



Indian Health Economics & Policy Association

**KNOWLEDGE-EVIDENCE-ACTION:
STRIVING TOWARDS BETTER HEALTH OUTCOMES**

18-19 NOVEMBER, 2011

ABSTRACTS



सत्यमेव परमो धर्मः

INSTITUTE OF ECONOMIC GROWTH
University of Delhi North Campus, Delhi 110007



Indian Health Economics & Policy Association

First Conference on

**Knowledge-Evidence-Action:
Striving Towards Better Health Outcomes**

18-19 November, 2011

ABSTRACTS

INSTITUTE OF ECONOMIC GROWTH
University of Delhi North Campus
Delhi 110007

Friday, 18th November 2011

Parallel Session A1: 2.00 PM - 3.30 PM

Demand for Health and Healthcare

Venue: Seminar Room

Chair: Prof. Barun Kanjilal
Institute of Health Management Research

Oral Presentation

Trends and Patterns in Health care Use and Treatment Costs in India
during 1986 and 2004

Anil Gumber
University of East Anglia, Norwich, UK

Hospitalization Demand, SES and Compliances: Evidence from NSS

Mousumi Dutta
Presidency University, Kolkata

Patients' choice for non-allopathic providers for acute illness:
Evidence from a rural setting in Kerala

Subrata Mukherjee
Institute of Development Studies, Kolkata

Health Seeking Behaviour, Morbidity and Usage of Addictive
Substances among the Rickshaw Pullers in Delhi

Naresh Kumar
Jawaharlal Nehru University, New Delhi

Declining Free Healthcare and Rising Treatment Costs in India: An Analysis of National Sample Surveys 1986-2004

Anil Gumber

Faculty of Health, University of East Anglia, UK.

Biplab Dhak

Gujarat Institute of Development Research, Ahmedabad

N. Lalitha

Gujarat Institute of Development Research, Ahmedabad

This paper focuses on trends in health seeking behaviour of people and choosing between government and private sources, reasons for not accessing health care and the cost of treatment by examining three Rounds of NSS data on health care use and morbidity pattern. With variation across states, treatment seeking from public providers has declined and preference for private providers has increased over the period. Although overall health seeking behaviour has improved for both male and females, a significant per cent of people, more in rural than urban areas, do not seek treatment due to lack of accessibility and think illness not serious enough requiring treatment. There has also been change in the cost of health care. While the health care cost has increased, the gap between public and private has reduced owing to perhaps increased cost of treatment in public health facility following the levying of users fees and curtailing distribution of free medicine. The paper concludes with supporting the adaptation of innovative public-private partnership in health sector for various services realizing the limitations of the state provision of health particularly in rural and remote areas and the growing preference of consumers for the private health providers. As effectiveness of public spending also depends on the choice of health interventions, target population and technical efficiency partnering with private health providers could work towards reducing the health inequalities in the country.

Use of Hospital Services, Socio-Economic Status and Compliances: Evidence from NSS

Mousumi Dutta

Department of Economics, Presidency University

Accessibility and affordability are two important components of an equitable health care system. However, defining affordability and accessibility is not easy, as they are determined by the socio-economic status (SES) of the concerned individual. This relationship has led to the emergence of a substantial literature on the health-SES gradient. Now, the health market is characterized by uncertainties stemming from asymmetric information between patients and physicians. An interesting question is whether the health-gradient relationship is affected by the consequent inefficiencies. Recent empirical literature argues that the health-SES relationship becomes weak in the presence of individual specific efforts (referred to as "compliances", comprising of defensive expenditure, purchasing health insurance, etc.) to resolve information-related uncertainties.

Based on NSS 60th round data, this paper examines the health-SES gradient in the presence and absence of compliances (in the form of health insurance coverage). We find that – contrary to existing literature – SES persists as an important determinant of usage of hospitalization services even in the presence of compliances. However, compliances may also open the door to new forms of inefficiencies. Results of the simultaneous equation model reveal the dual existence of moral hazard and adverse selection problems in health care seeking behaviour in the presence of health insurance.

Patients' Choice of Non-Allopathic Outpatient Care Providers for Acute Illnesses: Evidence from a Rural Setting in Kerala

Subrata Mukherjee

Institute of Development Studies, Kolkata

Slim Haddad

International Health Unit, University of Montreal, Canada

Delampady Narayana

Centre for Development Studies, Kerala.

Although various national- and state-level health policies and programmes in India from time to time have tried to promote and integrate various non-allopathic systems into country's official health system, there are a very few attempts to understand the factors which show strong association with people's choice of various non-allopathic health care providers. Moreover, there is limited evidence on people's experience with the non-allopathic health care or providers assessed at the end of the episodes. The present paper is an attempt towards meeting this evidence gap by answering the following questions: (a) Do the patients who mostly go for the non-allopathic health care show some distinct household and individual characteristics in comparison to the patients who go for allopathic health care providers? (b) How do the patients who utilised non-allopathic providers fare in comparison to the patients who utilised allopathic providers in terms of health care experience measured by select indicators at the end of the episodes? We have used data on 3653 acute episodes (with only OP visits) from a year-long panel survey carried out in a north Kerala district in 2003-04. It is found that about 20% of select acute episodes sought health care from non-allopathic providers. Females (OR=1.03), children (OR=1.12), individuals residing in households with low landholdings (OR=1.05) and those having episodes of longer duration (ORs=1.09, 1.22) are more likely to utilise non-allopathic providers. The average experience suggests that seeking health care from non-allopathic providers involve less median cost per episode (Rs 12 against Rs. 90) but higher chance to shift to allopathic providers during the course of the episode (62.9% against 37.1%), lengthier (median) duration of episode (10 days against 7 days) and higher (average) number of OP visits (1.4 against 1.9). Although no causal relationship is established, there is an indication that non-allopathic providers are utilised more for its easier access and cheaper price than other reasons, such as its quality and efficacy.

Health Seeking Behaviour, Morbidity and Usage of Addictive Substances among the Rickshaw Pullers in Delhi

Naresh Kumar

Jawaharlal Nehru University, Delhi

Rickshaw pullers are one of the most neglected section in the land transport sector, though they are indispensable part of our city life. There are innumerable numbers of rickshaw pullers working day and night in Delhi. Unfortunately, neither the government nor any voluntary organisations bother to register the actual number of rickshaw pullers working in this city nor even they conduct survey on these poor rickshaw pullers. Based on the primary data collected from the field survey conducted during October 2009 to January 2010, this study has been done on the health seeking behaviour of the rickshaw pullers, their pattern of morbidity and inclination towards various addictive substances which may harm their health severely. Most of them spend their nights either on the road or in the rickshaw sheds. Those who are fortunate enough to have a room, they too either live in slums or in low- income colonies with shabby environment. Unhygienic condition and on improper diet along with indulgence towards smoking, drinking and uncontrolled sexual life make them vulnerable towards various fatal diseases. The main objective of the paper is therefore, to identify the various causes of ill health among the rickshaw pullers, most common form of morbidity, their health seeking behaviour, indulgence towards various addictive substances and awareness about HIV/AIDS and Tuberculosis. Various Statistical techniques like Binary Logistics and Cross tabulation have been used through SPSS software. Chi-square test has been used to see the significance level among the different cross tabulation variables. It has been found that, unhygienic living environment, improper diet, unhygienic sanitation and drinking water sources create various health problems. They are the worst victim of water born diseases, musculoskeletal disorder, physical weakness, cough and cold and digestive disorders. They mainly depend on pharmacists and quacks for treatment. Bidi smoking, tobacco chewing, drinking liquor and frequent visit to brothels make them easy prey of cancer, HIV/AIDS, TB and other sexually transmitted diseases. Their awareness level is also very low regarding all these diseases.

Friday, 18th November 2011

Parallel Session A2: 2.00 PM - 3.30 PM

Maternal and Child Health in India

Venue: V. K. R. V Rao Room

Chair: Mr. Sunil Nandraj
World Health Organisation, India

Oral Presentations

Does Improved Sanitation Reduce Diarrhea in Children in Rural India?

Santosh Kumar
University of Washington, USA

Gender Disparities in Health Care - An Inter-State Analysis

Neena Malhotra
Guru Nanak Dev University, Amritsar

Does Place of Birth Matter? Spatial Analysis of Infant and Under-five Mortality Rates in India

Ankush Agrawal
Institute of Economic Growth, Delhi

Utilization of Maternal Health Care Services and Reproductive Health Complications in Assam, India

Mousumi Gogoi
International Institute for Population Sciences, Mumbai

Does Improved Sanitation Reduce Diarrhea in Children in Rural India?

Santosh Kumar

Harvard Center for Population and Development Studies, USA

Sebastian Vollmer

Harvard Center for Population and Development Studies, USA

Nearly nine million children under five years of age die annually. Diarrhea is considered to be the second leading cause of Under-5 mortality in developing countries. About one out of five deaths are caused by diarrhea. In this paper, we use the newly available data set DLHS-3 to quantify the impact of access to improved sanitation on diarrheal morbidity for children less than five years of age in India. Using Propensity Score Matching (PSM) and propensity-based weighted regression, we find that access to improved sanitation reduces the risk of contracting diarrhea. Access to improved sanitation decreases child diarrhea incidence by 2.2 percentage points. There is considerable heterogeneity in the impacts of improved sanitation. We neither find statistically significant treatment effects for children in poor household nor for girls, however, did boys and high socioeconomic status (SES) children experience larger treatment effects. The results show that it is important to complement public policies on sanitation with policies that alleviate poverty, improve parent's education and promote gender equity.

Gender Disparities in Health Care- An Inter-State Analysis

Neena Malhotra

Guru Nanak Dev University, Amritsar

Parul

Guru Nanak Dev University, Amritsar.

Health related challenges for women persist due to limited access to education/employment, high illiteracy rates, poverty, social norms and cultural factors. While targeted policies and programs have enabled women to lead healthier lives, significant gender-based health disparities remain in many countries. In spite of the various measures taken by government of India, over the last four decades high level of gender disparities persist in various states of India. Various indicators of health like under- five mortality rate, death rate in the age group of 5-9 years and sex ratio highlight the differential treatment being meted to women in Indian society. Evidence suggests a lot of gender disparity in health care access, vaccination and nutrition. Despite a little improvement in all India sex ratio in 2011 over 2001, the 0-6 year child sex ratio has further deteriorated. Total Fertility Rates (TFRs) in rural areas are higher than those in urban areas. High Maternal Mortality Rates (MMRs) in the states of Assam, Uttar Pradesh, Rajasthan, Madhya Pradesh and Bihar are mainly due to poverty and lack of health care. Female children have higher incidence of stunted growth, anemia, low BMI and other forms of nutritional deficiencies. Female child's disadvantage in terms of vaccination coverage and health care facilities is widespread in India.

Does Place of Birth Matter? Spatial Analysis of Infant and Under-Five Mortality Rates in India

Ankush Agrawal

Institute of Economic Growth, Delhi

This study examines spatial patterns in infant and under-five mortality rates in India at the levels of NSS-regions and Census-districts. The study finds significant spatial correlation both at the national and local level meaning that both global and local environment influences the mortality rates. We identify Assam-East as a spatial outlier. Besides, there exist several hot- and cold-spots in the country. The study further examines determinants of under-five mortality using spatial regression models. Contrary to the existing evidence, we find neither female labor force participation nor general level of modernization help reducing under-five mortality significantly. However, we find importance of reducing poverty, improving provisioning of public health interventions like antenatal care to women and immunization of children, and educating women. Integrating health awareness with health policy might be helpful in improving health outcomes. Using OLS without adjusting for spatial heterogeneity may lead to biased and inefficient parameter estimates.

Utilization of Maternal Health Care Services and Reproductive Health Complications in Assam, India

Mousumi Gogoi

International Institute for Population Sciences, Mumbai

Abhishek Kumar

International Institute for Population Sciences, Mumbai

Sayeed Unisa

International Institute for Population Sciences, Mumbai

The present paper tries to examine the use of maternal health care services and reproductive health complications (pregnancy, delivery, and post delivery complications) and its inter-linkages using third round of District level Household Survey (DLHS-3) conducted during 2007-08. Bivariate and multivariate analysis is used to examine the interrelationship between pregnancy complications and use of health care services for women in Assam. Preliminary findings shows that about 47 percent of women reported complication of paleness/giddiness/weakness during pregnancy and 56 percent having obstructed labour. It is also found that women visited more than three ANC reports higher pregnancy complications than those who visited once. But at the same time it shows that women received full ANC (more than three ANC visit, having 100 IFA tablets, and at least two TT injection) has less pregnancy and delivery complications as compare to non receivers. Two-fifths (40 percent) of women reporting any type of post delivery complication who had received full ANC checkups, most of them are reporting of lower abdominal pain after delivery. There is a notion that more reproductive complications needed more health care, that's why pregnancy, delivery as well as post delivery complications is higher among the women who availed higher use of healthcare services.

Friday, 18th November 2011

Parallel Session B1: 4.00 PM - 5.30 PM

Health System Strengthening: Policy and Perspective I

Venue: V. K. R. V Rao Room

Chair: Prof. N. K. Sethi

National Institute for Health and Family Welfare (NIHFW)

Oral Presentation

Public Health Financing and Health Status in India: An Inter-State Analysis

Sharanjit S. Dhillon

Guru Nanak Dev University, Amritsar

Health Financing: Assessing Coverage of Madhya Pradesh Illness Assistance Fund

Rahul R. Shastri

Hosmac India Pvt. Ltd, Mumbai

**Planning and Utilisation of Health Manpower at Micro Level Healthcare
Delivery System: A Case Study of Hassan District in Karnataka State**

K.B. Somashekaraiah

Dept. of Economics, N.D.R.K.F.G.C. Hassan, Karnataka

**Inter- District Disparity in Health Care Facility and Education:
A Case of Uttar Pradesh**

Reena Kumari

Banaras Hindu University, Varanasi

Public Health Financing and Health Status in India: An Inter-State Analysis

Sharanjit S. Dhillon

Guru Nanak Dev University, Amritsar

Ajay Sehgal

Guru Gobind Singh Khalsa College, Sarhali, Tarn Taran, Punjab

Public health financing system in India is characterised by stagnant and inadequate levels of public expenditure providing a major impetus to the private sector for an investment which is more inequitable and less regulated. In a developing country like India, though the health expenditure is dominated by private spending, even then the public role in providing and financing health services assumes greater importance from the perspective of social welfare as well as ensuring equity. The study examines the patterns of public expenditure on health as well as health status in India at national and state levels. The study is based on secondary data. A simple Percentage Analysis technique is used for the purpose of analysis. The study finds that public health expenditure seems to be more inclined towards recurring expenditure than the development of basic health infrastructure which results in the poor state of public health infrastructure in India. The study reveals large scale variations among states. The economically less developed states are found to be spending more on health as proportion of GSDP as well as proportion of aggregate public expenditure as compared to the developed states. The study brings out that health status of developed and southern states is improving at more rapid rate than less developed and northern states. Some sort of mismatch between the rate of economic growth, health expenditure and health outcome indicators is observed in the study. The study suggests that fiscal targets for health spending should be based on goals for health outcomes and the resources needed to achieve them, which are largely lacking.

Health Financing: Assessing Coverage of Madhya Pradesh Illness Assistance Fund

Rahul R. Shastri

Hosmac India Pvt. Ltd., Mumbai

Swati S. Shivale

Hosmac India Pvt. Ltd., Mumbai

Madhya Pradesh has fifty districts ranging from 7.2% BPL population to 80.11% BPL population. Madhya Pradesh State Illness Assistance Fund (SIAF) is the only public scheme for the BPL population in the state seeking treatment for expensive life threatening illnesses. Availing benefits from the SIAF requires a BPL person to undergo a multi-step and possibly discretionary process. This paper attempts to find out the distribution pattern of scheme beneficiaries in the different districts of the state in relation to i.) The BPL population % in the district ii.) The Total Literacy Rate of the district iii.) The Female Literacy Rate of the District iv) Political dispensation at the district. We consider the average annual number of beneficiaries in the three years from 2008-09 to 2010-11. To equalize the effects of different sizes of BPL population in the different districts we find the average number of beneficiaries of the scheme in the district per million BPL population of the same district. We find the Pearson's Correlation factor for the number of beneficiaries per million BPL in the district against the BPL population % of the District, Total Literacy Rate of the District, Female Literacy Rate of the District and % Ruling Party MLAs in the district. The scheme beneficiaries per million in the district that has taken maximum advantage of the scheme are 85 times higher than the district which has taken least advantage of the scheme. We find that the poverty levels in districts and number of scheme beneficiaries per million are strongly inversely related (Pearson's Correlation Coefficient: -0.6046): the more the BPL % in the district, the less the beneficiaries/million BPL population of SIAF for the district. There is significant difference(at 98% CI) between the poverty levels of districts having less than average number of scheme beneficiaries per million as against districts having more than average scheme beneficiaries per million.($t = 2.6568$). Also there is no Correlation between scheme beneficiaries per million and Total Literacy Rate of the district (Pearson Correlation Coefficient 0.128) or District Female Literacy Rate (Pearson Correlation Coefficient 0.1046). There is no correlation between the scheme beneficiaries per million and the district having more representation from the Ruling Party, in the form of MLAs at the state level (Pearson Correlation 0.1912).

Planning and Utilisation of Health Manpower at Micro Level Healthcare Delivery System: A Case Study of Hassan District in Karnataka State

K. B. Somashekaraiah

Dept. of Economics, N.D.R.K.F.G.C. Hassan, Karnataka

H. Rangegowda

Sir M.V.P.G.Centre, Mandya, Karnataka

D. Heggade

Sir M.V.P.G.Centre, Mandya, Karnataka

Health is not only an important input in the development process; it also assumes the role of infrastructure for development of other social indicators. The health care is an important social services sector very essential for achieving sustainable human development process in all countries. Good health of the people promotes economic productivity of labour, enhances the longevity of life and also improves the quality of future generations of human beings. Health and medical services are offered to the people through a network of hospitals with required health personnel. Manpower planning is a technique of correcting imbalances between the manpower demand and manpower supply in an economy. It is not only concerned with balancing of demand and supply of different categories of manpower, but also with overall development and utilization of manpower resources in a country. In this paper an attempt has been made firstly: to study the network of public healthcare system at various levels in Hassan district; secondly, to examine the status of health manpower, deployment and its utilisation; and thirdly, to assess the performance of health manpower through people's perceptions. This study is based on both primary and secondary data sources from central, state and local level government agencies. Data is analysed and interpreted through the tables and graphs. Conclusions from the study show that healthcare system in Hassan district suffers from many problems like improper manpower deployment, under utilization and vacant posts. Thus, for the efficient delivery of healthcare services in rural and remote areas proper manpower planning is required at different level hospitals. The planning process should take into account the local healthcare requirements. Appropriate policy measures should be used to put the right manpower at the right place through suitable transfer policies and incentives.

Inter- District Disparity in Health Care Facility and Education: A Case of Uttar Pradesh

Reena Kumari

Banaras Hindu University, Varanasi

Economic and Human development in any society are prerequisites for a better quality of human life. The post reform India has seen truly remarkable attainment in terms of the former but unfortunately the journey in case of later has remained bumpy, sluggish and rather directionless. The progress on the front of social sector has not only remained agonising slow but at the same time like economic development has been characterised by wide inter and intra regional variations causing or intensifying a number of problems. The relative gap between different regions of the country and districts of big states has widened since the period of reforms causing a sense of deprivation and alienation among those who have been left out. Against this backdrop the present paper attempts at measuring inter-district disparity in health care facility and education for the state of Uttar Pradesh. The present paper attempts to measure inter-district disparity in education and health attainment in UP at two time periods 1990-91 and 2007-08. It uses Maher's methodology (subsequently used by a number of others) to standardise 8 indicators for the health attainment and 13 for educational attainment and then applies principal component analysis to compute the composite indices. The indices have been constructed at the district level and also regional level for the state. Using simple correlation technique the relation between health and educational attainment has been obtained and relative variation and changes in ranks of different districts have been computed between the two periods under consideration. The ensuing analysis has explained the transformation of some districts from being relatively underperformer to the rank of better performer and vice versa. The results show that apart from existence of wide disparity there are sufficient proof to say that there are regions/districts that have done well in educational attainment but are poorly placed in terms of health attainment and vice-versa. This is a rather surprising result. The analysis further suggests that on account of governments' bias in favour of few regions and against some other the relative position of districts has changed significantly. The paper offers some suggestions to reduce the glaring disparity.

Friday, 18th November 2011

Parallel Session B2: 4.00 PM - 5.30 PM

Reproductive Health: Determinants and Policy

Venue: Seminar Room

Chair: Ms. Dipa Nag Chowdhury

Oral Presentation

Ultramodern contraception' re-examined: Cultural dissent, or son preference?

Zakir Husain

Institute of Economic Growth, Delhi

Informing and Influencing Policy Reforms to Increase Family Planning
Access for the Poor in Jharkhand

Suneeta Sharma

Futures Group International India Pvt. Ltd.

Modern Contraceptive Use Among Illiterate Women In India:
Does Proximate Illiteracy Matter?

Sriparna Ghosh

Indian Institute of Management, Bangalore

'Ultramodern Contraception' Re-Examined Cultural Dissent, or Son Preference?

Zakir Husain

Institute of Economic Growth, Delhi

Saswata Ghosh

Institute of Development Studies, Kolkata

Mousumi Dutta

Presidency University, Kolkata

Literature on family planning considers traditional contraceptives – comprising of withdrawal and rhythm - to be 'ineffective' because the users of such methods seem to be those least motivated to actually control their fertility. While this is true for initial stages of fertility transition, studies have reported that it is the elite sections of the population – women belonging to urban, educated and affluent households, propelled by a reaction against Western technology – who are the main users of traditional contraceptive. The urban elite have both the skill and knowledge to use such methods effectively, while avoiding the side effects and inconveniences of modern methods. This has led to the coining of the term 'ultramodern contraception'.

This paper critically re-examines the 'ultramodern contraception' theory, and argues that it has certain limitations. Based on an analysis of three rounds of National Family Health Survey data for India, we argue that reliance on such methods may be a transient phase in the reproductive cycle of women, specifically before the desired gender parity of children is attained. This implies that preference for traditional methods is not a form of cultural dissent, but a manifestation of son preference.

Informing and Influencing Policy Reforms to Increase Family Planning Access for the Poor in Jharkhand

Suneeta Sharma

Futures Group International India Pvt. Ltd.

Health and poverty are intertwined. Social determinants of health, such as poor living conditions and limited access to resources, contribute to increasing inequities in health service access and use. The links between poverty reduction and reproductive health (RH) issues, in particular, are also increasingly clear. Satisfying unmet need for family planning (FP) can lower population growth and reduce the strain on limited national and household resources. Improving maternal health has a ripple effect on families and communities. In operational terms, pursuing equity in health means reducing health disparities in health care use and status that are associated with socio-economic disadvantages. Health systems approaches provide a promising entry point for equity-oriented policies, financing, and actions. This paper presents an EQUITY framework to systematically reduce health inequities and provides guidance for and examples of how stakeholders can use the framework to design policies, programs, and financing mechanisms to meet the needs of the poor and vulnerable groups.

Despite the best of intentions, health resources and program efforts often fail to reach those in greatest need. The poor have worse health outcomes than the better-off and use health services less. Tragically, government health expenditures tend to benefit the better-off more than the poorest groups. In response, we designed the EQUITY Framework for Health to provide stakeholders practical guidance on how to ensure that the voices of the poor are actively engaged in policymaking and that pro-poor strategies are incorporated throughout the *policy-to-action* continuum. In this framework, “equity” is both the goal—something to strive for—and a way of working that involves the poor and integrates equity concerns and approaches. The framework’s components are dynamic, can overlap, and do not necessarily follow a linear process. Underlying the whole process are analysis, advocacy and dialogue, and action. While the framework was designed with RH issues in mind, it can be adapted and applied to a range of other health issues.

The state has lacked systematic, targeted efforts to improve basic healthcare for the poor, including efforts to address FP and RH needs. From July 2009–August 2010, we assisted the state of Jharkhand to develop an FP strategy that fully incorporates strategic program interventions to address the FP needs of the poor. We conducted poverty, market, policy, financing, and barrier analyses using quantitative and qualitative information. Quantitative analysis for Jharkhand focused on disaggregating health indicators for different groups within urban and rural areas of Jharkhand through analysis of datasets from NFHS-3 (2005–2006) and Round Three of the District Level Household Survey (DLHS-3, 2007–2008). A qualitative study of the

primary data collected for this research was designed to identify FP/RH service needs among the urban and rural poor, the key barriers to accessing the services, and potential strategies to surmount them. Advocacy and Dialogue with State Policymakers and Key Stakeholders was done followed by action i.e. development and approval of the FP Strategy.

Jharkhand followed an evidence-based and participatory process of reaching out to both the rural and urban poor as well as marginalized populations to increase the availability and accessibility of FP services. The new FP Strategy is innovative in its prioritization and attention to under-served populations and includes specific objectives for increasing both service provision and modern CPR and reducing unmet need for spacing and limiting methods by area (rural or urban) among vulnerable sub-groups (SC/ST populations) as well as the poorest segment of the state's population.

The state of Jharkhand should move forward quickly with the implementation of the new FP Strategy, which provides a good opportunity to improve the health and development of Jharkhand's population, particularly its poorest sub-groups. The FP Cell could play a critical role in leading multi-sectoral collaboration and coordination for the strategy. Simultaneous attention to the health systems strengthening component is critical for ensuring sustained delivery of good quality services. Development of the FP Strategy is an important milestone and should be followed up with implementation, resource allocation, and equity-based monitoring and evaluation.

Modern Contraceptive Use Among Illiterate Women in India: Does Proximate Illiteracy Matter?

Sriparna Ghosh

Indian Institute of Management, Bangalore

Illiterate women comprise a particularly vulnerable section of the community. They lack empowerment, are unable to voice their choice with respect to, inter alia, contraceptive use, and also lack access to health services. However, their lack of literacy may be compensated to some extent if their partners are literate. Contraceptive use of such illiterate women (referred to as proximate literates in literature), may be higher than that of illiterate women whose partners too are illiterates (called isolate illiterates). This hypothesis is tested using the third wave of the Demographic Health Survey data for India (2005-2006). Current use of modern contraceptives was compared between these two groups for socio-economic and demographic correlates. This was followed by multivariate analysis, regressing current use of modern contraceptive methods on a dummy representing whether the partner was literate, along with relevant control variables. Results indicate that the proximate illiteracy effect was restricted to only specific groups and communities.

Friday, 19th November 2011

Parallel Session C1: 11.30 AM - 1.00 PM

Health of the Elderly

Venue: Seminar Room

Chair: Prof. Moneer Alam
Institute of Economic Growth, Delhi

Oral Presentation

Does living arrangement affect work status, morbidity

Arpita Paul

International Institute for Population Sciences, Mumbai

Socioeconomic Determinants of Health Inequalities among the Older
Population in India: A Decomposition Analysis

Srinivas Goli

International Institute for Population Sciences, Mumbai

Economic inequalities and health among the elderly in rural India

Kaushalendra Kumar

International Institute for Population Sciences, Mumbai

Employment and Its Linkages with Chronic Diseases and Medical Care
among Older Population in India

Priyanka Yadav

International Institute for Population Sciences, Mumbai

Does Living Arrangement Affect Work Status, Morbidity And Treatment Seeking of Elderly Population? A Study of South Indian States

Arpita Paul

International Institute for Population Sciences, Mumbai

Debasis Barik

International Institute for Population Sciences, Mumbai

The living arrangements of the elderly have been the matter of concern as the population is ageing rapidly from past many centuries. About 80% of the world elderly population is estimated to be in the developing countries by 2050. India where family structure is changing from joint to nuclear, elderly are bound to live in poor health and poor economic condition. Thus the importance of examining the effect of living arrangement on work status, morbidity and the treatment seeking behavior among the elderly population is worth considering. A very few studies have been done regarding this, especially in Indian context. This study is focused on understanding the living arrangement among elderly, their work status by living arrangement, type of activity and background characteristics, also the prevalence of any ailment, non communicable diseases and treatment seeking by living arrangement and background characteristics in the South Indian states. National sample survey (NSS) 60th round with a sample of total 34831 aged person(60+) were surveyed at the national level out of which 7853 individual was taken from Andhra Pradesh, Karnataka, Kerala and Tamil Nadu. Information that whether they have any ailment and treatment been taken for the same their usual activity status and information on living arrangements are collected in this round. The results shows that, in the southern states of India family still plays an important role and elderly lives mostly with their family members (children) either with or without spouse. The multinomial regression reveals that elderly living without spouse but with children or other members at their later ages have to work as unpaid workers. Thus it concludes that living arrangement effects work status of elderly. Living arrangement has no significant effect on the morbidity status it can be said that morbidity increases with age. Finally the logistic regression analysis shows that the likelihood of treatment seeking increases with the increase of economic status for any ailment and for Non-Communicable Diseases which is reflected by the MPCE quintile. Also elderly living with spouse and children are more likely to have treatment than those living with others. This concludes that a positive association of living arrangement exists with treatment rates.

Socioeconomic Determinants of Health Inequalities among the Older Population in India: A Decomposition Analysis

Srinivas Goli

International Institute of Population Sciences, Mumbai

Kshipra Jain

International Institute of Population Sciences, Mumbai

P. Arokiasamy

International Institute of Population Sciences, Mumbai

In effort to identify the challenges posed by rapid ageing in India, this paper worked on twofold objective: first, to assess the health inequalities in older population of India. Second, is to examine whether these inequalities are varying among younger old and oldest of old. In the first stage, bivariate and multivariate analyses are used to assess the association between socioeconomic predictors and health status of older population. Second, concentration index is used as measure of health inequality. Finally, the concentration indices are decomposed into their determining factors to find out the relative contribution of different socioeconomic predictors to total health inequality in older population. Bivariate and multivariate model estimates indicate that older population health significantly varies and predicted by socioeconomic determinants. Decomposition analyses suggest that poor economic status stand to be the dominant contributor to health inequalities in older population followed by illiteracy status and rural place of residence. While other indicators like caste, gender and marital status contributes positively, being Muslim contributes negatively to total health inequality in poor health status of older population in India. Comparative assessment suggests that socioeconomic determinants greatly matter for health inequality in younger old population aged 70 years or below than oldest of old population aged above 70 years.

Economic Inequalities and Health among the Elderly in Rural India

Kaushalendra Kumar

International Institute for Population Sciences, Mumbai

Declining mortality and fertility has resulted in proportionate increase in old age (60+) population in rural India, largely characterized by limited economic resources, poor health status and inadequate use of health facilities that increases their vulnerability to various ill-health outcomes. Using data from the 60th round of National Sample Survey (2004), we examine the economic differentials in health related ailments among rural elderly population. Employing Verbruse and Jette's (1994) Disability Framework, test has been done to study the association between economic inequalities and selected health outcomes- active pathology, impairment, functional limitation and disability. Results show that elderly persons from the richest, rich and middle quintiles were more likely to report various health ailments than the poorest one. Economic inequalities were largest in functional limitation which is followed by disability. Age advancement has profound impact on physical impairment which may possibly be further explained by the living arrangement and work status of the elderly. Therefore, in order to ensure healthy aging, there is an urgent requirement to establish equitable old age security schemes providing physical, social as-well-as economic support to the elderly population, particularly among economically disadvantageous groups in rural India.

Employment and Its Linkages with Chronic Diseases and Medical Care among Older Population in India

Priyanka Yadav

Jawaharlal Nehru University, New Delhi

P. Arokiasamy

International Institute of Population Sciences, Mumbai

Srinivas Goli

International Institute of Population Sciences, Mumbai

This study assesses the employment, financial support, health and medical care aspects of aging in India. Findings provide evidences for a bi-directional relationship between employment and chronic morbidity in older population. Older population, who engaged in regular paid work have lower likelihood of having disease compared to those who are not working. In other words, older persons suffering with chronic diseases may be unable to work in regular paid jobs. Similarly, greater proportions of non-working older persons those are suffering with chronic diseases and have financial support through pension and retirement savings from previous job seek more modern treatment and expense on their treatment. The results reveal that employment determines and determined by chronic disease prevalence and treatment seeking behavior among older population. These results would allow policy makers to better ascertain the needs, design pension, other social protection programs, and develop appropriate labor market policies for older population.

Friday, 19th November 2011

Parallel Session C2: 11.30 AM - 1.00 PM

Socio-Economic Determinant of Non-Communicable Diseases

Venue: V. K. R. V Rao Room

Chair: Dr. Rajesh Kumar
PGIMER

Oral Presentation

Cost-effectiveness of acute myocardial infarction treatment and
secondary prevention interventions in India

Susmita Chatterjee
Public Health Foundation of India, New Delhi

Cost Analysis of Diabetes Care in a Government Tertiary healthcare setup

Prasanna T
Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry

Changing profile and the burden of treatment of cancer in India

Shalini Rudra
Institute of Economic Growth, Delhi

Prevalence of Risk Factors for Coronary Heart Disease in Sunderbans

Lalitha Vadrevu
Indian Institute of Health Management Research, Jaipur

Cost-Effectiveness of Acute Myocardial Infarction Treatment and Secondary Prevention Interventions in India

Susmita Chatterjee

Public Health Foundation of India, New Delhi

Heart disease is the single largest cause of death in India, with acute myocardial infarction (AMI) accountable for one-third of all deaths caused by heart disease. There are guidelines available for the use of drugs for treatment and prevention of AMI, and several studies have noted the effectiveness of these drugs. However, in spite of possible treatment benefits, in developing countries the decision to seek healthcare is often dictated by cost and ability to pay. Hence, healthcare decisions are guided by local cost-effectiveness. In this paper, we investigate whether aspirin, injection streptokinase, beta-blockers, statins, and angiotensin-converting enzyme inhibitors (ACE inhibitors) would be cost-effective treatment and secondary prevention options for AMI patients in India. We also calculate the cost-effectiveness of a hypothetical polypill (a combination pill including aspirin, statin, beta-blockers, and ACE inhibitors) as a secondary prevention intervention. Our analysis follows World Health Organization guidelines for calculating the cost-effectiveness ratio of each intervention as the cost per Disability Adjusted Life Year averted by the intervention relative to the null scenario where no effective AMI treatment was administered. We consider the costs from the perspectives of both the health sector and the individual patient. We report the commonly used threshold of “cost-effective” and “very cost-effective,” which compare the cost-effectiveness ratio to per capita gross domestic product. Among treatment interventions, the aspirin and injection streptokinase combination is very cost-effective. The cost-effectiveness ratio becomes more favorable if the patient is presented at the hospital within an hour of pain onset. In terms of secondary prevention interventions, the four-drug combination consisting of aspirin, beta-blockers, statin, and ACEI is the most cost-effective. However, the cost-effectiveness ratio for the combined pill (polypill) is even lower. Given the highly favorable cost-effectiveness ratio and the number of avertable deaths, all ST-segment elevation myocardial infarction patients in India should be treated with aspirin and injection streptokinase. For secondary prevention, polypill is the most cost-effective intervention option and, hence, can be recommended for the Indian context.

Cost Analysis of Diabetes Care in Government Primary Health Centres

Prasanna T

Jawaharlal Institute of Postgraduate Medical Education and
Research (JIPMER), Pondicherry

Soudarssanane MB

Jawaharlal Institute of Postgraduate Medical Education and
Research (JIPMER), Pondicherry

Thiruselvakumar D

Jawaharlal Institute of Postgraduate Medical Education and
Research (JIPMER), Pondicherry

Ashok Kumar Das

Jawaharlal Institute of Postgraduate Medical Education and
Research (JIPMER), Pondicherry

Diabetes presents as an important public health and clinical concern with great impact on the lives of the patients and the economic aspects of the patients' families, societies. Public expenditure on health is an important determinant of the health status of the population. There is a necessity to understand the costs in the natural settings of the community involving people accessing diabetes treatment care from Primary Health Centres (PHCs). To measure the annual direct and indirect costs for management of diabetes at Government Primary Health Centres (PHCs). This cost of illness study adopted a prevalence based descriptive and evaluative approach with governmental and societal perspective to measure individual based direct and indirect cost estimates of diabetes care in the Diabetes Clinics of 3 Primary Health Centres of Pondicherry, viz Ramanathapuram, Lawspet and Muthialpet with follow-up of 120 diabetics aged 25 and above registered for treatment. Data was collected for one year (2 months recall and 10 months follow-up) by 3 home visits per subject between January 2009 & March 2010. The average annual total cost (direct plus indirect) per patient for diabetes care at a Primary Health Centre was Rs. 3590 (Rs.2789&Rs.801). The study concluded that Diabetes has a significant impact in form of both direct and indirect costs.

Changing Profile and the Burden of Treatment of Cancer in India

Indrani Gupta

Institute of Economic growth, Delhi

Shalini Rudra

Jawaharlal Nehru University, Delhi

The social and economic burden of non-communicable diseases has been rising in developing countries. The concomitant loss of resources due to high treatment costs and lost productivity has triggered research on determinants and correlates and the subsequent impact of such diseases. This paper draws on data from India to understand and analyze the correlates and the determinants of expenditure on cancer. The study used data on morbidity and healthcare utilization from three large-scale household surveys pertaining to three different time periods. The study is an attempt to understand and analyze shifts in self-reported cancer and the correlates and determinants of expenditure on treatment.

The results indicated a clear increase in self-reported cancer and selected non-communicable diseases across the three time periods. The rising trend among women, those with less education, in all categories of income quartiles as well as vulnerable social classes suggests that cancer no longer qualifies as a disease confined to any particular income or social class. Cancer also plays an important role in the treatment burden, on individuals with cancer and other non-communicable diseases tending to spend more on treatment. The study brings forth evidence of the changing face selected non-communicable diseases in the country. It indicates that the increasing cases among vulnerable classes and the high treatment costs are likely to reduce welfare and impact on health inequality. The study concludes by arguing that prevention efforts need to take into account the relevance of current messages given the changing face of the disease, to be effective, and advocates for a much higher focus of research and policy on cancer.

Prevalence of Risk Factors for Coronary Heart Disease in Sunderbans

Lalitha Vadrevu

Institute of Health Management Research, Jaipur

To determine the prevalence of behavioral risk factors that are proximal in increasing the risk for coronary heart disease in climatically and geographically challenged rural area like Sunderbans in West Bengal. Data was collected from 19 blocks of Sunderbans spanning across 2 districts- North 24 Paraganas and South 24 Paraganas of West Bengal. It included 1141 households belonging to 57 villages and 6145 individuals. For collection of information on non-communicable diseases and behavioral risk factors one respondent of the age 40 years or older was randomly selected from the sampled household. The survey questionnaire for the above was similar to the WHS- Survey Tool (World Health Survey). It gathered information on background characteristics like age, education, religion, caste and economic status along with risk factors and primary symptoms of disease. The results show that respondents who consume tobacco daily have a very high chance of developing a high risk for coronary heart disease while insufficient intake of fruits and vegetables makes them two times more vulnerable for this risk. The study shows a significant burden of tobacco consumption and malnutrition that increase susceptibility to coronary heart diseases. It calls for appropriate studies to substantiate this finding and also interventions to control the spread of these diseases especially coronary heart disease by targeting these risky behavioral practices.

Friday, 19th November 2011

Parallel Session C3: 11.30 AM - 1.00 PM

Out of Pocket Spending and Health Coverage

Venue: Committee Room

Chair: Dr. Nishant Jain
GTZ

Oral Presentation

The impacts of Aarogyasri health insurance on out-of-pocket health expenditures in Andhra Pradesh, India

Victoria Fana
Harvard School of Public Health, USA

Impact of Health Insurance for the Informal Sector in Developing Countries:
A Systematic Review

Arnab Acharya
London School of Hygiene and Tropical Medicine, UK

Catastrophic out-of-pocket payment for health care and its impact on households:
Experience from West Bengal, India

Swadhin Mondal
Institute of Economic Growth, Delhi

Understanding the pattern of consumption expenditure and health spending in India

Aishwarya R
International Institute for Population Sciences, Mumbai

Out of Pocket Maternal Health Care Financing and Determinants In India

Saradiya Mukherjee
Jawaharlal Nehru University, Delhi

The Impacts of Aarogyasri Health Insurance on Out-of-Pocket Health Expenditures in Andhra Pradesh, India

Victoria Fana

Harvard School of Public Health, Boston, MA, USA

Anup Karan

Oxford University, Oxford, UK and Public Health Foundation of India, New Delhi, India

Ajay Mahal

Monash University, Melbourne, Australia

In 2007, the state of Andhra Pradesh in India began rolling out the Aarogyasri health insurance to reduce catastrophic health expenditures in households 'below poverty line'. We exploit variation in program roll-out over time and districts to evaluate the impacts of the scheme using difference-in-differences. Our results suggest that within the first year of implementation Phase I of Aarogyasri significantly reduced out-of-pocket inpatient expenditures and to a lesser extent outpatient expenditures. These results are robust to checks using quantile regression and two matching methods. We also find that Aarogyasri is not benefiting scheduled caste and scheduled tribe households as much as the rest of the population.

Impact of Health Insurance for the Informal Sector in Developing Countries: A Systematic Review

Arnab Acharya

London School of Hygiene & Tropical Medicine, London

Sukumar Vellakkal

Public Health Foundation of India, New Delhi

Fiona Taylor

London School of Hygiene & Tropical Medicine, London

Edoardo Masset

Institute of Development Studies, Sussex

Ambika Satija

Public Health Foundation of India, New Delhi

Margaret Burke

University of Bristol, Bristol

Shah Ebrahim

London School of Hygiene & Tropical Medicine, London

This paper seeks to summarise the literature on welfare implications of subsidised health insurance schemes that have been offered, mostly on a voluntary basis, to the informal sector in low and middle income countries. A substantial number of papers provided estimations of average treatment on the treated effect of insurance take-up; we summarise those papers that corrected for the problem of self-selection into insurance and a few that estimated the average intention to treat effect. We find the uptake of the insurance schemes in many cases to be less than expected and inconclusive evidence on impact on utilisation, protection from financial risk and health status. However, once taken up, a few insurance schemes afford significant protection from incurring high level of out-of-pocket expenditure. Protection for the poorest is lower from many of the schemes. More information is needed to understand low enrolment and the reasons why the insured poor do not seem to have consistently lower out-of-pocket expenditure than those uninsured. Summarising the literature was difficult due to the lack of (i) uniformity in use of meaningful definitions of outcomes that indicate welfare improvements and (ii) clarity in how selection issues were taken into account.

Catastrophic Out-of-Pocket Payment for Health Care and Its Impact on Households: Experience from West Bengal, India

Swadhin Mondal

Institute of Economic Growth, Delhi

Barun Kanjilal

Indian Institute of Health Management Research, Jaipur

David H. Peters

Johns Hopkins Bloomberg School of Public Health, USA

Henry Lucas

Institute of Development Studies, University of Sussex, UK

The present paper attempts to find out the major determining factors of catastrophic payment in health care, and the impact of such expenditure on household economic status. A survey of 3150 households in West Bengal, India, was analyzed using multi-variate logistic regression models to identify factors associated with catastrophic health expenditures, defined as household spending on health greater than 40% of non-food expenditure. The factors associated with catastrophic medical expenditures are: multiple spells of illnesses in the households, prevalence of chronic morbidity among the household members (Odds ratio 3.0, 95% CI), inpatient care (Odds ratio 1.3, 95% CI) and childbirth (Odds ratio 1.0, 95% CI). Other household characteristics, such as household size (Odds ratio 1.0, 95% CI), number of aged and child member in the household (Odds ratio 1.4, 95% CI) and rural/urban location (Odds ratio 2.1, 95% CI) are also important determinants of catastrophic spending. The analysis shows a common pattern of expenditure due to the treatment of minor illness on increasing the burden of catastrophe on the households, which overshadows the effects of one-time expenditures incurred for hospitalization. The cumulative amount incurred for minor ailments effects household's current food consumption, children's education, medical treatment of the other member, social recreation in a greater extent as compared to the hospitalization care or birth delivery. This study addressed the key findings to the policy maker to ensure better access and high degree of financial protection against the impact of illness.

Understanding the Pattern of Consumption Expenditure and Health Spending in India

Aishwariya R

International Institute for Population Sciences, Mumbai

Using unit data from 64th round ("schedule 1.0") of National Sample Survey, India, 2007-08, this paper examines the pattern of household health expenditure by social, economic and demographic correlates in India. The paper analyzes the household consumption expenditure with respect to four broad categories, namely; food, non-food, health and education. The health expenditure are analyzed by adjusting for state specific poverty line to understand the extent of catastrophic health expenditure across various socio-economic groups and states in India. It is found that many people fall below poverty line when health expenditure is adjusted to the threshold consumption limit. The poor are more prone to catastrophic health expenditure as the out-of-pocket (OOP) expenditure for them is higher compared to the richer sections of the society. The female-headed household, bigger household, schedule tribe, schedule caste, illiterates, casual labors and elderly are the vulnerable groups facing higher OOP payments leading to catastrophic health spending.

Out of Pocket Maternal Health Care Financing and Determinants in India

Saradiya Mukherjee
Jawaharlal Nehru University, New Delhi

This study explores levels, variations and determinants of the out of pocket maternal health care financing in rural and urban India. Along with, this paper also analyzes the role of households' (women's) socio-economic and demographic characteristics as determinants influencing the expenditure pattern.

Retrieving data from 25th schedule of 60th round of National Sample Survey (NSS) 2004, the study used both bi-variate and multivariate analysis. Bivariate analyses were carried out to show the gross effect of various key explanatory variables on the pattern of maternal health care financing where as under the multi variate analysis six Multiple Classification Analysis (MCA) has been conducted to determine the net effect of socio-economic and demographic variables.

It was found that Out-of-Pocket (OOP) payments were higher in urban households for all kind of maternity services, i.e., Antenatal Care (ANC), delivery and Postnatal Care (PNC) compared to its rural counterparts. The MCA demonstrates positive significant relationship between out-of-pocket maternal health care expenditure and level of socio-economic development.

Reducing cost for the poor, introducing voucher scheme for total maternal health care in a subsidized price, some financial correction mechanisms and some coping strategies like insurance coverage can help in mitigating the financial burden and thereby enhance the utilization of maternal health care in both rural and urban India.

Friday, 19th November 2011

Parallel Session D1: 2.00 PM - 3.30 PM

Determinants of Access in Health Care

Venue: Seminar Room

Chair: Prof. Rama Baru
Jawaharlal Nehru University

Oral Presentation

Community Health Insurance: Does it really Ensure Equity in Health Care?

A Case from Kerala

Parvathy Sunaina

Mahatma Gandhi University, Kochi

Barriers to Access Polio vs. Non-Polio Vaccine in West Bengal, India

Debjani Barman

Indian Institute of Health Management Research, Kolkata

Health Inequalities, Level Differentials and Progress Assessment:

Measles Vaccination Coverage in India

William Joe

Institute of Economic Growth, Delhi

Health insurance in India: Factors affecting synergy among
insurers and healthcare providers

Rohit Kumar

Indian Institute of Foreign Trade, Delhi

Determinants of Demand for Health Insurance in Urban Andhra Pradesh:
a Socio-economic Analysis

J. Yellaiah

Osmania University, Hyderabad

Comprehensive Health Insurance Scheme (CHIS) in Kerala: Some Issues of Comprehensiveness and Equity

Parvathy Sunaina

Mahatma Gandhi University, Kochi

The Comprehensive Health Insurance Scheme (CHIS) was implemented in Kerala on October 2, 2008. Although implemented on the lines of the Rashtriya Swasthya Bima Yojana (RSBY), CHIS is a more ambitious scheme. While RSBY caters to those Below the Poverty Line, CHIS envisages bringing within the insurance fold, a larger section of the population who do not fall under the categorization of BPL as enumerated by the Planning Commission. Three years past the implementation of the scheme, this paper attempts to discuss how successful the scheme has been in providing “comprehensive” insurance coverage and also some issues of equity that it brings in its wake. This paper is based on secondary data, review of official documents and publications accessed from the sites of RSBY and CHIS, reports of NSSO and DLHS, and depth-interviews with key informants, including public health officials and beneficiaries of the scheme. This paper examines the issues relating to the implementation of CHIS, especially with reference to comprehensiveness and equity in the context of Kerala, a state known for relatively low inequalities in access to health care among states in India.

The paper finds that although CHIS does provide financial access to services to the beneficiaries, it does so only to a limited extent. The shortfalls of the scheme with respect to enrolment of beneficiaries, empanelment of service providers, coverage of costs, quality of service delivery etc. not only undermines access to quality health care but also may lead to the perpetuation of inequality in delivery of health care across regions and providers. Quality of health care can be ensured only when such demand-side financing alternatives are initiated along with supply-side interventions which focus on improving the quality of service delivery. The assumption that the competition among the public and private sector for the revenue out of CHIS claims will motivate them to strive for better standards of service delivery is leaving too much to chance. It was also assumed that the mix of efficiency of the private sector and the equity-orientation of the public sector will be gainful for the beneficiaries. But it is seen that the public sector driven by the revenue-incentive model of CHIS is moving towards the profit-oriented mode of functioning of the private sector. The paper concludes that it needs to be seen whether rather than allowing for the funds from the public exchequer to flow to the private sector comprising of the private hospitals as well as the private insurer, more money should be pumped into improving the public health care delivery system.

Barriers to Access Polio vs. Non-Polio Vaccine in West Bengal, India

Debjani Barman

Institute of Health Management Research, Kolkata

Arijita Dutta

University of Calcutta, Kolkata

Childhood immunization has brought sea changes in the history of public health with its indispensable role in lowering the prevalence of vaccine-preventable childhood diseases and in resultant child survival. While performance of immunization programme has been judged by its full (BCG, 3 doses of DPT, 3 doses of Polio and measles) coverage within one year age of the child, time and disease specific immunization is an important public health goal. Hence this paper tried to find out the nature of barriers to access Polio vaccine vs. non-Polio vaccine both for month specific and non-month specific cases.

Multinomial logit model has been used to find out the reason for full, partial and no coverage of non-month specific Polio vaccine and non-Polio vaccine for the children of West Bengal using DLHS 3 (2007-08) data set. For month specific cases logit regression has been used across vaccination types.

The full coverage of Polio vaccines in West Bengal is 82 per cent, while that for non polio vaccine is 77 per cent. However, the full coverage of month-specific Polio vaccine is only 25.4 per cent, while the corresponding figure for month-specific non Polio vaccine is a meager 17.4 per cent.

From demand side, gender of the child was a significant predictor of immunization for non-month specific cases as well as for month specific non-Polio vaccinations. Place of delivery is another important factor that influences vaccine coverage. Mother's education is another important determinant of immunization across the types of vaccines and both for month specific and non-month specific cases. Mother's employment status has a negative impact on immunization coverage but only so in case of non-month specific vaccine coverage. From demand side household economic status is the only factor that is significant for month specific vaccination.

From supply side village electrification and availability of male health worker significantly influences the vaccine coverage. Availability of vaccine carrier came out as another significant determinant in case of non-month specific vaccine coverage. In month-specific cases rather than any single equipment, equipment index turns out to be a significant determinant. Medical officer/Lady Health Visitor/Male health worker's visit to SC improves non-month specific Polio coverage only.

The findings suggest that the apart from household's economic status the natures of demand side barriers are almost similar both in case of month specific and non-month specific Polio and non-Polio vaccine cases. From the supply side it is evident that compared to non-month specific cases in month specific cases, rather than a single supply side input the entire index (equipment and drug) turns out to be significant.

Health Inequalities, Level Differentials and Progress Assessment: Measles Vaccination Coverage in India

William Joe

Institute of Economic Growth, Delhi

Udaya S Mishra

Centre for Development Studies, Trivandrum

K Navaneetham

Centre for Development Studies, Trivandrum

We propose an alternative method for progress assessment that addresses the concerns regarding equitable progress and differential base-levels. The progress assessment index (P), is developed in two steps. In the first step the average health outcomes were adjusted for income-related or inter-group health inequalities and in the second step these inequality-adjusted averages are adjusted for level-differentials to value the progress. The progress assessment index can be applied to assess progress in case of health achievement indicators and health failures indicators. An illustration of the progress index is made by evaluating the progress in the receipt of measles vaccine in India and its states. The data for this exercise was obtained from the National Family Health Surveys (NFHS).

The empirical illustration informs that there higher income-related inequality in the distribution of measles vaccine particularly among the backward states of the country. Moreover, these states also suffered from higher inter-group disparities in the distribution of measles vaccine. At the all-India level it was observed that female child from backward social groups (Scheduled Caste or Scheduled Tribe) and residing in rural areas were the most disadvantaged in receipt of basic health care. There were wide disparities across and within states with groups residing in backward states such as Bihar and Uttar Pradesh receiving much less coverage than compared to those residing in southern states of Tamil Nadu and Kerala. The progress index suggests that Tamil Nadu, West Bengal and Kerala are the best three performers in the country whereas Gujarat, Rajasthan and Uttar Pradesh are among the worst performers. Unlike the ratio-based or difference based approach, there is no ambiguity in ranking the different regions in terms of their performance.

Health Insurance in India: Factors Affecting Synergy among Insurers and Healthcare Providers

Rohit Kumar

Indian Institute of Foreign Trade, Delhi

K. Rangarajan

Indian Institute of Foreign Trade, Kolkata

In the last decade several key incidents have occurred in the Indian health insurance arena such as: introduction of IRDA, opening of insurance market for the private players, growth in health insurance premium, de-tariffication, introduction of TPAs, introduction of cashless hospitalization benefits, increase in health insurance claim ratio, introduction of standalone health insurance companies, launch of innovative health insurance products, increase in health insurance premium, increase in healthcare cost, minor improvements in the health indicators at the country level and recently the stopping of cashless facility by the PSU insurers. Looking at the current state of the health insurance industry, it seems that it's not going in the right direction. There are few baby steps and efforts made by the regulators and the industry bodies that would have a positive impact on the growth of the industry. But all these steps and efforts cannot be successful without bringing in synergy among the two most important and critical players in the whole game of health insurance i.e. the insurers and healthcare providers.

The objectives of this study were derived from the existing problems and the gaps in the literature. One of the key objectives was to identify different factors affecting synergy among insurers and providers. The objective was achieved through a series of activities that was guided by the research framework. Both quantitative and qualitative research methods were used. The factors for synergy were identified on the basis of field survey, focus group discussion, observations, in-depth interview with stakeholders across India and also by looking into the secondary data available in the industry. Grounded theory approach was followed in the analysis of qualitative data. All the factors identified during the course of the study were validated in the form of a questionnaire and industry experts were asked to rate each factors on a scale of 1 to 5 based on its ability to either develop or destroy synergy among insurers and network hospitals.

The Indian health insurance industry is growing at a fast pace and so are the issues and challenges linked to bringing in synergy within the system. The two most important players in providing health insurance benefits and services to the insured customer are the insurers and providers. It is the relationship between the insurers and providers that governs the service delivery model and its study is very critical for the current and future growth of the industry. The findings of the study suggest that there are multiple factors that can either develop or destroy synergy among insurers and healthcare providers. The factors may be categorized into different synergy buckets that can help develop strategies for synergy at the insured, firm and the industry level.

Determinants of Demand for Health Insurance in Urban Andhra Pradesh: A Socio-Economic Analysis

J. Yellaiah

Osmania University, Hyderabad

Health insurance is one of the most important issues in health care management system. Theoretical work as well as empirical evidence clearly shows the positive linkages between good health and economic development. The health status of the population is now considered as an important indicator of development, and health is increasingly being seen as a development issue, rather than just a medical one. In the present scenario, together with the improvements in life expectancy of the people, the health problems and health risks also have increased. The occurrence of health hazards being unpredictable in nature, the victims are often forced to depend on loans or mortgages to face the unforeseen problems which will drastically affect their financial conditions. Though the health indicators of Andhra Pradesh are near all India averages, there exists wide disparities regionally, socially and gender wise within the state. Analyzing this issue in detail, this paper critically discusses the determinants of demand for health insurance purchase in Urban Andhra Pradesh. For this purpose, primary data collected from 200 sample respondents in Hyderabad district. The logit model has been applied to analyze the above issue. This paper concludes that the determinants of demand for health insurance are social group, income, awareness, age, education and health expenditure. Both age and education are positively related to demand for health insurance but are statistically not significant. But income, health expenditure and awareness are positively significant. Annual income, awareness on health insurance scheme, age, education and annual health expenditure are the major determinants and the social group are also influencing in determining demand for health insurance.

Friday, 19th November 2011

Parallel Session D2: 2.00 PM - 3.30 PM

Efficiency and Financing Issues in Health Sector

Venue: V. K. R. V Rao Room

Chair: Mr. Billy Stewart
DFID

Oral Presentation

A Case Study on Cost of Medical Waste Management in
Sattur Government Hospital

S. Rajendran
Periyar University, Salem

Incremental Cost Analysis of Implementing IMNCI Program at District Level in India

Shankar Prinja
Post Graduate Institute of Medical Education, and Research, Chandigarh

Financing medicines-Challenges and opportunities for developing countries

Veenita Anand
National Institute of Health and Family Welfare, Delhi

Health Economics and in Financing Drug Research in India

Avinash Ganbote
Baramati, Pune

Technical efficiency of Comprehensive Emergency Obstetric and
Newborn Care centres in TN

S. Rajasulochana
Indian Institute of Technology, Madras

Study on Cost of Medical Waste Management in Sattur Government Hospital

S. Rajendran

Periyar University, Salem

R. Ramachandran

Periyar University, Salem

Medical waste, due to its content of hazardous substances, poses serious threats to environmental health. The hazardous substances include pathological and infectious material, sharps and chemical wastes. In hospitals, different kinds of therapeutic procedures (i.e. cobalt therapy, chemotherapy, dialysis, surgery, delivery, resection of gangrenous organs, autopsy, biopsy, para clinical test and injections) are carried out and result in the production of infectious wastes, sharp objects, radioactive wastes and chemical materials. Medical waste may carry germs of diseases such as hepatitis, Tuberculoses and Acquired Immune Deficiency Syndrome. This paper seeks to document the handling practice of waste (e.g. collection, storage, transportation and disposal) along with the types and amount of wastes generated by a state run hospital. The present study was undertaken in Sattur Government hospital, in Virudhunagar district. The study was based on secondary data. The study in confined to BMW Management, covering a period from September 2008 to June 2011. There are nine Govt hospitals in Virudhunagar District, namely Virudhunagar, Aruppukottai, Tiruchuli, Kariapatti, Rajapalayam, Watrap, Srivilliputtur, Sivakasi and Sattur and for the present study Sattur Government Hospital alone was selected. In this hospital there are six wards namely male, female; children, maternity, neonatal and post operative ward with 84 beds. On an Sattur average 800 patients are coming every day. The total BMW generated is less than 10 kg per day from all wards. The Sattur Government Hospital spends ` 165059 for 6113.30 kgs of Bio-Medical waste. The waste generated rate was estimated at 5.92 kgs per day and spends ` 159 per day for disposing the waste and also this hospital spend ` 3 for per bed per day and ` 0.01 for per patient per day. The process of collection, segregation and disposal of medical waste is not performed according to recommended standards and concerned people are exposed to the danger of such wastes. Safe disposal of medical waste is essential and is handled in a very professional way in hospitals. It is essential to handle, dispose and treat bio medical waste in a scientific and cost effective manner. Due to increase in impatient and outpatient one would expect increase in bio medical waste. Hence, cost effective and safe disposal of the same is essential. The case study of Sattur hospital reveals some useful insight towards management of bio medical waste.

Incremental Cost Analysis of Implementing IMNCI Program at District Level in India

Shankar Prinja

Post Graduate Institute of Medical Education and Research, Chandigarh

Pankaj Bahuguna

Post Graduate Institute of Medical Education and Research, Chandigarh

Pavitra Mohan

UNICEF India Country Office, New Delhi

Sarmila Mazumder

Society for Applied Studies, New Delhi

Sunita Taneja

Society for Applied Studies, New Delhi

Nita Bhandari

Society for Applied Studies, New Delhi

Rajesh Kumar

Post Graduate Institute of Medical Education and Research, Chandigarh

Integrated Management of Neonatal and Childhood Illnesses (IMNCI) was implemented in Haryana state, India, in 2007. It aims at improving child survival through enhancing skills of health care providers to deliver quality care, improving community practices for child care and strengthening health system. We evaluated the incremental cost of implementing IMNCI in India from a health system and societal perspective.

Primary data was collected on resource consumption to estimate the economic cost to health system of delivering child health services at district hospital, first referral unit and frontline worker (auxiliary nurse midwife, anganwadi worker and accredited social health activist) level. Out-of-pocket costs (public and private facilities), utilization of health facilities, and reduction in morbidity as a result of IMNCI was assessed using household data from a cluster randomized trial conducted to ascertain impact of IMNCI in India.

National Sample Survey data from 60th round (2004-05) was analyzed to estimate infant and 1-5 year old morbidity. Overall standardized cost of delivering routine child health care services at district level was deducted from a scenario with implementation of IMNCI to estimate incremental cost of IMNCI program at district level. We found that the IMNCI program puts an additional cost of INR 129 per child on the health system. However, using a societal perspective, IMNCI program leads to a saving of INR 1498 per child. This results in an 18.9% reduction in total health care expenditure at district level in India. A minimum 7.3 % threshold reduction in morbidity is required for IMNCI program to result in cost saving to the society. The paper concludes that IMNCI is a cost saving intervention at societal level.

Financing Medicines: Challenges and Opportunities for Developing Countries

Veenita Anand

National Institute of Health and Family Welfare, Delhi

The objective of this paper is to understand if the medicine can be financed by microfinance. The various challenges faced by the microfinance services providers in health and medicine in particular. Some Asian countries have been chosen to observe the medical cost coverage strategies. This paper will use the data from national health accounts and best published inventory data from ILO for some specific countries. This paper will enlighten the success and challenge face by various microfinance institutions.

We used complementary data collection approaches: 1. Structured questionnaire with various MFI's working for health and medicinal services in Asian countries about key issues related to medicines. 2. Review of articles published in British medical journal, lancet Journal, New England journal of medicine, JAMA since 2000 and documents posted online by various resources. 3. Interviews with experts from WHO departments, including Health Systems and Financing, Essential Medicines and Pharmaceutical Policies, Health Policy, Development and Services, and Alliance for Health Policy and Systems Research, Equity in Health. 4. Analysis of existing data bases of GIMI, WHO, and ILO.

The main results of the studies shows that MFI's Financing the medicine with financing mechanism especially Insurance and credits system are effective in bringing the health and social protection to the large number of poor people.

The microfinance can be a distributive channel to supply various financial products. It shows importance in medicine coverage in OPD especially essential chronic disease and tradition medicine which is demand of the community. Covering medicine within the product of insurance, voucher or credit is possible but dealing with cost of the microfinance institution will be challenging. Further more research is required to explore the alternatives to fund the microfinance institutes.

HEALTH ECONOMICS AND FINANCING DRUG RESEARCH IN INDIA

Avinash Ganbote

Institute of Management, Baramati, Pune.

Health and its value is issue of debate all over world in last decade. Demand and supply sides of healthcare and its microeconomic evaluation is important issue of various aspects of intellectual property and its commercialization in terms of Intellectual Property Rights (IPRs). Establishment of market equilibrium as a result of demand and supply of health inputs and its monitoring mechanism is the area of study which is fast emerging in terms of health economics. Drug research and its actual cost in this equilibrium is debatable issue in international front. India as signatory to WTO is affected to some extent by this relationship between commercialization of patents and deadweight loss incurred due to IPRs and its resulting economic inefficiency.

Technical efficiency and Scale efficiency of Comprehensive Emergency Obstetric and Newborn Care centres in Tamil Nadu

S. Rajasulochana

Indian Institute of Technology, Madras.

Umakant Dash

Indian Institute of Technology, Madras.

V.R. Muraleedharan

Indian Institute of Technology, Madras.

Given the budget constraint, it is imperative for the public hospitals to be technically efficient thereby generate additional resources within. Previous hospital efficiency studies using DEA, from developing countries have used the number of unadjusted services as output variables, accounting very little for procedural complexity which has implications for resource use in the hospital setting. This study isolates just department common across the secondary-level public hospitals across Tamil Nadu (i.e. Comprehensive Emergency Obstetric and Newborn Care centres within the secondary public hospitals in Tamil Nadu) and examines as both the volume of services as well as the proportion of complicated cases handled by them as outputs. This paper estimates the relative technical efficiency (TE) and scale efficiency (SE) of phase 1 CEmONC centres in public hospitals across Tamil Nadu using DEA method using performance indicators for the year April 2009 to March 2010. The result showed that 33 (out of 48) centres were technically inefficient, with an average TE score of 77.8% and a standard deviation (STD) of 13.6% under the constant returns to scale assumption. Only 20 centres were technically inefficient under variable returns to scale assumption with an average score of 80.25% (STD of 12.36%). 33 centres were scale inefficient with 84.4% (STD of 11.6%). This pilot study demonstrates to the policy-makers the versatility of DEA in measuring inefficiencies among CEmONC centres. Key limitation of this study is that it has not accounted for quality of care. Further research is required to examine why certain centres outperform others and whether the level of operation of these centres matter for their efficiency.

Friday, 19th November 2011

Parallel Session D3: 2.00 PM - 3.30 PM

Health System Strengthening: Policy and Perspective II

Venue: Committee Room

**Chair: Dr. K Seeta Prabhu
UNDP**

Oral Presentation

District level NRHM Funds Flow and Expenditure: Sub-national evidence
from the State of Karnataka

K. Gayithri

Institute of Social & Economic Change, Bangalore

An Evaluation of Healthcare Delivery and Stakeholder's Satisfaction in
Central Government Health Scheme (CGHS) and Ex-servicemen
Contributory Health Scheme (ECHS)

Sukumar Vellakkal

Public Health Foundation of India, Delhi

State Program Management Units (SPMUs) - An NRHM Innovation

Rachana Parikh

Ministry of Health and Family Welfare, GoI

Morbidity and Health Care Expenditure

Kaushalendra Kumar

International Institute for Population Science, Mumbai

District level NRHM Funds Flow and Expenditure: Sub national evidence from the State of Karnataka

K. Gayithri

Institute for Social and Economic Change, Bangalore

The issue of small and declining health sector financing by the central and state governments in India is addressed by the launching of National Rural Health Mission in 2005-06. Bottom up planning starting with village as unit used as the main strategy of NRHM to meet the region specific health needs would serve well to promote health sector development. Provision of effective and quality health services with a special focus on backward districts with weak human development is also slated to be an important objective of NRHM. Analyzing the district level NRHM funds flow and expenditure in Karnataka the present paper argues that the district wise allocations are wrought with poor expenditure planning. Program implementation plans and allocations significantly vary from one another. Such deviations in the earmarking of planned funds defy the very purpose of stringent bottom up planning involving colossal manpower and financial resources to track the grass root felt needs. In addition such aberrations do not help the government in the achievement of professed outcomes. This is a serious lapse in NRHM implementation and can seriously distort the effectiveness of public spending and to be taken care of in future. Utilisation of the allocated resources is poor and there is absolute mismatch between the planned estimates for important components of NRHM like RCH, NRHM additionalities, Disease control program and Immunisation and actual expenditure.

An Evaluation of Healthcare Delivery and Stakeholder's Satisfaction in Central Government Health Scheme (CGHS) and Ex-servicemen Contributory Health Scheme

Sukumar Vellakkal

Public Health Foundation of India, Delhi

Shikha Juyal

Indira Gandhi Institute for Development Research, Mumbai

Ali Mehdi

University of Freiburg, Germany

We evaluated the working of both Central Government Health Scheme (CGHS) and Ex-servicemen Contributory Health Scheme (ECHS) by assessing patient satisfaction as well as the issues and concerns of empanelled private healthcare providers.

Primary survey of 1,204 CGHS and 640 ECHS principal beneficiaries, 100 empanelled private healthcare providers and 100 officials of the schemes across 12 Indian cities were used.

Patients are reasonably well satisfied with the healthcare services of empanelled private healthcare providers and dispensaries-polyclinics but are relatively more with the former. Further, beneficiaries are willing to pay more for better quality services. Though the schemes offer comprehensive healthcare services, the beneficiaries incur some out-of-pocket health expenditure while seeking healthcare. In addition, beneficiaries are not in favour of the proposal to replace the schemes with private health insurance for several reasons. Furthermore, empanelled private healthcare providers are dissatisfied with the terms and conditions of empanelment, especially due to low tariffs for their services as compared to prevailing market rates and the delays in reimbursements.

Appropriate measures be undertaken to enhance quality of healthcare service of dispensaries-polyclinics and to address the issues raised by empanelled private healthcare providers to ensure better healthcare delivery.

State Program Management Units (SPMUs) - An NRHM Innovation

Rachana Parikh

Consultant, National Rural Health Mission, Ministry of Health and Family Welfare,
Government of India

Sajjan Singh Yadav

Director, National Rural Health Mission, Ministry of Health and Family Welfare,
Government of India

Salima Bhatia

Consultant, National Rural Health Mission, Ministry of Health and Family Welfare,
Government of India

One of the important lessons learnt from Reproductive and Child Health (RCH) Phase I Programme was that weak management and technical capacities existed at different levels of the health system which significantly hampered programme performance. In the pre National Rural Health Mission (NRHM) period, this lack of managerial capacity was also observed by many national and international agencies in evaluation reports of other programs as well. NRHM, a flagship programme of the Government of India launched in 2005, attempted to address the need of providing technical and managerial support for effective management of public health programs by introducing Programme Management Units (PMUs) at the State/District/Block levels. State Programme Management Unit (SPMU) was envisaged to comprise of a group of professionals including State Programme Manager, State Finance Manager, State Data Officer and State Accounts Manager. Such a dedicated unit for management of public health programs was introduced for the first time in the country under NRHM.

Over the period, a range of programme management staff has been engaged by the States under the Mission to augment the technical and management capacities of SPMUs. However, a lack of documentation of the SPMUs both within and outside the Ministry hampers learning across States and at this critical juncture when the 12th five year plan is being prepared, calls for an inquiry into functioning of these units. While there is need for in-depth evaluation of contribution of SPMUs to successful implementation of various components of NRHM, in the absence of basic information and data, this study has to be limited to analysis of size, structure and functions of SPMUs across the States.

The study thus primarily aims to outline the size, structure and the functions of the State Programme Management Units set up under NRHM. Data was collected from 12 States which were a mix of high focus States, non- high focus large States, non- high focus small States and Union Territories (UTs). States were asked to submit an organogram of their SPMU and a format in which information on management of around 20 specific functions like planning, infrastructure development, financial management, procurement, training, etc was requested.

The State Program Management Units have evolved into complex and extremely versatile structures over the years under NRHM. Even as it took 3 years to establish SPMUs in all the States/UTs, States have used this opportunity to address their specific technical and management needs for effective implementation of NRHM. Each SPMU on an average would address 20-25 functions.

The SPMUs initially diversified to address specific managerial functions like finance, monitoring and evaluation, infrastructure development and later diversified to address particular functional aspects, primarily pertaining to RCH. In concurrence to the complexity of SPMUs in large States, a dedicated wing or a group of people has been added to strengthen the functioning of specific tasks primarily in large States. Wings have been developed to strengthen finance management, infrastructure development, Monitoring and Evaluation (M & E) and procurement. The disease control programmes largely remain beyond the ambit of the SPMU.

More than 50% of the staff of SPMUs is contractual but majority of functional aspects are headed by a permanent employee of the State Government. However, certain key areas such as Health Planning, School Health and Monitoring and Evaluation which have received recent emphasis or are recently introduced into the health system are headed by contractual staff. In the last 6 years of the Mission, the staffs in the key positions have changed nearly 2-3 times.

Overall, a SPMU essentially is a flat organization with three to four levels at the State level. Typically, in a SPMU, the lowest levels are occupied by a Consultants or Programme Associates or Accountants in case of Finance. Largely, reporting to more than two officials or dual reporting is not seen in the SPMU organogram. In both High Focus and Non High Focus States, utilization of funds between 2005-06 and 2010-11 has been better albeit marginally in the States where the SPMUs were established earlier.

As the next step, the study advocated an in-depth evaluation of the individual functional aspects of the SPMUs and calls for a detailed assessment of the impact of the SPMUs in overall program management. This would enable identification of aspects from these diverse structures that are performing well and may be replicated in other states. Simultaneously, it will also help in identifying areas that could be economized.

Does Morbidity among Elderly Increase Health Care Expenditure?

Yadawendra Singh

Jawaharlal Nehru University, Delhi

Kaushalendra Kumar

International Institute for Population Sciences, Mumbai

The combined effect of aging and its associated vulnerability to health problems results in rising health expenditure with age. As physical and mental health tends to deteriorate with age, the elderly need much more health care. In addition, the elderly often need medical care, which involves relatively expensive treatment and frequent hospitalisation. As a result of this, per capita health spending among the elderly is much higher compared to that of the other age group population. In Indian context, there are ample evidences, which confirm the deterioration in physical and mental health in old age. But no systematic investigation has been done regarding the burden of health expenditure that could arise due to the longer life span of the elderly with multiple chronic ailments. With this background, this study is an attempt to fill this gap and seeks to examine the effect of population aging on health expenditure at the household and individual level utilising NSS 60th round data.

The results found that one quarter of the elderly reported their health as poor and the proportion increased with increase in age. Disease prevalence among elderly was also found to be very high and was more than 40 per cent and it increased with age. The results also indicated that the use of private hospital services was more as compared to that of public hospitals, which indicated poor quality of health services at public hospital. Furthermore, the study revealed that per capita hospitalization cost for the elderly is four times higher than that for the non-elderly. The skewness in health expenditure towards the elderly tends to diminish when we adjust the aged population for their higher risk of getting diseases. Moreover, the presence of elderly in the household augments the per capita hospitalisation cost for the household. Per capita hospitalisation expenditure tends to rise with the increase in the number of elderly in the household till the number of aged person goes up to two. As we move up on the wealth quintile scale, per capita hospitalisation expenditure also increases. But the reverse is true with respect to the proportion of total health expenditure to total household expenditure. Although the households in upper quintile spend more on health care but household health expenditure as a proportion household total expenditure is found to be highest for the households in quintile one, which indicated that such households are more vulnerable. Hence, there is a need for the insurance policies which can provide economic and social protection for such vulnerable households.

