

Health Transitions in Pakistan 1



Pakistan's health system: performance and prospects after the 18th Constitutional Amendment

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Pakistan has undergone massive changes in its federal structure under the 18th Constitutional Amendment. To gain insights that will inform reform plans, we assessed several aspects of health-systems performance in Pakistan. Some improvements were noted in health-systems performance during the past 65 years but key health indicators lag behind those in peer countries. 78·08% of the population pay out of pocket at the point of health care. The private sector provides three-quarters of the health services, and physicians outnumber nurses and midwives by a ratio of about 2:1. Complex governance challenges and underinvestment in health have hampered progress. With devolution of the health mandate, an opportunity has arisen to reform health. The federal government has constitutional responsibility of health information, interprovincial coordination, global health, and health regulation. All other health responsibilities are a provincial mandate. With appropriate policy, institutional, and legislative action within and outside the health system, the existing challenges could be overcome.

Introduction

Pakistan is the sixth most populous country (185 million people) in the world (figure 1);^{1,2} 64% of its population live in rural areas³ and 43% are illiterate.⁴ Table 1 summarises the key political and health developments since the country's independence in 1947. Pakistan has been under military rule for 33 years of 65 years.⁶ The country's geostrategic position in the era of the Cold War and after 9/11 have affected its growth, development, and social structure. Systemic constraints have affected the health system and its performance.⁷ Recent devolution of power from federal government to the provinces in Pakistan under the 18th Constitutional Amendment has created an expectation and an opportunity to institutionalise reform (panel 1).⁸ In this report, we analyse the extent to which goals for health systems—adequate and equitable health status, and fairness in financing and responsiveness—have been achieved in the past. We describe challenges in six domains of the health systems (financing, governance, service delivery, human resources, health-information systems, and medicines and technologies) and outline opportunities for improvements.

Data sources and analytical methods

The health-systems performance assessment framework was based on WHO's norms for the building blocks.⁹ The analyses covered all aspects including inputs (financing, human resources, information, and governance), outputs (service readiness), outcomes (coverage of interventions and prevalence of risk behaviours), and effect. The effect was measured according to WHO's intrinsic goals for the health system—achievement of equity in health outcomes, and fairness in financial contribution and responsiveness. When possible, time trends were assessed and results were compared with those of other countries. Data for the analyses were obtained from a

range of sources (table 2). Comparisons with earlier surveys enabled an assessment of time trends and sub-national analyses. Data from Pakistan Social and Living

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This is the first in a [Series](#) of four papers about health transitions in Pakistan

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Key messages

- Despite data gaps, it has been possible to assess Pakistan's health system performance using WHO's framework and outline of needed measures. The analysis shows that Pakistan has been unable to achieve the three health-systems goals. Some health-status improvements over the past 65 years are evident but key health indicators lag behind compared with peer countries.
- After the 18th Constitutional Amendment, reform, which was otherwise an elective process, has been forced in Pakistan. The health system is in the process of regenerating with provincial empowerment in the country's federal system. This opportunity can be optimised with evidence-guided decisions at the policy level.
- Policy vacillation, limitations in accountability and transparency, fiscal space constraints, lack of clarity at the local government level, and overall economic decline deeply affect health systems. Action is needed to overcome overarching governance challenges.
- Pakistan has a mixed health system, with coexistence of public and private sectors. Poor public financing, lack of private sector regulation, and overall governance limitations have led to access, quality, and equity issues, described as the mixed health-systems syndrome.
- The federal government has constitutional responsibility for drug and medicine policy and regulation, health information, interprovincial coordination, global health, and trade-related aspects of human resources. Investments should be made in an appropriate federal health institution to address existing fragmentation of health responsibilities.
- Provincial governments need to develop policies and plans to increase public financing for health, restructure public facilities, establish public-private engagement, develop 18th Constitutional Amendment compliant policy for human resources, and ensure capacity for provincial drug regulation.
- Pakistan's strengths—judicial activism, an open media, extensive health infrastructure, a strong communication backbone, pervasive mobile connectivity, a national data warehouse, a national poverty validation system, societal robustness, and a new federal structure, and deepening democracy should and can be optimised to achieve the needed changes in the health sector.

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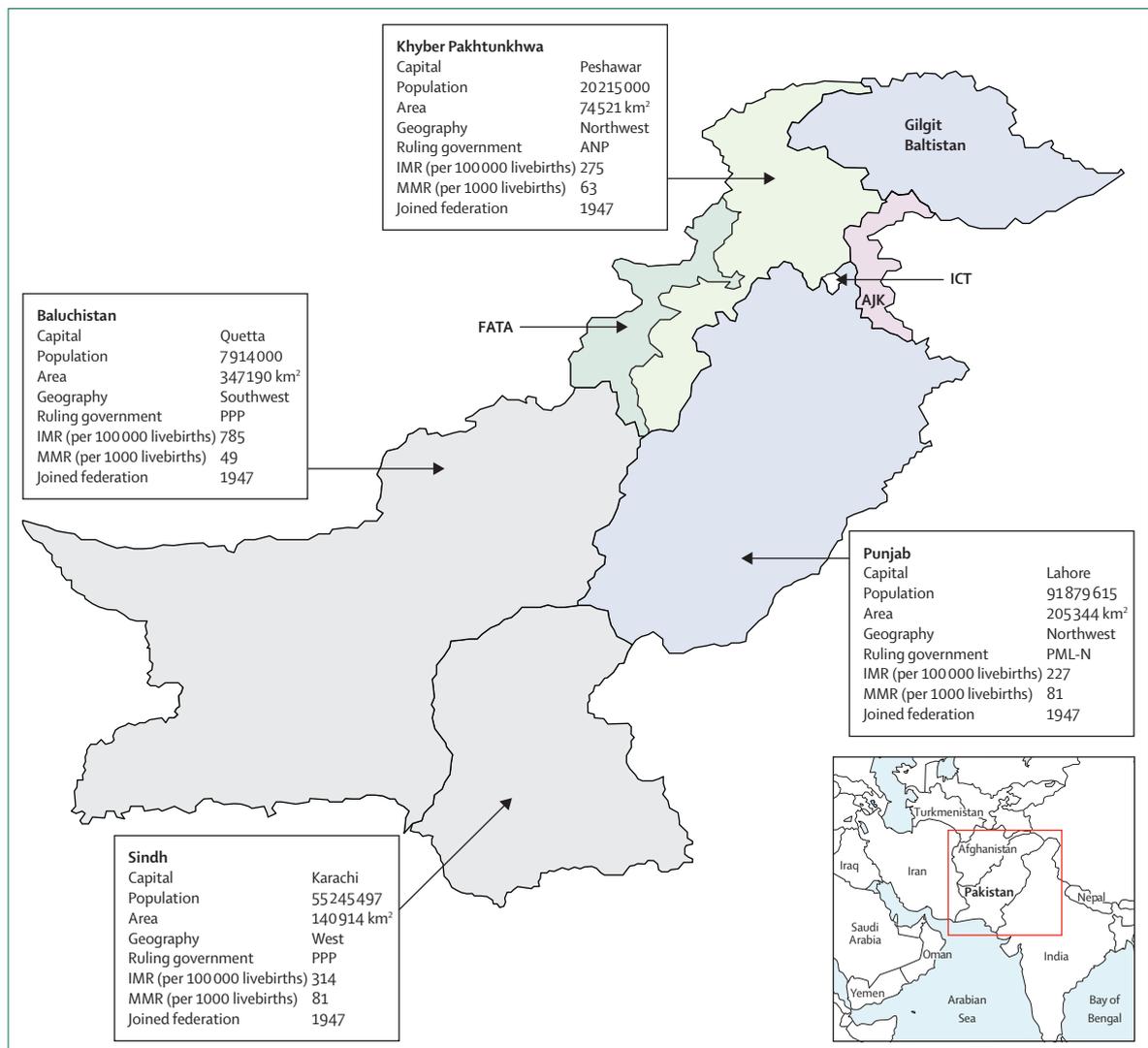


Figure 1: Pakistan's federal structure

ANP=Awami National Party. IMR=infant mortality rate. MMR=maternal mortality ratio. ICT=Islamabad Capital Territory. FATA=Federally Administered Tribal Areas. AJK=Azad Jammu and Kashmir. PML-N=Pakistan Muslim League Nawaz. PPP=Pakistan People's Party.

Standards Measurement (PSLM) surveys were used for district level analysis.¹⁹ The standardised methods and contents of these surveys also formed the basis for comparisons with other countries.

Information about the cause of death in the household (within the past 6 months) is gathered through interviews with respondents for the yearly Pakistan Demographic Survey (PDS). Data for deaths were grouped according to communicable diseases (including maternal illnesses), non-communicable diseases, injuries, and other (mostly deaths from unknown causes); 6.4% (mean) of the deaths were from other causes during the nine rounds of the PDS between 1992 and 2006.²⁰ The proportion, however, varied from 0.3% in 1994 to 13.4% in 2005.²¹ To allow a time-trend analysis of the three main cause groups, the

frequency of deaths from other causes was distributed proportionally in the three main cause groups. The first compendium of health data was used for information about key morbidity indicators, with updates if available.²²

In the peer-group analysis, 12 countries were selected to benchmark Pakistan's progress in selected core indicators during 1990–2010. Selection criteria were geographic and cultural proximity to Pakistan, population of at least 10 million, similar economic development, and data availability. All data for a set of 13 core health and socioeconomic indicators were obtained from World Health Statistics (WHS) 2010 (WHO, 2010).²³ Missing values were imputed by extrapolation when possible. The position of Pakistan relative to the mean for all 13 countries was summarised with the Z score.

Equity was assessed by district with the PSLM data and by sex and wealth quintile with the Pakistan Demographic and Health Survey (PDHS) 1990–91¹⁰ and 2006–07 data,¹¹ focusing on selected maternal and child health indicators. Both data sources were used for analysis of inequities between rural and urban regions.

For the analysis of fairness in financing, the data sources were the National Health Accounts 2007–08¹⁸ triangulated with estimations published by Heartfile. Details are provided in the appendix pp 1–3.

For analysis of health-services responsiveness, we used results from the WHS 2003 modules.¹⁷ A 2009 assessment of 150 first-level health facilities in 15 districts was also used to obtain data about the readiness of services in terms of infrastructure and equipment, health workforce, training, medicines, and commodities. A comparison of reform and non-reform districts was made with multivariate logistic regression analysis. Details about the methods are reported in the appendix p 4. We analysed the cause of death and reviewed the health-sector resource allocations to gain insights into how responsive the system was to emerging needs.

Health trends

Although some improvements have occurred in the health status over the past 60 years, key health indicators lag behind in relation to international targets.²³ Total

fertility rate has fallen from 5·4 children per woman in 1990–91 to 3·4 children per woman in 2010, remaining high enough to sustain rapid population growth.²⁴ Mortality in children younger than 5 years has fallen from 124 per 1000 livebirths to 87 per 1000 livebirths during 1990–2011.²⁵ The maternal mortality ratio decreased from an estimated 490 per 100 000 livebirths to 260 per 100 000 livebirths during 1990–2010.²⁶ Both trends, however, are off track in relation to the Millennium Development Goals. Pakistan is one of four poliomyelitis-endemic countries and its progress lags behind other countries.^{27,28} Prevalence of hepatitis B in the general population is 7·4%.²⁹ The HIV/AIDS epidemic is concentrated in men who have sex with men, female sex workers, and injecting drug users, but there is probably under-reporting of the disease prevalence because of the social stigma.^{30,31}

According to the PDS, the patterns of the general causes of deaths changed greatly during 1992–2006, when the contribution of communicable illnesses more than halved from 47% in 1994 to 23% and 19% in 2005 and 2006, respectively, and the share of non-communicable diseases increased from 47% to 69% and 73%, respectively.^{20,21,32–34} Injuries were the cause of 7% and 8% of deaths in 2005 and 2006, respectively, a slightly larger share than in the 1990s.¹⁷ Data from verbal autopsies in women aged 12–49 years

See Online for appendix

	Political developments	Health developments
1947	The federation of the Islamic Republic of Pakistan was established as a result of the partition of the Indian subcontinent, which also marked the end of the colonial rule. Massive bloodshed, millions of refugees, a fragile economy, and border disputes with India characterised its beginnings	Adoption of the recommendation of the Bhore Committee report. ⁵ Constitutionally, health was a provincial issue
1950s	Rapidly changing fragile governments and the first military coup in 1958	WHO-led initiation of BCG vaccination, malaria eradication, and control of sexually transmitted infectious diseases
1960s	Pakistan, under the control of a military dictatorship, ranked as the second fastest growing economy after the USA. Massive assistance received under military pacts with the west to contain communism. First war with India	WHO-led initiation of control of tuberculosis and leprosy, and eradication of smallpox
1970s	Pakistan turns socialist under a democratic government. Economic indicators stall. Partition of the eastern part of the country leads to the establishment of Bangladesh	WHO-led initiation of control of malaria and diarrhoeal diseases and Expanded Programme on Immunization. Lady Health Visitor Programme launched
1980s	Country still under a military dictatorship. During the Cold War, Pakistan received massive support as an ally in the Afghan jihad, which resulted in the creation of the Taliban	WHO-led initiation of eradication of rheumatic fever and guinea worm, and the initiation of the AIDS programmes. Investments in 8000 first-level care facilities in accordance with Alma Ata commitments. Donor-led family health project launched
1990s	Rapidly changing democratic governments with many systemic constraints. Economic sanctions after declaration of nuclear capability. Economic performance was poor and entry into International Monetary Fund Programme. Some important economic reforms to open up the market	National Health Policy 1997. Devolution of health under the District Health Government Initiative, which was later abandoned. Initiation of social action programmes (World Bank led); eradication of poliomyelitis (WHO led), and launch of the Lady Health Worker Programme. Support for vertical disease prevention and control programmes (federally led) by international partnerships (Roll Back Malaria, Stop TB, GAVI Alliance, Global Fund to Fight AIDS, Tuberculosis and Malaria)
2000–06	Military dictatorship becomes a strong ally of the west in the war against terror. Change in foreign policy in Afghanistan creates internal security threats. Robust but unsustainable economic growth. Devolution of authority to a local government system, which is later undone by the next government	National Health Policy 2001. Federally led programmes for hepatitis, blindness, safe water, and maternal and child health. Provincial investments in health increased but health could not be fully devolved to districts. Contracting out of first-level care facilities to a parastatal non-governmental organisation through a federal directive. Other directly managed reforms initiated in competition with the contracting-out model
2007 onwards	Democratic regime. Support of the west because of Pakistan's role in fighting the war in Afghanistan. Economic decline, worsening debt, and an energy crisis. In an International Monetary Fund Programme. The 18th Constitutional Amendment and new formula for federal fiscalism accord greater provincial autonomy. Governance performance is poor. The country has an active judiciary and media	Ministry of Health abolished under the 18th Constitutional Amendment. No federal structure for health with resulting fragmentation. Drug Regulatory Authority created. National Health Policy 2010 modelled on the Gateway Health Policy scaffold, but the rationale for federal policy is contested. Huge progress in reforming the health sector is not evident. As a result of an active media, attention to malpractices in health is increased

Table 1: A brief history of the political and health developments in Pakistan during the past six decades

Panel 1: Pakistan's 18th Constitutional Amendment

The 18th Constitutional Amendment introduced changes that altered the modalities of state functioning. It was hailed for the repeal of distortions introduced in the constitution under military rule and fashioning of parliamentary democracy by reducing the powers of the President. The other changes introduced by the amendment included a repeal of the 17th Constitutional Amendment introduced under military rule, redefinition of the mechanism of appointment of superior judges, and the chief election commissioner; establishment of three high courts; lifting of the ban on becoming a prime minister for the third time; reconstitution of the Council of Common Interests, a supracabinet and abolition of the Concurrent Legislative List (CLL), which altered power sharing between the federal and provincial governments in Pakistan's federal system. CLL was a constitutional list of subjects or areas on which both the federal and provincial government could legislate and from which executive mandate in that area stemmed.

After the abolition of the CLL, the Federal Legislative List outlined federal prerogatives that were substantially curtailed. All other mandates including health became provincial subjects. In the drive to grant provinces long-promised autonomy, responsibility of the federal government towards national roles in many areas, including health, was not taken into account. In accordance with this autonomy, it was perceived that there was no need for the Ministry of Health, which was therefore abolished. Pakistan became the first federal country in the world without a national or a federal health institution.

	Description	Uses
Pakistan Demographic and Health Survey 1991 ¹⁰ and 2006–07 ¹¹	National household surveys and interviews with women aged 15–49 years with provincial level disaggregation	Child mortality, coverage of interventions, and equity
Pakistan Social and Living Standards Measurement Survey 2004–05, ¹² 2006–07, ¹³ 2007–08, ¹⁴ and 2010–11 ¹⁵	National household survey and interviews with heads of households with district level sample	Intervention coverage for selected interventions by district, equity, and health-seeking behaviour
Pakistan Demographic Survey 1991–2006 ¹⁶	Sample surveillance system, which records vital events biannually	Mortality and cause of death trends
World Health Survey 2003 ¹⁷	National household survey with a sample of 6102 respondents aged 18 years and older	Responsiveness of health service
Health Facility Assessment 2009	Survey of 180 health facilities (150 primary health-care facilities and 30 secondary hospitals) in 13 districts (appendix p 18)	Service readiness and quality
National Health Accounts 2007–08 ¹⁸	Estimate expenditure on health care within an internationally agreed methodological framework	Health financing

Table 2: Main sources and uses of data in the assessment of health-systems performance

in the PDHS 2006–07 also provide evidence of the double disease burden for young adults: 20·3% of deaths were due to infectious diseases, 20·3% pregnancy-related causes, 51·2% non-communicable disorders, 5·3% injuries and violence, and 2·9% unknown cause.¹⁰ These data are elaborated further by Jafar and colleagues³⁵ in this Series.

Pakistan has made progress in all indicators during the past two decades. Figure 2 and appendix p 5 show the comparison of Pakistan's progress with a group of 12 other low-income and lower-middle-income countries in the region. Growth in the gross national income per person (purchasing power parity \$) was 4·0% per year, which is lower than the mean for the group of comparison

countries (5·4% per year, IQR 4·6–6·8).³⁶ Total health expenditure per person in Pakistan increased less than the mean for all countries and not as much as the gross national income per person. The general government expenditure on health as a percentage of total government expenditure increased but was still less than 4% in 2009, and only half the mean of the peer-country group. Pakistan made progress in most health indicators at rates of improvement similar to the peer-country group, but its levels of performance for most indicators remained well below the group mean.

Equity

Substantial differences were noted within Pakistan in most indicators for equity. Rural mortality rates in children younger than 5 years were about a quarter to a third higher than in urban areas in the 2006 PDS and 2006 PDHS, respectively, which is a smaller gap than for instance in India and Indonesia during the same period. Although there has been an increase in the supply of safe drinking water and adequate sanitation during 1991–2010, wide rural–urban differences have not decreased and national rates of improved sanitary facilities were still only 48% (appendix p 6). Differences were substantial between districts in coverage of services. For instance, the results of the 2010–11 PSLM indicated that children living in districts in much of Baluchistan had much lower coverage—with 13 of 16 districts with less than 50% full immunisation coverage—than did those living elsewhere in Pakistan.¹⁵ Comparison with PSLM in 2008³⁷ and 2005–06²⁰ showed that some progress has been made in reduction of the gap between districts for immunisation coverage during 2005–10.

Sex differences in health have long been a cause of concern.³⁸ Risk of mortality is higher in girls than in boys at age 1–4 years according to the results of the 1990–91¹⁰ and 2006–07 PDHS.¹¹ Girls had a 68% and 57% higher risk of dying than did boys during 1980–81 and 1996–97, respectively. Coverage of measles and three doses of diphtheria, pertussis, and tetanus vaccinations in girls was about a tenth lower than in boys with no change during 1990–2006. In the 2010–11 PSLM,¹⁵ the gap was smaller—82% of boys and 79% of girls aged 12–23 months were fully immunised. However, no differences were noted between boys and girls in treatment-seeking behaviour for acute respiratory infection and diarrhoea or in rates of stunting in the PSLM and PDHS surveys.

Social and economic positions are important determinants of health service coverage and mortality rate. Analysis by household wealth quintile shows the largest differences. According to the PDHS 2006, per 1000 livebirths, there was an excess of 25 deaths in neonates, 34 in infants, and 41 in children younger than 5 years in the poorest quintile of wealth index compared with the richest quintile. Coverage of services also varied substantially. For instance, women in the richest quintile had 35%, 38%, and 20% higher probabilities than did

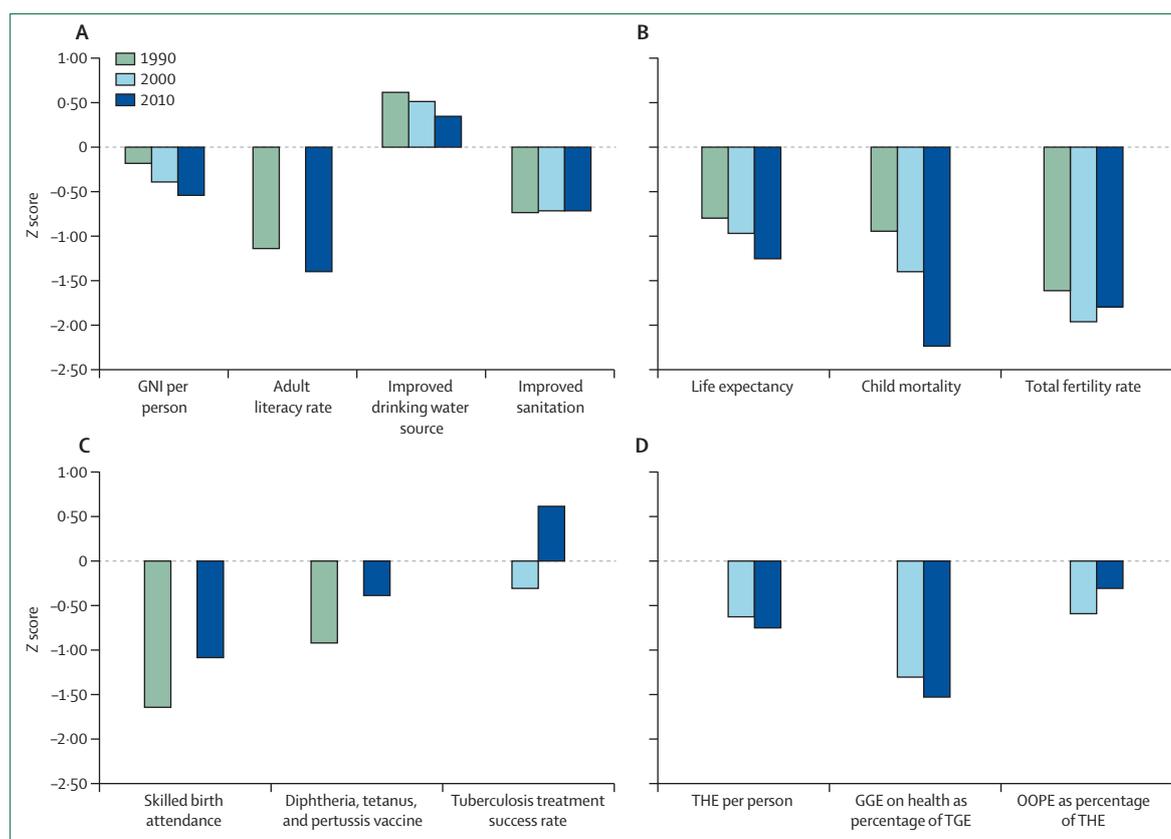


Figure 2: Comparison of Pakistan with a group of 12 peer countries for selected core indicators in 1990, 2000, and 2010

(A) Socioeconomic development. (B) Mortality and fertility. (C) Intervention coverage. (D) Health expenditure. The location of Pakistan within the group of 12 peer countries (Bangladesh, Cambodia, Egypt, India, Indonesia, Iran, Nepal, Philippines, Sri Lanka, Thailand, Uzbekistan, and Vietnam) is shown with the Z scores. The negative sign of the Z scores for fertility, child mortality, and OOPE implies a poorer score for Pakistan than for the group mean. With the exception of life expectancy, tuberculosis treatment success rates, THE per person, GGE as the percentage of TGE, and OOPE as percentage of total health expenditure, the other indicators have Z scores for the 2010 comparison. Further details are provided in the appendix p 6. GNI=gross national income. THE=total health expenditure. GGE=general government expenditure. TGE=total government expenditure. OOPE=out of pocket expenditure.

those in the lowest quintile of having prenatal care, delivery by a skilled provider, and emergency obstetric care, respectively.³⁹ Wealth inequities have been elaborated further by Bhutta and colleagues⁴⁰ in this Series.

Health inequities can only be attributed partly to poorly performing health-care systems because the social determinants have a huge role. 25% of Pakistan's population are living below the poverty line of less than US\$1 per day, illiteracy in women in the poorest two quintiles is 83% and 70%, respectively.³ Inequities in health are a result of broader social inequities and issues of access as a result thereof, and poorly performing health-care and other systems of governance.

Structure and financing of health systems

Pakistan's health delivery system comprises many institutions (figure 3). Three are vertical because they finance and provide services for defined populations (employees and their dependants) and have mutually exclusive service delivery infrastructures, human resources, and governance. The modes of financing vary

between institutions. The Armed Forces are financed by revenues covering 6·18 million individuals. In the Fauji Foundation, commercially generated funds sustain a social protection system, which covers 9·10 million retired military servicemen.⁴² The Employees Social Security Institute, a health insurance system for the low-paid labour workforce, is financed through employers' contributions covering 6·89 million people. Together they serve 14·12% of the population in the country. Two other systems are horizontal. Government's autonomous organisations and commercial entities provide coverage to an estimated 4·14 million individuals through pooling of the resources but have access to the mixed system (figure 3). These five systems cover 26·32 million individuals (16·75% of the total population). Outside these systems is the mixed health system with public and private providers.⁴¹ Here, tax revenues fund care for 7·77 million public employees and their dependants, and 0·34 million individuals receive assistance through safety nets. In total, 34·43 million or 21·92% of the country's population are covered. 78·08% of the population pay out

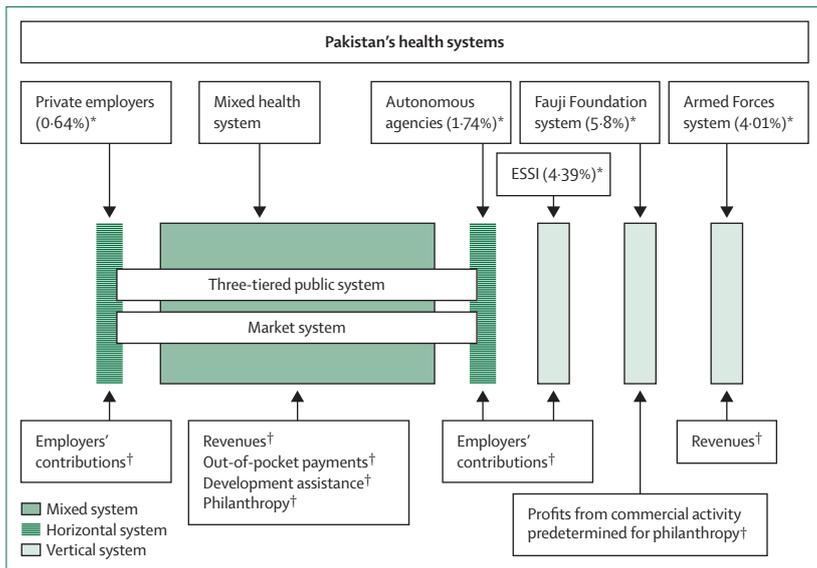


Figure 3: A stylised representation of health-care delivery systems operating in Pakistan
 Reproduced with permission from Nishtar.⁴¹ ESSI=Employees Social Security Institute. *Percentage of the population covered by each system. †Sources of financing.

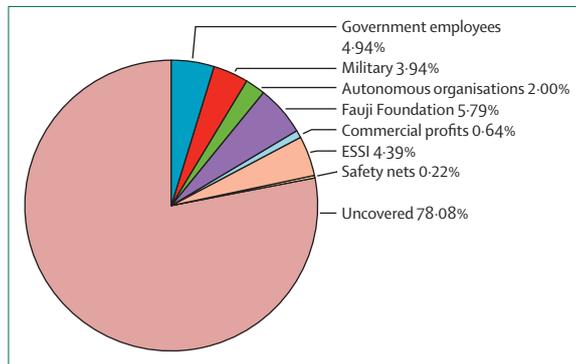


Figure 4: Health financing, percentage of the population covered in Pakistan
 ESSI=Employees Social Security Institute.

	Yearly expenditure (xmillion; PKR [US\$])	Percentage of health expenditure	Percentage of GDP*	Expenditure per person per year (PKR [US\$])
Public†	89 357.00‡ (1462.23)	26.51	0.90	568.83 (9.31)
Private§	238 050.00¶ (3895.43)	70.63	2.40	1515.37 (24.80)
Rest of the world	9626.00‡ (157.52)	2.86	0.10	61.28 (1.00)
Total	337 033.00 (5515.19)	100.00	3.40	2145.48 (35.11)

GDP=gross domestic product. *2007–08 GDP PKR9 921 584 million.¹⁸ †Public sources include contributions from federal and provincial governments, district organisations, cantonment boards, and federal and provincial autonomous departments. ‡National Health Accounts 2007–08.¹⁸ §Private sources include employer and household funds, and local or national non-governmental organisations. ¶National Health Accounts 2007–08 data revised after addition of Fauji Foundation yearly health expenditures.¹⁸

Table 3: Health expenditure in Pakistan by sources

of pocket at the point of health care (figure 4; appendix pp 1–2). Even when attending the government-funded system, a patient is expected to cover costs and pay user's charges. Catastrophic health expenditure accounts for

more than 70% of the economic shocks for poor households.⁴³ Households with lower incomes are increasingly at risk of becoming poor as a consequence of health payments even though they spend less than rich households and generally seem to have less access to care and forego health care.⁴⁴ New models have been created to address this problem of catastrophic health expenditure.⁴⁵

Health-care revenue allocations are inequitable. Costs per person are highest for members of legislature and judiciary.⁴¹ Revenue-funded systems deliver health at a much higher cost than do pooling arrangements (appendix p 1).

Revenues account for 24.74% of total health expenditure whereas pooling (publicly mandated private means, safety nets, and private pooling) accounts for only 0.86%. Off-budget and on-budget official development assistance collectively accounts for 4.9% of the total health expenditure. Estimates for 2007–08 show that the public and private sectors spend 0.9% and 2.4% of the gross domestic product (GDP) on health, respectively (total 3.40% [off-budget official development assistance 0.1%]; table 3)

Public and private sectors contribute \$9.31 and \$24.80 per person, respectively (total \$35.11 [including official development assistance \$1]). Public spending is much less than the internationally recommended \$60 per person.⁴⁶ Changes in the Seventh National Finance Commission Award, the fiscal corollary of devolution, led to increases in provincial resource allocations. However, it is early to gauge the net effect on overall public health sector expenditure, in view of the federal government's concomitant scaled back health allocations (Ghauri K, Synergy Advisory and Solutions, personal communication)

Public health allocations as a percentage of GDP remained unchanged during the three surges in aid during the 1960s, 1980s, 2000s in Pakistan (appendix p 5). Debt repayments, untargeted subsidies, and military expenditures dominate the budget. This information has been summarised in Nishtar and colleagues.⁴⁷ Cutbacks in the development budget are common, hence the actual expenditure on health is even less. Budget diversions after disasters compound the situation. More than 30% of the development budget was diverted after the 2010 floods for rebuilding. Panel 2 summarises the steps needed to create fiscal space for health and broaden the base of public means of financing.

Health governance

Table 4 summarises the overall challenges for health governance. Health is one of the most corrupt services.⁵⁰ Health-governance issues are an impediment to leveraging the potential within Pakistan's extensive health infrastructure.⁵¹ These issues are compounded by fights over the local government system after a 2001 reform stalled in 2008 with change in government (panel 3). The negative effect of a fully operational local government system became evident during the 2010 and 2011

Panel 2: Actions needed in various domains of the health systems

Health financing imperatives:

- Fiscal responsibility, debt limitation, and progressive and innovative revenue mobilisation to create fiscal space for health
- Mix of financing approaches to broaden public financing
- Increase in allocations of revenue for health and a revision of Pakistan's low limit (1.18% of gross domestic product) of legislated fiscal responsibility for health by 2013
- For the formally employed, insurance schemes or pooling mechanisms as a platform for increasing insurance coverage
- For the informal sector, a revamp of the government's existing system of social protection and scale up of new models, with improved targeting and transparency

Governance imperatives:

- Accountability, transparency, and merit promoting reform in structures of governance that affect health
- A health structure, consistent with the spirit of devolution, that consolidates national functions
- After the 18th Constitutional Amendment, appropriate and relevant policy and institutional frameworks at the federal or national and provincial levels, including laws for the right to health
- Essential services package and policies for private sector regulation
- Clarity for health roles in a restructured local government system with balance between authority, responsibility, and accountability

Service delivery imperatives:

- Restructuring of state-owned public facilities with checks and balances
- An expanded focus of primary health care, both for the set of services and as the first point of contact
- Integration of the devolved national public health programmes at the provincial and district levels
- Bridging of the population health gap in service delivery
- Reformed hospitals through decentralisation with oversight and with improvements in quality and equity as the key focus
- A system of services for purchasing to mainstream the role of private providers in delivering publicly funded services

Human resources imperatives:

- A post 18th Constitutional Amendment compliant policy for human resources for health

Health information imperatives:

- A federal health information centre
- Establishment of integrated disease surveillance and response
- Institutionalisation of the district health information system for the public and private sectors
- Integration of the silo surveillance systems of the former national public health programmes into disease surveillance and response and district health information system, as appropriate
- Consolidation of survey capacity
- Support for independent think tanks involved in policy analysis
- Integration of periodic health interview, and examination and sequential surveys of non-communicable diseases with existing population-based surveys
- Appropriate policy interventions—law for mandatory reporting of cause of death to guide development of a vital registration system; in the interim, use of International Classification of Diseases coding in death certification to improve the current system
- Support to develop registries of representative populations
- Institutionalisation of donor-funded information sources—eg, National Health Accounts

Medicines and technology imperatives:

- A transparently governed, merit-based, and technically robust federal drug regulatory authority
- Revision of the national drug policy and law
- Stepping up support capacity

Information communication technology imperatives:

- Evidence-based, demand-driven, sustainable, and standards-compliant e-health legislation
- Incentives for up scaling or institutionalisation of existing pilots and projects that have the potential to improve efficiency, control costs, reduce human errors, facilitate new services, improve connectivity, minimise pilferages, enable learning, or disseminate information

floods.⁵² Pakistan's health-governance challenges have provided insights for describing the mixed health-systems syndrome.⁵³

Reform of health governance is interlinked with broader systemic reform. Some opportunities have emerged. The advent of judicial activism, a domestic response to politics, is an opportunity to make a case for recognising the right to health, citing previous progressive interpretations of the right to life because the right to health is not explicitly enshrined in the constitution.^{54,55} An open media can help increase societal political awareness in this respect.^{56,57} Institutionalising accountability in the public system is

essential to reap these benefits. A critical gap exists because the country has been without a law for the past 5 years.

In Pakistan, there have been many attempts at decentralisation.⁵⁸ The 18th Constitutional Amendment has made radical changes in Pakistan's federal system. It granted provinces long-promised autonomy and devolved the mandate of many systems including health, which in principle is a welcome step because this can improve governance. However, the motivation to devolve undermined national health functions. Pakistan is the only federal country in the world without a central structure (eg, ministry or department) of health.⁵⁹ The constitution still

	Challenges	Opportunities
Voice and accountability	A new accountability bill has been pending approval since 2008; there are many weaknesses in the law. Existing accountability systems are politicised and exploitable and are biased against the poor for voice, accountability, and equity	An open media is a positive attribute for the country
Political stability or absence of violence or terrorism	Rated high on Pakistan's UN risk advisory list for the past 2 years running. Significant decline in estimates of the world governance indicators for the corresponding indicator during 1998–2008 ⁴⁸	Countering terrorism is high on the political agenda. The democratically elected government has international support and can win local support if democratic behaviours are ingrained
Effectiveness of government	Poor performance with respect to the supply of public goods such as education and health; poor implementation capacity, bureaucratic quality, and governance capability; policy inconsistency creates impediments for businesses. The fate of the local government system has been uncertain for the past year. Laws have not been updated	The 18th Constitutional Amendment in 2010 devolved responsibility to the provinces, which can now make locally suited changes in the local government system
Regulatory quality	Regulatory corruption; no effective mechanism in place for health regulation	Regulation and oversight can be institutionalised as part of the arrangements after the 18th Constitutional Amendment if there is political will
Rule of law	Overall performance is poor	The advent of progressive judicial activism after 2008 is a positive systemic attribute
Control of corruption	Ranked 134 of 180 on the corruption perception index ⁴⁹	Freedom of information in the most recent constitutional amendment, increasing societal political awareness, and a free media help in ingraining transparency

Governance indicators are in accordance with the World Bank's classification.⁴⁷

Table 4: A snapshot of the challenges and opportunities in the governance of Pakistan

Panel 3: Local government system in Pakistan

The Local Government Ordinance, 2002, replaced the post-colonial style of district and divisional administration in Pakistan with a local government system in which power was meant to be in the hands of the elected working-class representatives. The objective was to enhance public sector effectiveness by bringing individuals responsible for delivering services close to intended beneficiaries and making them accountable. Right from inception, provincial administrations felt alienated as a result of this reform because of loss of administrative authority. Progress during 7 years was uneven with improvements in some districts as a result of the decentralised system of planning and decision making, whereas in others it was taken up by the elite in Pakistan's feudal-dominated working-class politics. Since the constitutional moratorium on amendment of this law ended in 2007, provinces have been scrapping various covenants of the law. Currently, provinces are running the local government system according to a set of statutory and administrative notifications to suit local circumstances and interests.

mandates the federal government with responsibility of national roles in health: health information, trade in health, overarching policy norms, federal fiscalism, external resource mobilisation, and interstate or interprovincial coordination and regulation.⁶⁰ These functions are now fragmented across seven ministries or departments at the federal level in Pakistan, and need to be consolidated into one federal entity. Elsewhere in this Series,⁴⁷ we have presented our recommendations for an institutional framework for health at the federal level with the creation of a health division as being essential.

After the 18th Constitutional Amendment, all remaining mandates are provincial. Provinces should address current overlaps between secretariat, directorate, and reform units and build capacity to plan and oversee reform. At every level, the aim should be appropriate institutional capacity. Recentralisation of power in provinces should be avoided.

The 18th Constitutional Amendment saved all existing laws and redefined federal and provincial legislative jurisdictions. Provincial legislation should take stock of federal laws and amend or adopt them. Pakistan's 1944 Public Act still remains in force and has not been updated in compliance with International Health Regulations. Gaps in existing laws for medicines, mental health, smoking, and tissue transplantation need to be bridged. Laws and regulations governing public–private interactions, insurance, and e-health need to be established. Personal and product liability litigation and legislation for health need to be strengthened.

Health-policy institutions were not given priority in the past. Donors have been the driving force for their creation. Most of the reform plans have been donor driven. Health sector reviews are done sporadically and mostly by the World Bank.

The federal government and provinces should frame coherent policies and planning, and overcome past fragmentation or duplication, evident in the lack of concordance between the Planning Commission's Medium Term Development Framework,⁶¹ Ministry of Health's policies, Finance Ministry's Poverty Reduction Strategy papers, and biannual budget cycles.⁶² The needed health governance reform measures are outlined in panel 2.

Service delivery

With the exception of a few tertiary hospitals, service delivery was a provincial mandate even before the 18th Constitutional Amendment. The main change after devolution is the handing over of the national public health programmes to the provinces. Also, because population welfare is also devolved and 2740 family welfare clinics have been given to the provinces, an opportunity has arisen to integrate population and health and overcome a longstanding institutional disconnect in Pakistan.⁶³

Pakistan inherited 1014 health facilities in 1947, of which 292 were hospitals. Quantitative progress has occurred since then. Currently, Pakistan's three-tiered public infrastructure includes 965 tertiary and secondary hospitals⁶⁴ and a total of 13 051 first-level care facilities, the latter comprising many categories (appendix p 9). The drive to expand gained momentum after the Alma Ata Declaration;⁶⁵ population-health facility ratios improved from 28 971:1 in 1947 to 12 357:1 currently. Quantitative gains were not matched with qualitative improvements. The expanded rural network remained underused for two decades, serving less than 2% of the outpatient curative consultations.⁶⁶ Poor performance prompted a reform to contract out a third of the basic health units in 2004.⁶⁷ Findings of the assessment of service readiness in 13 districts also showed much better results for several quality indicators in reform districts (medical officer availability, outpatient department turnover, human resource, basic equipment, and availability of essential drugs were much better in the reform districts whereas any informal payment and stockout of essential stocks and tracer drugs were significantly less likely). However, no baseline data exist from which to infer causality, and other quality issues still exist (appendix p 4, p 10). The main criticism of this reform was that it did not integrate the national public health programmes with provincial or district service delivery.

Improvements have also been noted in other primary-health-care reforms. The health-systems reconstruction efforts in northern Pakistan (districts Bagh and Mansehra) after the 2005 earthquake led to impressive improvements in coverage of health services during 2007–10, elaborated further in this Series.⁶⁸

21% of the population visit public hospitals. Hospitals account for the largest expenditure category in provinces; most have poor performance.⁶⁹ Previous legislative changes to mandate reform with autonomy as an entry point improved revenue generation in some cases but not the quality and equity of outcomes.⁷⁰

For the past decade, the results of the PSLM surveys have shown that most of the population uses private health clinics or hospitals in Pakistan. According to the PSLM 2010–11, of people who had consulted a health provider in the past 2 weeks, 71% said they went to a private facility. Only 22% went to a public facility. 66% of the people took a child younger than 5 years with diarrhoea to a private provider and 6% to a chemist or a pharmacy.

About two of three deliveries were in institutions in private hospitals and clinics in 2010–11, similar to 5 years earlier.

According to a 2001 survey, Pakistan has more than 73 000 private facilities, most of which are individually owned clinics.⁷¹ The market system is heterogeneous in terms of the qualifications of the health-care providers, system of medicine practised, and physical infrastructure. Public employees engage in dual practice as a norm, and quackery is well known. Informal providers include drug-store operators, retailers, and unqualified sellers. Faith healers are an important link in the pathways-to-care chain.⁷² The main population centres have a few large private sector hospitals; only four are internationally accredited. The non-profit health-care sector comprises non-governmental and charitable organisations, with more than 7000 inpatient beds collectively.⁷³ Despite this dominance, no large-scale initiatives have been taken to use private delivery channels for public services, except to some extent for population welfare initiatives.⁷⁴

In WHS 2003, 35% of respondents who had used health services in 2002¹⁷ reported that they had experienced discrimination. This discrimination was more common in the poorest quintile than in the richest quintile, in rural residents than in urban residents, and in government facilities than in private facilities. On the basis of 15 questions in seven domains of service responsiveness, a high proportion of respondents indicated that they were not satisfied with the services—generally, for each question, 58% respondents who had used such services in the past year reported moderate or bad and 60% very bad ambulant care, and 60% of patients were not satisfied with their inpatient care.²³ The coverage of preventive screening interventions in women was very low in WHS 2003. Only 1·9% of women aged 18–69 years reported having received a cervical (Pap) smear in the past 3 years and 0·3% aged 40–69 years had had a mammography or breast examination. Several social factors account for these small percentages, including a lack of awareness and geographic and financing access constraints.

The 18th Constitutional Amendment-led provincial autonomy and National Finance Commission-led fiscal empowerment provides an opportunity to reform service delivery. This should be guided by evidence and focus on achieving the twin objectives of equity and quality (panel 2).

Human resources

Government functionaries of the now abolished Ministry of Health remained protected by the 18th Constitutional Amendment. The current unrest among doctors and health workers is the result of an inability of the government to deliver in terms of other stated promises, which involve job structures and systems of compensation.⁷⁵

At the time of Pakistan's creation, there were a few hundred registered doctors. Quantitative progress is evident, with 121 374 doctors currently registered.

However, the doctor-to-population ratio of 1:1127 is much smaller than the WHO-recommended ratio of 1:1000. Numerical inadequacies are more pronounced for other health professionals. The doctor-to-nurse ratio is 2.7:1 by contrast with the desired 1:4. Shortages of dentists, midwives, technologists, pharmacists, health management, and public health experts are well reported.⁷⁶

Low numbers are largely due to a lack of responsive planning. For example, Pakistan has fewer than 2000 qualified pharmacists and an unmet need with more than 50 000 pharmacies. Yet, the collective capacity of training institutes is less than 2000 a year. Only 74% of functioning first-level care facilities have a doctor's post sanctioned and filled.⁷⁷ Migration due to poor law and order and improved incentives elsewhere also contributes to shortages in health workers. An estimated 1150 (1%) physicians emigrate every year.^{78,79}

Medical and nursing schools have increased from two each in 1947 to 71 and 109, respectively, in 2009. The number of schools of midwives and public health has increased from none in 1947 to 141 and 26, respectively, in 2009.²² However, the number and location of medical schools are determined largely by political expediency. By comparison, other areas such as capacity building, training, and effective deployment of doctors have received little attention over the years.⁸⁰ Pakistan does not have a structured system for doctors to continue medical education. Training infrastructure exists for non-physician health providers but is not used effectively.⁸¹ Medical training does not respond to community needs.⁸² Workforce training and assessment are needed.⁸³

Quantitative and qualitative constraints exist at the managerial level. Only one in 25 secretaries of health was formally trained in public health. Two past initiatives were aimed at addressing managerial gaps. The National Commission for Government Reform, a statutory commission, published its report in 2005.⁸⁴ Although the recommendations were focused on reforming the executive branch of the state, they were not implemented because of change in government.⁸⁵ The Higher Education Commission's tenure track policy enabled hiring and retaining of human resources in response to market incentives; after an initial successful deployment in the health sector, it was rolled back because of a change in government.

Pakistan's human resource policy has been dominated by lady health workers (LHWs), a field force of more than 90 000 grass-root rural workers. A trend analysis of their performance in 2000 and 2008 showed slight improvement in performance in immunisation (57% vs 68%) and breastfeeding (7% vs 26%) but a negligible improvement in prevalence of contraceptive use (33% vs 34%), a key concern for Pakistan. There was no handwashing, waste disposal, and delivery practices. Although some improvements have been made at the systems level in access to transportation for and supervision of LHWs, only 21% of LHWs receive their salaries on time; stockouts of essential

medicines and availability of functioning equipment continue to be a problem.⁷⁷

A comprehensive human resource policy is needed to address the current shortfall in human resources, develop systems for retention, education, and training of staff, and capacity building. The policy should be relevant to the new health governance arrangements that have health as a provincial mandate but with recognition that trade in services is guaranteed by Article 151 of the constitution, and hence the need to retain national regulation.⁸⁶

Health information

After devolution, Pakistan's health information architecture has been fragmented further. 14 discrete and incomplete information systems for infectious disease are in place and most are donor dependent.⁸⁷ The country has no integrated disease surveillance system, as drawn attention to by the 2005 earthquake, 2010 floods, and outbreaks of influenza. Under-reporting of influenza A H1N1 in 2009 was evidence of failure to meet the commitments of the International Health Regulations 2005.⁸⁸

Three agencies are responsible for population-based surveys. The survey capacity is fragmented. No attempts have been made to improve the cause-of-death reporting in the sample mortality surveillance system. The last health interview and examination survey was done in 1995 and none of the health budget has been allocated for surveys. Pakistan has only one internationally accredited cancer registry and no stroke registries. The Management Information System, which is revamping into the donor-supported District Health Information System, has not been a priority for the government and no effort has been made to draw the private sector into its ambit.

Little research into health systems is undertaken in Pakistan. The National Health Accounts unit has been established at the Bureau of Statistics since 2008 but its outputs are underused for making policies. Think tanks undertake policy-relevant research, as in the case of the 18th Constitutional Amendment, but are neither supported by the government nor major donors.⁸⁹ There is no apex agency for health information. The donor-funded National Health Policy unit, meant to serve that purpose, existed for 10 years without government ownership. The health-systems strengthening unit has now been created to comply with GAVI Alliance's conditions, but lacks capacity. Health workers in the information system seem to be demotivated because of the lack of clarity after devolution.^{90,91}

Health information should be thought of as a key national or federal responsibility and a federal health information centre should be created for which various options exist and are discussed further in Nishtar and colleagues.⁴⁷ Panel 2 summarises the specific actions needed in various health information domains (such as surveys, surveillance, management information systems, and registries).

Medicines and technologies

The 18th Constitutional Amendment devolved medicines as a subject but retained the power to create federal regulatory authorities, leading to ambiguity with respect to the drug regulation mandate. After deaths of people from contaminated drugs,⁹² the matter was settled in favour of the creation of a federal drug regulatory authority. The law creating the new authority also included the regulation of medical devices, which was a welcome step. However, the authority has an uphill task.⁹³ In 2004, WHO estimated that 40–50% of drugs consumed in Pakistan were counterfeit or substandard.⁹⁴ Prescription of medicines by people who are not medically qualified is rampant and incentive-intense marketing practices are endemic.⁹⁵ The development of robust and transparent governance for the authority and building of safeguards against capture by interest groups are crucial.

Additionally, the infrastructure on which the Drug Regulatory Authority will be dependent needs important inputs. Pakistan's national drug policy 1996 and the drug act 1976 also need to be revised. An additional complicating factor is the lack of inclusion of traditional medicines, prescribed by 130 000 practitioners, in the law's remit. A bill has been pending for the past 7 years after the parliamentary committee's approval, but the parliament has yet to vote.⁹⁶ Capacity constraints are pervasive. A cross-sectional survey done in Rawalpindi, the third largest city, showed that 19% of pharmacies met licensing requirements. 22% had qualified pharmacists, 10% temperature monitoring, and 4% alternative supply of electricity for refrigerators.⁹⁷ Prescribing and dispensing practices are also reported to be inappropriate.⁹⁸ Pakistan has 270 drug inspectors for more than 62 000 retail pharmacies in the country (Malik F, National Institute of Health, Pakistan, personal communication).

Communication technology

Pakistan has four strengths in terms of information technology for communication and gathering data. It also has a strong telecommunications infrastructure with more than 119 million mobile phone users,⁹⁹ high broadband penetration, a national data warehouse and acquisition system (National Database Registration Authority), and a national system for validation of poverty (Benazir Income Support Programme). The public sector has not used this enabling infrastructure in the best way for health improvements. Most applications of note in technology have been by the private sector or in pilot settings. Standalone hospital e-solutions are confined to large public hospitals and in the high-end private sector but are not part of the national District Health Information System. Smaller public facilities and private ambulatory clinics do not tend to invest in technology.

The potential for the use of communication technology is immense. Electronic public expenditure tracking, procurement, inventory, and wage systems can improve health governance; mobile telephones can enable

information dissemination and payments. Technology can improve targeting and transparency in social protection systems.¹⁰⁰ An existing programme can be further broadened through integration with the Benazir Income Support Programme.⁴⁵

Two of three requirements to develop a central health data repository are in place—a central repository of identifiers (National Database Registration Authority) and a central repository of providers (Pakistan Medical and Dental Council). The third requirement, compliance with internationally prescribed health data standards should be a priority. More broadly, the government should enact legislation, define e-health standards, and establish compliance systems taking into account preparedness of an institution.¹⁰¹ Existing institutions, which can provide resources for the transformation and incentives for large-scale applications, should be made more transparent and effective than they are currently.

Conclusion

In this report, we present the first comprehensive assessment, to the best of our knowledge, of the performance of the health system in Pakistan. The assessment of health-systems performance was hampered by many gaps in availability and quality of the data. Reliable data for levels, trends, and equity for many key indicators were missing. For instance, Pakistan does not have a functioning civil registration and vital statistics system; a health examination survey has not been undertaken for the past 15 years; and national health accounts have been assessed only twice. No reliable subnational data exist for the health workforce and data for the availability and quality of services are lacking. The gaps in data restricted our ability to undertake an analysis of the district for most indicators or draw firm conclusions about the effect of specific policies on coverage or health outcomes.

All available quantitative and qualitative data were evaluated to build a comprehensive picture of the current situation and trends in the past decades. The interpretation, however, had to be subjective at times to be able to present a comprehensive picture of the health system in Pakistan. We have aimed to be cautious and clear about our interpretation of fragmentary evidence.

Despite these limitations, in this analysis we have identified many priority gaps that need to be addressed in terms of information and analysis to better inform policies and reforms. More importantly, the analysis shows that Pakistan's health system has been unable to achieve the three goals—adequate and equitable health status, fairness in financing, and responsiveness. The analysis has also drawn attention to actions that are needed to make the best improvements in each of the domains of the health systems. These actions are summarised in panel 2 and are discussed in a broader context in this Series by Nishtar and colleagues.⁴⁷ With the changes brought by the 18th Constitutional Amendment,

reform, which would otherwise be an elective process, has been forced on the system. An imperative of this reform is to reorganise and build the capacity of the stewardship agencies so that the needed transformation in Pakistan's health system can be supported.

Contributors

SN had the idea for the outline of the report, and, with the exception of the section about peer-group analysis, wrote all the sections of the report. TB did the peer-group analysis and wrote the related sections and contributed to the sections about health trends, equity and data, and methods. AYA helped design and SA did the 2009 assessment of health facilities. FK and YAM helped with data gathering for the health-financing sections. IuH provided data from the Federal Bureau of Statistics and helped with the computations. SN is the overall guarantor for the paper.

Conflicts of interest

We declare that we have no conflicts of interest.

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