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# **Technical Assistance to Federal Ministry of National Health Services, Regulation and Coordination for Preparing Investment in Health**

Health in Pakistan: The case for more - and  
better - health expenditure

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# Executive summary

This paper lays out the case for more and better government health spending in Pakistan, with the vast majority of funding coming from the provincial level. The COVID-19 pandemic reinforces the arguments developed here: the illness has caused severe disruption to both the economy and to health service delivery.

## Ill-health, premature death and health interventions in Pakistan: comparable countries do better

With its high rates of death and illness, Pakistan fares badly in international comparisons of health. Pakistanis tend to die younger and suffer from more ill-health than people in much of the rest of South Asia. Pakistan has high rates of communicable diseases and poor maternal and child health indicators, but it is also experiencing increasing rates of non-communicable disease (NCD). At this time of health transition – from communicable to non-communicable diseases as the main cause of death – the health system in effect has two vital jobs to do, tackling and reducing the persistent problem of communicable diseases, whilst also working on prevention related to NCDs to avoid significant problems with escalating health costs and chronic ill-health in the near future.

Many health service indicators are also low by international standards, including immunisation and contraceptive prevalence. Population growth is exceptionally high.

## Health in Pakistan has improved significantly over recent decades – but too slowly and gradually

Although international comparisons present a bleak picture of health in Pakistan, it is important to note that there have been many improvements in recent decades. For example, child death rates have been gradually reducing. However, progress has been far slower than in many other countries. For example, in 1970 the neo-natal mortality rate (NMR) in Pakistan was lower than in Bangladesh, India and Nepal – now it is the highest out of these four countries. Indeed, Pakistan's NMR is the highest recorded in the world.<sup>1</sup>

DALYs (disability-adjusted life-years) are a summary measure combining premature death and years of ill-health to capture the general level of poor health in a population. DALYs lost per 100,000 Pakistanis declined substantially between 2000 and 2019 – i.e. the overall health of the population improved. However, although health improved per 100,000 population, the overall annual burden of ill-health increased from 89 million DALYs in 2000 to 94.2 million in 2019 because of population growth. When population growth is high, the health system has to work hard just to remain at the same level in terms of the percentage of the population that it reaches.

## Spending on health in Pakistan: too much of it comes directly out of people's pockets

Pakistan spends relatively little on health compared to its Gross Domestic Product (GDP) - 2.9%. The average for lower-middle income countries is 4.0% and 3.5% for South Asia. This is largely because government spending as a whole in Pakistan is very low relative to the size of the economy, and also because only 4.3% of government spending is on health (2017). Moreover, most of the spending on health – 63% in 2016 – comes directly from individuals as out-of-pocket payments. Levels of out-of-pocket spending are not based on relative health need and leave families vulnerable to catastrophic health bills. Not all families which have a pressing need for healthcare can afford it, and some families endure prolonged poverty as a direct result of healthcare bills.

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<sup>1</sup> Estimates developed by the UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UN DESA Population Division). See [childmortality.org](http://childmortality.org).

## The economy: Health can play a stimulating role by improving human capital and decreasing population growth

The Human Capital Index quantifies the contribution of health and education to the productivity of the next generation of workers. A low Human Capital Index means that economic growth opportunities are being missed because of under-investment in health and education. Pakistan currently ranks 134 out of 157 countries on the Human Capital Index; a child born in Pakistan today will be 39% as productive when they grow up compared to their potential if they enjoyed complete education and full health.<sup>2</sup> This indicates that Pakistan's economic growth will remain stifled by its lack of human capital. A key reason for this is found in its poor health indicators – there is a direct link from health service delivery, through human capital, to economic growth.

Pakistan's population is projected to reach 285 million by 2030 and to double in the 30 years from 2018.<sup>3</sup> In contrast, the doubling time is 60 years for the region as a whole – about 40 years in Nepal, 50 in Iran, 60 in Bangladesh and 70 in India.

There are many pressing reasons to reduce population growth: levels of poverty; rising costs of meeting basic needs in health, education, nutrition and productivity skills; stress on the environment and natural resources, including fragile food security; and, crucially, a serious decline in per capita water availability.

A high number of Pakistani couples want to space or limit births, but do not have access to the information and services they need: 17% of married women aged 15-49 had an unmet need for family planning in 2017/8. Universal access to family planning and reproductive health services is necessary to limit Pakistan's population growth, which in turn is a crucial element in promoting development and economic growth. This requires higher levels – and different targeting - of government spending.

Gains in health and fertility management are not only development successes in their own right but are also a necessary contributor (alongside progress with education and nutrition) to accelerating growth in per capita incomes in Pakistan.<sup>4</sup> More and better health expenditure is required if Pakistan is to enjoy the economic benefits of a more productive workforce and slower population growth.

## More – and better - government health spending could make a significant difference

There is a wealth of global and national evidence about a range of extremely high-impact, cost-effective health interventions. Because there are numerous gaps in the availability of these interventions in Pakistan, the country is in a position to benefit from many of the health sector's most beneficial “best buys”.

The government currently spends \$14 on health, an estimated \$8 of which is currently available at the district level and below: this is a ball-park average and clearly there are huge differences across the country. The Government of Pakistan should be congratulated for recently specifying and costing a very basic package of essential health interventions that could dramatically improve the health of Pakistanis, using global and local evidence. Globally, it is judged that an Essential Universal Healthcare Package should include 108 high priority interventions.<sup>5</sup> The most basic version of the Pakistani package includes 88 interventions and would cost an additional \$12.96 per person. In other words, government expenditure in Pakistan would need to increase by almost \$13 per person just to provide a very minimal package of services that includes just over 80% of the globally classified “essential: high priority” interventions. The package will soon be piloted in selected districts in each

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<sup>2</sup> GoP (2018) Pakistan Economic Survey 2017-18 [http://www.finance.gov.pk/survey/chapters\\_18/11-Health.pdf](http://www.finance.gov.pk/survey/chapters_18/11-Health.pdf)

<sup>3</sup> MoNHSR&C/Law and Justice Commission of Pakistan (2018) Investing in Sustainable Population Growth

<sup>4</sup> This point is developed in detail in Ahmed, Syud Amer et al (2019) Pakistan@100: Human Capital. Policy Note, World Bank Group

<sup>5</sup> Jamison et al (2017) Disease Control Priorities: Improving Health and Reducing Poverty, 3rd edition, Disease Control priorities, Vol. 9. World Bank

province, which will produce useful details about the resources required for widespread implementation.

This clearly shows why it is important to spend more government money on health – current spending does not even cover the basic minimum. Considerable benefits can be reaped even with very modest increases in expenditure. For instance, the first \$2 of the \$12.96 - if spent on well-chosen interventions - could potentially yield about 33 million years of additional life in good health, provided that the expenditure was extremely well prioritised and interventions were managed with great efficiency. This could include substantial improvements in Pakistan’s basic health indicators.<sup>6</sup> Providing the full \$12.96 package would mean that 40 million years of additional life could be lived in good health.

A positive aspect of the targeted health spending is that considerable benefits can be reaped even with very modest increases in expenditure. Spending less than \$2 per person on well-chosen interventions could potentially yield about 33 million years of additional life in good health, provided that the expenditure was extremely well prioritised and interventions were managed with extreme efficiency.

### **A focused approach and modest additional expenditure could achieve a lot in terms of better health**

If Pakistan is to reach 80% of its population with something similar to the global Essential Universal Healthcare Package of 108 high priority interventions this could cost over \$50 per capita,<sup>7</sup> whereas total health expenditure is currently around \$40, of which about \$14 is spending by government. Clearly this is a huge increase which would take time to achieve. However, this goal should not be forgotten entirely because it is not a “luxurious” aspiration – it is after all seen as an “Essential” Universal Package that should be available to everyone.

In practice, the challenge of developing universal essential services has to be addressed incrementally through a combination of higher government spending and changing patterns of existing expenditure. The good news is that considerable benefits can be reaped from the start of the journey, through an enhanced focus on priority services and additional expenditure of less than \$2 per capita.

It is not only the quantity of government health spending that is important, it is also the quality: in other words, spending in an efficient way on the most effective health interventions provided to the people who need them most.

### **Where will the money come from for increased spending on health?**

One way to find government money to spend on health is to increase overall government spending as a percentage of GDP. There is potential to increase provincial and federal income through tax reform. Prior to COVID-19, taxation as a percentage of GDP had risen from 10% to 12.5%, with the aim of raising it to 18%. During the peak of the COVID-19 crisis in 2020 this fell to 9.5%, but it is realistic to assume that it can re-gain previous levels and increase beyond that. The main strategies for increasing the tax base include simplifying rules and payment mechanisms, increasing coverage and improving methods for determining tax liabilities.

Probably the most realistic way to significantly increase government spending on health in the near future is to increase the percentage of government expenditure devoted to health - i.e. to make an explicit choice that improvements in health are a worthwhile investment.

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<sup>6</sup> Ruega ST et al (2020) Using DCP3 to inform the design of Pakistan's health benefit package. PowerPoint presentation. DCP3/London School of Hygiene and Tropical Medicine. (Slide 39, Scenario 3, maximum health)

<sup>7</sup> Ruega ST et al (2020) op cit. The “Global” package and the final Pakistan package are not perfectly comparable, because both contain interventions unique to them, but the broad-brush estimate of \$50 is nevertheless useful for international comparisons of a “typical” package.

A lot is known about how this additional expenditure should be targeted to achieve considerable improvements in the nation's health. There are positive local examples of what can be achieved, and Pakistan is a global pioneer in systematically identifying its priorities through the internationally recognised "DCP3 method". The importance of tackling these long-standing problems is even more apparent when the rise of NCDs is considered – Pakistan needs to address its problems with Reproductive, Maternal, Neo-natal and Child Health (RMNCH) and communicable diseases to free up resources to tackle the increase in NCDs.

Higher government spending on health is realistic and reasonable in terms of international comparisons. India and Nepal – as well as lower middle-income countries as a whole – spend a higher percentage of GDP on health. Iran spent about five times as much on health as Pakistan in terms of both percentage of GDP and percentage of total government health spending. Moreover, Pakistan has done it before, with almost 6% of total government spending going to health in 2001 and 2002.

Changing the composition of spending is easiest when the total budget is growing because the new money can be focussed on the areas identified for higher spending. However, re-prioritisation is possible with static budgets too, and in Pakistan this would be highly desirable, with the potential to save many lives. Tackling inefficiencies and wastage in expenditure would also release funds that could be used to provide the priority interventions.

### **Now is a good time to increase spending**

Now is a good time to think about how much government spends on health, and how that money is spent. COVID-19 has drawn global attention to the health sector and, with good planning, there is the potential to harness "COVID money" for wider sectoral benefits. Moreover COVID-19 has made clear the importance of having a health system with widespread capacity to prevent, diagnose and treat communicable diseases.

There are other powerful reasons for increasing government expenditure as soon as possible. Excellent work has been done in Pakistan on how to target health spending effectively, and past under-investment in the sector means that there are some significant "big wins" available with higher spending on extremely cost-effective interventions such as those related to RMNCH services, the management of fever, tuberculosis and trauma. Population is also a vital consideration – economic growth and poverty reduction are not keeping pace with population growth. There are multiple advantages to moderating Pakistan's population growth – well-targeted spending on health is one necessary element of achieving this.

# 1 III-Health, premature death and key health interventions in Pakistan: Comparable countries do better

This paper lays out the case for more and better government health spending in Pakistan. The COVID-19 pandemic reinforces the arguments developed here: an illness has caused severe disruption to both the economy and to health service delivery.

The health of Pakistanis is poor in comparison to many of the countries nearby. Relatively little is spent on health and too little of the spending is on health's "best buys". Spending more and re-structuring what is already being spent has the potential to improve the health of Pakistanis significantly: there are many highly cost-effective health interventions which Pakistanis could benefit from.

Improvements in health are valuable for their own sake and would make an important contribution to increasing the quality of life in Pakistan. Better health and health care can also, however, have a positive impact on the economy through its effects on the labour force and on lowering population growth, so that the benefits of economic growth are not overwhelmed by a faster-growing population.

## 1.1 III-Health and premature death in Pakistan: comparable countries do better

With its high rates of death and illness, Pakistan fares badly in international comparisons of health. Pakistanis tend to die younger and suffer from more ill-health than people in much of the rest of South Asia. This is shown in Table 1, which uses internationally comparable data. Information from Pakistan-specific surveys is discussed below.

**Table 1: Health indicators: international comparisons<sup>8 9</sup>**

	Life expectancy at birth	Neo-natal Mortality per 1000 live births	Infant Mortality Rate per 1000 live births	Stunting %	Incidence of TB per 100,000	Diabetes prevalence % population aged 20-79	Gross National Income Per capita Purchasing Power Parity current \$
Source and Year	World Bank 2018	World Bank 2018	World Bank 2018	World Bank 2018	World Bank 2018	World Bank 2019	World Bank 2018
Pakistan	67	42	57	37.6	265	19.9	5110
Bangladesh	72	17	25	30.8	221	9.2	4760
India	69	23	30	34.7 (2017)	199	10.4	6630
Iran	76	9	12	6.8 (2011)	14	9.6	14560 (2017)
Indonesia	72	13	21	30.5	316	6.3	11290
Nepal	70	20	27	36.0 (2016)	151	7.2	3360
Sri Lanka	77	5	6	17.3 (2016)	64	10.7	12900
Vietnam	75	11	17	23.8 (2017)	182	6	7230
Lower MIC	68	24	37	30.1 (2019)	220	9.5	6887
South Asia <sup>10</sup>	69	26	35	33.3 (2019)	206	11.2	6224
Sub-Saharan Africa	61	28	53	33.0 (all Africa, 2019)	231	5.3	3665
World	73	18	29	21.3 (2019)	132	8.8	16885

<sup>8</sup> The maternal mortality rate is discussed in Box 1

<sup>9</sup> All data from World Bank Open Data, <https://data.worldbank.org/>. In turn these are compiled from:

Life expectancy at birth: various UN agencies and national censuses.

Neo-natal and infant mortality: estimates developed by the UN Inter-agency Group for Child Mortality Estimation.

Stunting: UNICEF, WHO, World Bank Joint child malnutrition estimates.

TB Incidence: WHO Global Tuberculosis Report.

Diabetes prevalence: International Diabetes Foundation. Diabetes Atlas.

GNI per capita PPP: World Bank databases.

<sup>10</sup> South Asia in this context consists of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.

Table 1 gives information on average life-spans (life expectancy); maternal, neo-natal (until 28 days old) and infant (one year) death rates; levels of specific health conditions - TB, diabetes and stunting (impaired growth in childhood because of poor nutrition, repeated infection and inadequate social stimulation); and per capita income (Gross National Income, GNI). Bangladesh, Nepal and Sub-Saharan Africa as a whole – all of which are economically poorer than Pakistan – do better with many of the health indicators, with Pakistan's exceptionally high rates of neo-natal and infant deaths, stunting and tuberculosis standing out.

The neo-natal mortality rate is a measure of the death rate (per 1,000 live births) in the first 28 days of life, which is the most vulnerable time for a child's survival. Pakistan's rate of 42 is the highest rate recorded for any country in the world, in stark negative contrast with South Asia as a whole (26) and considerably worse than the rate for Sub-Saharan Africa (28). Access to good quality, affordable health services plays an important part in lowering neo-natal mortality. Neo-natal deaths are second only to heart disease in terms of the extent to which deaths are avoidable through utilisation of good quality healthcare: in other words, strong health systems can achieve a lot in terms of reducing neo-natal deaths.<sup>11</sup>

As countries become richer, the causes of death tend to change from being mostly due to communicable diseases to NCDs, e.g. heart disease, diabetes, cancer). NCDs now account for 62% of all deaths in South-East Asia, a figure which is increasing over time. Vietnam is an example of a country where NCDs are now dominant: more than 75% of deaths are from non-communicable diseases,<sup>12</sup> with more than 90% of men having at least one risk factor such as smoking, being overweight or excessive alcohol consumption.<sup>13</sup> Risk factors are also prevalent in Pakistan: about 41% of adults have a low level of physical activity, 26% are over-weight, and 20% (34% of men) smoke.<sup>14</sup>

Pakistan is in the unfortunate position of having exceptionally high rates of both communicable and non-communicable diseases. The incidence of tuberculosis (communicable) is more than a quarter higher than the average for South Asia, as well as higher than the rate for all combined lower-middle income countries. The prevalence of diabetes – a non-communicable disease – is also exceptionally high, at an estimate of almost 20% of all adults between the ages of 20 and 79.<sup>15</sup>

At this time of health transition in a country – from communicable to non-communicable diseases as the main cause of death – the health system in effect has two vital jobs to do, tackling and reducing the persistent problem of communicable diseases whilst also working on prevention related to NCDs to avoid significant problems with escalating health costs and chronic ill-health in the near future.

For international comparisons it is appropriate to use data for Pakistan as a whole. However, it is important to note that there are significant differences between provinces in Pakistan. "DALYs" – disability-adjusted life-years – are a summary measure combining premature death and years of ill-health to capture the general level of poor health in a population. Figure 1 breaks down the overall DALYs lost in 2019 by province. The differences are clear, with almost half as much again of ill-health (DALYs lost) per 100,000 people in Balochistan when compared to Azad Jammu and Kashmir (AJK).

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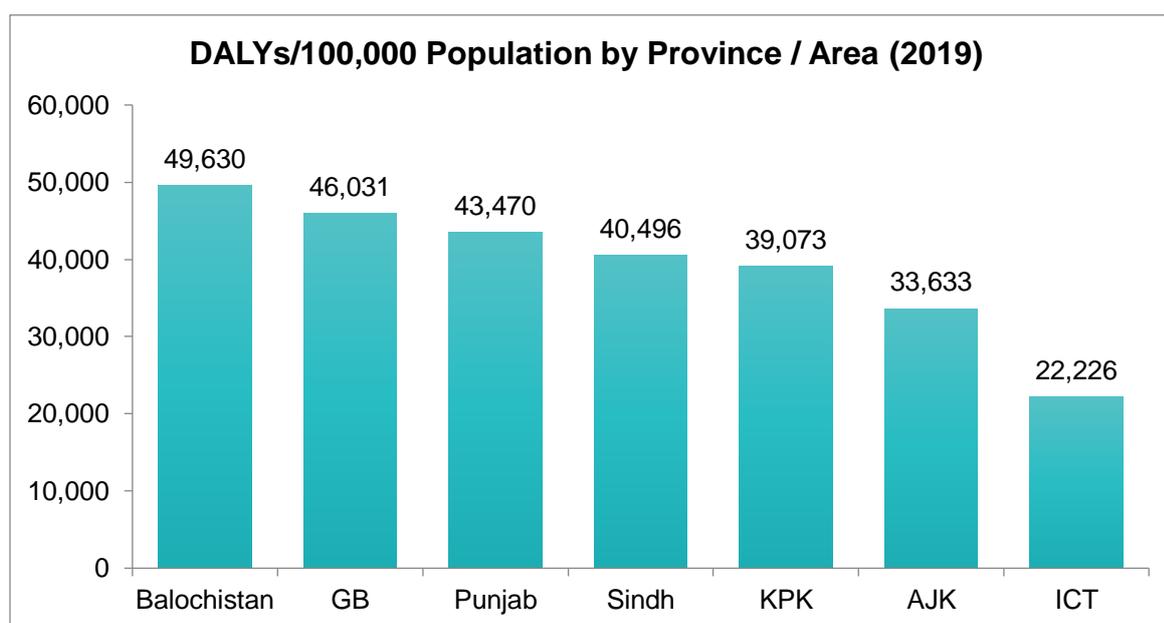
<sup>11</sup> Kruk ME et al. (2018) Mortality due to low-quality health systems in the universal health coverage era: a systematic analysis of amenable deaths in 137 countries. *Lancet*; 3392:2203-12.

<sup>12</sup> World Bank Open Data, <https://data.worldbank.org/> based on data from WHO's Global Health Estimates.

<sup>13</sup> Tran QB et al (2020) Risk factors for Non-Communicable Diseases among adults in Vietnam: Findings from the Vietnam STEPS Survey 2015. *J Glob Health Sci.* 2020 Jun;2(1):e7. <https://doi.org/10.35500/jghs.2020.2.e7>

<sup>14</sup> Rafique I et al (2018) Prevalence of risk factors for noncommunicable diseases in adults: key findings from the Pakistan STEPS survey. *East Mediterr Health J.* 2018;24(1):33-41. <https://doi.org/10.26719/2018.24.1.33>

<sup>15</sup> International Diabetes Federation (2019) Diabetes Atlas.

**Figure 1: The burden of disease by province/area, 2019 (disability adjusted life years lost)<sup>16</sup>**

The population of Pakistan is unhealthy by international standards. The figures given here represent individual Pakistani citizens dying prematurely, enduring ill-health and grieving for lost loved ones. Many of the deaths are avoidable, with other countries clearly demonstrating what can be achieved in terms of better health.

### Box 1: Maternal Mortality - recent data from a national survey

It is notoriously difficult to measure the Maternal Mortality Rate (MMR) accurately<sup>17</sup> as many maternal deaths are not identified correctly and/or are not recorded and because surveys have to be of a very large population and are hence expensive. In 2019 a survey was undertaken in Pakistan and the results came as a shock, as they were much worse than modelling had predicted: 186 per 100,000 live births, compared to the estimated (modelled) figure of 140<sup>18</sup> (MMR is modelled when there has not been a survey that year, based on the most recent survey and other relevant factors.)

To improve these figures significantly, it is necessary to make major improvements in family planning services (to improve child spacing) and in the proportion of births which are managed by an appropriately skilled health worker.<sup>19</sup>

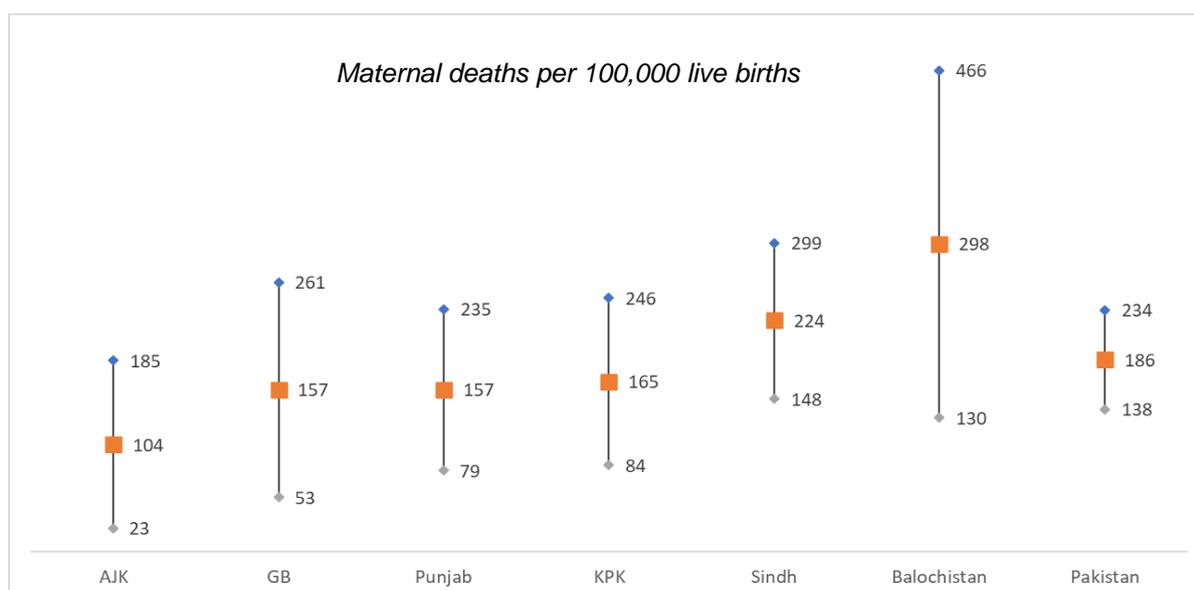
Provincial comparisons of maternal mortality have to be viewed with caution because huge population numbers are required to establish statistical significance. Nevertheless, the best estimates give an impression of the differences across the country – whilst the national average is 186/100,000, rates range from 104 in AJK to 298 in Balochistan. This is shown in Figure 2. The small squares are the best estimate, the lines above and below each square show the possible statistical range.

<sup>16</sup> Zaidi, Raza (2020) Situation analysis in the health sector of Pakistan, using data from Institute for Health Metrics and Evaluation 2019.

<sup>17</sup> Mgawadere F et al (2017) Measuring maternal mortality: a systematic review of methods used to obtain estimates of the maternal mortality ratio in low- and middle-income countries. *British Medical Bulletin*, Volume 121, Issue 1, January 2017, Pages 121–134, <https://doi.org/10.1093/bmb/ldw056>

<sup>18</sup> National Institute of Population Studies *Pakistan Maternal Mortality Survey 2019*, Government of Pakistan.

<sup>19</sup> Sathar ZA (2019) *Reflections on Pakistan's population and development issues since ICPD 1994*. Population Council PowerPoint presentation.

**Figure 2: Maternal mortality ratio by region, Pakistan 2019<sup>20</sup>**

Key health interventions in Pakistan: as for health outcomes, comparable countries do better

Table 1 gave information about health; Table 2 explores health *interventions*, and also shows population growth, which is clearly linked to the availability of appropriate reproductive health services. Table 2 shows a mixed picture in terms of health sector activity. Both immunisation and family planning are central parts of a strong government health system. Measles immunisation – and other immunisations not shown here – are low by international standards. Contraceptive prevalence is also notably low, so it is no surprise that population growth is exceptionally high. As we will see below, this has implications for the economy, as well as making the challenge of delivering health services to the entire population even more difficult. On the other hand, the percentage of children under 5 years old with an acute respiratory infection being taken to a health provider is high, though, as we will see later, many of these consultations will be costly to the family budget.

<sup>20</sup> National Institute of Population Studies Pakistan Maternal Mortality Survey 2019, Government of Pakistan.

**Table 2: Health service indicators: international comparisons<sup>21</sup>**

	Immunisation measles %, 12 - 23 months	% children under 5 with Acute Respiratory Infection going to health provider	Contraceptive prevalence, modern methods (% women, aged 15-49)	Annual population growth %
Source and year	World Bank 2018	World Bank 2018	World Bank 2017	World Bank 2018
Pakistan	76	84	25 (2018)	2.4
Bangladesh	97	42 (2014)	54 (2014)	1.1
India	90	78 (2016)	48 (2016)	1
Indonesia	75	92	57	1.1
Nepal	91	85 (2017)	43 (2016)	1.7
Sri Lanka	99	52 (2016)	43 (2016)	1
Vietnam	97	81 (2014)	65 (2016)	1
World	86	NK	54	1.1
LMICS	83	73 (2016)	44	1.4
South Asia	88	76 (2016)	45	1.2
Sub-Saharan Africa	74	56	27	2.7

There are significant differences in the levels of health intervention coverage between provinces in Pakistan. For example, ante-natal care in Sindh is 71%, compared with 38% in Balochistan: the national average is 62%. Punjab has 95% coverage of the pentavalent (5 in 1) vaccine, compared with 43% in Balochistan and a national average of 86%.<sup>22</sup> This is relevant because health in Pakistan is a provincial subject, with the provinces responsible for most decisions about financing and public service provision – it is appropriate for different provinces to make somewhat different decisions about

<sup>21</sup> All data from World Bank Open Data, <https://data.worldbank.org/>. World Bank data compiled from:

Measles immunisation: data from WHO and UNICEF.

Acute respiratory infection: UNICEF State of the World's Children, Childinfo and Demographic and Health Surveys.

Contraceptive prevalence: Household surveys including Demographic and Health Surveys and Multiple Indicator Cluster Surveys.

Population growth: various UN agencies and national censuses. As an exception, the Pakistan figure is from the 2017 census, as cited in GoP (2020) Pakistan Economic Survey 2019-20.

<sup>22</sup> Based on data from Pakistan Demographic Health Survey, 2017-18.

priorities for health spending. Health in Pakistan has improved significantly over recent decades – but too slowly.

### **Box 2: Pakistan and Bangladesh - similar levels of wealth, very different indicators**

Bangladesh is a telling comparator in terms of the health of its population: Pakistan and Bangladesh have fairly similar levels of GNI per capita, with Bangladesh's \$4760 somewhat lower than the \$5110 of Pakistan. However, Bangladesh performs better in terms of all the health indicators shown in Tables 1 and 2. A Bangladeshi baby is significantly less likely to die during its first 28 days of life and can expect to live on average 5 years longer than a Pakistani baby. A one-year old Bangladeshi is 21 percentage points more likely to be immunised against measles than a Pakistani infant of the same age.

One of the main reasons for the differences is that government expenditure in Bangladesh is much better targeted towards interventions with the highest returns in terms of health impact, mostly in the areas of public health, primary care and maternal and child health.

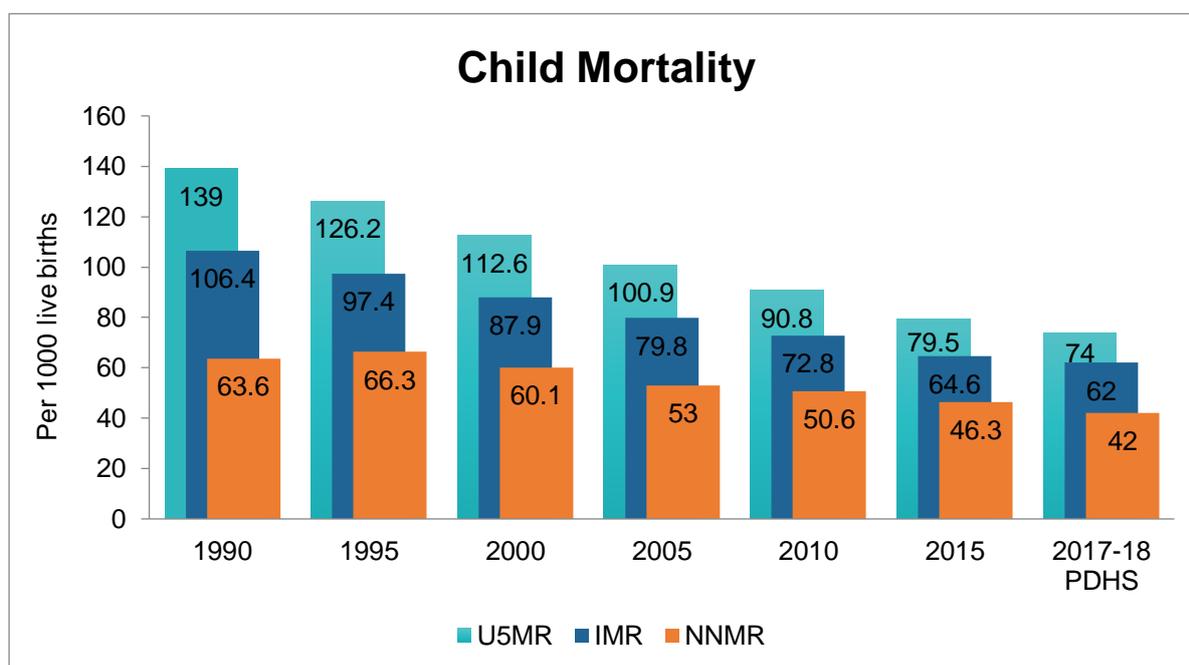
## **1.2 Health in Pakistan has improved significantly over recent decades – but too slowly and gradually**

Although international comparisons present a fairly bleak picture of health in Pakistan, it is important to note that there have been many improvements in aspects of health in Pakistan in recent decades. Figure 3 shows this for three measures of child death rates, under-5, infant and neo-natal mortality;<sup>23</sup> it uses data from the regular Pakistan Demographic and Health Surveys. The Figure shows a fairly steady decline in, for example, neo-natal death rates. However, as discussed above, the neo-natal mortality rate in Pakistan is exceptionally high by international standards. This is fairly typical of the health situation in Pakistan: gradual improvements over time, but the progress is slower and less substantial than in many other countries. The progress with neo-natal mortality shown in Figure 4 clearly illustrates this point - many countries have left Pakistan behind in terms of improvements in neo-natal death rates.

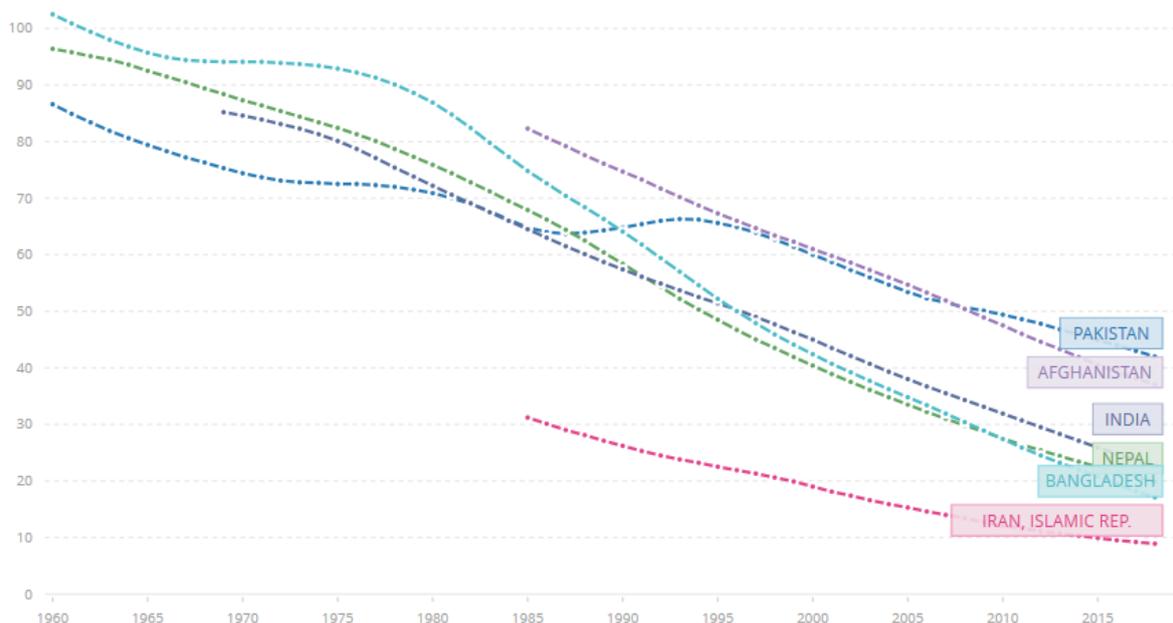
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<sup>23</sup> Specifically, GNI per capita PPP current \$, 2018. See Table 1.

**Figure 3: Child mortality, Pakistan, 1990-2018<sup>24</sup>**



**Figure 4: Neo-natal mortality rate per 1000 live births, selected countries, 1960-2015<sup>25</sup>**



The picture is similar for vaccinations, again using data from the regular Pakistan Demographic and Health Surveys. The percentage of children receiving all the basic vaccinations rose from 35% in 1990/1 to 66% in 2017/8. But, as we saw above for the example of measles immunisation, Pakistan's vaccination coverage is low by international standards.

<sup>24</sup> Zaidi, Raza (2020) Situation analysis in the health sector of Pakistan, using data from UNIA estimates and Pakistan Demographic and Health Survey 2018.

<sup>25</sup> All data from World Bank Open Data, <https://data.worldbank.org/>, originally derived from estimates by the UN Inter-agency Group for Child Mortality Estimation.

**Figure 5: Vaccination coverage, Pakistan, 1990/1 - 2017/8<sup>26</sup>**

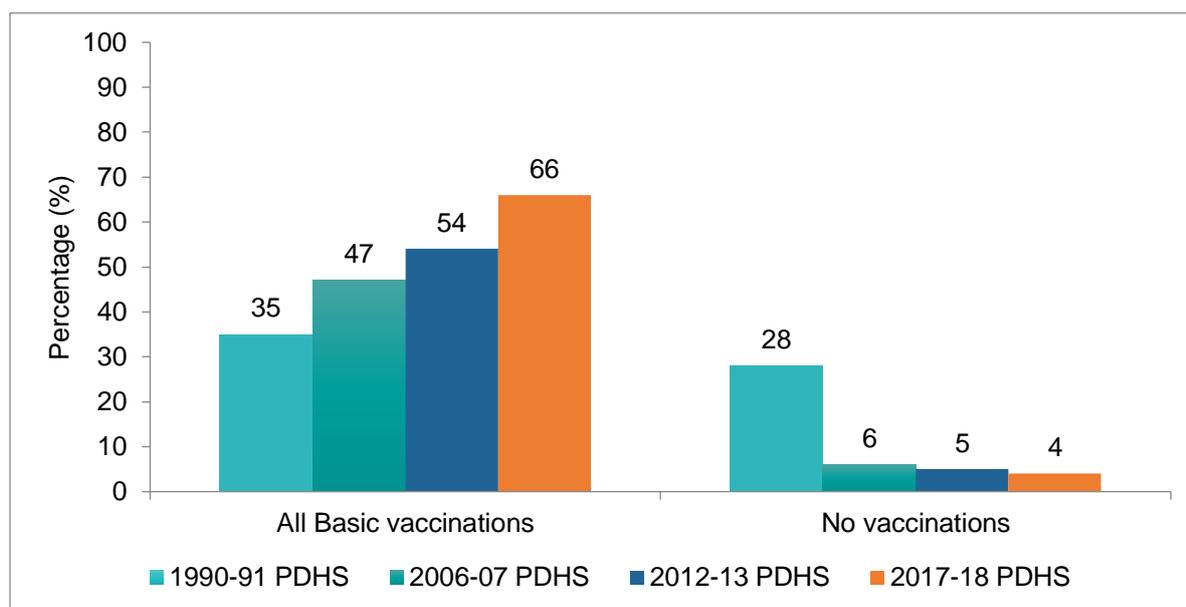
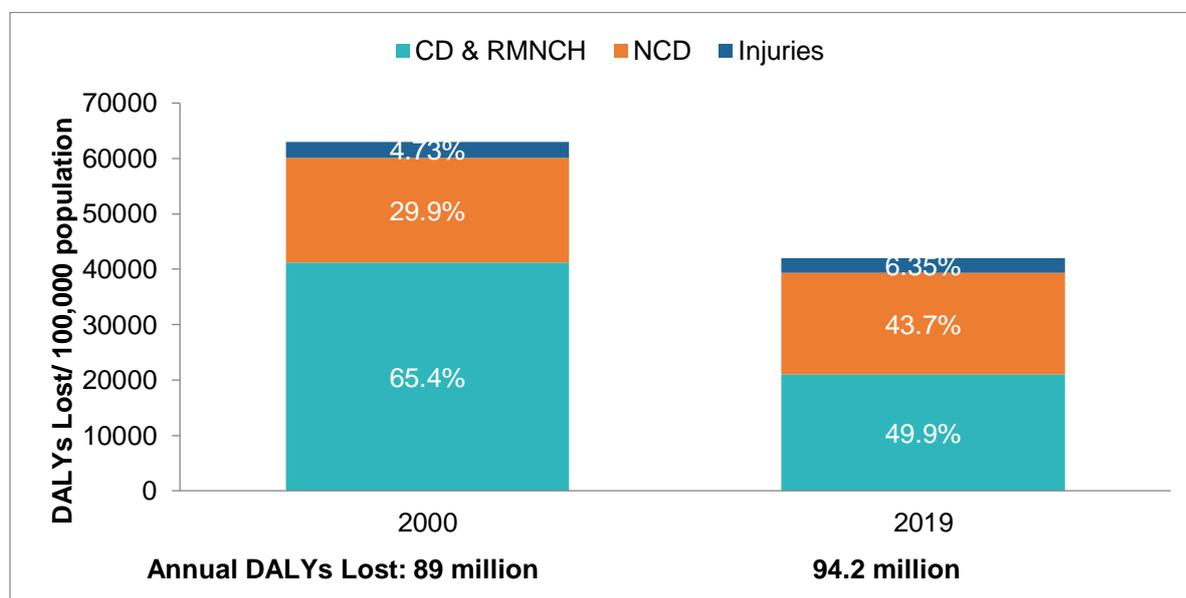


Figure 6 shows how the DALYs lost per 100,000 Pakistanis declined substantially between 2000 and 2019 – i.e. the overall health of the population improved. However, the figure also captures another aspect of Pakistan’s health situation: although health improved per 100,000 population, the overall annual burden of ill-health increased from 89 million DALYs in 2000 to 94.2 million in 2019 because of population growth.

**Figure 6: The burden of disease in Pakistan 2000 and 2019, (disability adjusted life years lost)<sup>27</sup>**



Despite overall improvements in health in Pakistan in the last three decades, there are worrying indications at the time of writing that this situation may be changing. It is possible that economic

<sup>26</sup> Zaidi, Raza (2020) Situation analysis in the health sector of Pakistan, using data from Pakistan Demographic and Health Survey 1991, 2007, 2013, 2018

<sup>27</sup> Zaidi, Raza (2020) Situation analysis in the health sector of Pakistan, using data from Institute for Health Metrics and Evaluation 2019.

problems, COVID-19 and volatile levels of government spending on health may combine to produce worse health indicators for 2019/20, reversing many years of gradual improvement for many health indicators. Moreover, one vitally important indicator seems to have declined marginally from 2012/3 to 2017/8: according to survey data the modern contraceptive prevalence rate fell from 26% to 25%.<sup>28</sup>

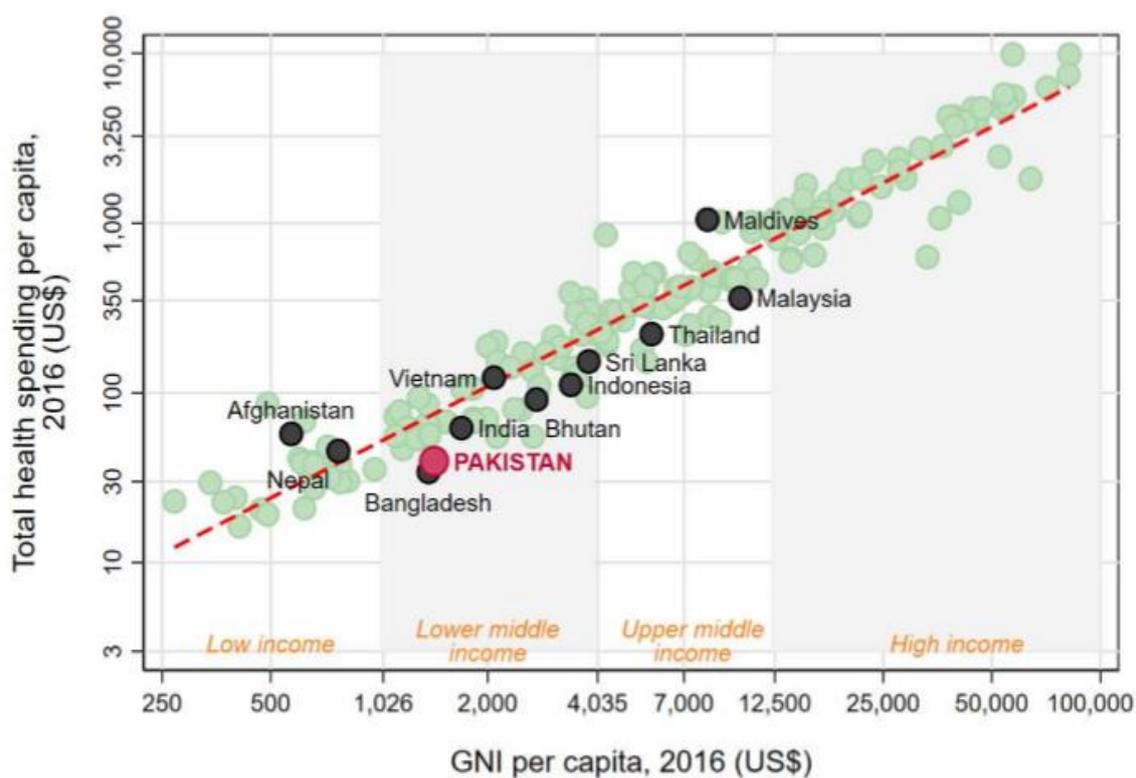
The importance of the effects of population growth cannot be over-stated. Table 2 clearly demonstrated that Pakistan – with its high population growth and low prevalence of modern contraceptives – is an outlier in South Asia. When population growth is high, the health system has to work hard (i.e. provide services for even more people) just to remain at the same level in terms of the percentage of the population that it reaches. Improving Pakistan’s health indicators is even more of a challenge because of high population growth. With the population currently growing at almost 5 million people per year, it would cost \$64.8 million annually just to provide this number of people with the most basic package of health services. Issues relating to population growth are discussed in further detail in Section 4.

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<sup>28</sup> Zaidi, Raza (2020) Situation analysis in the health sector of Pakistan.

## 2 Spending on health in Pakistan: too much of it comes directly out of people's pockets

Figure 7: Total health spending and Gross National Income (both per capita, 2016 US\$)<sup>29</sup>



Source: World Development Indicators; WHO Global Health Expenditure Database.  
Note: Both x- and y-axes expressed in log scale.

Pakistan spends relatively little on health compared to its Gross National Income (GNI), as shown in Figure 7 (axes in US \$). Moreover, most of the spending – 63% in 2016 – comes directly from individuals as out-of-pocket payments, which are direct payments made by individuals to healthcare providers at the time of service use. If total health expenditure is low relative to GNI, and if out-of-pocket spending is a high proportion of that, it follows that government health expenditure as a percentage of GNI is likely to be very low. This is confirmed in Table 3. Pakistan's low figure of 2.9% of GDP is largely because government spending as a whole in Pakistan is very low relative to the size of the economy, and also because only 4.3% of government spending is on health (2017).

<sup>29</sup> Hamandi A and Sohail J (2019) Creating fiscal space for Universal Health Coverage: options for Pakistan. World Bank.

**Table 3: Government health expenditure as a percentage of GDP<sup>30</sup>**

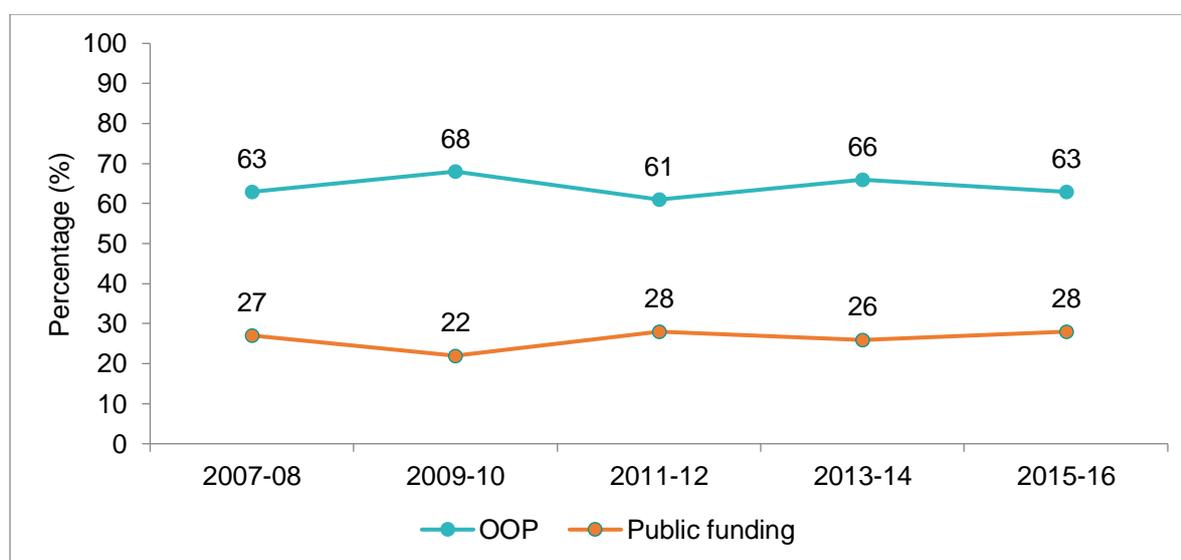
Country	Government health expenditure as a percentage of total government expenditure	Government health expenditure as a percentage of GDP
Source and year	World Bank, 2017	World Bank, 2017
Pakistan	4.3	0.92
Afghanistan	2.32	0.6
Bangladesh	2.99	0.38
China	9.07	2.92
India	3.38	0.96
Indonesia	8.73	1.45
Iran	22.94	4.44
Korea, Rep of (South)	13.42	4.36
Lao PDR	4.04	0.89
Mongolia	8.15	2.47
Nepal	4.51	1.24
Papua New Guinea	9.15	1.86
Singapore	12.57	2.14
Sri Lanka	8.47	1.64
Vietnam	9.48	2.69
World	16.43	5.89
LMICs	5.07	1.29
South Asia	3.55	0.94
Sub-S Africa	Not available	1.87

<sup>30</sup> All data from World Bank Open Data, <https://data.worldbank.org/> based on the Global Health Expenditure database.

## 2.1 Out of pocket expenditures particularly affect the poor; catastrophic health expenditures cause and prolong poverty

As a result of the large private sector in health, and the low level of health insurance, out-of-pocket (OOP) payments dominate health spending in Pakistan: they consistently account for more than 60% of health spending, as shown in Figure 8. Clearly the proportion of OOP spending goes down when government spending increases, and vice versa. Punjab used to have OOP percentages of total health expenditure that were much higher than the Pakistani average – 77% in 2005-6. This dropped substantially to 64% in 2015-16, with public funding increasing from 24% to 32% in the same period. In KP during the same period, public funding increased from 17% to 21% while OOP payments decreased from 77% to 72%.

**Figure 8: Out-of-pocket and public funding as percentage of total health expenditure, Pakistan<sup>31</sup>**



Levels of out-of-pocket spending are not based on relative health need and leave families vulnerable to catastrophic health bills.<sup>32</sup> OOP payments are known to be a financial barrier to essential healthcare, a source of impoverishment, and a driver of inequity – in other words, not all families which have a pressing need for healthcare can afford it, and some families endure prolonged poverty as a direct result of healthcare bills.<sup>33</sup>

Figure 9 shows out-of-pocket spending by income quintile. Although richer households spend far more in absolute amounts of rupees on medical treatment than poor ones, the burden of OOP expenditure is much greater for poor households than rich ones. Healthcare spending as a *proportion* of household consumption is higher in poorer households, and as a share of non-food consumption is even greater. The poorest quintile devotes 8% of their non-food expenditures to medical treatment, versus 5% in the richest quintile.<sup>34</sup>

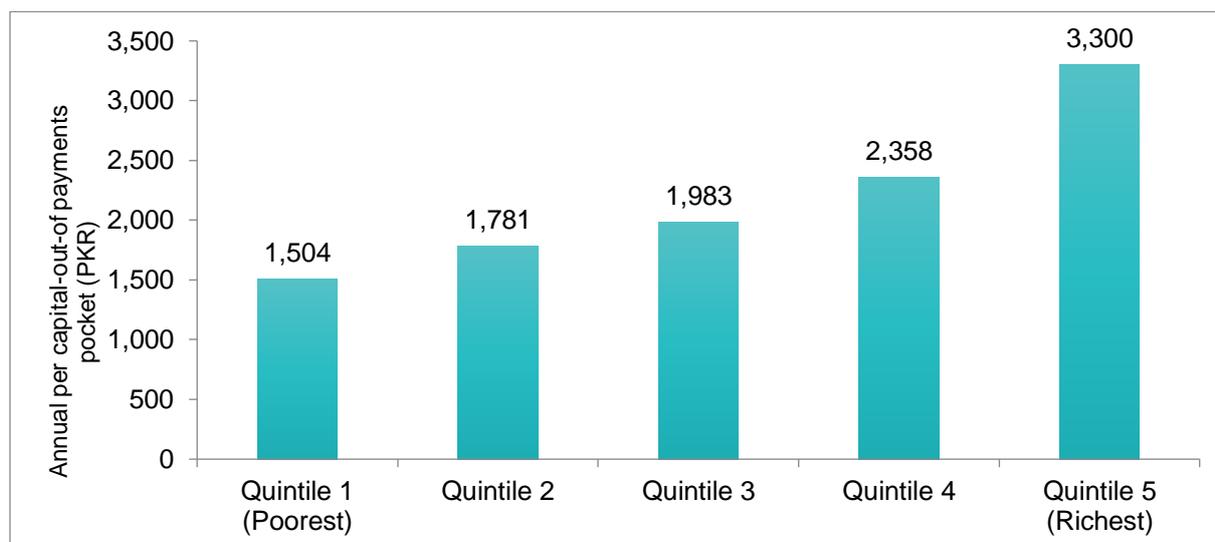
<sup>31</sup> Source: National Health Accounts, FBS

<sup>32</sup> Catastrophic health expenditure occurs when out-of-pocket payments for health services consume such a large portion of a household's available income that the household may be pushed into poverty as a result.

<sup>33</sup> [https://www.who.int/health\\_financing/topics/financial-protection/out-of-pocket-payments/en/](https://www.who.int/health_financing/topics/financial-protection/out-of-pocket-payments/en/)

<sup>34</sup> [https://www.who.int/health\\_financing/topics/financial-protection/out-of-pocket-payments/en/](https://www.who.int/health_financing/topics/financial-protection/out-of-pocket-payments/en/)

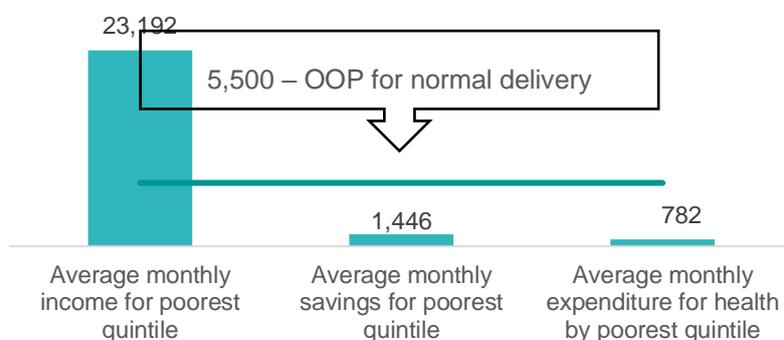
**Figure 9: Annual out-of-pocket payments on health services by income quintile, Pakistan (2018/19)<sup>35</sup>**



**Box 3: Out-of-pocket expenditures place a high burden on poorer households**

In Punjab the weighted average OOP expenditure for a normal delivery is PKR 5,500<sup>36</sup> for the lowest quintile. The diagram below compares this cost with monthly savings, monthly expenditure on health and average per month income for the lowest quintile.<sup>37</sup> The OOP cost for a normal delivery was substantial in relation to income and expenditure on health.

**Figure 10: Out-of-pocket and public funding as percentage of total health expenditure, Pakistan<sup>38</sup>**



The weighted average cost for normal delivery for the poorest quintile was 24% of the average monthly income, 3.8 times more than the average monthly savings and 7 times more than the average expenditure on health made by the poorest quintile. While the weighted average cost is PKR 5,500 per delivery for the poorest quintile, the maximum cost for the same is estimated to be PKR 22,000. For the poor, such a high expense could well be catastrophic if the family is unable to pay the bill and incurs debts that are difficult to re-pay.

<sup>35</sup> Estimated using data from Household Integrated Economic Survey, 2018-19, Federal Bureau of Statistics, Government of Pakistan.

<sup>36</sup> TRF+ (2017) *VfM case study on 24/7 BHUs in Punjab* – figures adjusted for inflation.

<sup>37</sup> Information from the Household Integrated Economic Survey (HIES), 2018-19, Pakistan Bureau of Statistics

<sup>38</sup> Calculations performed on data from HIES 2018-19 and TRF+ (2017) *VfM case study on 24/7 BHUs in Punjab*, with figures adjusted for inflation.

Box 3 illustrates the level of healthcare costs and the effects it can have on households living below the poverty line. The example in Box 3 is for an acute need. NCDs, in contrast, tend to be long-term, chronic problems, causing prolonged periods of OOP payments. Spending on medication for hypertension and diabetes, for example, has been shown to crowd out spending on food, especially in poorer families.<sup>39</sup> Government health expenditure clearly needs to be used carefully, in the sense of on the right (effective) health interventions, but also so that it benefits those who need it most. OOP expenditure can be tackled either by removing from patients the need to pay at the time of use (e.g. through various types of insurance, such as the Sehat Sahulat Programme) or by providing services free of charge and of a sufficiently high quality that people actually choose to use them.

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<sup>39</sup> Dattaa BK et al (2020) The crowding out effect of out-of-pocket medication expenses of two major non-communicable diseases in Pakistan *Int Health* 2020; 12: 50–59 doi:10.1093/inthealth/ihz075

## 3 The economy and population growth: reasons to invest in the health sector

### 3.1 The economy: Health can play a stimulating role

#### An extract from *Pakistan@100: Human Capital*<sup>40</sup>

“Pakistan...is not fully benefitting from its favourable demographic tailwinds due to an underinvestment in, and an underutilization of, human capital.....The country’s accumulation of human capital — critical to improving productivity and employability — has been sluggish, in part due to Pakistan’s high fertility rates and low health and educational attainment levels.... A failure to realize the promise of a young population can have negative social, economic, and political consequences in both the short and long run.”

“Natural resource rents” are a way of measuring the extent to which a country’s economy depends on its natural resources. Table 4 shows data for selected Asian countries – Pakistan is not well endowed with economically productive natural resources at present, with a lower measure than the average for South Asia, for all lower middle-income countries and for the world as a whole. This means that the economic contribution of Pakistan’s workforce is particularly important. Table 4 also shows the “Human Capital Index”, which quantifies the contribution of health and education to the productivity of the next generation of workers. A low Human Capital Index means that economic growth opportunities are being missed because of under-investment in health and education. Pakistan currently ranks 134 out of 157 countries on the Human Capital Index; a child born in Pakistan today will be 39 percent as productive when they grow up compared to their potential if they enjoyed complete education and full health.<sup>41</sup> This indicates that Pakistan’s economic growth will remain stifled by its lack of human capital. A key reason for this is found in its poor health indicators.

It is possible to have good economic growth with low natural resource rents: South Korea and Singapore demonstrate what can be achieved with effective investments in health and education (i.e. high Human Capital Indices). Sri Lanka is a less extreme example of the same principle. Moreover, even countries that are significantly better endowed than Pakistan with natural resources – for example Iran, Laos and Mongolia – are doing more than Pakistan in terms of developing a healthy, well-educated workforce.

<sup>40</sup> Ahmed, Syud Amer et al (2019) *Pakistan@100: Human Capital*. Policy Note, World Bank Group.

<sup>41</sup> GoP (2018) Pakistan Economic Survey 2017-18 [http://www.finance.gov.pk/survey/chapters\\_18/11-Health.pdf](http://www.finance.gov.pk/survey/chapters_18/11-Health.pdf). The 39% is rounded as 0.4 in Table 4.

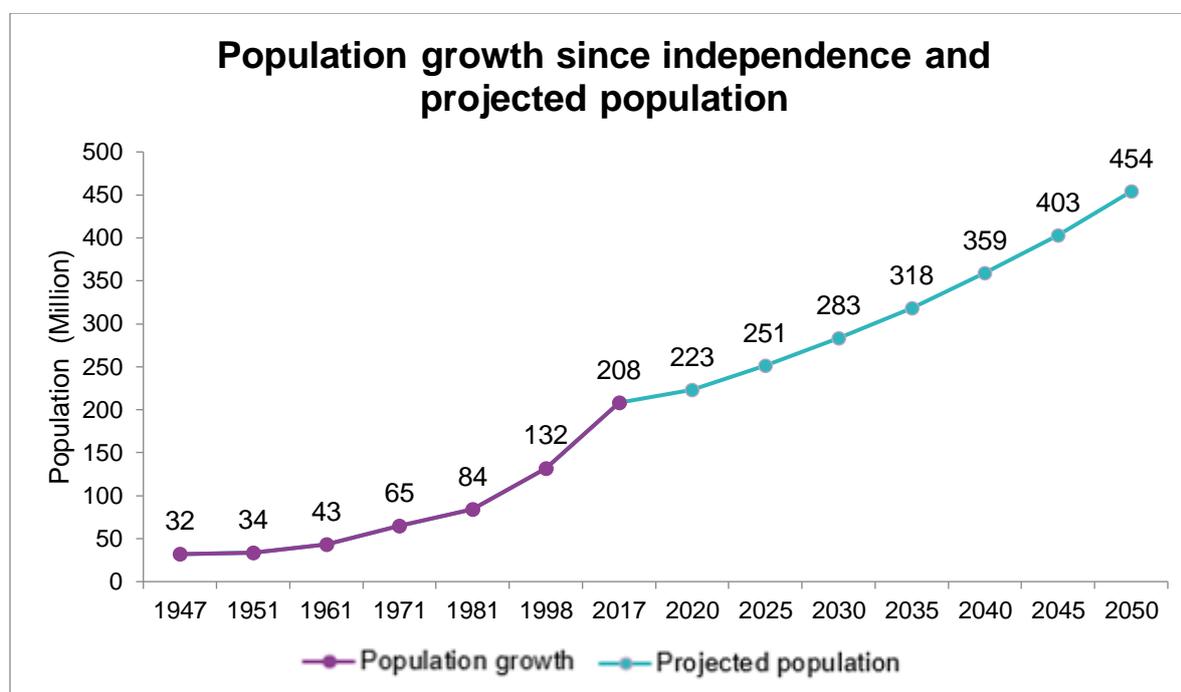
**Table 4: Natural resources and human capital: principal inputs for economic production<sup>42</sup>**

	Total natural resources rents (% of GDP)	Human capital index
Source and year	World Bank, 2017	World Bank, 2017
Pakistan	1.1	0.4
Bangladesh	0.7	0.5
China	1.5	0.7
India	2.1	0.4
Indonesia	3.5	0.5
Iran	17.8	0.6
Korea, Rep of (South)	0	0.8
Lao PDR	10.2	0.5
Mongolia	40.5	0.6
Nepal	1.1	0.5
Papua New Guinea	21.8	0.4
Singapore	0	0.9
Sri Lanka	0.1	0.6
Vietnam	2.9	0.7
World	2.2	Not available
Lower MIC	3.7	Not available
South Asia	1.9	Not available
Sub-S Africa	9.2	Not available

<sup>42</sup> All data from World Bank Open Data, <https://data.worldbank.org/>. Natural resources rents are estimates by World Bank based on multiple sources. Human Capital Index is a World Bank calculation

### 3.2 Population growth: Inextricably linked to both health expenditure and economic well-being

Figure 11: Population growth since independence and projected population

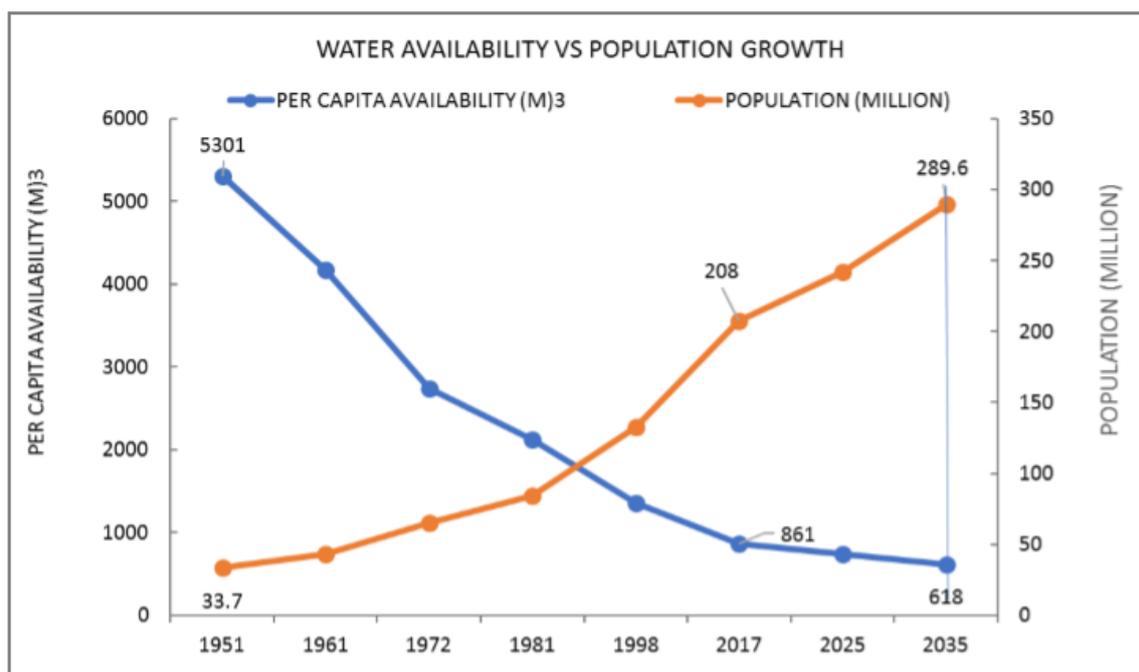


Following the 2017 Population Census that showed the average population growth rate to be 2.4% per annum during 1998-2017, the Supreme Court of Pakistan took notice. In 2018 a National Symposium on Alarming Population Growth was held, convened by the Chief Justice. The Symposium's report described how Pakistan's population is projected to reach 285 million by 2030 and to double in the 30 years from 2018 (see Figure 11).<sup>43</sup> In contrast, the doubling time is 60 years for the regions as a whole – about 40 years in Nepal, 50 in Iran, 60 in Bangladesh and 70 in India.<sup>44</sup> Pakistan, the Symposium stated, has about one and a half children more per family than other countries of the region.

The Symposium identified many pressing reasons to reduce population growth: levels of poverty; rising costs of meeting basic needs in health, education, nutrition and productivity skills; stress on the environment and natural resources, including fragile food security; and, crucially, a serious decline in per capita water availability, vividly illustrated in Figure 12

<sup>43</sup> MoNHSR&C/Law and Justice Commission of Pakistan (2018) Investing in Sustainable Population Growth

<sup>44</sup> Based on population data sourced from various UN agencies and national censuses and compiled at World Bank Open Data, <https://data.worldbank.org/>.

**Figure 12: Water availability vs Population Growth**<sup>45</sup>

The Symposium highlighted the high number of Pakistani couples who want to space or limit births, but who do not have access to the information and services they need: 17% of married women aged 15-49 had an unmet need for family planning in 2017/8. They concluded that universal access to family planning and reproductive health services is necessary to limit Pakistan's population growth, which in turn is a crucial element in promoting development and economic growth. As we will see later in this report, we know a lot about the importance and cost-effectiveness of universal coverage for basic services such as family planning and reproductive health, but it does require higher levels – and different targeting - of government spending.<sup>46</sup>

The Symposium fully recognised the importance of funding for reproductive health services and recommended

- A five-year non-lapsable Special Federal Fund for reducing Population Growth Rate, with an annual allocation of 10 billion Rupees. The Fund would promote additional spending on the Lady Health Workers programme and on contraceptive procurement by providing 50% matched funding.
- A doubling of the federal and provincial budgets for family planning/reproductive health over the subsequent two years, protected from re-allocation to other programmes and released in a timely fashion.

It also recommended that all registered private practitioners and hospitals should be obliged to provide family planning services to clients and that the public and private sectors should co-operate on relevant issues such as training in family planning.

The Symposium's recommendations were to be implemented by the federal and provincial governments to reduce population growth to a sustainable level. These recommendations, were endorsed by the Council of Common Interests (CCI) meeting in November 2018, chaired by the Prime Minister and attended by the provincial Chief Ministers. A Federal Task Force headed by the President of Pakistan and Provincial Task Forces headed by Chief Ministers was constituted to

<sup>45</sup> Cited in MoNHSR&C/Law and Justice Commission of Pakistan (2018) Investing in Sustainable Population Growth based on data from the Pakistan Water and Power Development Authority, Government of Pakistan and Pakistan Bureau of Statistics.

<sup>46</sup> Ministry of National Health Services, Regulations and Coordination and Law and Justice Commission of Pakistan, *National Symposium on Alarming Population Growth in Pakistan: Call for Action*, Islamabad, 2018

oversee implementation of the CCI decisions, which also recommended that the population growth rate be brought down to an average of 1.5% per annum from 2017 to 2025, and 1.1% per annum on average from 2025 to 2030. The main strategies to be adopted were to address the unmet need for family planning as an urgent priority, whilst integrating family planning into a wider Reproductive, Maternal, Neo-natal and Child Health (RMNCH) service package and improving awareness.

The key point here is that the gains in health and fertility management are not only development successes in their own right, but they are also a necessary contributor (alongside progress with education and nutrition) to accelerating growth in per capita incomes in Pakistan.<sup>47</sup> More and better health expenditure is required if Pakistan is to enjoy the economic benefits of a more productive workforce and slower population growth.

“Pakistan’s population is projected to double in the next 30 years. If we could be sure that our children would have enough to eat, be healthy, and attend school; that their mothers would live and enjoy good health; that water, food, and decent livelihoods would be available to all, we might look forward to unleashing the immense potential of our human resource. But in our current situation, with our hands tied by severe economic constraints, and without the ability to make the required transformative investments in human development, can we really look upon our massive numbers as promising potential, and view population growth rate with any sentiment other than alarm?”

*Investing in Sustainable Population Growth* MoNHSR&C/Law and Justice Commission of Pakistan, 2018

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<sup>47</sup> This point is developed in detail in Ahmed, Syud Amer et al (2019) *Pakistan@100: Human Capital. Policy Note*, World Bank Group.

## 4 More – and better – government health spending could make a significant difference

So far, we have discussed the relatively poor performance of Pakistan internationally in terms of health and health services, as well as their importance for the economy and for managing population growth. The paper now moves on to argue the case for more – and better – health spending. “Better” in this context means spending on the right things and spending from an appropriate source (not, for example, by families who are impoverished as a result).

### 4.1 We know what to spend money on for the best health results: it requires more - and better – spending

There is a wealth of global and national evidence about a range of extremely high-impact, cost-effective health interventions. Because there are numerous gaps in the availability of these interventions in Pakistan, the country is in a position to benefit from many of the health sector’s most beneficial “best buys”.

An estimated \$8 per capita is currently available for government spending on health at the district level and below: this is a ball-park average and clearly there are huge differences across the country. The Government of Pakistan convened an expert group to describe a very basic package of essential health interventions that could dramatically improve the health of Pakistanis. Globally, it is judged that an Essential Universal Healthcare Package should include 108 high priority interventions.<sup>48</sup> The Pakistani experts eventually concluded that the bare minimum package should include 88 interventions and would cost an additional \$12.96 per person. In other words, government expenditure in Pakistan would need to increase by almost \$13 per person just to provide a very minimal package of services that includes just over 80% of the interventions that are classified globally as “essential: high priority”. (Health expenditure would also need to become more efficient, so that there was no wastage or spending on ineffective practices, as discussed below.) The package will soon be piloted in selected districts in each province, which will produce useful details about the resources required for widespread implementation.

This clearly shows why it is important to spend more government money on health – current spending does not even cover the basic minimum identified by Pakistani experts. More positively, however, focusing on the \$12.96 package could bring excellent returns even within two years - an estimated 44 million additional years of life could be lived in good health. This could substantially improve Pakistan’s basic health indicators.

Improving health is not all about spending more money, it is also about using existing government expenditure better. “Better spending” in this context has two aspects – re-prioritising to spend on a different mix of interventions to have a greater impact on health and spending more efficiently/less wastefully.

### 4.2 The particular importance of spending on reproductive health

Spending on reproductive health, including family planning, has a special place in healthcare expenditure because it can simultaneously deliver highly significant benefits in a number of different areas. There are extremely cost-effective interventions available which can substantially improve the health of women and children and reduce population growth. As discussed above, a lower rate of population growth would have benefits in many sectors, including the economy, employment, education and water availability.

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<sup>48</sup> Jamison et al (2017) *Disease Control Priorities: Improving Health and Reducing Poverty*, 3rd edition, Disease Control priorities, Vol. 9. World Bank

Table 5 shows the enormous benefits – in the short-, medium- and long-term – of spacing the birth of children more than two years apart. A child born 2-3 years after its elder sibling is over twice as likely to survive until the age of five. Moreover, well-spaced families tend to be smaller on average. Longer birth intervals are promoted through a mix of activities related to reproductive health, including public awareness, pre- and post-marital counselling and improving modern contraceptive services.

**Table 5: Early Childhood Mortality Rates during 2007-2017<sup>49</sup>**

Interval between births	Neonatal Mortality	Post neonatal mortality (difference between neonatal and infant mortality)	Infant Mortality	Child Mortality	Under 5 Mortality
<2 years	65	35	100	24	122
2-3 years	28	14	41	10	51
4-6 years	27	8	35	6	41

Spending an average of \$3.3 per person per year between 2021 and 2030 on basic maternal, child and reproductive healthcare (i.e. selected interventions from the Pakistan essential minimum package described above) could annually save an additional 1,900 lives of mothers and more than 61,000 lives of under five children, whilst also preventing 1.7 million unintended pregnancies per annum and more than 350,000 cases of stunting.<sup>50</sup> This estimate is based on the existing mix of family planning methods. However a recent study shows that it is likely that shifting from short-term methods to Long-Acting Reversible Contraceptive (LARC) can cost 15% less per Couple Year Protected.<sup>51</sup> A well-managed, reasonably funded programme in this area could yield enormous benefits for the health and wider well-being of Pakistan's citizens.

### 4.3 Many of the best buys in health are in the first 1000 days of life; these also contribute greatly to human capital development

Investments in reproductive health and family planning have a “double positive” in that they provide a service which is very valuable to individuals, but also make a particular contribution to economic development. The same is true for investments in the health of young children, which account for many of the 88 priority interventions identified for Pakistan's Universal Health Coverage Benefit Package. Many of the “best health buys” from which Pakistan can benefit relate to the first 1000 days of life; investment in this area also has positive long-term effects on the accumulation of human capital to fuel the economy. The first 1000 days of life (“early childhood”) is proven to be a vital stage in terms of an individual's long-term health, capacity to learn, and productivity. Investments in early childhood development – including, crucially, in maternal and child health and nutrition – are also investments in the productivity of the human capital which will fuel Pakistan's future economic development. As we have seen, despite significant reductions in infant mortality in Pakistan improvements have been slow, and the rates are still high by global standards. Improvements in infant survival have positive effects on many levels – on the children themselves, their contribution to Pakistan's human capital and on long-term fertility rates, which tend to drop as infant survival rates improve.<sup>52</sup>

<sup>49</sup> Pakistan Demographic and Health Survey 2017-18. Data excludes first order births. Post-neonatal mortality is the difference between neo-natal and infant mortality.

<sup>50</sup> The methodology for this calculation is explained in Annex 1.

<sup>51</sup> Mahmood A, Cost-effectiveness of shifting from short-term methods to Long Acting Reversible contraceptives in Punjab – health and economic impact analysis, WISH2 ACTION, DFID, July 2020.

<sup>52</sup> Ahmed, Syud Amer et al (2019) Pakistan@100: Human Capital. Policy Note, World Bank Group

**Box 4: Is spending on nutrition a substitute for spending on health?**

It is sometimes argued that the basic problem in Pakistan is nutrition, and that increases in health expenditure would not be required if nutrition was significantly improved. Children who are under-nourished and/or frequently ill are at high risk of developmental problems. It is true that health and nutritional status are inter-linked and that, other things being equal, a child with better nutritional status is likely to be healthier. But well-nourished children are still vulnerable to serious illness if they are unvaccinated, are born less than two years after their next older sibling, or if they live, for example, in unhygienic, poorly ventilated or dengue-prone environments. Investments in nutrition and health are mutually complementary but they are not substitutes for each other.<sup>53</sup> The support given by the health sector for acutely malnourished children needs to be complemented by investment in improved food supplies, knowledge about a healthy diet and support for exclusive breastfeeding.

**4.4 Missed opportunities: a useful way of thinking about where the priorities are**

Although it is useful to think about individual health interventions, it can distract from thinking about health service delivery in the round. “Missed opportunities” is a way of thinking about focusing on when people most need services: the example here is for Reproductive, Maternal, Neo-natal and Child Health (RMNCH). An efficient health system has continuity between essential maternal, neo-natal, and child health, throughout adolescence, pregnancy, childbirth, post-natal and neo-natal periods and into childhood, building upon natural interactions throughout the lifecycle. For example, access to family planning services can contribute to a wanted pregnancy at the right time; good care during pregnancy increases the chances of a safe birth; and skilled care at and immediately after birth reduces the risk of death or disability for both the mother and the baby. The effect in each time period depends on the foundation set in the preceding period, ensuring a more comprehensive healthcare experience for each woman and child.

At the public health level, linking these packages and integrating service delivery results in more lives saved at less cost – resulting in a more integrated and efficient health system. Integration along the continuum also promotes opportunities to link with other important programmes, such as nutrition promotion, in addition to more single-focus programmes, such as malaria control and immunisation. Figure 13 summarises key indicators along the continuum of care for Pakistan.

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<sup>53</sup> Black et al (2017), Early childhood development coming of age: science through the life course, *Lancet* 389: 77–90

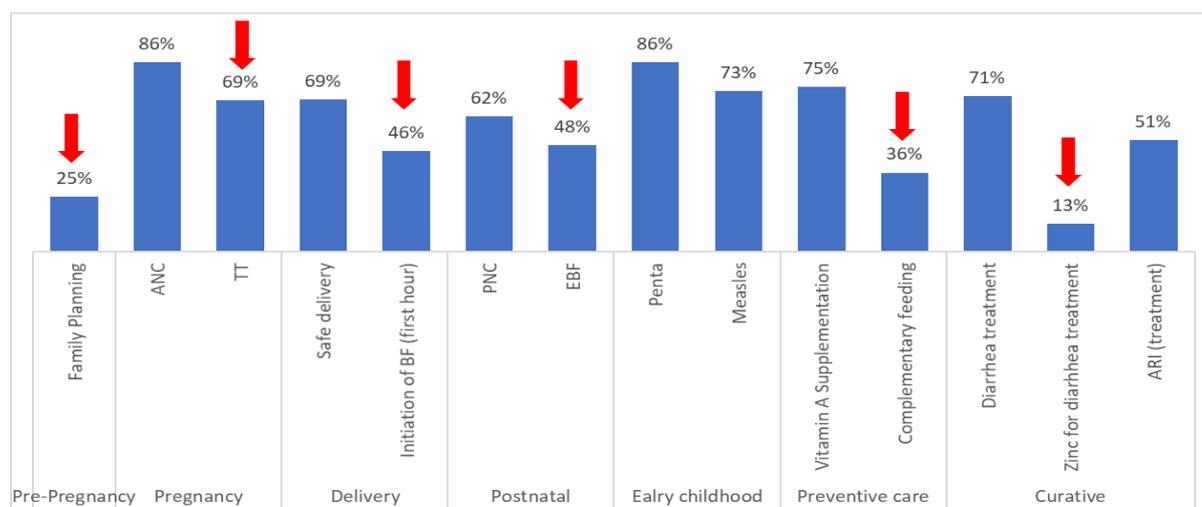
**Figure 13: Missed opportunities in Pakistan along the continuum of care**<sup>5455</sup>

Figure 13 shows coverage along the continuum of care from pre-pregnancy, through birth and on to childhood. National coverage for ante-natal care, for example, is 86%, and 69% for skilled birth attendance. Many of the interventions delivered through community-based care or outreach have low coverage –modern contraception is an example. There are clearly large gaps at key junctures in the life journey of both child and mother. Under-nourished children (stunted, wasted), those not optimally breastfed and those suffering from micronutrient deficiencies are likely to suffer long-term repercussions and have substantially lower chances of survival. The continuum of care illustrates missed opportunities (red arrows) where coverage levels within the same service delivery mode could have been higher. The graph highlights the fragmentation of services: fragmentation manifests itself as lack of coordination between the different levels and settings of care, duplication of services and infrastructure, unutilized productive capacity, and healthcare provided at the least appropriate location, especially hospitals.

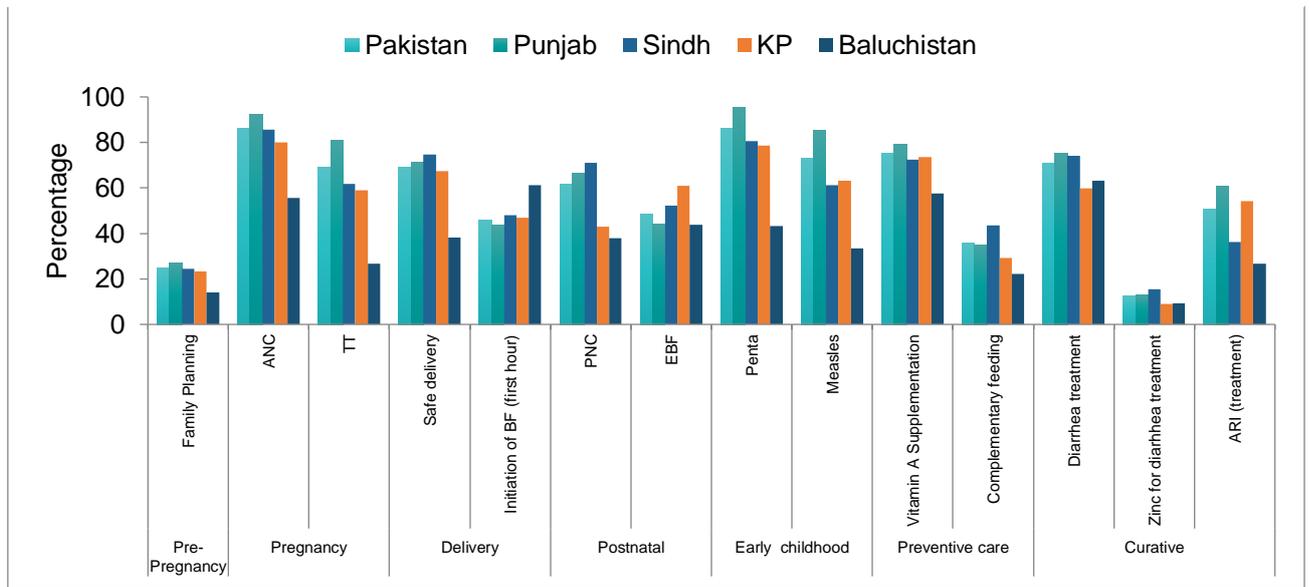
There are opportunities to improve the continuum of care: this should be the first focus of any additional investment.

Figure 14 shows the continuum of care data by province. Although the broad pattern of relative coverage is fairly consistent, with Punjab often at the highest levels of coverage and Balochistan the lowest, there are some exceptions, which highlight areas for attention because other provinces have managed to do particularly well. Sindh is doing best with safe deliveries, for example; Balochistan with the early initiation of breastfeeding; and KP with exclusive breastfeeding.

<sup>54</sup> ANC = Antenatal Care, TT = Tetanus Toxoid, PNC = Post-Natal Care, BF = Breast-Feeding, EBF = Exclusive Breast Feeding, Penta = Pentavalent vaccine, ARI = Acute Respiratory Tract Infection.

<sup>55</sup> Source: developed by author using data from Pakistan Demographic Health Survey, 2017-18.

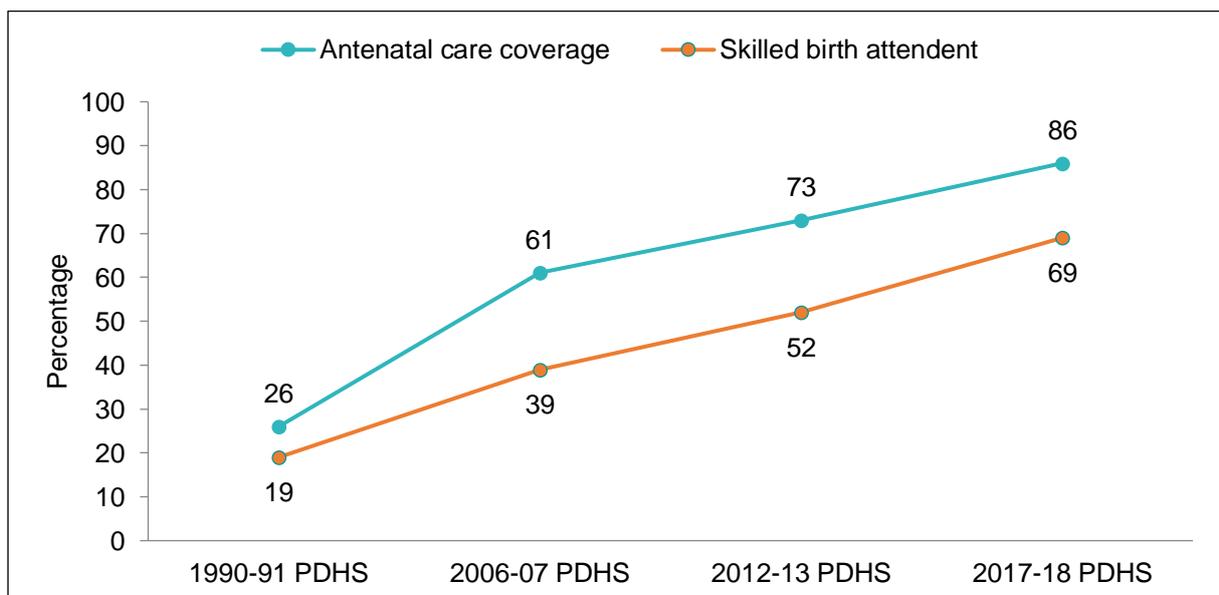
**Figure 14: Provincial variations along the continuum of care**



#### 4.5 Positive change through a focus on priority services is possible – it has happened before

Improvements in the delivery of priority services are possible and much has already been achieved, as Figure 15 demonstrates. Coverage of ante-natal care and births attended by a skilled health worker have improved far faster than population growth, demonstrating what can be achieved with targeted attention.

**Figure 15: Improvements over time in ante-natal care and skilled attendance at birth<sup>56</sup>**



<sup>56</sup> Data from World Bank Open Data, <https://data.worldbank.org/>, using data from UNICEF's State of the World's Children, Childinfo and Demographic and Health Surveys.

Progress can be accelerated when expanding appropriate service provision receives concerted attention – and additional resources – from government. A programme of targeted health and nutrition support in Punjab and KP achieved some impressive results between 2015 and 2019:<sup>57 58</sup>

- Ante-natal care visits increased by 251%, with an additional 118 visits per month per Basic Health Unit (BHU)
- Many BHUs remained open for deliveries 24 hours per day <sup>59</sup> these Units saw an increase of 550% in the number of deliveries, representing an additional 36 deliveries per month per BHU
- Post-natal visits increased by 41.8%, an additional 28 visits per month per BHU
- Family-planning visits increased by 23%, an additional 9 per month per BHU
- The availability of essential medicines at government facilities improved from 72% to 98% in Punjab, and from 46% to 68% in KP
- The cost to government of deliveries at primary healthcare facilities reduced by 49%.

Altogether, more than 37,000 lives of mothers and children under five years old were saved.<sup>60</sup>

A “Roadmap” approach was used which regularly monitored health facilities and showed the results to senior decision-makers, who reacted decisively to make resources available and to tackle bottlenecks. This experience shows that targeted efforts can lead to impressive changes in Pakistan.

#### 4.6 Spending by government is vital: the private sector alone will not deliver the required health improvements

There are clearly some excellent opportunities for Pakistan to invest in high-impact health interventions that could significantly improve citizens’ health. Does government need to be involved in funding these services?

The answer about government involvement is yes, for two main reasons. The first is that people do not have the necessary information to spend money on the most health-enhancing interventions (e.g. vaccination, support to stop smoking). Secondly, many people who need health care cannot afford it, so either they do not access care, or they spend money which could be better used for other essentials. These two factors work together to cause market failure in health care, meaning that government involvement is necessary for an efficient, effective population-wide healthcare system.

Pakistan cannot simply rely on economic growth to improve its health: market failure means that an efficient privately funded healthcare system does not automatically emerge as a country’s economy grows. There are some extremely cost-effective health interventions – for example the management of tuberculosis and other communicable diseases, disease surveillance, vaccinations and the promotion of breastfeeding – that would not be delivered without government support. These types of interventions require equitable distribution (and eventually, universality) to reach their full potential. And the unpredictable nature of healthcare needs – the breadwinner of a large family is seriously injured in a car accident; a young diabetic requires life-long medication – means that it makes sense to have some sort of collective funding to prevent that entire family falling into poverty as they try to pay for treatment. Or an individual may not have the money to pay for treatment of an infectious disease, so it makes sense for the wider community (government) to support the treatment because it has benefits far beyond the infected individual.

For most of Pakistan’s 88 priority interventions government will need to lead the way, as the private sector would not be able to provide those services to the required population without some role for government funding. For example, we discussed above the substantial OOP payments involved in

<sup>57</sup> Technical Resource Facility + (2017) 24/7 Basic Health Units in Punjab, a Value for Money case study

<sup>58</sup> Mott MacDonald (2019) Provincial Health and Nutrition Programme End of Project Value for Money Assessment

<sup>59</sup> Earlier they were operating 8 hours in a day and six days in a week.

<sup>60</sup> Calculation from DFID End-of-project Assessment.

getting skilled birth care, which if not provided by government can lead to women ending up with a non-skilled provider or taking catastrophic loans. Similarly, immunisation cannot be left for people to buy - this service needs to be provided by the government to ensure that a high enough proportion of the population is immunised, and health systems are not later burdened by diseases that were preventable in the first place. Prevention is generally more cost-effective: if not prevented, more expensive care at secondary or tertiary level will need to be provided. Box 5 gives examples of interventions where there is a clear case for government intervention.

### Box 5: Health spending as an investment for government

Vaccination is a cost-effective intervention with a long-term stream of benefits. Based on the costs of illnesses prevented, the return on investment for each \$1 spent on 10 basic pathogens was estimated to be \$19.8 for the period 2021-30 for low- and middle-income countries as a whole. In other words, \$1 spent now will avoid \$19.8 of healthcare costs in the future.<sup>61</sup>

Reducing unmet need for modern contraception is another investment with good returns: this would not only reduce maternal deaths and induced abortions but would also save costs on services to pregnant women, deliveries and new-born care. For every US\$1 spent on modern contraceptive services for unmet need there will be a saving of US\$2.50 on maternal and neo-natal care.<sup>62</sup>

Support for individuals to give up smoking is a highly cost-effective intervention, with benefits to the health of the individual; the avoidance of their future smoking-related healthcare costs; fewer house and workplace fires caused by smoking; and fewer dangers from passive smoking for family members and the wider community.<sup>63</sup>

The examples of vaccination, contraception and smoking cessation support show how spending on highly cost-effective health interventions can reasonably be seen as an investment, rather than merely a cost. They are also all examples of services which individuals can delay or go without if they are put off by the cost, yet in all three cases society as a whole benefits from high levels of use of these interventions.

As we have seen, efficient government expenditure needs to be spent on the right things: in this case cost-effective health interventions. Efficient expenditure also needs to reach the people who can benefit from it most – the lowest income groups who are most prone to ill-health and vulnerable to impoverishing health bills. This requires careful targeting, with service provision that is convenient for the poorest people to use. Focusing on the widespread availability of priority interventions should increase utilisation by those most in need and should reduce the poorest people's reliance on private chemists and dispensers which can be expensive and are not regulated for quality.<sup>64</sup>

Positive steps often have to be taken to ensure that services are actually used by the people who need them most. For example, when Punjab made delivery services available 24/7 in Basic Health Units, more than 50% of the users were from the richer 40% of the population, meaning that some people who could have afforded private healthcare of a reasonable quality benefited from government subsidy, whereas others in greater need (both financially and health-wise) did not.<sup>65</sup> Further thinking was needed to ensure that the services were regarded as accessible by all income groups.

<sup>61</sup> Yoon Sim S et al (2020) Return on Investment from Immunization Against 10 Pathogens In 94 Low- And Middle-Income Countries, 2011–30. Health Affairs Vol. 39, No. 8.

<sup>62</sup> Sundaram A et al (2019) Adding It Up: Costs and Benefits of Meeting the Contraceptive and Maternal and Newborn Health Needs of Women in Pakistan. Guttmacher Institute/Population Council.

<sup>63</sup> Parrott S and Godfrey C (2004) Economics of smoking cessation. BMJ Apr 17;328(7445):947-9.

<sup>64</sup> A 2015 report noted that private chemists/dispensers were used more by the poorest quintiles, unlike government facilities and private hospitals. Malik MA (2015) Universal health coverage assessment Pakistan. Aga Khan University.

<sup>65</sup> TRF+ (2017) 24/7 BHUs in Punjab, a VFM case study

#### 4.7 Reducing waste is a necessary aspect of “better spending”

This paper is about the many benefits of spending more government money on health and of spending it wisely on the most cost-effective health interventions. It would be wrong, however, to ignore the problem of inefficiency and waste: money needs to be spent efficiently so that health interventions are actually delivered. It is estimated that between 20% and 40% of government health spending is wasted, with problems including ghost workers, absenteeism, poor quality drugs and services, over-prescription, fraud and corruption.<sup>66</sup>

There are positive examples of successful programmes to tackle wastage in the public sector. For example, one area of waste is late releases of government budgets and insufficient capability to fully utilise the allocated amounts of money. After concentrated support to improve public procurement and financial management, budgetary utilisation rates significantly improved from 74% to 87% in Punjab and 64% to 88% in KP between 2014 and 2017. Utilisation of the development budget in particular improved remarkably in both provinces - from 25% in Punjab and 47% in KP to close to 80% in both provinces. Improvements were also seen in utilisation of provincial current budgets. A notably successful aspect of this work was the focus on procurement cycles – initiating these earlier allowed for higher in-year expenditure.<sup>67</sup> It was estimated that for every \$1 spent on improving budget management \$290 was generated for the health sector to spend.<sup>68</sup>

There are many areas in which waste and inefficiency can be reduced and this has to be part of the ambition to spend more and to spend better. This is true for both direct government provision of services and for schemes such as the Sehat Sahulat Programme, which pays for services through the notoriously expensive fee-for-service method of reimbursing hospital bills. This gives no incentive to providers to behave efficiently.<sup>69</sup>

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<sup>66</sup> Hamandi A and Sohail J (2019) Creating fiscal space for Universal Health Coverage: options for Pakistan. World Bank.

<sup>67</sup> Zaidi S (2019) Focusing on Public Financial Management for Transitioning to Universal Health Coverage 2030: Lessons from Pakistan. Mott MacDonald

<sup>68</sup> Technical Resource Facility + (2017) 24/7 Basic Health Units in Punjab, a Value for Money case study

<sup>69</sup> Morgan L (2019) *Actuarial Analysis of the Federal Sehat Sahulat Program* International Labour Office: ILO

## 5 COVID-19 reinforces the case for more and better health spending

We have discussed Pakistan's extreme levels of ill-health and how higher government spending on health services will be beneficial for the people of Pakistan, their health and the national economy. The COVID-19 pandemic strengthens and reinforces these points.

At the time of writing (November 2020), the medium- and long-term effects of COVID-19 on the economy are unknown. However, it is already clear that the impact during the fourth quarter of financial year (FY) 2019/20 (April – June 2020) was severe. For example, the industrial sector in Pakistan contracted by 2.64% and the services sector declined by 0.59%. Moreover, at the same time as revenue was reducing because of economic decline, the government had to spend huge sums to support people and the economy, starting with the announcement of a PKR 1.24 trillion relief package.<sup>70</sup>

The Pakistan Economic Survey<sup>71</sup> concluded that FY 2019/20 was the “toughest in the history of Pakistan's economy” with the economy contracting (as opposed to the aim of growing) by 0.4%. It predicted 2% growth in 2020/1 – lower than the population growth rate – along with increased unemployment and poverty, with an estimated 10 million more people falling below the poverty line.

COVID-19 has shown how vulnerable national economies are to disease outbreaks. It also exposed the fragility of the basic public health system in Pakistan. Some of the most important, health-enhancing interventions such as general out-patient attendance, consultation for children under 5 years with diarrhoea, ante-natal care visits, deliveries attended by a skilled health care worker, family planning and immunisation - all declined markedly in April and May 2020 from the same months in 2019, as shown in Figure 16. These missed health care events will have a negative impact for years to come. The fall in activity could have been mitigated by stronger management, including the timely provision of PPE (personal protective equipment).

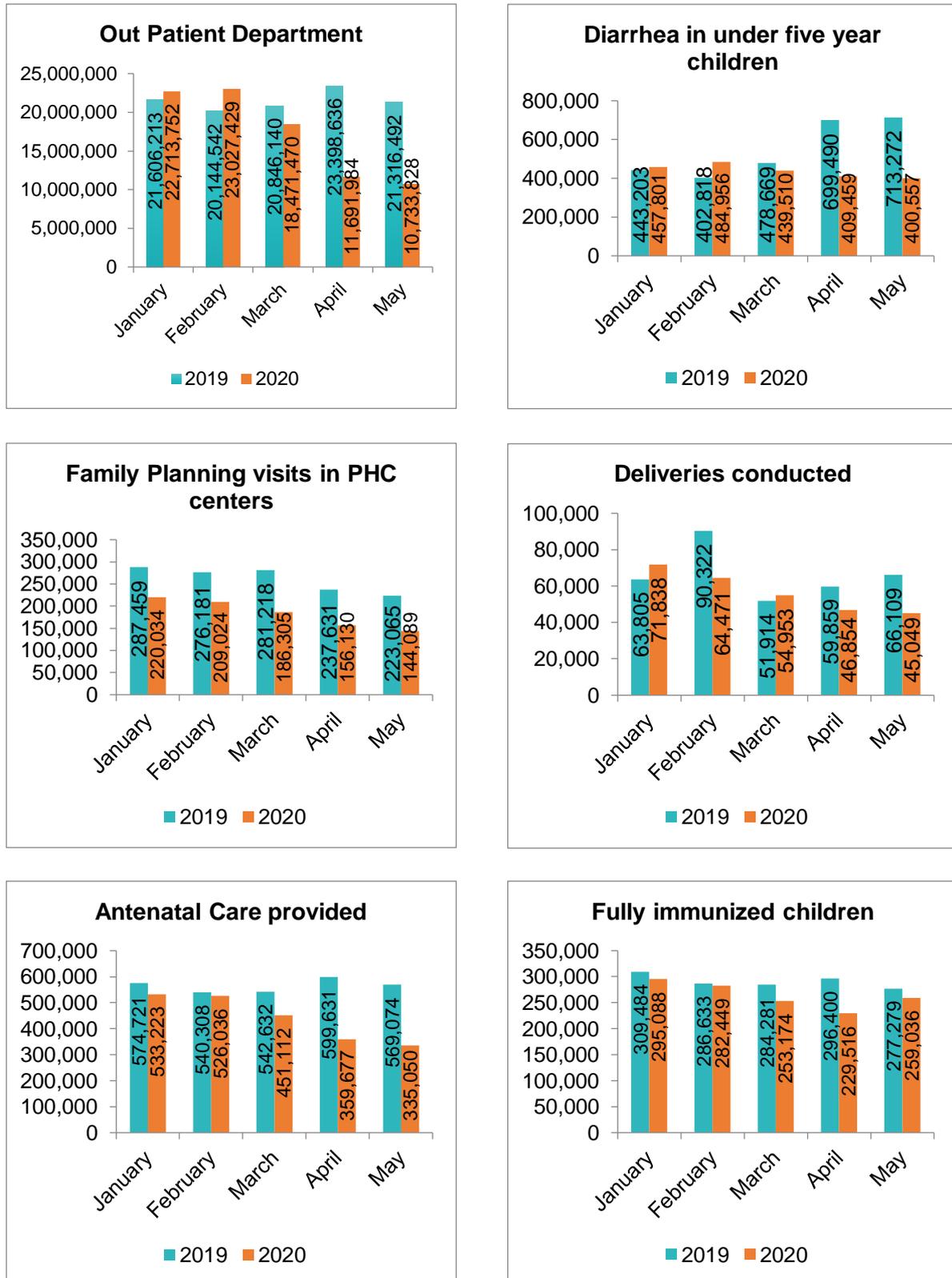
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<sup>70</sup> Pakistan Economic Survey 2019-20, Economic Advisers Wing, Finance Division, Government of Pakistan, 2020.

<sup>71</sup> Pakistan Economic Survey 2019-20, Economic Advisers Wing, Finance Division, Government of Pakistan, 2020.

**Figure 16: The impact of COVID-19 on health utilisation rates, 2020**

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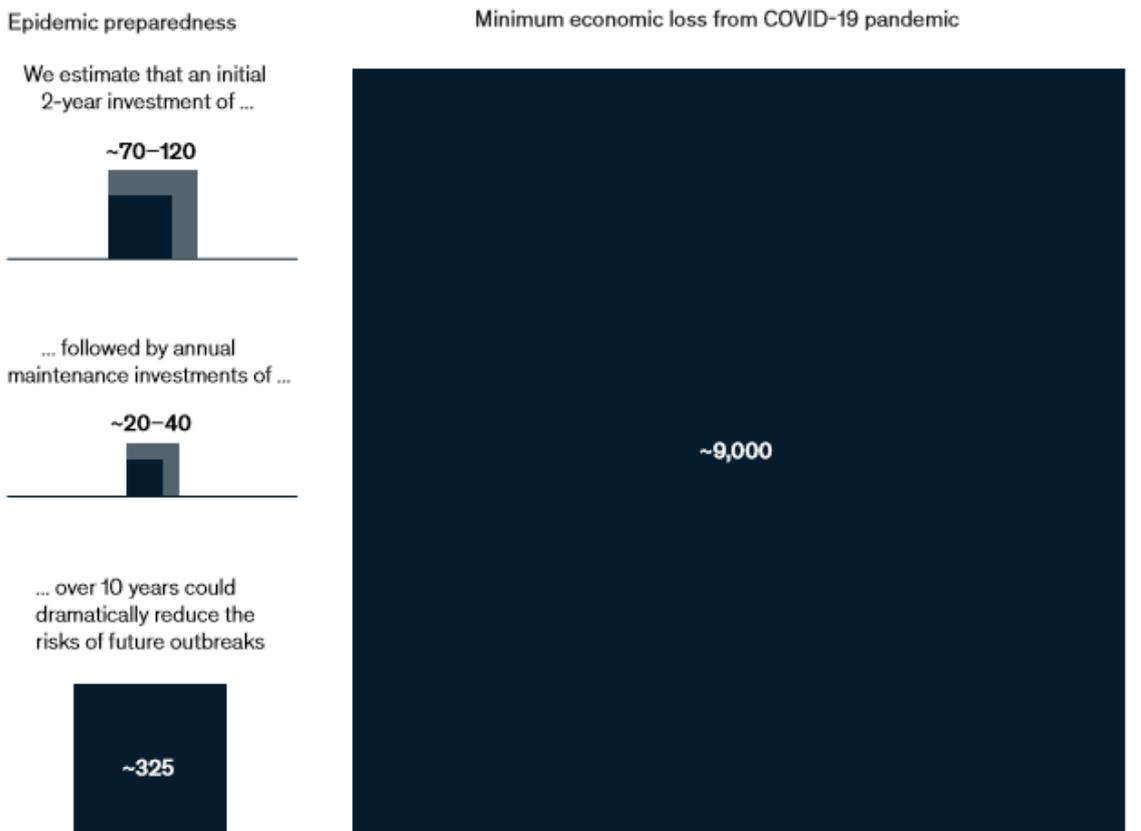
<sup>72</sup> Government of Pakistan Ministry of National Health Services, Regulations and Co-ordination (July 2020) COVID-19 Pandemic and Pakistan: Update.

Investment in pandemic prevention and control – for COVID-19 and for other future pandemics – is becoming a standard part of national economic strategies and has moved on from being merely a sectoral health concern. Figure 17 shows the relative size of global health expenditure required to mitigate the effects of a pandemic compared with the huge scale of the economic losses from COVID-19, clearly demonstrating how the pandemic has exposed why it is so very important to invest government money in health services.

**Figure 17: Return on Epidemic preparedness<sup>73</sup>**

**Assuming a COVID-19-scale epidemic is a 50-year event, the return on preparedness investment is clear, even if it only partly mitigates the damage.**

Estimated costs, \$ billion



<sup>73</sup> Source: Craven M et al (2020) Not the last pandemic: investing now to re-imagine public-health systems. McKinsey and Company.

## 6 Spend more and spend better

### 6.1 A focussed approach and modest additional expenditure could achieve a lot in terms of better health

After the devolution of health services to the Provinces, the need for provincialized health policies and plans led the respective governments to develop province-specific essential service packages. KP, Punjab and Sindh developed their own versions of costed essential packages for primary health care provision. These packages detailed what services at what level of health care needed to be provided as an 'essential'. While 'best-buys' were considered as a key factor in developing these packages, there was no prioritisation exercise based on outcomes such as DALYs. Later, Punjab and KP developed secondary level packages as well. These packages have been used in policy making (though in a limited manner), but they have not been consistently monitored or costed, and they have not significantly influenced decisions on resource allocation. The recent work on DCP3 gives an opportunity to renew focus on packages of care which are based on a thorough analysis of evidence.

If Pakistan is to reach 80% of its population with something similar to the global Essential Universal Healthcare Package of 108 high priority interventions this could cost over \$50 per capita,<sup>74</sup> whereas total health expenditure is currently around \$40, of which about \$14 is spending by government. Clearly this is a huge increase which would take time to achieve. However, this goal should not be forgotten entirely because it is not a "luxurious" aspiration – it is after all seen as an "Essential" Universal Package that should be available to everyone.

The challenge of developing universal essential services has to be addressed incrementally through a combination of higher government spending and changing patterns of existing expenditure. Considerable benefits can be reaped from the start of the journey, through an enhanced focus on priority services and additional expenditure of less than \$2 per capita.

Table 6 gives details of the financial and health effects of focussing on eight high-impact health interventions. As discussed extensively in this document, much of the focus has to be on Reproductive, Maternal, Neo-natal and Child Health (RMNCH) services, but there are also extremely high returns from interventions related to fever, tuberculosis and trauma. The coverage levels are levels which the Essential Universal Healthcare Package Expert Group judged could be realistically reached within two years, which is why they are different for each intervention. Providing all these interventions would cost an additional \$1.62 per capita. The DALYs averted – i.e. the improvement in the health of citizens – from these eight interventions could amount to more than 33 million DALYs. To put this in perspective, we saw in Figure 6 that the total burden of disease in Pakistan was 94.2 million DALYs in 2019.

Clearly the figures given here are an over-simplification. Individual health interventions are not entirely stand-alone activities – a health centre needs to function in the round, not just providing the relevant high-impact interventions listed in Table 6. But the key message of the figures is powerful and valid: there is the potential for Pakistan to enjoy some major health improvements through some additional expenditure and a strong focus on appropriate priorities.

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<sup>74</sup> Ruega ST et al (2020) op cit. The "Global" package and the final Pakistan package are not perfectly comparable, because both contain interventions unique to them, but the broad-brush estimate of \$50 is nevertheless useful for international comparisons of a "typical" package.

**Table 6: The financial and health impact of high-benefit, cost-effective health interventions**

Intervention	Location – Level of service delivery	Programmatic area	Coverage %	Cumulative		
				Cost per capita	DALYs averted	DALYs share (%)
Management of labour and delivery in low risk women by skilled attendant (PHC)	Health Centre	RMNCH	70	\$0.29	14,082,885	32%
Fever management for clinically unstable	First-level Hospital	Infectious Disease	45	\$0.34	22,618,588	51%
Management of labour and delivery in low risk women by skilled attendant (CL)	Community level	RMNCH	20	\$0.38	26,891,622	61%
Basic neonatal resuscitation following delivery (PHC)	Health Centre	RMNCH	70	\$0.40	30,190,172	69%
Trauma laparotomy	First-level Hospital	Health Services	62	\$0.68	33,337,219	76%
Diagnosis of TB and first-line treatment	Health Centre	Infectious Disease	70	\$0.85	34,977,296	79%
Trauma-related amputations	First-level Hospital	Health Services	26	\$0.96	35,685,258	81%
Childhood vaccination series	Community level	RMNCH	70	\$1.31	36,333,279	83%

We tried to estimate the financing required at provincial level for implementing the packages using two scenarios i.e. (i) implementation of the \$12.96 per capita package and (ii) focussed implementation of the minimum essential interventions costing \$1.62 per capita (see Table 7).

**Table 7: Estimated resource requirement of implementing Essential Service Package by provinces - figures in million US\$**

Province	Existing allocation	Scenario 1 @ US\$ 12.96		Scenario 2 @ US\$ 1.62	
		Estimated costs	(%) of existing allocation	Estimated costs	(%) of existing allocation
Punjab	1,721.21	1,425.76	83%	178.22	10%
KP	754.73	395.58	52%	49.45	7%
Sindh	947.76	620.60	65%	77.58	8%
Baluchistan	269.39	159.98	59%	20.00	7%
Total	3,693.09	2,601.93	70%	325.24	9%
DALYS averted – million		40.36		33.07	

The additional costs for implementing scenario 1 in comparison to scenario 2 are substantial – scenario 1 costs eight times more. However, the relative return for increasing investment beyond US \$1.62 is minimal. The additional investment (in addition to US \$1.62) of US \$11.34 per capita can avert “only” 7 million DALYs. In other words, investing an extra 700% would avert an additional 22% of DALYs. In a resource constrained environment such as Pakistan’s, choices of interventions need to be made very carefully. A stepwise approach to implementation based on resource availability is one option to consider, focussing on gradual but sustainable increases in priority service provision.

Table 6 also demonstrates that it is not only about additional investment, but also investing in the right interventions for the right target populations. If government funding is to be increased, it should not only consider ‘what is being bought’ but also ‘for whom it is being bought’. This approach can yield excellent value for money in healthcare delivery.

Cost estimates used in Tables 6 and 7 are taken from Pakistan’s DCP3 work. The estimates need to be interpreted with caution as they under-estimate costs in four ways: (i) indirect costs are not included, (ii) inefficiencies not captured such as staff down time etc. (iii) staff time used for purposes other than direct provision of service e.g. recording, filing, reporting and other administrative tasks, (iv) additional fixed costs that will be required when increasing coverage levels. Despite the shortcomings, these calculations provide ball-park estimates for macro-level policy setting.

## 6.2 Where will the money come from for increased spending on health?<sup>75</sup>

As discussed above, Pakistan spends relatively little on health relative to its GDP, with the majority of this spending in the form of out-of-pocket payments. Government spending as a whole in Pakistan is very low relative to the size of the economy – of this, only 4.3% is spent on health (2017). (See Table 3.)

One way to find government money to spend on health is to increase overall government spending as a percentage of GDP. There is potential to increase provincial and federal income through tax reform. Prior to COVID-19, taxation as a percentage of GDP had risen from 10% to 12.5%, with the aim of

<sup>75</sup> This section draws heavily on Hamandi A and Sohail J (2019) Creating fiscal space for Universal Health Coverage: options for Pakistan. World Bank.

raising it to 18%. During the peak of the COVID-19 crisis in 2020 this fell to 9.5%, but it is realistic to assume that it can re-gain previous levels and increase beyond that. The main strategies for increasing the tax base include simplifying rules and payment mechanisms, increasing coverage and improving methods for determining tax liabilities.

It is sometimes said that government income specifically earmarked for health is a good way to increase public expenditure on health. This could be in a variety of forms, including:

- Payroll contributions for social health insurance
- Health taxes such as on tobacco or sugary drinks
- Earmarking a proportion of VAT.

Whilst social health insurance does have some revenue-raising potential in the longer-term, it is currently less than 1% of total health spending. (In Indonesia it is 9% and in Vietnam 19%.) The fact that 60% of Pakistan's labour force works in the informal sector makes social health insurance particularly difficult to organise. Expanding insurance should definitely be part of Pakistan's medium-term plans for health financing, but it will not provide the necessary short-term boost.

Although the Sehat Sahulat Programme is sometimes described as social health insurance, it does not take contributions from beneficiaries and is therefore not revenue-raising. A third party is paid by government to provide services to members. A 2019 analysis of the Programme concluded that the costs per family were almost certain to rise in the near future – this means that either governments need to allocate new money to the scheme, or non-members will suffer a reduction in services.<sup>76</sup>

There is some potential to raise funds from taxes on tobacco and sugary drinks, but the overall contribution of this to total government health expenditure should not be exaggerated. Even the most enthusiastic proponents of tobacco and sugar-related taxes agree that the substantial health gains are the main reason for promoting such taxes, with the additional revenue from such tax increases very much a secondary consideration.<sup>77</sup>

Probably the most realistic way to significantly increase government spending on health in the near future is to increase the percentage of government expenditure devoted to health - i.e. to make an explicit choice that improvements in health are a worthwhile investment. This conclusion is illustrated in Figure 18 (devised by the World Bank). In 2024, per capita GDP is projected to be \$1727, and a modest increase of total government spending is feasible, moving from 20% to 22% of GDP. The most flexible part of the so-called "Mathematics of Public Spending on Health" is health as a proportion of government expenditure, because it is fully within the powers of provincial and federal governments to make this decision for themselves. The figure shows the impact of increasing the percentage spent on health, reaching as high as \$34 per capita if 9% was spent on health. Whilst 9% is a very significant increase, Figure 19 is a reminder that Pakistan has spent almost 6% on health in the past, notably during the last two years of the Social Action Programme II <sup>78</sup> which focused on health, education, rural water supply and sanitation. The sharp decline in 2002 coincides with the end of the Programme.

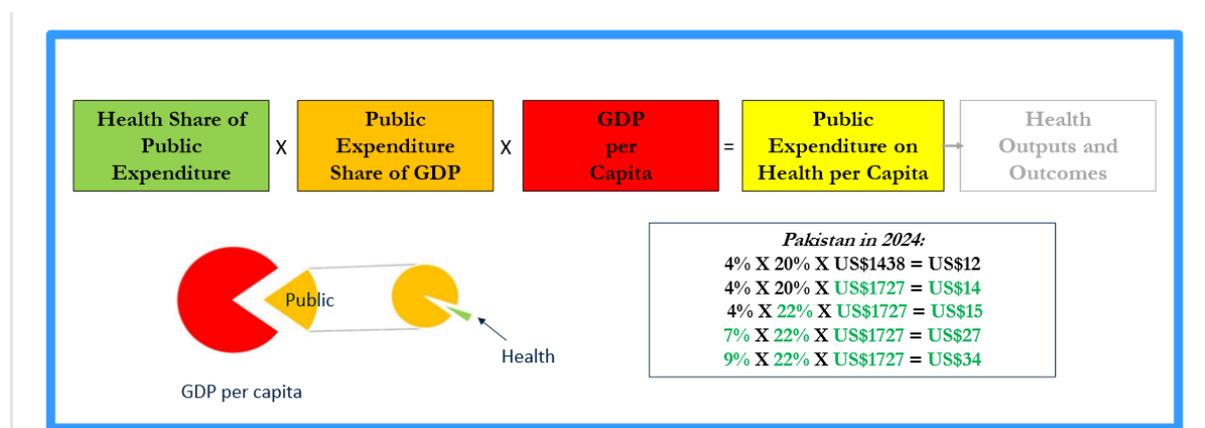
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<sup>76</sup> Morgan L (2019) *Actuarial Analysis of the Federal Sehat Sahulat Program* International Labour Office: ILO

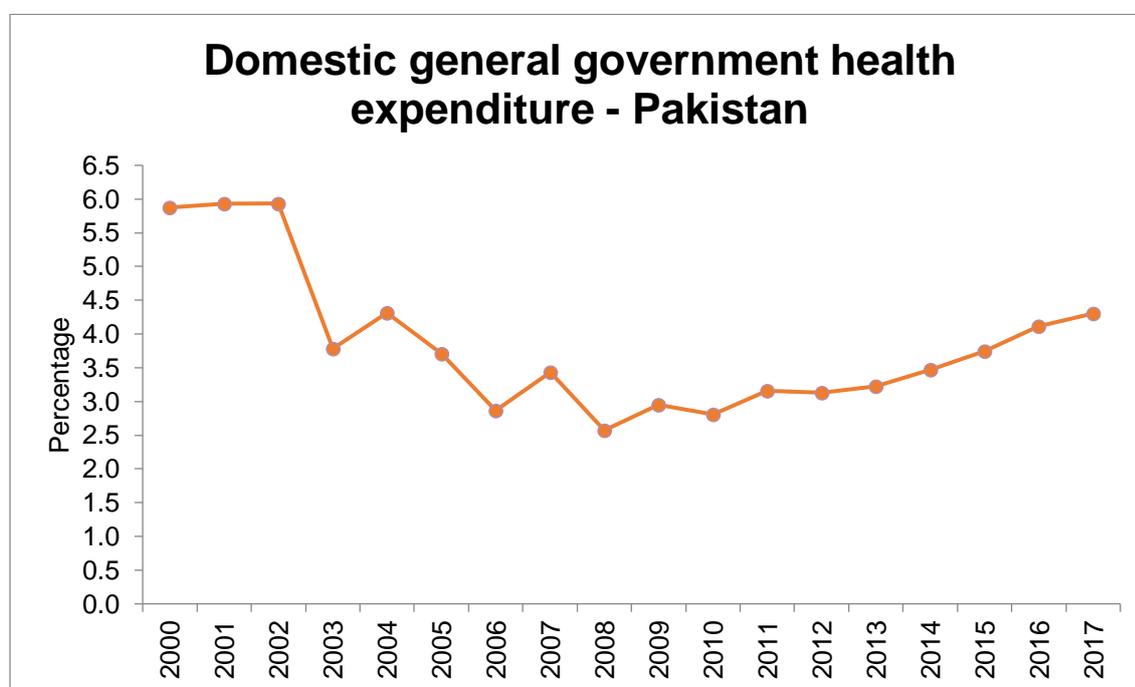
<sup>77</sup> Task Force on fiscal policy for health (2019) *Health taxes to save lives: employing effective excise taxes on tobacco, alcohol, and sugary beverages*. Page 3v

<sup>78</sup> Duration of Social Action Programme 1997-2002

**Figure 18: Mathematics of Public Spending on Health: A Summary**<sup>79</sup>



**Figure 19: Domestic general government health expenditure (% of general government expenditure) - Pakistan**



Previous chapters have shown that government health expenditure needs to increase if Pakistan is to provide even a very basic primary care package costing \$12.96 per capita per year, which will still require a decade to achieve the universal coverage target of 80%.

A lot is known about how this additional expenditure should be targeted to achieve considerable improvements in the nation’s health. There are very positive local examples of what can be achieved, and Pakistan is a global pioneer in systematically identifying its priorities through the internationally recognised “DCP3 method”. The importance of tackling these long-standing problems is even more important when the rise of NCDs is considered – Pakistan needs to address its problems with Reproductive, Maternal, Neo-natal and Child Health (RMNCH) and communicable diseases to free up resources to tackle the increases in chronic NCDs.

<sup>79</sup> Duration of Social Action Programme 1997-2002

Higher government spending on health is realistic and reasonable in terms of international comparisons. India and Nepal – as well as lower middle-income countries as a whole – spend a higher percentage of GDP on health. Iran spent about five times as much on health as Pakistan in terms of both percentage of GDP and percentage of total government health spending. Moreover, Pakistan has done it before, with almost 6% of total government spending going to health in 2001 and 2002.

It is not only the quantity of government health spending that is important, it is also the quality: in other words, spending in an efficient way on the most effective health interventions provided to the people who need them most.

Changing the composition of spending is easiest when the total budget is growing because the new money can be focussed on the areas identified for higher spending. However, re-prioritisation is possible with static budgets too, and in Pakistan this would be highly desirable, with the potential to save many lives. Tackling inefficiencies and wastage in expenditure would also release funds that could be used to provide the priority interventions.

### 6.3 Now is a good time to increase spending

Now is a good time to think about how much government spends on health, and how that money is spent. COVID-19 has drawn global attention to the health sector and, with good planning, there is the potential to harness “COVID money” for wider sectoral benefits. Moreover COVID-19 has made clear the importance of having a health system with widespread capacity to prevent, diagnose and treat communicable diseases.

There are other powerful reasons for increasing government expenditure as soon as possible. Excellent work has been done in Pakistan on how to target health spending effectively, and past under-investment in the sector means that there are some significant “big wins” available with higher spending on extremely cost-effective interventions such as those related to RMNCH services, the management of fever, tuberculosis and trauma. Population is also a vital consideration – economic growth and poverty reduction are not keeping pace with population growth. There are multiple advantages to moderating Pakistan’s population growth – well-targeted spending on health is one necessary element of achieving this.

## Annex 1: Calculation of returns on investment in maternal and childcare and reproductive health

Despite recent investments in reproductive health in Pakistan the full value of investing in sexual and reproductive health services has been underestimated, as its wide range of benefits has been largely unrecognized. The direct medical benefits of preventing unintended pregnancies and improving maternal health are well-known; however, the economic and social benefits are no less real, even if they are more difficult to measure.

After becoming pregnant, five in ten women in Pakistan are not getting the four required antenatal check-ups and about one-third of women are not delivering their babies in a health facility. With unmet need for family planning of 17.3% only 25% of eligible couples have access to modern family planning methods. This is resulting in losing precious lives of more than 10,000 mothers and 430,000 children under the age of five annually, losing more than US \$16 billion annually.<sup>80</sup>

We modelled<sup>81</sup> a scenario at national level focusing additional investment on family planning and reproductive health considering an implementation timeframe from 2021 to 2030. The interventions selected were the ones included in the approved DCP3 package. We costed our package using the unit costs as estimated by DCP3 costing. We increased the coverage levels of the interventions using a conservative approach. Our focus was on improving maternal and child healthcare using a combination of preventive (such as iron folic acid) supplementation, vaccination, family planning etc) and curative (such as improved rates of skilled birth attenders, post-natal care, management of complications during pregnancy, neo-natal care, treatment of malnutrition etc.). Most of the selected interventions are 'best buys' during the 1000 golden days. While modelling we also kept the missed opportunities as a guiding principle for increasing the coverage levels.

We found that with an additional average investment of US \$0.75 billion per annum we can save additional 1,900 lives of mothers, more than 61,000 lives of under five children each year and prevent 1.7 million unintended pregnancies per annum. This results in average DALYs averted of 5.4 million per annum and generates a return on investment of US \$8.7 for each US \$1 invested in this package. More than 350,000 cases of stunting would be averted per annum. The cost per DALY averted of this package is US \$139 – which can be classified as 'highly cost effective' as the cost per DALY averted is almost eight times less as compared to the current GDP per capita of Pakistan. Figure 20 below presents the incremental cost per capita for this package – the average cost over the implementation period is estimated to be US \$ 3.3 per capita.

The above required costs fit in nicely with the existing fiscal space and maximise the return on investment. However, these will need to be finalised and developed at the provincial level to reflect their current coverage levels, sector plans and fiscal space.

In our analysis we did not change the existing method mix for family planning and assumed the existing method mix will continue. A recent study<sup>82</sup> focusing on Punjab province concluded that shifting from short-term methods to Long-Acting Reversible Contraceptive (LARC) had a better benefit to cost ratio of 1.5 times higher and 33% lower cost per DALY averted in comparison to continuing with the existing method mix which had lesser share of LARC. The cost per CYP (couple year of protection) was also found to be 15% lower if there is a shift in methods from short-term to LARCs

<sup>80</sup> Monetised value (@ GDP per capita of Pakistan) of lost Disability Adjusted Life Years because of preventable maternal and under five deaths.

<sup>81</sup> Modelling was done using Lives Saved Tool (LiST) and IMPACT 2.

<sup>82</sup> Mahmood A, Cost-effectiveness of shifting from short-term methods to Long Acting Reversible contraceptives in Punjab – health and economic impact analysis, WISH2 ACTION, DFID, July 2020

without any additional new user. The health impacts in our analysis can increase if we further programme this change.

**Figure 20: Cost-per capita focusing on reproductive help**

