12th GCA

De-risking the Excess Claims Ratio & Rectangularisation in Health Insurance

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&

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Objectives

- To design the Strategies and the need for increasing the penetration.

- To Propose new methods to reduce claims ratio.

- To Mitigate the risks and leakages attached with the Rectangularisation Phase

- To Identify the Roadmap & Scope for more actuarial research in this Domain.

Health - Challenges

- Health is a different ball game than Life and P&C
- Life span has increased despite increase in incidence of diseases.
- R&D Budgets of Health Care has impact over health insurance premiums.
- Falling phase of Group Health Insurance coverages.
- Portability challenges
- Excess Claims Ratio
- Rectangularisation & Morbidity density

Claims

- Claims Payout has always been higher than premium collections in India.
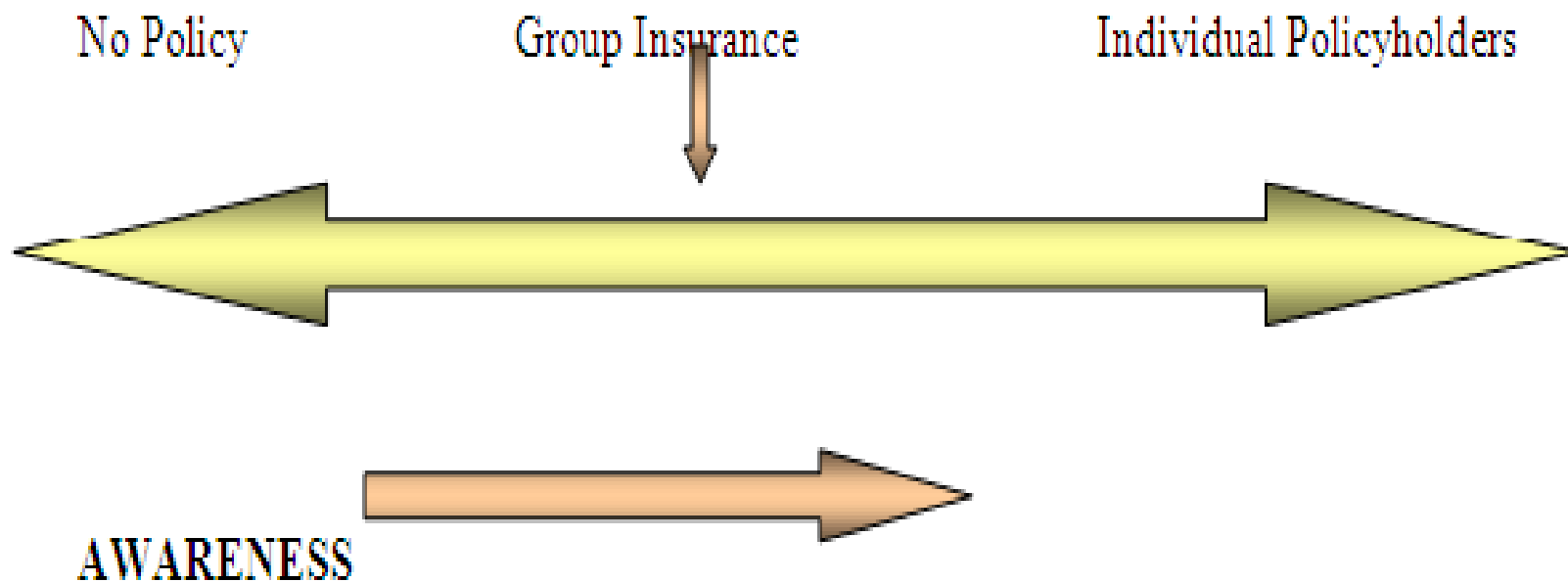
- Claims patterns are across ages.

Disease	Incidence (Lower Age)	Incidence (Upper Age)	Peak count/Age
Ischemic Heart Disease	2	88	14/67
Diseases of appendix	6	68	7/30
Arthrosis	15	72	2/58
Renal Failure	27	84	9/61
Tuberculosis	2	83	5/52
Urolithiasis	5	84	7/24

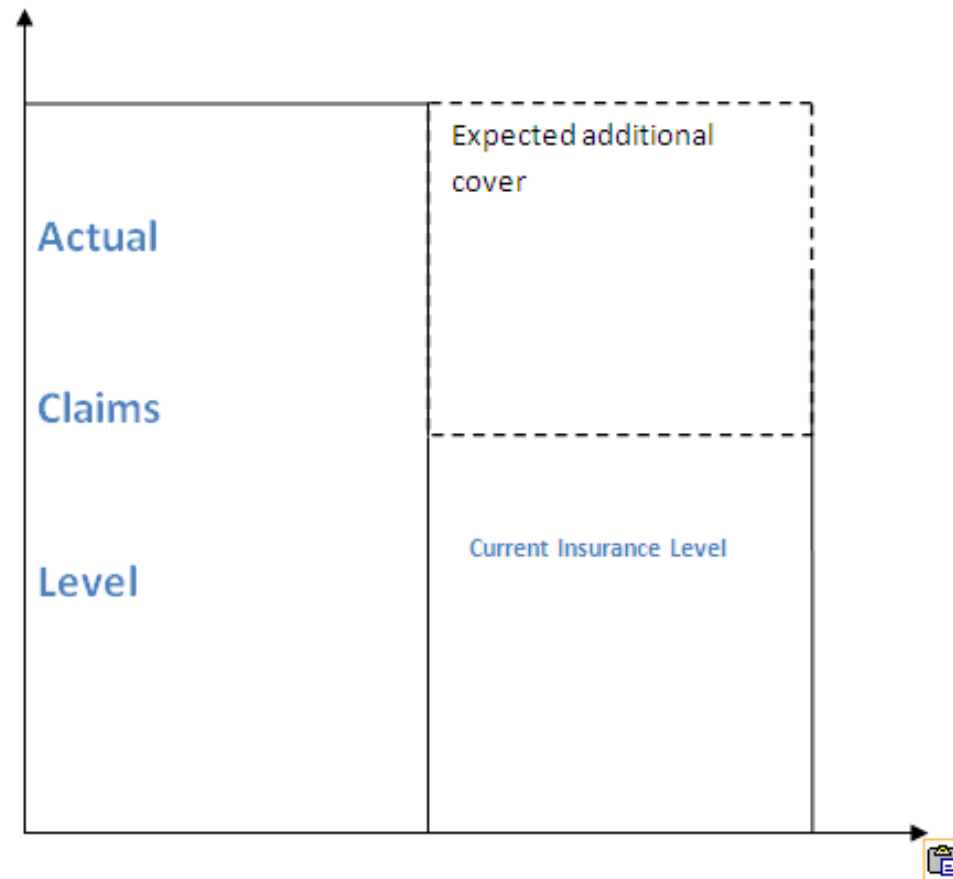# Strategies to reduce Claims Ratio

- Focus on Denominator

- New Product Designs

- Leveraging Technology

- Cross-selling Group Insurance

Awareness Based Products

CONCEPTUAL AWARENESS SCALE

No Policy   Group Insurance   Individual Policyholders

AWARENESS

Case of Group Coverages

Actual

Claims

Level

Expected additional cover

Current Insurance Level

Feedback on Cross-selling

Given an opportunity to purchase health insurance coverage, the respondents feedback

| Reason	%
Wish to buy	6.98
Group insurance is sufficient	48.84
No returns, hence not willing to purchase additional cover	6.98
Enquired about this, above the limit, employer assures to provide coverage	2.33
Belief that I will not fall sick, hence do not required additional coverage	2.33
Lack of information when required from TPAs and hence not willing	9.30
NO coverage required	16.26
No time, though wishes to buy	2.33
Cannot afford	4.65

Leveraging Technology
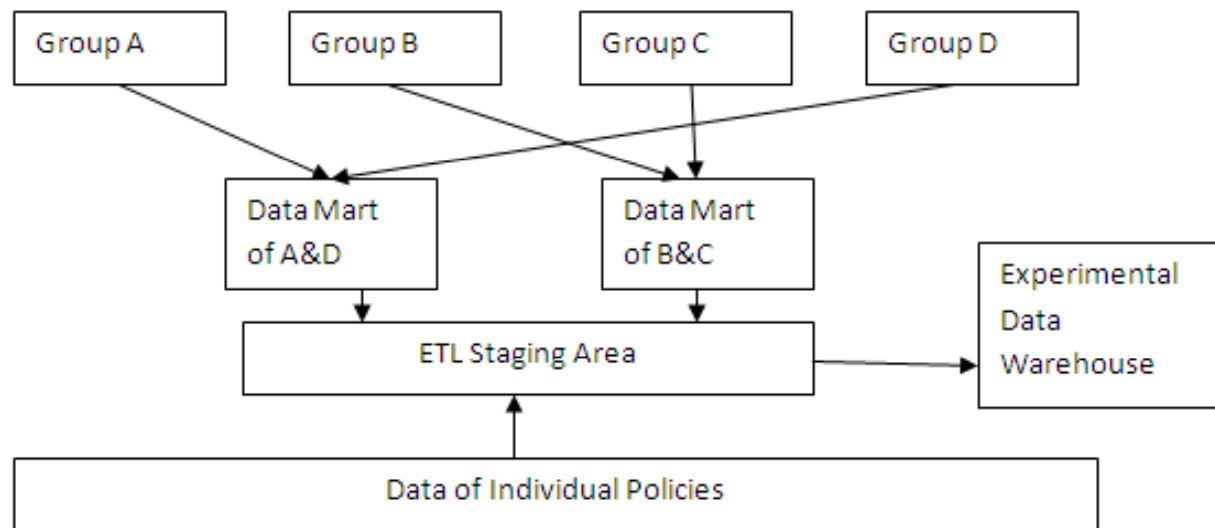
Rectangularisation

Rectangularisation is an effect over the mortality curve wherein there is an exponential change in the pattern of the curve beyond a certain age that makes the curve to look like a rectangle
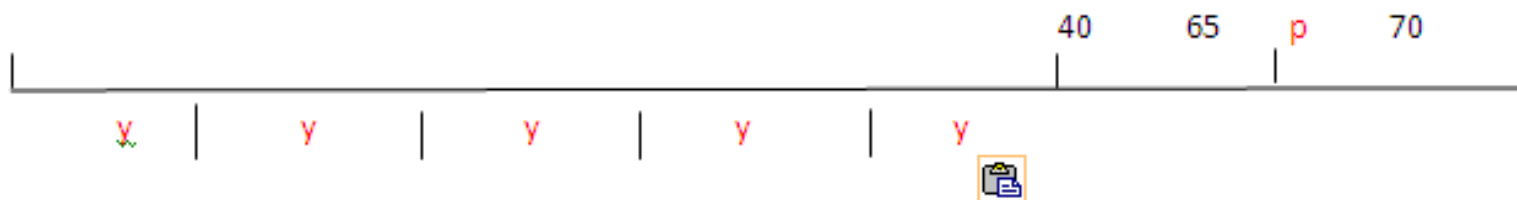

Rectangularization
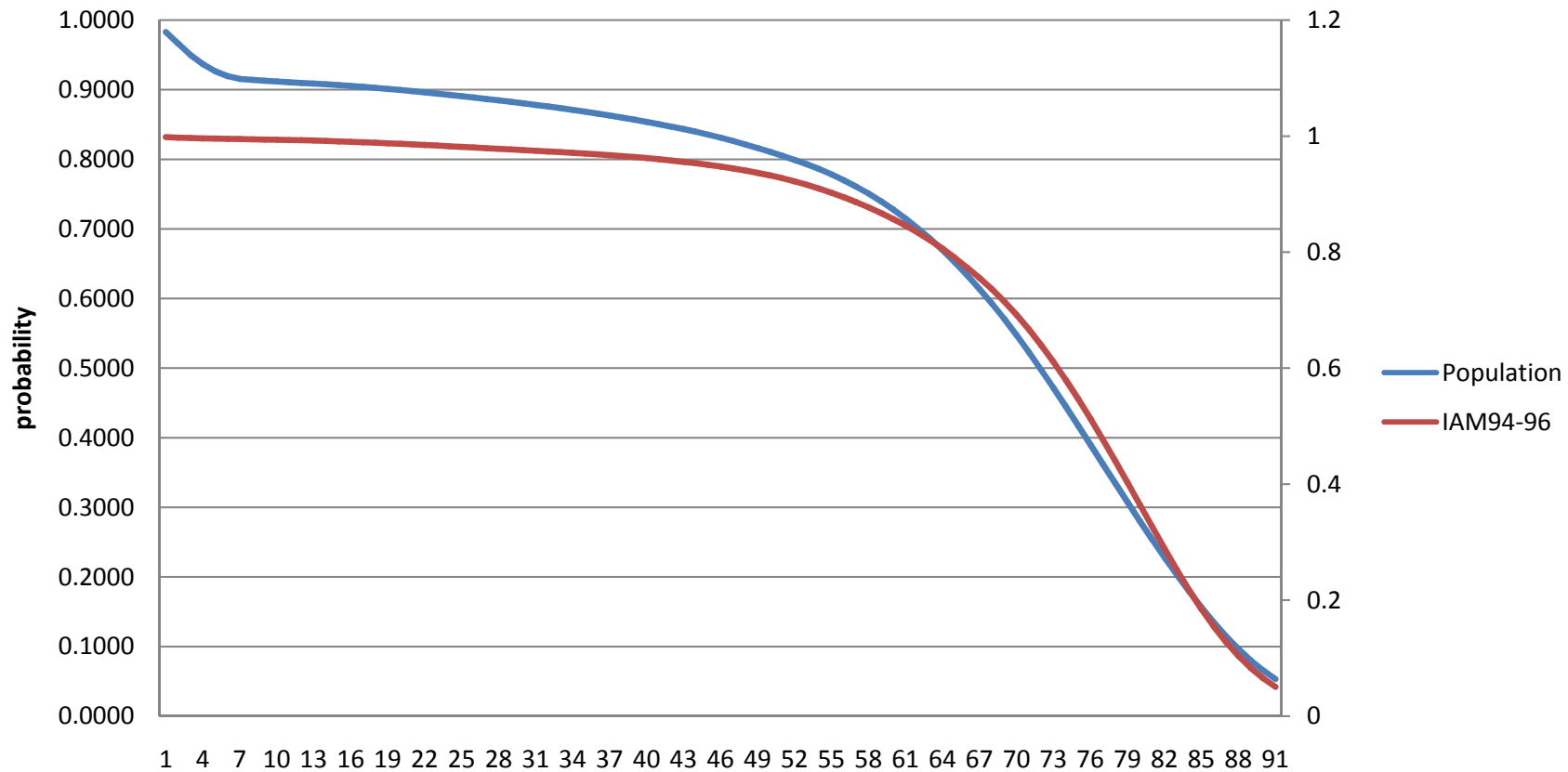
Rectangularisation Savings 1

- Let us assume that a person is not having any health insurance and falls sick at the age of 65 and dies at the age of 69. Let us assume that the expenses spent from 65 to 69 are x1, x2, x3, x4 & x5. If "p" is the health expense, than

- "P" = x1+x2+x3+x4+x5 (It is assumed the x is a discrete)

- Without health insurance, he would have managed "p" through his savings + borrowings+ any other additional regular income that he used to receive during these years. Let us consider "y" as his savings, "Q" as his borrowings & "R" as his other income.

Rectangularisation savings 2

- In this scenario, P may or may not be equal to the aggregation of y, Q & R i.e.

- $$P <> \sum(y+Q+R)$$

- Let us assume that his savings has accumulated because he has been saving an amount say "y" per annum from age 40 for 25 years at a growth rate of 5% p.a.

- Let us assume that the person has taken an insurance policy for sum insured "p" at the age of 40 and paid a regular premium of "z" every year. Some health insurance policies even offer regular primary health checkups and studies have proved that primary health care delays the incidence of tertiary diseases and increases the survivability of the people. Hence his savings are reduced to(y-z) in the previous years, but due to the primary health care, let us assume that the incidence of the diseases happen at the age of 67 instead of 65, then the period marked in dark signifies the savings portion which is equivalent to (p-p')

40	z	z	z	z	z	65	67	p'	70

y-z | y-z | y-z | y-z | y-z
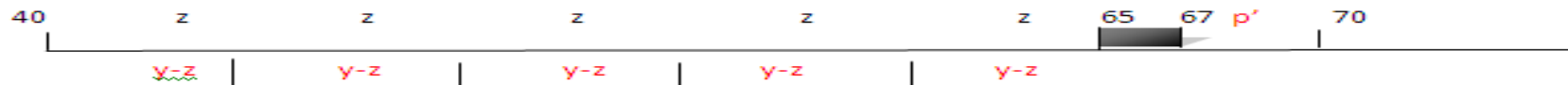
- It can be mathematically proved that   P'<p & $\sum (y-z) + \sum z > p'$

Conclusion

- Create Awareness through Calculators

- Design Awarness Based Products

- Index based Savings components

- Leverage on Technology based process

Thank You