NEW MODELS OF HEALTH INSURANCE
CHAPTER VI

NEW MODELS OF HEALTH INSURANCE

Based on the review of various literatures, primary data collection and analysis of data, new models are suggested in this research. As the numbers of new models are many, the models are classified under different categories for sake of better readability and integration aspects.

New models can be classified as below

- New Approach Models
- New Product Models
- New Process Models
- New Channel Models
- New Promotion Models
Section 1: New Approach Models

Under this model, this research suggests:

- New Approach Model for Infrastructure
- New Approach Model for Capital requirements
- New Approach Model for segmentation

New Approach Model for Infrastructure

For proper functioning of health insurance, proper health care infrastructure should be in place. But it is a fact that India is having more health care infrastructure in urban areas than rural areas. The table below gives a snapshot of the same.

Table 6.1

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Rural India (per 1000)</th>
<th>Urban India (per 1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital beds</td>
<td>0.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Doctors</td>
<td>0.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Public Expenditure</td>
<td>Rs.80,000</td>
<td>Rs.560,000</td>
</tr>
<tr>
<td>Out of Pocket Expenditure</td>
<td>Rs.750,000</td>
<td>Rs.1,150,000</td>
</tr>
</tbody>
</table>

In such scenario, growth of health insurance cannot be expected in rural areas. Hence, stern actions are required for promoting health care infrastructure in rural areas and semi-urban areas. This can be done by opening up of new hospitals in those areas. But given the fact that the Government spending is only 1% of GDP (which is far lesser comparing other developing countries), development of proper infrastructure cannot be expected in the near future unless some new models are thought of. This research suggests Venture Capital-Health Care Model for India.

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1 Presentation made by Dr. Ravi Duggal on Operationalising right in health care at 10th Canadian Conference on International Health 2003
VC-Health Care Model - Bringing people together and meeting health care needs

Many of the potential resources, though available are scattered around the country. Hence a common platform is required to bring them together. This research proposes Banker-Health Care Model for this, where Banking Institutions can play centric role by contributing Venture Capitals.

The reason for visualising the banks to play centric role is because the recent spurge in the inflation rates, reduced dependency of the industries over banks, lowering of CRR (Cash Reserve Ratio) by Reserve Bank of India have left bank with more cash than ever before. This has resulted in reduction in interest rates of loans, especially Housing Finance Area is expected to witness still lowering of interest rates. It is felt that Housing Finance is one of the lucrative areas where the risk of NPA (Non Performing Assets) is very low. One can witness lot of banks promoting housing subsidiaries with lot of competitive offers for the borrowers.

Like Housing Sector, Banks can also think about investing for Health Care and Health Insurance or form a Joint Venture (JV) with many Health Care providers. This research discusses about the possibilities of banks playing an important role in the health insurance sector and it can be defined as “VC- HealthCare” Model.

Insurance is not new to banking industry at the present era. Many experts found that Bancassurance has lot of potential in India and many banks have obtained license to act as corporate agents for insurers in India. HSBC has floated a separate subsidiary for its insurance services. It has been observed that bancassurance is one
of the best possible ways for the banks to increase the revenue and balance the loss of revenue that is happening due to reduced dependency of industry on banks.

Banks can increase the infrastructure for more accessibility of the people (more hospitals). It can reduce the cost of medicines by funding for more manufacturing. By which it can create more employment for doctors, pharmacists, and insurance professionals. This can be achieved by providing loans to doctors to set primary health care units. A group of doctors to set-up secondary health care units (after verifying their integrity and credibility) can invite big hospitals to set up tertiary health care units in selected areas. It can also involve the local Rotary club, Lions club in setting up of hospitals. Banks can also undertake a study of the Pharma sector to find out the demand for various types of Pharma and issue loans for setting up the pharmacy units, which are in great demand; thereby it can play a vital role in reducing the cost of medicines.

Like wise, banks can identify lot of industrial units manufacturing health care products for granting loans thereby stabilising the industry.

In 1995, a study by Centre for Monitoring Indian Economy indicates that 11 new hospital projects in Indian metropolitan cities alone accounted for a total investment of Rs 5.7 billion. Over and above this, several American and British insurance companies now want to tie up with Indian players to offer and market superior health services, and technology, products and distribution mechanisms.

Scope of Private-Public Participation in Health Care

Banks can have agreement with the corporate hospitals (or form a JV) wherein they can finance towards the setup of the branch of those corporate hospitals in rural areas. The surplus doctors existing in the urban areas can be deployed as the
employees of those hospitals in the rural areas. The corporate hospitals can ensure
good standard of living for the doctors and other hospital personnel on par with the
urban living conditions. The Brand value of the corporate hospitals may attract the
doctors to work in the rural branches of those corporate hospitals. Thus, Banks can
form a Business Model wherein it can integrate the suppliers of health insurance and
provide services to the health insurance policyholders at the subsidised rates.

**New Approach Model for Capital Requirements**

The Regulator, IRDA stipulates minimum capital requirement of 100 crore
rupees (Rs.10 Million) for venturing health insurance in the country. But given the
fact of lack of availability of proper data, heterogeneous mix of population in terms of
culture, language etc. has prevented specialised health insurers to enter the segment.
Only the existing insurance companies offer health insurance products running with
claims ratio of more than 100% and offsetting the losses by cross-subsidising the
profits earned in other segments like Fire, Marine, Engineering etc. But this cannot be
expected from specialised health insurer, as there is no room for such insurers to
offset the losses.

Hence, IRDA should consider ‘Risk Based Capital’ (RBC) models for
specialised health insurers. Possibility, the regulator cannot allow health insurance
companies to operate in specific region or state. Given the fact that regions or states
exhibit comparatively homogenous scenario can be a boost for health insurer.
Moreover, ‘Health’ being a state subject, such approach can invite more cooperation
from respective state governments towards health insurer of the state. Eventually, this
approach can lead to many meritorious decisions like reduction in capital
requirements, fulfilment of social objectives by the state etc. Similarly in reinsurance
perspective, India is not having proper health reinsurance arrangement; IRDA should
revisit the norms for health reinsurance companies in the lines of approach mentioned above.

**New Approach Model for Segmentation**

In India, uniformity in approach is adopted for health insurance by insurance companies. They consider that similar demographic factors exist. Health insurance plans features are uniform. So far, Insurance companies view the population as homogeneous and rely more on underwriting practices to avoid unhealthy lives in the health insurance portfolio. For Example, the Mediclaim health insurance premium rates are more or less similar across places but the incidence of diseases is not similar, but insurance companies tries to avoid sub-standard lives by imposing strict underwriting rules in certain places. The researcher found that some insurance companies in Kerala (a state in India) do not underwrite any lives suffering with diabetes\(^2\), even if they underwrite, they specifically exclude diabetes, although no specific instructions exist for the insurance companies. Such practices can lead to failure of social objective in the long run wherein unhealthy lives may be left uncovered. In this case, it is failure of the insurance company to launch specific products for diabetic patients in the region. The reason for such failures is due to lack of proper data and uniformity approach. IRDA is already taking steps to create a national data warehouse for health insurance.

This research believes in the fact that ‘No Risk is uninsurable, provided proper analysis is made’. Any Effective analysis is dependant upon the basis of analysis. This research suggests that ‘Segmentation’ as the important base. Insurance companies view that demographic factors of the population, as a whole is more or less similar. But based on the primary data collection, this research has identified that

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\(^2\) Based on personal interview with senior official of a TPA
demographic factors are not same and there are different kinds of expectations by the people towards health insurance. This research strongly suggests to analyse the population characteristics on the basis of the following segments\textsuperscript{3}. This is the major finding of the research.

People who are exposed to Individual health insurance

People who are exposed to corporate health insurance and

People who are not at all exposed to health insurance.

CONCEPTUAL AWARENESS SCALE

<table>
<thead>
<tr>
<th>No Policy</th>
<th>Group Insurance</th>
<th>Individual Policyholders</th>
</tr>
</thead>
</table>

AWARENESS

People who are already exposed to individual health insurance are supposed to be the segment that is aware of health insurance. But even among this segment, some have taken policies without understanding the concept of health insurance, prevailing exclusions etc. Majority of the people in this segment are under-insured and one can notice people earning more than 3 lakhs having policy of only 50,000. Agents fail to explain the same due to either poor knowledge or fear of loosing business. Due to this, lot of lapsation occurs in this segment. According the estimates around 10-15\% of the health insurance policies get lapsed every year. Agents or Insurance companies fail to explain the consequence of lapses in health insurance.

\textsuperscript{3} Excerpts from the research ‘Tweaking the Corporate Health Insurance Models in Indian Scenario – An Entry point’ published at First World Risk and Insurance Conference, USA, 2005, co-authored by researcher.
With majority of Health Insurance schemes being Yearly renewable policy, Policyholders didn’t get reminder notices on time or not at all receive and hence customers forget to renew the policy. Unlike Life Insurance, where if a policy is renewed, the policyholder get benefits without much difference prior to lapsation, in health insurance, policyholders loose many important benefits like first year exclusions will come to force and no coverage for pre-existing diseases. Despite all odds a small portion of the segment continues to pay the premiums regularly to enjoy benefits under sec 80D of the income tax act wherein premium payments upto Rs.10,000 is eligible for deduction from the gross income directly. When we say that individual health insurance policyholders is supposed to have more awareness and stand at one end, at the other end stands the people without health insurance policies. Insurance companies are targeting this segment. But to win over the confidence of this segment is a two-fold activity. First, awareness should be created and second; sale of the insurance policy has to be done. Both the activities are a tough phase in the current scenario. The reasons are: -

Insurance is still viewed only as a tax saving instrument with sizeable investment return. Health Insurance policies do not promise any investment return.

India is still facing the stumbling block of lack of awareness for even life insurance products, which promises good investment return.

Many of the people have more belief in god that they will not incur any medical expenditure. They view the health problems religiously rather medically.

Experts say that, of the 100 per cent health insurance policyholders, approximately 50 per cent are individually insured, while the remaining 50 per cent are employees of corporates.
Under Group Insurance, Insurance is arranged for group of buyers, the benefits are tailored to the needs of the group. Group is based on employment or membership of society or club. In India, most of the group insurance falls under the category of employment only. Benefits of Group insurance are many, like Tax advantages for the employer, better bargaining power, lesser administrative expenses for the insurer, pooling of risk across different levels despite their insurability status etc. Also, as many employers conduct medical test during the appointment, the quality of life is assumed to be good when compared with rest of the population. But mostly the coverages and designs do not match with the characteristics of the group thus ending with more generous coverages, which indicates that there is still potential for up-selling insurance policies in this segment. Marketing programs of insurance companies should focus on this segment for more up-selling opportunities as this segment is neither totally unaware of health insurance benefits nor aware of the importance of having enough health insurance coverage. Given the current scenario of health insurance in India, this segment should be the entry point for the Insurance companies to exploit the maximum potential in this segment.

Paradoxically, this employee population too contributes considerably to the loss ratio of health insurance. Severe competition has brought down the price of corporate policies, eroding the actuarial premium base. Therefore skewed claims ratio is also due to corporate Mediclaim policies. Moreover, Corporates use health insurance as a bargaining tool while deciding to offer the more lucrative and profitable portfolios of Fire and Engineering to the insurance companies. The insurance company makes good profit obtained as premium from these products and is so willing to bear the loss obtained from health insurance product. However, a study by Munich Re in India on the comparison between Group Vs Individual Insurance in terms of Burning cost
across various age groups indicates that Group Insurance Burning costs are relatively lower. From the analysis discussed so far, it is suggested that Marketing Department of Insurance companies should focus more on up-selling opportunities among Corporate Health Insurance Policyholders. But it can be said that the existing framework is not feasible enough to do the same.

**Section II: New product models**

This research suggests new product models under the following classification

On the basis of Demographic features - Special reference model for informal sector

On the basis of Morbidity features

On the basis of blending Portfolio features

**On the basis of Demographic features**

On the basis of the analysis of primary data, it is inferred that the demographic characteristics and expectations vary across the segments. Cluster analysis points out different cluster of demographic variables like cluster one having age, work experience, marital status and dependant children, second cluster segment, occupation and annual medical expenses, sex and adult dependants form the third cluster, Family Monthly Income and Income Tax Assessment Status forms fourth cluster, Place itself forms a cluster. The discriminant analysis estimation equation infers that very minute differential factors influencing the respondent to fall in either policyholder or no policyholder category. This gives idea of floating different plans across sub-segments. For example, new plans can be tried out in a sub-segment that exhibits significant variance of occupation and annual medical expenses and so on.

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4 Excerpts from the researcher's co-authored research 'Health Insurance Models for Informal Sector in India' presented at Asia Pacific Risk and Insurance Association Conference, South Korea in 2004.
This suggestion is in sync with the existing life insurance practices in the country. For example, life insurers float separate plans for ‘key man’ in the business, females, children, old aged etc. Similar practice should be implemented in health insurance industry also.

This approach can be a starting point with the assumption that morbidity factors will vary across the demographic sub-segments. This will eventually lead to construction of proper data warehouse with enough morbidity statistics.

**Special reference to Model for Informal Sector**

Morbidity and mortality levels in the country are relatively high which indicates the limited success of the public health system in meeting the preventive and curative requirements of the general population. In this context, informal sector people who form majority of the population, are most deprived people as it may take long time to really benefit the immediate health care requirements due to lacking awareness, infrastructure etc.

The new model proposed is to introduce Reinsurance on Health Insurance for Informal sector in India. Basically, the Government’s Universal Health Insurance Scheme or the plans as proposed in this research can be marketed by many NGO’s or Association of Informal Sector Group which are functioning all over the country. The workers of the informal sector are identified and aggregated into a homogeneous group. For example, all the weavers in a state are identified to form a group; the association of weavers are the implementing authority of the Universal Health Insurance Scheme. Let this group be called as GROUP-W. Similarly, a group is formed for the farmers in a state and called as GROUP-F. When we make actuarial valuation analysis of each group individually, definitely the premium collected will
not be able to sustain the solvency margin. Hence each group is reinsured with a
global reinsurer through IRDA. The reinsurer will evaluate the risk of all the groups
collectively and decide the acceptance premium. As many sub-standard groups are
pooled together, the risk as a whole is reduced according to Law of Large Numbers.
The Insurance Regulatory and Development Authority will act as the co-coordinator
of all the groups and collect the premium (which is Ceding premium). The difference
between the ceding premium and the acceptance premium, if any is borne by the
government or IRDA. The recent announcement of the Government to increase the
share in GDP for healthcare can provide more allocation. Moreover, it can also be
thought of including a cess of 0.01% for all the individual insurance policies sold, to
fund the difference. Of course, the nodal TPAs in each region will take care of
servicing part of these policy holders. The new hospitals which are created on the
basis of VC-Health Care Model can also be identified as the nodal centers for
treatment. Claims are settled by TPA’s and reimbursed by IRDA to TPA’s. IRDA in
turn will claim the reinsured claim once in a quarter as a consolidated claim from the
Reinsurer. Based on the valuation made each year, the premium is revised year after
year keeping in mind about the purchasing power of the group policyholders.
Modifications in the universal health insurance schemes can also be thought of in later
stages based on the data available after implementing this model.

What can be reinsured?

When health care infrastructure is increased, by using the Banking-Health Care
Model, the cost of medicines, hospital assistance can be made available at subsidised
rates. This can reduce the risk premium to certain extent. But a margin of 10-25% can
be kept to avoid abnormal losses. It is not possible to reinsure all the risks covered
under health insurance scheme. Hence a limit can be placed above which the risks can
be reinsured. The limit can be in terms of excess of loss ratio for the operating units. Here the operating issues can be assumed to a collective entity of NGO’s/Associations at a Town or Taluk or District level.

**On the basis of Morbidity features**

Any new plan should strategically be placed in such a way that it will not tempt to make fraudulent claim. This can be achieved by doing a perfect research of the existing disease patterns, mortality rates, morbidity rates, consumer behaviour at the hospitals, hospital behaviour towards patients etc. Such sort of research is still a distant dream for us.

For doing such research, it will involve lot of investment cost. Instead we can try with launching of different kinds of plans and do research on the data acquired.

For this, Initially, new health insurance policies can be launched to meet the needs of various sub-groups and there shall be a base health insurance plan, say bH. The base health insurance plan may offer the benefits to cater the treatments of primary ailments. Deductibles can be introduced in these policies like Calendar Year Deductibles where eligible medical expenses are accumulated during the calendar year, and once they exceed the deductible amount, the insurer will pay the benefits.

Apart from the base plan (bH), lot of endorsements may be offered to the policyholders in the form of riders to choose from. The endorsements may be classified based on the secondary and tertiary medical care treatment offers.

The secondary medical care treatment plan (sH) which eventually will include base plan having some higher premiums and cater to the secondary medical care needs of the policy holders. Similarly the tertiary medical care treatment (tH) will
cater to the tertiary medical care needs of the policyholders apart from the base and secondary medical cares.

The above may sound like re-definition of the existing Jan Arogya Bima (for bH) and existing mediclaim for sH and tH. But strategies have to be worked out that the bH plan imbibe some more benefits that exists in mediclaim policies apart from that exists in Jan Arogya Bima.

**On the basis of Portfolio blending features**

In India, insurers often try blending the features of other forms of insurance and financial products while designing new plans. For example, Unit Linked Insurance plans were floated blending the equity features into insurance, single premium policies with short term were floated by life insurers which was similar to bank’s Fixed Deposit product.

In this research, the idea of floating blended products were asked to the respondents especially about the concept of ‘Long Term Policies’ in the similar lines of life insurance plan features and Single Premium policies in the similar lines of bank’s fixed deposit features. It should be noted that prior to liberalisation, similar plans were floated but it ended up in failure. But this time, this type of question is included in the questionnaire to check the response of people across different segments. From the analysis it is found that the response level varies across the different segments.

This indicates that new plans with blended features can be tried but it should be in sync with the demographic characteristics of the segments.
Section III: New process models

This can be sub-classified into two categories

New Control Process Models

New Technology Process Models

New Control Process Models

This can be further classified into

Administrative Control Processes

Actuarial Control Processes

Administrative Control Processes

This model stresses focus on two key areas in health insurance process flow viz. underwriting and claims settlement. Such processes can reduce the fraudulent claims.

This research forecasts the increase of frauds in health insurance due to the factors like Presence of new players, Change in purchasing behaviour of consumers wherein customer insuring different risks with different insurers, New distribution channels like Bancassurance, Internet, Appearance of new entities like TPAs. Disappearance of some entities like TAC in the coming year. Increasing controls through technology is a model suggested in this research.

Actuarial Control Processes

Actuarial Control Cycle Model for Health Insurance in India

Importance of the Model:

With many demerits existing in the current health insurance system viz. Lack of Data, Higher Capital norms. Lack of Reinsurance arrangements, Fluctuating investment market scenario, unpredictable loss rates, inflated claims, management
expenses, it becomes important for any insurance company dealing with health insurance to implement actuarial control cycle to achieve profit.

This model aims at the cross-checking the assumptions and projections across the actual, thus creating room for quicker control actions before something goes wrong.

**The Model**

The factors considered in this model are

- Expected and Actual Morbidity Rates
- Expected and Actual Premium contributions
- Expected and Actual Investment Returns
- Expected and Actual Withdrawal Rates
- Expected and Actual Reinsurance Arrangements
- Expected and Actual Management Expenses
- Expected and Actual Claims.
- Expected and Actual Other Incomes
- Expected and Actual Other Expenses

Basically, the actuarial control cycle aims at testing the profit, can also be called as ‘Profit Testing’.

Equations for the same can be worked as below:

\[
\text{Profit} = \text{Income} - \text{Expenses}
\]

Where

\[
\text{Income} = \text{Premium contributions (PC)} + \text{Investment Returns (IR)} + \text{Other Income (OI)} + \text{Reinsurance Claim Receipts (INRE)}
\]
**Expenses =** Claims (CL)+ Reinsurance Payments (OUTRE)+Management Expenses (ME)+ Other Expenses (OE)

As premium rates are dependant on various factors including Incidence of Diseases, Cost of treatment, lapse rates. In the above, Morbidity Rates (Morb) and Withdrawal Rates (WD) help in determining the Premium Rates.

Other Expenses will include miscellaneous expenses like Tax Payments, Subsidies etc. Other Income will include various miscellaneous incomes.

Actuarial control cycle mainly focus on the difference between the actual and the expected.

In this context, the actuarial control cycle helps out in determine the surplus rates at any point of time. If we take Δ as the symbol for difference between the actual and expected. The above formula can be written as below.

\[ \Delta_{\text{surplus}} = \Delta_{\text{Income}} - \Delta_{\text{Expenses}}. \]

Where

\[ \Delta_{\text{Income}} = (PCe-PCa)+(IRE-IRAa)+(Ole-OIa)+(INREe-INREa) \]

i.e. \[ \Delta_{\text{Income}} = \Delta_{PC}+\Delta_{IR}+\Delta_{OI}+\Delta_{INRE} \]

\[ \Delta_{\text{Expenses}} = (CLEe-CLa)+(OUTREe-OUTREa)+(MEe-MEa)+(OEe-Oea) \]

i.e. \[ \Delta_{\text{Expenses}} = \Delta_{CL}+\Delta_{OUTRE}+\Delta_{ME}+\Delta_{OE} \]

**Control Methodology**

From the current research, it has been observed that the expectations of customers vary across the voluntary health insurance segment and group health insurance segment. Hence, though similar nature of coverages are offered across
individual and group segments. It is better to analyse the surplus across both segments as below

\[ \Delta \text{surplus} = \Delta \text{Group surplus} + \Delta \text{Individual surplus} \]

**Rationale behind the above formula:**

**Note about the factors in Indian Context**

Premium Contributions: Premium contributions is not witnessing steady growth due to various forms of lapses. Again, the lapse rates are different across individual and group schemes.

Morbidity Rates: This varies across region to region. Again various studies suggests that the data is not available with.

Reinsurance: India, as such is not having any reinsurance arrangements for health insurance, but in future the possibilities for reinsurance are bright. If this happens, then group health insurance has good scope of such coverages.

Other Expenses: Group Health insurance coverages often enjoys some form cross-subsidisation as the premium rates are offset with the premium contributions received towards other forms of insurance like Fire, Marine etc. Similarly the Group Schemes enjoys better tax treatments.

Investment Returns: Unlike the Blue Cross & Blue Shield Plans of USA wherein more investments are made in equities market, Indian Insurance Regulations restrict the participation of insurance companies in equity market.
Control Model in Indian Context

This research suggests that actuarial control cycle across group schemes should be mapped with individual schemes to the granular level. This will help in overcoming the deficiencies of data, analysing the impact of various factors over premium and surplus, increases the scope for application of Technology like Data Warehousing and Data mining techniques to perform ‘What if’ analysis and Stochastic analysis seamlessly which can end up in launch of specific plans for select segments as it exist in Life Insurance Market etc.

New Technology Process Models

This research suggest implementation of two important technological processes

BPM Process

Data Warehousing Process

BPM Methodology

Health Insurance Claims processing involves lots of complexities and require frequent changes in the underwriting rules and claims rules. For example, an outbreak of major disease like SARS may have varied impact over the claims processes that require immediate attention in a war foot manner. Similarly, a complicated cardiac ailment may require immediate redefinition of rules not only to cardiac diseases but also to related ailments viz. Hypertension related diseases, neuro related diseases etc.

Certainly, in a legacy environment where most of the rules are hard coded, immediate redefinition of rules and implementation of the same may take long time before which the insurer would have incurred heavy losses. Needless to mention, even if the rules are incorporated, there lies the risk of system overrides by the claim processors due to their habit of overseeing the diseases and approving it unaware about the new rules.
BPM process instigate strict and rigid methodologies which can incorporate all new rules framed out of investigations with immediate effect and also disallow all the system overrides and thus bringing down the claims cost drastically.

In BPM Process, the system administrator can easily define the rules without the requirement for coding. BPM Process creates executable Java Codes for the new rules and implements the same in the system for immediate processing. Thus, it reduces the dependency of the Decision Makers over the IT Department.

Taking into account of the time frame for developing new codes, integrating it with the system, conducting system test in a normal legacy environment. BPM processes comparatively avoid all the above processes and also ensure qualitative system process thus saving cost, manpower etc.

A survey indicates that claims processing cost accounts for 30% of the overall claims expenses. An efficient and effective methodology like BPM may immediately bring down the claims processing cost obviously.

**Data Warehousing Methodology:** Data warehousing methodology is supplementary to BPM methodology, which eventually is a part of the process after claims are processed.

As mentioned earlier, BPM Process reduces the overall claims processing costs and controls the expenses arising due to system overrides.

Data warehousing using Business Intelligence Techniques helps to analyse the data and plug in claims, which still posses, the risk of overpayment.
It also helps in analysing the data in various dimensions and hence frame new set of underwriting rules and claim rules. For instance, the claims data is analysed across various dimensions viz. Diseases, Treatments, Hospitals, Physicians, Customers, Claims Processors etc. and the same is pitched to identify the hidden patterns.

This will lead the decision makers to identify and set rules on underwriting, claims for a particular diseases, hospital, physician, customer which can be immediately put into effect into the claims system through BPM Process methodology.

This can also indirectly help the Insurer to better handle knowledge management activities with respect to their claims processors thus adding immense value to the organisation.

All this in turn, can plug in any leakage left out before actual payments are made to the end customer. May be a latency period of 1-2 hour is enough for the Data warehousing system to process a batch of claims records through a incremental batch processing mode to meet the fraudulent challenges and overpayments.

Data Warehousing and Business Analytics without BPM process may also be considered but the same can act only as the Leakage Identifiers and can play only less effective role as Leakage Rectifiers. Needless to mention, for an insurer identification and rectification is an ideal system process to plug in claim leakage perfectly.
Schematic Diagram

Typical Legacy Application Environment

Claim Request is reviewed by verifying across various systems on the basis of pre-defined hardcoded rules.

Policy System (Verification about policy details)
Claims System (Verification about claims history)
Reinsurance system (verification about Reinsurance details)

Whether claim payment can be made?

Payments are made and system updated

Claims rejected and system is accepted

Claims Process after BPM Implementation

System Administrator

Change rules

Request for change in Rules

Payments are made and system is updated

Whether claim payments can be made?

N

Claim Rejected and system is updated
Claims Process after BPM and DWH Implementation

System Administrator

Request for change in Rules

Recommended for claims payment

Change Rules

Y

N

Claims Request are processed by the claims processing system based on rules set by the BPM Processes

Multi-Dimensional Analysis

Data Warehouse

Claim Request

Data

Stop Payment

If analysis recommends for stop payment

Y

N

Claims Rejected and system is updated

Claims Rejected and system is updated

Whether claim payment can be made?

Y

N
Section IV: New channel models

From the research, it was observed that ‘Agents’ are the most preferable channels for majority of the respondents. But this research suggests the involvement of Direct Marketing channel in capitalising the Group Insurance segment. One of the findings of this research is that innovative type of Group Insurance Schemes like ‘Residential Association Group Health Insurance schemes’ is preferred by respondents (Though the response is not same across all segments). This type of channel promotion will have multitude effects. Some of the key aspects of this innovative idea is discussed below:

There is no enough data for scientific calculation of a Model.

Marketing program of insurance companies are more generic.

This has to be focused on a specific segment, which can exhibit the characteristics of general population. This can be taken as a miniature model for analysis and build a scientific database for analysis and building a model.

From the conceptual awareness scale, it can be inferred that group insurance exhibits the characteristics of both aware & unaware segments. Hence, group insurance (corporate) segment can be taken in the first phase as an experimental measure among selected groups. This can be a best method as health insurance involves lots of complex parameters and for collating a good sizeable database from the universe of population (comprising of heterogeneous segments) will take long time. Hence on experimental basis, a method should be followed as a starting point, which can provide quick and effective results. The scope of the same can be extended later. One such method is suggested below:

On an experimental basis, select groups can be chosen across various sectors and the patterns can be studied. For example, (as an illustration) if we identify four
groups (Corporate Insurance) as A, B, C & D. So far insurance companies make analysis of the groups separately and do not collate the data of various groups. But in this method, let us assume that Group A and Group C are exhibiting similar characteristics. Hence the data belonging to Group A & Group D can be pooled and the aggregated data can be studied.

Employers can also share the medical records of the employees, which is performed during the time of appointment. This will enable the insurers to do some sort of medical underwriting of the group.

Various parameters forming the base of health insurance premium can be studied in-depth for these groups. For example, the claim pattern of the policyholders under this group for a particular age group – say 30-35 can be analysed in-depth.

The same can be correlated with the available data of individual insurance policyholders.

Mapping & gap analysis using data warehouse between the groups and individual insurance can be done to understand the behaviour of individual insurance.

The same can be then extended to many groups in the next phase

In the final phase, the scope can be enlarged by extrapolation and comparison with the whole set of individual insurance policy data.
Thus, identification of new segments can help not only the growth of health insurance in India but also can help in meeting information needs of the insurance companies for spreading the individual policyholder segment also.

Section V: New promotion models

This research suggests that promotion only through media alone will not work in country like India. In current scenario, promotion can be equated to awareness. Hence this model suggests that promotions should be categorised as below. (Wherein media promotion is one among the factors) Promotion is an integrated component with respect to Health Insurance in India comprising of

- Promotion through Media
- Promotion through Training
- Promotion through Stakeholders
- Promotion through Regulations

Promotion through Media

This research identified that the promotion of health insurance through media is not similar across different segments. Hence various kinds of promotional strategies should be followed. At present, insurance companies follow similar promotional
strategies across segments and places. This may be one of the factors slow growth of health insurance despite the knowledge of health related risk among the population. Hence, the promotional materials should be tailored according to the expectations of the people across the segments.

**Promotion through Training**

Agents are the most effective channels in India, but majority of the agents lack knowledge to explain the features of health insurance in India. Hence insurance companies should consider using agents for promotion of awareness.

**Promotion through Stakeholders**

Stakeholders can play vital role in promoting health insurance awareness. This study finds out that TPA awareness is not similar across segments. This indicates that the concept of introducing TPA is not serving its real purpose. Hence steps are to be taken to improve the services of TPAs in the context of awareness creation. Similarly involvement of Big Hospitals in Health Insurance should be promoted in awareness perspective also.

**Promotion through Regulations**

IRDA acts not only as Regulatory but also Development authority. In this sense, still more activities are required from it. IRDA should lobby for more rebates from government like increase of tax rebates etc, allow liberal regulations in the advertisement for hospitals, keep close touch with hospital care industry, may be form joint association with Medical Council of India to devise hospital schemes etc. Such type of activities can promote health insurance.

From the models suggested - New Approach Models, New Product Models, New Process Models, New Channel Models, New Promotion Models, No single
model can work effectively without steps taken to implement a few of other models. For example, Floating of new plans cannot work without involving New Approach Models and so on. The reason is that Health Insurance Sector in India is exhibiting disparate features currently. It may not be possible to clean up and integrate various features of the health insurance system immediately. But Insurance companies and the Regulator can try to implement combination of few models suggested in this research. Such combinations are left to the decision of the insurance company and regulator, as it will depend upon the business environment and business trends of the insurance companies.
References

1 Presentation made by Dr. Ravi Duggal on Operationalising right in health care at 10th Canadian Conference on International Health 2003

2 Based on personal interview with senior official of a TPA

3 Excerpts from the research ‘Tweaking the Corporate Health Insurance Models in Indian Scenario – An Entry point’ published at First World Risk and Insurance Conference, USA, 2005, co-authored by researcher.

4 Excerpts from the researcher’s co-authored research ‘Health Insurance Models for Informal Sector in India’ presented at Asia Pacific Risk and Insurance Association Conference, South Korea in 2004.