Principles of Life Insurance Underwriting

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New Business Service Team
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1. Participation rate of life insurance in Japan

Participation ratio of households in Japan

- Owner: 90.5%
- Non-owner: 0%

Average amount of total death claim by household: ¥ 27,630k

Average number of policies by household: 4.1 policies

Average amount of total annual premium by household: ¥ 416k

Source: Japan Institute of Life Insurance: FY2012 national survey of actual conditions of life insurance
### 2. Cause of death in Japan (by age)

<table>
<thead>
<tr>
<th>Age</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; cause of death</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; cause of death</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; cause of death</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 4</td>
<td>Congenital malformation</td>
<td>Accident</td>
<td>Malignant neoplasm</td>
</tr>
<tr>
<td>- 9</td>
<td>Accident</td>
<td>Malignant neoplasm</td>
<td>Congenital malformation</td>
</tr>
<tr>
<td>- 14</td>
<td>Malignant neoplasm</td>
<td>Accident</td>
<td>Suicide</td>
</tr>
<tr>
<td>- 19</td>
<td>Suicide</td>
<td>Accident</td>
<td>Malignant neoplasm</td>
</tr>
<tr>
<td>- 24</td>
<td>Suicide</td>
<td>Accident</td>
<td>Malignant neoplasm</td>
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<td>- 29</td>
<td>Suicide</td>
<td>Accident</td>
<td>Malignant neoplasm</td>
</tr>
<tr>
<td>- 34</td>
<td>Suicide</td>
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<td>Accident</td>
</tr>
<tr>
<td>- 39</td>
<td>Suicide</td>
<td>Malignant neoplasm</td>
<td>Heart disease</td>
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<td>Malignant neoplasm</td>
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<td>Heart disease</td>
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<td>Heart disease</td>
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</tr>
<tr>
<td>55</td>
<td>Malignant neoplasm</td>
<td>Heart disease</td>
<td>Pneumonia</td>
</tr>
</tbody>
</table>

3. Flow of life insurance examination

Policyholder/Insured

Application form
- Fill out application form
- Disclose health conditions

LC

Application form
- Confirm incomplete documents
- Observe insured’s health conditions

HO

Application form
- Confirm incomplete documents
- Assess insured’s health conditions

- Insurance certificate
  - Deliver
- Notice of special condition
  - Offer
- Insurance certificate
  - Deliver
- Notice of rejection
  - Offer

No condition

Special condition

Rejection
4. The necessity of risk selection

In order to create an insured group without adverse selection, it's necessary to appropriately select risk.
5. Types of risks

- Physical risk
- Environmental risk
- Moral risk

Risk of life insurance

- Medical Underwriting
- Financial Underwriting
6. Types of moral risks

- **Insurance murder**: Method of murder is diversified: Making death look like a death of disease by using poison/accidental death/accident in a foreign country, etc.

- **Illegal reception of benefit**: Applications after a disease is diagnosed in health check and that of voluntary applications by direct mail or on the Internet increases adverse selection. Involvement of doctors cannot be denied in some cases.

- **Suicide**: Suicide exclusion was effective for 1 year in policy provisions of ordinary insurance. However, since there was no end to the number of insured who committed suicide, the suicide exclusion period was extended to 2 years.
7. Risk selection method

1st Selection → Observation by LCs
2nd Selection → Information collection by selection method
3rd Selection → Examination by an examiner
4th Selection → Investigation through policy confirmation
8. Observation by LCs <First selection>

1st Selection → Observation by LCs

- Interview...Interview is LCs’ responsibility and obligation
- Observation...Observe complexion / expression / conversation / physical disorder / living conditions.
- Question...Ask about health conditions such as actual symptom / anamnesis, occupation, and living conditions.
9. Information collection by selection method <Second selection>

- Medical examination doctor handling
- Medical check-up notification handling/thorough medical check-up handling
- Health management certificate handling
- Non-medical form handling
10. Examination by an examiner

<Third selection>

Acceptance/ rejection of applied policies and finalization of conditions

- Standard life
- Substandard life

- Insurable risk

- Postponable life
- Rejectable life

- Non-insurable risk
11. Investigation through policy confirmation

Confirmation by those who lack interest in insurance sales.

- **Pre-issue policy confirmation**
- **Post-issue policy confirmation**
12. Underwriting of physical risk

Numerical Underwriting method: This is a method to assess risks by scoring mortality indicators based on Underwriting standard.

Advantage
- Quantification of risks decreases examiners’ subjective view.

Disadvantage
- Combination of medical impairment requires a viewpoint of clinical medicine.
13. Response to physical risk

- Increasing type risk
  - Extra premium plan

- Everlasting type risk
  - Extra premium plan

- Decreasing type risk
  - Lien plan

**Main special conditions**

- Extra premium plan ･･･ A plan to receive extra premium.

- Lien plan ･･･ A plan to reduce claim at a designated ratio for a certain period of time (up to 5 years)

- Particular Organ Exclusion Clause ･･･ A plan applied to hospitalization protection to exclude specified part from claim payment.
14. Underwriting of environmental risk

Selection based on habit

Excessive drinking and routine use of drugs/ stimulant drugs are factors that increase mortality rate.

Selection based on assets/ income

Assets and income are important factors to determine insurance amount. Policy with excessive insurance amount could contain medical adverse selection or moral hazard.

Selection based on environment

Those who belong to anti-social forces/ those who have no regular employment tend to purchase a policy out of impure motives.
15. Response to environmental risk

- Limitation on insurance purchase based on contract rule
  - Limitation on maximum insurance amount based on issue age
  - Limitation on insurance amount based on income/assets
  - Limitation based on overseas traveling destination
  - Third party recipient contract

- Limitation on insurance purchase based on vocation rule

- Limitation on insurance purchase
  - Limitation on insurance amount by dangerous hobbies
  - Money laundering
16. Underwriting of moral risk

Moral risk:
The number of deliberate and intensive insurance frauds is increasing.

Items of Note for Underwriting

(1) Motive for application...Does a policyholder voluntary apply for a policy?

(2) Policy with excessive insurance amount...Is insurance amount excessive compared to age/job/income/assets?

(3) Inverse rank policy... Is insurance amount excessive compared to primary wage-earners or representatives of company?
## 17. Response to moral risk

| Use of policy coverage registration system | Prevention of intensive application |
| Use of information held by our company | Prevention of anti-social forces, etc. |
| Use of information held at the time of medical examination |
| Provision of information from sales teams |
18. Utilization of reinsurance

Diversification of risks of high-value policies and policies with high physical risk

Types of reinsurance

Automatic ceding • • • Policies with a certain amount and above are ceded at a certain ratio. This is applied mainly to high-value policies.

Arbitrary ceding • • • Mainly, policies that fall under highly substandard life are individually ceded.
19. Next issues (1)

Influence of advanced medical technology

- **Genetic testing**
  - Japanese life insurance companies do not utilize genetic testing as examination materials.
  - A famous actress received preventive treatment based on genetic testing, which was recently in the news. Genetic testing has been rapidly recognized in the public. The number of those who use genetic testing may increase.
  - If use of genetic testing is legally limited in Japan, like other countries, handling of genetic testing results may be an issue (whether the results fall under declaration, etc.). In Japan, medical check-up notification and thorough medical check-up result are used as examination materials. If genetic testing becomes a required item of medical check-up, it may be needed to review the selection method.
  - Preventive treatment based on genetic testing result is not currently considered to be qualified to receive benefit. In the future, however, this could be evolved into a trouble. Whether preventive treatment should be qualified to receive benefit may be examined.

- **Advanced treatment technique**
  - As typified by application of induced pluripotent stem cell (IPS cell), life prognosis of diseases, which have been regarded as intractable disease, is expected to be improved as medical technology advances. Accordingly, life insurance companies may expand the underwriting scope. Examination techniques such as revision of the examination standards are required to be enhanced.
Response to aging society

As the population ages globally, the number of elderly people is also increasing every year in Japan. Compared to young people, many elderly people have combined disorder and were rejected. The issue is to improve examination technique to include elderly people in underwriting scope.

Development of underwriters

Development of underwriters, professionals of underwriting, is essential for life insurance companies. It is ideal if medical examiners alone can do examination. It is, however, practically difficult. Therefore, an increasing number of life insurers utilize underwriters with specialized knowledge about examination. “Underwriters Association of Japan” was recently established, and popularizes and develops the underwriter system. Although the underwriter system is not spread in the U.S. that much, it is essential to enhance underwriters’ technique to solve issues which life insurance will face in the future.