Performance evaluation of 'Kalaignar Health Insurance Scheme - For Life Saving Treatment: A Study Among the Beneficiaries of Madurai District

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ABSTRACT

'Kalaignar Kappeetu Thittam (KKT)' or 'Kalaignar Health Insurance Scheme for Life saving Treatment' is one of the innovative health insurance schemes introduced by Tamil Nadu Government for Below Poverty Line (BPL) families. The scheme is indented to provide quality medical care by providing financial protection against high medical expenses for Below BPL. The Scheme was started in 2009 June and at present covers 1.40 corers of BPL families. The present study has been conducted among the beneficiaries of the scheme in the district of Madurai. Performance evaluation of the insurance scheme 'KKT' is the overall objective of the study. The study gives ample evidences of the success of the health scheme. Conscious efforts of the government to enhance the health status of poor have made a very good impact on improving their standard of living. Access to private healthcare service for the poor is another important benefits of the scheme.

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Background of the Study

Health Insurance provides risk coverage against any unforeseen illness of bodily injury. It provides coverage for medicine and other medical expenses. Health care systems all over the world are experiencing changes as they look for a new balance between supply and demand. In India, there is a growing demand for higher quality medical care due to poor quality of state owned hospitals, increase of life style diseases, increasing private healthcare cost, increased cost of medicines etc. This makes health insurance more attractive (Business India Inte., 2008).

Health insurance policies always needs to address various concerns properly such as benefits of families, how much people will pay, type of care results from policies (Regnier,2010). Family coverage is an important aspect of choice of type of insurance schemes (Bansk, 2008). Innovative financing schemes exploring increased cost recovery from the users of the health system are explored throughout the world (Moens,1990). Health insurance schemes of government to a large extent overcome the disparity of coverage of the population. Such schemes generally targeted at low-income population. Willingness to pay for the micro health insurance schemes by the poor people has been gradually increasing (Mark, 2007). Social movement of such schemes must ensure community participation, autonomy and accountability (Atim, 1999). Mandatory coverage of health insurance for the poor by the state has got funding problems (Lincoln, 2009). The prevalence of the consumer-driven approach to health care will drastically increase in the years ahead (Munn, 2010). The distinction between healthcare and healthcare cost is an important area of concern (Cutler, 2009). Debates on increasing the out-off pocket expenditure of health cornered on the thinking of 'sharing of risk or how risk can be spread'. A steadily increasing the health expenditure has widened the scope of emerging different health schemes to share its burden. Various strategies of having quality health care with affordable health insurance (Gengler, 2010) may be a difficult composition. There is a need for expanding and regulating health insurance sector (Harrington, 2010).

Per-capita expenditure on healthcare has been reduced drastically over a period of time. It is also visible that there is a wide income disparity in money spends for various health insurance schemes (Burtless, 2010). Health insurance schemes facilitate direct negotiations between providers over the price and quality of healthcare. Market share of health insurance has a symmetrical progression in recent years (Terhune, 2009). However these progressions are mainly to cater the needs of ‘affordable’ ones than the opposite. The public attention of many of such schemes is not very attractive as a high premium

and low coverage. According to Connelly (2010) such public insurance schemes cannot be a success without proper government interventions.

Health Insurance –Indian Scenario

Debate on health care financing is getting momentum in India. Health insurance market has been expanded in India very rapidly (Bloom,2008). Health insurance has been one of the fastest growing areas which have registered an annual growth of 35 per cent over the last decade. Despite its tremendous potential, there is only low level of health coverage among the poor (Cannon et.al, 2009; Conover, 2009). Despite many attempts prospectus of health insurance in India is not very encouraging. Available evidence shows that only about 3% to 5% of Indian is covered under different health insurance schemes. It covers only less than 10 percent of the eligible population in India. According to Comarow (2008) many foreigners often come to India receive surgical procedures to avoid high healthcare cost/health premium in their parent country. Such trend shows the potential of this sector.

First Health Insurance Act was introduced in Indian in 1912 and was modified in 1938. In 1972 the insurance industry was nationalized and brought 107 private insurance companies were brought under the umbrella of General Insurance Corporation (GIC). Insurance and Regulatory Development Act (IRDA) in 1999 enacted the provision of entering foreign companies. The structure of Indian Health Insurance scenario is rest on (1) Social Health Insurance (SHI); (2) Voluntary Private Health Insurance and (3) Community Based Health Insurance (CBHI).

Government of India has introduced Community Health Insurance (CHI) as part of its National Rural Health Mission to reduce the burden of out-of-pocket payments on households in India (Devadasan et.al, 2010). Microinsurance-low-cost health insurance based on a community, cooperative, or mutual and self-help arrangements-can provide financial protection for poor households and improve access to health care (Dror, 2009 et.al). It is also to be noted that health insurance covers only minor ailments (Agarwal, 2009). Smart-card based health insurance system introduced by India for its poorest 300 million people as part of the National Health Insurance Program. The use of smart and its tie up with insurance companies and hospitals is has been benefitted the poor a lot (Range, 2008). Health insurance for family is major concern of Indian Government (Pauly, 2008) and the amount of health insurance premiums collected has grown at an average rate of 34 percent (Bhattacharjya, 2008). A very high out-of- pocket share for health insurance in India has mooted discussion of providing various health insurance, especially among the poor. The sharing of insurance premium

by rich people may not always a permanent solution for resolving affordability problems. Government intervention in terms of community based insurance schemes needs to be popularized (Pauly, 2008).

The Yeshasvini Health Insurance Scheme (commenced on 2003) for rural farmers and peasants in Karnataka, India is considered as one of the largest health insurance scheme for the rural poor for providing health security. It is estimated that in 2004 about 2.2 million widely dispersed peasant farmers for surgical and outpatient care for a low annual premium of approximately US$ 2 (Kuruvilla,2007). Although not for profit, Yeshasvini is laying the groundwork for business to provide underwriting care for far more millions in **India** (Singh, 2007).

Arogyasri Community Health Insurance Scheme is another health insurance scheme for the poor in the State of Andhra Pradesh started in first April 2007. The scheme covers a population of 6.54 cores in the State. The scheme provides coverage for meeting expenses for hospitalization and surgical procedures for the beneficiary members up to Rs.1.50 lakh per family per year in any of the network hospitals. The scheme ensures that the beneficiaries get 100% subsidized OPD consultation, diagnostic tests and medical treatment regardless of whether they ultimately require surgery or not. 100% subsidies (http://www.starhealth.in/government-projects/72-aarogyasri). KKT also envisaged in the similar direction of Arogyasri.

Table 1 : Comparison of Kalaignar, Yeshasvini, Rajiv Aarogyasri Health Insurance Schemes based on Specific Parameters

Specific Parameters	Kalaignar Health Insurance Scheme of Tamilnadu	Yeshasvini Health Insurance Scheme of Karnataka	Rajiv Aarogyasri Health Insurance Scheme of Andhra Pradesh
Year of establishment	2009	2003	2007
Implementation agency	TN Health System Society	Government+Trust+TPA	Arogysri healthcare trust
Health Insurance Coverage	Family	Individual	Family
Coverage Amount	100,000 per family (floating over 4 years)	200,000 per person	150,000 per family peryear with additional bufferof 50,000
Subsidies	State Sponsored	State Sponsored	State Sponsored
Average Premium rate per family per year	330	150	267
Type of Healthcare			
Chronic Diseases	Yes	Yes	Yes
Maternity	No	No	No
Preventive Care	No	No	No
Out patient	No	No	No
Inpatient	Yes	Yes	Yes
Cost containment Mechanism	Pre-authorization, screening through camps, package cost, in-depth analysis of claims, discharge planning with Los	Scrutiny and second opinion are obtained before giving Preauthorization. Verification of high-end surgeries. Scrutiny by TPA as well as CA of Trust	Prior authorization, Package rates, MIS monitoring, Surveillance and medicalvigilance teams, Aarogyamithras in Hospitals
Distribution of Network Hospital	663	450	338
Scheme-wise Claims Ratio	80%	157%	89%

Source: (i) A critical Assessment of Various Health Insurance Models in India, Public health foundation of India,2011, (ii) Website of respective schemes, (iii) Scheme documents and annual reports

Government sponsored schemes are getting importance in many states. Among those schemes Kalaignar, Yeshasvini, Rajiv Aarogyasri health insurance schemes are prominent in the states such as Tamilnadu, Karnataka and Andhra Pradesh respectively. Though these schemes are unique in terms of its purpose of providing free healthcare facilities for poor at free of cost, Kalaingnar Kapitu Thittam (KKT) has some advantages when compared with other two schemes in terms of distribution network of hospitals and family coverage. The scheme has been implemented through 663 hospitals (20 public sector hospitals and 643 private hospitals) (Table 1). The family coverage is floated over 4 years under this scheme is also attractive. Details of the scheme are given under separate heading.

Kalaignar Kapeetu Thittam (KKT)

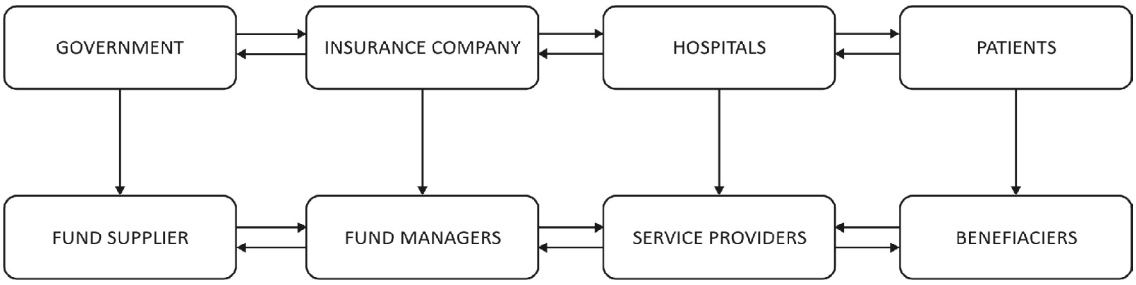
'Kalaignar Kapeetu Thittam (KKT)' or 'Kalaignar Health Insurance Scheme for Life saving Treatment' is one of the innovative health insurance schemes introduced by Tamil Nadu Government for Below Poverty Line (BPL) families during the year 2009. This scheme assured treatment and saves peoples' lives from 51 types of diseases. The scheme has been widely accepted by many international organizations including World Bank for its unique feature of safeguarding health of the poor people without collecting any premium from them. At present the scheme covers 1.40 corers of BPL families. The scheme is a classical example of public-private partnership. Government, Star health insurance and hospitals (both private and government) are the three stakeholders of this scheme.

The scheme provides cashless insurance protection against a host of identified high-cost medical contingencies that requires surgical care and hospitalization. The scheme provides an insured amount of Rs. 1,00,000/- for a period of 4 years for per family. The treatment has been done through only empanelled hospitals. Minimum of six hospitals in each district and 15 major hospitals is identified. Claim process includes pre-authorisation by medical teams of star insurance based on field information available from hospital, field visit by doctor from star insurance, hospitals claims based on actual provision of treatment, claim case processing by team of validators and medical approvers. Financial settlement have been done mostly on the basis of electronic transfer. A team of doctors are assigned exclusively for this. Hospitalization of patients is based on proving their identity as BPL category (excerpts from http://www.startanhins.in)

Figure I explains the KKT supply chain process (KKT-SCM). Government guarantees the financial part of the scheme. The amount for this is budgeted every year and transferred to Star insurance company. The company has a direct contact with the designated hospitals which act as a major health

providers. The medical procedures for the patients will be carried out by the hospitals and workout the cost of the treatment which will be communicated to the insurance company. Company takes appropriate decision based on its policies and transfers funds (e-transfer) to the hospitals. Insurance company keeps updates about fund utilization and about beneficiaries from time to time. The major attraction of the scheme is that patients never receive money directly for treatment and the transaction is cashless for the covered procedures. Full transparency and accountability at each stage of the process has made the scheme very attractive to the public.

Figure 1 : KKT Supply Chain Model (KKT-SCM)



Present Study

KKT has completed its one year. It has been projected as one of the most prestigious health insurance scheme of the Tamil Nadu Government. Many times the scheme has been recognized as a viable model of health insurance for the poor. Unlike many other similar schemes like Rajiv Aarogyasri Health Insurance Scheme of the state of Andhra Pradesh or Yeshasvini Health Insurance Scheme for rural farmers and peasants in Karnataka, Kalaignar Insurance Scheme is unique for its modality of operations. Though evaluation of such health schemes is a more complex (Mackenzie et.al.2010), such exercise may sharpen the conceptual framework of such schemes and enable to implement effectively. The present study has been conducted among the beneficiaries of the scheme in the district of Madurai.

Objective

Performance evaluation of the insurance scheme 'KKT' is the overall objective of the study. The study tries to evaluate the scope of the scheme more from the point of view of its beneficiaries.

Methodology

Performance variables selected for the study are:- source of information about the health scheme, type of disease for which insurance is sought, accessibility of hospital, type of treatment, hospital facilities, medical expenditure, hospital services, partiality in treatment of beneficiaries. Content validity of each variable has been verified prior to the preparation of schedule. Number of discussions with the beneficiaries, doctors and officials were conducted. Reliability test shows that Alpha value is .8757. The corrected item-total correlation for the selected variables ranges from .6408 to .7805.

Samples

The study has been conducted among 31 beneficiaries of the Kalaignar Kapitu Thittam. The source of list of beneficiaries was collected from those hospitals which are a part of the scheme for the last one year. The selected hospitals include Ashirvadham, Vasan eye care, Apollo hospital and C.F hospital. These hospitals are spread over the southern part of the District of Madurai such as MP Kulam, Annanagar, KK Nagar, and Oddanchatharam Respondents were selected purposively and contacted in person. Interactions with the beneficiaries were conducted with an interview schedule. Discussions with stakeholders such as hospital authorities, members of the households helped in shaping arguments. Though the researchers are well aware of the small sample size of the study, the results will give an indication about the viability of such schemes in future.

Results

Among the total respondents 64.5 % is male. Income-wise distribution of the households shows that 41.9% of the respondents are in the income group of Rs.3000 - Rs.5000 (41.9%), 32.3% is between less than Rs.3000 and 25.8% are having income more than Rs.5000. The major source of information about the scheme is mainly through TV/radio (41.9%) and circulars in the hospitals (21.8%). This is followed by news paper advertisements (19.4%), campaigns by hospitals (9.7%) and other sources (3.2%). Major diseases for which the beneficiaries seek hospitals are cancer (48.4%), kidney stone (19.4%), ortho related problems (16.1%) and eye problems (3.2%). Among the total respondents who have received treatment, 64.4% have undergone surgery procedures and 35.5 were recommended for medication. It is to be noted that more than 90 % of the respondents are satisfied with the service offered by the hospital. Generally no charges are imposed neither for medical checkup nor any hidden charges (74.2% each). All the respondents are highly satisfied with the scheme. (Table 2)

Respondents are satisfied with the facilities provided by the hospitals where the scheme was

introduced. Opinion on this is classified as 'highly satisfied (64.9%) and satisfied (29%). Opinion regarding the hospital services is grouped into highly satisfied (58.1%) and satisfied (35.1%). Majority are highly satisfied with overall healthcare services and the benefits of the scheme (67.7% and 74.2% respectively). All the selected performance variables are found significant at 5% ($p<.005$) (Table 3).

One way ANOVA test shows that opinion on medical expenditure differs among different income groups. The significant value is .033($p<.05$) (Table 4). At the same time opinion is different among income groups related to health services and health factors such as hospital facilities and services ($p>.05$). The regression analysis represents that the R2 value is .757. This means that 75.70% of the independent variables explain the depended variable (table 5). The selected independent variables are hospital facilities, accessibility to hospitals, medical expenditure for treatment, hospital services and partiality in treatment to beneficiaries. The dependent variable is considered as the overall satisfaction of the preference of health insurance scheme. The ANOVA test shows that the regression model is significant ($p<.05$).

Factor analysis explains that the total variance has a cumulative loading of 72.09% of all the performance variables. Among the total variables seven which has got a factor loading of 0.8 are derived by rotated component metrics. Principle component method is used for this purpose. These factors are medical expenditure for treatment (.893), hospital facilities (.905), hospital services (.813), charges for medical checkup (.910), hidden charges by hospitals (.907) and partiality in treatment to patients under the health scheme (.959) (Table 6 and 7).

Discussions

The new health insurance scheme for the Below Poverty Line (BPL) of Tamil Nadu is reported as a good intervention strategy to address health issues of the state. Such steps has been highly benefited to those people who suffer from life threatening diseases like cancer, kidney related problems etc. This is evident from the number of cases reported. Respondents are generally satisfied with the service of the hospitals and no charges were imposed at any stage of diagnosis or treatment, though there are few exceptions. As a result, many hospitals could attract people from BPL categories. Private hospitals generally welcome these initiatives. Hospital facilities are matched with the expectations of the patients. Opinion about hospital services was also rated as good.

Medical expenditure for treatment, hospital facilities, hospital services, charges for medical checkup, hidden charges and partiality to patients are the major determinants. An important aspect

could notice is about the differences of opinion among various income groups among BPL categories on medical expenditure. Exceeding medical expenditure beyond the covered insurance is also a worry for the people. Enormous increase of medical expenditure in recent years further stepped up their worries. Extending the scope of the scheme to private medical services is an important dimension of this scheme. Accessibility of private health care services by poor was a distant dream. The efforts of the State Government in this regard are appreciable. Definitely this will have long term impact of the health status of the people in the State. However there are also areas of concern especially about the sustainability of the programme. The below paragraphs share some of these 'concerns'.

Sustainability of the KKT

1. The success of the present scheme depends on the willingness of the sponsoring agency (Govt.). The supportive mechanisms of the scheme largely depend on the extended financial support in future. This must be viewed in the context of 'financial burden' of the State Government also. Though one could very well argue that the financial burden cannot be equated with social causes, but a practical approach for the sustainability of such schemes has to be explored further. As it is reported from the field that expenses for treatment of certain diseases (ex. Cancer) sometimes goes beyond the covered insurance is a matter of worry.
2. Bringing private sector (hospital) in the framework of the scheme is welcome. This facilitates the poor people to access the benefits of modern medicines and treatments. However it is important that 'transparency' must be ensured at each level of the medical process and bill settlements. This is mainly because of the transfer of public money from insurance company to the hospitals. Hospitals also should not be viewed this as a source of 'profit' but must be viewed as part of their social responsibility.
3. An important question is about the continuing financial support of the scheme for a long period. Managing funds for this scheme by the government in the future may be a difficult exercise. There is a need to create a corpus fund to meet the full expenses for treatment. Supports from big business, philanthropists, celebrities etc., are essential for this. Government can also actively consider collecting affordable premiums from the poor people for insuring their health. Such experience is proved successful in different schemes of other States.

Conclusion

Kalaingar Kappeetu Thittam is an innovative health insurance scheme to provide medical care to people of Tamil Nadu under BPL categories. The study gives ample evidences of the success of the programme. Conscious efforts of the government to enhance the health status of the people resulted

in improving their standard of living. Accessing private healthcare service for the poor makes the scheme more attractive. Though overall the scheme is attractive, there are also concern about long term sustainability, especially at a time when medical cost increases. Funding for such schemes needs to be explored further. Creating a corpus fund may be an ideal choice in this regard.

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Appendix -1

Table 2 : Frequency Distribution of Samples

Item	Percentage
Gender	
Male	64.5
Female	35.5
Monthly Income (in Rs.)	
< 3000	32.3
3001- 5000	41.9
5001>	25.8
Source of Information	
Radio/TV	25.8
News Paper	19.4
Circular Hospitals	41.9
Campaigns by hospitals	9.7
Collogues	3.2
Type of diseases	
Eye	3.2
Ortho	16.1
Kidney stone	19.4
Heart diseases	12.9
Cancer	48.4
Type of treatment	
Medication	35.5
Operation	64.5
Registration charges for medical check-up	
Yes	25.8
No	74.2
Hidden charges by the hospitals	
Yes	25.8
No	74.2

Table 3 : Hospital facilities and services

Items/Scale	5	4	3	2	1	Mean	SD	Sig.
Hospital facilities	64.9	29.0	3.2	3.2	-	4.5484	.72290	.000
Accessibility to hospitals	6.5	6.5	67.7	12.5	6.5	2.93355	.85383	.000
Medical expenditure for treatment	58.1	35.1	6.5	-	-	4.5161	.62562	.000
Hospital services	67.7	29.0	3.2			3.6452	.55066	.000
Partiality in treatment for patients under the health insurance scheme	6.5	6.5	3.2	19.4	64.5	4.2903	1.21638	.000
Satisfaction of the preference of health insurance scheme	74.2	25.8	-	-	-	3.7419	.44480	.000

Note: '5' represents high and '1' as low

Table 4 : Differences in Medical Expenditure among Inocme Groups

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Partiality in treatment to patients under the health insurance scheme	Between Groups	.420	2	.210	.134	.875
	Within Groups	43.967	28	1.570		
	Total	44.387	30			
Medical expenditure for treatment	Between Groups	2.534	2	1.267	3.853E0	.033
	Within Groups	9.208	28	.329		
	Total	11.742	30			
Hospital facilities	Between Groups	2.008	2	1.004	2.057E0	.147
	Within Groups	13.669	28	.488		
	Total	15.677	30			
Hospital services	Between Groups	.766	2	.383	1.287E0	.292
	Within Groups	8.331	28	.298		
	Total	9.097	30			
Satisfaction of the preference of health insurance scheme	Between Groups	.066	2	.033	.158	.855
	Within Groups	5.869	28	.210		
	Total	5.935	30			

Table 5 : Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.870a	.757	.669	.25586

a. Predictors: (Constant), Hospital Services, Accessibility to hospitals, Partiality in treatment to patients under the health insurance scheme, Charges for check-up, type of medical treatment, medical expenditure for treatment, hospital facilities, Hidden charges by the hospital

Table 6: Factor Analysis (Total Variance)

Component	Initial Eigen values	Extraction Sums of Squared Loadings				
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.159	39.486	39.486	3.159	39.486	39.486
2	1.537	19.214	58.700	1.537	19.214	58.700
3	1.072	13.395	72.095	1.072	13.395	72.095
4	.997	12.462	84.557			
5	.683	8.540	93.098			
6	.298	3.728	96.826			
7	.178	2.229	99.055			
8	.076	.945	100.000			

Extraction Method: Principal Component Analysis.

Table 7: Factor Analysis (Rotated Component Matrixa)

	Components		
	1	2	3
Charges for check up		.910	
Hidden charges by the hospital		.907	
Partiality in treatment to patients under the health insurance scheme			.959
Medical expenditure for treatment	.893		
Hospital facilities	.905		
Hospital services	.813		