

## **State of Pakistan's Health**

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October 2009

Pakistan's health infrastructure has improved significantly. In 1947, there were 292 hospitals in the country, which now have increased to 920 in public sector and 800 in the private sector. There were almost no rural health facilities at the time of inception, which now number 550 rural health centers, 5300 basic health units, 4600 dispensaries, and 900 maternal and child health centers. In addition, there are approximately 20,000 private health clinics in the country.

In 1945, there were only two medical colleges, and now we have 180 medical, dental, and nursing schools. Consequently, the number of doctors has increased from 71 at the inception of Pakistan to 111,600 doctors and 8400 dentists. More than 46,000 nurses, 4500 lady health visitors and 95,000 lady health workers have become an integral part of our system.

Life expectancy has increased from 34 years in 1947 to 65 years in the year 2009. Infant mortality has dropped from 220 per 1000 live births in 1947, to 78 per 1000 live births. Maternal mortality has decreased from 800-1000 per 100,000 live births in 1940 to (estimated) 270 maternal deaths per 100,000 live births.

Small pox has been eradicated, and reported polio cases, 5,000 in 1993, are down to 118 in 2008. Number of fully immunized 12-23 month old have increased from 53% 2001 to 73% 2006. Case detection and successful treatment rates have also increased from 2001 to 2006.

Despite the above successes, Pakistan's health sector continues to face significant challenges. Issues include slow progress in health outcomes where we are lagging behind many health indicators from our neighbors and far behind developed countries. Healthcare performance, outcomes, and quality of care have not been evaluated in any form to this day. One segment of the population, the low-income group, has clearly not benefited from the development of this extensive health care structure. The infrastructure is

poorly located, poorly maintained and equipped, and coverage is ill planned.

Private health sector is expanding but unregulated, and there are no metrics available for quality of care, performance and outcomes. Fee structures are beyond the reach of most low-income groups.

*Is the population of Pakistan a Healthy society and how do you know if we have grown healthier over the past 62 years?*

The health of the middle income and some low-income groups has improved marginally since 1990. This improvement is markedly slow as compared to some of our neighboring countries. Although our growth rate has decreased (1.9% from 3%), it is still too fast compared to many Western nations and several of our neighbors. Currently, Pakistan has a population of 170 million (7th most populous in the world) and by 2025 we are projected to be about 210 million. If current trends continue, by 2050 we would be the fourth most populous nation in the world.

Generally speaking the maternal and child mortality has dropped. However, it has not changed and even worsened for our low-income groups (making 400 to 700 dollars a year). This low income-group constitutes 45% of our population (approximately 80 million people). There are about 4 million live births in Pakistan and approximately 400,000 children die before their fifth birthday and 11,500 mothers die every year around the time of childbirth.

The other dynamic that is being played out is the population shifts and rural-urban migration. At the time of creation of Pakistan, less than 20% of us lived in urban areas and currently the urban to rural ratio is about 35% to 65% respectively. By 2025, it is projected that half our population will be living in mega cities such as Karachi, Lahore, and Hyderabad etc.

Due to lack of adequate urban planning and poor adjustment to these migratory trends, large populations mostly low income are living in unregulated shanty towns in around large cities. These ill planned dwellings have created several problems of their own ranging from lack of proper water supply, poor sanitation, close proximity which is conducive to spread of infectious diseases, increasing tobacco use, and higher burden of non communicable diseases.

Of the few countries remaining with the disease, Pakistan is one of the leading countries where polio is still endemic, though controlled. Tuberculosis (about 300,000 new cases every year) and Malaria continues to kill hundreds of thousands of us every year. We have one of the largest populations of multi-drug resistance tuberculosis in the world. In addition, due to poor regulation of primary health care system and lack of supervision of sterilization techniques, viral hepatitis (especially hepatitis B and C) is the leading cause disability and early death in the country (10 million carriers).

As if communicable disease burden was not enough, the large rural-urban migration and unregulated tobacco and food industry has resulted in a new epidemic of diabetes, heart disease, obesity, and strokes. It is projected that by the year 2025, these non-communicable diseases will be responsible for greater than 50% of the deaths in the country and exceeds the disease burden of communicable diseases. This has been attributed to lack of culture and environments for exercise, tobacco use and diets rich in fats. In addition, due to their chronic nature, the cost testing and treating these diseases is much higher. This would put an added burden to low-income groups who can least afford it. Macro-economic consequences

*Are we spending enough on treating patients?*

According to WHO data, Pakistan annual per capita expenditure on health is 14 US dollars (should be 34 US dollars per capita per year). This calculates to 2.4 billion dollars (approx 0.6 % of our GDP) per year for a population of 170 million people, one of the lowest in any developing country.

Of the total health expenditures in Pakistan, 32% are funded by the federal government (50% of this goes to the military/their families and other government institution workers/their families.) The rest goes in maintenance of provincial health care structure (DHA, THU, BHU, Lady Health workers program). It turns out that we are spending 27 US dollars per capita per year on this particular group, therefore they are enjoying a relatively better health than their non governmental counterparts.

Nearly 70% of total health expenditure is funded through the private health sector and of this, 99.6% is out of pocket expense by private households. In this particular group are low-income populations, where less than 11 dollars are being spent per capita and most of this is out of pocket. Since there is no

government assistance for this particular group, they tend to have poorer care and are afflicted with diseases that are diagnosed and treated at a later stage with catastrophic costs.

*What is the link between poverty and health?*

The link between poverty and ill health are well known. Ill health contributes to poverty due to “catastrophic costs” of illness and reduced earning capacity during illness. Poor people suffer disproportionately from disease and are at a higher risk of dying from their illness than are better off and healthier individuals. Women and children are particularly vulnerable. Illnesses keep children away from schools, decreasing their chances of productive adult hood.

The concept of “catastrophic cost” is not endemic to Pakistan. Where ever there is a lack of proper governance and low income populations, illnesses in the bread earners of the family results in worsening of poverty, loans that can never be paid off and children that have to leave home to earn at an early age.

Although Pakistan has the lowest prevalence of under-weight children in South Asia, we still have more than 9 million malnourished children. These children almost invariably belong to low-income families. Malnutrition increases the risk of dying in childhood but also impairs learning abilities and in long run decreases the productivity of adult workforce.

It is therefore critical to move towards a system that is able to address such challenges and prevents households from falling into poverty. Health sector investment in Pakistan should be viewed as part of the government’s poverty alleviation endeavor. The will also address the MDG 2015 goals (Millennium Development Goals) of equity and equality in health and poverty alleviation for all.

*Is there a Safety Net for Low Income Groups (about a 100 million people)?*

As mentioned above, catastrophic healthcare costs feed into the cycle of poverty and ill health such that for generations, families remain poor and unable to improve their standard of living.

Good health care is guaranteed only for government servants, military and their families and large autonomous and semi autonomous governmental and non-governmental organizations that pay into the system. This constitutes about 20 to 25 million people. For rest of the population, the cost is born personally out of pocket. Zakat and charity covers only 1-2% of catastrophic health costs in this population.

Three privately health initiatives have been offered in some areas for low-income groups. The data on these groups is scant at best. So far, no government-based initiatives have been offered that ensures catastrophic health cost for the poor. Careful research and analysis has to be undertaken to come up with low cost solutions to treat disease. Public awareness programs, surveillance of low-income population for communicable and non-communicable diseases and health promotion may be alternate solutions for this segment of the population.

*Are there Gender Disparities in Health Care?*

From the last National Survey in 1990, girls in Pakistan display the expected biological advantage in infant mortality. Per 1000 live births, 80 male infants die as compared to 73 female infants.

This is where this natural advantage at an early age ends. For every 100 boys only 88 girls are fully immunized. Almost 10 million women in their childbearing age are anemic and zinc deficient. While giving birth, 32 pregnant women die every day. Of the 9,500 births every day, 3,400 deliveries are performed by skilled birth attendants (36%.) Due to the lack of proper family planning and education, there is a high rate of abortion, which is significant in rural areas. Implications of this are that women's lives are put at high risk from unsafe abortions.

It is reported that in Pakistan, especially in its large cities, breast cancer is affecting woman at an alarming rate. To date, no countrywide registry has been created and no educational programs have been implemented to create awareness in the population. To date, no screening for breast cancers detection has been piloted.

Due to poor planning, cultural, and religious values, many areas do not allow women easy access to education, knowledge, and exercise opportunities. This has resulted in an epidemic obesity, diabetes, and hypertension in this particular segment of the population. This has become more evident in women who have migrated to large cities and adopted rich diets and have fewer opportunities to exercise outdoors.

*Are the Less Developed regions of Pakistan including FATA, FANA and Baluchistan at high risk of Diseases?*

These less developed areas of Pakistan, according to recent surveys, have some of the highest burdens of infectious diseases. This includes malaria, hepatitis, and tuberculosis being reported to be endemic in these areas. Several reasons have been put forward for this increase including lack of and improper health care structure, lack of education, and poverty. One common problem identified is the use of un-sterile needles by poorly trained health workers in the transmission of hepatitis.

In addition, due to economic pressures, large numbers of working men from these areas are migrating to find work in cities. There is no data in these individuals as to how their health issues play out in newer environments.

Significant attention has to be paid in these areas for human development, especially issues facing women's health. Many social, cultural and religious values impact women health directly or indirectly in these areas.

*Are Emerging Communicable Diseases being spread unchecked due to lack of poor Surveillance Infrastructure?*

To identify emerging communicable disease threats such as HIV, avian flu and more recently H1N1 epidemics that may evolve into a pandemic, a robust surveillance and immediate response system is required.

Due to a lack of investment in public health infrastructure, development of human resources, surveillance and early warning systems, Pakistan is at a high risk of having a disease spread unnoticed and unchecked before it kills

hundreds of thousands of unsuspecting individuals. In addition, it may well become a nidus for a world wide pandemic for diseases such as N1H1 flu.

*Is unchecked Tobacco using a Problem for our country?*

It has been estimated that tobacco use in the form of cigarettes, bidhi, hookah, pan, naswar, gutka and more recently hookah bars is responsible for over 100,000 deaths per year. It is known to cause cancers of the mouth, lungs, bladder and chronic lung disease. According to a recent survey by WHO, 41% of adults and 13% of our adolescents are using tobacco in one form or another.

Despite Pakistan being a signatory to FTCC/WHO, tobacco use is on the rise. More alarming are its increasing use in the young, especially girls. This has been attributed to lax laws that are poorly implemented and a strong tobacco industry that has learnt how to bypass laws in promoting tobacco use in the young and adults. In addition, it is also poorly regulated since the government produces revenues from the tobacco industry.

Unless checked, it will cause increasing disease and death in the population. This can be achieved by producing good data by linking deaths and diseases with tobacco in Pakistan. By showing through research that cost to the country in terms loss of work force, loss of work time, and disease treatment, the government is losing more money than it makes in revenues from the tobacco industry.

*Are we prepared for Man Made and Natural Disasters?*

Earthquake of 2005, Floods of 2007 and Internally Displaced population from Fight against Terror in 2009 have resulted in millions being displaced and hundreds of thousands having lost their lives. In all the circumstances, better emergency preparedness, and forward planning could have saved hundreds of lives and prevented disease and disability in the recovery phase of disaster.

To this day, a comprehensive planning, training, and action plan has not been put together. Early flood warnings, seismologic equipment, and the ability to involve local people in the process planning and helping in natural

disasters have not been put into place. State of the art rescue techniques, search equipment, trained dogs, and large debris removal equipment have not been placed in forward locations.

No capacity has been built in large city hospitals, and smaller district hospitals for large disaster response. Pakistan still lacks a country wide 911 like system and level three ambulance and fire brigade services. To cater to large displaced populations from natural or man made disasters, no emergency shelter, or emergency food supplies have been allocated. Research and development in this area is desperately needed.

*Have the Policies of WTO, WB, IMF Hindered or Helped Human Development in Pakistan?*

It is well known that policies of large funding organizations are mostly beneficial in the short run. Long-term problems have emerged that have hindered progress of recipient countries. To this day no careful evaluation of policies have been undertaken to assess their short and long term impact.

*Is the Health Sector being governed and managed adequately?*

The role of the Federal Government is relates to policy formulation, provision of technical support, coordination with local and foreign partners, communicable and non communicable disease control and health care financing. Provincial governments are responsible for translating the national policy into planning and implementation. They provide services at all levels of care, from primary, secondary, through tertiary care. Actual healthcare delivery takes place at the district level here, provincial government manages primary and secondary healthcare programs.

This is how the healthcare was supposed to be managed, but this is not what is happening. Failure of decentralization of healthcare is evident at several levels.

1. Ministry of Heath (Federal Government) is involved in several national programs, which has diminished its role in policymaking, regulation, monitoring and surveillance (healthcare research),

evaluation of quality of care, adequacy of human resources, and healthcare financing.

2. At the district level, the federal government is the sole provider of preventative healthcare services, which is the function of provincial governments.
3. At the district level, both the federal and provincial governments are managing primary and secondary healthcare programs. This has resulted in multiple supervisors, lack of clear roles and responsibilities of managers, and conflicting goals.
4. Due to the lack of, or weak accountability of managers and supervisors, the quality of programs being administered has significantly diminished.
5. To this day, the health system remains centralized, with continued governance and organizational challenges, resulting in ineffective use of already scarce resources, and the inability to deliver quality care.

The solution is a re-organization of public health system based on principals of management, with both the federal and provincial governments having clearly defined roles. For the federal government this would involve moving to their core functions of policy, regulation, monitoring and research, and setting standards of care for all tiers of healthcare in both public and private setting.

*Is the Federal Government performing its Monitoring, Evaluation and Surveillance functions well?*

The purpose of monitoring, surveillance and evaluation is to collaborate to create the expertise, information, and tools that people and communities need to protect their health – through health promotion, prevention of disease, injury and disability, and preparedness for new health threats.

Due to the near absence of population based research and lack of cohesive, standardized, integrated information systems, monitoring and evaluation of almost all diseases is incomplete and inaccurate. In Pakistan, this has resulted in random and ineffective use of scarce resources with outcomes that cannot be measured.

Low-income population of Pakistan, which bears the maximum burden of diseases and whom are least likely to get treated, pay the highest price for

the failure of monitoring, evaluation and surveillance by the federal government. This group requires careful evaluation and low cost solutions need to be designed that would match their resources.

Health education, awareness programs, research and evidence based solutions are key to preventing diseases and promoting health in this segment of the population.

*Is the Pharmaceutical sector functioning well and meeting the needs of our population?*

Pakistan spends 80% of its total health expenditure on buying medications. This expenditure is high because of lack of public financing, relatively higher prices to other countries and absence of health insurance and reimbursement schemes. Since the medications are paid out of pocket, low to medium income groups are disproportionately affected.

Currently the country has 525 companies including 30 multinationals producing 47,000 products. Only 5% of the raw material is locally manufactured.

Problems at several levels have been identified that have resulted in an unregulated, poorly monitored industry resulting in high prices, poor registration standards, unethical marketing practices, irrational use of drugs, poorly managed essential drug list and their availability (high quality and low cost,) drug shortages, lack of drug quality and quality assurance systems, and lack of clinical research.

1. Drug policy should be consumer-friendly, making drugs safe, affordable, accessible and rationally used.
2. The 1976 Drug Act should be strengthened to ensure quality, making pre-market trials and post marketing surveillance mandatory, and monitoring drug pricing to ensure equity for low-income groups.
3. Develop an FDA-like body to ensure quality and ability to enforce laws.
4. To counter unintended consequences of WTO agreements, make use of over-ride provisions of WTO in the interest of making drug accessible. This can be done through assisting local pharmaceutical

companies to produce generic drugs through research and technology transfer.

5. Clarify pricing formulas by making it transparent and consumer-friendly. This can be done by examining upstream issues and markups that have a bearing on pricing.
6. Policy should be extremely friendly for the low and very low income groups (80 million people). High quality and low cost drugs should be available through research in generics, differential pricing systems and government subsidies.
7. Drug registration process should be revamped making it transparent with efficacy and safety data as primary criteria for inclusion. Registration of generics should be based on bio-equivalence and bioavailability. Ensure public access to registration data.
8. Enforce the marketing codes of the Drug Act 1976 to prevent unethical practices. Develop SOP for procurement, storage, and dispensing and rational prescription of medications.
9. Drugs should be dispensed based on prescriptions. Physician and pharmacologist education to follow ethical practices that protects the consumers.
10. Set up database for information on public spending on pharmaceuticals, research on high quality, low cost essential drugs.

*Is the Medical Education Systems and Work force Adequate and is the training Context Specific?*

Cornerstones of healthcare systems in Pakistan are its capacity for healthcare institutions and healthcare workers. Both of these are required for program planning and implementation, streamlining health systems and improving health outcomes.

Pakistan has done an acceptable job at developing institutions and manpower for diagnosing and treatment of medical conditions in large cities. The need for developing systems and manpower in the rural settings (where 65 to 70 % of the population lives) and meeting there needs remains drastically deficient.

The entire healthcare structure is designed towards patient care, but in the public health arena there is a huge gap in developing manpower and institutions in disease prevention and health promotion. In addition, the

quality of medical schools is variable and no regulatory authority is in place to monitor their performance. Accreditation of health related institutions, and context specific curriculum development, will ensure quality control and relevancy.

The capacity building so far lacks the country context and its needs. In addition, there is no well-defined policy and planning for human resource development in the health sector in Pakistan. This has led to misdistribution of the workforce (more in cities than at district level), shortage of certain categories of health professionals, migration of health workers into the private sector and brain drain to other countries (better opportunities and incentives).

Medical doctors are not trained in community health and health promotion. In addition, there is a disconnect between what is being taught and what skills are needed in a primary and secondary settings in the cities and at the district levels especially in the rural areas.

These deficiencies in undergraduate training are exacerbated by the absence of well structured, context specific Continued Medical Education Programs (CME).

*Are the Public Health Education System and Work Force Adequate and are the Training Appropriate and Context Specific?*

Pakistan has been identified by WHO as one of the leading countries where there is a critical shortage of qualified human resources in the health sector. Accurate data regarding public health capacities in public and private health setting is lacking. There is a no formal network, which enables creation of linkages among professionals working in the field of public health. This problem has been compounded by an absence of framework for managing and developing human resources in not only public health but also other health cadres. This problem is compounded by migration of qualified professionals for better opportunities and in country to private sectors.

“Public Health” is an approach to medicine that is concerned with the health of a community as a whole. It deals with preventive rather than curative aspects of health and deals with population level rather than individual level health issues.

Core functions assigned to public health programs include

1. Assessment and monitoring health of the communities and populations at risk to identify health problems and priorities.
2. Formulation of public policy designed to solve identified local and national health problems and priorities.
3. Assure that all the population has access to appropriate and cost effective care, including health promotion and disease prevention services, and evaluation of effectiveness of that care.

With health being core of MDG (millennium development goals), the focus has now broadened from individual behaviors and risk factors to population-level issues such as inequality, inequity of care, poverty and its relation to health, and health education.

Currently, there are 12 public health institutions in the country. 5 are public, 4 are private and rest is autonomous bodies. These institutions were recently established, and like most medical related institutions in the country, are unregulated, and accreditation is non-existent. Core curriculum design is general and does not address the most public health needs of the country (a disconnect between the needs and what is being taught).

There is no mechanism for training public health workers at the district levels. Induction courses that are present are short term, isolated and partially functional and not tied to a larger scheme for the country. Provincial Public Health Development Centers (PHDC) and the District Health Development Centers (DHDC) evidence this.

Most of these programs for public health have excluded public participation both at the basic health units and at the district level. Employing local expertise and incorporating them into planning and decision-making has been proven to be one of the key ingredients in the success of an intervention. This has been by public health initiatives undertaken by the Aga Khan Rural Support Program in the Northern Areas ().

Adequate information on the current levels of trained experts in public health and their areas of expertise is unknown. In addition, there is no society or organization that keeps a list of public health experts.

## **PUBLIC HEALTH FOUNDATION OF PAKISTAN**

### **What is the Need for Public Health Response?**

Pakistan is experiencing a rapid health transition. It is not only burdened by the unfinished problem of infectious diseases, nutritional deficiencies and unsafe pregnancies, but the new escalating epidemics of non-communicable diseases. This composite threat to the nation's health and development needs a concerted public health response that can ensure efficient delivery of cost effective interventions for health promotion, disease prevention, and affordable diagnostic and therapeutic health care.

### **How can we build capacity for an efficient public health response?**

Health challenges need to be understood and be acted upon. Concerted health research, policy development and analysis, program development and evaluation, health systems organization, models of health care financing and operationalized scientific research are the critical aids to the process. They assess and highlight the need for action, while providing insight for solutions.

**Education and training** in public health needs to be inter-disciplinary in content so that the pathways of public health action are multi-sectoral. Public health education must include subject areas like epidemiology, biostatistics, behavioral sciences, health economics, health services management, environmental health, health inequities and human rights, gender and health, health communication, ethics or healthcare and research. The interventions proposed need to be evidence-based, context specific and resource-sensitive.

### **What is the purpose of Public Health Foundation of Pakistan (PHFP):**

1. Build Institutional Capacity to address Public Health in Pakistan
2. Public Health Policy Development and Advocacy
3. Accreditation of Existing Institution
4. Partnerships and Research development in Public Health
5. Structured as an independent foundation, PHFP adopts a broad, integrative approach to public health, tailoring its endeavors to Pakistani conditions and bearing relevance to countries facing similar challenges and concerns.

6. The PHFP focuses on broad dimensions of public health that encompass promotive, preventative and therapeutic services, many of which are frequently lost sight of in policy planning as well as in popular understanding.

### **Why is such a Foundation Needed?**

1. Respond to redress the limited institutional capacity in Pakistan for a population that is rapidly exceeding 170 million.
2. Fill the gaps in research and policy development to address changing diseases patterns, epidemics and disaster management.
3. To bring Pakistan at par with the changing methodologies in public health, a public private partnership model is being created.
4. A partnership that is based on collaboration and consultation between local and international academia, provinces and central government, multi and bilateral agencies and civil society groups.

### **What does the approach consist of?**

1. Establish 5 new Institutions of Public Health, one for each province and one for FATA over the next 6 years.
2. Assist the growth of existing public health training institution/departments and facilitating their evolution into major institutions of public health.
3. Establish a strong national research network of public health and allied institutions which would undertake policy and programs relevant research that will advance public health goals in prioritized areas – with suitable international partnerships where useful and needed.
4. Engaging public health expertise to collectively undertake analytical work for generating policy recommendations related to public health action, in not only the health sector but also in all other sectors which impact upon health of people.
5. Develop a vigorous advocacy platform to effectively communicate these recommendations to policy makers and other relevant stakeholder groups.
6. Develop an independent accreditation body for degree in public health, which are awarded by training institutions across Pakistan.
7. Collaborate with partners in both research and development of public health initiatives.

The End