

## **Advantages and Disadvantages of Coinsurance in Drug Plans**

## **Advantages**

1. easily understood
2. provides some inflation protection
3. members see cost

## **Disadvantages**

1. member does not know cost in advance as cost can vary
2. use of drugs decreases when cost reaches a certain point
3. could limit use of high cost drugs
4. satisfaction among members low

## **Option Pricing/Credit Allocation for Life Insurance**

1. Use of age/gender/smoking status specific rates more consistent with actual cost than flat rates - reduces anti-selection
2. Where a previous plan flat rate may offer core coverage on a flat rate basis with rest graded
3. Use of a percentage of salary to generate credits raises winners/losers problem
4. Age grading credits raises equity perception problem
5. Can be done by making range for credits smaller than for prices
6. Grading credits by gender and smoking status raises human rights and other issues
7. Spousal coverage may be graded where amounts large

## **Selection and Pricing Issues for Critical Illness Insurance**

1. At least a short form medical application
2. A strong pre-existing conditions limitation
3. Some carriers re-underwrite if a claim in the first 2 years
4. Possibly a limited benefit for the first two years
5. Reduced benefits after age xx (commonly 70)
6. Level issue age premium
7. Use population data with adjustment for anti-selection based on application, marketing approach, and policy provisions
8. Reserves substantial so interest rate important
9. Lapse supported
10. Non-cancellable policies need an extra margin and reserve assumptions must be tested regularly
11. No inflation risk
12. Use pattern can change

## **Short Term Major Medical Coverage**

1. Similar to comprehensive major medical
2. Short coverage period 1 to 6 months
3. Monthly premium leads to anti-selection
4. Last month's premium paid only if claim likely
5. Premium in advance
6. Lapse rates high
7. No pregnancy
8. Premia in attained age bands and by area
9. Insurers offer to renew
10. Brokers use as a bridge for groups - a disaster for insurer
11. Pre-existing condition exclusion for term of policy
12. Underwriting limited
13. Most claims investigated for pre-existing conditions
14. Reduces short term lapse rates for long term policies



## **New Provisions Regarding Pension Surplus Transfers**

1. Can transfer up to 10 years of retiree medical obligations
2. Plan assets must exceed the greater of the actuarial liability and 120% of the current liability
3. Employer responsible for short fall in funding during the transfer period or can transfer amount needed from the 401(h) account
4. Minimum transfer period two years
5. Amount is the same as the one year qualified transfer plus up to nine more years equal to the present value of benefits paid
6. The employer could elect to continue the one year transfer test or must meet the same requirements during each year of the transfer period and the four subsequent years
7. Employer can elect the former maintenance of benefit rule whereby they undertake not to reduce benefits or increase retiree contributions as a percentage of costs during the maintenance period

## **Eligibility for US Medicaid**

1. Aid for Families with Dependent Children low income families and pregnant women whose income is < 133% of the federal poverty level
2. Supplemental Security Income - low income blind, aged, disabled
3. Recipients of foster care and adoption assistance
4. States can include working disabled, long term care patients and medically needy (those whose incomes are reduced below certain limits by medical expenses)
5. Blind & disabled only 15% of those covered but are 44% of cost
6. Welfare reform in 1996 limited the receipt of cash benefits to 5 years - effect small as average period of use 9 months
7. Enrollment rose 50% between 1989 and 1995 due to eligibility expansions
8. States can extend coverage to low income children - limit is typically 200% of the federal poverty level

## **Health Savings Accounts Contributions**

1. Employer contributions not taxable to employee and employee contributions deductible
2. Maximum contribution \$2,600 single and \$5,150 family or deductible if smaller
3. Cannot be enrolled in another plan unless it is also a high deductible plan
4. Can have other coverage for
  - vision – dental
  - specific diseases
  - insurance that pays a fixed amount per day
5. Medicare enrollees not eligible except to withdraw money
6. Individuals cannot make contributions if claimed as a dependent on another's tax return
7. For those over 55, a \$500 annual catch up contribution is allowed

## **Checklist for Predictive Models – Technical**

1. Are  $R^2$  results presented at different employer sizes?
2. Are  $R^2$  results compared to other underwriting methods?
3. Are large claims truncated?
4. What is effect on predictive power and how are excess claims allocated back in pricing?
5. Are groups present in analysis similar to customers?
6. Can you evaluate the impact on business metrics?
7. How does the model use credibility?
8. How does the model include traditional rating factors?
9. How does the model handle new members and those without a claims' history?
10. How does the model handle incomplete incurred claims?
11. How is the lag between experience period and projection period handled?



## **Pricing Assumptions for Long Term Care Insurance**

1. Morbidity originally pricing based on population and not insured data
  - did not reflect induced demand or underwriting
2. Lapse rates were originally expected to be like those for Medicare Supplement - actual rates 1.0 to 1.5%
3. Mortality was originally assumed to be group annuitant - 83GAM, then 94GAM and now 2000 Table - actual rates much lower
4. Interest rates have dropped form 7-8% to 5-5.5% (long term)
5. Business is guaranteed renewable, but rate stability legislation requires actuaries to certify rates included provision for moderately adverse experience - understood as “rates cannot increase”
6. Rates are unisex for marketing reasons
7. Premia must be level after age 65
8. Premia do not vary by state but costs highest in states with most supply
9. Multi-life discounts being offered
10. Rates do not have occupation classes

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## **New Model's Lapse Probability for an Insured**

1. Total lapses = base lapses + price induced lapse ( $L$ )
2. The unique lapse probability  $L$  at price  $p$  for insured  $x$  is

$$L(p) = S_a(p - p^*(x))$$

3. Competitive market and insured choice
  - $N$  insurers  $j = 1, 2, 3, \dots$ , each offering a product at price  $P_j$