Structural Adjustment and Health in Pakistan[1]

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Abstract

Government health expenditures as a percentage of GDP have declined in Pakistan, though not in absolute real terms, over the structural adjustment period. Progress over this period is evident on a number of health indicators. However, Pakistan still lags far behind the means of low income countries and South Asian countries in all child survival statistics. In view of this, and since the evidence shows a significant and sizeable association of public sector health expenditures and the decline in infant mortality rates, there seems little justification in cutting public sector expenditures.

Introduction

A clear statement is contained in the World Development Report 1993 (Report) on the World Bank's view with regard to health sector reform in less developing countries. As is the case in reading many other Bank documents, this one seems to have drawn on numerous critiques of conventional health practices. Government inefficiency and corruption is criticised. Also, the practice of heavy expenditures on curative medicine and related specialised health training, which subsidises the rich or the off spring of the rich, is criticised and restructuring expenditures from tertiary medicine to primary health care (PHC) is endorsed. Indeed, in some respects, the Report makes the Bank sound quite radical. Adopting such a view, however, would be erroneous. While the Bank suggests many sensible reforms, such as the ones mentioned above, there remain important differences in the Bank's approach and that of its radical critics.

The most fundamental difference however is one of perspective. Simply put, the Bank wants to restrict the role of government to the bare classical essentials and enhance the role of private provision and markets. This is consistent with the Bank's ideological underpinnings that comes through in most Bank documents. The Bank acknowledges the following role for the government. First, since positive externalities exist in public health, such as in the realm of disease control, a role for the government is required for immunisation and diet supplement programmes, probably school based, since private providers would provide too little of this public good. Second, the related role of disseminating information for disease control is also viewed as essential.

[1] Many thanks are due to Mozaffar Qizilbash and Haris Gazdar for helpful comments.

Third, regulation is considered important for market based insurance since a market failure is acknowledged as resulting from moral hazard (incentives for over supply in the case of third party insurers) i.e. hospitals have an incentive to raise medical expenditures which are to be reimbursed by medical insurance companies. Fourth, regulation is called for in drug supply and the concept of an `essential drug list' is endorsed. Fifth, since exclusion of the most needy and high risk is likely when insurance is left to the private sector, the Bank does not rule out efficiently provided cost containing social insurance. Pre-paid private sector insurance provided in a health maintenance "managed competition" framework is endorsed as an alternative. Finally, the role of the government is acknowledged in providing essential clinical services for the poor.

The Bank views much existing government expenditure as inefficient and suggests that it could be pared down by one half (p. 7). This could be done not only cutting back on subsidies and inessential services, but also by improving efficiency via decentralisation, performance based incentives and management systems development. Costs could be further reduced by engendering competition in supply by enhancing the role of the private sector in delivering health services and in delivering inputs such as drugs, other medical supplies and equipment. Indeed, the Bank recommends a subsidy to private providers delivering services to the poor! Other ways recommended for cutting costs are vouchers for the poor to enhance choice, competition and efficient delivery and user fees are recommended for recovering costs. While the Bank calls for cuts of fifty per cent in public sector expenditures as expalined above, it does call for doubling or tripling spending on public health programmes (p. 7).

Two points on these expenditure cuts are in order. First, since health data are not reported for public health separately, it is not possible to ascertain what the impact would be of the World Bank proposal on total health expenditures. Since the Bank suggests that traditionally very little was allocated to primary health, in that case there would be a substantial overall decline. Second, it is important to note that most government sector urban and semi-urban hospitals and other facilities now serve the poor and lower middle class and not the rich. Thus health expenditure cuts would inevitably affect the poor.

The reforms mentioned above fit into what the bank calls a three-pronged approach. Macro-stabilisation is called for to improve growth. This is necessary for enhancing incomes of the poor which would in turn increase their ability to invest in household health[2]. At the same time, government

[2] The Report does point out that this association would be much stronger if economic policies are pursued which would increase the income of those in poverty. However, the

expenditures are viewed as being wasteful due to inefficiency and corruption, and hence should be cut. Thus the other main reforms suggested fit into the categories of improving (re-structuring and reducing) government spending on health and promoting diversity and competition (enhancing the role of the private sector).

As earlier indicated, while the Bank has absorbed much of the critique of health systems in less developing countries, its approach to reform is fundamentally one of paring down the size of the government and in enhancing the role of the market, even to the extent of subsidising private sector provision. The Bank's critics, of whom Qadeer (1997) is a very articulate one in the South Asian context, remain unmoved by the Bank's incorporation of many elements of their critique into its own agenda[3].

Thus, Qadeer views the Bank's approach as technocentric and narrowly interventionist in the areas of population control, reproductive and child health and communicable diseases. She also views the Bank's notion of primary health care to be a very narrow one. Further, the dismantling of the public sector is resented and the cuts in food and basic service subsidies are viewed as part of the cut in the public sector's role in health care[4]. Juxtaposed to the Bank's approach, Qadeer endorses a much broader concept of comprehensive public sector primary health care which includes the provision of basic minimum services such as nutrition, housing, water supply and sanitation, education and livelihoods along with preventive care which is in touch with the political, cultural, and economic realities of the poor. This perspective is fundamentally different from the Bank, since it views alternative solutions such as private or NGO provision as an abdication by the state of its central role as a tax collector and provider of basic human needs.

Pakistan's recently announced new health policy in 1997 reveals the influence of the Bank thinking in several respects[5]. First, the private sector is expected to take up more responsibilities in areas of preventive services, family planning and drugs. Second, selected Basic Health Units and Rural

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Report does not acknowledge that there could be conflict between the macro-stabilisation policies it endorses and pro-poor policies [see Khan and Aftab, (1997)].

[3] Many progressive writers resent the Bank's proclivity towards absorbing their concepts, due to its vast research and dissemination capacity, but in not fundamentally altering its orientation. A case in point is the concept of "participation" which the Bank is viewed as having appropriated. While some researchers in the Bank are aware of the origin of this concept as originally being about empowerment of the poor, for others in the Bank who have been exposed to this concept, it is about a more efficient way of engendering service delivery.

[4] See Khan and Aftab (1997).

[5] "Salient Features of New Health Policy," The News International, December 18, 1997, p. 8.

Health Centres are to be contracted out to private physicians, NGOs or existing staff to deliver a standard package of services at fixed user charges under the supervision of community based organisations. Third, autonomy will be given to selected hospitals to be run by Hospital Management Boards under the supervision of District Health Authorities. These hospitals will be authorised to levy user charges.

It is inevitable that the debate on health policy in Pakistan between the Bank and its critics will sharpen. Our perspective is a pragmatic one. In principle we agree that providing comprehensive primary health care is the role of the state. However, we feel that public pressure for the reform of the government to one that is accountable and focuses on efficiently delivering services should continue but that, in the meantime, alternatives, such as grassroots NGO service delivery as well as private initiatives, should be welcomed if they work well[6],[7]. While the above debate is important, the ultimate objective is to improve the well being of the poor. Thus it seems foolish to hold the ultimate objective hostage to the resolution of the debate. It would be equally foolish to wait until the reform of the government is realised such that it is capable of engaging in the kind of service delivery that many expect it to provide.

In section 2, we briefly discuss the method we employ for assessing impacts. One would have to wait for the implementation of the new health policy to assess its impact on general health. However, it is possible to assess the changing state of general health over the structural adjustment period, particularly over the period that the Social Action Plan (SAP) has been in place. We present this evidence in section 3 in terms of health expenditures, outputs and impacts and also present evidence on hypothesis testing with regard to testing the effectiveness of government health expenditures. We end with conclusions.

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[6] We deliberately avoid mentioning "good governance." While we endorse much that that is mentioned in the package of good governance reforms, we feel that the choice of the word governance is a very unfortunate one. Insofar as language is important, the emphasis should be on providing "good service" rather than on governing well. Civil society elects political representatives and pays for civil and military bureaucracies via taxes to serve it rather than to rule or govern it.

[7] A legitimate rejoinder in this regard is that instead of engaging in service delivery, NGO efforts should be expended in mobilising communities to demand service delivery from the government.

Method

In assessing impacts, the approach used is a variation of a "results based assessment" that some donors are moving towards[8]. First we investigate expenditures as a level of effort or input indicator. Following that, we document outputs which include changing access to various facilities such as doctors, nurses and hospital beds. Finally, we examine how these access or outcome variables translate into impact variables which reflect the health status of the population. These impact variables include the usual indicators such as the infant, child and maternal mortality rates as well as life expectancy at birth and nutritional changes.

In considering access and impact, we review Pakistan's progress using both secondary data and also published data which were specifically generated by the Government of Pakistan and the World Bank to assess the progress of the Social Action Plan. Finally, we contrast Pakistan's achievements to date with that of other developing and South Asian countries.

The results based method described above for assessing impact assumes that government expenditure is of consequence in improving health indicators. However, as pointed out in section I, in laying out a three-pronged approach to government policies for improving health, the World Development Report 1993 views government expenditures as being wasteful due to inefficiency and corruption, and it is asserted that governments should spend about 50 per cent less than they are actually doing on the less efficient kinds of government expenditures and two to three times more on public health programmes (p. 7). Also, it mentions pursuing economic growth policies as being an effective mechanism for the improvement of public health. Evidence is cited to indicate that in countries in which average income rose by more than 1 per cent, child mortality fell by more than twice that of countries for which average income fell (p. 7). The causation is viewed as going from faster growth to increased household income to more household health expenditures to better health. Thus, per capita GDP is used as a proxy by the Bank for personal household expenditures on health. Zaidi (1997, p.7) suggests that improvements in health indicators in Pakistan over the 1980s could have been due to the inflow of remittances of Pakistani workers abroad. This makes sense since personal household incomes and hence health expenditures can also be influenced by remittance inflows. Finally, it is possible that government expenditures on health actually do improve health.

These statements suggest testing the following associations:

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[8] For example, the Canadian International Development Agency (CIDA) has instituted a "results based matrix" to assess the work of Institutions whose funding it contributes to.

$$HI = HI (PCGDP, REM, GEH), \quad (1)$$

Where,

HI = Health indicators;

PCGDP = Per capita GDP;

REM = Remittances;

GEH = Total government expenditures on health.

To endorse the Bank's assertion that many government health expenditure are generally inefficient and that economic growth is fundamental to improved health, the estimation of equation 1 above should show a positive association of HI and PCGDP and REM, and at best an insignificant association between HI and GEH. Unfortunately, we are not able to disaggregate the expenditure data to see the specific impact of public health programmes relative to other government sector health expenditures.

Findings

(a) Input or level of effort.

We are inferring the government's commitment to the health sector or its level of effort from its development and recurring expenditures. Table 1 below presents evidence on how this commitment has changed over time.

Appendix Table I: Data matrix used in regression reported in Table 4.

Years	IMR	GDP	WREM	HEXP
1982	120.0	3551.09	353.83	23.06
1983	123.5	3618.88	321.95	26.96
1984	127.0	3776.49	296.76	27.00
1985	116.0	3864.33	311.70	31.82
1986	106.0	3989.89	272.80	41.01
1987	104.0	4165.08	225.26	45.64
1988	108.0	4240.25	203.64	40.90
1989	107.0	4295.96	212.81	36.88
1990	105.0	4394.09	182.30	34.04
1991	102.0	4595.78	140.73	32.92
1992	101.0	4547.34	138.31	32.76
1993	99.5	4585.87	129.78	31.41
1994	98.1	4673.56	147.39	30.95
1995	78.0	4753.62	110.22	36.75

Sources: World Development Report 1984 (1984, p. 262) for the 1982 IMR, Social Indicators of Development 1995 for the IMRs from 1984-1992 and 1995. We have extrapolated the IMRs for 1983, 1993 and 1994 as an average of the prior and preceding year IMR. GDP, remittances, expenditures and population were drawn from the Economic Survey 1996-97, Statistical appendix (1997, pp. 30-31, pp. 150-51, p. 209 and p. 21) respectively.

Notes:

GDP : Real gross domestic product per capita

WREM : Real remittances per capita

HEXP : Real health expenditure per capita

IMR : Infant mortality rate. Measured as the number of deaths per 1000.

SE : Standard error

Table 1: Time series development and recurring health expenditure

Years	Health expnditure as a pecentagee of GDP		
	Dev.	Rec.	Total
1970-71	0.12	0.29	0.40
1971-72	0.14	0.29	0.43
1972-73	0.20	0.28	0.48
1973-74	0.31	0.28	0.59
1974-75	0.45	0.29	0.74
1975-76	0.45	0.31	0.76
1976-77	0.35	0.33	0.68
1977-78	0.31	0.34	0.65
Average 1970-77	0.29	0.30	0.59
1978-79	0.33	0.33	0.66
1979-80	0.35	0.31	0.66
1980-81	0.36	0.32	0.68
1981-82	0.34	0.34	0.68
1982-83	0.37	0.38	0.75
1983-84	0.37	0.40	0.77
1984-85	0.37	0.44	0.81
1985-86	0.44	0.55	0.99
1986-87	0.50	0.64	1.14
1987-88	0.44	0.64	1.08
Average 1978-87	0.39	0.44	0.83
1988-89	0.36	0.59	0.95
1989-90	0.32	0.56	0.88
1990-91	0.25	0.55	0.80
1991-92	0.19	0.56	0.75
1992-93	0.19	0.56	0.75
1993-94	0.21	0.51	0.72
1994-95	0.25	0.52	0.77
Average 1988-94	0.25	0.52	0.77

Sources: Pakistan Economic Survey 1995-96 (pp. 239).

Notes: GDP = Gross Domestic Product.

Rec. = Recurring expenditure. It includes salaries, maintenance and other recurring items.

Dev. = Development expenditure consists of expenditure on infrastructure in the form of buildings and durables.

Information in Table 1 is reported for three time periods that coincide with the following political regimes: the 1971-78 period with the first populist PPP government; the 1978-1988 period with military rule and with the gradual liberalisation of the economy; the post 1988 period with the intensive phase of structural adjustment currently underway. Both time series and period averages are presented.

Development expenditure on health as a percentage of GDP rose from 0.14 to 0.45 from 1971-72 to 1974-75 and then declined to 0.31 per cent in 1977-78. Recurring expenditures on health as a percentage of GDP rose steadily from 0.29 in 1971-72 to 0.34 in 1977-78. Both these expenditures continued to rise steadily in the 1978-88 period. The 1978-88 period average for development and recurring expenditure as a percentage of GDP was 0.39 and 0.44 respectively compared to 0.29 and 0.30 in the 1971-78 period. Subsequently, post 1988, both recurring and development expenditures steadily declined.

That development and recurring expenditures declined in the structural adjustment period would not generally be considered surprising. The austerity imposed by conditionalities accompanying structural adjustment programmes to meet the budget deficit targets have traditionally had an adverse impact on social sector expenditures[9]. Also, public sector health expenditure cuts are consistent with the Bank's view on this issue presented in the introduction. However, in Pakistan, so much has been said about protecting the social sectors via allocations to the Social Action Plan (SAP), that the post 1988 reduction does come as a surprise.

Health has high social value because it contributes directly to individual wellbeing and also indirectly by enabling individuals to be more productive. Furthermore, negative externalities can be offset if individuals are healthier and therefore more resistant to disease. Thus, it is important to explore if health expenditures are effective (sub-section c.(ii))[10] This is

[9] Cornia, Jolly and Stewart (1987).

[10] This view is influenced by Chambers (1995) and Dreze and Sen (1995).

particularly the case when Pakistan's progress in health is judged in a cross-country perspective (sub-section c.(iii)).

(b) Outputs

The level of effort reflected in the expenditures in Table 1 translates into trained medical personnel and facilities. In Table 2, we present the aggregate level of access of the population to medical personnel and facilities. The time series data reported in Table 2 shows a steady and continuous improvement is access to both health personnel, as measured by population per doctors, dentists and nurses, and facilities, as measured by population per hospital bed. Indeed, it appears to be a puzzle why the decline in health expenditures as a percentage of GDP did not translate into a decline in access to medical personnel and facilities per capita. The answer is actually quite straight forward. While development and recurring health expenditures have declined as a percentage of GDP, because of a growing GDP, in absolute real terms they have increased by 11 per cent and 38 per cent respectively between 1988-89 and 1994-95[11]. Thus the real issue is not that access to medical personnel and facilities has declined, but that it has not increased by as much as it should have.

[11] Real development and recurring health expenditures increased from Rs. 1.46 and Rs. 2.41 billion to Rs. 1.63 and Rs. 3.34 billion respectively. The development expenditures were deflated by the building materials price index and the recurring expenditures by the general price index, both drawn from the Economic Survey 1995-96, p. 146. In each case, the base was 1980-81.

Table 2: Access to health facilities and personnel.

	Population per			
Years	**Hospital Bed**	**Doctor**	**Dentist**	**Nurse**
1970	2,061	15,256	155,466	-
1971	1,804	14,343	137,870	-
1972	1,792	13,190	123,953	-
1973	1,848	12,824	120,018	-
1974	1,893	12,164	111,311	73,065
1975	1,852	11,628	107,661	36,332
1976	1,843	11,133	102,153	29,426
1977	1,834	10,278	101,405	23,908
Average	1,866	12,602	119,980	40,682
1978	1,804	9,526	98,079	20,283
1979	1,779	8,695	93,309	17,873
1980	1,716	7,549	87,672	15,712
1981	1,731	6,027	82,357	14,147
1982	1,717	5,033	77,110	13,045
1983	1,708	4,271	72,930	12,504
1984	1,714	3,584	68,110	11,441
1985	1,695	3,153	66,900	9,276
1986	1,692	2,870	62,689	8,382
1987	1,678	2,610	62,552	7,985
Average	1,723	5,331	77,171	13,065
1988	1,610	2,422	58,589	7,638
1989	1,613	2,263	55,808	6,958
1990	1,512	2,127	53,134	6,713
1991	1,501	20,47	51,883	6,463
1992	1,525	1,954	51,496	6,232
1993	1,555	1,919	50,341	6,147
1994	1,510	1,880	48,046	5,976
1995	1,503	1,837	46,498	5,842
Average	1,541	2,056	51,974	6,496

Sources: Pakistan Economic Survey 1995-96, (pp. 238-9).

Published data in the 1995-96 Pakistan Integrated Household Survey (1997, pp. 44-58) makes possible an assessment of the population's health during the structural adjustment period in which the SAP was underway. Once again, the evidence suggests an across-the-board improvement in access to services and preventive coverage.

Consultation of a medical practitioner for the treatment of diarrhoea in children 5 years or under declined from 90 to 87 per cent in urban areas but rose from 82 to 85 per cent in rural areas. Since ORS is generally recommended, these numbers show an increasing confidence in self-treatment in urban areas. The gender gap in consultation closed from 6 per cent to 4 per cent in urban areas and from 6 per cent to a 1 per cent higher consultation for girls in rural areas. There has been an increase (from 22 per cent to 27 per cent) in rural areas in the percentage of cases in which a government health practitioner was consulted first for diarrhoea treatment.

The percentage of children five years and less that have received at least one immunisation increased from 81 to 87 in the urban areas and 66 to 74 in the rural areas. The percentage of children five years and less that have received full immunisation increased from 40 to 61 in the urban areas and 20 to 51 in the rural areas. These results again show a closing of the regional (urban/rural) gap. The gender gap also once again closed from a 6 and 7 per cent gap in urban and rural areas to a 2 and 1 per cent gap respectively[12].

Access is one area in which progress seems limited. Of those who did not visit a government facility for treatment of diarrhoea, 51 per cent in urban areas and 47 per cent in rural areas cited distance as the reason for not doing so. For other illnesses and injuries, about a third in urban and rural areas cited distance as the reason for not visiting a government facility and a fifth cited the lack of medicines as the reason. Thus access continues to be perceived as a problem in both urban and rural areas.

This perception can be juxtaposed with actual distances from government facilities in rural areas. By 1995-96, 15 per cent of the households in the sample had a government hospital within 5 kilometres of their home, a third a government dispensary or rural health centre and about two-fifths a basic health unit. Thus it appears that the perception of a lack of access is grounded in reality.

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[12] These improvements are probably the result of the acclaimed UNICEF expanded program of immunisation. See Cornia (1997).

(c) Impact

We have sub-divided this section into three parts. First, we review Pakistan's progress in health by reporting and discussing its conventional health indicators utilising the period analysis reflected in the earlier Tables based on secondary data and by reporting on findings of the Pakistan Integrated Household Survey. Second, we identify variables that may be responsible for improved health indicators. Finally, we contrast Pakistan's achievement to date with that of other developing and South Asian countries.

(i) Pakistan's health progress over time

Table 3 below shows that the increase in output of medical personnel and facilities has been effective in that conventional health indices show an improvement corresponding to the output increase.

Table 3: Pakistan's child survival and other health indicators

Years	IMR	MMR	<5 MR	LEAB	CMN <5
1970	142	--	--	48	--
1972	140	--	--	49	--
1977	130	--	--	52	55
1980	--	600	151	--	--
1982	120	--	--	54	--
1985	116	--	--	--	57
1987	104	--	--	57	49
1990	105	--	--	--	40
1993	100	340	137	--	--
1994	98	--	137	62	40
DC*	68	384	101	62	30
SA*	82	583	120	61	52

Sources: *World Development Report, Human Development Report*, various issues, and *Human Development in South Asia 1997.*

Notes: IMR = Infant Mortality Rate (Per 1,000 Live Births)

MMR = Maternal Mortality Rate (Per 100,000 Live Births)

<5 MR	=	Under Five Mortality Rate (Per 1,000 Live Births)
LEAB	=	Life Expectancy at Birth (Years)
CMN <5	=	Child Malnutrition Under age 5 (% Under Weight)
DC	=	Low Income Countries
SA	=	South Asia
*	=	Data are for 1993 or 1994.

Table 3 above shows a steady improvement, including in the structural adjustment period, in all health indices for which data were available. Thus the infant mortality rate has declined by 33 per cent from 1972 to 1994, the maternal mortality rate has more than halved from 1980 to 1988, the child mortality rate has declined by 10 per cent from 1980 to 1994, the life expectancy at birth has increased by 12 years to 61 from 1972 to 1994 and child malnutrition declined by 38 per cent (from 55 per cent underweight in 1977 to 40 per cent underweight in 1990).

The findings reported in the 1996 Pakistan Integrated Household Survey show that the percentage of children under 5 suffering from diarrhoea (30 days prior to the time of survey) decreased from 22 to 15 in urban areas and 27 to 19 in rural areas. There was virtually no gender gap in either year, and for 1995-96, no evidence that the incidence of diarrhoea was inversely associated with household income.

The infant mortality rate (IMR -- deaths per 1,000 live births) encapsulates summary information about the general state of children's health and is therefore a useful indicator. Between 1987-1989, the IMR for boys in urban areas declined from 123 to 77 and for girls from 100 to 85. The corresponding decline in rural areas was from 152 and 125 to 115 and 101 respectively. While the regional gap for boys is larger, the gender gap in both urban and rural areas narrowed considerably.

(ii) Explaining improvements in the infant mortality rate

We estimated equation (1) (see section II) to identify the determinants of improvements in health indicators. We managed to

cobble together a time series for the infant mortality rate[13]. This should be expected to respond to government expenditures on health and public health and also to private household expenditures. We regressed this variable on GDP per capita, public health expenditure per capita and remittances per capita. The results are reported in Table 4 below.

Table 4: Determinants of the infant mortality rate (IMR)

	Coefficients	SE
INP	289.77*	(87.75)
T	-5.08*	(0.97)
GDP(-1)	-0.02	(0.02)
WREM(-1)	-0.21**	0.07
HEXP	-0.54*	0.14
R bar squared	0.97	
F-Stat.	44.16*	

Sources: World Development Report 1984 (1984, p. 262) for the 1982 IMR, Social Indicators of Development 1995 for the IMRs from 1984-1992 and 1995. We have extrapolated the IMRs for 1983, 1993 and 1994 as an average of the prior and preceding year IMR. GDP, remittances, expenditures and population were drawn from the Economic Survey 1996-97, Statistical Appendix (1997, pp. 30-31, pp. 150-51, p. 209 and p. 21) respectively.

Notes:
- GDP : Real gross domestic product per capita
- WREM : Real remittances per capita
- HEXP : Real health expenditure per capita
- IMR : Infant mortality rate. Measured as the number of deaths per 1000.
- SE : Standard error

The data matrix is reported as Appendix Table I.

[13] A note of caution is in order. There may be some consistency problems with the series that we have put together, since different sources have been relied on and IMRs are sensitive to method.

The results are corrected for serial correlation by using the Cochran-Orcutt Method. Since not all variables were stationary, we tested for equation co-integration using the Augmented Engle-Granger (AEG) test which is a Dicky Fuller (DF) test of the stationarity of the residuals. The absolute value of the estimated (statistic of 4.6362 is greater than the critical value, with trend, of 3.9272 in absolute terms at the 95 per cent level of significance. Thus the residuals (t are stationary, and we conclude that the estimated equation is cointegrated and that the associations identified are not spurious.

SE = Standard error

* = Significant at the 1% level

** = Significant at the 5% level

(-1) = One period lag

HEXP lagged one period was not statistically significant

Contrary to the World Bank view, public sector health expenditures proved to be very effective in reducing the infant mortality rate. The coefficient for the public sector health expenditures are significant at the 1 per cent level and magnitude of the coefficient suggests a Rs, 10 increase in public health expenditures per capita per annum is associated with a decline in the infant mortality rate of five per thousand.

GDP per capita is not significantly associated with a decline in the infant mortality rate. If income distribution is very uneven and the growth process is neutral to or accentuates inequalities, higher PCGDP will not be associated with a generalised improvement in health indicators. Evidence reported in Khan and Aftab (1997, p. 11) suggests growing inequalities from the mid-1980s on, and so this result is not surprising.

Ideally, we should use private household expenditures on health, but no such time series was available. Since remittances are an important source of household income, particularly for the lower income groups, we have used remittances per capita. This variable proved to be significant at the 5 per cent level and a Rs. 10 increase in remittances per capita per annum is associated with a decline in the infant mortality rate of two per thousand. Thus public sector health expenditures which are targeted, are much more effective as should be expected.

However, the significance of remittances is premised on some of the money flowing into households finding its way into better nutrition and

increased household expenditure on health. Data [Government of Pakistan, (1995, p. 165)] show that the percentage of private household expenditure on health, as a percentage of total household expenditure, did increase from 1.9 per cent in 1970-71 to 2.9 per cent in 1990-91. This increase in private health expenditures could reflect a greater household priority to health or an increase in private health expenditures induced by increased user charges and a greater availability and aggressive pushing of prescriptive medicines.

One way to get a handle on increased user charges is by reviewing how government receipts in the health sector have changed over time. The data available are reported below in Table 5.

Table 5: Provincial government receipts from health services (Rs., million, real)

Province	1970-71	1994-95
Balochistan	1.19	5.25
NWFP	2.19	19.75
Punjab	11.10	39.94*
Sindh	15.45#	24.78*

Source: Govt. of Balochistan, Finance Department, *Statements of Receipts 1971-92*, (1971-72, pp.40-42, 1995-96, pp.35-37); Govt. of NWFP, (1971-72, pp.53-55, 1995-96, pp. 66-70); Govt. of Punjab, (1971-72, pp. 49-52, 1992-3, 48-51); Govt. of Sind, (1989-90, pp. 35-41, 1992-93, pp. 37-43)

Note: Receipts included those collected from general and public health services provided. 1980 has been used as the base year and the price index.was drawn from *Economic Survey 1996-97*, Statistical Appendix (1997, p. 21).

* Data used are for 1991-92

\# Data used are for 1988-89

It is quite clear from the table above that, over time, there has been a substantial increase in the government receipts for health and public health services across all provinces. Thus, user charges have not merely appeared in policy documents but are actually being implemented. It appears then that the increased private household expenditures are at least partly induced by public sector fee for service delivery. One would,

however, expect better and more effective services being demanded when user fees are paid.

(iii) Pakistan's health progress in a cross-country perspective

Table 3 also reports the mean outcome variables for South Asia and Less Developed Countries. While the outcomes for Pakistan are encouraging when viewed over time, they are much less so when viewed in a cross country perspective at least with regard to child survival statistics. Pakistan's infant mortality rate and less than five mortality and malnutrition rates are higher than the averages for developing countries and South Asia. Pakistan's life expectancy at birth matches the average of South Asia and developing countries, but its maternal mortality rate is lower than these cross country averages.

Conclusions

A review of the background statistics for Pakistan's health sector shows that while some progress has been made, much more is needed. Data on government expenditure on health show that, true to form, the structural adjustment period is associated with declines in development and recurring expenditures as a percentage of GDP. In absolute real terms, expenditures did increase, and these have translated into better access over time to medical personnel and facilities. Also, health impacts, as gauged by conventional health indicators, including maternal mortality, infant and child survival statistics, nutrition and life expectancy, were positive.

Survey data also show improvements in basic health with regards to access to services, preventive coverage and incidence of ailments. Also, gender and rural gaps in this regard and in immunisation and infant mortality rates closed between 1991 and 1996. Closing such gaps is a stated objective of the Social Action Plan.

However, access continues to be perceived as a problem in both rural and urban areas and data on actual distances from government facilities suggest that these perceptions are grounded in reality. Also, compared to the average of developing countries and South Asia, Pakistan lags in all the child survival statistics. Thus there is little justification in allowing health expenditures as a percentage of GDP to slide.

This is particularly the case since evidence shows that government expenditure on health has a significant and sizeable association with the decline in the infant mortality rate in Pakistan. Also, contrary to the Bank's

view, the growth in GDP per capita was not significantly associated with a decline in the infant mortality rate.

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