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Regression Toward the Mean and Impact on Stop Loss Pricing

By the Actuarial Department
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Claims, and therefore loss ratios, involve a level of randomness, and loss ratios include a bit of luck that happened to fall with or against an insured group. In the context of insurance risk, **regression toward the mean** refers to the fact that those risks with extreme loss outcomes, high or low, during the past experience period will probably have less extreme loss outcomes next year for purely statistical reasons.

As an example, imagine a randomly-selected pool of drivers who purchase auto insurance. In any given year, only a small percentage of drivers will have an accident. Obviously, those who experience an accident will have claim costs well above the overall average, and those with no accidents ("clean" drivers) will be below average, having no claims at all. In the following year, we would not expect this group of "clean" drivers to once again have no claims, but instead have total claims greater than 0, but probably less than the overall average. Similarly, we would expect the drivers with accidents to have claims less than the previous year, but greater than the overall average. This represents "regressing to the mean."

Impact on Specific Stop Loss Renewals

This example is similar to a stop loss policy, assuming the retention is set at an appropriate level relative to the employer size. Both products experience a relatively low frequency and high severity of claims. Many ESL underwriters rely on loss ratios from prior years to tier ESL policies upon renewal. Rate changes will vary by tier, with the cleanest "tier 1" cases getting a low (or no) rate increase, and the higher tiered cases assigned rate increases well above trend. Ongoing claims may be considered, as well as demographic, location, and contract type changes; however, specific rate changes are largely based on experience. This reliance on experience makes it very important to use accurate credibility factors when incorporating experience instead of using discretionary adjustments to reward or penalize cases for past good or bad luck. To put the likelihood of this in perspective, a typical 100 employee group with a $100,000 deductible has a 50/50 chance of having no claims in a given year, and a 13% chance of being claim-free over a full three-year period.

This is why, in addition to prior experience, it is important to use other criteria when categorizing each employer group into their proper risk band. Other criteria for tiering renewals include the expiring rate-to-manual (RTM) level, the strength of the provider network, business source, and on-going claims. Portfolio-wide experience, broken down by policy characteristics like area, contract type, and deductible, may also provide insight into what can be expected next year from a particular group. Pooling employer groups into homogeneous underwriting classes using multiple criteria can help better determine rate changes for entire classes of business, and also provide manual underwriting factor adjustments.

Finally, when including experience in pricing, it is important to remember that pricing is not meant to reward or penalize a group for previous experience, but to cover expected future costs. Following this argument, an optimal approach would be to deploy a risk adjuster model to assess the excess of loss risk for every individual within a self-insured population. Individual stop loss rates could be determined by a member's clinical characteristics and their prior year claims. This could be thought of as a different type of manual/experience blend, with clinical characteristics being the "manual," and prior year claims being "experience." Of course, as with many "optimal" solutions, this is easier said than done, as it would require timely and accurate data from the TPA or employer and a risk adjuster model capable of handling excess of loss pricing.

Regardless of the method used to blend experience and manual rates, it is important to understand that risks with extreme outcomes in one year are likely to regress to the mean the next year. Relying on key measures such as RTM levels, tiered rate increases and experience from similar cases, can go a long way in benchmarking one group's rate to a pool of homogeneous business.

The Medicare Outlook: Keys to Success in the New Senior Market

By John Gorman
CEO, Gorman Health Group

The new Medicare landscape

The Medicare landscape has shifted. The glory days, when you could expect thousands of new beneficiaries to enroll in Medicare health plans every month, and CMS had a "grace period" in place, are over. We are now entering a new phase of maturation and sophistication of both beneficiaries and the competition. Increasingly even small, local health plans find themselves in head-to-head competition with top ten companies like Humana and UnitedHealthcare. At the same time, a new CMS administrator is signaling a hard line on transparency and compliance.

All this means Medicare health plans will need to significantly increase their efficiency and accuracy in collecting and reporting data if they are to stay successful in 2008 and beyond.

Growth in Private Fee For Service (PFFS) health plans has exploded during the past few years, reaching approximately 1.7 million members and accounting for 60% of all new Medicare Advantage (MA) enrollment. 500,000 of these members were added in January of 2007 alone. Boomers will soon begin migrating into Medicare, bringing with them a desire for access to health plans offering a broad range of medical options. As a result, enrollment in Medigap, with its more expensive coverage, has stagnated as beneficiaries increasingly recognize the additional value MA plans with a drug benefit offer.

At the same time, some 200,000 independent agents and brokers are receiving commissions of up to $900 for selling an MA plan compared to $100 or less for a prescription drug-only plan. That kind of incentive can create its own demand curve. Currently, MA plans are growing at twice the rate of prescription only plans.

Opportunities for Growth?

Expect to see an increasing employer group migration (11 million beneficiaries) toward MA plans, fueled by the recent agreement between General Motors and the United Auto Workers. This will initially be lead by counties, states, and municipalities, and later followed by labor unions and non-profit, tax exempt organizations. Finally, by next decade, many mid-size and large employers will join the move. If your strategy is growth, you can't afford to ignore employer groups.

"Five R's" - What it will take to succeed in this new landscape

• **Range** – The diversity of your portfolio will be critical. Consider this: low income and chronically ill beneficiaries are moving, in increasing numbers, into special needs plans. This leaves Health Maintenance Organizations (HMO's), particularly in urban areas, and PFFS plans in secondary and rural markets, with a concentration of low to middle income, relatively healthy members. In a 100% risk adjusted market this means the government is now paying less for these types of beneficiaries. At the same time, upper income folks are moving into Cadillac PFFS programs, Preferred Provider Organizations (PPOs), and in the future, to Medical Savings Accounts (MSAs). To grow, you have to look at where the new migration is coming from - and that is the Medigap market and the employer group segment. Those markets will probably not be interested in an HMO or a drug-only plan.

• **Risk Adjustment** – The system is now 100% risk adjusted – larger payments for sicker beneficiaries, smaller payments for healthier folks, or those that look healthy because their diagnostic data is under-reported. The RAF score (Risk Adjustment Factor) is now more important than Medical Loss Ratio for MA plans. **Using 2007 as a baseline, CMS pricing indicates that an MA plan with the same risk score in 2008 as 2007 will see only a 2.4% payment increase in 2008.** This small increase, combined with an anticipated six to eight percent increase in claims, based on historical data, can spell real trouble for many plans. That is why complete and accurate coding of diagnostic data will be critical to the long-term success of any MA plan. Today, when we visit clients and examine their data reporting accuracy, we routinely see errors resulting in anywhere from $80 to $120 per member per month in reimbursable adjustments not reported.

• **Revenue Management** – Costs are going up and reimbursement is coming down. Just when health plans can least afford it, membership and Prescription Drug Event (PDE) data discrepancies cost plans $4 billion in 2006. A typical plan with 50,000 members is writing a check of about $12M back to CMS. You have to be sure payments match expectations on a member-to-member basis. Make sure your enrollments and PDEs are being accepted and reconciled. Reengineer your processes if necessary to refocus on CMS as the payer, the member as customer, and revenue management as the objective. The goal should be discrepancies coming down on a month-to-month basis.

Also, capital for expansion is getting tight and comes with more strings attached. If you want to grow into new counties, states, or markets, reinsurers can free up capital, resulting in additional funding that doesn't require surrendering a large part of ownership in your company.

• **Retention** – With almost 40 million of the potential 44 million beneficiaries already enrolled in either Medicare Part D or its equivalent, keeping existing customers is the new selling. If you are a 400,000 member Prescription Drug Plan (PDP) with a typical disenrollment rate of 14%, that's about $67M in revenue walking out the door every year, and it's preventable. Building a retention strategy will be a hallmark of successful plans. It is five to seven times more expensive to recruit a new member than it is to keep an existing one. Remember that every contact is an opportunity to win, hold, or lose that member.

• **Regulatory Compliance** – A new CMS Administrator and a new Congress are demanding greater oversight of Medicare programs. This means attention to basic compliance issues is more important than ever. If you didn't get a visit from CMS yet, you probably will in 2008. Treat it seriously. CMS recently published the names of companies under corrective action, and it made the front page of the Sunday New York Times. That's not the kind of publicity you want in your local press. Recognize that the government is the customer in Medicare, and compliance contributes to a successful operation.

Conclusions

The old practices of the past few years will not be sufficient going forward. For 2008 and beyond, the focus must shift from growing the business to satisfying the customer, which in this case is the Federal Government. Remember, everything you need to know is already in your plan's data, you just have to find the right way to look at it – where exiting members are going, where new members are coming from, what kinds of medications are in demand, what kinds of treatments are profitable, and which are not. Your new mantra should be "If you can measure it, improve it, continuously."

The "Five R's" will determine the successful from the also-rans.

This article was adapted from a presentation sponsored by Munich Re America HealthCare and delivered September 25th at the AHIP Medicare Conference. The full presentation is available as a videocast at www.mrahc.com

Pandemic Index Solution for Bird Flu Concerns

By Donna Peterson, Munich Re America HealthCare
and Erik Matson, Direct Treaty

A risk less visible but just as deadly

While the media interest in a potential pandemic outbreak from the H5N1 avian (bird) flu has almost completely disappeared from the headlines, the real situation has not changed .

The public's current lack of interest in avian flu is no indication of the true peril. Experts continue to be convinced that it is only a matter of when and how extensive it will be. The alert level on the six-point scale published by the World Health Organization remains at three, with select ongoing outbreaks in less-developed countries.

While a pandemic will probably affect many different lines of insurance, life and health insurance would be the lines of businesses most significantly impacted. Although industry predictions vary on the estimated severity of a pandemic, there is no debate that mortality will increase, as will hospitalization rates. Life insurers appear to be taking the potentially increased risk more seriously than health insurers, based on the level of reinsurance interest as expressed by buying coverage or serious topical discussions.

Questions to consider

Relevant questions that most prudent business operations and/or health insurers are beginning to consider:

- *Should health insurers be concerned about protecting their bottom lines if a pandemic hits the U.S.?*
- *Does the limitation of hospital beds assure a health plan that their potential loss is capped?*
- *Will the government mandate extensions of hospitals into non-hospital sites, thus increasing the number of hospital beds?*
- *Can the number of affected persons and hospitalization rates from the previous pandemics in the twentieth century be a reliable indication of what to expect in current times?*
- *What is my ultimate exposure for an extreme event?*
- *Do businesses feel both safe and covered by external governmental agencies' disaster planning?*

At Munich Re America HealthCare we have considered all of these possibilities and feel that if the outcome of a potentially catastrophic event, such as avian flu, is uncertain, reinsurance and/or an alternative risk transfer vehicle should be considered to manage that risk.

Based on conversations with potential buyers of reinsurance, there certainly appears to be concern about a significant outbreak of avian flu but few, if any, health insurers have purchased protection to limit their risk in the event of a defined pandemic. Some of the reasons typically cited by our clients for their lack of coverage range from financial to soundness of operations.

Cost has been an obstacle for many health plans considering purchase of traditional reinsurance protection. An additional deterrent has been the short-term nature of the reinsurance offerings (typically one year). Lastly, with a pandemic and the potential impact to a workforce, many insurers worry about the financial strength of the reinsurance community. Conversely, since many of these health insurers view pandemic as a long-term threat, they want to purchase competitively-priced reinsurance that will provide protection over the span of multiple years. Is the risk of this exposure being uncovered worth the trade-off when thinking about risk management or expenses?

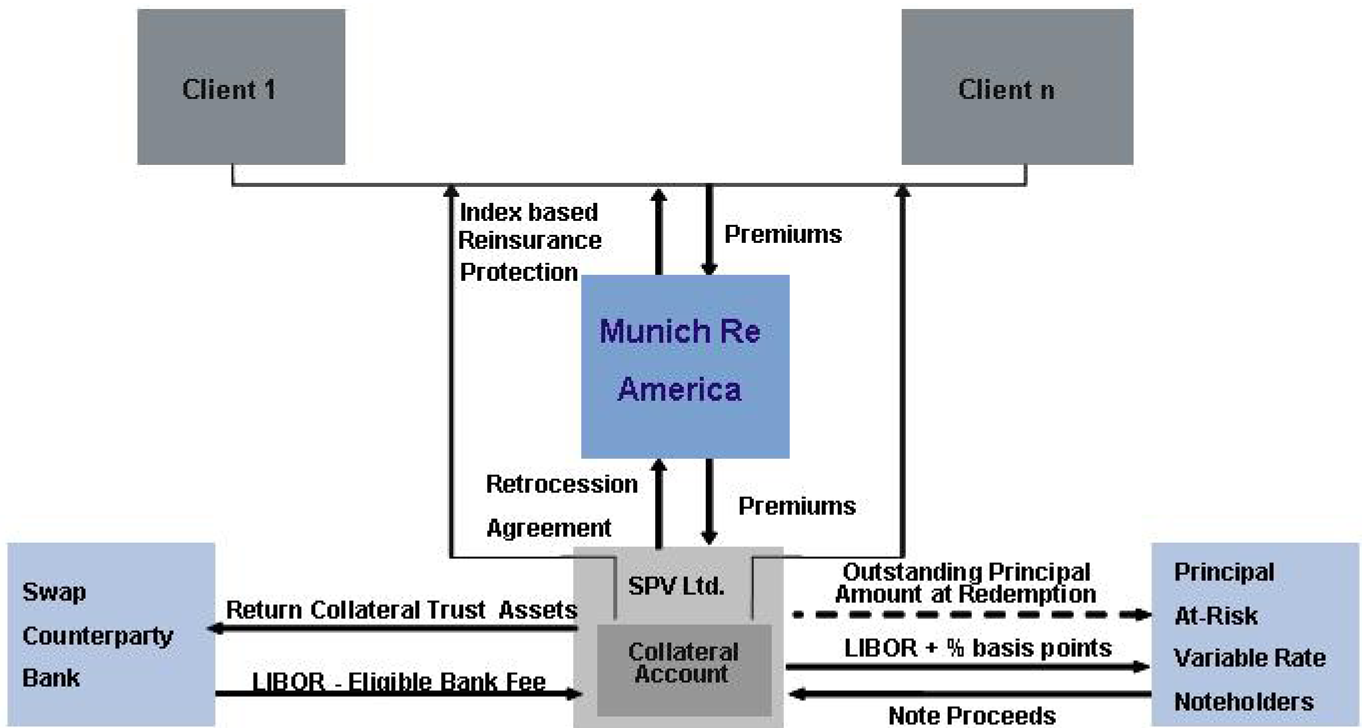
Because the Munich Re Group is one of the leading reinsurers and financial service organizations in the world, we are on the leading edge of bringing necessary resources to mitigate this risk for our clients. Our solution has as its roots a combined capability of both traditional reinsurance coverage and an innovative capital markets risk transfer product. Depending upon our client's particular situation, the use of "capacity" originated within the capital markets may be the best solution.

We have developed a capital markets-backed Pandemic Index product for the health insurance industry. Our rationale is based on the simple fact that a product is needed to protect our health insurance clients in case of "extreme" cost inflation driven by a pandemic cover over multiple (typically five) years.

Key features of this innovative solution are that it is available at a competitive price consistent with extreme event traditional covers. It provides full collateralization, thereby taking the security risk of the reinsurer out of the equation, especially if the reinsurer's own workforce or intellectual capital is harmed through the pandemic. It can be structured as a three-, four- or five-year cover. The structure is based on the measurement of a nationwide trigger, the definition of the event, and relevant parameter(s) such as a hospitalization exceedence point or costs.

Another key feature of this product is that it provides insurance risk transfer opportunities, while at the same time providing potential financial (capitalization or balance sheet) benefits as well. Although innovative in nature and designed to provide protection not yet used by health insurers, at its core is a proven capital markets structure.

As portrayed in the simplified example below, there are many pieces that create the structure, but at it's core is the central aspect of any "reinsurance contract;" it is a measure to transfer risk. In this example, the structure ensures that the cedents are protected by Munich Re America as the reinsurer. The "risk" is then placed into the capital markets as a bond, completing risk transfer.



By utilizing this mechanism to create a safeguard against the risk of a pandemic, health insurers are proactively and economically planning against the very real possibility of this type of extreme event.

The final question of our initial dialog with clients on this issue is typically "Can you afford to be unprotected on this risk ?"

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Questions/Comments

We welcome questions and comments on the newsletter and the topics covered.

To make comments, please contact Claudia Scott, VP Marketing.

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