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Long-Term Care Insurance for Federal Employees: Program Implications for Other Employers

by Todd Dore, FSA, and Dawn E. Helwig, FSA

After significant planning and design efforts, the federal government will launch the nation's largest program of group long-term care insurance. The Federal Long-Term Care Insurance Program (FLTCIP), to be implemented in October 2002, will be offered to 20 million federal government employees, retirees, and their families.

Although most employers are not likely to embark on a program of the size and magnitude of the new federal program, the FLTCIP offers many lessons, particularly for those employers that are considering a group long-term care insurance plan for their employees. This article examines many of the key issues confronting the government's Office of Personnel Management (OPM) and explores the steps undertaken thus far to ensure the successful implementation of the FTLCIP.

At the Mid-Point

In September 2000, the President signed the "Long-Term Care Security Act" (P.L.106-265). The law set forth the framework for long-term care insurance for employees and retirees of the US government and their families. The law created the FLTCIP to cover all members of the "federal family," which includes:

- employees of the federal government, the US Postal Service, and members of the uniformed services;
- retirees, including federal annuitants (those who retire on an immediate annuity), surviving spouses, uniformed service retirees, and uniformed service reservists at the time they qualify for an annuity;
- spouses and adult children of employees and retirees; and
- parents, parents-in-law, and step-parents of employees.

Federal retirees receiving a deferred annuity and survivors of federal retirees who received a deferred annuity are not eligible. Legislative changes in the future, however, may allow for the inclusion of these individuals. The law allows for the possible expansion of coverage to other groups, such as other family members of employees and retirees.

By covering surviving spouses and adult children, the FLTCIP is, with regard to eligibility, somewhat more extensive than many existing plans for large employers. On the other hand, several employer-sponsored plans include grandparents, which the FLTCIP at this time does not.

Plan Design

The FLTCIP is a comprehensive benefits plan that offers coverage for both nursing home and home and community-based care. The plan has been designed to be flexible to meet the needs of the individual participants, while still maintaining as much simplicity as possible. Features of the FLTCIP include:

- *Benefits*—Actual expenses are reimbursed, up to: 100% of the maximum weekly benefit for nursing home, assisted living, hospice, and respite care expenses (whether in an institution or at home); and 100% of home and community-based care expenses if a long-term care coordinator is used (or 50% if a long-term care coordinator is not used). (Changes to this feature are under consideration.)

- *Weekly maximum benefit*—The plan pays for actual nursing home or home care expenses incurred each week, up to a weekly maximum. OPM expects to offer participants a choice of three weekly maximums, which will vary by geographic area.

- *Inflation protection*—The standard plan features a future purchase option that automatically increases weekly benefits every two years, based on an inflation index. Premiums will increase correspondingly, based on attained age. Participants may decline the option for future adjustments but will have to produce evidence of insurability if they repeatedly decline this option. The plan also offers a compound inflation option that increases the weekly benefit automatically by a given percentage every year, such as 5%. Premiums would remain level for life, based on the participants' age when the insurance is issued.

- *Benefit period (length of policy)*—The insured may elect coverage for benefit periods lasting three years, five years, or for his or her lifetime.

- *"Pool of money" flexibility*—The plan allows for unused payments to extend the benefit period. If, for example, a participant opts for a $700 weekly benefit under a three-year policy (for a total of $109,200 in his "pool of money"), he could extend the period of coverage beyond three years if weekly expenses incurred for covered services are less than $700 per week. Individuals selecting a lifetime benefit period will have an unlimited pool of money.

- *Elimination period*—The standard option requires individuals to receive care for 90 days (not necessarily consecutive calendar days) before benefits are payable. A 30-day option is under consideration. Premiums are waived at the start of the elimination period if a care coordinator is used, or at the end of the elimination period if a care coordinator is not used.

- *Benefit trigger*—Benefit payments begin when a person is unable to perform, without substantial assistance, at least two of six activities of daily living (ADL)—e.g., eating, dressing, and bathing—for a period of at least 90 days, or when suffering from severe cognitive impairment.

In addition to the basic plan design features described above, the OPM has asked insurers for quotes on other possible provisions, such as limited pay options and spouse discounts.

Premiums and Cost

Covered participants will pay the entire cost of premiums for the long-term care insurance, either through payroll deductions or bank/debit authorizations. The premiums will be based on the age of the participant when coverage begins and will vary according to the option selected. Premiums are designed, but not guaranteed, to be level for the life of the participants (unless they elect the future purchase options). Premiums also will not differ by enrollment class (i.e., employee vs. spouse vs. parent, etc.), but employees who do not qualify for the plan due to health reasons (see "Underwriting" below) may be offered a special plan with different benefits and/or premiums.

Despite the comprehensive features offered under the FLTCIP, the long-term care insurance is anticipated to cost about 15%-20% less than insurance available in the market for an individual who is a "standard" risk. The significant cost saving is due in large measure to group economies of scale and the lack of insurance agent commissions.

Funding

The FLTCIP is a fully insured product. The law requires that the emerging experience of the FLTCIP alone (i.e., the FLTCIP's experience separate from the insurers' other group contracts) be used to determine future benefit or premium modifications. Thus, a separate experience fund will be established to track the actual costs of the FLTCIP's premiums, claims, expenses, and investment earnings.

Because FLTCIP premiums are level, reserves will be established to ensure future benefit payments to participants. In many group contracts, this established reserve also is used as the basis for determining amounts transferable to a new carrier if that becomes necessary (e.g., for the FLTCIP, if an insurance carrier is replaced at the end of the seven-year contract period). For the FLTCIP contract, the experience fund—adjusted to allow the original carrier to maintain negotiated profits—serves as the basis of the amount to be transferred. If the plan's experience is as expected, this fund will be sufficient for the new carrier to fund future obligations. If the plan's experience is lower than expected or if the carrier performs poorly in the way of customer service, some profits will be forfeited and will result in the experience fund being increased. If the fund becomes larger than that required to fund future benefits, the excess will be used to reduce premiums or increase benefits.

Although very large group plans commonly establish experience funds, penalties for poor performance are not typically linked to profit margins, and transfer provisions are not usually tied to experience fund values. When the FLTCIP is implemented, other employer plans might adopt this approach.

Underwriting

For active employees, the OPM is considering modified guaranteed issue and short-form underwriting styles. For modified guaranteed issue, applicants are asked a few simple questions regarding their cognitive abilities and their abilities to perform certain ADLs. If an inability is identified, the applicant is offered special

coverage. With short-form underwriting, participants are also asked some limited health-related questions. OPM is asking potential insurance carriers about the effect on premium rates if underwriting for employees were to be guaranteed issue, where the only requirement is an actively-at-work provision.

Regardless of the underwriting style OPM chooses for employees, spouses will be offered coverage under a short-form application, with an actively-at-work question added. For retirees and other family members, full underwriting will apply, entailing responses to numerous health-related questions; the process also can include a review of medical records, a phone interview, and/or a face-to-face assessment. This is the same level of underwriting that those who purchase individual policies in the private market generally undergo, although possibly not as detailed as the underwriting employed by the most stringent insurance carriers.

It is not uncommon in the large employer group market for active employees to obtain long-term care insurance under modified guarantee issue and for others to be subject to full underwriting. However, the high percentage of employees with disabilities in the federal workplace and the OPM's desire for a financially sound plan has resulted in a more conservative underwriting approach for the FLTCIP plan. OPM also is asking insurers to propose and price alternative insurance coverage for employees with disabilities and other high-risk applicants (i.e., those indicating ADL dependency, cognitive impairment, or certain medical conditions in the application).

Enrollment Strategies

The OPM will hold open enrollment before October 2002, when eligible individuals can apply for the insurance. Employees and retirees will automatically receive information about the program. Eligible family members will be able to call a toll-free number and access an Internet site during the open enrollment season to request information about the program. OPM, in conjunction with the selected insurance carrier, will conduct an extensive educational and marketing campaign, which could include satellite broadcasts, cable TV shows, CD-ROMs, website calculators, etc.

The plan enrollment will be unique to group long-term care plans in existence today, since it will be such a large undertaking to enroll participants. With over 20 million eligible participants and expected enrollments that could approach 500,000 within the first years, the FLTCIP could double the size of current group long-term care insurance plan enrollees. This will require quite an extensive effort on the part of the insurer(s) that win(s) the bid in the underwriting and enrollment processes.

Because of the size of the program, there is no requirement that one insurer provide all of the coverage. In fact, due to the size and the financial risk implications, a consortium of insurers will join together to provide the insurance. This option to date has not been used with other group long-term care plans.

Implications for Employer Groups

The FLTCIP undoubtedly will serve as a model for many group plans in the future. The plan as currently designed is far more extensive than many group plans today, so employee pressure can be expected to mount as individuals in the federal family become covered, use the benefits, and spread the word.

The FLTCIP's somewhat unique inflation protection feature will strongly encourage inflation coverage by other group long-term care insurance plans. While the FLTCIP's future purchase option will be the default option, participants will be strongly encouraged to opt for the compound inflation option to stabilize their premiums. The FLTCIP's insurance carrier also will be encouraged to offer participants who have the future purchase option the opportunity to convert to automatic compound inflation. The emphasis on inflation coverage and on the ability to upgrade insureds to level premiums with automatic inflation may well be copied throughout the group long-term care market.

In addition to possibly having major effects on the benefit design and financial aspects of other group long-term care insurance plans (e.g., experience fund accounting and performance penalties), the FLTCIP sends the message that such coverage is an important part of an employer's overall compensation package. More employers might consider offering a group long-term care plan to employees or revising their current plans to match the FLTCIP in certain respects.

Conclusion

At press time, insurers have submitted their proposals and OPM has closed the bid process on the FLTCIP. Many key points and plan features—such as underwriting criteria for active employees—will not be decided until OPM has evaluated the responses from insurance carriers. The OPM is fully cognizant of the leading role the agency is playing in the development of a significant employee benefit and has taken significant steps to ensure that it offers an attractive, flexible, and affordable program that is financially sound. Other employers will be carefully watching the FLTCIP implementation and learning from that experience.

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A Guide to Nonqualified Deferred Compensation Plans

by David E. Forbes, FSA

Nonqualified deferred compensation plans play an important role in most benefit programs that are designed to attract and retain senior executives. Such plans provide a popular and attractive vehicle for compensating valuable employees and come in various forms. Any employer considering the implementation of a nonqualified plan should be aware of not only the major issues confronting these plans, but also the impact of recent changes in the law; both are examined in this article.

A Brief History of Nonqualified Plans

The passage of the Employee Retirement Income Security Act (ERISA) in 1974 and related amendments to the Internal Revenue Code helped to further the concept of a "qualified" retirement benefit plan. Qualified plans enjoy significant tax advantages: employer contributions to these plans are generally not taxable to participants at the time they are contributed, and employers are able to take a current tax deduction for these contributions, subject to certain limitations. The earnings on funds invested in these plans are not taxable as they accrue, and participants do not have to pay taxes on the benefits and earnings until amounts are received.

Over the years, changes to the tax code have imposed various restrictions on the amount that may be contributed to and paid from qualified plans. The restrictions tended to limit the benefits available to senior executives and led to an increase in the number of nonqualified benefit plans established.

Types of Nonqualified Plans

Many executives in publicly held companies are eligible for benefits related to the company's stock, such as stock options and discounted stock. In addition to stock-related benefit programs, there are two main types of nonqualified plans: excess benefit plans and top-hat plans. The term "supplemental executive retirement plan" or "SERP" also is frequently used to describe a variety of nonqualified plans.

- An excess benefit plan generally allows an employer to make contributions or pay benefits that exceed certain statutory limits applicable to a qualified plan. A nonqualified plan could permit any employee whose contributions or benefits are so restricted (i.e., $35,000 in total contributions to a defined contribution plan or $140,000 in benefits from a defined benefit plan in 2001) to be eligible to participate in an excess benefit plan. If the plan benefits are paid from the employer's general assets (rather than funded via a dedicated trust), the excess benefit plan is exempt from the ERISA reporting, participation, vesting, funding, fiduciary responsibility, administration, and enforcement requirements that apply to qualified plans. Funded excess benefit plans are only exempt from the participation, vesting, and funding requirements of ERISA.

One of the difficulties in designing an excess benefit plan is the interaction of the tax code's compensation limit and the limits on contributions or benefits. In many cases, the interaction will reduce contributions or benefits to such a level that no benefit will be available under the excess plan.

To illustrate, assume that an unmarried executive with 30 years of service currently earns $300,000 per year. He participates in a qualified defined benefit plan that provides 2% of final pay multiplied by years of service as a life annuity, and he wishes to retire in 2002 at age 65. In the absence of any limits on compensation, this executive would be eligible for an annual benefit of 2% x $300,000 x 30, or $180,000. Under the qualified plan, this executive's compensation will be limited statutorily to $200,000 next year (when the compensation limit changes by statute), and therefore he will be eligible for an annual benefit of 2% x $200,000 x 30, or $120,000 under that plan. An excess plan is allowed to provide benefits that cannot be paid due to the application of the contributions and benefits limits. However, the benefit limit for this executive is $160,000, which is greater than the qualified plan benefit of $120,000. This executive, therefore, would not qualify for any benefits under an excess plan.

- A top-hat plan provides more flexibility than an excess benefit plan in the benefit design area. Although an excess plan generally provides benefits in excess of the limits on contributions or benefits, employers are free to design a top-hat plan in any way they wish. However, top-hat plans must restrict the group of employees eligible to be covered.

According to ERISA, a top-hat plan is an unfunded plan "primarily for the purpose of deferred compensation for a select group of management or highly compensated employees." Top-hat plans are exempt from ERISA's requirements related to participation, vesting, funding, and fiduciary responsibilities, and are eligible for simplified reporting requirements—usually a one-page notice filed with the Department of Labor (DOL). When designing a top-hat plan, an employer must make sure the plan does not cover participants who are not in the "select group." The DOL, which has jurisdiction over top-hat plans, has provided little guidance on what is meant by "a select group of management or highly compensated employees." It is understood, however, that the definition is not the same as the Internal Revenue Code's "highly compensated employee."

Benefit Taxability, Funding, and Security

Two concepts that are fundamental to nonqualified plans are constructive receipt and economic benefit. In general, a taxpayer must include amounts in gross income when the amounts are actually or "constructively" received. The IRS defines "constructive receipt of income" as when income is:

- credited to an individual's account;
- set apart for an individual, or otherwise made available to the individual; or
- otherwise made available so that an individual may draw upon it at any time, or so that an individual could have drawn upon the income during the taxable year if the individual gave notice of an intention to withdraw amounts.

The IRS does not view income as constructively received if "the taxpayer's control of its receipt is subject to substantial limitations or restrictions."

Under the economic benefit principle, if deferred amounts are set aside in a fund for an employee or otherwise placed with a third party, the amounts could still be subject to inclusion as gross income for that year, and thus, taxable to the employee. The amount is taxable if the employee could derive an economic benefit from the amount (such as using it as collateral for a loan), even though he or she has no control of the funds. The amount is not taxable if it is "subject to a substantial risk of forfeiture," as defined by the IRS.

Nonqualified plans do not receive the favorable tax treatment given to qualified plans. In a nonqualified plan, employer contributions are generally deductible to the employer in the year the amount is included in the employee's gross income. If the plan is unfunded, this event occurs when the amount is paid (including constructively paid) to the employee. In a funded plan, the amount is included in the employee's gross income when the benefit becomes vested, which occurs according to the terms of the plan.

For nonqualified deferred compensation plan participants, a key concern is their ability to collect the benefits promised by the plan sponsor. To the extent possible, they obviously want their benefits secured. If the sponsor sets aside assets irrevocably to fund these benefits, then the plan is considered funded. Some sponsors are comfortable with a funded nonqualified plan and feel the security offered is an important element in a nonqualified plan. Other employers have very valid reasons for preferring or maintaining a top-hat or an unfunded excess plan while also wanting to provide participants some degree of security. The employer may devise a way to provide some level of security to the participants without fully guaranteeing the benefits.

Among the more popular methods for providing benefit security to plan participants are:

- *Rabbi trusts*—Under a rabbi trust, the employer sets aside assets in a trust for the benefit of the plan participants. These assets are considered property of the employer (and ultimately its creditors, in the event of bankruptcy or employer insolvency). Once the trust is established, the assets may no longer be returned to the employer (except as provided by the terms of the trust), even in the event of a corporate takeover. However, if the employer becomes bankrupt or insolvent, the participants become general creditors of the employer. Because the assets (and earnings) under a rabbi trust are not considered transferred, the plan is considered unfunded. For income tax purposes, the employee is not considered in constructive receipt of the assets and need not include the benefits in his or her income until the amounts are considered transferred or actually received.

- *Secular trusts*—A secular trust provides participants more security than a rabbi trust, although both are similar in that assets are set aside in an irrevocable trust for the benefit of the participants. However, the assets in a secular trust are set aside for the exclusive purpose of providing benefits and are not subject to the claims of the employer's creditors in the event of bankruptcy or insolvency. Because the offsets to fund the benefits are transferred, the underlying nonqualified plan is considered funded. If

a secular trust is used to provide benefits under an existing top-hat plan, the plan loses its top-hat exemption from ERISA requirements, given that a top-hat plan by definition is an unfunded plan. An employer may use a secular trust to fund an excess benefit plan, which then becomes subject to the ERISA provisions mentioned earlier. Any contributions to a secular trust (and any earnings thereon) are considered taxable income to the participants in the year in which amounts are contributed (or earned). There are different types of secular trusts, and the legal and tax status of a nonqualified arrangement can depend on the manner in which the secular trust is established.

- *Life insurance arrangements*—Other arrangements for securing the employer's benefit promise include life insurance, such as corporate-owned life insurance (COLI). When COLI is used, the employer purchases life insurance for one or more of its employees. Any policies purchased on behalf of employees are considered employer assets and do not generally cause a plan to be treated as funded.

FICA Tax Issues

An employee's gross income—including income earned or received under a nonqualified plan—is subject to payroll taxes under the Federal Insurance Contributions Act (FICA). Under FICA, the current tax rate of 7.65% is composed of 6.2% for Social Security and 1.45% for Medicare. Both the employee and the employer are subject to FICA taxes.

The Social Security taxable wage base ($80,400 in 2001) limits the amount of salary that is subject to the Social Security tax. Through 1993, a cap applied on the salary that was subject to the Medicare tax component, but this cap was eliminated starting in 1994. Prior to this change, vested benefits earned under nonqualified plans were considered additional income, but they generally were not subject to FICA taxes because most employees had earned salaries in excess of the taxable wage base for the year. Since the elimination of the Medicare tax salary cap, vested benefits earned under nonqualified plans have been subject to the Medicare tax.

Contributions to a nonqualified defined contribution plan generally become subject to FICA tax at the time they are contributed or, if later, at the time that the employee no longer is subject to a substantial risk of forfeiture (usually vested). Under a nonqualified defined benefit plan, the employee's benefit becomes fully taxable at the time the benefit becomes "reasonably ascertainable." This generally occurs when the employee retires with a vested nonqualified benefit and elects a form of payment.

If desired, employers and participants in nonqualified defined benefit plans may pay the FICA tax as the benefit is earned, rather than in one large amount upon retirement. This approach, known as "early inclusion," requires the annual calculation of the nonqualified benefit and retention of detailed records regarding the taxes paid. In addition, use of early inclusion may result in employers and participants paying more in FICA taxes than if they waited until retirement. This is because nonqualified benefits, unlike qualified benefits, can decrease at any time due to changes in the plan or in the law (see "New Limits under EGTRRA," below).

For example, consider an employee earning $180,000 in 2001 and future years, and who participates in a qualified defined benefit plan and a top-hat plan. The top-hat plan provides benefits that exceed the amounts available from the qualified plan due to the tax code's restrictions on benefit limits and compensation. In 2001, this participant is eligible for a benefit under the top-hat plan because his or her salary exceeds the compensation limit of $170,000. With the salary limit increasing to $200,000 in 2002, the participant's entire benefit becomes payable from the qualified plan next year. If the participant subsequently retires and is not eligible for a benefit from the top-hat plan, the employer would have to seek a refund of any FICA taxes paid with respect to the top-hat benefit. Furthermore, the employer may only obtain a refund for the taxes it paid in open tax years, which typically are the current year and the prior three years. Any excess FICA taxes paid in a year prior to an open tax year are not recoverable. It is for these reasons that many employers choose to forego early inclusion and instead pay the full FICA tax at the time of retirement.

New Limits under EGTRRA

The intent of the tax laws' restrictions on benefits from and contributions to retirement plans was to reduce qualified plan benefits for the highly paid, thereby increasing taxable revenue for the federal government. When combined with other statutory and regulatory requirements and retirement program developments, however, the effect was a marked decrease in the number of defined benefit plans, and this hurt many lower-paid and middle-management employees.

The pension provisions of the Economic Growth and Tax Relief Reconciliation Act (EGTRRA), enacted in June, were designed to stimulate retirement savings and to promote an expansion of qualified retirement plans by increasing the limits on contributions and benefits. The annual elective deferral limit for 401(k) and 403(b) plans will increase from $10,500

this year to $11,000 in 2002, with additional $1,000 per year increases over the next four years (i.e., to $15,000 in 2006). For qualified defined benefit plans, benefits payable are limited to $140,000 annually in 2001 for benefits payable at the participant's Social Security normal retirement age. Under EGTRRA, this amount will rise to $160,000 for 2002, applicable to retirements between ages 62 and 65.

The annual compensation limit taken into account for employees who participate in either a defined contribution or a defined benefit plan (or both types of plans) sponsored by one employer also will increase, from $170,000 per year in 2001 to $200,000 next year.

By raising the various limits that apply to qualified plans, EGTRRA will encourage many employees to defer a greater portion of their earnings to a defined contribution plan, and will allow employers to shift portions of executives' benefits from nonqualified plans to qualified plans. Employers' reliance on nonqualified plans to provide significant retirement benefits might ease in future years as the higher contribution and benefits limits phase in and as other EGTRRA changes (including, for example, the ability of employees to make "catch-up" contributions at age 50) apply.

Conclusion

Nonqualified plans present an attractive way for employers to provide executives with meaningful retirement benefits. Employers need to become familiar with the relevant issues and design their plans carefully. Nonqualified deferred compensation plans can play an important role as part of a well-designed and well-received benefits program that can provide financial security to executives and their families in the years to come.

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Evaluating the Return-on-Investment of Prescription Drug Costs

by Sherrie L. Dulworth, RN

Employer-sponsored health plans are once again being challenged by rising healthcare costs in general, and prescription drug costs in particular. Employers use various methods to prevent inappropriate over-utilization of prescription drugs and unnecessary costs, including multi-tiered formularies, drug pre-authorization requirements, and pharmacy benefit managers. These methods, however, often overlook the big picture of the cost and the benefit of specific drugs or classes of drug therapies.

This article looks at an alternate way for employers to evaluate a prescription drug's cost-effectiveness through an actuarial analysis, blending clinical and actuarial expertise. Such an analysis can provide health plan sponsors significantly improved data to help determine the appropriateness of providing coverage for specific prescription drugs.

Drug Prices Up

With an approximate 17% cost increase in 2000—the sixth consecutive year of double-digit increases—prescription drugs and pharmaceutical companies remain under the healthcare spotlight. Multiple factors contribute to higher prescription drug costs, including cost recoveries by payor under-budgeting from prior years, direct-to-consumer advertising, the ongoing shift from inpatient to outpatient services, and perhaps most of all, new releases of expensive drug therapies. The media ads for the drug du jour all seem to tout the desired results of "getting better faster and with fewer side effects" for patients. New, more costly drug therapies for allergies, asthma, arthritis, depression, hormone replacement, hypertension, infectious diseases, and impotence are among those that continue to emerge.

New products often come with promises that increased drug utilization will produce savings in other services. But insurers and employers typically experience higher prescription drug costs without discernible offsets in other categories such as inpatient care. What tools can employers use to help determine which new drugs will produce true savings and which will not? Actuarial modeling that uses claims data and information obtained from pharmacoeconomic studies can help employers make informed decisions about particular drug therapies and the impact on their health and disability plans' costs.

What is Actuarial Economic Modeling?

In the health arena, actuarial modeling interprets clinical data and findings and uses well-defined, standard methodology to forecast utilization and financial outcomes. Actuarial models are business-support tools that can calculate financial value and project the return on investment (ROI) of particular therapies. For an employer, the economic impact of a certain drug may affect: medical and/or disability costs, such as worker absenteeism (due to both non-treatment and treatment efforts); reduced employee productivity; short- and long-term disability, and workers' compensation claims. Disability costs are typically equal to or larger than the medical cost impact, depending upon the demographics of the employer.

For a specific group, an actuarial model will consider, among other things:

- *Prevalence of Targeted Condition*—The prevalence of a targeted condition, such as asthma, within a group varies according to the group's age/sex mix, other demographics, and possibly geographic factors. An actuarial model accounts for this data when extrapolating national data for a specific employer.

  For example, the prevalence of asthma varies by geographic location(s) and age distribution of a group's members. Employers that have large populations located in lower socioeconomic areas with heavy pollution or that have large numbers of dependent children will likely have a higher prevalence of asthma than the national average. Similarly, usage of antihistamines for allergies will vary according to the employer's demographics. Employers in the manufacturing or transportation industry generally have higher work-related injuries and workers' compensation claims than in other industries and, therefore, might experience higher workers' compensation claims cost if employees are treated with sedating antihistamines.

- *Percentage of population eligible for drug therapy*—All drug therapies exclude some percentage of the population as "eligible for treatment" due to clinical contraindications or age limitations. Actuarial modeling will consider the group's unique characteristics and approximate the eligible treatment population.

- *Drug effectiveness*—Some drugs are capable of curing a condition, while others can only control the symptoms or prevent disease progression. Some newer drugs have no significant difference in clinical success rates but are promoted due to lower rates of adverse side effects. The actuarial model includes data of a drug's success rate, including the overall percentage of the treated population and those patients who voluntarily or involuntarily discontinued drug treatment and those who suffered relapses, as well as the actual clinical impact of the treatment.

- *Projected health and disability claims costs for control group*—As is the case with scientific inquiries, medical and disability cost estimates under a status quo scenario are important to gauge changes from a baseline. Typically, the control group data reflect the employer's current claims experience. The exception to this is when the future claims costs are expected to increase for a given condition based upon disease migration or severity. For example, future medical claim costs are expected to increase dramatically in the next decade for individuals with Hepatitis C, only about 20% of whom are currently diagnosed.

- *Projected health and disability claims costs for treated group*—Actuarial modeling links data on the clinical effectiveness of a drug to the projected claims costs for treatment with that drug; it also includes the additional cost increases of medical inflation in multi-year models.

- *Cost of treatment*—The actual cost of a drug and the employer's likely cost (e.g., with volume discounts or direct contract pricing) for that drug do not generally provide sufficient data in a comprehensive cost-benefit analysis. Additional costs associated with the administration of the drug, such as home healthcare or additional lab monitoring, should be included in the projected medical costs. For example, the advantages of using of low molecular weight heparin for the treatment of blood clots over traditional anti-coagulant (blood-thinning) drugs have been documented, but a certain percentage of patients will require home health assistance to administer the injectible drug. The expected offset in inpatient days through avoidable hospitalizations and shorter lengths of stay is a measurable variable taken into account in actuarial modeling.

Returns on Investments

The actuarial economic model, having considered data in the general categories discussed above along with other information, can then produce helpful, enlightening, and reliable ROI data for an employer-sponsored plan. The ROI looks at the total projected future cost absent a new drug therapy divided by the cost of treatment. The time over which the ROI occurs can also be projected along with the break-even period.

The chart on page 10, from a 2000 study by Milliman USA, illustrates a projected ROI for an employer with 10,000 employees in the transportation industry in New York. The employer shifted employees with allergies from sedating to nonsedating antihistamines.

TABLE 1

RETURN ON INVESTMENT SUMMARY
Employer Costs of Antihistamine Usage

	Monthly Cost per Member	Annual Amounts
EXPENDITURES		
Nonsedating Antihistamine Drug Expense	$0.09	$24,974
Physician Office Visit Expense	$0.04	$12,144
A. Total Expenditures	**$0.13**	**$37,118**
SAVINGS FROM SHIFTING PATIENTS TO NONSEDATING THERAPY		
Productivity Gains	$0.44	$122,427
Reduction in Workers' Compensation Claims $0.01 Per $100 Annual Salary	$0.03	$7,218
Reduction in Accidents	$0.07	$19,181
B. Total Savings from Shifting Patients	**$0.54**	**$148,826**
Net Increase/(Decrease) in Cost [B – A]	**($0.41)**	**($111,708)**
Estimated Return on Investment: 4 to 1		

Opportunities for Synergy

Despite showing a projected positive ROI, adding a new drug to an employer's drug formulary can be an expensive upfront proposition. Achieving the full, positive ROI rarely occurs immediately and the positive economic impact might not be realized for several years.

To enhance a successful outcome of a selected drug therapy, an employer or health plan can take additional steps, including:

- *Employee education*—Targeting specific topics for employee education, whether through newsletters, health fairs, the internal occupational health department, or a disease management vendor can complement an employer's overall approach to pharmaceutical cost control. This type of education often focuses on increasing employee awareness about the risk factors for certain diseases and might include free and confidential screening.

- *Compliance programs*—A patient's compliance with the prescribed treatment regimen directly influences the probability of successful clinical and financial outcomes in the majority of cases. This, in turn, has a direct bearing on the ROI. Most physicians openly acknowledge that the limited time available for office visits does not allow for the level of education on drug administration, side effects, and compliance that many patients require. The benefits of a good compliance program are many: it ideally provides encouragement and guidance regarding a drug's side effects and additional resources for medical monitoring and oversight. When patients prematurely discontinue treatment programs, everyone loses: the patient does not receive the benefit of therapy and the plan pays for a drug that is likely to be ineffective.

- *Network management*—Most employer-sponsored health plans either have an internally developed employer-provider network or contract with an outside preferred provider organization. Provider network recruitment, education, and ongoing business relations are important components to successful pharmaceutical management. This includes identifying primary and specialty best-practice providers by specific diseases within the network and helping to steer patients to those providers. Educating

providers about the available compliance programs and the employer's vocational options for modified work duty can offer enhanced opportunities for controlling cost.

Conclusion

Actuarial analyses and modeling of new drug therapies offer substantial improvements in helping employers make decisions regarding coverage inclusion for new drugs. While other factors also influence drug coverage decisions, using actuarial analyses and modeling can demonstrate to employers that some high-cost drugs actually are value added investments to their plans, while others are not. The tools available can give employers an additional method to evaluate new coverages under prescription drug programs.

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