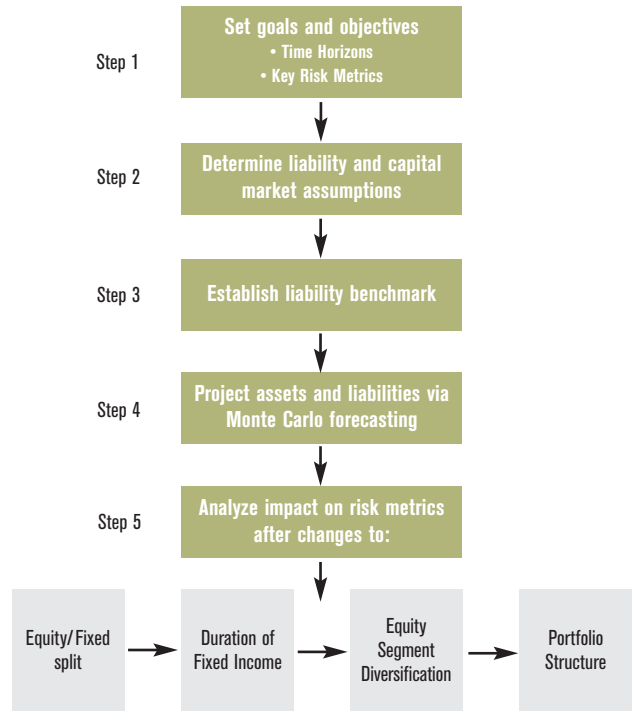
Pension risk budgeting and investment policy

The ability and willingness of the plan sponsor to take on pension plan financial risk is the most crucial issue in developing an investment policy.

Plan sponsors are utilizing risk budgeting analyses to quantify the economic impact of the pension plan on the plan sponsor organization, and to help determine optimal funding and investment policies under the new funding and accounting rules. A risk budgeting analysis helps plan sponsors understand the tradeoffs between controlling the volatility of pension financial risks while attempting to maximize investment returns to reduce plan costs.

Risk budgeting combines asset/liability modeling (the impact of asset allocation on pension obligations) with portfolio structure analysis (the impact of manager mix and skill) to identify the appropriate overall level of risk to be taken and the best blend of risks to achieve the plan sponsor's financial objectives.

Asset allocation and portfolio structure risk are addressed in a unified decision-making framework to allow for the development of more efficient portfolios. The pension risk budgeting process is outlined at the right.



Some of the key metrics used to quantify financial risks when determining the optimal asset allocation and portfolio structure for a corporate pension plan are:

- **Funded ratio** The ratio of assets to accumulated benefit obligation (ABO) and projected benefit obligation (PBO) measures volatility and probability of achieving fully funded status.
- **Tracking error vs. liabilities** Measures volatility of expected asset returns versus the market-based growth rate of liabilities.
- **Cash cost and volatility** The level and likely volatility of annual cash contributions during the projection period plus the amount of any unfunded liability (ABO or PBO) at the end of the projection period.
- **Balance sheet risk** One year surplus value-at-risk (VaR). Measures the worst-case scenario of PBO funded status in dollar terms.

- Accounting cost and volatility** The level and likely volatility of annual net pension expense plus deferrals (unamortized gains/losses). Measures long-term accounting cost on a company's P&L statement.

After determining financial objectives and risk tolerances, the next steps of the risk budgeting process include setting liability assumptions (i.e., workforce growth, salary scale, benefit formulas, etc.) and capital market assumptions for asset classes (expected returns, standard deviations, and correlations), and establishing the liability benchmark.

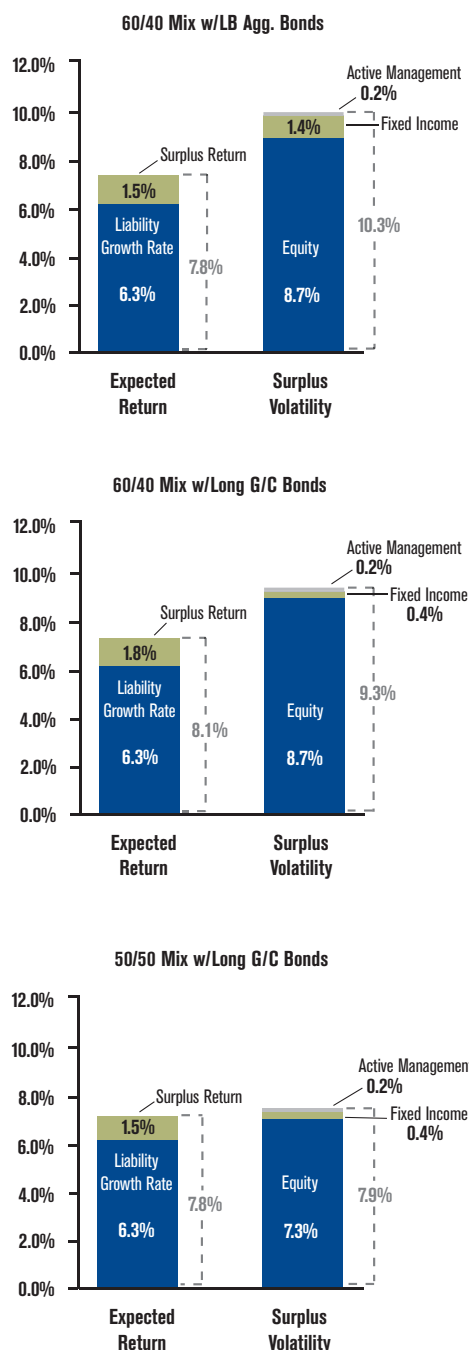
Assets and liabilities are then projected on a yearly basis using a Monte Carlo simulation process. More than 1,000 economic scenarios are simulated for the study horizon (typically 10 years) to generate a full range of possible financial outcomes. The optimal equity/fixed income split and duration of the fixed-income assets are first determined by analyzing the impact of alternative asset mixes on the key risk metrics described above. Based on our analysis, the asset allocation decision for a corporate pension plan may account for more than 95% of total surplus risk. This first analytical stage is often referred to as "setting the risk budget."

The second analytical stage, often referred to as "allocating the risk budget," focuses on increasing returns and the financial efficiency of the total portfolio by diversifying the equity segment across U.S. equity, international equity, private equity, real estate, and/or hedge funds, and through the inclusion of active management (i.e., the "alpha" component). Based on our analysis, active management may contribute from 25% to more than 50% of surplus return, while only contributing about 5% of total surplus risk. The goal of a financially efficient portfolio is to allow plan sponsors to reduce surplus volatility while still achieving a desired rate of return.

The charts at right illustrate the sources of surplus risk and return for a traditional corporate pension plan and shows the impact that changes to asset allocation and fixed-income duration have on surplus volatility.

A comprehensive risk budgeting analysis should analyze the full spectrum of alternative portfolios to determine the optimal surplus risk/return characteristics of a pension plan.

RISK BUDGETING: SOURCES OF SURPLUS RISK



- Surplus Volatility - policy risk is 98% and active management risk is only 2% of total
 Extending bond duration reduces surplus volatility, but equity (beta) risk still dominates surplus volatility
- Surplus Return - policy return is 80% and active management return is 20% of total
 Expected surplus return is primarily attributed to equity (beta) exposure

**Managing pension risk:
Step-by-step best practices**

Most corporate plan sponsors still have a significant asset/liability mismatch and high surplus volatility. Liability-driven investing strategies help establish a better link between assets and liabilities and can significantly reduce the uncertainty of a pension plan's funded status on a sponsor's financial future.

In light of recent improvements in funded status and the increased clarity of the new funding rules, plan sponsors should reassess the expected costs and risks of their DB plans. And they should do this *before* changing benefits policy (e.g., reducing benefits or freezing plans).

We recommend that plan sponsors consider the following steps:

Step 1: Determine the expected long-term cost of the plan under reasonable asset and liability assumptions.

- Ascertain whether the current asset allocation makes sense from a cost perspective.
- Modify the asset allocation, if necessary, to reduce the long-term cost to an affordable level.

Step 2: Manage the short-term financial risks of the plan.

- Set the investment target return benchmark equal to the market-based growth rate of the liabilities (PPA 2006

and FAS 158 use a market-based measure of liabilities) and compare the risk and return of alternative portfolios to this benchmark.

- Measure the magnitude and implications of the current asset/liability mismatch on key risk metrics.
- Decrease surplus risk by lengthening the duration of fixed-income assets and/or increasing the allocation to fixed-income assets.
- Decrease surplus risk by diversifying the equity segment into alternative investments, including real estate, private equity, and/or hedge funds.
- Increase surplus returns with more robust active management.
- Seek a high level of diversification across asset classes and managers.

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