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**Pakistan Health Economics Network
(PHEN)**

**Landscaping Health
Financing Works in Pakistan:
Report**

Prepared by:

Shehla Zaidi

Shafqat Shehzad

Asad Sayeed

Liaquat Khowaja

Funded By

World Health Organization

Eastern Mediterranean Regional Office

December 2010

FOREWORD

In Pakistan a well functioning health financing system is needed to move towards universal coverage, address new chronic as well as continuing preventable health needs of the population, and protect households from catastrophic health expenditure. A sound and equitable financing system requires a synthesis of new research and lessons learnt from the ground.

This report brings us closer towards this purpose by collating key evidence from the health financing area in Pakistan for policy uptake as well as highlighting information gaps that need to be addressed. It is encouraging to note the wide number of works synthesized and participation by different stakeholders towards this purpose. I appreciate the voluntary time put in by academics and seed funding provided by WHO.

The landscaping comes at a timely juncture as with the expected provincial devolution of the Ministry of Health in June 2011 there is a critical need to develop evidence based provincial health strategies. The evidence generated here can contribute towards modification of health care financing in Pakistan so as to make health care more accessible to the population, particularly the disadvantaged. It is also hoped that this exercise will result in closer, productive working between policy makers, researchers, academicians and think tanks towards a responsive health financing system.

Begum Shahnaz Wazir Ali
Special Assistant to Prime Minister on Social Sector

FOREWORD

Good health is essential to human welfare and to sustained economic and social development. This publication, which collates recent initiatives that have been undertaken in the health economics in Pakistan, it is the first effort of its kind within the country – an initial step in developing evidence based strategic direction for financing and costing of health care.

The landscape review attempts to capture a wide range of relevant studies, surveys, financing schemes and any other form of health financing work either underway or recently completed in Pakistan within the last five years.

The publication has been set forth within the context of the realization that evidence generation in the area of health economics will guide health policies and for development of effective financing schemes.

Efforts made by the authors and the Pakistan Health Economics Network (PHEN) will bring policy makers, donors and international community before embarking on new health initiatives and help Pakistan review its financing systems and strategies alongside their national health policies and plans to ensure more people get access to health services as well as to contribute towards developing a national health financing research agenda, build linkages among institutions and individuals in this field.

The World Health Organization has had the privilege of contributing to the process of developing capacity to generate data that have been reflected in this publication and wishes to build further on this commitment as the three key areas that WHO highlights for change in health financing include raising more funds for health, raising money more fairly, and spending it more efficiently.

Dr. Guido Sabatinelli
WHO Representative, Pakistan

ACKNOWLEDGEMENTS

This report attempts to provide a snapshot overview of recent initiatives that have been undertaken in the health care financing area in Pakistan. This is the first such study undertaken in Pakistan. It pulls together key findings from relevant works also outlining many works that have not previously been in the public domain. Areas of evidence gaps are also highlighted.

It is hoped that the report will bring policy makers, researchers and project implementers closer towards developing an evidence based strategic direction for financing and costing of health care.

The need for this exercise was discussed at the meeting of Pakistan Health Economics Network [PHEN] in Islamabad November 2009 hosted by Health Services Academy. The report has been prepared and coordinated with voluntarily time contribution of academics and researchers. Shehla Zaidi (Aga Khan University) directed the exercise, Shafqat Shahzad (Health Services Academy) as Coordinator of PHEN provided technical assistance and oversight, and Asad Sayeed (Collective for Social Science) hosted the desk review and fieldwork. Required administrative funds were provided by WHO-EMRO and are gratefully acknowledged. Research work was assisted by Liaquat Khowaja and Murad Charania.

The report draws upon contributions from numerous institutions and individuals who shared their works. Many also communicated their insights in the course of preparation of this report and facilitated interaction with other stakeholders. This exercise would not have been possible without their contribution and these are very gratefully acknowledged. Of particular note are MOH, Planning Commission, GTZ, World Bank, ADB, WHO, UNICEF, and Heartfile.

Finally we would like to particularly thank Dr. Hossein Salehi (WHO-EMRO) and Dr. Inaam Haq (World Bank) for peer review and comments in finalization of this report.

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ACRONYMS

ADB	Asian Development Bank
AKAM	Aga Khan Agency for Microfinance
AKHSP	Aga Khan Health Services, Pakistan
ANC	Ante-natal care
BHU	Basic Health Unit
BISP	Benazir Income Support Programme
CCT	Conditional Cash Transfer
DAD	Development Assistance Data
DHS	Demographic Health Surveys
EAD	Economic Affairs Division
EMRO	Eastern Mediterranean Regional Office
FBS	Federal Bureau of Statistics
FGD	Focus Group Discussion
GDBIA	Gender disaggregated benefit incidence analysis
GDP	Gross Domestic Product
GTZ	German Technical Cooperation
HIES	Household Integrated Economic Survey
HIV	Human immunodeficiency virus
HMI	Health Micro Insurance
ICHA	International Classification for Health Accounts
LHW	Lady Health workers
MBB	Marginal Budgeting for Bottlenecks
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MIS	Management information system
MNCH	Maternal, Newborn & Child Health
NADARA	National Database and Registration Authority
NGO	Non-governmental organization
NHA	National Health Accounts
NPPI	Norway Pakistan Partnership Initiative
NRSP	National Rural Support Program
OOP	Out-of-Pocket
PHEN	Pakistan Health Economics Network
PIHS	Pakistan Integrated Household Surveys
PPHI	People's Primary Healthcare Initiative
PRSP	Punjab Rural Support Program
PSLM	Pakistan Social and Living Standards Measurement
RBFM	Result Based Financing Mechanisms
UN	United Nations
UNICEF	United Nations Children's Fund
WHO	World Health Organization

BACKGROUND

About PHEN: Pakistan Health Economics Network [PHEN] was formed in 2009 supported by WHO-EMRO seed funding with the aim to strengthen health financing and related research in Pakistan and its uptake into policy and practice. Its main objectives are to i) raise awareness on relevance of health economics and financing research; ii) strengthen a pool of researchers through mutual collaboration and support; iii) facilitate networking and capacity building through liaison with researchers, universities, government and development partners. It is presently housed within the Health Services Academy Islamabad with plan for eventual evolution of this network into an independent set up. Its members include economists working in the health sector as well as public health specialists with strong work experience in health economics. Activities involve voluntary time contribution from network members and operational costs are funded by WHO-EMRO.

The Landscaping Study: The World Health Report 2010 titled '*Health Systems Financing: the Path to Universal Coverage*' underscores the need for modifying health financing systems so as to provide universal health care access, meet new health care needs of populations and protect the vulnerable from catastrophic medical expenditures. In Pakistan there has been a growing realization of the need for evidence in the health financing area to guide health policies and for development of effective health systems. Although some work has taken place in recent years by development partners, government entities, researchers and think tanks, there has been little synthesis of what has been done and where are the remaining gaps. With this view in mind, a landscaping exercise of recent health financing and related works undertaken in Pakistan has been carried out as one of the key initial activities of PHEN. The landscaping captures a wide range of relevant researches, surveys, financing schemes, and other forms of health financing work either underway or recently completed in Pakistan within the last five years. This is the first such exercise in Pakistan and aims to provide an overview of type of work already undertaken, key emerging findings, and identification of unaddressed research needs. It is by no means an exhaustive indexing exercise but a broad attempt to capture major pieces of work.

The landscape review can be used for developing evidence based policies for modifying health financing systems towards universal coverage. This review may be of use to policy makers wanting to tap into available evidence, for donors interested to fund key knowledge gaps prior to launching of new initiatives, and for researchers and public health practitioners whose energies can be targeted towards strategically relevant policy areas. It is hoped that this exercise can lead towards a closer linkage between policy makers and researchers, and as well linkages amongst institutions and individuals working in similar interest areas.

Report Layout: For easy reading, the diverse array of studies, articles, and projects have been categorized into four thematic sections areas: Health Allocation and Expenditure, Health Financing Mechanisms, Economic Evaluation & Cost of Illness Studies, and Inequities & Safety Nets. These are followed by a Discussion section synthesizing listed works and identifying strengths and knowledge gaps. It is purposefully kept concise so as not to detract attention from the listing and description of numerous initiatives. The report is rounded off with an Alphabetical Index organized by title of work, a Contact List of Institutions, and full References of all the works covered in this report.

METHODOLOGY

Approach: A broad and systematic search was conducted to map the landscape in terms of local health financing and related initiatives. The intent was to provide a broadly capture both research and practice initiatives rather a rigorous Chochrane style review would not have been appropriate given the small volume of scholarly work. A particular emphasis was on capturing non-scholarly 'grey' works as these were anticipated to form the major share of health financing related contributions in Pakistan. Attempt was made to capture a wide mix of products including research articles, research reports, survey reports, public sector or NGO projects, scoping, review and assessment reports, and any other work. Within research only primary research - based on either primary or secondary data- and systematic literature reviews were included while commentary and discourse articles were excluded.

Data Gathering: Two complementary techniques were used i) a desk review, and ii) directly soliciting information from key institutions.

The desk review involved searching of electronic databases and looking up bibliographies of relevant reports and articles to identify other relevant sources. A number of peer reviewed as well as non peer reviewed electronic databases, and websites of development partners and government, were searched using a wide combination of search terms. In addition, a list of 24 key stakeholder institutions was developed for directly contacting to solicit relevant works. These included MOH and related government entities, development partners, academic institutions, think tanks, a few notable NGOs and individual researchers that had undertaken recent work in this area. All of these were contacted in writing by either letter or email while in addition interview meetings were held with 14 of these stakeholders.

Analysis: Information received was reviewed by two researchers and data was extracted and computerized using pre-developed grids. Basic information tabulated included type of work product (report, article, interventional project, survey etc); main outcome of interest; exact title; period undertaken, implementing institution, commissioning institution, scope of work (national, provincial, local); methodology, main findings, and form of dissemination if completed. Extra information if volunteered was also tabulated.

Organization of Results : In total 66 works were documented and included 4 major national and provincial expenditure surveys, 7 projects on health financing, 23 research studies and commissioned policy studies, and 22 journal publications.

For ease of analysis these were then grouped into broad thematic domains and choice of domains was guided closely by the content of collated works. Four thematic groups emerged and included i) Health Allocation and Expenditure, ii) Health Financing Mechanisms, iii) Economic Evaluation, and iv)Equity, Safety Nets and Economic Determinants Health. Each domain comprises a mix of reports, articles and surveys and provides a brief description of each collated product.

Additionally, an alphabetical listing has also been provided for quick and easy reference. Towards the conclusion of the report a narrative synthesis is provided presenting an overview of health economics landscape in Pakistan. It provides analytical comments on volume and depth of collated information, areas presenting opportunities and those where strategic boosting is needed.

SECTION 1 : HEALTH ALLOCATION AND EXPENDITURE

INTRODUCTION:

This section provides an overview of major works related to health sector allocation and expenditure as well as publications in this area. Altogether it includes the second largest volume of works in this report. A total of 23 works are listed here and include 4 major surveys, 13 relevant studies, and 6 publications. Half of all listings (9) relate to estimation of national level sector wide allocation and/ or expenditure inclusive of public and private sub-sectors, while the other 9 items are an assortment of focused policy related work on a particular area such as spending within provinces, on specific service areas such as MNCH and through particular perspectives such as gender allocations.

The most significant work in this area is the National Health Account and its related provincial health accounts. Additionally, surveys conducted in recent years through the FBS provide much of the information on private health spending. There has also been effort through commissioned studies of development partners to map health related allocations of key public sector entities and chart the flow of funds at national and provincial levels. In one instance there has also been a cost simulation exercise to determine additional allocation needed for desired MNCH targets.

MAPPING PUBLIC & PRIVATE HEALTH EXPENDITURE: SURVEYS & STUDIES:

1. National Health Accounts – Federal Bureau of Statistics & GTZ (2009-ongoing)

National Health Accounts (NHA) estimate expenditure on health care within an internationally agreed methodological framework. It maps the flow of funds, sources and uses of funds in the health care systems and thereby provides data for setting national priorities for health care spending and for strategizing of health financing responses. Development and updating of National Health Accounts is institutionalized in OECD countries and efforts to set up NHA are underway in several developing countries. NHA has very recently been initiated in Pakistan with support provided by German Technical Cooperation (GTZ) and is being extended over the 2008-2011 period. The responsibility of compilation of NHA, publication, and dissemination lies with the Federal Bureau of Statistics whereas further technical analysis and policy assessments are with the Ministry of Health and other users who want to carry out further analysis. Pakistan's estimates are based on WHO's accounting framework and guidelines and adaptation of the International Classification for Health Accounts ICHA (WHO).

The NHA exercise in Pakistan involves multiple rounds of data gathering, analysis and release. The results of the first round of NHA are presented in the report 'National Health Accounts 2005-06' released in 2009. Data for the first round has been obtained from various secondary sources. These include numerous agencies such as public accounts database of national, provincial and district governments, Zakat & Ushr, military health expenditures, private health insurance, donor agencies, as well as PSLM for out of pocket expenditures.

The results for FY 2005-06 show that out of total health expenditures in Pakistan 32.2% is borne by the public sector and 66% by private sector. Of public sector expenditures, 69.9% are borne by civilian entities while 30.1% are expended through military run health facilities. Of the

private sector expenditure, 97.5% comes from out of pocket spending by households. Development partners / donors organizations have 1.9% share in total health expenditures. General government health expenditures are quite higher than WHO estimates for Pakistan and is due to estimation and inclusion of health provision expenditure by armed forces, government employees' medical reimbursement, and medical education related expenditure.

2. Provincial Health Accounts – Federal Bureau of Statistics & GTZ (2009-ongoing)

Provincial Health Accounts have also been developed as sub-accounts of the NHA for all four provinces. These track health expenditure occurring in the specific province over a time period and are also differentiated by financing agents and sources. The results show that OOP expenditures of private households stood at 75% in Punjab, 66% in Sindh, 76.5% in NWFP and 38.7% in Balochistan. Provincial government expenditures were the lowest in Punjab (10%) while social security expenditures (1.5%) were the highest amongst all provinces. Sindh had second highest contribution in terms of provincial government expenditure (17%) and social security spending (1.4%). In NWFP development partners fund 5.3% of provincial health expenditure. However district expenditures (1.1%) are the lowest among the provinces and NWFP also has the lowest spending on social security (0.2%). In Balochistan spending by provincial government (22.5%) and district government (18.7%) are highest of all provinces. Donor share of provincial expenditures is also highest in Balochistan (15.5%) as compared to other provinces.

3. The Multiple Indicator Cluster Surveys (MICS) – UNICEF & Department of Planning and Development

The Multiple Indicator Cluster Surveys (MICS) is the major source of district level health expenditure by households as other surveys in Pakistan provide national and provincial information. The primary focus of MICS is on monitoring the situation of children and women and is conducted in more than 100 countries of the world with UNICEF assistance. MICS reports on household income, expenditure on maternal and child care services and utilization of public versus private health services. It is intended to be periodically conducted in Pakistan every 3 to 4 years. MICS is the responsibility of the Provincial Planning and Development Department while UNICEF assists in collecting and analyzing data and harmonizing with other surveys. MICS results for NWFP were released in 2001, Sindh and Punjab 2003-04, and Balochistan 2004. The next round of survey has been completed in Punjab. Data is available on request from the provincial Planning and Development Departments.

4. Household Integrated Economic Survey (HIES) - Federal Bureau of Statistics & GTZ

Household Integrated Economic Survey (HIES) is a component of Pakistan Social and Living Standards Measurement (PSLM) Survey and provides important data on household income, consumption expenditure and consumption patterns at national and provincial level with rural-urban breakdown. It is carried out by FBS and so far results of four rounds conducted in last decade have been released. The last HIES was conducted in 2007-08 covering 15,512 households. The HIES reports on household income and expenditure calculated comprehensively through assets, durable goods, transfers received and paid out, agricultural & non agricultural establishment and durable & non-durable expenditure. It also collects information on household

expenditure on different sectors including health. Data on health expenditure is collected but not reported. However, it can be requested from federal bureau of statistics for further analysis by other users. Data is available on request from the FBS.

POLICY RESEARCH ON HEALTH SPENDING:

5. Choked Pipes: Reforming Pakistan's Mixed Health Care System (eds) Sania Nishtar, Heartfile, Published by Oxford University Press, Karachi (2010)
Book - Chapter on Health Financing

The Chapter on 'Health Financing' in this book provides a detailed review of sources of health financing by public and private sectors presenting a national level analysis of fund collection, pooling and expenditure for health services. Respective contributions are disaggregated by i) various internal donors; ii) federal, provincial and district governments; iii) semi-government agencies including autonomous bodies, Social Security and Fauji Foundation; iv) private employers and philanthropy; and v) out-of pocket payments from PSLM 2005-06.

In total 2.9% of the GDP is spent on health with 1.16% by public sector and a larger share of 1.17% by private sector. Public sources on health expenditure account for 33.3% of expenditure, semi-government agencies 5.1%, donor assistance 1.7%, while private sources make up the largest share of 59.8%. Within the private spending out of pocket payments account for 57.3% of total health expenditure, private employees 1.6% and philanthropy 0.9%. International donor agency contributions are provided for the year 2005-06 and these show that the largest share of international aid for health sector came from USAID (46.3%), followed by GAVI (40.5%) and World Bank (38.8%). Detailing of Pakistan's health insurance and exemption systems are also provided. 26.6% of the population of Pakistan has either partial or comprehensive financial cover paid by employers, while 0.32% are covered by government safety nets. Options are suggested for pooling of funds to protect against financial risk through social protection and community health insurance.

6. Delivering Better Health Services for Pakistan's Poor: Tekabe Belay, Agnes Couffinal, Inaam Haq, Shahnaz Kazi, Benjamin Loevinsohn – World Bank, 2010
Report

The report provides a comprehensive overview of the health sector in Pakistan and also delves into allocation and expenditure issues and potential solutions. Pakistan spends very little on health and nutrition services spending only 2.6% of the GDP, the lowest in all South Asian countries. The report urges for serious attention to increasing health allocation as not only is the level low but also the rate of increase in spending is marginal. The report also urges for better management of existing funding as existing expenditure are not aligned with the MDGs due to heavy expenditures on hospital construction and upkeep. Moreover, inefficiencies are seen in the working of the government primary health care system and there are several overlaps with the private sector. It recommends need for clear strategies to be developed to harness the private for profit as well as private philanthropic sectors. It also highlights the financial burden of health care on the households. The public sector bears only a quarter of total expenditure with OOPs comprising the largest share of health expenditure and are high even at public sector facilities.

Due to high OOPs difference exists in access to health services between the poorest and wealthiest quintile and the gap does not appear to be narrowing. High medical costs can also push households into poverty and the report recommends that urgent attention needs to be given to protection against the impoverishing impact of ill-health but also such mechanism need to be carefully designed.

7-11. Provincial Health and Population Policy Notes - World Bank, Islamabad Reports
Punjab Economic Report : Jeff Hammer (for Service Delivery), 2005
NWFP Economic Report: Shahnaz Kazi (for Health) 2005
Sindh Health Policy Note: Paolo Beli, Inaam Haq, 2005
Balochistan Health Policy Note: Agnes Couffinhall, Inaam Haq, 2007
Gilgit-Baltistan Health Policy Note: Inaam Haq, Shehla Zaidi, 2010

The World Bank's Health Policy Notes developed for Sindh (2005), Baluchistan (2007) and Gilgit-Baltistan (2010) and the health review carried in the Economic Report for Punjab (2005) and NWFP (2005) provide provincial level analysis of health allocations, expenditures and financing. The purpose of the Policy Notes is to outline evidence based strategic direction for reforming the health sector in all provinces. They are part of the larger exercise of Economic Report Development for each province. While of primary use to the World Bank and the government in setting funding priorities and exploration of grant and credit from the World Bank Group, these also provide ready information for other users.

Key information includes province specific data on level of health spending, sources of spending and distribution of health expenditure by programs. Government spending on health varies by provinces. Share of total government budget spent on health is highest in Gilgit-Baltistan (7-9%), followed by Punjab (7.5%), Balochistan (6-7%) and NWFP (6.5%) have roughly similar levels, while lowest share is allocated in Sindh (5.5%). Annual out of pocket expenditure last estimated in Sindh was Rs 570 or USD 9.2 per capita (2001-02) but updated figures should be higher; in Baluchistan was Rs.750 or USD 12.5 (2004-05); and was lowest in Gilgit-Baltistan at Rs 389 or USD 5.8 (2004-05). In all of these regions, a heavier burden of out of pocket expenses is borne by the lower income quintiles highlighting inequities in access. Disaggregated estimates for households are not available for Punjab and NWFP. Overall growth in share of federal support is reported in all provinces and the trend ranges from 13 % to 20%. At least the of the policy notes also provides district wise breakdown of per capita expenditure.

The World Bank Policy Notes are developed from secondary data relying heavily on PIHS, MICS and PPRHFPS as well as public accounts data and direct collection information during field visits.

12. Marginal Budgeting for Bottlenecks (MBB) – A Tool for Performance Based Planning of Health and Nutrition Services for Achieving Millennium Development Goals - Nabila Zaka, Tahir Manzoor, Shakila Zaman.

UNICEF, Public Health Institute Lahore, (2009/2010)

Ongoing Study

The Country Specific Strategic Analysis (CSSA) of UNICEF aims to assist the Government of Pakistan to review options for increasing the allocative and technical efficiencies of existing maternal and child health programs. A simulation tool is being applied for calculating the additional cost required for an additional increase in output of different maternal, neonatal and child health services. This will be used to identify strategic for government in terms of i) what its choices are, (ii) what the various choices will cost, and (ii) what the government can expect to get as returns on its investment in each choice. This simulation exercise involves the use of the internationally applied Marginal Budgeting for Bottlenecks (MBB) tool developed by UNICEF, World Bank and WHO for Performance Based Planning of Health and Nutrition Services for Achieving Millennium Development Goals.

MBB exercise has been completed in Punjab in collaboration of Public Health Institution Lahore and is underway in the other provinces and AJK. Province specific coverage rates, socio-demographic profile and health system bottlenecks are plugged into the MBB model to identify constraints to higher coverage, allocation of new resources needed and production of a province specific investment scenario. Its scope is confined to public sector services, spending and bottlenecks and does not extend to private provision of MNCH services. MBB results are intended to assist in formulation of medium-term national or provincial expenditure plans and Poverty Reduction Strategic Paper's that explicitly link expenditure to reduction in child and maternal mortality, and optimally allocate newly available resources to achieve such targets.

13. Pakistan's MNCH Resource Allocations and Expenditures Analysis - S. Shehzad, Z. Memon, H. Irshad, S. Jafar, S. Bundgard, D. Melody, Z. Malik, M.Qazilbash, A.Hafeez
Health Services Academy, Save the Children UK (2010)

Report & Policy Brief

The study explores whether MNCH specific resources and expenditures at federal, provincial and district level are increasing adequately to meet health care needs. It analyses secondary data from various national sources and primary data collected from the selected Districts of Pakistan during FY 2005-2010. Trend analysis of allocations and expenditures reveals that resource allocations for MNCH are not sufficient to meet health care needs of the country. There are wide disparities in the burden of disease across provinces and MNCH resources allocated to provinces. MNCH expenditures appear to cluster more on recurrent heads as compared to development activities that may not contribute to improvements in maternal and child health outcomes.

Analysis of primary data from districts reveals that health expenditure tracking system at the grass root level is inadequate and makes it difficult to see how expenditure are incurred in line with the health policy objectives. External resources for MNCH need to be increased substantially to supplement public efforts for improving maternal and child health in Pakistan. The study recommends significant increases in MNCH specific resource allocations and

expenditures. There is need to improve coordination and integration across programmes and projects to ensure sustainability, avoid duplication of services and wasteful use of resources. While recurrent expenditures are important for running the programmes, emphasis should be on health development tasks that will improve the quality and will address the problem of under utilization of public health care services. The study proposes health expenditure tracking system that is developed according to a standard format such as Public Expenditure and Financial Accountability (PEFA) and implemented to match expenditures with expected health outcomes.

14. Economic policy, resource allocation and priority setting for maternal, newborn and child health in the province of Punjab, Pakistan - Shafqat Shehzad.

Health Services Academy, UNFPA and Population Council, 2010

Report

This report reviews economic policy for MNCH in Punjab in terms of budget allocations and expenditures as compared to health policy objectives. Allocations for MNCH are studied from the perspective of the Government (Budget, MTDf, PC-1, and ADP) and from the perspective of the Partners. Issues in resource scarcity, distribution and releases are studied that reveal erratic flow of funds, insufficient resource allocations, and delays in funds releases. These are hampering efforts to achieve the Millennium Development Goals that aim at improving maternal and child health outcomes. A decomposition analysis of MNCH expenditures shows relatively more emphasis on recurrent expenditures as compared to the development initiatives. Within the recurrent expenditures, staff salaries, followed by operating expenses consume the majority of resources. While more spending on recurrent heads is not inadequate, the paper proposes increase in investment in development projects, programs and activities in services that currently remain severely underutilized.

The report also reviews different parallel programs that are providing support for maternal and child health in the province of Punjab. Some of the significant programs include Punjab Health Services Reforms Program (PHSRP), Punjab Millennium Development Goals Program (PMDGP), Punjab Devolved Social Services Program (PDSSP) and Lady Health Workers Program. All of these programs are providing support to the provincial Government of Punjab to help improve maternal and child health and represent an opportunity to improve outcomes in line with the MDGs. The paper presents various strategies that focus mostly on economic aspects for improving health and include options for resource re-allocation, raising revenue for health from alternative sources, earmarked taxation, improving technical and allocative efficiency, and community participation.

15. Regional Health Accounts for Pakistan - Provincial and district health expenditures and the degree of districts fiscal autonomy - Christian Lorenz and Muhammad Khalid, GTZ

Journal of Economic Literature: 2010

The first National Health Accounts (NHA) for Pakistan have been finalized and published by Federal Bureau of Statistics (FBS) in cooperation with German Technical Cooperation (GTZ) in 2009. This paper goes analyses in more detail the regional disparities in health expenditures in Pakistan. The provincial health expenditures by Financial Agents and compare them between the provinces which leads to very heterogeneous results; the per-capita health expenditures spent per province

range from 16 USD in Sindh to 23 USD in NWFP. Within each province most districts – besides a few exemptions have a similar expenditure structure.

The military expenditures are relatively high in Punjab (5.8%) and Balochistan (4%); in Sindh (1.8%) and NWFP (2.8%). The social security expenditures as percent of the THE are very small in NWFP (0.2%) and Balochistan (0.4%); in Punjab (1.5%) and Sindh (1.4%); these figures are higher than the national level (1.1%). The OoP are lowest in Balochistan (only 38.7%) compared to the other provinces and the national level; accordingly the provincial/federal (22.5%) as well as the district (18.7%) expenditures are highest in this province. This situation is similar in Sindh which has second lowest OoP (66%) and second highest provincial/federal (16.9%) and district (13.5%) expenditures. The share of donor expenditures within the province varies from less than 1% (0.2% Punjab and 0.1% Sindh) to 5.3% in NWFP and 15.5% in Balochistan.

16. Towards a Satellite Account for Health – Households Time Use on Health Care - GTZ, Christian Lorenz, Madiha Amjad

Pakistan Journal of Medical and Health Sciences, Vol 2 (4), 2010

This paper analyzes the time consumed of private households on health care production. The valuation of unpaid health care services is an important issue with respect to health policy and health insurance. Although households are involved in health care production such data is not routinely captured but needs to be properly accounted for in the National Health Accounts (NHA). This paper quantifies the time spent by households in providing non-monetary services to their own family members and also monetary services provided to other households. Data for this study was taken from the Pakistan Labour Force Survey provides information on time consumption of private households on different activities. About one third (33.5%) of the total care is provided by households and equal 2.6 billion hours worked on health care per year. Only a small share, less than 1%, of the given health care is carried out against pay. Women carry out between 97-98% of the health care.

17. Health Expenditures in Pakistan: Cross-Checking Household Expenditure Data on Health for NHA and Adjustment with National Accounts - GTZ, Christian Lorenz

Asia Health Policy Program working paper #14 - 2010

This paper crosschecks the data published by the World Health Organization (WHO) for the year 2005. This paper also reviews NHA results with other already available data sources on household expenditure. This comparison includes preliminary results of the Family Budget Survey (FBS), which also includes health items as well as National Accounts (NA) data. The results clearly indicate that the situation in Pakistan is better than what was earlier estimated; however, the total health expenditure (THE) is still low compared to neighboring countries and other low-income countries (LIC). Overall, the official NHA results show THE, which is 27% higher than WHO figures. The raised NHA result shows 102% higher OoP spending on health; this would result in OoP health expenditures of \$25.2 USD per capita (compared to only \$12.45 USD per capita in the NHA estimation). This result, based on the NA figure with \$33 USD THE per capita, leads to a different evaluation in international comparison, since it nearly reaches the level of India, with \$37.5 USD and more than the average of all LIC with \$27 USD.

18. Health and Family Planning in Pakistan by Income and Regional Population Groups - GTZ, Christian Lorenz, Alexander Richter
Pakistan Journal of Medical and Health Sciences, Vol 2, Issue 4, 2009

This paper analyses differences in health and family planning as well as the availability of health facilities for different welfare and regional groups in Pakistan. The analysis is based on Household Integrated Economic Survey data for the years 1998-99, 2001-02 and 2005-06. In terms of health expenditure, there is a sharp increase for fees as well as for medicines from 2001 to 2005. Expenditures on both categories have almost doubled for all quintiles during these years. The amount which has been spent on health as share of the total expenditure is also increasing over time. For whole Pakistan the share of health expenditure is similar in all consumption quintiles. But, the share is higher in rural areas (4-5%) compared to urban areas (3%). Despite similar spending levels there are service disparities across income quintiles. Better access to water and sanitation, higher consultation rates for diarrhea in children under five and greater knowledge of family planning methods was found in the higher income quintile.

19. Out-of-pocket household health expenditures and their use in National Health Accounts: Evidence from Pakistan - GTZ, Christian Lorenz
Asia Health Policy Program working paper #9 - 2009

Out-of-pocket (OoP) household health expenditures are among the most difficult factors to measure in the context of National Health Accounts (NHA). Differences in OoP expenditure accounting methods explain much of the discrepancy across nations. This paper focuses on OoP household health expenditures in Pakistan's NHA and suggests steps toward estimating such expenditures more effectively. Parts of the household expenditures on health should be analyzed carefully before inclusion in the NHA to avoid double counting. In Pakistan, for example, household spending accounted for 98.2% of total private expenditures on health in the year 2000 (98% in 2005). With the existing information, salaries in kind should be excluded from OoP expenditures if they are consumed by the same household (and not sold further); in this case, the financing source is not the household itself but the employer. The same holds true for assistance, which should be excluded from the NHA if given by the government.

20. Resource allocation within the National AIDS Control Program of Pakistan: A qualitative assessment of decision maker's opinions - Sara Husain, Masood Kadir
Aga Khan University
BMC Health Services Research, 2007

To identify perceptions of decision makers about the process of resource allocation within Pakistan's Enhanced National AIDS Control Program a qualitative study was undertaken and in-depth interviews of decision makers at provincial and federal levels responsible to allocate resources within the program were conducted. It was found that HIV was not considered a priority issue by all study participants and external funding for the program was thought to have been accepted because of poor foreign currency reserves and donor agency influence rather than local need. With a large part of HIV program funding dedicated to public-private partnerships, it becomes imperative to develop public sector capacity to administer contracts, coordinate and monitor activities of the non-governmental sector.

21. Public Sector health financing in Pakistan: A retrospective study - Khalif Bile, Mohammad Assad Hafeez and Sania Nishtar
Journal of Pakistan Medical Association Vol. 57 (6), 2007

This was a retrospective study to assess the existing situation relating to investments made by development partners in the health sector in Pakistan. Financial data for the year July 2004 to June 2005 was collected. A uniform matrix was circulated to all the stakeholders in public sector and international donors who had a stake in health. Details of expenses in health over the last 5 years and plans for the next 10 years were requested. About 80% of the financial resources in the public sector are provided by the Government of Pakistan with non-development and recurring expenses predominating in these allocations. The study shows that Pakistan's per capita spending on health by the public sector is Rs 375 (US\$ 6.4) out of which Rs 80 (US\$ 1.3) is being contributed by the partners.

22. Health Budget Analysis: Midterm review of the National Health Facility and Technical Assistance and Management Agency [TAMA] - Shafqat Shehzad
SDPI and DFID (2006)
Project Report Series No.2,
Report

This report analyzes health expenditures of seven programs supported by DFID under the National Health and Population Facility (NHF), including Population Welfare Program for Family Planning and Primary Health Care FP&PHC, Lady health workers (LHWs), National Tuberculosis Program, Immunization or EPI, National AIDS control program, Malaria control program and the Nutrition Program. The purpose of NHF was to increase utilization of public health services by the poor, with the goal of improving their health and it provided support for programs that lacked capacity to implement or had inadequate monitoring capacity to generate effective health policy. For this purpose the Technical Assistance Management Agency (TAMA) was contracted to support the NHF. The study analyzed health expenditures of NHF, identifying problems that limited the effectiveness of health and population programs as a result of lack resources It also carried out detailed budget analysis at federal, provincial and districts levels to help improve the quality of programs and support the devolution process in the health sector.

23. Health care services and Government spending in Pakistan - Muhammad Akram and Faheem Jehangir Khan
Pakistan Institute of Development Economics, working paper - 2007

This study aimed to measure the incidence of government spending on health in Pakistan at provincial, both rural and urban level; using the primary data of the Pakistan Social Standard Living Measures Survey (PSLM), 2004-05, and by employing the three-step Benefit Incidence Approach (BIA) methodology. The study explores the inequalities in resource distribution and service provision against the government health expenditures. The rural areas of Pakistan are the more disadvantaged in the provision of the health care facilities. The expenditures in health sectors are overall regressive in rural Pakistan as well as at provincial and regional levels. Mother and Child subhead is regressive in Punjab and General Hospitals and Clinics are regressive in all provinces. Only the preventive measures and health facilities sub-sector is progressive in Pakistan.

SECTION 2: HEALTH FINANCING MECHANISMS

INTRODUCTION:

This section comprises of a total of 14 works including 5 key financing schemes currently underway in Pakistan while the rest are related to research on financing mechanisms. The five financing schemes together account for a sizeable proportion of government and development partner funding in the health economics related area. Two of the financing schemes are targeted at innovations in supply side and include BHU contracting initiative being implemented nationally, and hospital accreditation and purchasing of hospital initiative in Punjab. Additionally, in Sindh a mix of supply and demand side financing mechanisms specifically for MNCH are being scoped for underperforming districts. There are also notable demand side initiatives being independently implemented by NGOs on a smaller piloting scope and include the voucher scheme for MNCH in three selected districts and a community health insurance scheme in Gilgit-Baltistan region.

Evidence generation on financing schemes is still an emerging area. The 9 studies listed here include studies on contracting (4), result based financing mechanisms (1), evidence review on demand side financing mechanisms (1), evidence review on financial support platforms (1), alternative resource mobilization strategies (1) and contribution of the philanthropic health sector in Pakistan (1).

FINANCING INITIATIVES:

1. Management Contract for BHUs - People's Primary Health Care Initiative (PPHI) – NRSP and Ministry of Industries (2003 - ongoing)

The Government of Pakistan launched a country wide Program known as the People's Primary Healthcare Initiative (PPHI) involving contracting the management of BHUs for improved service delivery. Out-sourcing of BHUs has been done to the National Rural Support Program (NRSP) and the initiative is administratively housed under and financially assisted by the Federal Ministry of Industries. It is an example of contracting in through management contracts and provides outsourcing the operation budget of BHUs by the department of health to the contractor accompanied with financial and administrative powers for flexible usage of budget and staffing to improve BHU utilization. Additional funds are provided by ministry of industries for administrative and monitoring cost of PPHI. PPHI districts have grown to 127 districts, including 36 in Punjab, 23 in Sindh, 30 in Balochistan, 31 in NWFP and 7 in Gilgit-Baltistan. Overall, 2391 BHUs and 701 other health facilities including dispensaries and MCH centers have been contracted out. District Support Units have been established in each selected district to oversee the management of Basic Health Units (BHUs). District Support Manager has been provided administrative and financial matters to manage BHUs and these include staff appointments, budgetary planning and purchases of drugs and commodities under a fixed ceiling amount.

Results from third party evaluation of the first contracted district of Rahim Yar Khan in Punjab, initial assessments in Sindh provided by NPPI baseline study and analysis of programmatic data

indicate mixed results. While there have been relatively consistent increase in number of functional BHUs, improvements in BHU maintenance and increase in utilization of curative care, preventive services and technical quality of care needs further attention. A third party evaluation is currently underway funded by DFID-HLSP and implemented by SOSEC. The evaluation is overseen by a Steering Committee and Technical Committee having representation from PPHI, Ministry of Health and experts.

2. Norway Pakistan Partnership Initiative (NPPI) – NMNCH Sindh and UNICEF (2008-12)

Norway-Pakistan Partnership Initiative introduces use of innovative and flexible result based financing approaches to improve effectiveness and productivity of quality MNCH care provision and increase demand and utilization of care in ten districts in rural Sindh. It also provides strategic support strengthening government health systems aimed at accelerating activities under national MNCH policies, plans and strategies. The purpose is to increase provision of and access to MNCH interventions for the poor and socially excluded in Sindh Province, as well as to raise demand and utilization for those services. It is based on an agreement made by the President of Pakistan and the Prime Minister of Norway, and between the two Prime Ministers to implement a country partnership initiative for Pakistan.

The Norwegian government has provided a grant of USD 50 million for the five year period 2008-2012 and is being implemented as a collaboration between NMNCH Sindh and UNICEF through the one UN System.

It focuses on ten rural under-served districts in Sindh and will compliment the National MNCH programme (2007), LHW programme, national nutrition programme and GAVI's Health Systems Strengthening proposal 2008-2009. These districts were selected on the basis of their socio-economic, demographic and health indicators ascertain by MICS and UNICEF mid term assessment report, and where parallel efforts are not underway by other development partners. In the first phase of NPPI 2 scoping and assessment studies were conducted. These included a feasibility study of different four financing mechanisms including SWAPS like arrangements, contracting, vouchers and CCTs in the ten districts, and a baseline survey of existing quality and coverage of services. In the second phase implementation of voucher and both contracting out and contracting in schemes are planned in selected districts, monitoring and evaluation of financing schemes, simultaneous strengthening of government health system through staffing, commodities provision and training, and introduction of operation research interventions for nutrition.

3. Punjab Autonomous Hospital Initiative – Government of Punjab (2008-ongoing)

In Punjab, almost all facilities at the tertiary level were granted autonomy in 1998. Punjab now has a total of 19 Autonomous Medical Institutions (AMIs). The Punjab Devolved Social Services Program (PDSSP) has conducted performance audit of AMIs with a view to move towards performance based purchasing, accreditation and regulation of services.

In the initial phase performance audit of tertiary medical institutions was carried out. Results of three AMIs are available. These include Benazir Bhutto Hospital Rawalpindi, the Services Institute of Medical Sciences Lahore and The Allama Iqbal Medical College & Jinnah Hospital

Lahore to review the performance and to recommend action. In particular their performance was checked in the context of: how they were organized and governed; the appropriateness of their financial and auditing systems; and patient satisfaction. The Boards of Management established by the Act were largely weak and ineffective. They lacked significant control over their resources and thereby had little meaningful autonomy. Professorial staff was not held accountable for their clinical performance through any form of systematic clinical audit. The granting of autonomy has had no impact on the responsiveness and quality of patient care.

In the next phase a permanent organization or commission will be established to carry out key health sector reforms mainly related to quality improvement through standardization, quality assurance and other steps which in all likelihood will lead to the establishment of a system of accreditation. Autonomy measures will be reviewed to align financing of hospitals with better performance. The organization is conceived to work along the lines of the Health Care Commission in the UK. It will develop an accreditation mechanism to systematically and regularly evaluate performance of hospitals along international standards and best practices (in countries like Sri Lanka, Malaysia and Singapore). Efforts will be extended from tertiary level hospitals to secondary level hospitals at the level of the District and Tehsil Head Quarters.

4. Maternal Health Voucher Scheme: Greenstar Social Marketing (2008-2013)

Greenstar Social Marketing in partnership with USAID funded Pakistan Initiative for Mothers and Newborns (PAIMAN) has initiated a maternal, neonatal and child health voucher scheme amongst low income women in DG Khan, Jhang and Charsadda. This was first launched in Dera Ghazi Khan in October 2008 and has recently been extended to Jhang and Charsadda.

2000 pregnant low income women participated in the scheme in DG Khan and services were provided through 22 private providers trained by Greenstar as part of its nationally managed network. The vouchers had two cost components 1) payment to providers for performing health services; and 2) payment for client transport costs to reach a Greenstar provider. A booklet of voucher was given to beneficiaries at the cost of US \$1.25 (Rs.100). Vouchers have a monetary value of US \$31 (Rs.2480) for a normal delivery and US \$ 1.25 for ANC, PNC and family planning visit, and US \$125 (Rs 10,000) for caesarian. The provider is reimbursed on redeeming the voucher while the client does not pay out of pocket for services received.

A before and after assessment study has been released by Greenstar for DG Khan pilot. Of the 2,000 pregnant women the majority belong to the lowest SES quintile. The largest impact of the scheme was observed on the use of PNC by the increase of 30% points. Participation in the scheme was associated with 16% points increase in ANC use and 19 percentage points increase in facility deliveries. 78% of voucher recipients after delivery returned to a Greenstar trained provider to receive FP counseling.

5. Micro-Insurance for Health – Aga Khan Agency for Microfinance (2007-12)

The Aga Khan Agency for Microfinance (AKAM) Micro-insurance Initiative commenced in 2007 with financial support from Bill & Melinda Gates Foundation and being implemented in District Ghizer of Northern Areas of Pakistan. It builds upon the microcredit experience of

AKAM and provides micro insurance for hospital services. The main purpose is to reduce the catastrophic health expenditures. It was designed after baseline survey carried out in 2008, which shows that a major injury or illness can consume a substantial portion of a typical household's earnings.

The health insurance is sold as a group policy to community groups such as LSOs (local service organizations set up by AKRSP) or NGOs. Their responsibilities are to inform the community about the insurance, to market the insurance, to collect premiums for the insurance agency, to assist policyholders with filling forms and to distribute insurance cards. Households are the last link in the chain as the end-users of the insurance. They purchase the insurance from their respective community group, receive their cards from the group, receive treatment from covered hospitals and submit any claims to AKAM-MI. Charges are as little as \$5 USD per person which bears the cost of one week of stay in AKHS,P hospitals or a much longer stay at a government hospital and in addition outpatient visits. However, enrollment is less than expected and extent of penetration to the poor is to be evaluated.

In 2010, AKAM will be piloting a program offering a range of services to both mother and child called "Maternal Health Passport (MHP)". The MHP entitles the new mother and her newborn child to access a range of medical services aimed at covering all maternal health needs through the duration of her pregnancy, as well as basic pre- and post-natal care. These services include antenatal visits (including lab tests and ultrasounds), delivery in a hospital, post-natal visit for mother and infant, vaccinations, emergency services, and educational material regarding maternal health.

RESEARCH ON FINANCING MECHANISMS:

6. Result Based Financial Mechanisms for Improving Maternal, Newborn and Child Health Outputs: Feasibility Study for 10 NPPI Districts - Shehla Zaidi, Zulfiqar Bhutta, Asad Sayeed, Zahid Memon, Ajmal Agha Aga Khan University, Collective for Social Science, Sindh MNCH, One UN Report (2010)

This study was commissioned by MNCH Program Sindh and UNICEF Sindh and conducted in 2008-09 in ten selected districts of rural Sindh. It identified where to place funding, recipient target groups, type of innovative financing mechanisms mechanisms needed and supportive measures required. The study comprised of 4 main components; i) expenditure analysis of public and private sector, and willingness to pay of clients; ii) review of MIS and financial reporting systems and assessment of key bottlenecks in service delivery; iii) analysis of client seeking behavior and iv) political risk analysis. It found that both supply and demand side factors need to be simultaneously placed that include: provider incentives to pull in government staff into government EMNOC centers and FLCFs, and supplementation with private sector services through competitive voucher schemes and contracting out. District wise break up was provided of type of financing mechanisms and extent of technical and financial support needed.

Cost of service voucher based on high and low subsidy are: Rs. 300-600 for ANC and PNC visits and Rs. 1350-2000 for delivery, Rs. 12500 - 13000 for C-section, and Rs.150 - 400 for child OPD. Cluster targeting by taluka or union council level was proposed based on socio-economic

and health profile with universal sampling of all pregnant mothers and children under one year. Supportive governance measures were emphasized were including enhancing government's stewardship role and devolved powers, human resources strengthening across both public and private sector, increasing access to transportation and commodity purchase, social marketing and rigorous third party evaluation.

7. Financial Support Platforms for Improving Basic and Emergency Obstetric Care – Shehla Zaidi, Zulfiqar Bhutta, Aga Khan University, Partnership for Maternal and Child Health, WHO Geneva (2010)
Work in progress

This study identifies and collates both international and local evidence on whether financial support platforms for basic and emergency obstetric care can have a positive health impact and underlying success factors associated with effective implementation. It analyses evidence in the following 5 areas: i) nature of financing support platform, ii) impact on maternal, peri-natal & neonatal care, iii) equity effects, iv) context and confounding factors, v) evaluation mechanism. The scope of review is confined to financing support mechanisms implemented in low and middle income countries and targeting either one or a combination of service elements namely pre-natal care, basic obstetric care, emergency obstetric care, emergency neonatal care, routine neonatal care, routine post natal care or postnatal complications. It provides a comprehensive exploration of the potential strengths, risks and support measures needed for application of these platforms. It comes up with recommendations for effective, innovative and feasible deployment of financing support platforms to enhance basic and EmONC outcomes.

8. Bureaucrats as Purchasers of Health Services: Limitations of the Public Sector for Contracting - Shehla Zaidi, Susannah Mayhew, Natasha Palmer
Aga Khan University, LSHTM
Public Administration and Development, 581 (2010)
Journal Article

This paper draws attention to the area of contracting process and skills needed for effective management of contracting as governments shift to the new role of purchasers of health services. It draws evidence from wide scale NGO contracting for HIV prevention in Pakistan to examine the performance of government purchasers in managing the contracting process and contrasts this with parallel contracting models managed by large international and local NGOs. It found that government managed contracting had weaknesses in three areas: i) poor capacity for managing tendering; ii) weak public sector governance resulting in slow processes, low interest and rent seeking pressures; and iii) mistrust between government and the NGO sector. In comparison parallel contracting ventures managed by large NGOs generally resulted in faster implementation, closer contractual relationships, drew wider participation of NGOs and often provided technical support. The findings do not dilute the importance of government in contracting but front the case for an independent purchasing agency, for example an experienced NGO, to manage public sector contracts for community based services with the government role instead being one of larger oversight.

9. Contracting-in management to strengthen publicly financed primary health services: The experience of Punjab, Pakistan –Benjamin Loevinsohn, Inaam ul Haq, Agnes Couffinhall and Aakanksha Pande, World Bank *Health Policy, 91 (1), 2009*

This paper evaluated the performance of contracting of BHUs to the NGO Punjab Rural Support Program in Rahim Yar Khan (RYK) district. A controlled before after study design was used with the contiguous district of Bahawalpur as a control site. Evaluation was conducted based on health facility surveys, household surveys, and programmatic data. The evaluation found that contracting led to more than a 50% increase in out-patient visits in RYK compared to control district. The RYK BHUs also scored higher in terms of infrastructure such as presence of working fan, drinking water, state of walls etc. There was also increased satisfaction of the community with health services. Technical quality of care was equally poor in both districts and contracting also had little effect on the coverage of preventive services. The latter was likely the result of the NGO not being given managerial responsibility over vaccinators and other community health workers.

10. Building upon Successful Philanthropic Models in the Health Sector of Pakistan - Fouzia Rahman World Bank, Islamabad (2008) *Report*

The study reviewed five successful philanthropic models of healthcare namely Layton Rahmatulla Benevolent Trust (LRBT), Sindh Institute of Urology and Transplantation (SIUT), Edhi Foundation, Shaukat Khanum Memorial Cancer Hospital and Research Center (SKMCH&RC) and Marie Adelaide Leprosy Center (MALC), providers of ophthalmic care, urology/kidney diseases/transplant, ambulance and emergency services, cancer care, leprosy / tuberculosis care respectively were examined. It provides information on their origin and development over time, funding, expenditures and scope of work, mechanisms for targeting the poor, relationship with the government, internal governance, financial management, monitoring mechanisms and future plans.

Currently in Pakistan SKMCH&RC provides 2-3% share of cancer care services, LRBT contributes 30% of ophthalmic OPD, 26% of all eye surgeries and 44% of all pediatric cataract surgeries. SIUT annually 25% of total dialysis sessions performed in the country. They provide limited but significant share of country's free or nearly free health care services with large urban teaching hospitals in the public sector hospitals providing the highest share of the free health care.

11. Review of Demand Side Interventions for Health Care in Pakistan – Tayyeb Masud World Bank, Islamabad (2008) *Report*

This is a review of international and local experiences related to demand side interventions. It shows that Conditional Cash Transfer (CCT) programs can be an innovation in the social assistance programs but also carry considerable financial implications that need to be carefully

considered. It estimates that if the poverty line is set at 24% of the population the expected number of beneficiaries will be 2,777,778. Taking into account international reports of administrative costs, a total allocation of 0.5% of GDP will be required for the cash transfers, administrative costs and health systems strengthening for a CCT program. The staggered amounts are Rs. 115.2 Billion at 1000 per family, Rs. 230.4 Billion at 2000 per family and Rs. 345.6 Billion at 3000 per family. The policy options for the government are to either enhance the current social protection programs by adding health and education conditionalities or launch a new CCT program with specific health and education objectives.

12. Contracting for HIV Prevention in High Risk Groups: Policy Analysis from Pakistan – Shehla Zaidi and Susannah Mayhew

LSHTM, European Commission and InterAct Worldwide (2007)

Report

Contracting out of HIV prevention services was introduced on a radical scale in Pakistan during 2003-08 and has subsequently been extended up to 2012. Contract for service delivery in high risk groups formed the mainstay of HIV initiative and were implemented in 12 major cities across Pakistan through 29 performance based tenders. This study used a mix of methods to examine the design of HIV risk group contracts, market response, process and implementation of contracting, and impacts of the wider policy environment. It took a broader investigative lens to explore determinants of contracting as opposed to focus only on costs and output indicators.

It found there was poor political ownership of contracting within government with low buying in especially at the implementation level. Capacity was poor for large scale contracts amongst most NGOs with need for incremental implementation of contracting and simultaneous support to NGO market development in instances of underdeveloped NGO market. Financial payments tied to merely to quantifiable activities were not found to work well for HIV prevention as less quantifiable activities such as support, empowerment and decriminalization get over-looked by both contractors and purchasers, and requires more process oriented focus. Management of contracting could also have improved with use of independent purchasing agencies to manage contracting instead of direct government management to reduce bureaucratic delays, enhance transparency of awards and payments, and to reduce mutual wariness found between NGOs and government. Experienced large NGOs were recommended to manage contracting with government role in oversight.

13. Partnering with NGOs to strengthen management: an external evaluation of the Chief Minister's initiative on primary health care in Rahim Yar Khan District, Punjab:

Arjumand & Associates & World Bank (2006)

South Asia Human Development Unit Report, # 13, 37841

Report

This report is of the World Bank sponsored survey conducted as an independent evaluation of BHU contracting in Rahim Yar Khan district of Punjab. The assessment was undertaken on request of the Punjab Government and conducted nearly two years after initiation of contracting. A similar district, Bhawalpur (BWP), was selected as comparison. In absence of baseline information, programmatic data was used to compare the RYK and BWP while surveys were carried out in both RYK and BWP to assess post-intervention results. Health facility assessments

were carried out in 20 randomly selected BHUs in RYK and another 20 in BWP. Household surveys were also conducted in the village closest to each BHU and another randomly collected from BHU's catchment area. The report provides in-depth details of results while concise results are reported in published article by Loevenshohn et al 2009, listed above.

14. Alternative resource mobilization strategies for Pakistan's health care in Troubled Times in Sustainable Development and Governance in the Age of Extremes - Shafqat Shehzad

Sustainable Development Policy Institute (2006)

Working Paper Series # 103, ISBN 969-8784-40-3,

Report & Policy brief

This study presents evidence on current practices of Pakistan's health care finance and delivery and suggests ways through which alternative resource mobilization strategies can be devised for health care in Pakistan. Improving ways to finance health care has been the guiding force for improving health outcomes in many developing and developed countries. However, total spending on health varies sharply across countries. Whereas, in many developed countries, populations enjoy universal access to range of health services financed through general tax revenues, social insurance, private insurance and user charges, in many low -income countries, financial protection against the cost of illness is still incomplete. The proportion of populations sharing risk is low, and differential between access to health care services among the rich and poor is very wide. Some popular methods of health care financing being practiced in other countries are (i) community financing (ii) user fees (iii) health insurance (iv) assistance from donors. However, resources can also saved from wasteful and ineffective uses of health technology (services, programs and procedures) and result in improving efficiency of existing health care services. Reallocation of resources within the health sector can be cost effective. This paper develops a criteria for choosing a financing system that takes into account factors like ease of use of the system, revenue generating ability, effects on service provision and community participation in the socio-economic context of Pakistan.

SECTION 3: ECONOMIC EVALUATION

INTRODUCTION:

There are 20 studies reported here and can be grouped into i) Child Health (5); ii) Reproductive Health (4); iii) Communicable and Non-Communicable Diseases (5); iv) General Health Service Delivery (1); v) Investigative and Therapeutic Medical Procedures (4). This section has the second highest volume of studies as compared to other sections and also the largest number of peer reviewed publications as opposed to commissioned policy work. Topics have been driven by interest of public health and medical academia. At the same time, the work is spread thin due to the large number of areas covered. Significant policy related works include economic analysis for introduction of new vaccines to the EPI system in Pakistan, economic analysis of home fortification program using Sprinkles, cost of neonatal intensive care, treatment of childhood pneumonia and meningitis treatment, and cost of unsafe abortion. Remaining works are mostly case studies of treatment costs at individual health care facilities and range from TB DOTs, diabetics treatment to cost analysis of various surgical procedures.

CHILD HEALTH:

1. Pakistan New Vaccines Decision-Making Exercise: Cost-Effectiveness and Financial

Impact: Colin Sanderson, Tayyeb Masud, Consultant, Viktor Galadya

World Bank, Islamabad (2010)

Report

This study analyzed cost-effectiveness and financial impact of introduction of new vaccines for childhood preventable diseases as part of the expanded program of immunization. The objectives of this study were to develop an approach and framework for policy analysis which the Government of Pakistan can use in selecting new vaccines for the Expanded Program on Immunization (EPI). The three vaccines evaluated were Haemophilus Influenza Type b (Hib), Pneumococcal (PCV), and Rotavirus (RV) for protection against pneumonia meningitis and diarrhea in children under five years of age. The study was conducted to assist the government in setting budgetary priorities for the next 5-7 years and optimize assistance from EPI support sources such as GAVI. The incremental cost-effectiveness ratio (the ratio of the additional cost of introducing a new vaccine to the additional health benefits) was calculated for each of the vaccines over a given period.

In this study all three vaccines were considered cost-effective investments for Pakistan by the standards of the WHO-CHOICE guidance, at a cost per DALY of less than the GNI per capita of Pakistan (\$1013). Hib vaccine was the most cost effective (\$22), followed by RV (\$201) and then PCV (\$225). Estimates remained cost effective for both favorable and unfavorable scenarios, including adverse combinations involving lower-than-expected estimates of burden of disease, vaccine efficacy, serotype coverage and health care costs avoided. Impact would be high if coverage rates are equitable increased in the poorer groups having higher risks of mortality, and additional investments made in the cold chain.

2. Hospital Cost of Treating Neonates In Intensive Care Unit At Tertiary Care Hospital (PIMS) Islamabad. K. Hanif, Shafqat Shehzad.

Health Services Academy, (2010)

Work in progress

Neonatal intensive care, often described as expensive is almost publicly funded in Pakistan. Limited research & information on health care economics can result in irrational, inequitable and inefficient allocation of scarce resources. This study determines average cost of neonatal intensive care in a tertiary care hospital in Islamabad. This was a cost accounting, cross sectional study from hospital perspective. Costs compiled by retrospective selection of detailed records for 1000 neonates admitted over a period of one year and by looking into records of various hospital departments. Annual cost in 17 bed NICU was Rs 21.9 million. Cost per patient per day was Rs 3,530 and average cost per patient was Rs 21,533. Neonates, admitted with jaundice and sepsis – accounted high cost to NICU. Personnel and equipment cost forms the highest proportion. Findings are applicable in similar settings that can be used in cost effective analysis of health intervention.

3. Economic analysis of childhood pneumonia in Northern Pakistan - Hamidah Hussain, Hugh Waters, Aamir J Khan , Saad B Omer, Neal A Halsey, Johns Hopkins Bloomberg School Public Health

Health Policy and Planning 2008;23

Journal Article

This study estimates household costs for treatment of pneumonia, severe pneumonia and very severe febrile disease. Combined with reported costs from the health care provider perspective, an estimate of the overall financial burden of these diseases has been developed for the Northern Areas of Pakistan. Data on duration and economic implications of the illnesses for households were collected from caretakers of children under 3 years of age enrolled in a surveillance study who sought care at a health facility. In 2002, 141 health facility visits for pneumonia (29%), severe pneumonia (46%) and very severe febrile disease (25%) were recorded for 112 children. The total societal average cost per episode was US\$22.6 for pneumonia, US\$142.9 for severe pneumonia and US\$62.5 for very severe febrile disease. For household expenditures, medicines constituted the highest proportion (40.5%) of costs incurred during a visit to the health facility, followed by meals (23.7%), hospitalization (13.2%) and transportation (12.2%).

4. Economics of preventing premature mortality and impaired cognitive development in children through home-fortification: a health policy perspective –Sharieff W, Stanley H. Zlotkin , Wendy J. Ungar , Brian Feldman et al, University of Toronto

International Journal of Technology Assessment in Health Care, 2008;24(3)

Journal Article

A cost benefit analysis of 5,000 simulated male and female infants (6–12 months) assigned to micronutrients or placebo for 4 months and followed for 55 years was conducted to project clinical and economic effects of home-fortification in children in an urban slum of Karachi, Pakistan. Cost estimates were based on volumes of resource utilization from the Pakistan Sprinkles Diarrhea study. Main outcome was incremental benefit defined as the gain in lifetime earnings after accounting for the incremental costs of micronutrients over placebo (societal

perspective). Our model projected that the reduction in diarrhea and improvement in hemoglobin concentrations through home-fortification was associated with reduced child mortality, higher IQ scores, and higher earnings. The present value of incremental benefit was \$106, which corresponds to \$464.79 (\$74.54 to \$846.27) international dollars using a purchasing power parity exchange rate.

5. Economic Gains of a Home Fortification Program –Waseem Sharieff, Susan E. Horton and Stanley Zlotkin, University of Toronto and Wilfrid Laurier University
Canadian Journal of Public Health 97(1) 2006 Journal Article

This paper models the effects of a home-fortification program in Pakistan. It uses a randomized controlled trial of sprinkling of multi-nutrient supplementation on cooked food and documents its effects on anemia and diarrhea. Three different measures of cost effectiveness are presented: the cost per death averted (effect via zinc supplementation on reduction of longitudinal prevalence of diarrhea); the cost per ‘disability adjusted life year’ (DALY) saved (same modality); and the gain in earnings due to higher cognitive functioning for each dollar spent (effect via iron supplementation on reduced anemia). It was estimated that the cost per death averted is \$406 (\$273-\$3248), the cost per DALY saved is \$12.2 (\$8-\$97) and the present value of the gain in earnings is \$37 (\$18- \$51) for each dollar spent on the Sprinkles program. These estimates were modeled with a GDP per capita of \$417, a high infant mortality rate of 83/1000, high prevalence of anemia of 93% and high mean longitudinal prevalence of diarrhea 17%.

6. The cost of treatment for child pneumonias and meningitis in the Northern Areas of Pakistan - Johns Hopkins School Public Health and Aga Khan Health Service, Pakistan, Hugh Waters, Saad B Omer, Aamir Khan, Imam Yar Baig, Rozina Mistry and Neal Halsey
Int J Health Plann Mgmt 2006; 21 Journal Article

This study estimates treatment costs of Pneumonia, Meningitis, and Sepsis in health facilities in the Northern Areas of Pakistan. Health facility resources are organized by categories—including salaries, capital costs, utilities, overhead, maintenance and supplies — and quantified using activity-based costing (ABC) techniques. The average cost of treatment for an outpatient case of child pneumonia is \$13.44. For hospitalized care, the health system spent an average of \$71 per episode for pneumonia, \$235 for severe pneumonia, and \$2,043 for meningitis. These costs provide important background information for the potential introduction of the conjugate Haemophilus influenzae type b (Hib) and Streptococcus pneumonia vaccines in Pakistan.

REPRODUCTIVE HEALTH:

7. Costs of vaginal delivery and caesarean section at a tertiary level public hospital in Islamabad, Pakistan - Attia Khan and Shakila Zaman, Health Services Academy
BMC Pregnancy and Childbirth 2010, 10:2 Journal Article

The hospital based cost accounting cross sectional study determines the average cost of a spontaneous vaginal delivery and Caesarean section in a government hospital in Pakistan and to estimate the out of pocket expenditures to households using these services. From the patient’s perspective direct and indirect expenditures of 133 post-partum mothers admitted in the

maternity ward were determined. From the hospital perspective the step down methodology was adopted, capital and recurrent costs were determined from inputs and cost centers. The average cost for a spontaneous vaginal delivery from the hospital side was 40 US\$ (Rs. 2,688) and from the patient's perspective was 79 US\$ (Rs. 5,278). The average cost for a Caesarean section from the hospital side was 162 US\$ (Rs. 10,868) and 204 US\$ (Rs. 13,678) from the patient's side. Average monthly household income was 141 ± 87 US\$ for spontaneous vaginal delivery and 168 ± 97 US\$ for Caesarean section. 74% of households had a monthly income of less than 149 US\$ (Rs. 10,000).

8. Measuring the Economic Costs of Unsafe Abortion Related Morbidity and Mortality in Pakistan - Ayesha Khan and Haris Gazdar

Collective for Social Sciences Research and Packard Foundation, (2008-2010)

Ongoing Study

This is a two-year interdisciplinary study to estimate the costs of unsafe abortion related morbidity and mortality in Pakistan. The project is funded by the David & Lucile Packard Foundation. A review of methodology and mapping of event pathway have been completed so far. Four separate types of literature have been reviewed including medical and community studies on abortion in Pakistan, abortion prevalence, health economics and feminist economics. In addition key informant interviews with medical professionals and some patient case studies have also been drawn upon. Due to sensitivity of the issue and inaccurate reporting, a model has been developed to estimate induced abortion numbers in Pakistan. Based on this there are estimated 890,000 annual induced abortions in Pakistan and these account for 78.85 of all abortion related hospitalizations. The economic burden of induced abortion and decision pathway to seek care are currently under progress.

9. Testing Costing Tool for Fistula Treatment in Pakistan

UNFPA, Mustashaar (2007)

Report

This study focused on costs of treatment of fistula resulting from obstetric complications. A multi-disciplinary team field tested the costing tools followed by adaptations and improvement. The study then proposed an estimated cost for establishing the services in Pakistan in tertiary level care hospitals. Comprehensive costing with social rehabilitation services in the community was also offered. This study has been one of the few studies commissioned by the UNFPA for assessing the feasibility of having an institutionalized approach for fistula treatment through public sector hospitals.

10. Costing out the HIV Response in Pakistan - Adnan Khan, Agnes Couffinal

National AIDS Control Programme, World Bank, Research & Development Solutions, (2007)

Report

A multi-step process was undertaken by the National AIDS Control Programme to determine the cost of HIV prevention programme for adjustment of second phase of HIV prevention activities. Cost was determined for interventions in high risk groups such as injection drug users and sex workers and a media campaign to reach the general population based on five years of

programmatic data. A cost model based on international experience was applied that specified the content of interventions for sex workers and drug user that would be most suitable to control the transmission of HIV. Costs were then applied to this model using the actual cost figures from the first phase. Certain assumptions were made for the number of beneficiaries to be reached using the available surveillance data. Cost per client of HIV prevention was calculated by aggregating the total cost of service delivery at clinics including personnel, administration, drugs, tests, overheads and other indirect costs as they were accrued in actual experience. On an average, the total cost of interventions was Rs. 12,300 for IDUs, 5,700 for male and female hijras, 5,100 for female sex workers and 93,259 for HIV treatment per person.

COMMUNICABLE AND NON-COMMUNICABLE DISEASES

11. The personal cost of diabetic foot disease in the developing world - a study from Pakistan - Baqai Medical University, Ali SM, A. Fareed, S. M. Humail, A. Basit, M. Y. Ahmedani, A. Fawwad and Z. Miyan

Diabetic Medicine 2008; 25 Journal Article

This study was conducted to estimate the direct cost of treatment of diabetic foot ulcer at a tertiary care hospital in Karachi, Pakistan. Of the 383 patients seen at Foot clinic, records of 214 patients were analyzed while 169 patients Left Against Medical Advice (LAMA). Information was retrieved on resource consumption. Interventions were summed and multiplied by the unit price of each resource, using charges levied at BIDE in the year 2005, in order to calculate the total cost of treatment. Mean duration of diabetes was 16.2 ± 6.6 years. The estimated direct cost of management increased from Rs. $2,700 \pm 250$ rupees for a UT grade 1, stage B ulcer to Rs. $37,415 \pm 24,125$ for UT grade 2, stage D and Rs. $49,058 \pm 30,144$ for UT grade 3, stage D ulcers, respectively. The mean direct cost of major amputation was Rs. $46,182 \pm 30,742$ whilst the cost of a minor amputation was Rs. $50,494 \pm 30,488$.

12. Cost of Treatment of Deliberate Self-Harm - Aga Khan University, Muhammad Shahid, Murad M. Khan, Haider Naqvi , and Junaid Razzak

Short report - Crisis 2008; Vol. 29(4) Journal Article

A retrospective review of 98 patients through medical and billing records, over a period of 12 months in 2004, was conducted to evaluate the cost of treatment of patients presenting with deliberate self-harm (DSH) to a private tertiary care teaching hospital in Karachi, Pakistan. After initial treatment in the Emergency Department (ED), 34 patients were admitted to the medical wards for further treatment and 64 patients were either discharged or left against medical advice from ED. The mean cost for admitted and discharged patients was US \$255 and US \$55.60, respectively. One patient was intubated in the ED and shifted to intensive care unit. The cost of treatment of DSH is extremely high in a country like Pakistan, where the patients have to bear the hospital cost out of their own pocket. The most important determinant of cost was length of hospital stay, averaging 2.91 days.

13. Cost of DOTS for Tuberculous Patients - Farida Habib and Lubna Baig, Karachi Medical and Dental College

J Pak Med Assoc 2006; 56(5) Journal Article

A hospital based cross-sectional study was conducted to determine the cost of DOTS (directly observed therapy short course) incurred by the patients. 220 TB patients with acid-fast bacilli positive in their sputum were analyzed. 37% of the patients belonged to families with 8-10 family members living under one roof. The expense of direct cost for two months treatment was Rs. 3060-3600. Most of the patients who were on DOTS spent more than 4 hours per day in obtaining the therapy. The disease was found to be common in poor families (75% of patients had total monthly income less than Rs. 2000).

14. Cost of diabetes care in out-patient clinics of Karachi, Pakistan - Aga Khan University, Liaquat Khowaja, Ali Khan Khuwaja and Peter Cosgrove

BMC Health Services Research 2007, 7:189 Journal Article

The objective of this study was to estimate the cost of diabetes among attendees of OPD clinics of Karachi, Pakistan. A prevalence-based 'Cost-of-Illness' study for diabetes care was conducted using a pre-tested questionnaire to collect data from 345 randomly selected diabetics. The annual mean direct cost for each person with diabetes was estimated to be Pakistani rupees 11,580 (US\$ 197). Medicines accounted for the largest share of direct cost (46%), followed by laboratory investigations (32%). It was found that increased age, the number of complications and longer duration of the disease significantly increase the burden of cost on society ($p < 0.001$). Comparing cost with family income it was found that the poorest segment of society is spending 18% of total family income on diabetes care.

15. Cost implication for management of psychiatric illnesses in Pakistan - University of Newfoundland, Amin A. Muhammad Gadit

Journal of Medical and Biological Sciences 2007; 1(2) Journal Article

This study conducted to compare the cost of psychotropics with the alternate medications, the difference in consultation rates among psychiatrists and alternate practitioners and suggest a way by which the psychiatric service as well as psychotropics may become more affordable. This was a cross sectional study based on a questionnaire and telephonic interview of 800 patients in all the four provinces of Pakistan. The results indicate that 123 out of 800 patients from all four provinces were attending the psychiatrists exclusively (15%), alternate practitioners were approached by 361 patients (45.1%) and both types of practitioners were seen simultaneously by 316 patients (39.5%). It appears that the majority of the patient population preferred alternate therapists and alternate medication for addressing the mental health issues.

GENERAL HEALTH SERVICE DELIVERY:

16. Treatment Cost at Basic Health Units in NWFP and FATA -Ashar Malik
Health Sector Reform Unit NWFP and GTZ (2006) Report

The study tried to assess cost of service delivery at BHUs in NWFP and FATA during the calendar year of 2005. Six BHUs were randomly selected in 5 districts of NWFP and 2 agencies of FATA. Data was retrospectively calculated for 2005. Per consultation cost was calculated

taking into account only direct costs borne by the EDOH and included staff costs, fixed assets such as building, equipment, furniture, supplies, utility charges and monitoring and supervision cost. Per consultation cost was found to be Rs.301 (USD5.2) per patient in PKR 2005. Rs10 was spent on medicines while the rest (Rs.291) accounted for salaries, fixed assets, utilities and supervision.

INVESTIGATIVE AND THERAPEUTIC PROCEDURES:

17. Cost saving by reloading the multiband ligator in endoscopic esophageal variceal ligation: A proposal for developing countries - Zaigham Abbas, Lubna Rizvi, Umair Syed Ahmed, Khalid Mumtaz, Wasim Jafri, Aga Khan University

World J Gastroenterol 2008; 14(14) Journal Article

This single centre retrospective descriptive study analyzed patients undergoing variceal ligation at a tertiary care centre to assess the cost savings of reloading the multiband ligator in endoscopic esophageal variceal ligation (EVL) used on the same patient for subsequent sessions. The multiband ligator was reloaded with six hemorrhoidal bands using hemorrhoidal ligator for the second and subsequent sessions. Analysis of cost saving was done for the number of follow-up sessions for the variceal eradication. A total of 261 patients underwent at least one session of endoscopic esophageal variceal ligation. A total of 304 sessions was performed on 108 agreed patients with 2.81 sessions per patient on average. In 76 patients (70%), variceal obliteration was achieved. The ratio of the costs for the session with reloaded ligator versus a session with a new ligator was 1:2.37. Among the patients who completed esophageal varices eradication, cost saving with reloaded ligator was 58%.

18. CT scan of body packers: findings and costs - Saba Sohail, Dow University of Health Sciences

J Pak Med Assoc 2007; 57(8) Journal Article

An observational study was conducted in 2005 at Civil Hospital Karachi to determine the CT features of intra abdominal illicit drug packs used for trafficking by using scout CT scan image and describe its cost re-imburement. The study subjects included alleged drug traffickers smuggling by body packing, intercepted at Karachi International Airport and referred for CT scan of abdomen by the Anti Narcotic department. Scout CT image of the abdomen was taken. The cost of each scan in terms of technical expenditure and official reimbursement was also determined. Positive scans were obtained in 7 of whom 06 were males. All visualized foreign bodies were seen as high density objects (89-340 HU) compared to the surrounding tissues. The size ranged from 1.5-4 cms. The site was distal ileum in 1, ascending colon in 2 and transverse colon in 4 cases. The technical cost of each procedure was Pak Rs. 300-600 per case for which a reimbursement of Rs. 200-250 was received.

19. Ambulatory laparoscopic cholecystectomy: Is it safe and cost effective? - Athar Ali, Tabish Chawla and Abid Jamal, Aga Khan University and OMI Hospital Karachi

Journal of Minimal Access Surgery 2009; 5 (1) Journal Article

Quasi experimental study was conducted to evaluate safety and cost effectiveness of LC as an ambulatory day care surgery. Patients with uncomplicated symptomatic gallstones were selected for Ambulatory LC and were admitted electively on the same day and operated on in the morning hours and discharged after a check by the surgeon 6-8 hrs later. Fifty patients selected for ambulatory LC, 92% were discharged successfully after 6-8 hrs observation. No significant preoperative complications were noted. Unplanned admission and readmission rate was 8 and 2%, respectively. Cost saving for the daycare surgery was Rs. 6,200, Rs. 13,300, and Rs.22, 800 per patient as compared to in patient general, semiprivate and private ward package, respectively.

20. Cost-effectiveness of clipping vs coiling of intracranial aneurysms after subarachnoid hemorrhage in a developing country: a prospective study – Muhammad Zubair Tahir, S. Ather Enam, Rushna Pervez Ali, Atta Bhatti, Tanveer ul Haq
Aga Khan University,
Surgical Neurology, 2009 Journal Article

The aim of this study was to compare the clinical outcome, resource consumption, and cost-effectiveness of endovascular treatment versus surgical clipping in a developing country. The study population consisted of 55 patients with aneurysmal subarachnoid hemorrhage (SAH) identified prospectively from 2004 to 2007. Of these 31 underwent surgical clipping, whereas 24 were treated via interventional coils. Clinical outcome at 6 months, using the modified Rankin Scale, and cost of treatment related to all aspects of the inpatient stay were evaluated in both groups. Most patients (43) were found to be in grades (1 and 2). Of these patients, 18 received coils and 25 were clipped. The remaining 12 patients were of poor grades (3 and 4), of which 6 had coiling and 6 underwent clipping. The average total cost for patients undergoing endovascular treatment of the aneurysms was \$5080, whereas the average total cost of surgical clipping was \$3127.

SECTION 4: EQUITY, SAFETY NETS & ECONOMIC DETERMINANTS OF HEALTH

INTRODUCTION:

This section pulls in recent initiatives in the area of economic inequities impacting on health and health related safety nets. Of the 9 documented works, two were ongoing projects that provided social safety nets to help alleviate catastrophic expenditure while the other seven included research works. The most notable initiative is the recently started BISP being implemented nationally by the public sector which currently provides unconditional cash transfers to the poor but may in future be linked to social health insurance or conditional cash transfers. The other project, implemented by a NGO, involves introduction of a hospital based equity fund in public sector hospital setting but funded by the private sector. The research studies are a diverse mix and include analysis of MNCH expenditures on access to care (under progress), relationship of decreasing income levels with health status, three studies on gender equation in resource allocation for development programs, and two papers on role of socio-economic factors on child survival.

EQUITY CENTRED FINANCING SCHEMES:

1. Benazir Income Support Program –Cabinet Division, Government of Pakistan (2008 – ongoing)

The Benazir Income Support Program (BISP) is the newly introduced flagship social protection intervention of the federal government and aims to build national social safety net program. It began with an initial allocation of Rs 34 billion (0.3% of the GDP) for the year 2008-09 and allocation has increased to Rs 70 billion for the year 2009-10. It intends to cover 5 million families totaling 16% of the country's population, through a cash grant of Rs 2,000 to each family every alternate month for families earning Rs. 5,000/- or less per month. Targeting mechanisms are being improved through introduction and validation of poverty score cards with technical assistance of development partners. BISP has been introduced in 15 districts and in the long run number of districts will be increased.

Apart from giving cash assistance, BISP is potentially to be used for linking with healthcare services so as to improve access to healthcare in the targeted population of the BISP and also reduce the burden of catastrophic health expenditure. Two options are being considered. One of these is a shift from non-targeted to targeted subsidies by linking to utilization of specific PHC and MCH services. The other option is to link BISP subsidies with a micro health insurance program whereby the poor and vulnerable would be entitled to cover hospitalization, pregnancy, day-care treatment, diagnostic tests, and accident compensation for earning members of the family to a maximum limit of Rs. 25,000 per year. Partners for linking with health services are the Ministry of Health and provincial Departments of Health, private health care providers, NADRA, CBOs/VOs and insurance companies. At present discussion is being finalized with various partners on the basic benefits package, premium estimates and collection, stakeholder

consultation and role, contractual arrangement with insurance companies and health care providers, quality assurance mechanism and marketing plans and M&E arrangements.

2. Health Equity Financing for Catastrophic Expenditures – Heartfile, Islamabad (2010-2012)

A pilot project was initiated in March 2010 to develop a mechanism for protecting the poor against catastrophic expenditures on health. The project has been launched by Heartfile in partnership with the Clinton Global Initiative and is funded by the Rockefeller foundation. The project has three components: a technology platform, a health equity fund, and a system of validating poverty and prioritizing patients. It has three primary objectives; 1) to increase the number of poor patients protected against catastrophic health expenditures in Pakistan, 2) to increase responsiveness of financial assistance by decreasing time lags cutting down on informal payments and indirect costs incurred by patients when seeking financial assistance and increasing patient satisfaction; and 3) to increase transparency of financial assistance for both donors and end users.

The Pakistan Institute of Medical Sciences has been chosen as the first pilot site and assistance is made available to deserving patients in Cardiology and Orthopedic wards through a seed Health Equity Fund. The mechanism involves an IT-supported system that can be accessed by registered service requesters from amongst the hospital staff to seek urgent support for those unable to pay for hospital care. Heartfile will then ascertain eligibility, verify requests and subsequently authorize cash transfers to underwrite the cost of healthcare. The patient poverty criteria is assessed through a scorecard from 3 sources; NADRA verification, physician assessment and verifier (volunteer/professional of Heartfile). The turnover time for the whole process of financing any patient is usually 72 hours. Donors can check on use of funds through online services and can stratify donation by type of disease, patient profile, gender etc. The project's proof-of-concept has recently been published as one of the background papers to the World Health Report, 2010 which is themed on health financing and universal coverage reform. It is envisaged that integration of a web based application with mobile phone technology and other technology tracked channels will enable Heartfile to process requests, provide services and manage donations with transparency, trackability and expeditiousness.

RELATED RESEARCH:

3. Impact of maternal and child health private expenditure on poverty and inequality - Asian Development Bank and AusAID (2008) *Ongoing study*

This study examines the impact of out-of-pocket expenditures on access to MNCH care in Pakistan as part of a larger multi-country study. It seeks to determine how significant a barrier is presented by out-of-pocket expenditures and its resulting hardship to people seeking and receiving care for maternal, neonatal and child health. The service context of MNCH has been chosen as medical expenses can be large, sudden, and unexpected resulting in adverse effects of increasing poverty and particularly so in the more disadvantaged groups.

The study is being conducted during 2009-10 period with dissemination expected in 2010. The study has a scoping phase to validate the availability and reliability of household survey data followed by a second phase to analyze and report on the relationship between OOPE and MNCH for countries with reliable data. Quality of dataset appears problematic for Pakistan and is being addressed through different measures. The report will look into factors such as income levels, age, geographical location and ethnicity that predispose households to catastrophic expenditures. It intends to come up with an up to date, regionally comparable set of analysis and insights on the affordability, impoverishment and catastrophic effects of OOP expenditure on MNCH.

4. Public Spending on Education and Health in Pakistan: A Dynamic Investigation through Gender Lens –Muhammad Sabir

Social Policy Development Centre, (2009)

Report

This study investigated which income groups actually benefitted from the government's subsidized education and health services and examined how these benefits are distributed between males and females. It aims to introduce gender sensitive planning and budgeting in the public sector by providing a gender lens for analysis of public sector spending. Assessment for health services was done for the years 2004-05 while for education services are assessed over two point estimates 1998-99 and 2004-05. It applies Gender Disaggregated Benefit Incidence Analysis, in which, estimates are obtained of the unit costs of particular service, these are then imputed to households and finally aggregated estimates benefit incidence are obtained arranged by income and sex. Sources of the data for this report includes, HIES and PSLM surveys and PRSP annual progress report.

The per capita estimates of the public health expenditure estimates that on an average lowest per capita subsidies received by population of NWFP (Rs. 134) followed by Sindh (Rs. 152), Punjab (Rs. 156) and highest in Balochistan (Rs. 174). The province wise pattern indicates that the richest quintile in Punjab gets lowest per capita subsidy (Rs. 119) followed by middle (Rs. 127), lower middle (Rs. 162), upper middle (Rs. 1181) and the poor (Rs. 187) quintiles. In Balochistan and NWFP richest quintile receive the lowest per capita subsidy, however in Sindh poorest gets lower per capita subsidy. Females are receiving over 50% of shares of health subsidies in all provinces except Sindh.

5. Gender Budget Statement 2008-09 – Muhammad Sabir

Finance Division, Government of Pakistan (2009)

Report

Gender Budget Statement (GBS) is an accountability tool which a government uses to inform about its initiatives for advancing gender equality. This GBS covers a special program Benazir Income Support Program (BISP) and selected projects of ministry of education, health and population welfare, which have greater gender implications. The budget 2008-09 focused on the issues related to gender equalities and miseries of marginalized women by announcing special program for poor and marginalized women, initiating new schemes in ministries/divisions, and providing greater support to on-going gender sensitive schemes.

BISP was launched in 2008-09 in order to protect the poor and vulnerable segment of the society from growing hike in prices. Under this program the government aimed to be distributed as a cash grant of Rs. 1,000 per month to a woman of each qualifying family. Federal expenditures on education show that spending on boys and men are greater than the spending on girls and women. However, federal expenditures on health are either targeted to women and girls or both female and males. There is no separate program for males in health budget. National Program of Family Planning & Primary Health Care (NPF&PHC), National Maternal Neonatal and Child Health (NMNCH) Program, and Enhanced HIV/AIDS Control Program or National AIDS Control Program Pakistan (NACP) are major gender sensitive interventions in health sector. Population Welfare Program (PWP) is primarily a pro-women program designed to make behavioral changes.

6. Gender Aware Policy Appraisal for Health – Shafqat Shehzad

Ministry of Finance, UNDP and Gender Responsive Budget Initiative, GRBI (2006)

Report & Policy Brief

The Ministry of Finance, Government of Pakistan with the technical and financial support of UNDP and its cost sharing donors initiated the 'Gender Responsive Budgeting Initiative' (GRBI) project to promote policy and resource allocation with a gender perspective. This was patterned after the first Women's Health Budget in South Africa. The study analyzed gender differences in health outcomes/states and argued that these differences are perpetuated through resource allocations for health and health care policies in Pakistan. Generally, budget documents were claimed to be gender neutral, but the study found that expenditure patterns of major health care programs were not gender sensitive and the same was true for many health care policies. The major causal factors responsible for gender differences in health outcomes and states were identified to be social, economic and political.

7. The Determinants of Child Health in Pakistan: An Economic Analysis – Shafqat

Shehzad Health Services Academy (2006)

Journal of Social Indicators Research 2006; 78 Journal Article

This paper estimates linear structural models using LISREL and employs MIMIC models to find out factors determining child health in Pakistan. A distinction has been made in permanent and transitory health states that lend support to Grossman's (1972) stock and flow concepts of health. The paper addresses the issue of health unobservability and finds that latent variables using MIMIC models best represent underlying child health states. To overcome problems of poor income data, factor analysis is applied to extract measures of housing and durables as indicators of socio-economic well-being of children in Pakistan. The results of the study show that child health states, both permanent and transitory, are affected significantly by factors such as parental education, socio-economic conditions, and health care variables.

8. The Relationship between income, income inequality and health: some methodological issues - Sadia Malik, Centre for Research on Economic and Social Transformation, (2005)

Working Paper

This study employs panel data for the first time to examine the relationship between income, income inequality and health and addresses the methodological constraints that limit the

reliability of the estimates. By employing instrumentation techniques pertinent to dynamic panel data model, the study addresses the endogeneity of income and other variables that affect health such as female schooling and fertility rate.

The results indicate that health endowment as measured by past health affect current health in a significant manner. The level of income improves the status of health but this effect is highly nonlinear implying that the marginal effect of income on health falls as the level of income of a country increases. The effect of income on health is however not robust the choice functional from and to the inclusion of lagged levels of health. Interestingly, the effect of income inequality turns out to be significant and is robust to the inclusion of past health. The effect of income inequality however depends upon the level of income and once we take into account the interaction between income inequality and income, the marginal effect income inequality on health falls. This finding provides strength to the plausibility of the argument that income inequality is a direct health hazard particularly for low-income countries.

9. An Extended Model of the Determinants of Child Survival in Pakistan –Shafqat Shehzad, Sustainable Policy Development Institute, (2005) *Working Paper*

This study develops a model for child survival incorporating a range of factors as predictors of child health. It expands upon earlier work by Mosely and Chen (1984) which emphasizes the role of economic and physiological factors and the study by Naushin and Kiani (1994) which focuses on socio-demographic factors as important determinants of child survival in Pakistan. This study extends the model for child survival probability in Pakistan and discovers that simple application of Mosely and Chen model may undermine the crucial effects of other important factors. The study estimates these effects, and finds out that household income, child's age, premature births, and average number of births turn out to be significant predictors of child survival in Pakistan.

DISCUSSION

OVERVIEW:

The report maps out what has been done in the health financing area and where are the information gaps that need to be addressed. This information can be used to make changes to the health care financing system in Pakistan in terms of how much is being spent at existing coverage level and how much more is needed for universal coverage; costs of provision of specific services and marginal costs of introduction of new services; extent of income and gender inequities; and the mix of financing mechanisms in place and their effectiveness.

In Pakistan a significant number of works have been undertaken in the last five years related to the health financing area. Although a many of the works are small scoped and fragmented there are also significant initiatives in place. These include the National Health Accounts and household expenditure surveys, a number of alternative financing mechanisms in place, emerging research on contracting and recent research activity in the MNCH area. Notable evidence gaps include economic evaluations, equity assessments, and operations research/evaluation for financing mechanisms.

The landscaping review listed 66 either completed or in progress and while the actual number is expected to be larger, major and projects and studies are covered here. The listed work included a diverse mix of surveys, financing projects, commissioned policy studies, research projects and publications. A further breakdown by volume of work shows 4 major expenditure surveys, 7 projects related to alternative health financing mechanisms being implemented by the public sector and NGOs, 23 commissioned policy studies, 9 unpublished independent research studies, and 23 journal publications and books [Figure 1]. Thematically within the health financing area, most of the work has involved mapping of health allocation and expenditure (23), followed by a diverse studies in economic evaluation (20), financing mechanism and related research (14) while the smallest volume of work has been undertaken in health inequities areas (9) [Figure 2].

Figure 1. Breakup by Nature of Work

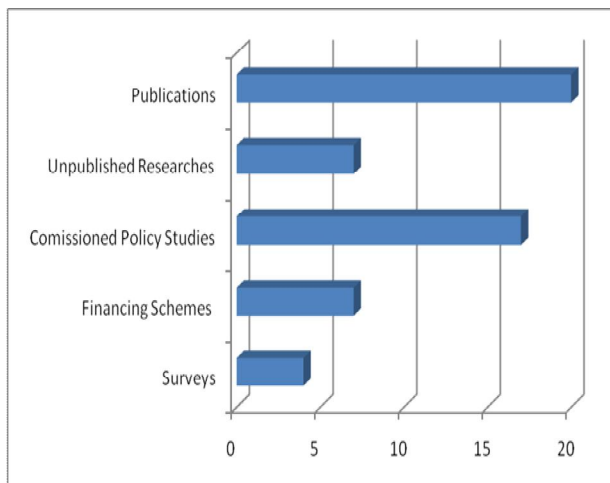
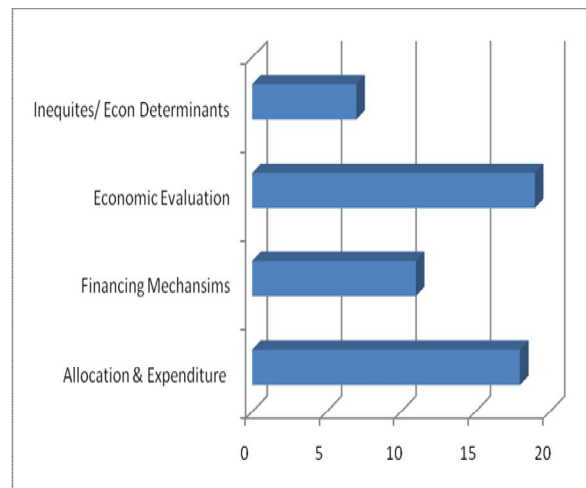


Figure 2: Breakup by Thematic Area



EXISTING STRENGTHS & EVIDENCE GAPS:

Allocations & Expenditure: The most notable contribution in this area is of National and Provincial Health Accounts being compiled to map expenditure on health by all government, foreign and private sources and their resulting utilization. National household surveys have also been increasingly focused to collect information on out of pocket spending by households and notable examples include MICs and HIES. Provincial Health Policy Notes of the World Bank provide provincially disaggregated financial analysis and are valuable in the backdrop of the devolution of the Health Ministry. Health spending is low in Pakistan at 2.6% of the GDP or \$15 per capita and 66% is borne by households through out of pocket payments raising issues of access to health care and vulnerability of poor households to catastrophic health expenditure. Provincial disparities are seen in terms of government spending which ranges between 5-9% of budget (Sindh being the lowest) while share of international donors in health expenditure ranges between 0.1-15% (Balochistan has the highest).

More evidence is needed in critical areas such as expenditure by different service areas, by districts, by income quintiles and willingness to pay. So far concerted work has only begun in the MNCH area involving mapping of MNCH allocations, expenditure breakdowns for MNCH services and marginal budgeting for MNCH. Access and utilization of survey data sets available with the GOP particularly needs to be boosted for applied analysis by researchers. Financing systems within the health sector also need improvement for better tracking of health expenditure.

Financing Mechanisms: In Pakistan there is clearly a transition from direct service delivery towards alternative ways of health care financing and delivery. Major new financing modalities underway in the public sector include management contracts for BHUs, results based financing mechanisms for MNCH in Sindh, contracting of NGOs for HIV prevention, and Punjab hospital purchasing and accreditation project. Additionally deliberations are underway for potential linking of the BISP to conditional cash transfers or health insurance subject to finalization of policy discussions. In addition NGO projects on vouchers, community based insurance and health equity funds provide important field pilots for learning and replication.

Evidence gaps however remain in terms of assessment of existing health financing schemes. These should include scoping and feasibility studies for introduction of new schemes prior to heavy investment, operations research prior to up-scaling and third party evaluations of rolled out financing schemes. The most notable work in this area is the ongoing third party evaluation of BHU contracting but has faced issues due to lack of baseline study. Another area which has been overlooked but is of relevance to future financing schemes is differentiation by urban and rural areas in design of financing schemes so as to capture the differences in private sector markets, disease pattern and paying capacity.

Economic Evaluation: Although there are a number of economic evaluation studies however the work is spread thin due to the large number of topics covered and usually small scaled nature of research. It mainly comprises mostly of independent research works driven by diverse interests of public health and medical academia. The more significant works have been undertaken in the Child Health area. This includes cost effectiveness of introducing new vaccines for pneumonia (\$22), diarrhea (\$201) and meningitis (\$225) to the EPI Program as well as studies on costs of

childhood pneumonia, meningitis, neonate emergency care and home fortification. The Reproductive Health area has fewer works and includes tertiary costs of normal delivery (\$79) and C-Section (\$204), economic cost of unsafe abortion, costing of obstetric fistula and HIV prevention in risk groups. Much less work is seen in Communicable and Non-Communicable diseases and is mainly confined to a few studies on treatment cost of diabetes (\$197 per annum), TB DOTs and self harm. Remaining studies involve explore cost merits of investigative or therapeutic surgical procedures in sophisticated tertiary care settings.

Economic evaluation is of critical relevance for modification of health financing systems. Concerted work is still required for is required for development of cost packages for essential/basic health services and for carrying out incremental cost analysis for addition of new services. Capacity and interests of local researchers needs to be harnessed and directed towards economic evaluation in areas of high policy relevance. Towards this purpose close working between researchers and policy makers will need to be developed.

Inequities & Safety Nets: Despite high need for concerted work in this area, existing initiatives are few. The BISP presents a significant opportunity to be linked to health related safety nets however much would depend on accuracy and transparency of targeting mechanisms. Equity funds managed by NGOs at public sector hospitals are potentially more in number than documented here and show a trend in public private partnerships driven by the philanthropic sector and civil society bodies. Research in the economic inequities area is few and needs concerted attention. Notable findings show that approximately 50% of health budget is spent on pro-women programs in all but one province and that the lowest income quintile has highest OOP spending. Further research needs to be directed towards effective targeting for safety nets looking particularly into health expenditure burden on households in different geographical areas, examining what is health spending consumed in and the impact of catastrophic expenditures. This is yet another area that would benefit from closer linking between social scientists, economists and policy makers.

TWO EMERGING PATTERNS: RESEARCH VS POLICY DRIVEN WORK:

A distinct pattern is seen in the landscaped work. Nearly half the volume of work, comprising of publications, independent researches studies and working papers, has been driven by academicians and researchers belonging to public health, medical sciences and development economics disciplines. Productivity of this group has been mainly in the area of economic evaluation case studies, and to a lesser extent in the other areas. It is however uncertain whether these researches, most of which are easily accessible, have been utilized for policy and programming purposes.

The other half volume comprises of works commissioned by development partners and government entities such as MOH, MOF and MOP&D. This includes the major expenditure surveys, five of the seven financing projects, and commissioned studies mostly on mapping of health allocations and expenditures. These have a more obvious policy focus but also comprise at times of overlapping initiatives. The diversity of topics also indicates lack of strategic identification of priority areas of work within health care financing.

In between these two major sections of work, fall the three health financing projects (vouchers, micro-insurance, health equity funds), being implemented by NGOs in different districts of Pakistan and funded by international partners. Although small scaled, these can provide lessons for wider replication.

RECOMMENDATIONS AND CONCLUSIONS:

This review provided a broad landscaping of existing advances in the health financing area in Pakistan. The health financing area, despite being a specialized field, has seen recent activity in Pakistan. The most notable contributions are the National Health Accounts; the move towards alternative financing schemes, a number of financial studies in the MNCH area and cost studies in studies related to child health. The major gaps are economic evaluations, equity assessments, and operations research/ evaluation for financing mechanisms.

A major weakness is that there appears to be lack of a policy direction in terms of health care financing. Several fragmented initiatives are in place but the link between health financing research and financing initiatives continues to be weak. Fewer areas of high strategic value need to be focused on and with in-depth attention to generation of province specific data in light of MOH's devolution. Further work also needs to be sequentially planned starting with health expenditure analysis to identify areas of priority investment, cost package development, operational research pilots for alternative financing mechanisms, followed by roll out and assessment of larger health financing initiative, and a strong continuing surveillance of equity aspects.

It is hoped that this review will help in identification of strategically important areas for further work, reduce duplicative work, and provide opportunities for cross-synergistic work between different institutions.

Although both researchers and policy makers have been active in the health economics area, synergistic working is required to move from fragmented towards consolidated and high value work. This would require on the part of policy makers a sensitization to use of existing evidence, drawing in of researchers, academics and NGOs for evidence generation, field piloting and assessments, earmarking of funding support, and increasing access to public data sets. On the part of researchers it would require directing creative energies towards key policy areas, initiating mutual collaboration, and capacity building of public sector.

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