Challenges related to coverage of elderly and portable cases

20th January2012

Gurgaon

ApolloMunich HEALTH INSURANCE

AGENDA

Challenges related to underwriting

1. Elderly (~ 25 Mins)
2. Portable cases (10 Mins)
3. Q&A (10 Mins)

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We are young and would stay so for long

Year	Below 5 years	Between 0 – 15 years	> 15 – 59 years	60 years & more
1991	12.80	37.76	55.58	6.67
2001	10.70	34.33	58.70	6.97
2011	10.10	28.48	63.38	8.14
2016	9.7	27.73	63.33	8.94

Source: United Nations ESCAP (Economic & Social Commission for Asia and the Pacific)

Lifestyle diseases are a part of longer life

In ,000

Number of Estimated Cases of Coronary Heart Disease in India 2005

Age band	Rural	Urban	Total
60-69	3849544	2582790	6432334

This constitutes about 18% of the total cases of CHD in India

Number of Estimated Cases of Diabetes in India 2005

Age band	Rural	Urban	Total
60-69	2237319	3445602	5682920
70 +	1267086	1807951	3075038

This constitutes about 28.2% of the total cases of CHD in India

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While the weighted prevalence rate of Hypertension is around 159.46 per thousand in Indian adults (20+), it is **as high as 580.00 in 65+**

Numbers are higher for the 65+ in almost all chronic diseases.....

Still talk of elderly insurance???

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YES.....

We want to insure senior citizens because

? It's a part of our culture to take care of parents (read senior citizens)

? They have brought us up, it's payback time

? It's CSR

? The Regulator, Society, Govt want it

? It makes business sense to do it

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- **Currently upto 45 – 50 year olds are being insured purely basis self declaration and no medicals**
- **Non disclosure rates could be as high as 30% in such cases**
- **All elderly are subject to appropriate medicals and underwriting**
- **And in our experience underwriting works**
- **When appropriately priced & underwritten, this segment can be made sustainable & profitable**

The risk may be higher in elderly, but is better known than unknown lower risk in young.

If adverse selection is assumed to be constant in both young & old, better underwriting may rather favor the elderly.

Underwriting works.....our experience

- Incidence rate is 120% higher in Non-PPC cases than PPC cases (not adjusted for the age related risk for older members)
- Approx. 5 percent difference in claims rejection rate for Non PPC cases vs. PPC cases (Non PPC higher rejection rate, not adjusted for age)
- Extent of detected fraud in PPC cases significantly lower than in Non PPC cases
- Loss ratio better in some higher ages as compared to young

Challenges in underwriting of elderly

The first set of challenges are purely **medical**

- A large percentage of elderly have one or more chronic health condition
- In most of chronic health conditions just detection / diagnosis is not good enough and more information is a norm
- Identification, assessment of complications is essential
- Decision making is far more complex for the same condition in an elderly than in a young
- More comprehensive and invasive tests may be required
- Cost of tests is a perceived barrier

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Example:

35 year old male	67 Year old male
Health condition: Hypertension	Health condition: Hypertension
Duration: 5 years	Duration: 20 years
Treatment status: Under treatment with ß blockers & ACE inhibitors	Treatment status: Under treatment with ß blockers & ACE inhibitors
Control status: BP under control	Control status: BP under control
Any complication: Mild retinopathy on retinoscopy	Any complication: Mild retinopathy on retinoscopy
Underwriting decision: Reject	Underwriting decision: Further evaluate

Some complications are usually expected in an elderly with long history of the disease, whereas in an young the same complication is not a good sign.

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Challenges in underwriting of elderly .....contd

Credible long term study **data** on progression of disease in elderly

- Natural progression of chronic disease is towards deterioration
- In absence of data every component of underwriting starting from construct of PPC to assessment of risk and decision making get impacted
- Consistency of decision may not be ensured
- Pricing may not be sound making any level of underwriting ineffective

Age adjusted incidence rates, rate of development of complications, relationship between level of control, duration of ailment and complication etc are essential to construct a decision making algorithm.

Construct of an PPC grid – Basic guiding principles

Guidelines in selection of tests for a PPC grid must consider

- Cost of test (vs premium)
- Bearer of PPC expense (Insurer / insured)
- Invasive / Non invasive nature (avoid invasive investigations)
- Sensitivity and specificity (choose more sensitive, screening tests)
- Availability of the test at diagnostic centre (access)
- Any special requirements (fasting, specialist physician)

Additional medical test(s) should be called for if

- No decision can be reached with available information
- Likelihood of (standard) acceptance is high
- Cost of the test is not prohibitive
- Test is not too much invasive in nature

Construct of an PPC grid - Maths

Selection of PPC Tests must be based on

- Prevalence of major medical conditions impacting claims (for the product)
- Severity impact of the conditions
- Positive predictive value (PPV)
- Negative predictive value (NPV)
- Cost Benefit analysis

Lets consider the following case……

Population to be screened	:	1000
Disease to screen	:	Diabetes Mellitus
Prevalence of DM (Gen Population)	:	25%
Tests available to screen	:	FBS, RBS, HbA1C, GTT

In our example we expect 250 people to have and 750 not to have DM.

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Construct of an PPC grid – Maths ……. cont

If we used FBS as the screening test, we expect the following result owing to

Sensitivity of FBS (probability of FBS being high in a person with DM) : 75%
Specificity of FBS (probability of FBS being normal in a person without DM) : 90%

	Diabetic	Non Diabetic
Elevated FBS	TRUE POSITIVE 250 x 75% = 187.5	FALSE POSITIVE 750 – 675 = 75
Normal FBS	FALSE NEGATIVE 250 – 187.5 = 62.5	TRUE NEGATIVE 750 x 90% = 675

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Construct of an PPC grid – Maths ……. cont

BUT if we used HbA1c as the screening test with

Sensitivity (probability of HbA1c being high in a person with DM) : 95%
Specificity (probability of HbA1c being normal in a person without DM) : 95%

	Diabetic	Non Diabetic
Elevated HbA1c	TRUE POSITIVE 250 x 95% = 237.5	FALSE POSITIVE 750 – 712.5 = 37.5
Normal HbA1c	FALSE NEGATIVE 250 – 237.5 = 12.5	TRUE NEGATIVE 750 x 95% = 712.5

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Construct of an PPC grid – Maths ……. cont

RESULTS

With FBS

- 75 normal people would be rejected (false positives)
- 62.5 diabetics would be accepted (false negatives)

With HbA1c

- 37.5 normal people would be rejected (false positives)
- 12.5 diabetics would be accepted (false negatives)

Basis above information HbA1c appears to be the obvious choice of test for DM…..BUT IF

- The cost of FBS is Rs. 40 and HbA1c is Rs. 750??
- HbA1c is available in only 20% of the centers in our network??
- Interpretation of FBS is more standardized than HbA1c??
- Even better tests are available for detecting DM??

Challenges in underwriting of elderly .....contd

While many other challenges exist, the product structure and healthcare delivery mechanism itself deserve more attention

- Product structure must drive improvement / maintenance of health
- Credit & Debits for health status improvement & deterioration must be available as a product feature
- Timely / scheduled status evaluation should be a provision
- Preventive health, out-patient treatment, wellness interventions should be incorporated
- Attrition from pool should be provided for non complying insureds (NC with treatment, preventive mechanisms, regular monitoring etc)
- Medical records keeping, maintaining single view of patient should be done leveraging on EMR, PHR etc

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What changed with portability

While most of the core benefits & challenges of portability have been discussed in multiple forums, the following subtle changes have missed the limelight

- Definition of pre-existing changed
- Transfer allowed from any health policy to any health policy (indemnity, fixed benefit, high deductible, Critical illness and the future innovation health)
- In-equalities in waiting period not addressed. Policies with shorter waiting periods bear the brunt
- Restriction & no restriction products treated same

Impact of the subtle changes

As diseases contracted while being covered under previous policy(ies) cant be treated as pre-existing

- Underwriters would be under additional pressure to get more information before decision making
- Medical condition loading algorithms may require change (upward revision)
- Products with shorter than 4 year PE waiting period may require PPC augmentation
- Adverse selection likely to go up as insureds would like to move from restrictive to less restrictive products

Example:

Current product	Porting to Product
Covered for 2 years 4 year waiting period for PE Co-payments, sub limits on benefits Hypertension detected in year one of cover	3 year waiting period on PE No co-payments, No sub limits

If a claim is made in the first year after porting……..

Earlier	Now
Claim not admissible as Hypertension is treated as pre-existing	Claim admissible as Hypertension is not treated as PE

Claim on PE would have be admissible post 4 years in the current product whereas if the customer ports after 3 years a PE claim would become admissible.

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Thanks for the patient hearing

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Decoding medical terms

- Many of the terms used in Medicine are in Latin
  Do I need to learn Latin? NO English is good enough

Terms in medicine usually have more than one components. For decoding

- Break the term in to it's components
- Interpret the more common (known) component firt
- Interpret the other terms
- Join all to decipher complete meaning

Common terms and what they mean

Logy	–	Discourse (If in a departments name – refers to medical side)
Gram/Graphy	-	Investigation, usually imaging
Scopy	-	visualization of actual organ (non imaging)
itis	-	Inflammation
tomy	-	Making an opening
stomy	-	joining (mostly two hollow viscera)
ctomy	-	Cutting off / removing an organ or part
angio	-	Blood vessel
Micin / mycin	-	antibiotic