

Oral Track 21- Primary Healthcare and Public Health

OT21-1

Primary Health Care and Health Equity Vis-A-Vis New Sources of Financing in Less Developed Indian Settings

Saji Saraswathy Gopalan

Independent Health Economist, India

Objectives: 1. To assess the contribution of alternative financing schemes to access to primary health care. 2. To assess the contribution of alternative financing schemes to health equity **Methods:** We used household surveys, in-depth interviews and focus group discussions to collect the information. In the first stage, we conducted household surveys in 20% of the total rural households each from three districts of Orissa. In the second stage, we conducted focus group discussions for the beneficiaries of alternative financing schemes for primary health care, identified through the household survey.

Results: Out of the total 4200 households surveyed in rural Orissa, 3450 (82%) households are part of partnership financing schemes. Out of these, 2650 (77%) are enrolled into health insurance, the rest use NGO linked micro -credits as source of health care financing. Though all of the schemes (58%) are not specifically addressed for a particular vulnerable community, 68% of the beneficiaries are marginalized such as economically backward, disabled, women, elderly, children and indigenous population. There is an improvement in the health seeking behavior of the vulnerable groups (64%), increment in the out patient cases of public health care facilities (38%) and effective utilization of Indian systems of medicine (35%).

Conclusion: Alternative sources of financing such as partnership schemes contribute to access to primary health. The schemes also contribute to the essential health care of vulnerable groups.

OT21-2

Estimating the Costs of Delivery of Primary Health Care: A Coverage Target Based Approach from Aceh, Indonesia

Asnawi Abdullah^{1,2}, Krishna Hort², Azwar Zaenal Abidin³, Fadilah M. Amin³

1. University Muhammadiyah Aceh, Indonesia

2. University Melbourne, Australia

3. Aceh Provincial Health Office, Indonesia

Background: Recently there is growing interest in the development of costing tools. However, most of the current tools were developed for use at national level. For decentralized government where planning and budgeting are at sub-national level, a micro level of costing tool is required. The objective of this study was to develop a simple and transparent costing tool which enables health planners to calculate the unit costs of

providing basic health services in order to estimate additional budgets required to deliver services in accordance with national targets.

Methods: The tool was developed using a standard economic approach. The input activities were defined as the component activities required to achieve the nominated level of outputs. Outputs were defined based on six national priority programs. Costing for the inputs was focused on operational costs. The model development was based on intensive consultation and engagement with local health officers. Data and relevant information was derived from a survey and in-depth interview

Results: A simple and transparent costing tool consisting of 16 linked Microsoft Excel worksheets has been developed and tested. The model provides the calculation of unit costs per coverage target of a specific program (such as pregnant mother or under 5 child) as well as aggregated per head of general population.

Conclusion: This costing tool can be used by health planners to estimate additional money required to achieve a certain level of coverage of health programs and it can be adjusted for different costs and program delivery parameters in different settings

OT21-4

Disability among Elderly in Western Maharashtra: How Are They Living?

Mahesh Mahaling Khalipe¹, P. Sankara Sarma², Jayant Kumar Panda³

1. Government of Maharashtra, India

2. Sree Chitra Tirunal Institute for Medical Sciences and Technology, India

3. Asian Institute of Public Health, India

Background: Despite overall socioeconomic development, improvements in living standards and effective public health measures most of our preceding results are mired by poor health conditions of elderly with high prevalence of co-morbid conditions and activities of daily living (ADL) disabilities. With an increasing role being assigned to market forces, lack of social security schemes and degenerating nature of old age diseases, it is said that elderly Indian have apparently run out of options. The objectives were to estimate prevalence of ADL disabilities and to identify its correlates among elderly population in western Maharashtra, India.

Methodology: In this cross-sectional study, 275 randomly selected rural elderly subjects were studied using a structured interview schedule that included the special tool (Indian health assessment questionnaire) to estimate the prevalence of ADL disability. Data analysis was done in SPSS (version 15.0). Ethical clearance was obtained.

Results: The prevalence of ADL disability was 5.8% (Men=5.3%, Women=6.3%). In bivariate analysis age, poor physical and mental health, visual and communication difficulty were significantly associated

with ADL disability. In logistic regression analysis, it could be established that the history of chronic illness [OR=10.87 (1.84-62.5)], depression [OR=13.33(2.2-83.33)] and poor social participation [OR=10.41(1.71-62.5)] were statistically significantly associated with ADL disability.

Conclusion: The burden of ADL disability was associated with modifiable factors. Hence, a holistic and intersectoral approach for promoting physical and mental health of elderly is the need.

OT21-5

Assessing Influenza Vaccination Policy for the Elderly

Ching Wen Chien¹, Pei Ying Lin²

1. National Yang-Ming University, Taiwan

2. Taiwan Association of Health Industry Management and Development, Taiwan

Objective: To assess the effect of free influenza vaccination policy for the elderly citizens on their expenses and utilization of medical care.

Method: This study analyzed utilization data of the elderly abstracted from 2004-2006 National Health Insurance Research Database (NHIRD). 398,449 elderly citizens who didn't receive the flu vaccination between September 2004 and January 2005 were divided into two groups. 89,773 elderly citizens who received the influenza vaccination between October 1 to October 15, 2005 were classified as the case group and the rest (308,676 elderly citizens) were classified as the control group. Both groups were compared with their medical expenses and utilization in acute respiratory tract illness in inpatient, emergency and outpatient by difference-in-difference analyses and multiple linear regressions.

Results: After controlling for sex, age, and Elixhauser comorbidities, the case group had fewer increases in inpatient expense, total medical expenses, and length of stay in acute respiratory tract related illness. Receiving influenza vaccination could significantly reduce the increase of medical expenses and utilization.

Conclusion: Influenza vaccination for the elderly could significantly reduce health expenses in acute respiratory related tract illness for elderly patients. Therefore, free influenza vaccination policy for elderly citizens should be promoted.

OT21-6

To Evaluate the Effectiveness of Diabetes Shared-Care Program in Taiwan Using the Sequential Quality Indicator of Glycosylated Hemoglobin

Hsin-Yang Huang^{1,2}, Mei-Shu Lai¹, Yen-Yuan Chen¹

1. National Taiwan University, Taiwan

2. Taitung Christian Hospital, Taiwan

The increasing prevalence and cause-specific mortality in recent years have made diabetes (DM) a crucial public health threat to Taiwan. As reported by Voorham in 2008, sequential quality indicators, including improved or being controlled, are much better for evaluating the effectiveness of DM intervention programs than currently used cross-sectional indicators. However, no studies have been performed to evaluate DM intervention programs using sequential quality indicators. This is the first study to evaluate a DM intervention program (Diabetes Shared-Care Program in Taiwan, DSCP) using sequential quality indicators. Current and newly identified type 2 DM patients from the outpatient clinics of a community hospital between 10/01/2007 and 01/30/2008 were recruited. These patients who were regularly followed up for more than three months before enrollment were assigned to the DSCP group (N=120). Others were assigned to the usual care (UC) group (N=99). Demographic data and other confounders were collected as the independent variables of the multivariate logistic regression model. The sequential quality indicator of glycosylated hemoglobin (HbA1C) was the dependent variable of the model. All patients were followed up for 12 months. Seventy-two (60%) of the DSCP patients and 42 (42.4%) of the UC patients showed significant improvement after 12-month follow-up as demonstrated by the sequential quality indicator of HbA1C (p-value=0.010) using bivariate analysis. After controlling for confounders, the DSCP significantly predicted the better sequential HbA1C (O.R.=3.34; 95% C.I.=1.61~6.94; p-value=0.001). Our study showed that the DSCP is significantly associated with better outcomes for type 2 DM patients as demonstrated by the sequential HbA1C.

OT21-7

New Opportunities for Health Care in the Philippines: Integrating the Care of Older Persons into Public Health Systems

Lester Sam A Geroy¹, Grace Fe Buquiran², Leonard Christopher Seña²

1. Regional Office for the Western Pacific World Health Organization, Philippines

2. University of the Philippines Open University, Philippines

3. University of the Philippines, Philippines

Objective: Economic growth and developments in health care has increased life expectancy leading to the rise of the elderly population in the Philippines. This obviates the need for more comprehensive approaches in the care of older persons at the local level. This study analyses the existing health programs for older persons within the socio-cultural and institutional frameworks and identifies opportunities for development.

Methodology: Focus group discussions of key informants and stakeholders were conducted in Bukidnon to identify the socio-cultural aspects, existing programs, local government support, and challenges for

health care of older persons. Triangulation of results was done to determine areas for consideration in integrating care for older persons within the public health system. Results and Discussion: Health care for older persons can be improved within the framework of existing community structures. Elderly Filipinos are open to the possibility of being cared for by non-family community members. Socio-cultural considerations, current health challenges, existing community and public health activities, institutional support, and opportunities are discussed.

Conclusion and Recommendation: Integration of care for older persons within the public health system requires holistic approaches, financial support strategies, capacity enhancement for the health workforce, and community involvement.

Oral Track 22- Primary Healthcare and Public Health

OT22-1

Cost Effectiveness of Type 2 Diabetes Screening among Rural Population of Qazvin in 2007: Family Physician Project

Saeed Asefzadeh, Iman Kelidar, Navid Mohammadi
Qazvin University of Medical Sciences, Iran

Introduction: Application of economic analysis is one of the decision making elements concerning priority setting and effectiveness of provided services.

Objective: To assess the residents' needs in clinical teaching in order to prepare an educational module to increase their teaching clinical skills. Material and methods: In this descriptive – analytic study, we selected 14 Rural Health Centers to estimate unit cost of diabetes screening in Qazvin family physician project. The project covered 94318 people of over 30 years. The effectiveness has been measured by disability adjusted life years resulting from diabetes screening results. Statistical procedure and the second version of DisMod software were used for data analysis.

Findings: Total life years saved by diabetes screening project in Qazvin's rural population is about 291.24 years and total cost of this project is about 424733000 Rials (\$45000). Incremental cost effectiveness of doing screening project to save each life year in Qazvin's rural population is 101722024 Rials (\$10500).

Conclusion: The result implies that this project is cost effective.

OT22-2

The Effects of Healthcare Staffing on Mortality Rate in Taiwan: A Longitudinal Analysis from 1998 to 2007

Chao-Sung Chang¹, Ya-Chu Yang¹, Pey-Lan Du²
1. Kaohsiung Medical University, Taiwan
2. National Kinmen Institute of Technology, Taiwan

Objective: Literature review shows that physician supply has a negative effect on population health. This study was aimed to investigate the relationship between healthcare staffing and mortality rate in Taiwan.

Method: Data of healthcare staffing and mortality rate of 368 townships in Taiwan from 1998 to 2007 were retrieved from the yearly Bulletin of Manpower Statistics, Department of Health. Socioeconomic status including population density, average household income, racial/ethnic composition, education, unemployment rate and aging index were obtained from National Statistics, Department of Internal Affairs, Taiwan. Statistical analysis including ordinary least squares (OLS) model for cross-sectional analysis and generalized estimating equation (GEE) model for longitudinal analysis were performed to study the effect of healthcare staffing on the mortality rate.

Results: Our results showed that there was a significantly negative association between all kinds of healthcare staff, except LVN, and the mortality rate in cross sectional analysis using OLS model. In the longitudinal analysis with GEE model, we found the number of physician and dentist per thousand were negatively associated with the crude mortality rate among 368 townships. Increasing the number of physicians and dentist by one per thousand will decrease the mortality rate by 0.4% ($p < 0.05$) and 4.8% ($p < 0.05$), respectively.

Conclusions: The physician and dentist supply have a negative effect on mortality rate in Taiwan. The dentist density has a better prediction on mortality rate than the physician, which might represent uneven distribution of healthcare staffing, and rather than a true effect on mortality.

OT22-3

Low Serum Bilirubin Level as An Independent Predictor of Stroke Incidence: A Prospective Study in Korean Men and Women

Heejin Kimm, Ji Eun Yun, Jaeseong Jo, Sun Ha Jee
Yonsei University, South Korea

Background and Purpose: Bilirubin is not only a waste end-product but an antioxidant. Bilirubin is known to be associated with decrease in cardiovascular risk in men, but its relationship to stroke was not clearly understood. Methods: Serum bilirubin concentrations were measured in 78 724 health examinees (41 054 men, aged 30-89 years) from 1994 to 2001. The subjects with potential hepatobiliary diseases or Gilbert syndrome were excluded from analysis. Stroke incidence outcome was collected from hospital admission records due to stroke from 1994 to 2007.

Results: Serum bilirubin measurements were divided into 4 levels: 0-10.2, 10.3-15.3, 15.4-22.1, and 22.2-34.2 $\mu\text{mol/L}$. The number of stroke cases was 1137 in men and 827 in women. In Cox proportional hazard models, participants with a higher level of bilirubin showed lower hazard ratios in men with ischemic stroke after adjustment for multiple confounding factors compared to