# Universal health coverage in Pakistan: exploring the landscape of the health system, health seeking behaviours, and utilization of health services

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## Summary

**The attainment of the noble objective of Universal Health Coverage (UHC)- 'leaving no one behind' necessitates sufficient financial resources, an ample supply of skilled healthcare professionals, and the availability of essential services as part of a basic package This paper presents an analysis of the health system, health seeking behaviours and health service utilization *en route* to UHC in Pakistan. We have used the UHC 14 tracer indicators of service coverage to see where Pakistan stands, what are the gaps and what needs to be done. Pakistan clearly is lagging behind its neighboring countries. The country's health system ought to work on health seeking behaviours and broader determinants of health. The pursuit of UHC demands a shared responsibility and collective action, with stakeholders from different sectors uniting their efforts and expertise. Together, they can establish robust systems, design comprehensive policies, allocate adequate resources, and implement interventions that transcend disciplinary boundaries.**



Keywords: Health coverage; Health indicators; Human resources for health; Inter-sectoral action; Primary health care; Social protection; Social determinants

## Introduction

The notion of 'Universal Health Coverage (UHC) was introduced by the World Health Organization (WHO) member states in 2005.[1] However, the vision and spirit of UHC was first substantiated by the WHO founding constitution, which stipulated health as a universal right and recognized in its constitution in 1948.[2] In 2015, during its 70th session, UN General Assembly resolved to achieve UHC, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all, as part of the sustainable development goal 3 (SDG3) on health and wellbeing.[3] Timely access to health services, which include a mix of promotion, prevention, treatment and rehabilitation, is critical. This cannot be achieved without a well-functioning health system with adequate financing, human resource, availability of minimum package of essential services, and certain level of responsiveness to the needs of the people seeking care.[4] Recognizing this, member states of the WHO committed to developing their health financing systems so that all people have access to services and do not suffer financial hardship paying for them.[5] Health system, therefore, needs to be strengthened from all aspects and not only focusing on the service delivery alone.[6]

The Government of Pakistan is committed to achieving the targets of UHC outlined in SDG3.8. In this regard, an essential health services package has been developed for each level of care,[7] whereby provincial health departments have taken the lead in developing the health programs to ensure social equity.[8] The National Action Plan of 2019–2023 reiterates the importance of achieving UHC by implementing strategic actions for improved governance, health financing, access to essential health services, human resources, quality of care, and evidence based decision making.[9] Priority has been given to implement community, primary health care and population level interventions. However, it is also a fact that Pakistan's per capita health expenditure is far below the cost estimates projected for accessing basic health services.[10] The government must continue and sustain the safety nets to protect its vulnerable population against the financial risks of ill health, as mandated in the UHC agenda. In Pakistan, major portion of all new entrant in poverty are because of catastrophic health expenditure, which accounts for more than 60 percent spending on health of a family.[11] The Government of Pakistan has recognized health as a public good and must uphold its pledge that no one should fall into poverty because of out of pocket healthcare expenses, and hence a health insurance program was launched in 4 out of 6 provinces/regions of the country giving coverage to around 154 million

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people.[12] Nevertheless, the progress towards UHC will be directly linked to the health care seeking behaviours of individuals, families and communities, which are influenced by personal knowledge and attitudes, family environment, community's cultural prescriptions, practices and perceptions, and a society that is free of taboos.[13] Moreover, a political and legislative environment is essential to create opportunities for them to practice and sustain desired behaviours. Poor health conditions, limited access to primary education, safe drinking water, sanitation and hygiene conditions are some of the challenges being faced by the underprivileged population groups with a per capita income of less than USD2 per day.[14] Neonatal disorders, followed by ischaemic heart disease, stroke, diarrhoeal diseases, and lower respiratory infections were the leading causes of all-age premature mortality in 2019. Child and maternal malnutrition, air pollution, high systolic blood pressure, dietary risks, and tobacco consumption were the leading all-age risk factors for death and disability-adjusted life-years at the national level in 2019. Ischaemic heart disease, stroke, congenital defects, cirrhosis, and chronic kidney disease were among the ten leading causes of years of life lost in Pakistan.[15] This also necessitate health system to function in an inter-sectoral approach, since the determinants of the behaviours are grounded in socio-cultural and politico-economic domains that are crosscutting, reinforcing and helping to sustain the change in behaviours.[16]

This paper presents a descriptive analysis of the health system, health seeking behaviours and health service utilization *en route* to Universal Health Coverage in Pakistan. Since a single health service indicator does not suffice for monitoring UHC, an index is constructed from 14 tracer indicators selected based on epidemiological and statistical criteria. This includes several indicators that are already included in other SDG targets, thereby minimizing the data collection and reporting burden. Many of the tracer indicators of health service coverage are measured by household surveys. However, administrative data, facility data, facility surveys, and sentinel surveillance systems are utilized for certain indicators. Utilizing these UHC tracer indicators, we aim to assess Pakistan's current standing, identify gaps, and propose necessary actions.

To lay the foundation, we extensively searched, reviewed and cited WHO's reports and documentation which affirmed and advocated for UHC. Additionally, we conducted a systematic review of peer reviewed papers on Medline/PubMed using MESH terms such as UHC, health system, health seeking behaviours and health services utilization and were cited accordingly. A total of 4 papers were included in the review which were most pertinent to the 14 tracer indicators of UHC (breakdown of literature for each indicator shown in Table 1). We also incorporated data from national surveys conducted by the Government of Pakistan to capture health indicators. Furthermore, for each of the 14 tracer indicators, we consulted all the government reports and data from the World Bank to conduct a more robust evidence-based situation analysis.

These tracer indicators have been defined for countries to monitor the composite progress towards UHC.[17] These tracer indicators were selected for the index, which included four from within each of the categories of reproductive, maternal, newborn, and child health; infectious disease; and three each from non-communicable diseases; and service capacity and access. Table 2 shows the indicators and situation in Pakistan. It is important to note that urban-rural inequalities, income, education, gender related disparities do exist, but have not been alluded to in this paper.

The most recent data from Pakistan indicates that fundamental health measures, especially concerning women and children, are falling behind the goals set by the Sustainable Development Goals (SDGs).[18,19] The situation regarding nutrition indicators is equally dire, painting a bleak picture of the current state.[20] Among the 14 tracer indicators of UHC, there are some which would necessitate health system's analysis, some would require strengthening health services for better utilization and for others, it would be imperative to understand and act upon the health seeking behaviours of consumers of the health system.

| Tracer indicators of UHC | Papers citations |
|---|---|
| Family planning demand satisfied with modern methods | 4 |
| Antenatal care visits- 4+ visits | 3 |
| Child immunization-Penta 3 | 3 |
| Care seeking behavior for child pneumonia | 3 |
| Tuberculosis effective treatment | 3 |
| HIV treatment | 3 |
| Basic sanitation | 3 |
| Hypertension (Normal blood pressure) | 4 |
| Diabetes (Normal blood sugar) | 4 |
| Tobacco control-nonuse | 5 |
| Hospital beds per 10,000 population against threshold | 3 |
| Essential health workforce density against threshold | 3 |
| Access to essential medicines, vaccines and commodities | 4 |
| Compliance with International Health Regulations | 3 |

*Table 1:* **Tracer indicators of UHC and number of papers cited in each indicator.**

## Health system, health seeking behaviours and health service utilization

### Family planning demand satisfied with modern methods

This indicator stands too low and stagnant due to a variety of reasons, such as a lack of knowledge about the variety, range and choice of birth spacing methods available for both men and women. Those who possess

| S. No. | Category | Tracer indicators and scores for Pakistan |
|---|---|---|
| 1. | Reproductive, maternal, newborn, and child | i Family planning demand satisfied with modern methods (48.6%)<br>ii Antenatal care visits- 4+ visits (51.4%)<br>iii Child immunization-Penta 3 (83.5%)<br>iv Care seeking behavior for child pneumonia (84.2%) |
| 2. | Communicable diseases | v Tuberculosis effective treatment (62.7%)<br>vi HIV treatment (14%)<br>vii Basic sanitation (83%) |
| 3. | Non- communicable diseases | viii Hypertension (Normal blood pressure) (69%)<br>ix Diabetes (Normal blood sugar) (39%)<br>x Tobacco control-nonuse (59%) |
| 4. | Services access and capacity | xi Hospital beds per 10,000 population against threshold (59.3%)<br>xii Essential health workforce density against threshold (54.6%)<br>xiii Access to essential medicines, vaccines and commodities (NA)<br>xiv Compliance with International Health Regulations (42.73%) |

Source: Pakistan: 2023 Universal Health Coverage Monitoring Report, Ministry of National Health Services, Regulations & Coordination and World Health Organization.

*Table 2:* **Categories and related tracer indicators to measure the progress towards UHC (2021).**

such information and knowledge about various methods are often in a state of contemplation due to prevailing myths and misconceptions associated with different contraceptive methods.[14] Additionally, incomplete or incorrect knowledge of the side effects of contraceptives that deters people from adopting any birth spacing method; particularly hormonal methods. There is also a lack of awareness about where these methods are available, beyond the population welfare centers. Disapproval by the family especially in the joint family system and the overwhelming religious dogma also plays a critical role in the decision making for child spacing.[21] Social pressures, poverty, and the need for more earning hands in the family further reinforce the desire have more children, particularly sons.[22] Moreover, interrupted supplies, indecorous counseling skills among service providers, fixed service delivery hours, and disinterested health care staff lacking empathy contribute to the dismal state of affairs.[23]

### Antenatal care visits- 4+ visits

The percentage of women seeking antenatal care has been gradually increasing, however, the number of women completing at least 4 visits (as recommended by WHO) during the antenatal period still remains low.[15] There is a clear lack of knowledge about the importance and need of antenatal care, as well as the aspects to be concerned about during this period. Additionally, there is limited information available on where to seek antenatal care checkup and advice. Consequently, many women still rely on local midwives or traditional unskilled birth attendants.[24] Many women perceive the antenatal care in specific situations and during specific months. Moreover, there is limited family support for seeking antenatal care. The limited operation hours of health facilities, lack of staff and stockout of essential medicines compound the overall grim situation.[13]

### Child immunization-Penta 3

In spite of the national EPI structure, program and campaigns, supported by the development partners, a quarter of children still remain unvaccinated or undervaccinated.[14] Myths and misconceptions about vaccines play a major role in not caring for vaccination for children. Religious dogma also contributes to this scenario. People who are willing to get their children vaccinated, often do not receive enough information on when and where to access vaccination services.[25] Continuous training of EPI staff at both facility and outreach levels, uninterrupted supply of vaccines, and a functional cold chain are the cornerstones of the program. Health system is, however, facing challenges of immunization coverage and access because of one after the other natural and man-made disasters.[26]

### Care seeking behavior for child pneumonia

Pneumonia remains one of the leading causes of under 5 mortality in Pakistan. Lack of awareness about the actual causes, improper recognition of symptoms, underestimation of the severity of disease and its consequences, reliance on traditional medicine, and eventual delay in care seeking are the main reasons at the household and community level.[27] On the service delivery side, lack of pediatric care facilities, dearth of skilled human resource, limited operation hours of the public sector healthcare facilities, dominance of for-profit private health sector, and expensive medicines and diagnostics further exacerbate the gravity of the situation.[13] Strategies should be focused on making pneumonia care standardized, efficient and affordable, especially in the public sector.[28]

### Tuberculosis effective treatment

Pakistan ranks among the top 5 countries globally with highest disease burden of TB. Poverty and malnutrition

are the overarching factors contributing to this burden, However, lack of knowledge of symptoms of the disease and its potential of transmission, delay in seeking care, associated stigma, and unawareness of the availability of free treatment contribute to rising infection rates and drug resistance.[29] It is also a documented fact that many people prefer treatment from the private general practitioners with whom they enjoy a personal rapport, hence strengthening TB services in private sector would be imperative.[30] From the health system's standpoint, limited capacity in the public sector to carry out active contact tracing, inability to ensure treatment compliance, lack of community engagement for spreading awareness about general hygiene and accurate information regarding the disease and its cure, and weak outreach treatment and diagnostic services all affect the overall effectiveness and performance of the TB program.[31]

### HIV treatment

Even more than TB, HIV is tagged with stigma and hence social exclusion. Furthermore, the lack of knowledge about the causes of disease or modes of contracting the disease, unsafe sexual practices and inappropriate behaviours, and lack of knowledge about treatment availability have led the country to become a concentrated epidemic country. The number of cases detected as positive is only the tip of the iceberg.[32] Adding to the gravity of the situation are the complex social networks between the high-risk groups and the general population.[33] Service delivery has its own weaknesses and limitations, including resource constraints, short of human resource, and inadequate testing and treatment facilities. Regulation of medical practice needs to be more stringent to curb the spread of HIV through the unhygienic and septic environment of many private and even government clinics, where infection prevention and waste management are quite sub-optimal.[34]

### Basic sanitation

Lack of basic sanitation facilities for almost one-third of the population potentially leads to many infectious diseases. Poor sanitation practices and behaviours are linked to the transmission of diarrheal diseases such as cholera and dysentery, as well as typhoid, intestinal worm infections and polio.[35] It exacerbates stunting and contributes to the spread of antimicrobial resistance. Moreover, without proper sanitation facilities, waste from infected individuals can contaminate a community's land and water, increasing the risk of infection for other individuals.[36] One effective strategy could be to promote good hygiene habits through education of the school children.[37] Primary healthcare staff and personnel can educate people to improve their sanitation facilities by providing toilets and latrines that flush into a sewer or safe enclosure at the household level. It is a well-documented fact that proper hand washing with soap and water can significantly reduce diarrhea cases.[38]

### Hypertension (Normal blood pressure)

Preference for market foods, high salt intake, sedentary lifestyles and other pressures of life have had significant effect on the population prone to acquiring hypertension.[39] Today, one third of the population including young age groups presents with raised blood pressure.[40] The workforce at the primary healthcare level is not adequately trained for timely screening of such patients and early initiation of treatment, which is important to prevent complications of high blood pressure such as stroke, ischemic heart disease, and kidney failure. Training of the health personnel in multifaceted implementation strategies for hypertension prevention and control is needed to address barriers at the patient, provider, system, and community levels.[41] Moreover, home visits by the community health workers with a backup from the nearest public health facility can help hypertension patients to comply with treatment prescribed and control hypertension.[42]

### Diabetes (Normal blood sugar)

High consumption of sugary drinks, sweetmeats, fast food and sedentary lifestyle has resulted in more than 30% population in diabetic or pre-diabetic state. Similar to hypertension, health seeking behaviour for the diagnosis and treatment of diabetes is poor.[43] Lifestyle changes and regular exercise can help prevent diabetes in many disease-prone segments of the population.[44] Health education, mass awareness and behaviour change communication is missing in the overall health strategies and programming for controlling diabetes at the national level. Primary care physicians must be equipped with skills and training to screen such individuals at early stage so that a large proportion of the population, including the young ones, can be saved from this disease.[45] Lack of physical accessibility to health facilities, inadequate capacity of the healthcare system to manage diabetes, gender disparity and inequity in the health care system are major challenges to be addressed.[46]

### Tobacco control-nonuse

Around 20% of the adults, both men and women, smoke tobacco in one form or another and in spite of the government's ban on the sale of cigarettes and tobacco products to those under 18, we observe early-age initiation of smoking nowadays.[47] There could be an element of peer pressure as well.[48] Smoking carries myths and misconception of relieving stress and anxiety, but more so, its neurophysiological effect of giving a sense of joy and elation.[49] Chewable tobacco and e-cigarettes are also popular these days, and not well regulated from the law enforcement quarters. Social and

behavioral change communication is needed to address the younger generation in order to overcome the influence, pressure, and obligation under which they initiate and engage in smoking, often without realizing its most harmful and fatal effects on health. The implementation of tobacco control law in Pakistan is poor. Non-adherence to the smoking law in public places is alarmingly high and the sale of cigarettes is almost unregulated.[50] Lack of smoking cessation services in Pakistan is perhaps the weakest link in the fight against the tobacco epidemic.[51]

### Hospital beds density

Pakistan has a hospital bed density of 6 per 10,000 population, well below the recommended 25 per 10,000.[52] This situation is alarming given the fast-growing population and the burden of diseases, highlighting the non-responsiveness of the health system. Moreover, the bed density in the intensive care units across the hospitals in Pakistan is also very limited.[53] Low budgetary allocation for infrastructure improvement, poor planning, and competing priorities have contributed to the current state of affairs. COVID pandemic has further alluded to the need for increase in demand for hospital beds as a pre-requisite towards better preparedness of the health system.[54] UHC necessitates increasing coverage and improving access to quality healthcare, and this is obviously a critical gap that needs to be addressed.

### Essential health workforce density

Pakistan has 1 doctor for every 1000 population, far below the recommended 3–4 doctors per 1000 population.[55] Likewise, the country faces acute shortage of nursing staff due to heavy brain drain for greener pastures and better career prospects. Currently, nurse-to-population ratio is 0.5 per 1000, compared to the desired 4 per 1000 population.[56] Population density, treatment seeking behaviours, accessibility issues, and literacy rates should also be considered when projecting the number of health workforce required in a province or area. Moreover, the skill mix of health workforce is critical to confront the shifting burden of disease and transitioning demographic profile.[57] With the present state of affairs, it is challenging for any healthcare system to perform at its optimal level in order to deliver the minimum essential services package.

### Access to essential medicines, vaccines and commodities

One of the three dimensions of UHC is to improve the access to health services, which includes access to essential medicines, vaccines and commodities.[3] Medicines, vaccines and supplies are considered one of the six building blocks of health system strengthening.[6] Studies show that essential and even life-saving medicines are often short in supply, with both clinical as well as financial impact on patients in Pakistan, jeopardizing not only their health but also household expenditure. There are multiple and complex reasons for medicines shortages, ranging from issues with manufacturers, distributors, wholesalers, retailers, disrupting the entire supply chain.[58] The non-availability of medicines and other commodities result in serious risks associated with self-medication, and over-the-counter purchase of medicines, or seeking healthcare from uncertified medical practitioners and quacks.[12]

### Compliance with International Health Regulations

The composite score of Pakistan regarding compliance with the International Health Regulations 2005 is 53, significantly lower than India (78), Bangladesh (67) and Iran (80).[59] The strategic direction of the health sector should bear in mind Pakistan's intention to move towards UHC, as this requirement encompasses many of the capacities needed for International Health Regulations implementation.[60] A robust national public health system in Pakistan is necessary to promptly investigate and analyze reports, assess the magnitude of the public health risks, share real-time information, and implement public health control measures systematically.[61] The need for qualified human resources including doctors, nurses, epidemiologists, etc. must be met to implement the proposed plans. Hence, provinces and regions will need to invest in building these capacities.

## Discussion

Political instability, shrinking macroeconomic growth, combined with rising poverty and civic unrest, are likely to lead to a decrease in the quality, responsiveness, utilization and coverage of health services.[62] In spite of all these odds, the country has shown an increase in UHC services coverage index from 49.9 in 2021 to 52 in 2022.[63] Pakistan has miles to cover for UHC, and fortunately there are high impact practices and models present in the region that can be tested for feasibility and eventually scale up.[64–68] However, the country still lags behind its neighboring countries in UHC score, with India at 61, Sri Lanka at 67, Iran at 77 and China at 82.[69] In this paper, we provide a snapshot of the 14 tracer indicators for service coverage tracked to measure progress towards achieving UHC within the context of SDG 3.8.1. Our analysis of the health system's reveals minimal evidence justifying the country's efforts in safeguarding healthcare for the most vulnerable populations. Transforming primary health care is pivotal for achieving UHC.[70] However, most indicators do not demonstrate significant progress with regard to primary healthcare services, revealing notable gaps in the provision of essential and basic health services. The current service coverage tracer indicators overlook critical dimensions of UHV, such as financial risk protection (SDG 3.8.2) and quality of care, which are critical

dimensions of UHC. Zakat, Bait ul Maal and Employees Social Security Institutions provide safety net to a very small proportion of the population. Social health protection program in the recent past showed a little silver lining,[71] but that too has started dwindling due to political turmoil and economic crisis in the country. Low public financing has led to an overreliance on private providers even for primary care, which implies a significant out-of-pocket expenditure, a push factor behind increasing poverty.[72] Out of pocket expenditure, mostly incurred in the private sector, has soared to 83%, with 2/3rd spent on outpatient services, particularly on purchasing medicines. Nevertheless, UHC agenda of "leaving no one behind" requires a more strategic approach that encompasses the entire population, rather than solely focusing on the poorest individuals, and considering determinants such as education, nutrition and income.[73] To effectively and efficiently address the issues underlying all three dimensions of UHC, it is imperative to implement systematic measures in a) health financing and gradually moving towards strategic purchasing; b) reforming service delivery, thus ensuring availability of essential health services at all levels of care; and c) increasing the coverage of population by simply investing in primary healthcare facilities and community based health workers.[74,75] Henceforward, cross cutting and inter-sectoral actions would be indispensable for achieving UHC, particularly streamlining the private sector in Pakistan. Improving health system, health seeking behaviours and health service utilization would necessitate system's thinking approach. Besides these 14 tracer indicators, it would be imperative to gauge the socio-economic and geographic inequities across provinces and even districts in Pakistan.

**Contributors**

BTS is the sole author of this paper.

**Declaration of interests**

None.

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