

Community Based Health Insurance

Planting a Seed for Tomorrow's Need



Kanish Debnath

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FOREWORD

It is not an exaggeration to state that access to and affordability of financial services differentiates the rich from the poor. The mainstream financial services providers do not look at the unorganised and poor segments of the population because they do not see viable volume of demand to offset the cost of providing the services. As a result these sections of population remain outside the ambit of organized financial services.

It is widely believed in this context that Community Based Financial Organizations would be suitable vehicles for developing and delivering financial tools that help the poor meet their various financial needs. Based on this concept several organizations have been established to provide micro credit- small amounts of loan that the poor need - and other financial services. Some of these organisations have further evolved to provide micro insurance -covering health insurance, life insurance and old age pension. One must remember that by its primary characteristics and origin, insurance is community based or “mutually” provided safety net. While on the one hand there is overwhelming consensus that mainstream insurance companies are generally neither willing nor able to provide accessible and affordable cover, on the other hand there is widespread doubt that community based organizations can effectively cope with the “Trinity”: accessibility, affordability and sustainability.

There is another problem intrinsic to insurance – that is the difficulty of convincing the target segments of the utility or benefit of insurance the possibility of experiencing which may arise only in the future. The would-be beneficiary cannot visualize such a situation at the time of buying insurance and hence does not feel the need for it. To “complicate” the matter further, the future contingency insured against may not arise at all and hence, if all is well, the intended beneficiary never gets a chance to consume the services promised.

It is in this context that Professor Kanish Debnath, the author’s examination and documentation of the success story of the community based health insurance organization viz, Annapurna Pariwar, merits attention and appreciation. Perhaps this is one of the earliest (if not the first) attempts at documenting and analysing the performance of a community based health

insurance organization in India.

The author has analysed the financial performance of Annapurna over a period of 10 years using seven performance indicators. Of the several interesting observations two are very encouraging for those who believe in this model of inclusion and development: (i) The hypothesis that there will be adverse selection is false (at least in case of Annapurna) and (ii) The hypothesis that “A Community health insurance organization can never become self – sustainable over time can be summarily rejected”.

The book bears testimony to the author’s scholarship and the conclusions that he has drawn bear testimony to over two decades of hard work and commitment to the cause of poor women by the people at Annapurna led by the redoubtable Dr. Medha Purao- Samant whose inspiring leadership and team building skill have seen Annapurna grow into an organization of great repute and trust.

I hope the book will encourage other scholars to look for other success stories in this field and inspire a new breed of social entrepreneurs to take up the cause of financial inclusion through the wonderful instrument of insurance to protect poor individuals and households against risks arising out of sickness, death, disability and old age.

Sushobhan Sarker

Director, National Insurance Academy, Pune

PUBLISHER SPEAKS

Annapurna Pariwar's Dada Puro Research & Training Institute is in its 8th year. We are publishing our 2nd book on Micro Insurance. It gives me immense pleasure to publish this book written by Kanish Debnath namely "Community Based Health Insurance – Planting a seed for tomorrow's need".

Kanish visited Annapurna Pariwar almost four years ago with Prof. Samar Datta. Prof. Datta from Indian Institute of Management Ahmedabad was then chairing a seminar at the National Insurance Academy. He had enquired whether there is any model of Community Based Insurance program in Pune. Ms. Archana Singh, N.I.A. brought Prof. Datta and Kanish to Annapurna Pariwar to show our Community Based Insurance program in Pune.

After our meeting and a long discussion, Prof. Datta was very much impressed with our Community Based Insurance model. Kanish decided to take this up for his doctoral thesis after Prof. Datta agreed to be his guide. In the last two & half years Kanish thoroughly studied our Community Based Insurance model. Thanks to our efficient Software, MIS & our enthusiastic team he got detailed data of our little less than two lakh members.

I have been a witness to Kanish's defence exam in I.I.M. Ahmedabad in Nov.2015. Many senior faculty members from I.I.M. Ahmedabad like Prof. Ravindra Dholakia, Prof. Ramesh Bhat, Prof. Arnab Laha and Prof. Vaibhav Bhamoriya participated in the defence exam and got interested in our model. Hence we decided to publish this book in which Kanish has presented the important findings about our Community Based Insurance model.

We had started Community Based Health Insurance in the year 2003. In the last thirteen years numbers of members have increased from 700 to two lakhs. Thanks to our Hospitals' network, indigenous software & democratic decision making process by the community representatives we could make this model sustainable.

At this juncture presenting Kanish's book to the Readers, Researchers & Insurers gives me a sense of fulfilment.

I thank Mr. Sushobhan Sarker, Director N.I.A. for kindly writing a foreword to this book. I congratulate Kanish for his in-depth study. It will be a success of this book if more non Profit Community Based Insurance programs are setup by getting inspired by this book.

Dr. Medha Purao - Samant

Managing Director, Annapurna Pariwar

ACKNOWLEDGEMENTS

I am blessed to have found Annapurna Pariwar and Dr. Medha Puroo-Samant through a chance visit from a conference and I am deeply indebted to her for allowing me to study her organization and occasionally also transferring some of her carefully accumulated and distilled wisdom onto me. I am also thankful to Ms. Anita Sonawane, Ms. Ujwala Waghole, Ms. Sujata Bhat and Mr. Parshuram Kudchikar in assisting my study in every way possible.

I am grateful and highly indebted to my thesis advisors – Professor Samar K. Datta, Professor Ravindra H. Dholakia, Professor Arnab K. Laha and Professor Vaibhav Bhamoriya – for their erudite and compassionate guidance.

I would like to thank my wife, my parents, my in-laws and my entire family for believing in me and supporting me throughout my entire journey. It is their love that kept me motivated and gave me the courage to face all odds.

Finally, I would like to thank the Almighty, my faith on whom gives me strength.

Kanish Debnath

PREFACE

This book is an outcome of my work while pursuing a Fellow Program in Management at the Centre for Management in Agriculture at the Indian Institute of Management Ahmedabad. While working on my dissertation titled – “The Role of Community Health Insurance in Perfecting Financial Inclusion”, I came to realise that there is a need for a book on Community Based Health Insurance programs for the bigger and much general audience. Keeping that thought in mind I have tried to create a lucid and simple text that all can comprehend and improve their understanding about an often-misunderstood model of human cooperation. This title also draws its strengths from a detailed analysis of a health insurance program that is running successfully since its inception in 2003. In the end, there are also some recommendations for current and future practitioners of this model of insurance.

Kanish Debnath
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FLAME University, Pune.

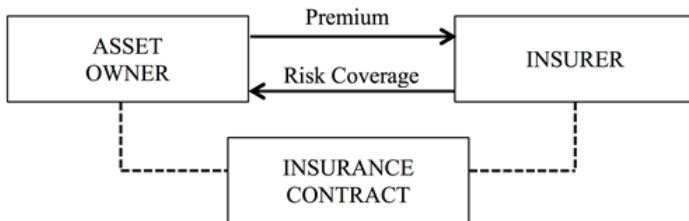
CHAPTER 1

MICRO-INSURANCE VERSUS CONVENTIONAL INSURANCE

1. Introduction to Insurance

It is very hard to find a simple and non-technical definition for ‘Insurance’. Normally it is a legal agreement that assures financial protection against unfortunate losses to life, health or any valuable asset. If any human asset gets lost or destroyed (partially or wholly) through an accident, then the owner’s loss can be compensated through insurance. However, for the same, the owner of the asset needs to first purchase an ‘Insurance Contract’ from an insurer, who will be willing to provide financial protection against such loss. An ‘Insurance Contract’ is a legal document that states the asset being insured, the type of loss being covered, the duration of coverage, and also mentions how the compensation will be calculated. The price paid for purchasing the insurance contract is called the ‘Premium’ amount.

The whole process works as illustrated in the diagram below. The owner of any asset (for example a car) approaches an insurer to get the insurance contract. There are dedicated insurers for every different asset. ‘Health’ and ‘Life’ of individuals are also considered as insurable assets such as a car, house or shop. The contract will state the premium, risk coverage and duration of insurance among others. The asset owner pays a small premium to get the desired risk cover for a time period. The time period is normally taken as 1 year for most insurance contracts.



Another important feature of insurance is that the risk coverage amount is always many times higher than the premium amount. Sometimes, it may be even a multiple of 100 to 150 times of the premium. The obvious

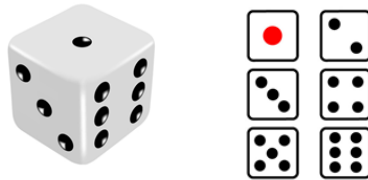
question to that would be why? The answer to that is not self-evident because one must look at it from the perspective of chance. Let us go back to our car insurance example. Consider the question – how many times the car can have an accident within the next one year? No definite answer is possible here as the future is uncertain. Now consider the question – how many times the car did have an accident within the past one year? Still, the answer will depend on how it was driven. If a driver drives carefully, then it may be 0-1 times. If he is not so careful while driving, then it may be 2-4 times. So the chance occurrence of an accident will vary for every individual.

The interesting part here is that if we take two different groups of 1000 individuals together and average their accidents, the average of the groups will be almost similar than if we had taken two different groups of 10 individuals together. This happens because when we take a large group of people, the good drivers always tend to cancel out the influence of bad drivers. The more the number of people put together in a group, the greater is the chance of the same happening. This is also known as the '**Law of Large Numbers**'. Insurers use this law time and again to calculate the fair premium amount to charge from their clients.

Now, suppose that insurers through the above calculations found out that on average, the number of accidents per individual is 0.5 times (Notice that this is a calculated figure and in reality 0.5 accidents cannot occur! Some drivers will have no accidents while others may have more). If we also suppose that every accident costs the same – 10,000 rupees, then the insurance company will break-even by charging 5,000 rupees premium to every individual. If a person unluckily gets into 3 accidents, he will have to pay only 5000 rupees (as premium) instead of 30,000 rupees. Since accidents are uncertain and can happen to anyone at anytime, the insurance policy protects individuals from such financial shocks. Thus, insurance is the system of spreading the losses of an individual over a group of individuals. In simpler words, insurance is a method of sharing of financial losses of a few from a common fund formed out of contribution of the many who are equally exposed to the same loss.

The '**Law of Large Numbers**' essentially says that for a large group of individuals the average figure becomes almost identical to the entire population of individuals facing the same risk, and does not vary much even if a few influential individuals (bad drivers) are added to or removed from the group. This phenomenon can be easily demonstrated. For this, let

us consider something familiar to all – a 6-side rolling dice. This dice, as shown in the pictures below, is common to many Indian games. It has six sides numbered from 1 to 6. On rolling the dice, any number among 1 to 6 can appear with equal possibility.



Now let me roll a dice 10 times and calculate the average of all numbers I get after each roll of dice. I got the following numbers with the averages as in the below table

Roll	1	2	3	4	5	6	7	8	9	10
Value	3	5	2	1	4	5	5	6	4	5
Avg.	3	4	3.33	2.75	3	3.33	3.57	3.87	3.88	4

You can observe above how the average value highly varies with having a value as low as 2.75 and as high as 4. The average value here is unstable and unreliable. This happens because each number has a big influence on the average value, sometimes tilting it towards low values, at other times swinging it to high values.

Next, I separately roll the dice for 100 times and get an average value of 3.24. Now see what happens if I take the same values as above, for the next 10 rolls of the dice in the below table.

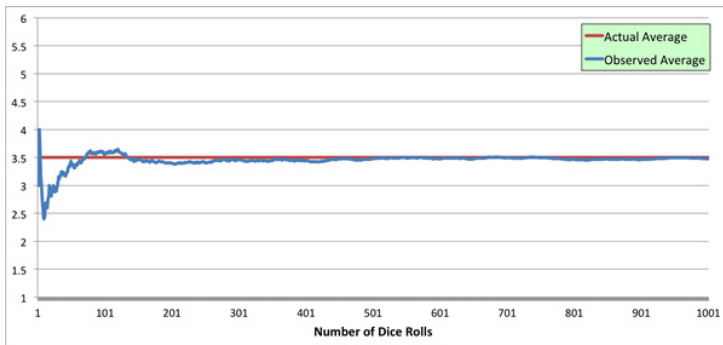
Roll	101	102	103	104	105	106	107	108	109	110
Value	3	5	2	1	4	5	5	6	4	5
Avg.	3.23	3.25	3.24	3.22	3.22	3.24	3.26	3.28	3.29	3.30

The lowest average value for rolls 101 to 110 is 3.22 and the highest average value I get is 3.30. The difference between the highest and lowest is a petty 0.08 compared to 1.25 in the earlier case. This occurs because the influence of each number on the average value has become small. This influence (and therefore variation in average) will keep getting smaller as we keep rolling the dice and continue calculating new averages.

As mentioned above, there is another aspect to the ‘Law of Large Numbers’. With higher number of dice rolls, the calculated (or observed)

average will reach and match the actual average. In the case of a dice, since each number from 1 to 6 has an equal chance of occurring, the actual average for it is 3.5. It is obtained by simply averaging the 6 digits – 1, 2, 3, 4, 5, and 6. Notice how in the first case of rolls 1 to 10, the average value has oscillated above and below 3.5 and in the next case of rolls 101 to 110, the average has stayed below 3.5. If we keep rolling the dice again and again, it will definitely be observed that the calculated average figure starts matching the actual average value of 3.5. This can be seen in the figure below. Using a computer, I have rolled a dice for 1001 times and have plotted the calculated average each time. Notice how the values swings back and forth from 3.5 till about 150 dice rolls and then slowly overlap the horizontal line of value 3.5. The observed average after 1001 trials is 3.48 which is only 0.02 less than the actual.

Figure 1.1: Demonstration of the Law of Large Numbers



Thus the ‘Law of Large Numbers’ says that the higher the number of individuals facing the same risks, the closer the observed outcome is to its actual value and lesser is its variations. This helps insurers in two ways. First, if there is large demand for a particular insurance product (car or health insurance), then insurers can expect the assessed risk to match the actual risk for the entire population from where the members belong. Second, a large member base will also mean that the averaged outcome (for example, car accidents) among the insured members remains stable and predictably invariant. Although the ‘Law of Large Numbers’ is simple and appealing, whether a number of insured individuals is sufficiently large or not depends on many factors such as type of risk and population characteristics.

2. Principles of Insurance

Therefore from the insurer's point of view, there are some requirements of a risk to an asset that is to be insured. These are the following –

1. There must be a large number of similar assets facing the same risk e.g. car theft.
2. The loss must be accidental and not caused purposefully.
3. The value of loss and its financial compensation can be pre-determined.
4. The loss should not affect multiple individuals at the same time (i.e. not catastrophic).
5. The demand for insurance and the average loss must be calculable.
6. It must be economically feasible for a customer to pay the premium.

In addition to the above, it is also worth mentioning some general principles of insurance that are applicable to any insurance contract. These are –

A. Principle of Utmost Good Faith

The principle of utmost good faith says that an insurance contract between two parties – the insured and the insurer must be made on trust or good faith. Neither of the parties must get into a contract with the intention to cheat the other. This principle tells us that insurance can work only when there is a complete transparency and information disclosure between the two parties before they get into the contract. For example, the insured individual must declare all information relevant to the insurance contract to the insurer. If a person fails to disclose any critical information (for example, prior illness history for health insurance) to the insurer, the liability of the insurer to pay for his future health problems gets legally cancelled. At the same time, the insurer must also give full information of the insurance product (for example, coverage amount, exclusions, etc.) to the potential client before the contract is signed.

B. Principle of Insurable Interest

The principle of insurable interest states that the insurance contract must be taken for an asset that the owner is interested in preserving from loss or damage. The risk of loss may or may not be easily quantifiable in financial terms but the owner must be interested in safeguarding it from the risk. For example, an owner of a car will be interested in protecting it from theft and an individual will want to stay in good health. However, if a person is not directly affected by a risk, he cannot take an insurance contract for the same. For example, a taxi driver, who does not own the car, cannot

take an insurance against theft. Another better example is that a farmer can take up insurance against poor rainfall as it affects the yield of his crops and impacts him financially, but an urban citizen who does not own any farmland, cannot apply for the same contract as he does not get directly affected.

C. Principle of Indemnity

The word ‘indemnity’ means security or protection against a loss or injury. An insurance contract is taken by the insured to avail indemnity from any future losses during the contract period. For example, an individual taking a health insurance policy is indemnified against high medical expenses if he faces health issues unintentionally. The principle of indemnity requires an insurance contract to provide indemnity against unfortunate losses and this compensation amount must be proportional to the actual loss. In no way can the insured claim a higher compensation than the actual loss amount. In cases where the loss amount is not determinable, such as in cases of life insurance, it is a value contract.

D. Principle of Contribution

The principle of contribution states that if the insured has taken more than one insurance contracts with different insurers for the same risk, then the compensation paid to the insured will be shared proportionately among the insurers. In other words, the insured cannot claim compensation in excess of the actual loss faced, even if he holds multiple insurance contracts with different insurers. The insured can claim the compensation from all insurers or from any one insurer. If one insurer pays the full compensation then that insurer can claim proportionate contribution from the other insurers. For example, if a person insures his car of Rs. 5 lakhs through two insurers for the full amount, in case of an accident causing Rs. 1 lakh damage, both insurers will share the loss by paying Rs. 50,000 each. Often, financial advisors suggest multiple insurance policies to safeguard against claim rejection.

E. Principle of Subrogation

Often an accident or loss to an insured individual might be caused by negligent or careless behaviour of another person. For example, a doctor might perform a wrong surgery on an insured patient. In such cases, the insurer has to compensate the insured person but also gains the legal right

to pursue the faulty third party to pay for the insurance loss, which is known as ‘Subrogation’. Therefore the principle of subrogation is the right for an insurer to legally pursue a third party that caused an insurance loss to the insured. This is done as a means of recovering the amount of the claim paid by the insurance carrier to the insured for the loss. Also, the insurer can benefit out of subrogation rights only to the extent of the amount he has paid to the insured as compensation.

F. Principle of Loss Minimization

The principle of loss minimization protects the insurer from negligent behaviour of the insured. It requires the insured to take proper care of the insured property. He must use all possible preventive measures against loss or damage from occurring, and if loss happens he must take necessary steps to reduce or control losses. If the insured does not take such steps, the losses may be counted as wilful losses and complete compensation might be denied. For example, if an individual has taken theft insurance for his car, he must ensure that he has adequate theft protection measures in place and must not park his car in isolated areas. Another example, if a person has taken a health insurance policy, she must take care of herself like she would have done without the insurance. She cannot behave recklessly just because she has insurance support. Quite similarly, if a person commits suicide, he is liable for his own death and then his dependents will not receive any life insurance benefit.

G. Principle of Nearest Cause

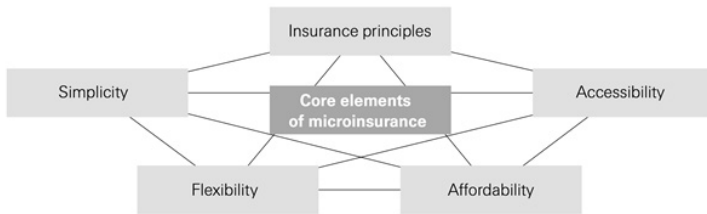
Finally, the principle of nearest cause says that when a loss occurs, the nearest (or the closest) cause should be taken into consideration to decide whether the insurer is liable to compensate for the loss or not. In case there is a loss occurring from multiple events occurring together, then the closest cause is considered for compensation. This principle safeguards an insurer from paying compensation for articles not insured. For example, a shopkeeper takes insurance against loss from fire but does not take any theft insurance. Suppose on one day, thieves enter the shop and steal most of the goods. Later, the shop also catches fire due to a short circuit in the wiring. Then the shopkeeper will only receive compensation for the losses arising from the fire but not for the theft (if it has been reported). In another example, suppose a farmer purchases rainfall insurance (that assures him protection against low rains) and also buys bad quality seeds. Now, if his crop fails due to low or irregular rainfall, he will not get adequate

compensation because his crop would have failed anyway because of poor seeds. However, in case of life insurance, this principle will not apply. Whatever may be the reason of death (except suicide) the insurer is liable to pay the amount of insurance.

3. What is Micro-Insurance?

In the world of microfinance, where loan products are tailored towards the need of low-income households, insurance products can also be designed to target the same households. Though not at all different on principles of insurance, micro-insurance generally refers to insurance products with small premiums and proportionately small coverage amounts. This concept is quite similar to micro-credit, where loans of small amounts are given to an individual or a group of borrowers. Like traditional insurance, micro-insurance can also be taken for various human and non-human assets such as life, health or property. Both Governmental and Non-Governmental Organizations alike are lending their active support for micro-insurance programs. The characteristics of microinsurance, though varying among different programs, are based on the following elements as shown and discussed below.

Figure 1.2: Core elements of Micro-insurance



Source: Swiss Re Economic Research and Consulting

- **Insurance principles** : As also mentioned earlier, micro-insurance too has to follow the general principles of insurance.
- **Accessibility**: Micro-insurance is designed for the segment of the society who would not otherwise be able to afford conventional insurance. Since the reach has to be extended to remote areas and at a low profit margin, micro-insurance has to be well administered, cost-efficient, and delivered on a large scale if it is to benefit both the insurer and insured.

- **Affordability:** The insurance premiums have to be small amounts that are within the paying capacity of low-income households. On the other hand, the coverage amount is also kept at a low level in order to sustain the program. Premiums of government aided insurance programs are further subsidized to improve micro-insurance uptake.
- **Flexibility:** Since the low-income segment of the society is not a homogenous cluster, micro insurance products must be customized to meet the community requirements.
- **Simplicity:** The micro-insurance program must be designed in a way that it is easy even for an uneducated person to understand the risks being insured, as well as those that are not being insured. The person must also be taught how to make a claim and when he will receive the indemnity for his loss. Simplicity of the product makes it more acceptable.

The rationale behind micro-insurance is probably best explained through the following sentences by Roth et al. (2007) –

When exposed to financial shocks, poor households may be forced to make harsh choices, such as reducing food consumption, withdrawing children from school, or depleting productive assets to cover the expenses related to the risk event. These strategies jeopardize economic and human development prospects, and leave those who have to make such choices stuck in a poverty trap. Moreover, the threat of destitution renders the poor very risk-averse. With no protection against adverse events, they try to avoid risky situations or actions. Reluctant to engage in higher return activities because of the higher risk involved, they often forego potentially valuable new technologies and profitable production choices. As a consequence, poverty is likely to be perpetuated for them and their children. Extending the reach of insurance to low-income groups can play a large role in ensuring that when a family faces a financial crisis, the household does not find themselves further impoverished.

4. Key differences from Conventional Insurance

The major differences are shown through the table below –

Table 1.3: Difference of features between Micro-insurance and Conventional insurance

Features	Micro-insurance	Conventional Insurance
Target Market	<ul style="list-style-type: none"> - Low Income Households - No or poor knowledge of insurance 	<ul style="list-style-type: none"> - Medium to high Income families - Some awareness of insurance benefits
Product Design	<ul style="list-style-type: none"> - Often single product design with simple features - Community pricing on limited actuarial data 	<ul style="list-style-type: none"> - More complex products possible with multiple features - Risk based pricing driven by multiple parameters and data
Marketing	Usually sold as combined product with micro-credit through MFIs and NGOs	Employs conventional licensed channels – agents, banks, internet and other sources
Enrolment	<ul style="list-style-type: none"> - Simple process with limited or no screening done - Basic documents to ascertain identity of individuals 	<ul style="list-style-type: none"> - Comprehensive process with multiple screenings - Multiple documents to ascertain identity and age of persons
Policy Manuals	<ul style="list-style-type: none"> - Simple policy language with minimal or no exclusions - Allows delayed or irregular premium payments 	<ul style="list-style-type: none"> - Complex language with multiple exclusions, terms and conditions - Requires regular payment with penalties for any delays
Claims Handling	<ul style="list-style-type: none"> - Simple and quick process - Small co-payments needed - Limited documentation 	<ul style="list-style-type: none"> - Comprehensive process - Significant co-payments needed - Detailed documentation
Administration	<ul style="list-style-type: none"> - Mostly restricted to small geographic areas - Mostly organized as a Not-for-Profit entity 	<ul style="list-style-type: none"> - Encompassed large areas with high insured memberships - Mostly created as a For-Profit entity

5. Types of Micro-insurers

Micro-insurance can be offered through different providers and also in different ways. These are briefly discussed in the points below from Roth et al. (2007) –

- **Commercial Insurers** – These are specialist insurers already operating in the larger insurance market and are professionally managed and registered under insurance regulations. Being regulated, they maintain reserves and have access to reinsurance, and their consumers are better protected. Commercial insurers are showing a rapidly growing interest in micro-insurance, seeing it as more profitable than formerly realized. Commercial insurers prefer to partner with outside delivery channels in the low-income market but are hampered by a lack of potential partners. Commercial insurers are interested because of many reasons – (a) Micro insurance can generate profits, (b) Micro insurance is a new market compared to upper income markets that are often saturated, (c) Micro insurance helps to get the company’s brand name into the market. Brand name recognition is important since today’s low-income client is tomorrow’s middle class client, (d) Micro insurance helps develop a good relationship with the regulator and government in new markets, and (e) Micro insurance contribution bring social recognition.
- **Non-Governmental Organizations** – NGOs include development organizations, trade unions, federations of groups, and microfinance institutions. They are close to poor people and therefore close to the market for micro-insurance. They are often very effective delivery channels. Most of the NGO insurers operate without the benefit of an insurance license and outside the regulations, which commercial insurers must adhere to. NGOs are the largest providers of health microinsurance. One reason for this is that health insurance is a much-demanded service among their clients. Another is that the funding of health insurance is a popular area for donors, and therefore partly donor-driven.
- **Mutuals / Community Based Organizations / Cooperatives** – Mutuals are member-owned, professionally managed, and government regulated insurers. They are often owned by credit unions or cooperatives. They have the advantage of operating close to poor people, and are experienced in financial activities, disbursements, and confirmation of events. Many Mutuals started life as Community Based Organizations (CBO) but became professionalized when they outgrew the skills and capacities of their non-professional member staff. Often multiple CBOs come together to form Mutuals to reap the benefits of bigger reach and scale. CBO microinsurers are very common and can be considered a sub-

category of informal insurers. CBOs' great disadvantage is that they are mostly unregulated and lack the professional insurance management experience to be stable and effective insurers. However, some of them are old and durable institutions that in some places have been the sole providers of insurance to the poor.

- **Parastatal Insurers** – Parastatal insurers are insurance companies that are wholly or majority-owned by a government. The management quality and innovation potential of parastatal insurers tends to be weak, and in most countries their incentive to develop new products is non-existent. Because they are arms of government, parastatals are often pushed towards assisting in government policies, which may not be in the long-term interest of sustainable or profitable micro insurance provision.
- **Takaful Insurers** – A Takaful insurer is one that operates according to Islamic financial principles. Islamic law does not allow interest to be charged or earned from insurance. Thus, a Takaful insurer can only invest in non-interest bearing assets. They operate effectively as non-profit Mutuals because they must return at least a portion of their earnings to members.

CHAPTER 2

INDIA'S HEALTHCARE FINANCING AND HEALTH INSURANCE

For India, where a significant part of the population is below the poverty line, there are large inequities in health and access to health services across caste, gender, socio-economic class and regions. The data from the National Family Health Survey – 3 (IIPS and ORC Macro 2007) as depicted in table 2.1 display differences in accessing healthcare services between urban and rural areas.

Table 2.1: Specific problems in accessing health services

Percentage of households reporting various problems	Urban	Rural
At least 1 member under health insurance	10.4	2.2
Problem of getting money for treatment	8.3	21.7
Problem of distance to health facility	8.9	33.2
Concerned that no provider available	13.2	27.4
Concerned that no drugs available	13.0	27.7

Source: NFHS-3 (IIPS and ORC Macro 2007)

We can notice in table 2.1 that an insignificant part (2.2 percent) of the rural population is under any insurance cover. Out of the same, privately purchased Commercial Health Insurance schemes cover 28.1 percent, the Employee State Insurance Scheme (ESIS) contribute 19.9 percent, the Central Government Health Scheme cover 17.7 percent and Community Health Insurance schemes cover 11.9 percent (IIPS and ORC Macro 2007, 435). These figures are pretty dismal given the fact that the National Consumer Expenditure Survey shows that though the average Out Of Pocket (OOP) expenditure on health has slightly declined to 5.73 percent from 5.87 percent, the number of households making OOP expenditure greater than 10 percent of their total household expenditure has increased both for the urban and rural poor (Selvaraj and Karan 2012).

Even with the declining OOP expenditure on health, for a family earning

Rs. 10,000 per month, a ratio of 5.73 amounts to Rs. 6,876 in the year. However, if this amount is expended for a single illness episode, as often is the case, it amounts to 69 percent of monthly earnings. This may be difficult for the household to arrange, causing penury and privation. If we consider the urban poor, they will also be in a similar problem. Therefore often, poor households tend to forgo medical attention when faced with illness. Several researchers while talking of health financing in low and medium income countries, have established the case of high out-of-pocket expenditures; much of it going to private healthcare providers (for example Ahuja 2004, Aggarwal 2010).

Health financing systems through general taxation or through development of social health insurance are generally recognized as powerful methods to achieve universal coverage with adequate financial protection for all against healthcare costs (Carrin, Waelkens and Criel 2005). Table 2.2 below compares the health expenditure of India vis-à-vis other country groups as devised by the World Health Organisation (2015). For India, according to its National Health Account (NHA), the general government expenditure include Central, State and Local government expenses and private expenditure include expenditure by household, firm, insurance companies and NGOs (Ministry of Health and Family Welfare 2009) but for countries not maintaining NHA, data was obtained through technical contacts in the country or from publicly available documents and reports and missing values were estimated using various accounting techniques (WHO 2015). It must be also noted here that private health insurance in India considers only post hospitalisation expenses, not pre-hospitalisation preventive care due to the fear of moral hazard, thus making such insurances less relevant and failing to protect the clients through preventive care (BearingPoint Inc. 2008).

Table 2.2: Comparison of health expenditure of India vis-à-vis other country groups

Particulars (number in per cent)	India (2012)	LI (2012)	LMI (2012)	UMI (2012)	HI (2012)
Total expenditure on health as percentage of gross domestic product	3.8	5.1	4.1	6.0	11.6
General government expenditure on health as percentage of total expenditure on health	30.5	38.8	36.4	56.2	60.6
Private expenditure on health as percentage of total expenditure on health	69.5	61.1	63.6	43.8	39.3
General government expenditure on health as percentage of total expenditure	4.3	9.0	6.2	11.6	16.8
Out-of-pocket (household) expenditure as percentage of private expenditure on health	87.2	77.6	86.7	74.2	38.5
Private prepaid plans (insurance companies) as percentage of private expenditure on health	3.3	1.5	3.7	16.5	49.4

Source: World Health Statistics 2015 (WHO 2015)

(LI – Low Income; LMI – Lower Middle Income; UMI – Upper Middle Income; HI – High Income)

Thus table 2.2 shows that if Indian healthcare system has to rise to the levels of high-income countries, then the government expenditure has to increase significantly. Most of it will help reducing the out-of-pocket expenses made by households from their annual budgets. It is also evident from the table that enrolment into private health insurance programs increases for higher income countries. The rest of private expenditure on health may be attributed to other items such as corporate programs for employees.

Health in developing countries like India faces the double burden of communicable diseases (for example, endemic disease such as Malaria, Tuberculosis, and highly infectious diseases like SARS, H1N1 influenza) and non-communicable diseases (for example, diabetes, cardiovascular diseases and cancers). Further, the Report on causes of death in India, 2001-2003 (Ministry of Home Affairs 2009, 15) note that rural areas report more deaths due to communicable, maternal, perinatal and nutritional conditions (41 percent of rural deaths) whereas the urban areas have a higher proportion of non-communicable diseases (56 percent of urban deaths). Generally the rural, tribal and urban slum areas having denser population of low socio-economic groups are considered as high-risk areas as they are more prone to Vector Borne Diseases (Ministry of Health and Family Welfare 2011, 27).

For the purpose of developing infrastructure for delivery of low-cost healthcare, the National Rural Health Mission (NRHM) was started in 2005 and in 2013 a separate mission for urban areas was launched (NUHM). For further expediting access to healthcare, different state sponsored insurance schemes were launched (for example Karnataka's Yeshasvini Health Insurance Programme in 2003, Andhra Pradesh's Rajiv Aarogyasri Scheme in 2007, Tamil Nadu Insurance Scheme for Life Saving Treatment in 2009 and Karnataka's Vajpayee Aarogyasri also in 2009, Maharashtra's Rajiv Gandhi Jeevandayee Arogya Yojana in 2012), and finally the Rashtriya Swasthya Bima Yojana (RSBY) was started in 2008. We look at the salient characteristics of some of these Government Sponsored Health Insurance Schemes in table 2.3 below. Quite notably, all of them are large scale insurance programs with sizable premiums and good subsidy support.

Scheme	ESIS ¹	CGHS ²	Yeshasvini	Rajiv Arogyasri	RSBY ³	Kalaingar
Launch Year	1952	1954	2003	2007	2008	2009
Geographical Area	Pan India	Pan India	Karnataka	Andhra Pradesh	Pan India	Tamil Nadu
Target Population	Private Formal Sector	Employees and Pensioners of Central Govt.	Members of Rural Cooperative Societies	Households below the Poverty Line	Households below the Poverty Line	BPL residing in covered areas
Beneficiaries	55.4 million	3 million	3 million	20.4 million	23.4 million	13.4 million
Enrolment Unit	Family	Family	Individual	Family	Family	Family
Benefits Package	Comprehensive	Comprehensive	Inpatient, surgical secondary focus	Inpatient, tertiary focus	Inpatient lower cost, secondary care and maternity care	Inpatient, tertiary focus
Maximum Coverage	No limit	No limit	Rs. 200,000 per person per year	Rs. 150,000 per person per year	Rs. 30,000 per person per year	Rs. 100,000 per person per year
Number of Empaneled Hospitals in 2010	148 own + 400 private hospitals	All public + 562 private hospitals	30 public + 513 private hospitals	97 public + 241 private hospitals	2507 public + 5604 private hospitals	56 public + 636 private hospitals
Sources of Funds	Contribution through wages	Central Govt. Budget	Beneficiaries and State Govt.	State Govt.	Central and State Governments	State Govt.
Premium Price	Employee – 1.75% Employer – 4.75%	Rs. 50 – Rs. 500 per employee per month	Rs. 150 per person per year	Rs. 439 per family	Rs. 540 per family including tax	Rs. 469 per family excluding tax
Governing Agency	ESIC	MOHFW ⁴	YCFHCT ⁵	Arogyasri Healthcare Trust and insurance company	State Nodal Agency	TN Health Systems Society
Executing Agency	ESIC and state ESIS departments	ESIC and state ESIS departments	TPA ⁶	State nodal agency and Insurance Co.	State nodal agency and Insurance Co.	Insurance company

1: Employee's State Insurance Scheme, 2: Central Government Health Scheme, 3: Rashtriya Swasthya Bima Yojana, 4: Ministry of Health and Family Welfare, 5: Yeshasvini Cooperative Farmers Health Care Trust, 6: Third Party Administrator

However, post rollout, several field-based studies have pointed out the inefficacy of these schemes to meet objectives. For example, Bajpai, Sachs and Dholakia (2010) through a Mid-Term Evaluation of India's National Rural Health Mission propose major improvements in the infrastructure of Primary Health Centres (PHCs) without which rural health care cannot deliver. Next, though the RSBY has the maximum coverage for meagre premiums, it has many limitations – (a) family size is restricted to only five members, (b) secondary care is covered only if hospitalised above 24 hours, (c) excludes expenses on outpatient treatment (though now piloted), diagnosis and medicines, and (d) lacks monitoring and grievance redressal systems (Dasgupta et al. 2013), often leading to inequity and exclusion from healthcare in broad terms (Rathi, Mukherji and Sen 2012).

The problems behind Social Health Insurance schemes is probably best explained through the following sentences by Carrin et al. (2005) –

Many low-income countries experience difficulties in achieving universal financial protection. A tax-funded health system may not be easy to develop, due to the lack of a robust tax base and a low institutional capacity to effectively collect taxes. It may be particularly difficult to arrive at a nationwide consensus between various partners to accept the basic rule of social health insurance, that is to say, guaranteeing similar health service benefits to those with similar healthcare needs, regardless of the level of contributions that were made. This problem may be very acute when countries prove to have a significant inequality of incomes and assets, and where middle- and high-income earners would be reluctant to contribute significantly more than the poor do. In addition, governments may not yet have the necessary managerial apparatus to organize a nationwide social health insurance system. Often this problem is compounded by lack of infrastructure and capacity to collect contributions and organize reimbursements, to manage revenues and assets and to monitor the necessary health and financial information. Most countries therefore recognize the impediments to universal financial protection. Other financing methods, which would circumvent political and organizational difficulties at the national level, are therefore explored, including the direct involvement of communities in health financing.

CHAPTER 3

COMMUNITY BASED HEALTH INSURANCE PROGRAMS IN INDIA

Prima-facie it appears that Community Health Insurance Programs are in a better position to tackle the aforementioned difficulties of healthcare services and insurance, which is even severe in rural areas. A community-based system can internalise all externality with respect to provision of health care services. Moreover, as ownership and control are vested in one hand, there is no agency problem. Further, through a stakeholder approach (like the Japanese Keiretsu) they can involve and institutionalise not only their members but also hospitals, doctors, nurses, healthcare centres, diagnostic centres and pharmacy units.

Perhaps this feature of community focus is best captured in a recent McKinsey report (2012) whose analysis of annual reports shows that cooperatives' growth rate is similar to those of publicly traded companies; and though most cooperatives tend to have a more long-term, community oriented focus that often result in less risk taking, they have a more measured approach to growth. They noted that these advantages were the strongest in insurance and diversified financials where majority of the coop's customers were also their owners (McKinsey 2012). Similar advantages of cooperation among business were also noted in earlier studies (for example, Hill, Hitt, and Hoskisson (1992), and Oijen and Hendrikse (2002)). The International Cooperative and Mutual Insurance Federation (ICMIF) having 233 member organisations across 72 countries, is also a big proponent of community health insurance. ICMIF note that the mutual/cooperative sector has been the fastest-growing part of the global insurance industry since 2007, with an increase in market share from 23.4 percent in 2007 to 26.7 percent in 2012 (ICMIF 2012).

Community Health Insurance (CHI) schemes have a long history in India. Perhaps the oldest health insurance scheme was started by the Student's Health Home in Kolkata, West Bengal, in 1952 and is still continuing to cater to the student population in schools, colleges and universities in and around Kolkata. Recently, it appears that community insurance schemes, often started by Non Governmental Organisations (NGOs) or Microfinance Institutions (MFIs) have received more impetus through the opening

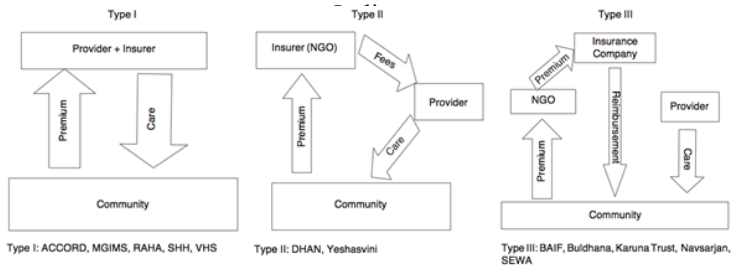
up of the insurance market in 2000 and the imposition of the Rural and Social Sector Obligations by the Insurance Regulatory and Development Authority (IRDA) in 2002.

Sensing the growing universe of insurance products for the poor, the Insurance Regulatory and Development Authority of India (IRDA) issued Micro-Insurance Regulations in 2005 later superseded by a new regulation in 2015. Under the new regulation, health micro-insurance is defined as a health insurance contract for an individual or a group as per the following terms – up to Rs. 1,00,000 (Rs. 2,50,000 for group) of sum assured; 1 year terms; and age of insured at the entry and exit is at insurer choice. It is pertinent to note here that both of the IRDA regulations on Micro-Insurance (2015) and Health Insurance (2013) recognise only those micro-insurance schemes that are offered by a formal insurer of life or general insurance. In such schemes, a Non-Governmental Organisation (NGO), a Self Help Group (SHG) or Micro-Finance Institution (MFI) can only act in the capacity of a micro-insurance agent, for the distribution of micro-insurance products. Therefore, all operational community micro-insurance schemes run by a NGO, a MFI or a Mutual that do not involve a formal insurer are actually working outside the purview of IRDA. Further, given the new start-up capital requirements of Rs. 200 – 250 crores for formal insurers (Shetty 2012), community health insurance operators cannot, even willingly, come under the ambit of IRDA.

Operating models of community health insurance can be very broadly classified into three types as shown in figure 3.1 –

1. Health provider based where the provider itself provides insurance coverage (type I),
2. NGO and provider based where the NGO provides insurance coverage (type II), or
3. Insurer, NGO and provider based wherein a NGO acts as an agent of the insurer (type III)

Figure 3.1: Broad types of Community Health Insurance Schemes in



Source: Devadasan et al. (2004)

An ILO study in India of 100 health micro-insurance schemes, out of which 90 belong to non-governmental institutions further note that community insurance providers may often package together insurance against various risks such as life, health, assets, livestock, disability, pension, etc. (ILO 2009). Apart from variations in operational models and risk pooling, community health insurance schemes can also vary widely on many other parameters through their own innovations as shown by ILO (2009, pp. 25-30) –

- Scheme ownership (whether owned by community, NGO, hospital, cooperative)
- Coverage inclusion (inclusion of seniors, primitive tribes, disabled)
- Benefit package (additional product offerings such as cashless, out-patient, maternal care)
- Additional social benefits (linked education grants, pensions, etc.)
- Co-contribution (no subsidies, subsidies received from government bodies, corporate, hospitals, donors)
- Premium collection (in-kind, savings, interest earnings)
- Service delivery (innovations through own hospitals, hospital network, tele-health)
- Access to medicines (village clinics, mobile vans, herbal)
- Enrolment (No prior check-up, through SHG, cooperatives, schools), and
- Management Information System (MIS) (member cards, etc.).

However the ILO study also note that, barring a few, most Community

Health Insurance (CHI) schemes are scantily documented and data of their operations is hardly available in the public domain (ILO 2009). Even when contacted, various organisations were either unwilling or unable to share information, which the report considers as a likely consequence of weak management information systems in place (ILO 2009, p. 3). The ILO study appears inconclusive about whether these schemes can tackle the general lack of social protection pervasive within the country (ILO 2009, p. 8). Devadasan et al. (2004) studied 12 CHI schemes to observe that CHI could be an interim strategy to finance the healthcare of poor till a more formal social health insurance is in place. Dror et al. (2009) also conclude that despite having less funding and professional resources than larger insurers, CHI can offer better protection to insured, through mobilization of context-relevant social processes.

In light of the above, a brief comparison of the features of a few CHI schemes against the Central Government’s Rashtriya Swasthya Bima Yojana (RSBY) is presented in table 1.5.b to illustrate the fact that even with limited insurance coverage, most CHI offer financial assistance for primary and outpatient care services. Community Health Insurance (CHI) schemes therefore appear attractive and can have many useful design features that reduce information asymmetries among clients, service providers and insurers.

Table 3.2: Brief comparison across community health insurance features

Insurer	Type	Primary care	Secondary care	Premium (Rs.)	Coverage limit (Rs.)	Subsidy
ACCORD*	I	Yes	Ins. (Ex.)	45 PP/Y	2500	Donor
JRHIS#	I	Co-insurance	(No Ex.)	48 PF/Y	No limit	Govt.
APVS	II	Yes	Ins. (Ex.)	120 PP/Y	15,000	No
BAIF*	III	Yes	Ins. (Ex.)	156 PP/Y	5000	No
SEWA	III	Yes	Ins. (Ex.)	Bundled	10,000	Donors
RSBY\$		No	Ins. (Ex.)	30 PF/Y	30,000	Govt. (94%)

* 2009 data; # (Devadasan et al. 2006); \$ (Dasgupta et al. 2013)

Note: Ins.= Insurance cover; Ex.=Exclusions; PP/Y=per person per year; PF/Y=per family per year; Govt.=State and/or Central Government

However, most readily available literature argues the contrary. CHI schemes seem to have not many enrollees for most schemes and have lesser renewals (Devadasan et al. 2004). Further, within schemes, utilization can be erratic, bordering on very low claims (possibly transaction costs) to very high claims (moral hazard) compared to premium earnings (Devadasan et

al. 2004). Often adverse selection cannot be avoided to preserve equity within the community. In some cases claim submission, processing and reimbursement may take months to settle and need many documents (Devadasan et al. 2004), thereby adding to hassles of the beneficiary. Dror et al. (2009) and Devadasan et al. (2006) having investigated small sets of health micro insurance providers in India, note the dilemma of great potential but poor utilization. Devadasan et al. (2011) also later found that insured hospitalized patients did not have significantly higher levels of satisfaction compared to uninsured hospitalized patients. The main reasons for satisfaction were the availability of doctors and medicines than the access to insurance. Banerjee et al. (2014) through a study of randomized introduction of health microinsurance for microfinance clients, emphatically and unequivocally passed the ultimate verdict – “It seems that insurers, policy makers, and academics are one step ahead of insurance clients. The central issue seems not to be that only those who need health insurance would be willing to sign up, but that even those who would need it are not willing to sign up for it, potentially at the cost of losing a valuable resource.”

CHAPTER 4

A SUCCESSFUL PROGRAM – ANNAPURNA PARIWAR

It is at this juncture I introduce to you a Community Based Health Insurance program – Annapurna Pariwar Vikas Samvardhan, which is running successfully for more than 12 years and has never had claims in excess of 100 percent! Further, its insured member base from urban slums of Pune and Mumbai has exceeded 200,000 and is still growing at a healthy rate!

1. Humble Beginnings

Padmashree Prematai Puroo established Annapurna Mahila Mandal, Mumbai in the year 1975 with an objective of providing financial support to women workers. In 1993, Dr. Medha Puroo Samant (her daughter) left her job from Bank of India and joined her. Dr. Medha Puroo Samant had by then made a firm resolve to devote her life for the upliftment of the poor, where she could deliver financial and non-financial services to women. Several years later and after many milestones (table 4.1), she has been able to develop an ‘Annapurna Pariwar’.

Table 4.1: Major milestones on the way for Annapurna Pariwar

Year	Activities
1993	Medha Puroo Samant started microfinance activities with a small group of women
1999	Her organisation started providing Life Insurance in partnership with LIC India
2000	First basic software for Managing Information System obtained
2002	Started 6 branches in Pune, 2 in Mumbai
2003	Started Health Insurance for members in Pune and set up a Health Mutual Fund *
2005	Started Family Life Insurance and set a Family Security Fund for members in Pune
2006	Total of 8 branches in Pune, 7 in Mumbai
2007	Made Insurance (life, health) compulsory with loans and vice-versa
2008	Started Insurance services in Mumbai
2009	Dismembered from LIC, started own Life Insurance and a Life Mutual fund *
2014	Total of 10 branches in Pune, 10 in Mumbai
2016	Started own micro-pension scheme - Adharpurna

* This pool of money collected from members is not invested in money market instruments.

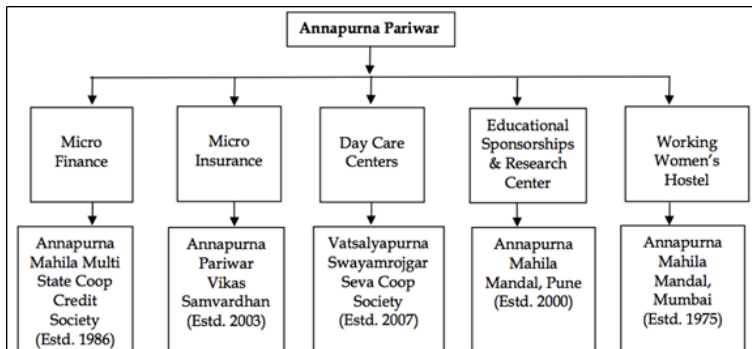
Annapurna Pariwar is now a group of five organizations (figure 1.7.b) working in slums spread across Pune and Mumbai for the upliftment of the slum dwellers. It's main objective is to empower the poor especially poor and destitute women by providing a comprehensive solution to their poverty in terms of finance, health and education. The five organisations and their basic objectives along with current schemes are detailed below –

1. Annapurna Mahila Cooperative Credit Society (A multi-state co-op credit society)
 - a. Micro credit for individuals – loans from Rs.10,000 up to 1,00,000 is given.
 - b. Micro credit for Small and Medium Enterprises (SME) – loans upto Rs.150,000 is given for entrepreneurs who wish to expand their business.
 - c. Micro savings (including fixed and recurring deposits) – borrowers are encouraged to save 10 percent of each loan amount upfront as well as along with the repayment of each instalment. Annapurna pays them interest on such savings. Also, Annapurna pays attractive rates of 10 percent, 11 percent and 12 percent for 1, 2 and 3 year deposits, which is much higher than any bank.
 - d. All borrowers must compulsorily be insured under all the three insurance schemes.
2. Annapurna Pariwar Vikas Samvardhan (A section 25 company)
 - a. Health Microinsurance – This is compulsory and is exclusively for all loan borrowers or members of the Cooperative Credit society. Membership of their immediate family members is also encouraged but is voluntary. For a contribution of Rs. 120 per person per year, members can get financial help up to Rs.15,000 per person per year for hospitalization plus health advice, health check-up, referral service to health care providers and also concessions in costs of diagnosis, treatments and medicines.
 - b. Life Microinsurance – This is compulsory and is exclusively for all loan borrowers. For a contribution of Rs. 50 – 825 per loan (depending on loan size and repayment period), the nominee will receive waiver of outstanding loan and financial aid of Rs.15,000 in case of natural or accidental death. The borrower's savings is also paid to the nominee.
 - c. Family Microinsurance – Again compulsory and is exclusively for all loan borrowers. For a contribution ranging from Rs.60 to Rs.80 per head per year, the borrower can get financial help up to Rs.3,000 for death of spouse and Rs.1,500 in case of death of a family member. Also, food grains, utensils and clothes are given in case of accident or a calamity in the house/community.
 - d. Micro Pension – In July 2012, Annapurna Pariwar has also tied up with LIC of India for offering Pension services to their member through the NPS-Lite Swavalamban Scheme of the Government of India regulated by Pension Fund Regulatory

and Development Authority (PFRDA). This is voluntary and exclusively for loan borrowers. In 2016, they switched to their own pension scheme called Adharpurna.

3. Vatsalyapurna Self-Employment Service Cooperative Society, Pune
 - a. Day Care centre program – A day care centre or children playschool operated by Annapurna is situated near most slums to take care of small children when their parents are at work. Children are also taught basic activities.
4. Annapurna Mahila Mandal, Pune (A Public Charitable Trust and society)
 - a. Vidyapurna project – Educational sponsorship program for the children of single mothers. This is mostly run from donations.
 - b. Dada Purao Research and Training Institute – This takes up research projects and publishes books related to microfinance and poverty alleviation. It also imparts training to bank officers in the fields of microfinance and microinsurance.
5. Annapurna Mahila Mandal, Mumbai (A Public Charitable Trust and Society)
 - a. Working women’s hostel – a low cost hostel for single working women
 - b. Guest hostel – a low cost accommodation for male students

Figure 4.2: Non governmental sister organisations under Annapurna Pariwar



2. Annapurna Pariwar Vikas Samvardhan

Annapurna Pariwar’s Community Health Insurance Program – Annapurna Pariwar Vikas Samvardhan (APVS) started in 2003 with the actuarial guidance of Mr. François-Xavier HAY from MACIF, France and Inter Aide, a French NGO. It also received technical support including underwriting of claims from Uplift (a non-profit company formed by 8 NGOs including

APVS). Presently, it is being run independently and has its own software support. Further details of APVS health insurance scheme are presented in the following table.

Table 4.3: Features of APVS health insurance scheme

Client eligibility	<ul style="list-style-type: none"> • There are no criteria for selection (or exclusion) of potential members • The client who takes a loan (compulsory) from AMCCS • Spouse and children of the client are encouraged to join • Dependent parents and relatives of the member and spouse can be covered • Must not default on the loan; no restrictions on age of insured persons 	
Premium Contribution	Number of people	<ul style="list-style-type: none"> • 1 and 2 >Rs. 150 / person / per year • 3 and above >Rs. 120 / person / per year
	Destination	<ul style="list-style-type: none"> • Paid to the fund of the branch • Each branch has a separate fund
	Duration	<ul style="list-style-type: none"> • For the duration of the loan AND • A period of 12 months
Renewal	Loan duration < 12 months	<ul style="list-style-type: none"> • Even if loan is repaid, policyholders can still get coverage for the duration of 12 months
	Loan duration > 12 months	<ul style="list-style-type: none"> • At the end of every 12 months until the loan is repaid, the policy is automatically renewed for the next 12 months or for the remaining months (if < 12) • The corresponding amount (depending on the number of months left) is directly taken from the savings account. • A new Health card (Nidhi card) is given to the member
Services offered besides claims	<ul style="list-style-type: none"> • Health care support through a free 24X7 helpline that is trained to provide guidance on the next steps to follow • Free health check up at Annapurna premises (non emergency) • Referrals to specialist OPD for concessional rates • Information on facilities at Public or networked Private hospital • Health card ensures proper treatment at concessional prices • Laboratory investigations at concessional rates • Medicine at concessional rates • Regular client education on precautionary measures 	
	<ul style="list-style-type: none"> • Treatment expenses will be reimbursed subject to the following cut-offs – <ul style="list-style-type: none"> - Rs. 2,500: for One day discharge - Rs. 5,000: for General ailments with no / minor surgeries - Rs. 7,500: for Complex ailments requiring surgeries - Rs. 10,000: for Very major ailments - Rs. 15,000: for Most serious ailments • Further cut-offs are imposed depending on hospitals visited – <ul style="list-style-type: none"> - Public network hospital: 100% - Network private hospital: 70% - Emergency in out of network hospital: lesser of Rs.15,000 or 70% - Non emergency in out of network hospital: no refund • Pre-existing illnesses are covered only from the 3rd renewal. • There is a complete list of covered diseases under a Policy document • Elected Community Representatives can add / modify diseases and their coverage rules to this document 3 • Elected Community Representatives also pass / reject the claims raised in a meeting diligently held every month. The group debates the reimbursement amount case by case and have the power to waive the above restrictions if the case so demands 	

Annapurna's health insurance plan's success stems from their dedicated medical doctors, who run client awareness programs at Annapurna's branch offices, perform free health check-ups, and are available 24X7 on the phone. They also help sign Memorandums of Understanding (MOUs) with good private hospitals that form a network of health care providers and medical practitioners. This helps members to visit these hospitals and clinics at the time of need without having fears of being turned away or exploitatively charged. The same activity is performed for diagnostic centres, pathology laboratories and chemist shops for giving low cost services to Annapurna's members. Annapurna's success also owes to its unique claim settlement process where elected community representatives, who are highly aware of their neighbour's illnesses and treatments availed, meet every month along with the doctor to debate the reimbursement amount for every claim case. If a claim is rejected, it is also the responsibility of a representative to explain to her neighbour why it was rejected. This process removes the information gaps making the organisation better aware of the health of all members and also speeds up the settlement process.

3. APVS in comparison to other organisations

As per the International Labour Organisation's study (ILO 2009), though there is much heterogeneity, Annapurna's community health insurance scheme somewhat resembles the others on their target population, premium amounts and coverage. However there are notable differences in Annapurna's products – it covers many more expenses including diagnosis and medicines, has strong linkages with its other financial services i.e. credit, savings and other insurance, and has been operational for a considerably longer period of time without external assistance.

EXAMINING ANNAPURNA PARIWAR'S HEALTH INSURANCE PROGRAM

1. Introduction to the study

In earlier chapter, it was presented how Annapurna Pariwar was selected as an exceptional case of community based health insurance initiatives. Though different community initiatives can be considered unique on their own depending on context characteristics and program attributes, there are some similarities. All organisations have a target population across which the risk to be insured must be randomly occurring. Any person, who faces a loss, makes a claim to the organisation to make good the loss. The organisation, based on their insurance contract, then compensates for the loss fully or partially. These broad similarities arise because the fundamental principles of insurance remain the same. Therefore health insurance programs too are somewhat similar across organisations.

Measuring and keeping track of the progress is important for maintaining the health of the program. It is all the more important for micro insurance, because with a small target population to be insured, there is lesser margin for error. Without continued financial help in the form of donor or government subsidies, all programs whether for-profit or non-profit, are subject to the same market forces as mainstream businesses, and therefore need to be managed professionally. Hence, all micro insurance programs must aim to become sustainable within a few years of its operations. Such a feat cannot be accomplished without truthful measures of performance recorded over a period of time.

The main emphasis of the chapter is to review the performance of a community based health insurance program from the point of view of the consumer of the product or service, i.e. the community member. Seeing performance from this point of view is useful for all types of insurance providers since, finally, efficient execution comes down to providing the best goods and services in an economical manner to the client. Therefore, any review is incomplete without making any comparisons to appropriate benchmarks. However, microinsurance being relatively new, there are no benchmarks of performance available for any of the indicators presented here or otherwise. Making appropriate benchmarks has also proven to be

difficult as the size of the microinsurance sector is still quite small and has not yet become an industry like commercial insurance. Further, the performance of microinsurance is much too dependent on several factors including the product, operational setup, target population, geographic location, risk distribution, major occupation among clients, age of the program, number of partners involved, and available public infrastructure.

Without any benchmarks, there can be two types of comparisons possible – one across organisations and other across the time period of a single organisation. While both are relevant, the first one is more difficult to achieve without any adjusting mechanism to tackle the variations in programs due to the aforementioned factors. Therefore the only meaningful exercise that can be performed is the second one. In its own environment, an organisation’s past achievements can serve as benchmarks for its present and future.

2. Examining the health insurance program of Annapurna

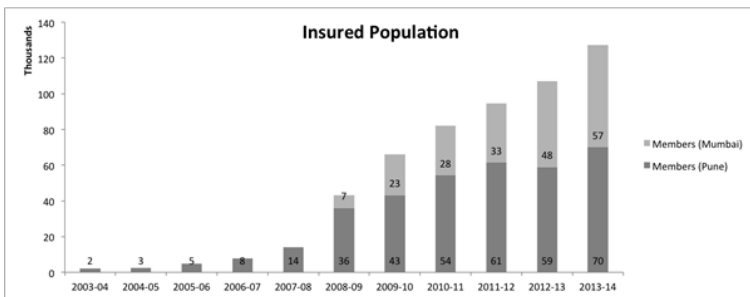
In the following sub-sections, the performance of Annapurna Pariwar Vikas Samvardhan (APVS) has been graphically analysed. APVS is a non-profit company registered under Section 25 of the Indian Companies Act 1956. It has been in operation since the year 2003 and is completely owned and run by members themselves. The company is in the business of providing credit-linked health and life insurance for the borrower and her family members. APVS is a subsidiary to its mother organisation – Annapurna Pariwar, which offer other financial products. It must be noted here that though all five organisations under Annapurna Pariwar have independent Boards and separate books of accounts, there is a lot of complementarity across them. Hence, an insurance product can ride on the popularity of its previously successful products. Along its journey, APVS has also made some big changes such as making the insurance product compulsory for loan takers, diversifying its base to some slums in Mumbai and also increasing both the premiums and the list of covered diseases.

3. Annual growth trends

This section provides an overall understanding of how a community based organisation can grow over time. Most charts in this section are sourced from the audited annual reports of Annapurna Pariwar Vikas Samvardhan (APVS) for the years 2003-2004 till 2013-2014 and the rest were obtained from their databases.

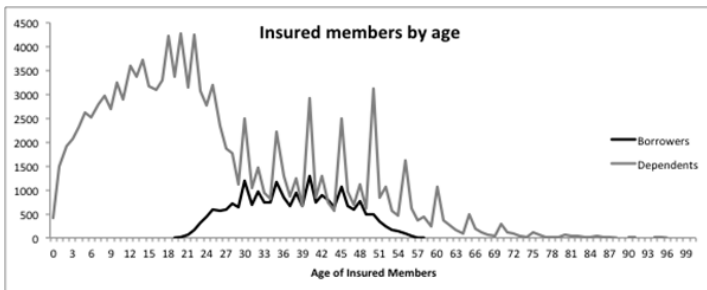
Foremost, the figure 5.1 shows the trend in number of people insured by APVS over the years. The chart shows an exponential growth curve with a sharp rise in membership from the year 2008-09. The reason for this being health insurance participation was transformed from being voluntary to compulsory for all borrowers to avoid self-selection problems in the year 2007. This decision was a difficult one to make, as many households did not want to give away a part of their savings towards insurance premiums. It was a tough task for the organisation to convince their members that since they are not tied up with any commercial insurer, the premiums are not going to get wiped out once the term gets over. It would be preserved in a fund for future needs. Operations in Mumbai had also started in the year 2007-2008 and from the onset health insurance was marked compulsory with loans.

Figure 5.1: Growth of insured members till year 2014



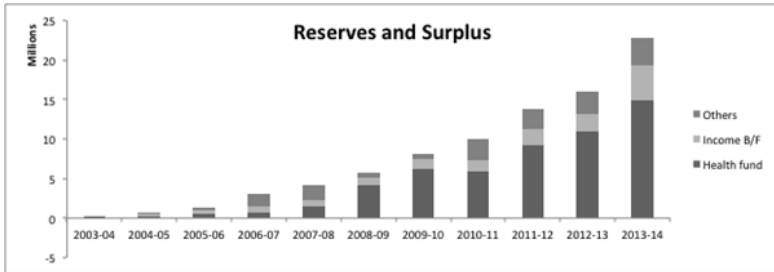
The current program features (outlined in table 4.3) show that participation for the immediate family members are still kept voluntary and therefore may raise a concern that the organisation might continue to face adverse selection issues. However, if the insured population of year 2014 is split between borrowers and their dependents (figure 5.2), then a healthy participation from dependents is observed, putting doubts to rests.

Figure 5.2: Number of insured members age-wise in year 2014



The reserves and surplus of APVS (figure 5.3) has grown several times to be in excess of 20 million rupees. Within it, the health fund has increased significantly from 0.1 million to 14 million rupees. If we divide the health fund amount by the member base, we see that the available fund per member has increased from 49.96 to 97.48 rupees. This seems to be a significant improvement. There is also no sign of catastrophic loss to the health fund.

Figure 5.3: Reserves and Surplus till year 2014

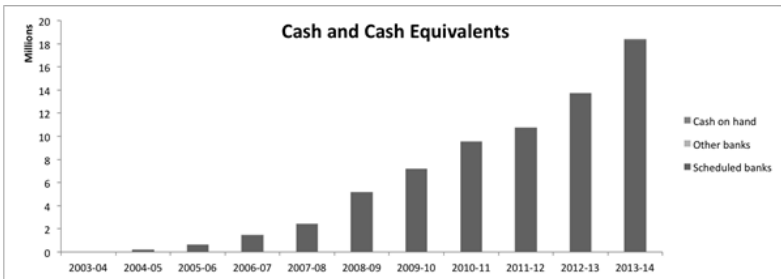


Fund management is an important aspect for any insurance operations. While in case of conventional insurance, the fund after paying claims adds to the profit of the company, in case of a mutual insurer, any additional money available after paying all claims goes towards a Reserve Fund, labelled here as the “Health Fund”. This acts as a fall-back option whenever the current earned premiums becomes insufficient for meeting claims for the month. In APVS, the process of claim settlement is as follows. First, the earned premium is maintained as a liquid account at each branch level and the health fund is accumulated as a fixed account at the organisation level. This task is made easy through a software system that maintains the earned premium for each branch. For a month, any positive income after paying all claims is transferred to the Health Fund. If in any month the earned premium amount falls short of claims to disburse, then the branch-level claim disbursement committee follows these steps in a sequential manner – (a) reduce all claim reimbursement to a maximum of 60 percent, (b) check with the organisation if other branches have positive income that can cross-subsidise their claims, and finally, (c) make use of Health Fund deposit to meet the pending claims.

Now, after liabilities, assets come under consideration. Two major assets that affect the daily operations of any entity are cash equivalents and fixed assets. Figure 5.4 shows the growth in cash equivalents that include – short-term deposits, current account balances and cash in hand. The organisation

can also deploy its funds across many banks depending on returns and convenience for obtaining loans against deposits. It is clearly evident that the major strength has been partnering with scheduled banks among which Cosmos Cooperative Bank enjoys the major share. Cash on hand is kept to a minimum, which reflects on the well-designed processes to handle claims and other expenditures. The cash with scheduled banks is so large that the other two components – cash on hand and cash with other banks, appear concealed in the following figure.

Figure 5.4: Cash and Cash Equivalents till year 2014



Figures 5.5 and 5.6 show the value of fixed assets minus depreciation. As we see, there was a sharp decline in assets in the FY 2009-2010, which was due to the shifting of office premises that was accompanied by a major sale of assets – furniture, computers, office equipment and others. The existing software was also written-off. Subsequently higher investments were made to improve the Management Information Systems (MIS). This is shown through figure 5.6 below. This addition of software, computers and peripherals (including normal depreciation) was made to improve managerial decision-making.

Figure 5.5: Fixed Assets till year 2014

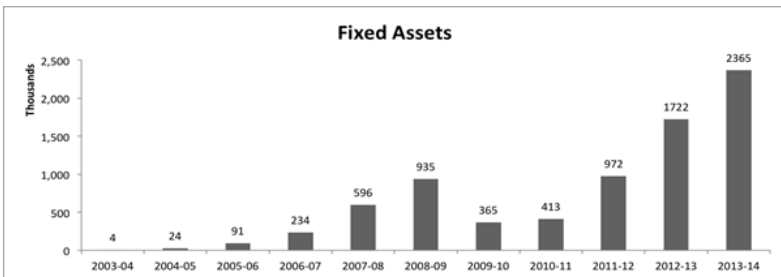
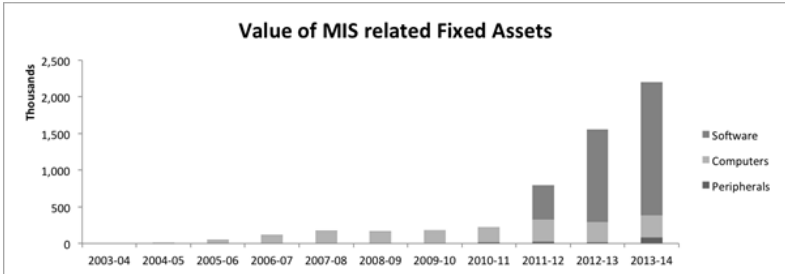


Figure 5.6: Value of Assets for Managing Information Systems (MIS) till year 2014



Apart from storing the premiums collected and outlay on claims, Annapurna Pariwar Vikas Samvardhan (APVS) utilises their MIS system to preserve information on their members’ family details – (a) current age of each member, (b) stated or detected pre-existing illnesses, and (c) current education and income information. The system also stores the details of every claim settled including the illness faced, hospital visited, treatment given, date of hospital admission and discharge (if hospitalised). In addition, the in-house doctor also writes a short history of the ailment along with technical details. This storehouse of information is easily retrievable by APVS’ managers and doctors in the form of reports and spreadsheets. This helps them to constantly monitor the program and propose changes if necessary.

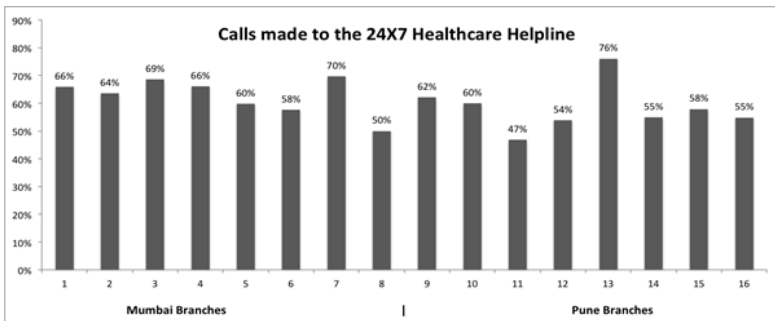
4. Risk handling measures employed

The organisation, being community driven, is more informed about the health of members and their economic conditions. This information comes from two sources – first, the elected community representatives who keep a check on any moral and morale hazard from the households. The second are the trained representatives who can be contacted through a 24X7 free helpline number and their in-house doctors who check every medical detail of each claim. These insights are used judiciously during settlement of claims.

The 24X7 free healthcare helpline and free health check-up at Annapurna premises are very important initiatives by the organisation. The quicker the ailing member can be provided with medical counsel, the treatment process becomes better and easier for the family. Here, the organisation not only

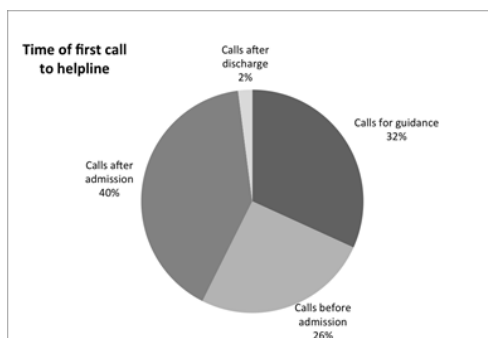
guides the family on the correct diagnosis and treatment, but also on which nearby hospital or clinic to visit where the treatment facility is present and can be availed at a reasonable cost. The helpline service, however, is yet to be fully utilised by the community. Even among members who raised claims in the year 2013, as shown in the branch-wise break-up in figure 5.7, the average usage of the helpline at different stages of their treatment has been 61 percent. APVS branches in the city of Mumbai have better average utilisation of the service at 65 percent than in the city of Pune having an average utilisation of 58 percent.

Figure 5.7: Proportion of claimants who used helpline in year 2013



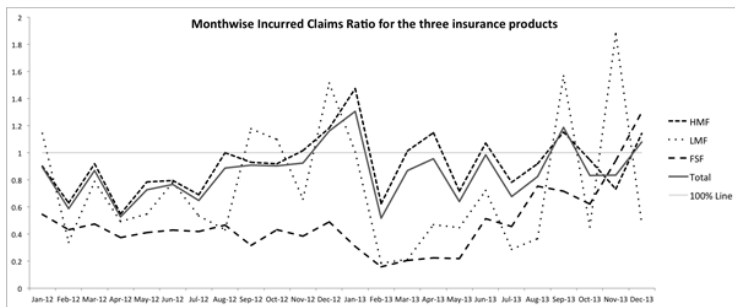
Notably, out of all members using the helpline, only 58 percent make the first call before getting admitted (figure 5.8). The organisation’s target must be to get more members to make the first call before getting admitted so that they can be appropriately guided to the nearest clinics and hospitals that can offer the same facilities at lower costs. Often this discount is bargained for by APVS for its members, which they are mostly unaware of.

Figure 5.8: Breakup of first calls made to the helpline in year 2013



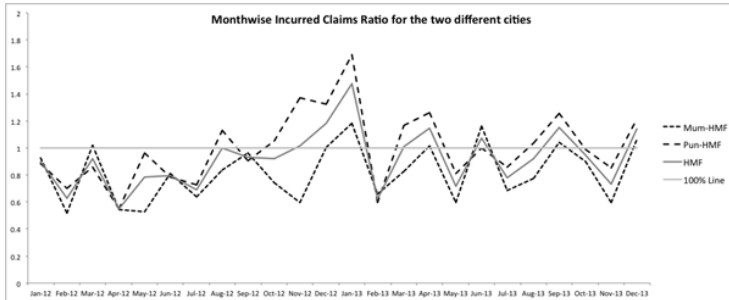
Finally, one of the primary aims of any insurance company is to diversify its risk portfolio. Since APVS too offers three insurance products – health insurance (called Health Mutual Fund), life insurance (called Life Mutual Fund) and life insurance for family members of borrowers (called Family Security Fund), it too achieves some benefits of diversifying. In figure 5.9 below, we look at the monthly Incurred Claims Ratio (ratio of incurred claim expenses to premium earnings) for the three insurance products – HMF, LMF and FSF – in the years 2012-13. Since the frequency of claim settlements is monthly, a monthly comparison was deemed appropriate to show the variation in risks. It can be noticed that HMF has the highest Incurred Claims Ratio and FSF has a considerably low Claims Ratio.

Figure 5.9: Incurred Claims Ratio for different insurance products for years 2012-13



The benefit of diversification can be observed from the Total Incurred Claims Ratio (ratio of total claim expenses to total premium earnings) that remains more stable across months and also remains below the 100 percent line even though the individual ratios go above it. This diversification benefit is also observed when the Incurred Claims Ratios for HMF are separated for the cities of Pune and Mumbai as shown in figure 5.10 below.

Figure 5.10: Incurred Claims Ratio of HMF for Pune and Mumbai for years 2012-13



It can also be seen from figure 5.10 that the Total Incurred Claims Ratio closely follows the HMF ratio as HMF operates at a higher level with higher premiums and claim settlements. This also highlights the relative importance of health insurance (HMF) over other products.

5. Claims from clients who opt out of the program

Clients of APVS can easily discontinue their memberships with Annapurna Pariwar after completion of loan repayment. A discontinuation result in the entire family being removed from health and life insurance coverage and therefore it is not always in their best interests. However an attrition rate of more than 30 percent is a standard observation by the organisation. This leads to a general question that if the dropout rate is as high as 30 percent, is it because there are households who are self-selecting themselves into the program just to get the benefit of insurance services? Though the program specifically excludes pre-existing illness for new members, if this is found true, then this behaviour of clients may affect the sustainability of health insurance program.

Since for the health insurance program, every policy is for a 12-month term, to test our assumption, we identify all members who had taken a policy in 2011 (new and renewal) and later continued in 2012 or dropped out. Then for each group of continuing and dropped out members, we find the number of claims made and finally accepted. To have a confirmatory test, we also follow the same process for members joining (or continuing) in 2012 and later continuing in 2013 or dropping out. These figures are given in table 5.11 below.

Table 5.11: Number of members that continued or dropped out in Health Insurance

	From 2011 to 2012		From 2012 to 2013	
	Continued	Dropped	Continued	Dropped
Total policyholders	10289	8389	11564	5866
Total claims raised	259	102	302	67
Total claims accepted	202	68	264	52

The proportions of claims raised and accepted to total policyholder count are shown through the figures 5.12 and 5.13 below.

Figure 5.12: Proportion of claims raised and accepted from members joining in 2011

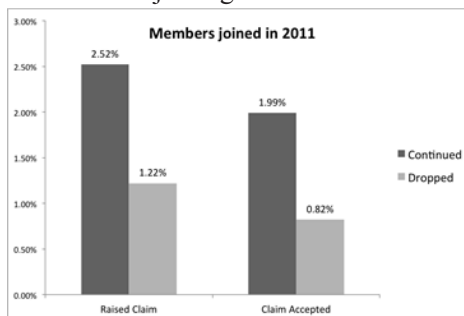
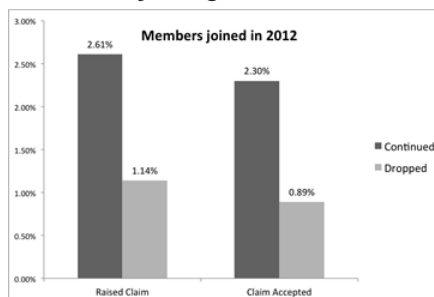


Figure 5.13: Proportion of claims raised and accepted from members joining in 2012



It is evident from the above figures that the proportion of health insurance claims among dropout members is less than the continuing members for both the periods. Since the sample size of claims is small, we use the Fisher's Exact Test to check the validity of our null hypothesis concerning the two sets of proportions. Based on one-tailed test, we reject the null hypothesis at a significance level of more than 99.99 percent for both. Even the test of equality of both samples is rejected at a very high significance level. This result indicates that our initial assumption of members leaving the program after taking undue benefits (also termed as adverse selection) is false. The cause behind the dropping out of members may be varied and will need further study to ascertain whether attrition levels can be reduced.

On the whole APVS seems consistent in improving its balance sheet over the years. While this is a healthy sign from the point of view of the organisation, this performance may appear different from perspectives of the consumer. This is attempted next.

6. Performance Indicators

The performance indicators discussed in this section were established during two workshops on "Performance Indicators in Microinsurance" in 2006 and 2007 organised by the Microinsurance Network (Wipf and Garand 2010). These indicators (table 3.3.a) are considered to be applicable to all microinsurance providers irrespective of type of microinsurance product offered, legal structure, organisational setup and environment. It must be noted that they are just key indicators and in themselves do not tell the whole story. They can provide a quick sense of execution but not a proper review of performance because of many other factors at play. For example, claim rejection ratio tells us the share of rejected claims to total claims. While this is a useful measure of social performance, a high claim rejection ratio may not be a bad sign because claims can be rejected for many valid reasons (such as pre-existing illness or cosmetic surgery). Since, valid rejections are indistinguishable from invalid rejections in a majority of instances, this performance measure is skipped.

Another way of gauging performance can be through measures of efficiency. The conventional way of doing so is to look at the ratio of total outputs to total inputs (called technical efficiency) or at the ratio of total outputs to total costs (called cost efficiency). In case of non-profit organisations where the inputs and outputs are not easily parameterised, non-parametric approaches such as the Data Envelopment Analysis¹

(DEA) or the Stochastic Frontier Analysis² (SFA) are employed. In both of these approaches, performance is measured relative to the most efficient organisation or the efficient frontier. In case of microinsurance institutions, the lack of available market data has hindered such analysis. The only published DEA analysis of microinsurance is by Biener and Eling (2011). However they also appear unsure whether their sample of 20 organisations is completely free from selection and survivorship biases (Biener and Eling 2011 94). Therefore this study is constrained from performing a meaningful DEA or SFA analysis of the current organisation because of two major reasons – the lack of market data and the choice of a unique organisation to disprove a non-exceptionable assertion – ‘there is no demand for health microinsurance’.

Therefore, one can finally argue that growth in member base is the only thing that counts. Since there is no optimal way of measuring performance, some of these indicators were modified depending on the availability of data and for better interpretation.

Table 5.14: List of key performance indicators

Indicator	Definition	Modified Definition
Incurring expense ratio	= Incurred expenses / Earned premium	= Incurred expenses / Earned income
Net income ratio	= Net income / Earned premium	= Net income / Earned income
Incurring claims ratio	= Incurred claims / Earned premium	Unmodified
Renewal ratio	= Number of renewals / Number of potential renewals	= Number of renewals / Total number of policies started
Coverage ratio	= Number of active insured / Target population	Unmodified
Growth ratio	= (Number of insured t – Number of insured t-1) / Number of insured t-1	Unmodified
Solvency ratio	= Admitted assets / Admitted liabilities	Unmodified

Source: Wipf and Garand (2010), modified by author.

These indicators are discussed in detail in the following sections along with the figures for the APVS community health insurance scheme along with detailed discussions.

6.1. Incurred Expense Ratio

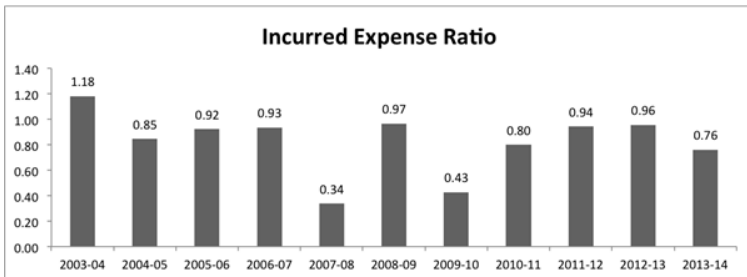
The incurred expense ratio indicator is the share of incurred expenses to the earned premium within the same accounting period. It had to be

modified slightly in this context as APVS has income from sources other than premiums. It is as shown below –

$$\text{Incurred Expense Ratio} = \text{Incurred expenses} / \text{Earned income}$$

The Incurred Expense Ratio is an indicator of efficiency. It explains the portion of income required for covering all marketing, sales, administration, claims settlement, and distribution costs of the microinsurance programme.

Figure 5.15: Incurred Expense Ratio till year 2014



While a low incurred expense ratio reduces the cost burden to the insured, it may also lead to low client outreach. On the other hand, higher expenses can result in increased premiums causing client dissatisfaction. In case of APVS as shown in figure 5.15, the ratio is high for all years except two years. Since premiums have not increased year-on-year, the high ratio may reflect their investments into the community in the form of claim settlements, hospital tie-ups, medical guidance call-centre, etc. Since the ratio has never crossed unity, except at the start, the program seems to be under good managerial control. APVS also spends considerably on staff salary and welfare.

6.2. Net Income Ratio

The Net Income Ratio indicator is the share of net income to the earned premium within the same accounting period. Again, this had to be modified slightly in this context as APVS has income from sources other than premiums. It is as shown below –

$$\text{Net Income Ratio} = \text{Net income} / \text{Earned Income}$$

This indicator shows how profitable the programme is. Ideally the net

income should be positive. Consistent negative values may suggest that the necessity to make changes to the program to achieve viability. Many microinsurance programs experience losses in their initial years until they reach a critical mass of insured and a level of efficiency. On the other hand, persistent highly positive values may indicate unwarranted high premiums and thus poor value to clients. Though a member-owned program may deliberately keep a high ratio for building surplus, consumers may start feeling disillusioned with the program and may either leave or switch over to a competitor with lower premiums. Either way, the ratio is an important decision making tool for the micro-insurer.

Figure 5.16: Net Income Ratio till year 2014

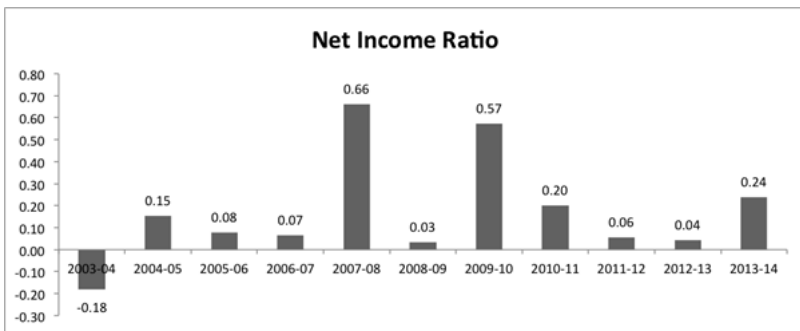


Figure 5.16 shows the Net Income Ratios for APVS for 11 years of its operations. The initial negative value is well expected. Further, apart from the two spikes in 2007-08 and 2009-10, it had modest net income ratios. The spikes can be attributed to a change in insurance product from being voluntary to compulsory in 2007 and an increase of premium amount from Rupees 60 to 100 in 2009 respectively.

6.3. Incurred Claims Ratio

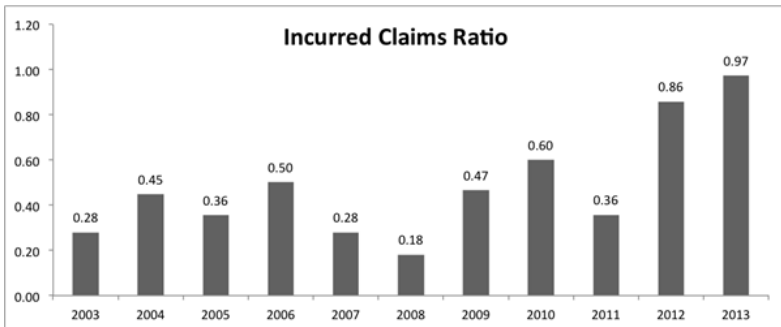
The incurred claims ratio indicator is the share of claims incurred to the earned premium for the same period. This data is collected from the organisation’s records, since it is often customary for an organisation to report aggregated income and expense figures in their annual reports. The indicator is as shown below –

$$\text{Incurred Claims Ratio} = \text{Incurred claims} / \text{Earned premium}$$

The Incurred Claims Ratio is a rough measure of the amount of benefits

given back to the community in the form of indemnity. This is further important for the micro-insurer as this also captures the incidence of the insured risk within the community. Since risks are randomly occurring across time and space, the ratio will also have to fluctuate between high and low values. However a consistent trend of high or low values is a cause of concern. If high values persist, then the organization may have wrongly underestimated the risk premium or may be the victim of adverse selection and moral hazards. In several other cases of microinsurance, the claims have often exceeded the premiums leading to losses for the insurer. If low values persist, then there can be several other reasons. The product may be irrelevant, there could be low awareness, or the clients may face difficulties in claiming. The ratio for APVS is presented in figure 5.17. There are two things to note here. Firstly, the ratio has stayed remarkably low for many years, which can be attributed mainly to low awareness and then to preventive care exercised by their in-house doctors. Secondly, the ratio displays a growth trend over the later years, which may signify the increasing awareness of the program and also reflect the broader coverage of diseases under insurance with the passage of time. The last claim ratio being almost equal to 1 can be a cause of concern, but it is low compared to its peers having an average ratio near 200% (Yao 2012, p. 28). If this trend persists, then the pricing of the insurance product needs to be revised.

Figure 5.17: Incurred Claims Ratio till year 2014



6.4. Renewal Ratio

The Renewal Ratio indicator is the share of actual renewals to potential renewals for the insurance program. This ratio measures the proportion of insured that choose to stay enrolled in the programme after their coverage term expires. There are several challenges in trying to measure this ratio for the entire insured population. Firstly, there could be a waiting time between

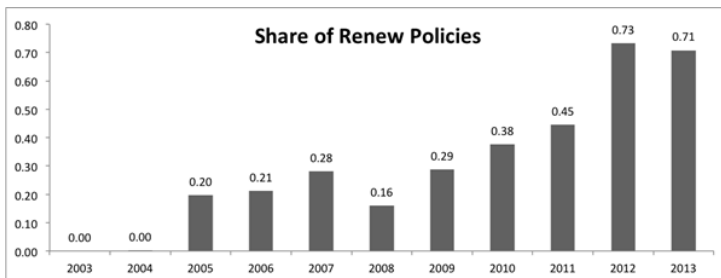
expiry and renewal because of forgetfulness, search for other options or seasonal migration. Therefore an immediate calculation of renewals may yield low numbers. Secondly, some organisations have tied insurance to loans or have implemented auto-renewals. Hence consumer sentiment on insurance benefits is inaccurately represented in such renewals. Finally, there would always be in and out-migration of people into the target population and therefore keeping track of the potential renewal members for year-on-year is a tedious job.

Therefore, often the correct approach is to track a randomized sample selected from the insured population at the beginning of the coverage period for a pre-identified time frame. Since this is was not available, the second best option was to find the share of policy renewals to total policies starting in the year. The indicator is as shown below –

$$\text{Share of Renewals} = \text{Renew Policies} / \text{Total Policies}$$

The modified indicator is not that different. Instead of telling us how many people chose to stay enrolled in the program through renewals, it says how dependent is the organisation on renewals. This has to be viewed in conjunction with the number of insured. Since the insured population base remains steady or increasing, it allows me to make use of the Share of Renewals instead of the actual Renewal Ratio. Further, this estimate will also be a conservative figure because in the denominator, the total policies starting will be higher than the number of potential renewals (table 5.14). The Share of Renewals for APVS was obtained and is presented in figure 5.18. Since APVS memberships have continually increased, it can be safely concluded from the below figure that the actual Renewal Ratios would also have an increasing trend.

Figure 5.18: Share of renew policies till year 2014



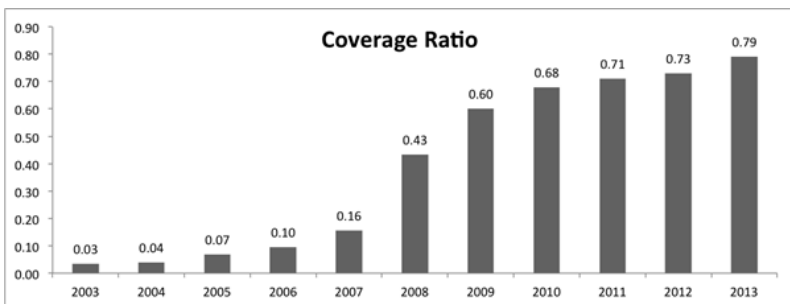
6.5. Coverage Ratio

The Coverage Ratio indicator is the share of the number of people actively insured to the target population. Naturally the target population cannot be defined in an easy manner and is based on estimates of the organisation. The indicator is as shown below –

$$\text{Coverage Ratio} = \text{Number of active insured} / \text{Target population}$$

The Coverage Ratio can be also considered equivalent to Participation Ratio or Penetration Ratio. In a community based health insurance program, potentially all members should be eligible for coverage. There could also be a defined target segment of the population such as old aged people, etc. This ratio is an important indicator of marketing and distribution effectiveness subject to the product being actuarially fair. It also shows the acceptance of the product among the community members. The calculated Coverage Ratio based on estimates of the target population of APVS shows an increasing trend. The trend is displayed in figure 3.3.5.a below. The coverage shows a steep jump in 2008 because of the insurance product becoming compulsory with loans.

Figure 5.19: Coverage Ratio till year 2014



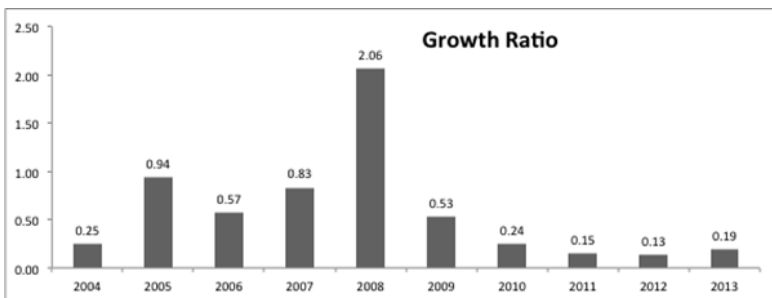
6.6. Growth Ratio

The Growth Ratio indicator is defined as the ratio of the net addition of insured population between time t and t-1 over the total insured population in time t-1. The ratio is as shown –

$$\text{Growth Ratio} = (\text{Number of insured } t - \text{Number of insured } t-1) / \text{Total insured } t-1$$

The Growth Ratio is an indicator of the program’s success in achieving a critical mass of insured. Its importance is further emphasized for voluntary programs, in which case a positive trend of growth ratio often signifies marketing success, product value, and appeal. However, there are few things to be noted here. First, growth will usually be higher in the initial periods for the same net additions of insured because of the lower base. Second, the growth ratio may slowly stagnate over time as the entire target population gets covered. Then either the product must be innovated or newer markets need to be explored. The Growth Ratio for 10 years of APVS is presented in figure 3.3.6.a. Again, this has to be looked at together with the Coverage Ratio (figure 3.3.5.a) and the number of insured (figure 3.2.a). Although the growth in the initial years appears to be large, with the highest growth (almost double) being registered in the year 2008, APVS is still growing at a healthy rate of around 15 per cent (last three year average).

Figure 5.20: Growth Ratio till year 2014



6.7. Solvency Ratio

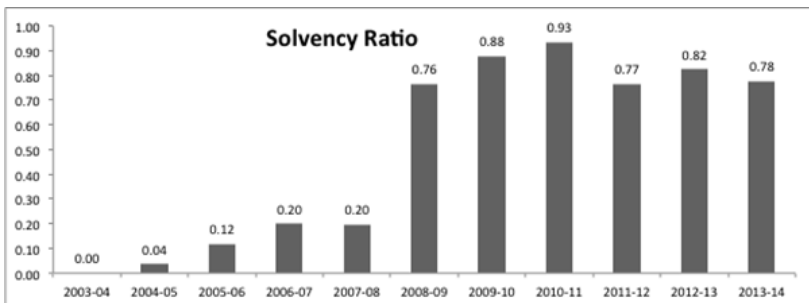
Fiscal prudence of an organisation can be measured through the Solvency Ratio. This is defined as the ratio of Admitted Assets of the organisation to the Admitted Liabilities within the same accounting period. The indicator is as shown below –

$$\text{Solvency Ratio} = \text{Admitted assets} / \text{Admitted liabilities}$$

The overall Solvency Ratio portrays the financial strength of the microinsurance program and its ability to meet its obligations now and in

the future. In the commercial market, regulators address solvency issues in various ways including prescription of minimum capital and surplus requirements, investment limitations, capital adequacy tests, accounting standards, risk-based capital methods, and disclosure (Wipf and Garand 2010). An adequate Solvency Ratio should be in excess of 1. However having an exorbitantly high ratio in the long run is also not good as it signifies an inefficient use of capital. In any insurance programme, long-term solvency ensures protection for the clients. A failure of a microinsurance programme would have a negative impact on clients' trust and interest in insurance protection services even though they have a need for them. APVS shows a steady rise in its solvency ratios post 2007 (figure 3.3.7.a). The last five-year average of its solvency ratio is 0.84, which though may not be the ideal figure, signify adequate churning of capital at the cost of moderate safeguards against any major catastrophe.

Figure 5.21: Solvency Ratio till year 2014



7. Social performance

In this section, the social inclusion behaviour of Annapurna Pariwar Vikas Samvardhan (APVS) is reviewed. This is presented in Tables 5.22 and 5.23 below. The figures shown are from the total population that had ever taken an insurance policy from APVS. This means it includes both active and inactive insured members since the year 2006 when this software system was started. The first column represents the actual number of females that ever got insured and classify them based on their age groups. The second column looks at the share of female population for each age group out of the total population. Finally, the third column shows the share of each age group out of the total female population. Based on gender and age, the program appears inclusive.

Table 5.22: Membership figures for female population

	Female (F)	Female Population (%)	Within the female group (%)
Infant (<5)	2445	48.3	2.1
Others	108654	49.4	95.3
Old (>60)	2859	50.0	2.5
Total	113958	49.4	100.0

In Table 5.23, the insured population at the poverty line, as defined by Expert Committee led by Dr. Rangarajan (Planning Commission 2014), is reported. The monthly per capita consumption expenditure for an urban family of four at 2011-12 prices is Rs. 5628. The program appears to be fairly inclusive of poor households near the given poverty line.

Table 5.23: Membership of low-income population

	Insured Population	Share (%)
Monthly Income < 5628	49224	50.6
Total	97322	100.0

8.1. Predicting growth of insured members and funds

Using the data from the previous series used for figures 5.1 – 5.3, regression against time is performed. The number of data points being a concern, an appropriate statistical technique that fits generalised linear models by the method of least squares is chosen to fit the data. The dependent variables were log transformed to minimise large variations across years. The results of regressing the terms – year, year2, year3 and insurance being compulsory with loans (ins_comp) on four major dependent variables – membership, reserves and surplus, cash and health funds in table 5.24 show that there is

a significant improvement on them year-wise.

Table 5.24: Consolidated GLS regression results (Standard Errors in parentheses)

Log of >>	Members	Reserves	Cash	Health Fund
Root MSE	0.1139	0.1344	2.0102	0.1248
R-Square	0.9969	0.996	0.8933	0.9966
Intercept	7.034 (0.21)**	9.853 (0.248)**	-6.915 (3.713)	10.476 (0.231)**
Year	0.468 (0.159)*	2.01 (0.187)**	10.694 (2.804)**	1.224 (0.174)**
Year2	0.015 (0.034)	-0.23 (0.04)**	-1.606 (0.605)*	-0.128 (0.038)*
Year3	-0.002 (0.002)	0.01 (0.002)**	0.075 (0.034)#	0.005 (0.002)*
Ins_comp	0.783 (0.188)**	-0.088 (0.222)	0.911 (3.318)	0.91 (0.206)**

Note: ** = < 1 percent, * = < 5 percent, and # = < 10 percent significance

8.2. Fit plots for regressed variables

Figure 5.25: Predicted fit for Members

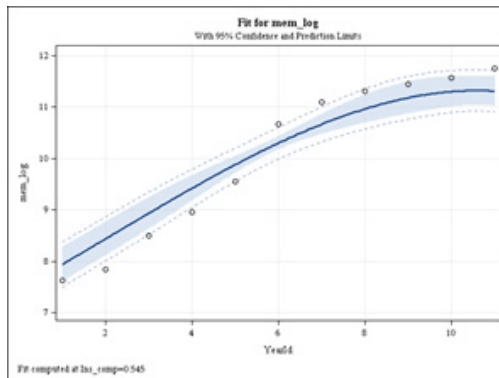
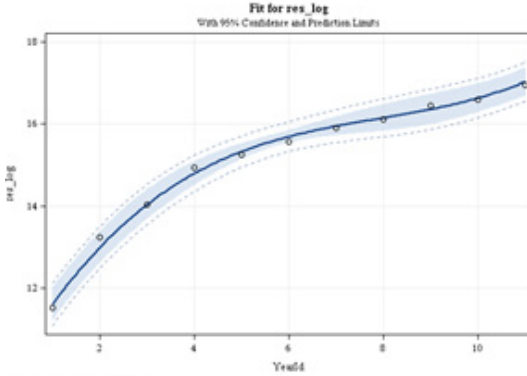
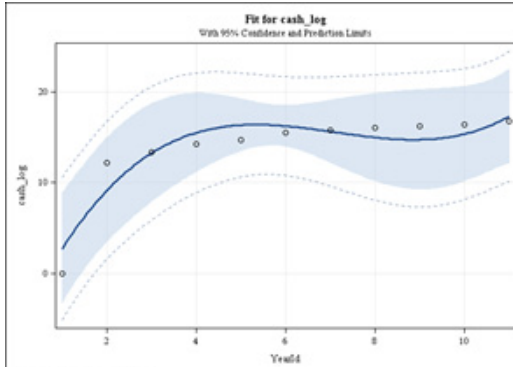


Figure 5.26: Predicted fit for Reserves



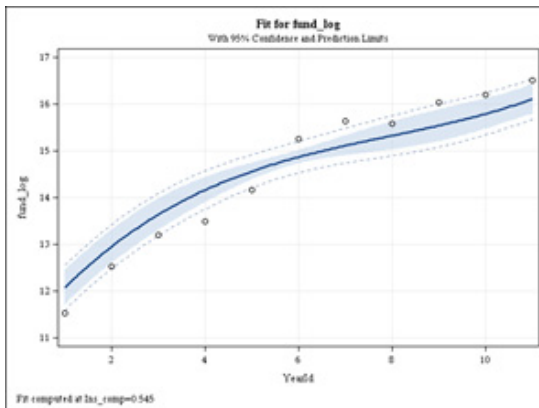
Fit computed at las_comp=0.646

Figure 5.27: Predicted fit for Cash



Fit computed at las_comp=0.545

Figure 5.28: Predicted fit for Health Fund



* The shaded regions represent the 95 percent confidence band

Here, only the significance of each predictor is important, as there cannot be any causal relationship between the dependent variables and the predictors. We can see an exponential relationship of organisational funds (Reserves, Cash and Health Fund) with time. The fit plots of these variables are presented in figures 5.25 to 5.28. Exponential growth shows that the organisation is probably in its initial phases and has been successful in building strong operations. The rapid increase of health fund is also a good sign for the sustenance of the program. Membership however increases linearly with time. The variable *Ins_comp* appears significant only for membership and health funds and with a positive sign. This shows that the decision of the organisation to package their insurance products along with loans has been well received by the community.

Finally, the fit plot of members in figure 5.25 shows signs of flattening out. This suggests that the organisation may have achieved maturity in their target markets and may need to innovate to further increase their scale. It also raises the question – whether community health insurance organisations have an optimum scale beyond which they are again unsustainable? This question can only be satisfactorily answered if even after the organisation operating normally its fund base starts declining consistently for some consecutive years.

9. Conclusion

This study started with a premise from the literature that community health insurance programs can never have a stable and predictable demand and therefore cannot self-sustain. However, positive exponential relationships of the dependent variables with time as in table 5.24 and as shown in figures 5.25 to 5.28 indicate that the chance of stability increases with time. Then, with stable demand, any good managerial practice can improve the sustainability of the organisation. Though it cannot avoid adverse selection (or free rider problem) in order to be equitable and inclusive within the community, it can react by aptly modifying the share of claim expenses reimbursed and also having doctors on their payroll to approve medical treatments and sign MOUs with hospitals and clinics for quantitative discounts. It can further rein in the risks of moral and morale hazard by having elected community representatives debate and approve claim disbursements. Though these steps may appear to add redundancy to the system, it also makes it transparent and just. Since the community organisation APVS, though initially supported by Inter Aide and MACIF, have been self-sustaining their operations for last 12 years, the null hypothesis – A community health insurance organisation can never become self-sustainable over time – can be summarily rejected.

CONCLUSIONS AND RECOMMENDATIONS FOR PRACTITIONERS

1. The bigger role for Community Based Health Insurance

The household's health problems do not occur in isolation. Not only are there several things that affect the household's utility but also the household's choices in turn are affecting them. Further, these equilibriums of demand and supply are also changing over time. Therefore, in order to ease our understanding of the problem, a snapshot of all the actors and actions are presented and explained in a sequential manner. This sequence is chosen as a logical flow of the actions that affect the household's utility and in no way must this be considered as fixed or unalterable. The points listed below match the sequence as in figure 1 provided.

1. In any geographical area or region, there could be innumerable human health conditions and actions that can trigger the risk of disease and accidents. In addition the local population of a region is constantly changing with many in and out migrations. Therefore the health risks over time and space are unknown and can at best be estimated through a survey of past human health issues.
As discussed earlier, the supply of health care has some of its own problems. These are (a) information asymmetry between the provider and clients, (b) entry barriers to the practice of medicine, and (c) lack of consumer protection against malpractices. All of these affect the quality of care provided at private and government hospitals.
2. The uncertainty of health care needs owing to unknown distribution of health risks over time and space creates allocative inefficiencies at the household, local and regional levels. The household has to optimize its utility subject to a budget constraint and also needs to apportion a part of its budget for future exigencies. If future health needs could have been accurately predicted, then the household could have enjoyed a higher utility from its budget by spending the excess savings on consumption goods or investing in higher return assets. Similarly the local government has to plan and

build infrastructure for health care of its citizens. It has to also build infrastructure for other purposes such as roads, telecom, power, water utilities, etc. It also has a budget constraint given to it by its supervisory body. Therefore most allocations are made through expertise and prior experience. Optimisation of allocations on health care is a different topic altogether.

<SPACE FOR FIGURE>

3. We now arrive at the point where we assume that an individual from our representative household has become ill. This is certainly a source of disutility for the household since illness is commonly accompanied with pain and suffering that often tend to increase with time. If the disease is communicable then there is increased risk of other household members too falling ill. Further, if the ill member is an income earner, then the time lost during sick days will also be accompanied with loss of income and even the job. The time taken for the person to become healthy again will depend on the allocations made by the households in savings and the government in health care institutions.
4. Depending on the household's savings, ability to access loans, accessibility of health care clinics and hospitals will guide the member to visit either a private or a government institution. As mentioned in point 1, the supply of such institutions is constrained.
5. There can be two types of private institutions – one that maximises private profit such as a corporate hospital and another that maximises social profit such as a cooperative hospital. We would deal with the second type much later in point 8. Here we would like to consider institutions of the first type who are profit maximisers and who often engage in first-degree price discrimination. In addition they are also rent seekers, which dictate them to operate in areas with maximum demand and are therefore situated in areas far off from those inhabited by poor households. On the other hand, government hospitals are bound to maximise welfare and hence do not have the similar problems. However, due to the lack of funds, there are a lot of technical inefficiencies caused by obsolete and defunct equipment. Lack of supervision of health care providers in such hospitals also abets opportunism such as rent seeking.
6. Thus, a case of a health care demand from a poor household can face both market failure and government failure in addressing the household's needs. These act as sources of additional disutility for the household. Therefore, due to this additional disutility, the household lose out more resources than needed in coping with the health shock.
7. Based on prior and current experiences, the household may decide to reduce the impact of health risks by purchasing an insurance

scheme. A normal market insurance scheme, even if available at an affordable price, only reduces the cost burden but fails to cover many other invisible costs that get incorporated in health care.

8. The option of forming own community risk pool or joining an existing community health insurance scheme is theoretically more lucrative. Here the household can also access the option of joining a cooperative hospital. In the case of community health insurance scheme, the burden of health risks is reduced in the following ways –
 - a. The organisation can negotiate with private clinics and hospitals to make them move from first degree to providing quantitative discounts for a large number of patients.
 - b. The organisation can firmly monitor government hospital and take up issues with the local government to improve facilities.
 - c. Since the organisation is better aware of their members' health histories, they can have a higher allocative efficiency of using the pooled funds.
 - d. Since the money belongs to all of the community members (through shares), they now have an incentive to save the money by collectively taking precautionary health measures such as improving diet and consulting doctors when needed.
 - e. The organisational members are now bound by solidarity and are more aware of their environmental conditions that can lead to illness and they try to improve them.

Improvement of body immunity, environmental conditions and allocative efficiency within the household and community organisation has the potential to alter the distribution health risks to include only unavoidable diseases and accidents. Also, help from community members increase confidence to cope with the current situation. Further, fair treatment at private and government hospitals reduces the disutility of the households.

2. Recommendations for Insurance Corporations

The success of Annapurna Pariwar is an eye opener for all insurance companies who usually look at sustainability of health microinsurance programs as a myth. Though there are several instances within India and abroad where insurance corporations do act as third-party insurers in community based health and life insurance programs (type III in figure 1.5.a), most among these programs have major principal-agent problems.

Since insurance corporations can never acquire better information of their low-income clients than the community organisation, it is therefore not easy for such companies to underwrite risks. In such a situation, it may be pragmatic on the part of insurance companies to start evaluating community organisations, find appropriate ones and invest in them for a sufficiently long period of time (>10 years). Micro insurers have a high chance of failing to meet initial demands due to lack of funds and thereby often lose a chance to build further enrolment through demonstration effect. This study shows that community organisations can get into a good position to return the loan or pay interest charges. Alternatively, they can act as reinsurers to these organisations to protect them from covariant and catastrophic risks. This can also be managed through public private and community partnerships contracts.

3. Recommendations for Policy Makers

Since health and wellbeing go hand in hand, financial inclusion too cannot be achieved without proper safeguards against health risks. Though the government has conceived elaborate plans to achieve both, these have always worked in isolation and could therefore only achieve limited success. Further, as we have seen, community organisation alone can take better care of the health of its members through an intelligent mix of ex ante preventive care and ex post curative care. Therefore a major recommendation for policy makers would be to allow community health insurance to be also a part of the national plans for universal health coverage (NHP 2015). The role of the government therefore must be to recognise and promote social entrepreneurs and enterprises that are doing well and nurture them, depending whether the latter have truly embarked on the mission of perfecting financial inclusion.

4. Recommendations for Microfinance Institutions

The success of Annapurna Pariwar's efforts must encourage non-profit and even some for-profit microfinance institutions to build strong network ties within the communities they are serving, and consequently diversify their product portfolios to include insurance of health. Though many MFIs may fear losses when their target population belong to low socio-economic backgrounds, they must understand the cumulative benefits of positive network externalities. These externalities can be generated through (a) affordability of premiums, (b) proper coverage of illnesses including outpatient services, (c) transparency of scheme features, (d) proper

guidance for suitable treatment, and (e) timely settlement of claims. At the outset, clients who are accustomed to taking loans may not understand the value of insurance since the insurer is under no burden to return the premium amount. It therefore requires greater trust building efforts to start an insurance program than a credit program.

5. Final Words

Whatever Annapurna Pariwar has achieved is both known and replicable, but the fact that their achievement is fairly uncommon is a grim reminder of the several selfish behavioural tendencies of mankind arising from information asymmetries. Even if an organisation or a program is well designed under group ownership, it ultimately faces three challenges that are closely interlinked – (a) getting community residents to join, (b) deciding on the future course of actions, and (c) distribution of profits and losses among members. While every collective action is cursed with ‘free rider’, ‘adverse selection’, ‘moral hazard’, and ‘locking-in’ problems, only a few can get rid of these curses through institutionalising clear and unambiguous rules. This is the job of a natural leader or a core group of leaders to set these principles in place.

This has been proved time and again through the efforts of late Dr. Verghese Kurien of AMUL in Gujarat, late Tatyasaheb Kore of Warana Sugar Cooperative Complex in Maharashtra, Mr. Bunker Roy of Barefoot College in Rajasthan, the core group of members of E M S Memorial Cooperative Hospital in Kerala, Dr. N S Laud of Shushrusha cooperative Hospital in Maharashtra, Ms. Ela Bhatt of Self Employed Women’s Association in Gujarat, and many other bright examples. Similarly in the case of Annapurna Pariwar, Dr. Medha Samant has been instrumental in taking strong decisions for steering her organisation out of troubled waters into an upward spiral of growth. It is due to her, APVS could offer a comprehensive insurance package (including outpatient services), move from a voluntary to compulsory health insurance scheme and also share some of the surplus generated to members as dividends.

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This booklet presents the experiences of Annapurna Pariwar's Community Based Health Insurance program. It erases the myth that insuring health of poor is a non-sustainable proposition.

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