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Foreword

The Government of Pakistan and WHO are working together to effectively improve the public health situation in the country with special emphasis on the five key regional priorities:

- health security and prevention and control of communicable diseases;
- noncommunicable diseases, mental health, violence and injuries, and nutrition;
- promoting health through the life-course;
- health systems strengthening; and
- preparedness, surveillance and response.

The strategic directions to address these priorities are broadly in line with WHO’s 12th General Programme of Work, the Programme Budget 2016–2017 endorsed in May 2015 by the Sixty-eighth World Health Assembly and the five strategic areas of work endorsed by the WHO Regional Committee for the Eastern Mediterranean in 2012.

Reliable and timely health information is essential for policy development, proper health management, evidence-based decision-making, rational resource allocation and monitoring and evaluation of the public health situation. While the demand for health information is increasing in terms of quantity, quality and levels of disaggregation, the response to these needs has been hampered because of fragmentation and major gaps and weaknesses in national health information systems.

The strengthening of health information systems is a priority for WHO in the Region. Intensive work with Member States since 2012 has resulted in a clear framework for health information systems and 68 core indicators that focus on three main components: 1) monitoring health determinants and risks; 2) assessing health status, including morbidity and cause-specific mortality; and 3) assessing health system response. In order to successfully achieve this important goal, concerted and aligned action at national and international level are required to address the gaps and challenges in the health information systems of all countries. This will ensure the generation of more effective evidence to monitor improvement in the health situation, nationally, regionally and globally.
This comprehensive health profile is intended to serve as a tool to monitor progress in the health of the population. WHO’s collaboration with its Member States will strengthen the national health information systems, and enable the generation of timely and reliable evidence to assess the health situation and trends, and the health system response. Most important, it will provide the information needed by health policy and decision-makers.

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Introduction

The population of the country has increased by 41.0% in the past 25 years, reaching 188.1 million in 2015. It is estimated that 62.6% of the population lives in rural settings (2012), 19.4% is aged 15–24 years (2015) and life expectancy at birth is 65 years (2012). The literacy rate for youths (15–24 years) is 70.8% (2011) and the rate for all adults is 54.7%; for adult females the rate is 42.0%.

The burden of disease attributable to communicable diseases is 38.3% (2012), for noncommunicable diseases it is 50.5% and for injuries 11.2%. The share of out-of-pocket expenditure is 54.9% (2013). In 2009 there were 8.3 physicians per 10 000 population; the density for nurses and midwives was 5.7.

The public health issues facing the country are presented in the following sections: communicable diseases, noncommunicable diseases, promoting health across the life course, health systems strengthening and preparedness, and surveillance and response. Each section focuses on the current situation, opportunities and challenges faced and the way forward. In addition, trends in population dynamics and in selected health indicators are analysed to provide policy-makers with evidence and forecasts for planning.
Communicable diseases

HIV
Tuberculosis
Malaria
Neglected tropical diseases
Vaccine-preventable diseases
Communicable diseases

- All four provinces have their own provincial hepatitis control programmes in place.

- Sixteen sentinel sites have been established to manage patients with tuberculosis and HIV co-infection for key affected populations in concentrated epidemic hot spots through the collaborative efforts of the national tuberculosis programme and the national HIV/AIDS and sexually transmitted infections control programme.

- The government bears the full cost of all routine traditional vaccines.

HIV

The HIV prevalence is low (0.1%) among adults aged 15–49 years (1). The population most affected is people who inject drugs, with an overall HIV prevalence of 21.0%, although 77.0% of those who inject drugs are using sterile injecting equipment. For female sex workers HIV prevalence is 0.2–0.5% and for men who have sex with men it is 6.4% (2). The estimated number of pregnant women living with HIV is 1500 (3) while antiretroviral therapy coverage to prevent mother-to-child transmission is 2.0% (2). Estimated antiretroviral therapy coverage is 9.0% (2).

There is a national strategic plan for HIV and AIDS. The HIV epidemic is growing in key populations, particularly injecting drug users and transgender sex workers. In addition, there have been mini-outbreaks of HIV epidemics in rural communities like Jalal Pur Jattan in Gujrat district as the result of an alarming concurrence of injecting drug use, unsafe hospital infection control practices and therapeutic injections, and commercial sex work. Another significant concern is the fact that the country has high rates of unscreened blood transfusions, a very high demand for therapeutic injections and poor infection control practices in hospitals and clinics nationwide. The most common reasons for the spread of hepatitis in the general population were re-use of syringes, very high use of therapeutic injections, weak infection control practices in health care settings and a weak blood transfusions system, leading to transmission of this infection from infected to healthy persons. To control the spread of infection the government launched its first national programme for control of hepatitis in 2005; it ended in 2010. In 2011, the federal programme devolved to the provinces and now all four provinces have their own provincial hepatitis control programmes in place. In 2002, the national Expanded Programme on Immunization introduced hepatitis B vaccination in its vaccination schedule, but it still lacks the birth dose, which is planned to be introduced in the schedule from 2015. The country is currently developing a comprehensive national strategic plan for viral hepatitis.
Tuberculosis

In 2013, the tuberculosis-related mortality rate was estimated at 27.0 per 100,000 population (4). A total of 298,446 detected tuberculosis cases were reported in 2013, of which 111,682 were new sputum smear-positive cases (4). The treatment success rate for new and relapsed cases registered in 2012 was 91.0% (4). Drug-resistant tuberculosis is estimated at 4.3% among new cases and 19.0% among previously treated cases (4).

The country has the sixth highest burden of tuberculosis globally and is among the high multidrug-resistant tuberculosis burden countries, accounting for approximately two-thirds of the tuberculosis burden in the Eastern Mediterranean Region. The government declared tuberculosis a national emergency, and the national tuberculosis control programme was revived in 2001 to adopt and implement the WHO recommended directly observed treatment, short-course (DOTS) strategy followed by the Stop TB Strategy, which includes universal access to quality tuberculosis care aimed at achieving zero tuberculosis deaths in the country. The national tuberculosis control programme, in the post-devolution context, working under the Ministry of National Health Services, Regulation and Coordination, acts as a collaborating body at the central level for the development of uniform policies and strategies, facilitating donor liaison at national and international levels. The tuberculosis control programme is integrated within the primary health care system through the support of provincial tuberculosis control programmes. The Stop TB Partnership has been established as an advocacy forum. Sixteen sentinel sites have been established to manage patients with tuberculosis and HIV co-infection for key affected populations in concentrated epidemic hot spots through the collaborative efforts of the national tuberculosis programme and the national HIV/AIDS and sexually transmitted infections control programme.

Malaria

The country is considered high burden and high risk for malaria; the total number of confirmed malaria cases increased from 125,152 in 2003 to 290,781 in 2012 (5). In 2013, among the confirmed cases, 25.7% were *Plasmodium falciparum* cases and 74.3% were *P. vivax*. Coverage in targeted areas for households that had at least one long-lasting insecticidal net for malaria prevention reached 11.0% (5), and 34.8% of people with at least one net had slept under a long-lasting insecticidal net the previous night.¹

Transmission of malaria in most parts of the country is highly seasonal and unstable, with peaks in the summer (June–September) for *P. vivax* and late-summer and the winter months (August–November) for *falciparum* malaria. Because *P. vivax* malaria relapses, there is a peak of relapse episodes seen in the early summer (April–June) resulting from transmission in the previous year. The primary malaria vectors are *Anopheles culicifacies* and *An. stephensi*. Resistance of the parasite and the vectors to the drugs and the insecticide

and low coverage of diagnosis, treatment and prevention services are the major challenges. The malaria control programme has undergone major changes since 2011, initiated by the 18th constitutional amendment whereby provincial health directorates and provincial malaria control programmes are fully responsible for malaria control in their own provinces. This restructuring has created a new environment of work at the national and sub-national levels, hence the need for reorganizing and harmonizing the mechanisms for joint collaboration between provincial and federal programmes and all malaria control partners. An insufficient and unstable management structure, particularly in high endemic areas, the evolving security situation in the areas bordering Afghanistan and the resurgence of malaria in Punjab, the province with lowest endemcity, are the major threats to the country’s control programme.

A malaria programme review conducted in December 2013 concluded that the diversity of the eco-epidemiological situation for malaria transmission calls for a new vision and stronger programme leadership and management. This would lead the programme towards the targets of the Sustainable Development Goals by accelerating and intensifying malaria control at district and provincial levels in Baluchistan, Sind and the Federally Administered Tribal Areas, with a focus on the control and elimination of *P. falciparum*, and moving towards malaria elimination in parts of Khyber Pakhtunkhwa and Punjab, with a special focus on *P. vivax* elimination. This review emphasized that major programme reorientation with changes in implementation policies, strategies, and strategic planning and programme re-organization is required in the health system reforms at provincial and district levels: there should be a focus on capacity-building in the malaria programme to deliver sustained universal access and coverage of at-risk populations with a selected combination of malaria interventions.

### Neglected tropical diseases

The country was certified free of dracunculiasis in 1997 but is still endemic for cutaneous and visceral leishmaniasis as well as blinding trachoma (6). In 2012 the number of reported cutaneous leishmaniasis cases was 6598, and in 2013 431 cases of leprosy were reported (6). The number of people treated in 2010 for soil-transmitted helminthiasis was 92 720 (6).

### Vaccine-preventable diseases

Immunization coverage among 1-year-olds improved between 1990 and 2013: for BCG from 80.0% to 85.0%, DTP3 from 54.0% to 72.0%, measles from 50.0% to 61.0% and polio from 54.0% to 72.0% (7). Neonatal tetanus coverage increased during the same period from 50.0% to 75.0% (7). In 2013, hepatitis B (HepB3) vaccine coverage was 72.0% among 1-year-olds (7).
The country has about 33% of the children who must be immunized in accordance with WHO immunization targets for the Region. Unfortunately, routine immunization coverage is far from optimal. The country is one of 10 countries with at least 60% of children unvaccinated. Due to the low immunization coverage, the country remains one of the last with indigenous poliovirus circulation, measles is endemic and deaths due to diphtheria, pertussis and neonatal tetanus are reported regularly. The Expanded Programme on Immunization offers nine antigens to all infants through its immunization service network. These antigens protect against nine childhood diseases: childhood tuberculosis, poliomyelitis, diphtheria, pertussis, neonatal tetanus, hepatitis-B, infections due to Haemophilus influenzae type b, pneumococcal infections and measles. In addition, tetanus toxoid is provided to pregnant women. Besides the routine immunization service, the Expanded Programme on Immunization also conducts supplementary immunization activities periodically against polio, measles and neonatal tetanus. The government bears the full cost of all routine traditional vaccines and co-finances the new vaccines supported by Gavi, the Vaccine Alliance (pentavalent and pneumococcal conjugate vaccines). Vaccines for supplementary immunization activities are usually supported by partners.
Noncommunicable diseases

Noncommunicable diseases
Mental health and substance abuse
Violence and injury
Disabilities and rehabilitation
Nutrition
Noncommunicable diseases

- A noncommunicable diseases and mental health unit has been established at the federal level in the Ministry of National Health Services, Regulation and Coordination.
- At the Institute of Psychiatry, 15 districts have successfully incorporated mental health services in primary health care.
- The first comprehensive legislation on disabilities, the National Disability Bill, has been drafted.
- In association with the provincial governments, efforts for the control of malnutrition, food fortification and improving treatment facilities at the community and facility level have been strengthened.

Noncommunicable diseases

The burden of noncommunicable diseases is responsible for 50.5%, of all deaths: cardiovascular diseases account for 18.7%, cancers 7.6%, respiratory diseases 6.4% and diabetes mellitus 3.0% (8). As a result, 21% of adults aged 30–70 years are expected to die from the four main noncommunicable diseases (9). More than 10.7% of adolescents (13–15 years of age) currently use a tobacco product (13.3% of boys, 6.6% of girls), while 21.0% of youth (15–24 years) have been exposed to tobacco smoke at home (10). Per capita consumption of alcohol among adults is 0.1 litres of pure alcohol (11). The prevalence of insufficient physical activity in adolescents (11–17 years of age) is 88.2% (87.3% of boys, 91.1% of girls); the age-standardized prevalence is 24.0% (18.5% of males, 29.7% of females) (12). Raised blood pressure affects 25.2% of the adult population aged over 18 years (25.6% of males, 24.8% of females), and obesity affects 5.5% of the population (3.3% of males and 7.8% of females) (9). Only one of 11 essential medicines for the treatment of noncommunicable diseases is available in the public health sector; this is the lowest rate in the Region.

The government has promulgated the Prohibition of Smoking and Protection of Non-smokers Health Ordinance 2002, ratified the Framework Convention on Tobacco Control, introduced pictorial health warnings and created 100 indoor, smoke-free environments. A noncommunicable diseases and mental health unit has been established at the federal level in the Ministry of National Health Services, Regulation and Coordination. The federal government is now working in coordination with all the provinces and regional governments to establish similar noncommunicable diseases structures and named focal persons in order to move ahead with the development of action plans for noncommunicable diseases and mental health. The government has taken a number of measures to strengthen the health system in order to prevent and control noncommunicable diseases. For example, a stepwise
survey has been conducted in different provinces, which will provide a solid base for the planning and implementation of control and preventive measures for noncommunicable diseases. Similarly, lady health workers have been given apparatus to routinely check the blood pressure of their clients, the involvement of community health workers in baseline measurement of weight, and encouraging them to adopt healthy lifestyles are some of the health system responses aimed at the prevention of noncommunicable diseases. The government is determined to take adequate measures at national and provincial levels to prevent and control noncommunicable diseases, taking into account the regional framework of action.2

Mental health and substance abuse

Neuropsychiatric disorders are estimated to contribute 11.9% to the burden of disease (13), and the suicide rate is 9.3 per 100 000 per year (14). Annual prevalence of cannabis use is 3.9%; for opiates the figure is 0.7%; estimated prevalence for substance use disorders among adult (15 years and older) males is 0.8% and among females is 0.1% (15).

Both incidence and prevalence of mental disorders are steadily rising against a background of growing insecurity, economic instability and terrorism. The situation, with the massive increases in health problems and limitations in the provision of services in the health sector, has resulted in a growing gap between what is urgently needed for intervention and the resources available. Prior initiatives that have been adopted to address this gap include the efforts to incorporate mental health services in primary health care, which plays a structural role in the health care system. At the Institute of Psychiatry, 15 districts have successfully incorporated mental health services in primary health care. These pilot districts have served as models for other parts of South East Asia and, from a global perspective, have played an important role in policy-making and decision-making.

In order to move ahead with the development of noncommunicable diseases and mental health action plans, the establishment of a noncommunicable diseases and mental health unit at provincial level will allow enforcement of the multi-sectoral plan of action to achieve the goal of “25 by 25” and “30 by 25”, i.e. reducing the burden of noncommunicable diseases in those older than 30 years by 25% by 2025. In addition, focus should be placed on adopting the global framework to track progress in preventing and controlling major noncommunicable diseases such as cardiovascular disease, cancer, chronic lung diseases and diabetes and their key risk factors, as well as the effective implementation of the WHO MPOWER strategies to reduce the prevalence of tobacco use by 30% by 2025.

Violence and injury

The proportion of deaths caused by injuries in 2012 was 11.2%, of which unintentional injuries accounted for 79.3% (the leading causes were 25.5% due to road traffic injuries and 9.7% as a result of falls) and 20.7% were due to intentional injuries (43.3% as a result of self-harm and 36.8% as a result of interpersonal violence) (8). In 2010, the estimated road traffic fatality rate was 17.4 per 100,000 population (16). There is no universal emergency access telephone number for post-injury trauma care, however, 11–49% of the seriously injured are transferred by ambulance (16).

Laws exist for most key road safety risk factors but need further strengthening along with adequate enforcement. Specialized national emergency care training is given for doctors but not for nurses. Capacity-building in emergency medicine needs to cover all those involved in the provision of care. There is a need to scale up the trauma system assessment undertaken in collaboration with WHO in Sindh to identify and address existing gaps and improve services. Challenges include the inadequate financial and human resources, especially with competing health priorities, the fragile security situation and the inadequate coordination at national level since devolution.

The commitment of the government is demonstrated in the development of multisectoral plans for the prevention of violence and injury and with the establishment of a designated unit with the Ministry of National Health Regulations, Services and Coordination. This political commitment should be used to strengthen work across all provinces for more coordinated national action.

Disabilities and rehabilitation

The prevalence of disability is 2.5% (17). The types of disabilities and difficulties include: physical 18.9%, visual 8.1%, intellectual 7.6%, mental 6.4%, speech and hearing 7.4% (17). Multiple disabilities constitute 8.2% of all disabilities (17).

The UN Convention on the Rights of Persons with Disabilities was signed in 2008 and ratified in 2011. The Directorate General of Special Education, Social Welfare, Child Welfare and Development is the national focal institution on disability matters. The country has had a national policy for persons with disabilities since 2002. Patterns of disability in the country are influenced by trends in health conditions, environmental trends, and other factors such as road traffic accidents, natural disasters, conflict and malnutrition. The rates of disability are increasing due to population ageing and increases in chronic health conditions.

The first comprehensive legislation on disabilities, the National Disability Bill, has been drafted by the Ministry of Health with support from WHO and in consultation with all stakeholders; it has been submitted to the federal and provincial governments for enactment.
Federal and provincial consultative consensus-building workshops are being organized to endorse the bill and develop disability strategies. The model disability survey is also being carried out in in Punjab in collaboration with WHO.

A consensus will soon be reached on the proposed draft legislation, enabling it to secure government approval before being considered in the provincial assemblies. Subsequently, efforts will be made to ensure that the law is implemented.

**Nutrition**

The estimated prevalence of various forms of malnutrition conditions in children under 5 years is summarized in the following indicators: 31.6% underweight, 10.5% wasting, 3.3% severe wasting, 45.0% stunting and 4.8% overweight (18). The prevalence of anaemia in women of reproductive age (15–49 years) was 26.0%. Initiation of breastfeeding within one hour of birth is 18.0%; 5.3% of children under 6 months are exclusively breastfed; and low birth weight is 25.0% (19).

Effective interventions are being implemented under the national acceleration plan for Millennium Development Goals 4 and 5, and multiple emergency and development interventions are in place in the country to improve the nutritional status. Extensive programmes have been developed for acute malnutrition, with most of the provincial governments having approved plans; this is in addition to partner support for malnutrition by the community-based management approach to severe acute malnutrition. The surveillance system and growth monitoring are areas that need to be strengthened. The promotion of breastfeeding is implemented through the infant and young child feeding practices. A multisectoral approach has been adopted and action plans developed by the provinces; further provincial strategies are also being formulated. The country is a member of the scaling up nutrition movement, and is rapidly involving different partners and groups for the improvement of nutrition in the country. In association with the Planning Commission and the provincial governments, the Ministry of National Health Services, Regulation and Coordination has scaled up its efforts for the control of malnutrition, food fortification and improving treatment facilities at the community and facility level.

The focus will be on the implementation of rehabilitation and recovery nutrition activities, including infant and young child feeding and the treatment of severe or moderate acute malnutrition in remote areas and areas accommodating internally displaced persons.
Promoting health across the life course

Reproductive, maternal, newborn, child and adolescent health

Ageing and health

Gender, equity and human rights mainstreaming

Social determinants of health

Health and the environment
Promoting health across the life course

- Increasing political commitment to maternal, newborn, and child health is reflected in the recently endorsed national vision for coordinated priority actions to address challenges of reproductive, maternal, newborn and child health and nutrition: ten years to better health (2016–2025).

- The government designed a national policy for the health of the elderly.

- Capacity-building efforts targeted health professionals and service providers on gender-based violence and national treatment protocols for gender-based violence are now available for implementation.

- The government endorsed the WHO regional strategy on health and environment and framework of action 2014–2019; and implementation was initiated for lowering the burden of environmental risks on health.

Reproductive, maternal, newborn, child and adolescent health

The maternal mortality ratio declined between 1990 and 2015 from 431 to 178 per 100,000 live births (20) and the under-5 mortality rate decreased from 139 to 81 per 1000 live births (21). The leading causes of under-5 mortality are acute respiratory infection (17.0%), diarrhoea (11.0%), prematurity (19.0%) and intrapartum-related complications (13.0%) (22). The proportion of women receiving antenatal care coverage (at least one visit) is 73.1%, and is 36.6% for at least four visits (19). Unmet need for family planning is 25.0% and the prevalence rate for contraceptives is 27.0% (22).

The leading causes of maternal mortality are still postpartum haemorrhage, eclampsia and sepsis. The neonatal mortality rate has been stagnating for the past 3 decades, warranting more focus on newborn babies at a high risk of dying from maternal or environmental causes. Increasing political commitment to maternal, newborn, and child health is reflected in the recently endorsed national vision for coordinated priority actions to address challenges of reproductive, maternal, newborn and child health and nutrition: ten years to better health (2016–2025). Following on from the maternal, newborn and child health acceleration plan (2014–2015), and aligned to global initiatives, this 10-point vision aims to provide overarching strategic guidance with regard to key actions to be undertaken by national and provincial stakeholders. Provincial ministers and secretaries of health have
committed to supporting and overseeing the implementation of the national vision. The main challenge impeding further reduction of maternal and child mortality are insecurity and the countrywide maldistribution of the limited human resources in the health sector; a shortage of female doctors and paramedics at the primary health care level, and of skilled birth attendants at the community level; inequitable access to care; low quality of interventions and limited capacity in planning, management and evaluation; the cultural and geographic isolation of women; and poor access to improved drinking water and sanitation.

There is a need to support the delivery of quality services; build capacities to improve managerial skills and ensure security of lifesaving medicines, commodities and equipment; ensure equitable distribution of human resources with community outreach; target evidence-based, cost-effective and community-based interventions promoting education and mobilization; and encourage supportive supervision, monitoring and evaluation. A sound strategy on human resources is needed to fill the gap at primary care level along with improving the quality of training programmes.

Ageing and health

Life expectancy at birth rose by 8.3% between 1990 and 2012 (from 60 to 65 years) (22). In 2010, the ageing population above 60 years represented 6.4% of the total population (23).

Despite the high disease burden due to communicable and noncommunicable diseases, the country has succeeded in increasing the lifespan of its citizens, a fact clearly evident by the rising ageing population. The government designed a national policy for the health of the elderly in 1999. This comprehensive policy included training primary care doctors in geriatrics, the provision of domiciliary care and dental care and a multi-tiered system of health care providers for the elderly, including social workers and physical therapists. “Green slips” for prescriptions were also devised. The implementation of this policy is still pending. Limited data are available on health and related issues concerning the geriatric population.

Programmes on geriatric medicine will have to be developed to train health care providers in the appropriate management of the common health problems of the ageing population. Data gaps also need to be addressed to ensure effective planning and response for existing needs. In addition, the momentum that will be created during the launch of the World report on ageing and health in October 2015, and the related global strategy and action plan, could help streamline the national strategy and national efforts.
Gender, equity and human rights mainstreaming

The country falls in the lowest group for human development, ranking 127 among 152 countries in terms of gender inequality (24). Female adult (above 15 years of age) literacy remains low at 42.0% (2011) (25) and participation in the labour force is relatively low at 24.4% (26).

Gender inequalities and human rights violations encompassing health are key barriers to achieving optimal health outcomes, equity and health for all. Women and girls face discriminatory situations in terms of health care access; these include social and cultural norms, proximity of public health facilities and low investment of family resources in health care for women and girls. Other related issues include decision-making in relation to health; gender-based violence targeting women and girls, such as spousal violence faced by a large proportion of married women; physical violence during pregnancy; child marriage; and teenage pregnancies. Gender equity and human rights mainstreaming in health is designated as a cross-cutting strategy in all health programmes and is also selected as one of the strategic areas for the One UN Programme II. Capacity-building efforts have targeted health professionals and service providers, and national treatment protocols for gender-based violence are now available for implementation. Challenges include the inadequate financial and human resources, especially considering the competing health priorities; lack of sociocultural acceptance of the actions taken; the fragile security situation; and the inadequate coordination at national level after devolution.

There is a need to work for the integration of gender, equity and rights in existing health programmes and initiatives, including data, capacity-development, programmes, policies, strategies and action plans. This could be a feasible way to tap existing resources and work through programmes that have sociocultural acceptance within the community.

Social determinants of health

The Human development report 2014 ranked the country at 146 out of 187 countries across the world on the human development index (24). The urban population increased between 1990 and 2012 from 30.6% to 37.4%, while access of the rural population to improved water sources increased from 80.8% to 89.0% (26). In 2010, the age group 0–24 years accounted for 57.0% of the total population (23). The adult literacy rate in 2012 was 55.0% (27). The overall unemployment rate was 5.1%; and for youth (15–24 years) it was 8.2% (26).

Challenges include insufficient financial resources and inadequate human resources, especially in view of the competing health priorities, the fragile security situation and poor coordination at national level after devolution.
There is a need to advocate for prioritization of social determinants in health planning, with practical actions being taken for their operationalization in existing health programmes.

Health and the environment

It is estimated that 318 400 people a year die as a result of environmental factors, and the proportion of disability-adjusted life years attributable to the environment is estimated at 22.0% (28). Access to improved sanitation facilities is 48.0% while access to improved drinking-water is 91.0% (22), resulting in 36 127.2 deaths in 2012 due to inadequate access (29). It is estimated that 62.3% of the population uses solid fuels (biomass for cooking, heating and other usages) (30), resulting in an estimated 56 000 deaths per year as a result of indoor air pollution (31).

Environmental degradation and challenges (related to air, water, food, soil and coastal waters) continue to increase. Three significant causes of environmental degradation have been identified: air pollution makes up half the total damage, inadequate water supply, sanitation and hygiene account for a third and soil degradation accounts for the remaining damage. The government has been working on strengthening national capacity for preparedness and response to environmental emergencies related to climate, water, sanitation, chemicals, air pollution and radiation, as well as access to health care during earthquakes and landslides, disasters that are partly attributable to the environment. The government endorsed the WHO regional environmental health strategy and framework for action 2014–2019, and initiated a national multi-stakeholder process to develop provincial strategic environmental health frameworks for action in 2015–2016.
Health systems

National health policies, strategies and plans

Integrated people-centred health services

Access to medicines and health technologies

Health systems, information and evidence
Health systems

- The Ministry of Health Services, Regulation and Coordination has been created.
- Primary health care services are provided through a well-established infrastructure of over 7500 first level care facilities and outreach services in the public sector.
- The National Health Information Resource Centre (NHIRC) has been mandated under the Ministry of National Health Services, Regulations and Coordination through notification.

National health policies, strategies and plans

The country’s national health planning cycle is addressed in the national health policy of 2009. Total per capita expenditure on health at the international exchange rate increased between 2005 and 2013 from US$ 22.0 to US$ 36.9, of which general government expenditure on health increased from US$ 5.1 to US$ 13.6 (32). General government expenditure on health as a proportion of total expenditure on health also increased during the same period from 23.3% to 36.8%; however, total expenditure on health as a proportion of gross domestic product decreased from 3.2% to 2.8% (32). In addition, the health financing system is characterized by a high share of out-of-pocket spending at 54.9% in 2013, although this is a decrease from 2005 when it was 66.2% (32). Total expenditure on health from external sources increased during the same period from 4.3% to 6.9% (32).

The health system has been devolved to eight federal units (provinces and administrative areas) through the 18th constitutional amendment of 2010, whereby strategic planning also became a provincial responsibility. Five out of the eight federal units have developed health strategies. The key strategic directions of these provincial health strategies are: to improve access to healthcare, availability of an adequate health workforce, efficient health sector governance and accountability, credible and fully functioning health information systems, optimized healthcare financing through fiscal responses to reduce out-of-pocket expenditure, and ensuring an uninterrupted supply of quality essential medicines and health technology. However, the provincial health departments are beset with numerous problems such as structural fragmentation, scarcity of resources, inadequate capacity to manage the devolved structure and institutes, a lack of functional specificity, and gender insensitivity.

A new ministry, the Ministry of Health Services, Regulations and Coordination, was created and is in the process of strengthening itself. The Ministry and the provinces need to agree upon their roles and responsibilities. The Ministry is in the process of developing a national health vision and policy document in consultation with the provinces. Out-of-pocket expenditure is very high and the government has announced a social health
insurance scheme to reduce it and safeguard against catastrophic expenditure. Discussions are ongoing regarding the roles of the federal and provincial authorities in the proposed scheme. Raising health high on the social sector agenda of the government in order to increase allocations to health and advocate for the role of health in economic growth and development should be seen as a priority, along with strengthening the stewardship role of the Ministry of National Health Services, Regulation and Coordination to effectively undertake federal health functions and improve interprovincial coordination. Additional activities should include developing a vision and strategy for moving towards universal health coverage by improving coverage and access to the essential health services package, introducing innovative financing schemes, building partnerships with the for-profit and non-profit private health sector, and developing an appropriate regulatory framework.

Integrated people-centred health services

Health service delivery data showed the density of health posts decreased between 2010 and 2013 from 3.13 to 2.98 per 100 000 population) (33). The density of hospitals was 0.53 per 100 000 population in 2013; for provincial hospitals the figure was 0.08, and for specialized hospitals 0.1 (showing no change since 2010) (33). In 2010 there were 6.0 hospital beds per 10 000 population (33). The density of human resources for health increased between 2005 and 2010, for physicians from 8.0 to 8.3 per 10 000 population; nurses and midwives increased from 3.0 to 5.7 per 10 000 population. In 2010, the density of dentists was 0.6 per 10 000 population (34) and in 2011 the figure for psychiatrists working in the mental health sector was 0.19 per 100 000 population (35).

Primary health care services are provided through a well established infrastructure of over 7500 first level care facilities and outreach services in the public sector. All vertical primary health care programmes were also devolved following the 18th constitutional amendment. Two provinces (Punjab and Khyber Pakhtunkhwa) have recently developed and approved an integrated package of services comprising the maternal, newborn and child health, immunization, nutrition and population welfare programmes. More than 100 000 lady health workers provide primary health care services at the doorstep for rural and slum urban areas. Hospital and curative care is the predominant form of health care delivery in terms of both access by the people and financial allocation by the government. Data on access to the health services in terms of distance to the nearest health facility in rural areas indicate that the situation is generally better in the rural population of Punjab, with three-quarters of the population having access to a hospital or dispensary within 10 km, compared with two-thirds in Sindh, an estimated 60.0% in Khyber Pakhtunkhwa and a little over a third in Balochistan. An estimated 50% of the population in Sindh has access to a private doctor within 10 km, compared with more than two-thirds in Punjab. Given its low population density, Balochistan suffers most in terms of access to health facilities. The performance of the public health system is marked by low utilization rates and inadequate
institutional frameworks for outsourcing health services. Quality and safety of care are major challenges for public and private health care providers at primary health care and hospital levels. The global health initiative supports health system strengthening as a national health strategy and plan, and promotes integrated service delivery. There are no federal or national human resources for a health development policy. However, human resources for health profiles have been compiled by three provinces and this will help in the development of the respective provincial human resources for health strategies. A human resources for health strategy for Sindh province has now been drafted and is awaiting cabinet approval.

In view of the devolution of power in the country, it is essential to strengthen the capacity of the provincial health departments, supported by the district health offices, to effectively deliver essential health services to the population and introduce innovative financing schemes to cover the poor. Improving the quality of care through the adoption of service standards, investments in health infrastructure and human resources development should be a priority. Considering the emergency situation in different parts of the country, it is crucial to enhance the capacity of the health system in disaster preparedness and response through an integrated approach.

Access to medicines and health technologies

Access to medicines is very poor; two-thirds of the population lack access to essential medicines and the remainder are subjected to non-evidence-based procurement and supply chain management that leads to over- or under-stocking of key medicines; non-robust, price-based selection methods which have been found to pay up to twice the market price for essential medicines; and unsatisfactory storage facilities. Non-availability of essential medicines is one of major reasons for the low utilization of public health care facilities. Medication errors lead to non-adherence to treatment protocols, which contributes to the increased trend towards irrational drug use and antimicrobial resistance. Devolution of the system to the provinces has resulted in a greater need to strengthen weak provincial capacities in medicine and medical devices regulation; quality control, quality assurance; counterfeiting; and policies related to medicines, traditional medicines, vaccines, blood products and medical devices. Quality as well as regulation need to be harmonized with international standards at all levels. There is a huge price difference between innovator brands and branded generics.

The establishment of the Drug Regulatory Authority under the Ministry of National Health Services, Regulations and Coordination and the Punjab Healthcare Commission can help consolidate and reorganize federal functions and engagement with the provinces. It will also support government commitment to increased accountability, transparency and responsiveness; the increasing role of nongovernmental organizations working in health as think tanks, advocates and providers of health care; and the commitment of development partners to support health. Ongoing assessment of transparency and vulnerability to corruption is needed in the pharmaceutical sector.
Health systems, information and evidence

To improve evidence-based decision-making, a facility-based district health information system has been developed and implemented after training facility staff in 131 of the 140 districts in the country. Under this arrangement, about 13,000 health facilities, including peripheral primary care facilities (both rural and urban) and district hospitals, report regularly on a standard set of disease and other priority indicators. Similarly, nearly 100,000 lady health workers gather community-based data from their catchment areas. The Demographic and Health Survey 2013 has been finalized. Several health system assessments were conducted by the Technical Resource Facility across the country during 2010–2011 and in all districts of Punjab during 2014–2015. The National Health Information Resource Centre was notified under the Ministry of National Health Services, Regulation and Coordination in July 2015.

Improving health information systems to ensure timely, accurate, updated information and encouraging operational research to support the decision-making, planning and monitoring processes is a priority. Although the district health information system has been developed in all provinces and is working quite well to provide routine health statistics, this flow of information is only functioning at the provincial level. Since devolution, the flow of district health information system data from the provinces to national level (National Health Information Resource Centre) has ceased. There is a dire need to renew this data flow linkage to make data available for reporting at national and international levels.
Preparedness, surveillance and response

Alert and response capacities

Epidemic and pandemic-prone diseases

Emergency risk and crisis management

Food safety

Poliomyelitis eradication

Outbreak and crisis response
Preparedness, surveillance and response

- A disease warning surveillance system, with alert generation and response components along with surveillance and weekly reporting of 17 priority diseases, is being implemented in the country.

Alert and response capacities

The government has asked for a second extension (to June 2016) to meet its International Health Regulation (IHR) 2005 obligations, and is committed to implementation.

In 2014, laws, standard operating procedures and guidelines are in place at national, provincial and institutional levels. A similar situation exists for entry points: rules have already been framed for air and sea ports, which also need amendment and renewal in accordance with the IHR. The draft legislation for the implementation of the IHR, the National Public Health (Surveillance and Response) Act 2010, needs certain amendments in the wake of decentralization under the 18th constitutional amendment, and is now being revised for necessary approval from the Cabinet. Passive reporting of selected health events, including 17 communicable diseases, is under way through the district health information system. A disease warning surveillance system, with alert generation and response components along with surveillance and weekly reporting of 17 priority diseases, is being implemented in the country, primarily with WHO assistance.

A number of initiatives have been undertaken by the government to build upon the existing systems and mechanisms to implement IHR 2005. To enhance coordination and better communication with stakeholders involved in IHR implementation, the Ministry of Health Services, Regulations and Coordination has notified the field epidemiology and disease surveillance division at the National Institute of Health. A national task force for the implementation of IHR has been notified by the Ministry of Health Services, Regulations and Coordination to steer and monitor the IHR implementation process. The task force has representation from all relevant health and non-health stakeholders Disease surveillance and response units have also been notified in four provinces, and another three units are being established. A federal diseases surveillance and response unit has also been established at the National Institutes of Health. In collaboration with WHO, the Ministry of Health Services, Regulations and Coordination has initiated the process of developing national policy for the health laboratories, aimed at strengthening the public health testing capacities at the provincial and regional levels through the following initiatives:
• full operationalization of the field epidemiology and disease surveillance division at the National Institutes of Health, along with the provision of the requisite resources and logistic support to maintain continuous liaison with all national and international stakeholders;

• notification of appropriately qualified and experienced professionals in disease surveillance and public health laboratories as national contact points to coordinate with the Ministry of Health Services, Regulations and Coordination and other provincial and national counterparts, as well as WHO;

• nomination and capacity-building of provincial and area focal persons for disease surveillance and response and IHR; similarly, contact points in other line ministries such as food security, environment, communication, interior, finance, etc.;

• establishment of a core group with provincial representation to assess IHR core capacities and facilitate the development and implementation of an action plan for enhancing the specific core capacities required;

• the Directorate of the Central Health Establishment to draw up and implement a comprehensive plan to strengthen capacities at points of entry following the recommendation of the WHO assessment mission;

• pursuing draft legislation and the necessary approval from Parliament to support public health surveillance in light of the 18th constitutional amendment;

• establishment of a network of public health laboratories to undertake public health testing for priority diseases;

• taking concrete steps towards the global health security agenda on prevention of antimicrobial resistance and zoonotic diseases, and biosafety and biosecurity as priority areas.

The mechanisms for effective risk communication during a public health emergency exist, however, they need further strengthening.

Epidemic and pandemic-prone diseases

The major gap in the public health system in regard to detection, prevention and control of epidemic and pandemic-prone diseases is the absence of an inclusive national public health surveillance system. In the absence of such a system, the disease early warning system established with the assistance of WHO in 2005 is the only system existing in the country for monitoring public health threats, the sustainability of which is dependent upon funding from external donor agencies. The devolution of health systems to the provincial level is
another deterrent to an effective system for timely detection and response to epidemic-prone diseases. The country remains endemically vulnerable to dengue fever, cholera, hepatitis caused by hepatitis E virus, and Crimean–Congo haemorrhagic fever.

For continuously monitoring the threats of both endemic and epidemic-prone public health problems in the country, priority should be given to establishing a nationwide integrated disease surveillance system as part of a strengthened public health system. This system would be able to drive and support a national strategic plan. It would also be evidence-informed, drawing on intersectoral and cross-disciplinary leverage for the control of common and emerging health problems. A control programme for influenza and antimicrobial resistance should be embedded into this national strategic plan for the control of epidemic and pandemic diseases.

Emergency risk and crisis management

The country is susceptible to both natural and man-made disasters that cause significant loss of life, livelihoods and infrastructure, reversing development gains. The annual loss attributable to natural disasters (based on data from 1994–2013) was on average 457.0 deaths, or 0.31 per 100 000 inhabitants. Losses in purchasing power parity were US$ 3988.9 million and losses to gross domestic product amounted to 0.77% (36).

The country has suffered from decades of internal conflicts. This is further compounded by recurrences of disasters in recent years – the earthquake in 2005, and floods in 2007, 2010, 2011 and 2012. Internal conflicts are most prominent in the Federally Administered Tribal Areas and Khyber Pakhtunkhwa. Several military operations have been carried out in various geographical areas within this region; as a result the north-western areas of Khyber Pakhtunkhwa and the Federally Administered Tribal Areas have experienced major displacements of populations since 2008. The recent change in governance has also posed extra challenges to the country’s capacity development for emergency preparedness and response.

The country has prioritized the following in scaling up emergency preparedness using the risk management approach: promoting health sector coordination mechanisms at national, provincial and district levels to facilitate joint action on risk reduction, response and recovery by the various health and non-health actors (including the disaster risk management programme under the One United Nations joint programme); establishing and strengthening institutions (notably the health emergency preparedness and response networks) at national and provincial levels; preparedness and planning for effective response, including response planning, pre-positioning of health supplies, development of surge capacity for health care professionals and other emergency service personnel (mass causality and fatalities management planning); and community-level capacity development through information, education and risk communication for households and communities.
at risk to promote healthy behaviours that will reduce risks and prepare for disasters. The country is a pilot country for the One United Nations approach. Under this approach, the country has launched a capacity development project in Dera Ismail Khan province to address community vulnerabilities.

There is a need for a thorough assessment of all capacity development initiatives, including the health facilities, to harmonize the approach with the all-hazard multisectoral emergency risk management in policy and planning.

**Food safety**

The country has decentralized food safety to state level administrations as part of a major administrative reform.

The establishment of a central federal food safety unit is recommended in order to coordinate and regulate uniform food safety enforcement throughout the country. In addition, each federal state will need a fully functional food safety unit. There is also a strong need to review and update the food safety legislation of the country to match the new structure and incorporate new aspects of food safety.

**Poliomyelitis eradication**

The country contributed 85% of the global case load in 2014 (306 cases) and has reported nine of out the 10 cases, so far in 2015 (37). The challenges are unique, particularly the killing of polio workers and the escorting police officers (more than 60 have been killed since July 2012) and inaccessibility due to the ongoing conflicts. Moreover, significant numbers of children are being missed due to governance, accountability and management issues. In 2015, the endemic transmission of polio is mainly restricted to three geographically distinct, well defined transmission zones in the Federally Administered Tribal Areas, Khyber Pakhtunkhwa and Karachi. The increase in polio cases in 2014 was the result of a ban on vaccination in North and South Waziristan Agencies in the Federally Administered Tribal Areas as well as barriers to vaccination, including insecurity in key transmission areas. The government and its partners are cognizant of the fact that global polio eradication hinges on the progress in the country. A robust low transmission season plan has been developed, and emergency operation centres have been established at the federal and provincial levels to track and monitor the implementation of the low transmission plan. In its recent meeting (February 2015) in Islamabad, the Technical Advisory Group concluded that the challenges are unique but they could be overcome with strong resolve and commitment of the government and its partners, and the country could be in a strong position to eradicate polio if the plan is implemented properly.
Full and synchronized implementation of the low transmission season plan and establishing a strong framework to monitor implementation by the emergency operation centres in Islamabad and at provincial levels to reach every child anywhere in the country are the essentials to stop poliovirus transmission in the country.

Outbreak and crisis response

The national health emergency preparedness and response network and its provincial outlets steer and lead the health cluster approach during all emergencies. Based on the needs during humanitarian emergencies, the health cluster coordination mechanism is operational at the federal, provincial and district levels. The health cluster is co-chaired by the national health emergency preparedness and response network at the federal level and by the Department of Health at the provincial level. The health cluster meeting at the federal level deals with strategic decisions while all the operational and activity-related decisions are taken at the provincial level. The health cluster provides coordination and technical support to all partners during the humanitarian response in natural disasters and complex protracted humanitarian crises in the northern parts of the country.

In the Federally Administered Tribal Areas and Khyber Pakhtunkhwa, more than 1.6 million people have been displaced as a result of war against militants in the north-western parts of the country. The country has been prone to a number of natural disasters, including earthquakes, floods, drought, landslides, avalanches, glacial lake outburst floods, cyclones, and tsunami hazards. In addition, the country has been subject to internal conflicts and terrorism. Besides the natural calamities, the country is prone to various epidemics of waterborne, vector-borne and vaccine-preventable diseases. In terms of emergency health services delivery, disease surveillance and response has been a priority within the health sector. The most common life-threatening diseases seen during the emergency phase are acute diarrhoea, respiratory tract infections, pneumonia, measles, dengue fever, Crimean–Congo haemorrhagic fever and malaria. In parallel, focus on provision of safe drinking water and sanitation services to affected population across the affected districts still continues to be a key priority. The cluster coordination mechanism already in place at national, provincial and district levels will continue to facilitate coordination and support functions; provide technical support to field operations; respond to outbreak alerts; provide necessary logistical cover to ensure the procurement and distribution of medicines, medical supplies and equipment; and supervise and manage health facility restoration activities in districts identified as priority for early recovery and rehabilitation. The health cluster has set up an effective and efficient mechanism of coordination whereby the health partners share and map the information, produce situation reports and a “who is doing what and where” matrix. The information is used to identify the gaps and plan the response activities. In late 2014, the government began scaling up its preparedness for Ebola virus disease by assessing and measuring the level of preparedness and readiness for using the WHO assessment checklist and accordingly identifying critical gaps for improvement.
Demographic profile

Population pyramid 2010

Estimated population in 2010: 173 149 310

Population pyramid 2050

Projected population in 2050: 8 906 480

Total fertility rate

Need for family planning satisfied

Dependency ratio

Life expectancy at birth

Source for all graphs: (23)
Analysis of selected indicators

General government expenditure on health as % of general government expenditure (32)

Out-of-pocket expenditure as % of total health expenditure (32)

DPT3/pentavalent coverage among children under 1 year of age (%) (7)

Measles immunization coverage (%) (7)

Under-5 mortality (per 1000 live births) (21)

Maternal mortality ratio (per 100 000 live births) (20)
References


