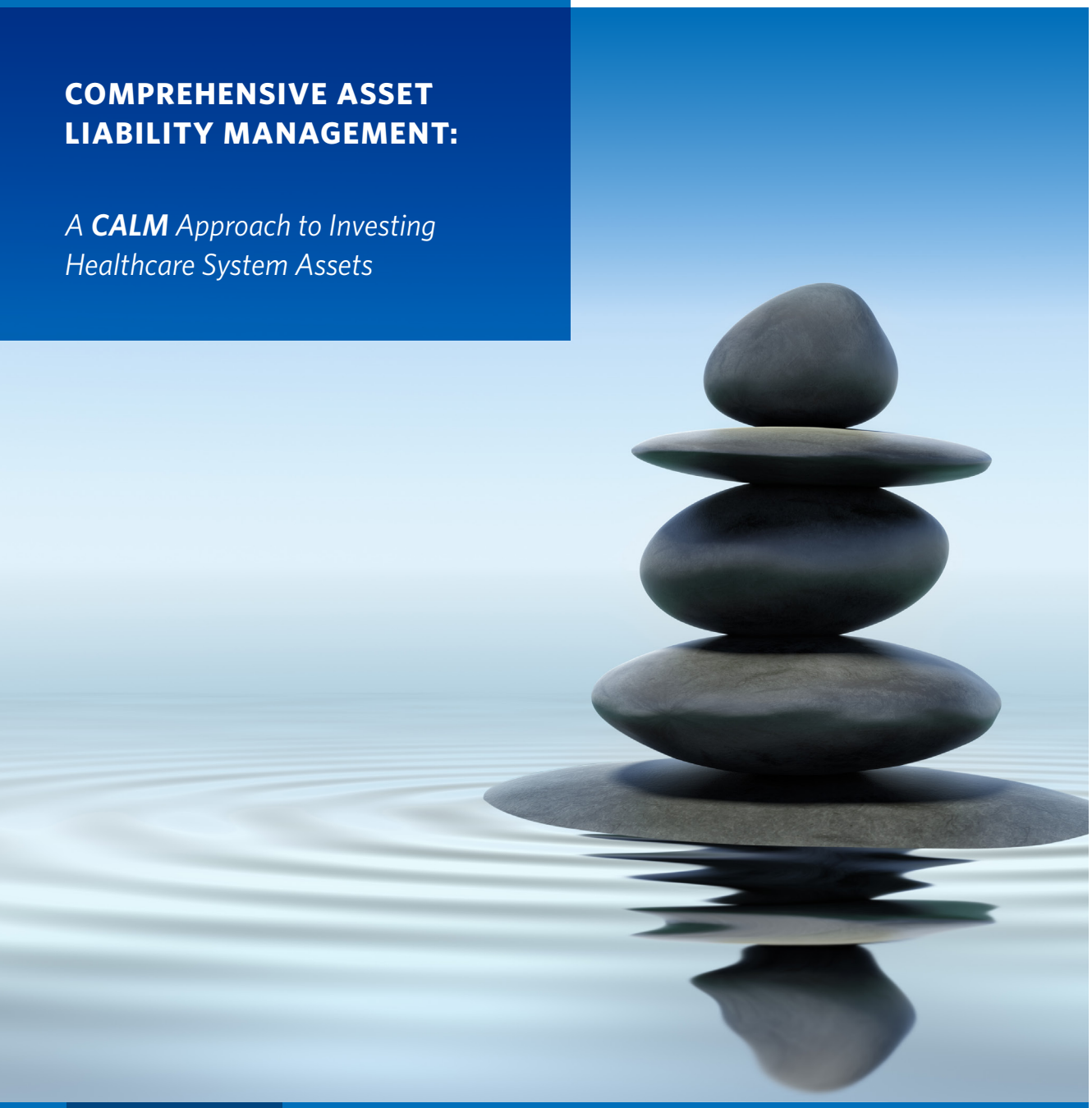
COMPREHENSIVE ASSET LIABILITY MANAGEMENT:

*A **CALM** Approach to Investing Healthcare System Assets*



Strategic Investment Group®

Fiduciary Insights

IN A COMPLEX NOT-FOR-PROFIT HEALTHCARE SYSTEM WITH MULTIPLE INVESTMENT POOLS, BALANCING INVESTMENT AND OPERATIONAL RISKS IN A COORDINATED WAY IS PARAMOUNT. Strategic's Comprehensive Asset Liability Management (CALM) approach provides an analytical framework for integrating a healthcare system's investment decisions across multiple asset pools with its operational and financial decisions. We explore the main elements of the CALM approach in the context of the special challenges faced by healthcare systems.

Introduction

This paper sets out the Strategic Investment Group's (Strategic) comprehensive asset liability management (CALM) approach. We developed CALM to address the unique financial structure and investment objectives of not-for-profit (NFP) healthcare systems. CALM provides an analytical framework for integrating investment decisions across multiple multi-asset pools with a healthcare system's long-run financial and operational planning.

The approach focuses on the three key pillars of a healthcare system's financial strength: its various investment portfolios, operating results, and debt operations. The CALM approach analyzes how different outcomes in each of these three pillars interact and affect key financial metrics related to the system's credit rating and ability to borrow funds at reasonable cost. Armed with this analysis, the healthcare system can better judge the most appropriate investment strategies to pursue for each of its investment portfolios, and prepare for the combined impact of potential adverse outcomes across the three main pillars of its finances.

In our view, the successful management of the investment assets of a healthcare system requires a CALM approach as well as familiarity with the particular characteristics of healthcare systems that differentiate them from other institutional investors. In addition to implementing a CALM approach to investment management, it is important to take into account risk factors that are specific to healthcare systems. These include their debt structure, exposure to price pressures that typically exceed standard inflation indices, a complex regulatory environment, and significant income variability rising from delays in receipts from federal and state governments who often represent a very high share of total revenue.

The paper highlights the importance of a healthcare system's portfolios of investment assets and the need for a CALM approach to guide the optimal management of these portfolios. We begin by reviewing the purpose and investment objectives of the various pools of investment assets used by healthcare systems to support their mission. We then describe the key features of the CALM approach focusing on the key analytical techniques used and the main questions the CALM analysis seeks to answer.

Multi-Faceted Roles of Hospital Systems' Financial Assets

The finances of NFP healthcare systems are buttressed by portfolios of financial assets playing a variety of roles (Exhibit 1). The largest of these portfolios, a long-term investment portfolio (LTIP) is similar to an endowment or foundation. It serves as the keystone of the balance sheet, supporting capital expenditure, facilitating access to capital markets at reasonable cost, and providing an ad hoc or regular supplement to operating income. Many healthcare systems also have sizeable investments supporting a defined benefit pension plan. In addition, healthcare systems typically also maintain one or more self-insurance funds and debt sinking funds or construction reserves as the result of pre-funding activity in capital markets. Finally, many systems use a working capital reserve to provide a cash buffer for daily operations. The role and relative importance of these various portfolios differ dramatically across healthcare systems. There is also a surprisingly wide range of approaches to how these portfolios are managed and their assets invested.

EXHIBIT 1:

Portfolio	Purpose	Investment Objective	Growth Needs	Volatility Tolerance	Liquidity Needs	Time Horizon
LTIP	Keystone of Balance Sheet	Build Real Wealth	Moderate / High	High / Moderate	Low, But Episodic	Very Long
Pension Fund	Efficiently Fund Retirement Benefits	Close Funding Gap	Moderate / High	Limit Funded Status Volatility	Depends on Maturity of Plan	Very Long
Self-Insurance Fund	Meet Insurance Claims	Reduce Cost of Insurance	Low	Low	High	Long
Sinking / Construction Funds	Pre-funded Construction or Debt Repayment	Segregated Reserves	Low	Low	High	Medium
Working Capital	Operational Cash Buffer	Liquidity	Very Low	Very Low	Very High	Short

The finances of NFP healthcare systems are buttressed by portfolios of financial assets playing a variety of roles.

Long-Term Investment Pool

NFP healthcare systems are exempt from federal income tax. Unlike their for-profit counterparts, they are treated as charitable organizations. As such, they retain net earnings rather than distributing them to shareholders. These retained earnings and the investment gains generated from them are accumulated in the LTIP.

The investment objective of the LTIP is to increase its real value at a pace that allows the LTIP to retain its role as the keystone of the health care system's balance sheet. In this way, the LTIP plays a key role in supporting the system's credit rating and access to borrowed funds at reasonable cost. This suggests an orientation toward real growth and the acceptance of greater return volatility to meet its long-run real growth objective. At the same time, its role as a critical backstop for maintaining a solid credit rating and access to capital markets at reasonable cost requires attention to short-term volatility.

Finally, while the liquidity needs of the LTIP are typically low, there are periodic withdrawals to fund planned capital expenditure as well as unanticipated operational shortfalls. Moreover, bonds held in the LTIP are often used to provide collateral for swap arrangements hedging the interest rate on bond issues.

Despite the similarities, an important difference between a healthcare LTIP and an endowment or foundation investment pool is that LTIP assets are generally not restricted by purpose or time horizon. There is generally no "corpus" that needs to be protected or the wishes of a donor to be respected. This affords the healthcare system greater latitude to deploy the LTIP's assets to help meet extraordinary outflows to respond to periods of operational stress (like a pandemic) or fund the acquisition of another system. However, the liquidity of an LTIP is subject to the need to maintain adequate coverage ratios to preserve the hospital's credit rating. Moreover, the healthcare system must also comply with debt covenants, including liquidity requirements that typically define liquidity narrowly, further constraining the liquidity of the LTIP. These factors create unique liquidity considerations.

Defined Benefit Pension Fund

The role of the pension portfolio is to meet the retirement benefits of participants in the pension plan. The investment strategy of the portfolio must be designed to serve the interests of these beneficiaries.

The appropriate investment objective and investment policy of a defined benefit pension plan varies with its funded status, whether the plan is open and has a growing number of participants, whether accrued benefits are expected to grow or remain broadly constant, and the sponsor's ability to bear risk (Exhibit 2). Underfunded or open and growing plans with expanding benefits typically emphasize return generation, while accepting higher funded status volatility and lower liquidity. In contrast, plans that are approaching fully funded status, closed to new participants, and have frozen benefits pursue a liability-driven investment (LDI) approach that aims to minimize funded status volatility. LDI strategies typically have a much lower return, lower return volatility, and higher liquidity. Their return profile is aligned with that of expected changes in the present value of the pension plan's benefits with the aim of providing an effective hedge dampening funded status volatility. The LDI approach has the benefit of reducing the uncertainty and minimizing the amount of required new contributions to the pension. This reduction in the pension's funded status volatility is achieved by aligning the duration of assets and liabilities, thus limiting a significant source of risk to the health care system's balance sheet.

Self-Insurance Funds

Self-insurance funds represent a third major type of health care investment fund, with their own unique objectives, funding goals, regulatory requirements, and liquidity needs. These funds are designed to meet claims for compensation that may arise from patients and employees. They receive periodic inflows in the form of premium payments and target an actuarially based level of funding. They may experience large and unpredictable cash outflows, and thus have a low tolerance for year-to-year return volatility and a high liquidity need. While low return volatility and high liquidity are of

The investment objective of the LTIP is to increase its real value at a pace that allows the LTIP to retain its role as the keystone of the health care system's balance sheet.

EXHIBIT 2:

Return-Focused Investment Policy

The policy focus should be on return generation when the:

- Plan is underfunded.
- Plan is open or young, and has relatively uncertain liabilities.
- Liabilities are small relative to plan sponsor's balance sheet and operating income.
- Sponsor has a relatively stable source of funding for benefits.
- Sponsor has high risk tolerance.

Liability-Focused Investment Policy

The policy focus should shift to liabilities when the:

- Plan is fully or over funded.
- Plan is frozen, closed, or mature, and has relatively certain liabilities.
- Liabilities are large relative to plan sponsor's balance sheet and operating income.
- Sponsor has a relatively cyclical business, less predictable cash flow, or high solvency risk.
- Sponsor has low risk tolerance.

utmost importance, self-insurance funds also need to grow moderately to help reduce the burden of premium payments. The investment policies for these pools typically have a large allocation to fixed income investments and cash, combined with some return generating assets as well as real assets to hedge the inflation risk of a large bond allocation. Unlike the other pools discussed here, the policy asset allocations for self-insurance pools typically need the approval of the government agency responsible for insurance oversight.

The appropriate investment objective of a defined benefit pension plan varies with its funded status, whether the plan is open and has a growing number of participants, whether accrued benefits are expected to grow or remain broadly constant, and the sponsor's ability to bear risk.

Debt Sinking Funds / Construction Pre-Funding Pools

Healthcare systems generally have large capital expenditure needs and use capital markets extensively to finance their capital projects.

Sinking funds are designed to ease lender credit risk by building a pool of cash earmarked for debt repayment. The debtor accumulates cash in the sinking fund several years prior to the maturity of the bond as a way of pre-funding its repayment. By reducing lender risk, debt sinking funds lower costs to the borrower. Funds held in the sinking fund may be invested subject to conditions imposed by the lender.

In addition, in advance of major construction projects, a healthcare system may issue a bond and receive all or part of the proceeds of the new issuance before physical construction costs are actually due. These bond proceeds can be invested either in the LTIP pending deployment, or in a dedicated fund, whose investment objective, compared to the LTIP, is more oriented toward capital preservation than growth.

Working Capital Pools

The daily cash flow management of large healthcare systems is complex. Healthcare systems maintain a reserve to help smooth these flows. Here, liquidity and risk minimization are paramount and return is secondary. Given this focus, investments are limited to cash and cash equivalents, with an eye to careful control of credit risk. Since funds maintained in the working capital pool are not generating significant returns, the optimal funding of these pools targets an amount sufficient to meet estimated net outflows over a comfortable period, but no more. Surplus working capital is reallocated to the LTIP where it can achieve higher returns.

Each of these multiple pools has its own specific objectives and constraints, and have widely different asset allocation policies, but all are integral to the financial strength of the system. It is not enough to assess the risk and return characteristics of each investment pool in isolation. An aggregate picture of how the various investment portfolios combine and interact with the system's broader finances and operations is essential.

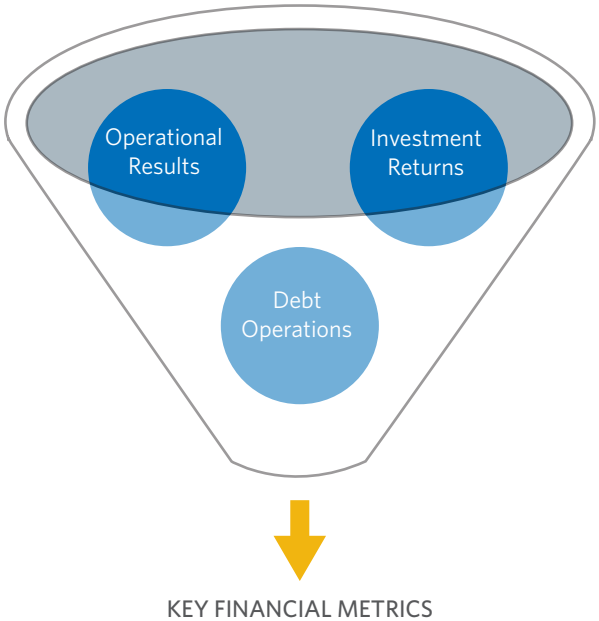
Comprehensive Asset Liability Management

Strategic's CALM approach recognizes that the financial strength of an NFP healthcare system rests on three pillars: operating results, investment returns across its various asset pools, and debt operations (Exhibit 3). The aim of the CALM approach is to frame an analysis of the healthcare system's financial risks that takes into account variability in these three major pillars of the healthcare system's finances. It simulates investment returns by various methods to develop probability distributions of returns under a range of scenarios. These return probabilities are then integrated with projections of operating results, capital expenditure, and debt issuance. CALM provides a framework to assess the combined interaction of these three pillars and their impact on the healthcare system's key financial metrics under a range of scenarios.

The importance of a CALM approach to enterprise risk management is underscored by the potential of good and bad investment and operational outcomes to reinforce each other to create virtuous and vicious cycles (Exhibit 4). When all is well, favorable operating and investment results increase the potential to expand investments, which in turn contribute to balance sheet strength and a solid credit rating, facilitate access to capital markets at a reasonable cost, and support the scope for capital expenditure to enhance operations. In an adverse cycle, the unfavorable loop of poor operational and investment performance undercuts the system's financial strength and credit rating, erodes the capacity for capital expenditure, which in turn further detracts from operating results. Given the potential for both favorable and unfavorable dynamics of this kind, carefully modeling the risk imparted by investments on a system's broader operations and finances through a CALM framework is critical.

An aggregate picture of how the various investment portfolios combine and interact with the system's broader finance and operations is essential.

EXHIBIT 3:



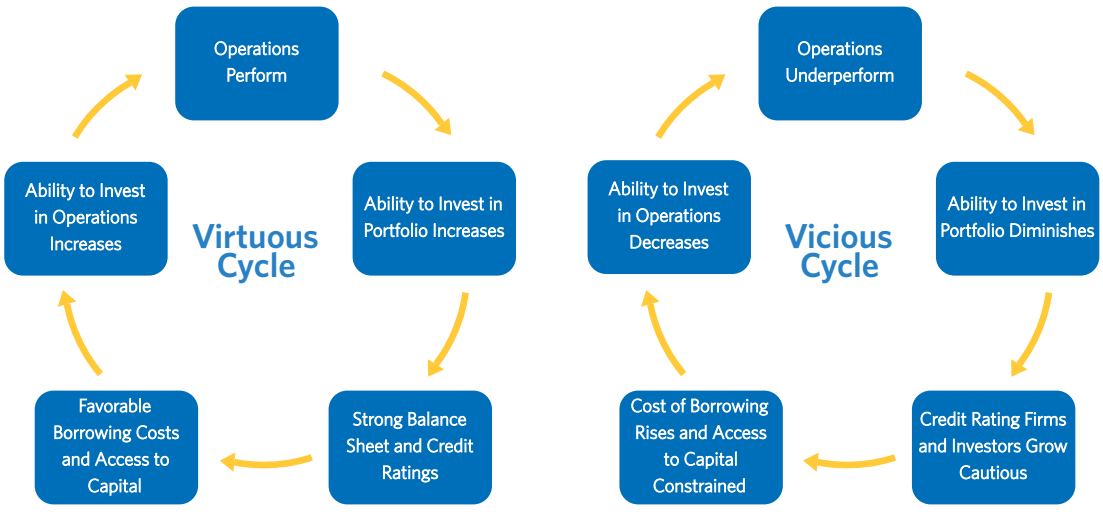
Step 1: Designing Investment Policies for Each Pool

The importance of a CALM approach to enterprise risk management is underscored by the potential of good and bad investment and operational outcomes to reinforce each other to create virtuous and vicious cycles.

The CALM approach is an iterative process implemented in two distinct phases. The first step of the process determines the optimal strategic asset allocation policy for each pool in isolation. The analysis that Strategic undertakes in this first phase aims to provide answers to the following questions:

1. Which asset allocation has a risk and return profile that is best aligned with the portfolio's objectives?
2. What are the extreme ranges of the probability distribution of returns of alternative asset mixes?
3. How would different strategic asset allocations have performed in historical market crashes and booms?
4. Can the portfolio withstand the losses likely in the event of a recurrence of significant market disruption?
5. Is the liquidity profile sufficient to meet cash demands and rebalance the portfolio?
6. Are the sources of risk appropriately balanced to diversify and enhance the resilience of the portfolio?
7. Are there enough diversified sources of return and scope for added value?
8. Are adequate controls in place to safeguard assets, provide accurate and timely valuations of asset holdings, and ensure compliance with established guidelines and regulatory requirements?
9. Are the costs of managing the portfolio commensurate with expected value added?
10. Does the governance structure provide effective supervision, establish clear lines of responsibility, and ensure investments are aligned with objectives and circumstances?

EXHIBIT 4:



Step 2: Analyzing the Interaction of Pool with the System's Operations

The next step of the CALM process combines the various scenarios for investment returns developed in Step 1, with scenarios for operating results, capital expenditures, and debt operations. The goal of Step 2 is to analyze how the combination of adverse outcomes for investment returns and operating results combined with large expenditures related to capital investments or debt repayments affect the hospital system's key financial metrics.

The CALM approach employs a number of different techniques to construct these scenarios.

- In the case of investment returns, the main analytical tools include mean variance analysis, combined with historical and forward looking-stress tests as well as assessments of portfolio liquidity.
- A range of operating results are modeled drawing on experience of past shortfalls, as well as stress tests measuring the impact of large unanticipated cash demands requiring significant withdrawals from the LTIP. The recent experience of the impact of the pandemic on operating margins will no doubt become an important historical case for consideration in future CALM analyses.
- Scenarios for adverse debt conditions include higher borrowing costs and the unanticipated exercise of puttable debt.
- We use Monte Carlo simulations to develop probability distributions of the combined effect of adverse developments in each of the three pillars of a healthcare system's financial strength.

The CALM analysis simulates investment returns across all portfolios (LTIP, pension, self-insurance, sinking fund, and working capital reserve) to develop probability distributions of aggregate returns, liquidity, and asset value. These aggregate return probabilities are integrated with projections of operating results, capital expenditure, and debt issuance. By integrating simulated investment outcomes with expected operational results, the CALM framework projects the impact of investments on key financial metrics. The analysis provides probability distributions of key financial metrics and compares them with budgetary targets and the level of each metric associated with different credit ratings. The output of the CALM simulations includes the probability over a ten-year horizon that key financial metrics fall below critical thresholds needed to sustain the healthcare system's credit rating.

The second step of the CALM approach aims to provide answers to the following questions:

1. What is the probability distribution of the healthcare system's key financial metrics based on simulations of investment returns, operating results, capital expenditure, and debt operations?
2. What is the risk that key financial metrics essential to the system's credit rating – days cash on hand, cash to debt, and liquid assets to short-term debt – could break critical thresholds needed to retain the system's credit rating?
3. What is the risk that liquidity held in the LTIP and the working capital reserve falls short of debt covenants?
4. What would be the impact on key financial metrics of significant market dislocations hurting investment performance, large operational shortfalls, and the need for a sizeable cash withdrawal from the LTIP to cover emergency capital expenditure or early debt repayment?
5. Is there scope to budget risk across different pillars or within different investment portfolios? For example, a system has moved to an LDI strategy for the pension, thereby reducing a significant contingent claim on net operating income and the system's debt level. Should the system do nothing and enjoy a reduced level of financial risk, adopt a more aggressive investment strategy in the LTIP to generate higher returns, or increase borrowing to invest in expanded operations?

6. Is the liquidity profile of the LTIP sufficient to meet puttable and short-term debt?
7. Which assets held in the LTIP provide the most efficient way to provide collateral for swap arrangements?
8. Are the investment strategies adopted for each asset pool sustainable – likely to generate sufficient returns over the long run, while avoiding extreme short-term declines?
9. Do the investment strategies promote the system's long-run resilience and flexibility to respond to shocks?
10. Are the Board and management committed to the investment strategies adopted for each portfolio? Do they consider that the system would be able to withstand an extremely adverse scenario and resist the temptation of responding with a kneejerk, and likely counterproductive, change in strategy?

The importance of adopting a CALM approach will only increase with the longer-term risks posed by an aging population, and government budgets increasingly constrained by high debt levels.

Conclusion

The CALM approach requires close collaboration between the management team responsible for financial forecasting and Strategic. This collaboration is essential to design the scenarios underpinning the analysis and calibrate the impact of different scenarios for the system's investments, operations, and debt on its financial strength and credit rating. This type of customization and collaboration is typical of the role Strategic plays as a fiduciary partner with its clients. This partnership takes on different forms depending on the financial structure, investment pools, and mission of our clients. We have found that the CALM approach is essential to keeping large NFP healthcare systems on a solid financial footing. The importance of adopting a CALM approach will only increase with the the longer-term risks posed by an aging population, and government budgets increasingly constrained by high debt levels.

Strategic Investment Group

Strategic, a pioneer in dedicated Outsourced CIO (OCIO) solutions since 1987, offers a comprehensive service platform for managing customized portfolios for institutional investors. Our proprietary process combines active portfolio management, rigorous risk management, and open architecture manager selection.

Strategic functions as our clients' investment partner and co-fiduciary, effectively becoming an extension of their resources. Clients are then free to focus on their core businesses, while we focus on providing the highly specialized portfolio management expertise that clients need to meet their investment goals. Depending on a client's needs and preferences, Strategic can orchestrate the management of an entire portfolio comprising multiple asset classes, focus on specific asset classes, such as alternatives (e.g., venture capital/private equity, real estate, and/or hedge funds) or international investments, or manage strategies with high potential for adding value. Customized liability-driven investing (LDI) solutions, whether through an integrated total portfolio approach or a targeted long-duration strategy, are also available, as are solutions that address mission-related investment objectives.

We strive to build enduring partnerships with our clients by strengthening their investment programs through a dynamic, value-enhancing investment process, sound governance framework, and world class client service. Our mission is to empower investors through experience, innovation, and excellence.

For more information, please email us at inquiries@strategicgroup.com.

Strategic Investment Group®

1001 Nineteenth Street North
17th Floor
Arlington, VA 22209 USA

+1 703.243.4433 TEL
+1 703.243.2266 FAX

strategicgroup.com