Original Article

What Pakistan healthcare system can learn from France?

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Abstract

Background: Developing countries such as Pakistan are in deep need of assessing the performance of their health care systems by comparing their performance against that of other countries.

Methods: Pakistan health care system was compared with France health care system as one of the best health care system in the world, based on Health Systems Performance Assessment (HSPA). We extracted the information content and potential performance measures, and indicated what can and cannot be inferred from our analysis.

Results: Based on our analysis, the top three performance gaps between Pakistan and France were human resources, service delivery, and financing.

Conclusion: Pakistan's government needs to rise adequate, equitable funding to provide care that is easily accessible, efficient, and equitable for all citizens. The health worker shortage situation is also untenable, and affects the nation's health services delivery. If Pakistan's health system is to deliver these outcomes, the system must address its poor inputs across financing, human resources, and service delivery. The sweeping changes that we suggest require management level changes in the health sector. Some of this will come from the brief level of management training that we suggested as a part of the curriculum for professional institutions, but much of it will come from transparency and involvement of all peoples in health care improvement.

Keywords: Delivery of Health Care; Developing Countries; Pakistan; France

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Introduction

The Islamic Republic of Pakistan is located in the south Asia with a population of 207 million, making it the sixth most populous country in the world. Pakistan's coastline runs along the Arabian Sea and the Gulf of Oman and shares borders with India, Afghanistan, Iran, and China (1). With a rank of 65 among 102 developing countries according to the Human Development Index, and a gross national income per capita of $5,580, Pakistan is classified as a low-income country. According to the Human Development Report, more than half of the country's population is literate. Pakistan is ranked as one of the lowest on gender-related development indicators (2). According to the World Health Organization (WHO) Regional Health Systems Observatory, Pakistan's health system consists of both public and private sectors. The private sector provides health coverage to 70% of the population, including for profit, non-profit, and traditional private organizations. The public sector provides the remaining 30% of the health coverage (3).

The Ministry of Health (MOH) at the Federal level has the major role of developing national policies and strategies of health care delivery for the entire population. The federal government frames policy while implementation takes place mainly in the districts. The role of provincial government is to coordinate between the federal and district governments to ensure implementation of countrywide policy by evolving non-operational strategies. High population growth rate, high infant and child mortality rate, high maternal mortality ratio, and a double burden of communicable and non-communicable diseases characterize the health profile of Pakistan. Like her neighbors, malnutrition, diarrhea, acute respiratory illness, and other communicable and vaccine preventable diseases are some of the main factors responsible for a high burden of infant and perinatal mortality and developmental issues (1,4,5). Pakistan's high maternal mortality is mostly attributed to a high fertility rate, a low skilled birth attendance rate, illiteracy, malnutrition, and insufficient access to emergency obstetric care (3,6) The malnutrition and other poor socioeconomic factors will influence the long-term developmental abilities and also future generations (7). To help developing countries such as Pakistan to improve their healthcare system, the first step is to define a set of benchmarks and to set feasible and realistic goals in place (8). Those goals should be built on a management approach for implementing best practices at the best cost (8). One of most practical ways to achieve this aim is using Health Systems Performance Assessment (HSPA) toolkits designed by World Health Organization (9).

Developing countries, such as Pakistan, are in deep need of assessing the performance of their health care systems by comparing performance against other countries. However, most feasible benchmarks for Pakistan and how they could achieve these benchmarks are not known (8,10). In this regard, we chose France for comparison purposes and setting the benchmarks, because France has a long history on experiences of benchmarking in the healthcare sector and they have gone through the same way that Pakistan is hopefully heading to (10–13). Through comparative assessments of performance, policy-makers are provided with standards that allow them to identify in which parts they are performing above or below expectations. Performance comparison reports also help policy-makers to understand what is driving reported performance, as well as direction on where to look for possible solutions (14,15).

In this context, the main objective of the present study was to provide a set of feasible benchmarks for Pakistan healthcare system by comparing Pakistan health care system and France health care system as one of the best health care systems in the world (16,17) using HSPA.

Methods

A comparative study was conducted using HSPA (4). It is a country-owned process that allows the health of the system to be assessed holistically, a "health check" of the entire health system (9). We used statistical indicators to monitor the system and to link health outcomes to the strategies and functions of the health system. Also, an HSPA was developed along the lines of a strategic framework that is specific to Pakistan, such as the strategic framework embodied by a national health strategy (18). Based on the extensive benchmarking works done in France (13), HSPA toolkit provides an appropriate way to foster transparency in the health system regarding performance and progress, creates a shared understanding and vision among stakeholders of the priorities for strengthening the health system, supports evidence-based policy-making and priority-setting by providing information on system performance, provides a platform for dialogue between

Table 1. Comparison of health system indicators between Pakistan and France (1)

Performance	Category	Sample Indicators	Pakistan	France
Effectiveness (outcomes)	Fair financing	Infant mortality (Per 1000 live births)	64	3
		Maternal mortality (Per 100000 live births)	178	9
		Neonatal mortality (Per 1000 live birth)	45.6	3
		Prevalence of low birth weight	25%	6 %
Effectiveness (outputs)	Access to care	Physicians, per 1000 population	0.81	3.07
		Nurses, per 1000 population	0.61	9.3
		Hospitals, per 1000 population	0.06	6.4
		TB case detection rates	69	94
		Rates of sleeping under malaria bed net (under-5)	<5%	N/A
		Contraceptive coverage	27%	76%
		Pregnant women receiving four antenatal care visits	28%	99%
		Deliveries assisted by a Skilled birth attendant	52%	97%
		Full basic immunization rates	77%	99%
		Screening for breast, cervical cancer Timeliness	2%	38%
		Treatment completion rates (TB)	92%	N/A
Equity (outcomes)	Health status (disadvantaged groups)	Mortality rates for lowest income quintile (under-five, 15–49, maternal, cancer)	87	4
	Fair financing	Extent of out-of-pocket payments, indirect payments and informal fees for essential services	67%	7.5 %
Efficiency (outputs)	Adequacy of funding	Per capita health care spending (government, private, total)	$36	$4959

programs and sectors to create a shared understanding of how joint actions influence health outcomes, monitors the effects of health system reforms and national health strategies, and provides a basis for adapting these as needed.

Finally, using the health system framework provided by Kruk and Freedman (19), we made a comparison of health system indicators between Pakistan and France (Table 1).

Results

Pakistan and France differ greatly in their provision of human resources, financing, and service delivery as discussed below.

Human Resources

Regarding human resources, both Pakistan and France have a disproportionate number of health care workers in urban vs. rural areas. However, France does not have an overall health care worker shortage given its physician density of about 3.1 per 1,000. Unlike France, Pakistan is one of the 57 countries with a critical health workforce deficiency as determined by the Joint Learning Initiative. Even compared with her neighbors, Pakistan has a lower healthcare workforce per capita (20, 21). According to the WHO Regional Health Systems Observatory, there is no agency responsible for nor are there national policy plans for health human resources development (22). However, France adjusts the number of seats in medical and other professional schools to prevent shortages or conversely, an oversupply of health workers.

Pakistan also faces problems with the quality of training for health professionals. For example, medical students in Pakistan are taught in tertiary hospitals with little or no training in primary care settings, which could negatively impact the quality of care delivery (23, 24). In addition, there are no national guidelines for additional training or re-licensing. In contrast, although there is no official re-licensing process for physicians in France, they are required to obtain credits for Continuing Medical Education (CME). France also has an influential, albeit small, health management workforce. Most of the workers are funneled from schools of public administration; many go on to become hospital managers. However, in Pakistan, health management workers are not recruited from a separate health discipline; most are medical doctors chosen on the basis of seniority and not on managerial competence. There is also frequent churning between clinical and management roles for these physicians, resulting in a chronic shortage of qualified health administrators and managers.

Health Financing

As previously stated, the health expenditure per capita in Pakistan as of 2014 was $36.15 compared to $4959 for France. Total health expenditure as a percentage of GDP was 2.6% for Pakistan in 2014 whereas in France, this percentage was 11.5% in the same year. France's Statutory Health Insurance (SHI) receives funding from several different sources including a small portion from employee payroll taxes and general social contributions from taxes on earned income and capital, as well as contributions from gambling, pensions and other benefits. These taxes are also progressive in that persons with low income are exempt from income taxation. Some portion of funding also comes from state budgets. In contrast, much of the government health financing in Pakistan comes from general taxation. Sources of taxation include direct taxes such as income taxes as well as indirect taxes on sales, excise duty, and customs. Nevertheless, the informal sector makes up the majority of the workforce. This system is fraught with tax evasion and concealment of income. The result is hyperinflation of goods and services that disproportionately affects the poor. Taxation only provides about 28% of health financing. Some 4 to 16% of public health expenditure is from foreign aids. However, a majority of these funds are tracked inadequately and are not reflected in the budget for the Public Sector Development Program (PSDP).

Out of pocket expenditures accounts for 98% of private spending for health financing, Much of this out of pocket spending takes the form of "under the table" payments in order for patients to be moved forward in queues for services, obtain drugs, and receive better care or any care at all. The monthly household out of pocket expenses equals about 5.2% of total monthly household expenses; this creates a tremendous burden for the poor. Conversely, most public hospitals waive charges for poor patients, but in many instances these institutions violate their guidelines. Most private institutions, however, do not provide waivers for the poor, which is problematic for those avoiding the low quality of care at government facilities. Regarding insurance, the Employee Social Security Insurance Scheme requires certain categories of employees to make social security contributions for prepayment to protect against catastrophic health care costs. But this only covers about 3% of workers in the formal sector. Only a few private insurance companies operate in Pakistan; unfortunately, many of these are concentrated in urban areas with high costs, reducing demand for these services. Thus, insurance companies generally only cover employees of private firms in the formal sector. France, on the other hand, provides universal public health insurance through its SHI program. However, it covers only about 77% of total health expenditure. An additional 13.4% of expenditures are

covered by Voluntary Health Insurance, which is used to reimburse co-payments and pay for poorly covered services rather than to seek treatment from elite providers.

Service Delivery

Pakistan provides health services at primary, secondary, and tertiary health care centers, as well as public health facilities. Rural Health Centers (RHCs), Basic Health Units (BHUs), and Mother and Child Health Centers (MCHCs) constitute the different types of primary health centers (PHCs). The services provided at PHCs include curative care, well child care, family planning, dental care, emergency care, and some surgical care depending on the facilities. PHCs also provide preventive services, as do government run public health facilities (19,25).

France has developed a system to control for vast differences in the quality, costs, and loss of efficiency associated with these differences called the "Medically Based Cost Containment Concept." This system includes penalties and payment incentives for physicians based on nationally agreed upon practice guidelines. It also emphasizes participation in learning activities such as fulfilling CME requirements. In contrast, Pakistan faces major problems in quality differences between the public and private sectors as well as urban and rural areas. In the mid 1990's, Pakistan greatly increased its primary health facility infrastructure. Unfortunately, this has not resulted in significant improvements in quality. Currently, only 70% of BHUs are still in operation (26). Many of the facilities do not have basic amenities such as electricity, running water, or public toilets. A total of 21% of BHUs lack female staff. Moreover, these facilities often do not carry essential drugs. Staff absenteeism is a major problem for PHCs; many of them only remain open for 3-5 hours on business days. Some BHUs are utilized for other purposes such as housing of government offices. A high proportion of unskilled health care providers additionally burdens RHUs. To combat this disparity, the government has increased the number of Community Health Workers targeting rural areas and urban slums (26,27).

Patient underutilization results from the combination of poor facilities, lack of access to essential medications, and staff absenteeism. Other reasons cited for this preference include shorter wait times, more flexible hours of operation, and better staff attitudes. Additionally, underutilization in public facilities creates high costs per visit, further driving patients towards private facilities where they frequently even pay higher out of pocket expenses. Private institutions are also more likely to be located in urban areas where patients can better afford the cost of care. Patients are funneled to secondary and tertiary facilities from PHCs for problems that can be handled in primary care settings, thus decreasing worker efficiency. Nevertheless, Pakistan has had some successes outside traditional health services. For instance, the government has created a budget for health education to create mass public awareness of priority issues. Many of these health education campaigns have proven to be effective; for example there has been an increase in Expanded Program of Immunization (EPI) coverage (18, 24).

Performance Gaps

Socioeconomic issues also play a role in unequal access to services between rich and poor areas, as well as urban and rural areas in Pakistan. For example, in 2014, the difference in care received by the rich (highest quintile) as measured by the number of deliveries by trained personnel was 83.2 % vs the poorest quintile at 37%. The percentage of pregnant women receiving prenatal care in urban areas was 63% vs 26% in rural area. Although it is believed that the majority of the country's population lives within 5 km of a health care facility, other factors also contribute to access issues. Distance to a health care site, transportation, economic hardship, and social conditions, including cultural values prohibiting women from leaving the

home to seek medical attention for themselves and for their children, combined with dissatisfaction of service, all contribute to poor utilization of health care services. In comparison, France has some social and geographic disparities in mortality. These are more due to behavioral risk factors and high unemployment rates rather than differential access to care (18, 24).

Top Three Performance Gaps

As noted in the Table 1, many health service performance gaps exist between Pakistan and France. The most notable gaps include health status effectiveness (infant/maternal mortality) and equity, access to care, financing/adequacy of funding, and service delivery with significant socioeconomic inequities in nearly all categories. When considering the performance gaps between these countries, it is important to note that France is a high income, resource rich country providing universal health coverage to its citizens. Based on the 2016 WHO data, France spent $310 B on health care; 77% was government funded with 7% spent by households as out of pocket expenses (17). Approximately, 95% of the population has universal health coverage based on residency and level of income. In comparison, Pakistan is considered a low-income country whose government provides universal treatment albeit with limited resources. Pakistan spent $7.3B, 55% of which was from household spending. Overall, per capita expenditure is 100 fold higher in France than in Pakistan.

Pakistan's health status indicators have somewhat improved since 1990 but still remains a major issue. For example, life expectancy is 82 years in France and 66 years in Pakistan. Infant mortality rates remain low in France, measured at 4.2 in 2013, the mortality rate of children <5 years has also decreased from 9 in 1990 to 4.1. Pakistan's infant mortality rate is 69 and the mortality rate of children <5 years has improved from 138.4 in 1990 to 88.9. In addition, maternal mortality rates in Pakistan are high compared to that in France, decreasing from 400 in 1990 to 170 in 2013. This can be related to the low number of antenatal visits and births attended by health care personnel as well as a lack of widespread contraception/family planning services (25).

Because health systems are integrated, we chose the top three performance gaps in human resources, financing, and service delivery. Moreover, an unequal focus on one sector results in overwhelming the system, as evidenced by the aforementioned narrow focus on increased infrastructure. Thus, our top three performance gaps are:

1) Human Resources: No proposed long-term plan to address health worker shortages,
2) Service Delivery: Poorly run primary health centers as evidenced by absentee staff and dilapidated facilities, and
3) Financing: Lack of a comprehensive insurance scheme to reduce out of pocket spending and the subsequent burden on the impoverished.

Using the regional averages provided from its WHO country profile, we believe that Pakistan needs about at least 400,000 physicians and 1.5 million nurses in order to even worker distribution (28). This number does not include potential shortages in other health workers such as pharmacists and community health workers. Workforce quality also compounds the shortage issue. Rural areas have a high number of unskilled workers; thus worker shortage may be an underestimation for the number of skilled workers. However, rather than devising a comprehensive plan to address both amount and quality, the public sector continues to heavily invest its scarce resources in creating medical colleges and universities rather than in improving quality and quantity of nursing institutions, public health schools, and technician training institutions.

Additionally, trained public health professionals most often opt for urban private sector jobs in urban areas due to better remuneration.

Issues in service delivery, namely employee absenteeism and poor facility conditions, further aggravate the worker shortage. The minimal hours of operation at PHCs increases reliance on secondary and tertiary health centers which are already pressed for time and resources. Additionally, many PHCs lack basic amenities. These poorly run facilities essentially provide low quality care at a high cost to the patients they serve, which drives underutilization of public services and facilities. Public health services are free of charge with nominal fees for laboratories, procedures, inpatient services, etc. while private health services are provided on a fee for service basis. This leads to significant out of pocket expenses especially when "under the table" expenses are taken into account and affects the availability of services to the poor.

Unfortunately, Pakistan has not widely implemented methods to control out of pocket spending (2). Pakistan cannot consistently rely on income taxation because of the large informal sector and rampant income tax evasion (29). Consequently, they depend on direct taxes for revenue, resulting in insufficient funds for healthcare and the burden of indirect taxes for services largely shouldered by the poor. Private health insurance was introduced over 30 years ago; however, acceptance of this concept has been slow and attainable for only a small percentage of the population. This is compounded by a lack of social insurance to protect citizens from catastrophic financial losses due to illness or injury.

Discussion

Suggestions to Close Gaps

In this section, we provide the information content extracted and potential performance measures, and indicate what can and cannot be inferred from our analysis. Finally, we conclude by presenting the key lessons and future priorities that policy-makers should be taking into account.

To advance the efficacy of the health system, Pakistan should develop a short and long-term plan to make healthcare accessible and affordable to the public. From a human resources perspective (27), the plan should address health worker shortages. The short-term plan should address practitioner distribution issues as well as public and private sector issues by creating and enacting policy so as to ensure that physician compensation is curtailed. We propose a policy that combines a capitation and salary based payment system in an effort to move away from the current fee-for-service system; such a policy already works in Pakistan's neighbors (21). We suggest this action because two-thirds or more of the total recurrent expenditure for health is to support the salaries and benefits of health personnel. Moreover, this has created a situation where young medical graduates enter solo private practice without supervision, leading to some of the quality issues such as absenteeism. Challenges with such a policy are that it may further drive absenteeism, or may affect physician motivation, both of which would worsen access issues. However, the funds taken from salaries for physicians and fee for service payments in urban areas can be used to incentivize physicians to practice in rural areas. Other methods to increase the number of practitioners in rural areas would be to require two years of service in rural areas of greatest need post-graduation as part of a short-term plan and to have professional students to rotate at rural PHCs which would in turn provide more primary care training (30). One of the long-term goals would be to increase the number of seats in professional schools and offer scholarships to female students to decrease the underrepresentation of females in the health workforce. We suggest increasing class size

as opposed to building more institutions because we believe that this is a more cost effective strategy (31). One of the challenges with this strategy is finding the additional staff to teach these students. Pakistan could choose to recruit professors from abroad in the short term. Pakistan should collaborate with donor organizations to partially redistribute funds to pay for an increase in professional class size and maintain the student to teacher ratio.

To further expand the availability and accessibility of health service providers, Pakistan should create a comprehensive insurance scheme that protects the poor and reduces out-of-pocket spending (32). Pakistan should increase its overall spending on health, as it is critically low, or they will not likely see many improvements in health. Funding for this increase, in addition to providing incentives to practice in rural areas, could come from the reduction of urban physician salaries. The program should encourage nationwide prepayment outside of the tax arena for better participation of the informal sector. This would allow for widespread risk pooling and protection from catastrophic expenses. The prepayment level should be based on the ability to pay. The Pakistani government should devise strategies to determine the average income of informal sector employees by trade and location so that workers do not underreport income to avoid prepayment.

Improving the quality of care at PHCs through physician training, penalties for absenteeism, and investment in infrastructure is paramount to closing the service delivery gap. More training is needed at the school level in ethics, and professionalism and health facility management to address the problem of absenteeism. Also, the Pakistani government, in collaboration with health professionals, should establish national guidelines for best practices in service delivery. In addition, the Ministry of Health should conduct audits to track performance of guidelines. They should establish penalties for non-adherence to guidelines and also incentives for improvements in the quality of care. This model is very similar to France's "Medically Based Cost Containment Concept" (17, 33). Also, funds obtained from these penalties could be used to pay for improvements in other parts of the health system. Further redistributions in foreign aids are also needed to improve amenities at PHC facilities. Given the stigma against public facilities, these changes should be accompanied by mass public education of the changes in quality, as education has proven useful in informing the public of other health priority issues. Collaborative partnerships with civil service groups will also help promote awareness for improved health system infrastructure.

There have been a few limitations to the present study. First, although we utilized a number of methods to derive and apply a number of characteristics of the HSPA framework due to its very wide area, we had no choice but to highly summarize our data. This is a limitation, especially with regard to the details about the various characteristics we understood. Second, we used web surf to source grey literature on both Pakistan and France health system indicators. Information on websites is sometimes adjusted or even removed or could be somehow inaccurate. Finally, our analysis provides only limited insights into the key determinants of Pakistan health system. More in-depth research should be done to explore other aspects of the Pakistan health system.

Pakistani government needs to raise adequate, equitable funding to provide care that is easily accessible, efficient, and equitable for all citizens. The health worker shortage situation is also untenable, and affects the nation's health services delivery. If Pakistan's health system is to deliver these outcomes, the system must address its poor inputs across financing, human resources, and service delivery.

The sweeping changes that we suggest require management level changes to the health sector. Some of this will come from the brief level of management training that we suggested as a part of the curriculum for professional institutions, but much of it will come from transparency and involvement of all peoples in health care improvement.

Conflict of interest

Authors declare no conflict of interests.

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