

Comparative Assessment of Health Care Delivery Systems of Developing Countries: Pakistan versus Cuba

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Abstract: *The health of a nation can be measured by its health care system and it strongly depends upon country's health policy and strategical planning. Globally health care industry is undergoing a rapid change and is confronting the challenges of shift in demographics and emergence of chronic diseases which is resulting in higher cost of health care delivery. Countries worldwide are scrutinizing their current operational performance of health system, and struggling to adjust to recent growing demands. The health care system of developing countries are immersed in the complex issues of governance and financing of health care, human resource inequity and lack of access to quality health services, which are significantly impacting on the delivery of health services to the consumers. This paper will highlight on of health care system of Pakistan and Cuba under the spheres of their health care delivery system, organizational structure, authority and power structure, decision making process, future challenges and their resolutions.*

Keywords: Comparison, Health care delivery system, developing countries, Pakistan, Cuba

1. Introduction

Economic growth of a country greatly depends upon its health care system, as better health directly relates to the productivity of the labor force of that state. Globally health care industry is undergoing a rapid change and is confronting the challenges of shift in demographics and emergence of chronic diseases which is resulting in higher cost of health care delivery. Countries worldwide are scrutinizing their current operational performance of health system, and struggling to adjust to recent growing demands. Health system of a developing country like Pakistan is immersed in the complex issues of governance and financing of health care, human resource inequity and lack of access to quality health services, which are significantly impacting on the delivery of health services to the consumers. This paper will highlight on of health care system of Pakistan and Cuba under the spheres of their health care delivery system, organizational structure, authority and power structure, decision making process, future challenges and their resolutions.

1.1 Health status of Pakistan and Demographics

Pakistan comes under the category of developing country with an estimated population of about 180 million (Hashmi, 2003). It is the sixth most populous country of the world and by 2050 it will become fourth largest nation on earth (Nishtar, 2007). According to Human Poverty Index (HPI), Pakistan is categorized as low income country and positioned at 65th among 102 developing countries (Health System Profile Pakistan, 2007). Pakistan has pledged towards achieving the Millennium Development Goals (MDGs) 4, 5 and 6 which are related to health, with a target to achieve by 2015. Pakistan remains trapped in low income and low growth domain with 3% of growth per year from 2008 – 2012 and inflation escalating to 12% in 2011 (Pakistan Economy Profile, 2013). According to World Bank report 2013, 60% of population is living below poverty line (World Developmental Indicators, 2013). The health profile of Pakistan is illustrated by high population growth

rate, infant and maternal mortality rates. According to 2012 estimates, it has a fertility ratio of 3.07 children/woman, infant mortality of 61.27/1,000 live births, maternal mortality of 260/100,000 live births, and 1.5% of growth rate which is unacceptably higher than other developing countries (Pakistan Demographic Profile, 2013).

1.2 Health Care Delivery System of Pakistan

Under Pakistani constitution, except for federally administered areas, health is the major obligation of the provincial government. National health policies and strategies are proposed and designed by Ministry of Health (MOH) at federal level however; their operationalization jointly rests on provincial government and the districts. In Pakistan, health care facilities comprise of public and private delivery services. Health care delivery to the consumers is systematized through four modes of preventive, promotive, curative and rehabilitative services (Health System Profile, 2007). Private sector attends 70% of the population through a diverse group of trained health team members to traditional faith healers (Health System Profile, 2007). The public health delivery system functions through a three layer approach. The primary tier where Basic Health Units (BHUs) and Rural Health Centers (RHCs) provides health care utilizing primary health care as a core model. Secondary level care includes referral facilities and inpatient care is catered by Tehsil Headquarter Hospitals (THQs) and District Headquarter Hospitals (DHQs), and care at tertiary level is supported by teaching hospitals.

1.3 Health Care Delivery System of Cuba

The republic of Cuba is an island with a population of more than 11 million (Birch & Norlander, 2007). After the revolution in 1959, Cuba inherited a diverse health sector comprising of leading private zone and undeveloped public segment. Cuba has a widespread, public healthcare system, which is equally accessible to all the citizens of the island. The system is well controlled with prevention at its first priority. All health related activities are directed by the

government and private medical facilities and hospitals do not exist. A system of polyclinics, hospitals and family physicians were introduced in 1980. Family physicians, nurses and other health professionals are responsible for delivering primary and preventive care services to their patients. In urban areas a physician looks after 1000 patients (Campion & Morrissey, 2013). Currently there are 31,000 family physicians and 1:170 is the doctor: population ratio (Cooper, Kennelly & Garacia, 2006). A family physician gets subsidy in food and housing, and earns \$30 a month and a nurse \$25 per month (Campion & Morrissey, 2013). Consultorios (Doctor's office) and polyclinics (outpatient department of a small hospital) provide immediate primary care to the residents in Cuba. Patient's make a visit to consultorio for minor concerns, whereas for chronic and emergent conditions prefer polyclinics which provides sophisticated care and consultation. Secondary level care is provided by municipal and regional hospitals. This preventive care model has produced optimistic outcomes such as high immunization rates in eradicating polio, rubella, tuberculosis and chicken pox. Cuba is the first country to eradicate polio in 1962, measles in 1993, malaria in 1967, rubella in 1995 and TB Meningitis in 1997 (Fitz, 2012). Being a developing country, Cuba health system success can be seen by achieving infant mortality of 5.8 per 1,000 live births and maternal mortality of 73 per 100,000 live births (Cooper, Kennelly & Garacia, 2006).

2. The organizational environment (Goals, expectations, resources, technology)

The organizational environment of every country plays a significant role in constructing country's framework impacting upon its progress and prosperity. Comparative analysis of both the developing countries i.e. Pakistan and Cuba under the sections of goals, expectation, resources and technology, authority, power, status structure and decision making process will be discussed below:

2.1 Goals and Expectations of Pakistan and Cuba

Pakistan succeeded an undeveloped health care system from the legacy of British time. Despite of continuous struggle on the development of extensive primary health care network, health care system has not been able to perform to its maximum capacity, mainly because of an inadequate human resource, poor administration, insufficient expenditure, low budget, and unjustified resource allocation between the urban and rural parts of the country. As a citizen, we need to ask where is Pakistan standing in achieving its health goals and will the set targets be achieved by 2015? Pakistan is building up relations with international agencies for grants and funds in order to provide maximum health coverage to the disadvantaged population. Pakistan is in alignment and has endorsed UN Millennium declaration to achieve specific targets by 2015. The government has focused its attention towards achieving MDG 4, 5, 6 which are explicitly related to health out of 8 targets (Islam, 2004). Like many other developing countries, Pakistan is facing enormous challenge in attaining the goals. Perhaps, the most challenging aim is the reduction in less than 5 child mortality by two-thirds and maternal mortality rate by three-quarters by 2015 (Islam, 2004). On a positive note, over the years Pakistan

has made a significant progress in the decline of these ratios, with under five mortality of 72 per 1,000 live births from 138/1,000 in 1990, and maternal mortality of 260/100,000 live births from 410 per 100,000 in 1991 (Pakistan Demographic Profile, 2013). Pakistan still requires substantial strategic planning and policy shifts along with proper distribution of resources and the critical analysis of the existing ones in a right direction. In the health sector, the government has allocated the annual budget of Rs. 35.6 billion for the fiscal year 2013 – 2014 (Wasif, 2013). The remaining MDGs are interrelated to health which is elimination of poverty and hunger; achieve universal education and women empowerment, and decrease infectious diseases.

Whereas Cuba being a third world country operates magnificently, despite of economic challenges and hurdles. After 1959 Cuban revolution, they have their unique public health setup. The government's ideology was inbuilt in the constitution under Public Health Act of 1983, that health service is a fundamental right of every citizen. The basis of this system is completely nationalized and liberalized providing free universal care for all with main stress on prevention and community participation (Hague, 2007). Apart from creating a quality primary health care framework and strong public health care system, their other agenda was to focus on developing skilled manpower, creating biomedical research infrastructure, restraining communicable diseases, attaining reduction in the health indicators rates and non-communicable diseases (Cooper, Kennelly & Garacia, 2006). Even though being poverty affected country, the state have shown remarkable health deliverables as compared to some industrialized nations.

2.2 Resources domain of Pakistan and Cuba

Pakistan is in the list of developing countries where the health care system is surviving on life support. Many other South Asian countries have joined the international community, in the fight against global health issues, unfortunately Pakistan is still behind. Health and education are the most neglected areas in this state. According to Human Development report 2006, 50% of the population is literate, with 53% literacy rate in people above 10 years. In the last two decade Pakistan has shown an upward but sluggish trend in economic as well as health sector, however due to prevailing challenges of politics, terrorism, and corruption is unable to meet the health needs of the population. Further, in presence of meager resources and inappropriate distribution of finances lacks in the generation of manpower and essential supplies in the health sector. Besides, economic prosperity is yet another significant factor for brain drain and international migration. Human resources for health are considered as building blocks for a health care system. The biggest challenge facing the health care sector is the serious deficiency of human resources. According to WHO report 2006, Pakistan is one of those 57 countries suffering with shortcoming of health workforce. The manpower like doctors, nurses, LHVs, CHWs, dentists have doubled since the last decade, with a doctor: patient ratio of 1: 1254 (Health System Profile, 2007). Recent health statistics profile shows that there are 1, 16,189 doctors, 33,427 nurses, 7,073 LHVs, 23,897 midwives and 95,000

LHWs (Health System Profile, 2007). Equity is another burning issue that is weakening the health care system, coupled with poor governance and corruption in purchasing of medicines and equipment has depreciated the health sector.

As compared to Pakistan, Cuban government focuses on the accomplishments of goals irrespective of limited resources. Here, 80% of the citizen works for the government (Campion & Morrissey, 2013). The state generates a substantial income from health tourism. People travel from miles around for the quality service in Cuba. The government gives a special reimbursement to those physicians who volunteer themselves to serve in other countries. There are 37,000 health care professionals who are working in 70 countries around the globe and benefitting Cuban state financially (Campion & Morrissey, 2013). Furthermore, pharmaceutical industry is the income generating industry of Cuba. It is anticipated 86% of medication are consumed nationally (Pan American Health Organization, 2007). Medical system in Cuba is advanced and has a vast team of 60,000 trained physicians, 284 hospitals, 440 polyclinics, 11 research institutes, and 15 medical colleges for more than 11 million of the population (Roemer, 1991). Literacy rate is 99.8% and free education is available for the citizens. Besides, it provides finest education in medicine and has produced 70,594 physicians, 10,554 dentists and 25,022 nurses (Pan American Health Organization, 2008).

2.3 Technology domain of Pakistan and Cuba

In Pakistani context, the definition of primary health care clearly mentions that the care should be universally accessible to all the citizens, through socially available methods and technologies but perhaps this concept is too far from the reality. With the launch of science, technology and ongoing researches in medical field have multiplied the impact globally and locally thus improving the quality of life of individuals. In most developing countries, advancements in biomedical field such as telemedicine, e-health systems, bioinformatics and biomedical imaging are performed for the diagnosis and treatment. Pakistan is way behind in technical advancements. The country needs a transformation in health care and an urgent need to make a health information technology environment throughout the country.

As compared to Pakistan, Cuba has a strong infrastructure created in biotechnology, focusing on biopharmaceuticals which generates significant export revenue. The credit for the production of first poly saccharide vaccine for Meningitis B and Haemophilus Influenza Type B goes to Cuba (Cooper, Kennelly, Garcia, 2006). In addition to it, the state have directed its attention towards, developing biotechnology competency along with other developed countries, contributing manpower of 5000 researchers in research field. The research center is particularly strengthened in the field of epidemiological studies on chronic diseases (Schwab, 1997). The state is the only manufacturer of a vaccine against meningitis-B causing bacteria (Schwab, 1997). For the expansion of tertiary health sector, the government is empowering in the development of high tech medical equipment. The West Havana Scientific

Complex houses the Cuban Neuroscience Center (CNC) and the Central Institute for Digital Research (ICID), which are technology producing institutes (Riera, 2008). Organ transplantation is commonly available since long time in Cuba (Cooper, Kennelly, Garcia, 2006). Further advancements in the development of cancer vaccine reflect growth in field of research.

2.4 Authority, Power and Status structure of Pakistan and Cuba

After the 18th amendment, health is exclusively a provincial subject in Pakistan. The key responsibility of the federal government is engaged in defining vision, strategic planning, policy making, pursuing for international grants and funding's, technical coordination and support whereas the provincial and the district government are responsible for the implementation and delivery of the services to the consumers. Vertical and horizontal health care system of delivery exists in Pakistan. Vertical category involves where individual organizations allocate their own funds and pay to their providers such as private health care providers, NGOs (Nishtar, 2006). The system is also horizontally array in many areas as, for example, in the case of the Federal Ministry of Health and the national programs and institutions that fall within its jurisdiction (Nishtar, 2006). Pakistan is the country having the largest PHC framework with 919 hospitals, 5334 BHUs and sub health centers, 560 RHCs, 4712 dispensaries and 905 MCH centers (Health System Profile Pakistan, 2007). The government finances health sector mainly through general taxation and the funds. Around 80% of the health budget is contributed by the government whereas 21% the international donors and distributed through federal, provincial and district level (Health System Profile Pakistan, 2007). Pakistan spends around 0.5 – 0.8% of its GDP on health which is an extreme low with private sector disbursement on health of more than 67% (Health System Profile Pakistan, 2007). Nevertheless, people have to pay out of pockets and taxation for their health. The concept of health insurance is gradually gaining momentum since last three decades as a channel to deliver health services.

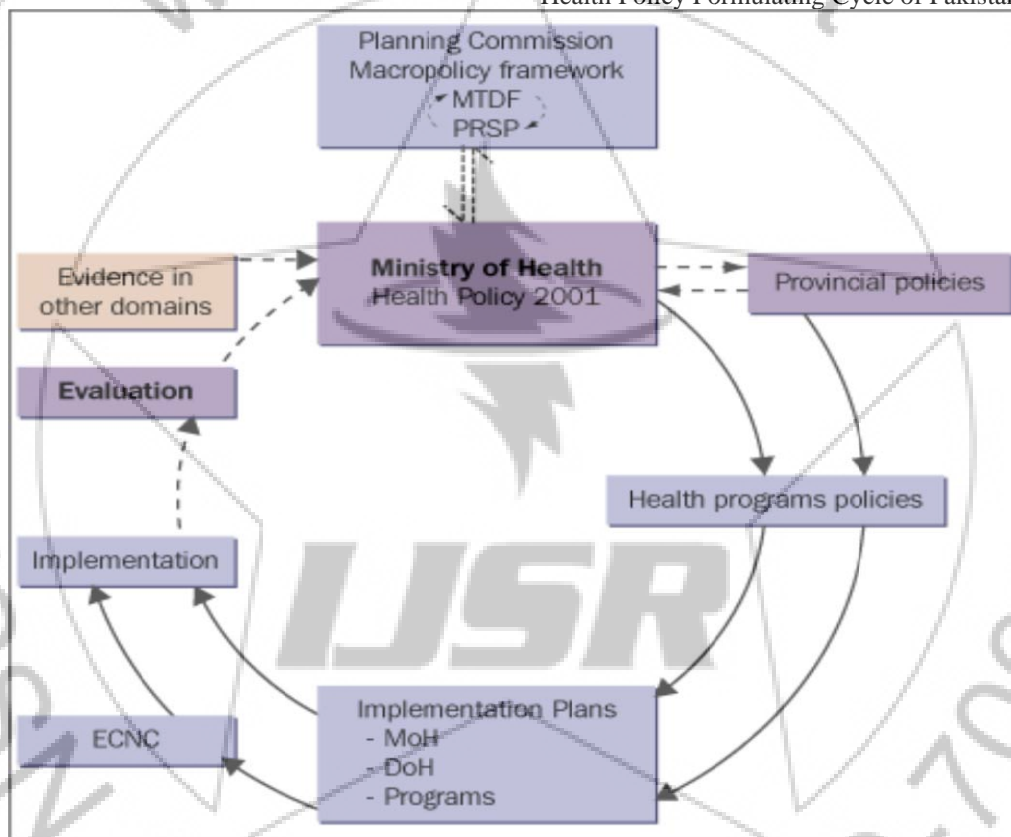
On the other hand Cuba has a methodological framework for health care at three levels, municipal, provincial and national. The health care delivery is fragmented into three stages primary, secondary and tertiary care. Consultorios (clinics) and polyclinics (specialty clinics) and patients home serve as the primary tier performing the function of health promotion and protection along with the resolution of minor health concerns. 15% of complex health problem that result in hospitalization comes in secondary level (Hauge, 2007). Tertiary level care is provided at specialized hospitals for chronic health concerns and complications. Familyphysicians provide emergency care and triage them to polyclinic or hospital (Hauge, 2007). Currently the government has focused its attention towards issues on maternal and child health, ageing population, and control of chronic and communicable diseases. The success of public health promotion is mainly due to home visits or terranos.

2.5 Decision Making Process in Pakistan and Cuba

Pakistan has a complex health system which is mainly operated and managed at provincial and district level. In 2011, federal ministry was dissolved and health care delivery system was delegated to provincial health ministries. The development of health policy, and to make it operational, planning is an essential phase of policy process. The decisions and strategic plans for health system are made at provincial level with additional support from federal government for implementation of health related programs. However, initiation of policies to be more effective, the decision making process require efficient authority, accountability, organizational strengths, transparency and effective health care system. In 2002, after the Local Government Ordinance (LGO) the decision making power was delegated to local district government but evaluation of its implementation reveals gaps (Nishtar, 2006).

In Pakistan, health is primarily a provincial subject. The provincial and district level health departments are responsible for the management and delivery of health care services. Government policy cannot be analyzed in seclusion from political, administrative or technical processes which defines how and what care is delivered. A pictorial policy cycle of Pakistan is mention attached below which links the processes like coordination, consensus building, decision making, policy development, implementation and evaluation of policy, and detection of challenges. In the figure health policy formulation originate from macro policy framework, provincial policies are in coordination with federal policy under constitutional obligations, national policies and plans are reflecting both provincial and federal policy frameworks, and evaluation with the implementations of interventions (Nishtar, 2006).

Health Policy Formulating Cycle of Pakistan



After eighteen amendment, the provincial ministries of health in Pakistan are responsible for defining vision and objectives, policies formulation, strategic planning, setting priorities, and coordination as in case of internal and external assistance and capacity building. At provincial level, Minister of Health and Director General of Health are responsible for management and health care delivery services in the province. District Health Officer (DHO) takes care of the department of health services at district level whereas at organizational level Chief Executive Officers (CEO) and Medical Superintendent (MS) are manages health care services. Management authority and delegation of adequate financial resources have a vital impact on implementation of programs in our context. Centralized power of decision making within ministries and other administrative departments results in delayed outcome. Hence, decentralization of decision making process is

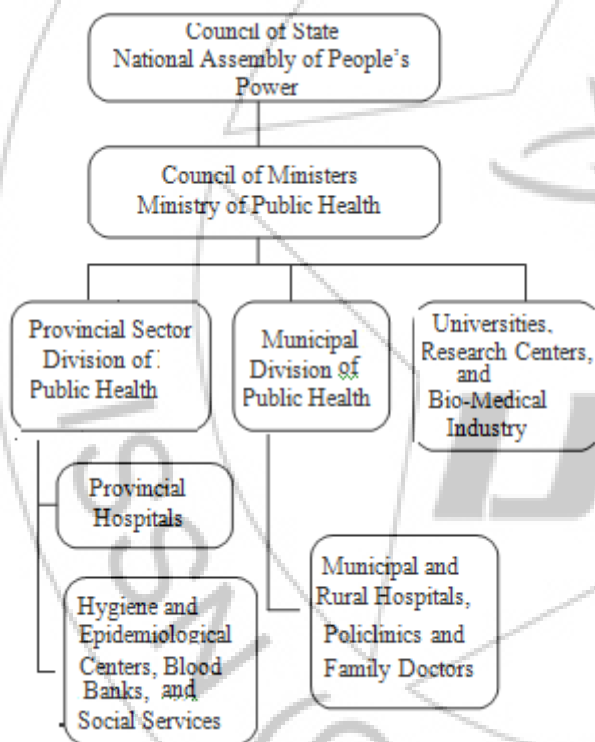
required to achieve the desired goals and objectives in public health sector. External intrusion and political influence in decision making related to recruitment, transfer, and disciplinary action are barriers to effectiveness, and hence, demoralized factors in public sector in Pakistan (Nishtar, 2006).

As compared to Pakistan, Cuban health system is well structured, prevention oriented, and finances are managed by the government. In Cuban health care system, decision and policy making process is the responsibility of state. Further, the provision of health care services is free of cost to the population. Cuba has a national health care system which is entirely public, and an immediate priority of the government. The efficacy of government is viewed by measurement of health indicators (Vos, Ceukelaire, & Stuyft, 2006). Since 1990, Cuba has implemented a number of plans

in health care systems to adjust to the emerging demands and health needs of the citizens. In the whole reform process health care services are in public hands. All health care expenses are covered by the government, except some first line medicines that are available on subsidized costs. In Cuba, health is a state priority and public sector is of central importance. Since 1960, there is no change in their social policy and health system was developed by public ministry of health to develop universal care. The country has a comprehensive monitoring system to evaluate their policies through quality available data (Vos et al., 2006). The health care system is completely centralized and decisions are made at high level.

The Cuban government is also responsible for policies formulation, strategic planning, and setting priorities. Health care delivery system is initiated and administered at municipal, provincial and national level. The brief description of Cuban health system organization is attached as below.

Organization of Cuban Health System



Sixto, F. E. (2002). An evaluation of four decades of Cuban healthcare. *Cuba in Transition*, 12, 325-343. Figure 1.

Each level finances and initiates planning based on needs assessment of community, health indicators, and in interest of citizen (Hauge, 2007). Similar to Pakistan, Health care services are structured into three common levels that are primary, secondary, and tertiary.

3. Challenges confronted by Health Care system of Pakistan

The health care system of Pakistan confronts multiple challenges that have direct impact on the health care delivery system. Pakistan health care system lacks

accountability towards individuals and organizations for their actions. The system is deficit in proper check and balance. Besides, no structured reward and penalty system exists for illegal, unethical and offense act. In public sector, there is lack of effective administration from grass root to upper level. The most significant issue is the health care financing for a population above 180 million, and knowing that majority of which cannot afford the expenses of care they need. The government is spending 3.8 percent of its Gross Domestic Product (GDP) on health (Ahmad & Shaikh, 2008) and thus, these numbers are far behind to adjust for inflation and increase in population of the country. Moreover, Pakistan health system suffers from many other factors such as scarcity of resources and budget, inequitable distribution, corruption, improper utilization of funds, and political involvement in decision making. Lack of required service delivery, decision implementations, insufficient and ineffective human resources, federal, provincial and district level interface, lack of public private partnership and disease burden discrepancies are yet other major challenges that Pakistan health care system is encountering. There is an extreme shortage of trained personnel's especially nurses in rural sector. Private health care system provides services to approximately 80% of the population (WHO, 2007). The burden of infectious diseases, communicable and non-communicable disease is major challenge while formulating policies. Furthermore, in health care provision Pakistan is facing major encounters that are; organizational issues in terms of inadequate primary and secondary health services, gender inequity, unregulated private health sector, rural/urban imbalance, and managerial and professional deficiencies in health system. Burden of diseases related to wide range prevalence of communicable diseases, mental health, drug addiction, nutritional gaps in target population, and a major issue of health education system deficient (Akram & Khan, 2007).

On the other hand, the Cuban health care system is more than perfect and consequently, the problems and challenges are different from as in Pakistani context. The Cuban health system has a robust and resilient system despite of economic suffering and international political pressures. However, certain issues such as lack of doing critical research to explore some negative aspects of health system as criticism on government or policies are acts of crime in Cuba. Another major problem which the Cuban health system is encountering is the severe material shortage such as equipment, medicines, and other supplies. One of the serious issues in Cuba health system is the interference of politics in health care decision making and medical treatment. There is no right of patients' informed consent, no right to privacy of patient physician relationship, no right of patient to protest or sue, and no right of refusal (Hirschfeld, 2007). As a result devaluation of individuality and autonomy occurs, health system seems authoritarian and paternalistic, and interference of politics into health care practice in a direct and subtle ways. Although, Cuba health system is well structured and planned but the challenges which emerged are; inadequate allocation of resources, more doctors and low salaries, increase and high cost in relation to GDP, low occupancy of rates and excess hospital beds, scarceness of medicines and other medical equipment's, worsening of

basic infrastructure, and not to forget provincial and rural urban disparities (Sixto, 2002).

4. Recommendations for Problems Resolution

The health care system of Pakistan includes public and private sector. Health departments at a provincial level can play a significant role to develop and initiate policies and strategic plans, set objectives and goals, for the entire population. For effective and justified provision of health care, the policy makers need to identify and understand people needs and capabilities of population to pay for their health care. There are certain methods of health financing, which can be applicable in our context. Community and social health insurance are the options which can be used for the population according to priority. Health insurance can make health care services more affordable and equitable for the people as compared to other financing options (Nishtar, 2006). Though, it is crucial to think for increasing the health care resources in order to enhance the health status of the population nevertheless, the government should try their best to make utilization of the available funds effectively and efficiently. The universal coverage of health services can be attained in such way that all health care seekers pay according to their financial status and capabilities.

The government should make a policy to reformulate the health strategy, and reallocate resources that benefit the under-served population and to improve the access of low income people to health care services. In order to overcome the shortage of workforce such as nurses, the government should provide support to nursing schools. In this regard, private sector can play a significant role; hence they should be encouraged and involved to train nurses and other health care professionals. In Pakistan, private sector needs to be constantly monitored, evaluated, and regulated. Though, in the health care delivery private sector is playing a significant role but the provision of health services by private sector should be assessed from broad perspective. Health management information system (HMIS) should be implemented at district, provincial, and national level to translate evidence into policy and to enhance evidence based decision making. Furthermore, formal process should be developed at national level for revising and re-evaluating of health policies at provincial and national level. The government should take appropriate actions to improve public health organizations by equitable distribution of resources and allocation of funds, improve expertise management, opportunities for staff training, and allocation of staff according to need basis.

5. Conclusion

The health of a nation can be measured by its health care system and it strongly depends upon country's health policy and strategical planning. The country's political leadership, right amount of budget at right place and adequate human resource are some of the driving forces behind success of a health system of a state. The strength of the state's health can be seen in the country's strong political leadership and an upward trend in the key health indicators. Health System in Pakistan presents a complex picture of a continuous struggle to improve health status of the people served, poor

governance, inefficient management, low budget and unjustified resource allocations. Yet, indicators have improved gradually but slowly relative to the targets of the millennium development goals. After 18th amendment, the decentralization of power to grass root level improves accountability of policy makers to populations and this devolution of power provides the opportunity for higher authorities to meet people demands for improved health care delivery.

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