

## 4. IMPROVING HEALTH OUTCOMES FOR WOMEN AND CHILDREN

*The State shall provide basic necessities of life, such as food, clothing, housing, education and medical relief for all citizens, irrespective of sex, caste, creed or race, as are permanently or temporarily unable to earn their livelihood on account of infirmity, sickness or unemployment.*

~ Article 38(d) of the Constitution of Pakistan

4.1. Health outcomes have improved significantly in Pakistan since the early 1950s (Table 4.1). Estimated life expectancy at birth has risen from 43 to 63 years, and infant mortality has fallen from 169 to 79 per 1,000 live births. Fertility levels have fallen by 24 percent between 1975 and 2000,<sup>113</sup> which itself reduces maternal depletion and mortality and improves women's health outcomes.

4.2. Women's health and reproductive outcomes have improved substantially, as reflected in various indicators. In tandem with fertility decline, the gender gap in life expectancy has closed, and estimated life expectancy is now higher for females than males. Although the sex ratio has improved over time, it still remains high for the population as whole. Women's age at marriage has also risen sharply, from an estimated 17 years in 1951 to 22 years in 2002.<sup>114</sup> Along with greater control over their own reproduction comes greater control over their own lives.

4.3. Improved health and reproductive outcomes have many positive spin-offs for the society as a whole, as well as for the individuals and households concerned. For example, improved health and nutrition is associated with better cognitive development and school performance<sup>115</sup> and increases the probability of enrolling in school, especially for girls in Pakistan.<sup>116</sup> School nutrition programs, such as the Tawana program, can help narrow the gender gap in schooling.<sup>117</sup> Better health and nutrition are also associated with higher earnings, as studies in rural Pakistan and elsewhere show.<sup>118</sup>

**Table 4.1: Life Expectancy and Infant Mortality: Comparisons across Regions and Over Time**

	<i>Life expectancy at birth</i>		<i>Infant mortality</i>	
	1950-55	2000-05	1950-55	2000-05
Pakistan	43.4	62.9	168.6	78.6
Bangladesh	37.5	62.6	200.5	58.8
South-central Asia	39.4	63.0	187.0	69.1
Western Asia	45.2	67.8	190.6	48.0
Less-developed regions	40.9	62.8	179.8	62.4

*Source:* Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2002 Revision and World Urbanization Prospects: The 2001 Revision*, <http://esa.un.org/unpp>. See also the data from the Pakistan Demographic and Health Survey and the Pakistan Reproductive Health and Family Planning Survey.

<sup>113</sup> National Institute of Population Studies (NIPS) (2001) on the Pakistan Reproductive and Health and Family Planning Survey (2000). The total fertility rate (TFR) between 1970-75, based on the 1975 Pakistan Fertility Survey, was 6.27. The Reproductive Health and Family Planning Survey (2000) estimated the TFR during 1997-2000 to be 4.8, which represents a 24 percent decline.

<sup>114</sup> Government of Pakistan, <http://www.mopw.gov.pk/publications/pplan/Chap2.htm>.

<sup>115</sup> Alderman, Behrman, Lavy and Menon (2001); Government of Pakistan (2003); Siddiqi, Haq, Ghaffar, Akhtar, Ali and Larik (2003), Sathar and Casterline (1998); Tinker (1998), World Bank 2002, Miguel and Kremer (2001).

<sup>116</sup> Alderman, Behrman, Lavy, and Menon (2001).

<sup>117</sup> See Chapter 3 for a description of program.

<sup>118</sup> Alderman and others (1996).

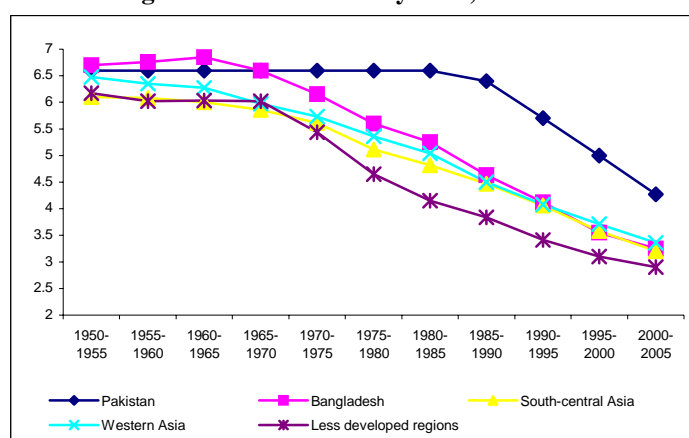
4.4. However, Pakistan's demographic indicators still lag behind those of neighboring countries in West Asia and South Asia, and in the less-developed world as a whole (Tables 4.1 and 4.2). Many of these countries experienced more rapid mortality declines over the past half-century, as well as earlier initiation of fertility decline (Figure 4.1). This partially explains the observed advantage in female estimated life expectancy today.<sup>119</sup>

	<i>Under 5 mortality</i>			<i>Life expectancy at birth</i>	
	<i>Male + Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
Pakistan	114	109	119	62.7	63.1
Bangladesh	79	79	79	61.8	63.4
South-central Asia	100	98	103	61.6	64.5
Western Asia	61	65	56	65.8	70.0
Less-developed regions	94	95	93	61.2	64.6

*Source:* Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2002 Revision* and *World Urbanization Prospects: The 2001 Revision*, <http://esa.un.org/unpp>.

4.5. Three factors interact to slow the improvement in health outcomes in Pakistan, as in some other parts of South Asia. First, high rates of poverty make for poor nutrition and health conditions.<sup>120</sup> This is aggravated by neglect of public health and environmental sanitation services. Poor people in particular – given their living and working conditions – are frequently exposed to infection. Second, the coverage and quality of publicly provided health services is poor. Third, gender inequities place constraints on women's and girls' access to health information and services. Of course, the first two issues are not exclusive to women and have been analyzed elsewhere.<sup>121</sup> Here we focus on the specific constraints to improving women's health outcomes.

**Figure 4.1: Total Fertility Rate, 1950-2005**



*Source:* Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2002 Revision* and *World Urbanization Prospects: The 2001 Revision*, <http://esa.un.org/unpp>.

4.6. The Pakistan government has consistently demonstrated clear political will to enhance gender equality and improve health outcomes. For example, one of the objectives of the National Health Policy is to promote gender equality in health. Pakistan has committed itself to meeting all eight MDGs, two of which focus on health (reduce child mortality and improve maternal health).<sup>122</sup> To further these goals, the government will have to act on multiple fronts. Encouragingly, health policy changes introduced since the mid-1990s, as well as since the introduction of the devolution reforms, suggest that improvements are occurring. Outreach related to family planning services has expanded through the private sector as well as through active door-to-door campaigns by public sector personnel, in addition to the fixed-point service delivery already in place. The goal of reducing population growth is now joined by a greater

<sup>119</sup> Female longevity is higher than male in most populations: life tables derived from a large number of countries indicate that at Pakistan's level of mortality, the life expectancy for women is typically 3.7 years higher than that of men (Coale and Demeny lifetables).

<sup>120</sup> One-third of the population was estimated to be poor at the end of the 1990s (World Bank 2002).

<sup>121</sup> World Bank (2002).

<sup>122</sup> For a detailed list of the MDGs go to <http://ddp-ext.worldbank.org/ext/MDG/home.do>

emphasis on providing services to meet women's needs through more integrated functioning of the Ministries of Health and of Population Welfare.<sup>123</sup>

4.7. We investigate the determinants of women's health—including the availability and use of health facilities and programs—as well as the effects of recent health policy changes. Because rural girls and women face more pronounced health disadvantages than their urban counterparts, most of our analysis focuses on rural areas.<sup>124</sup> We summarize the causes of the problem, its dimensions, and the nature of the available health infrastructure in the public sector, followed by an analysis of what policies seem to be working, and recommendations regarding any gaps to be filled. This chapter examines the effect of recent policies and programs in depth and, after some assessment, makes recommendations for further action.

4.8. The preceding chapters have discussed the problems that female seclusion and constraints on mobility pose, not only for women's quality of life, but also for their ability to access public services such as schooling. Here we discuss how these same factors hinder women's access to health services, and how these barriers can be overcome. Our analysis suggests that much can be done to offset the problems of female seclusion and low education through efforts to increase service outreach and efforts to increase the demand for services through disseminating health information. Pakistan has already begun to put such programs in place successfully, and we offer suggestions to enhance their impact on women's health.

## **I. GENDER-RELATED CONSTRAINTS TO ACCESSING HEALTH CARE: MOBILITY, DECISION-MAKING, AND ACCESS TO INFORMATION**

4.9. Gender inequities restrict women's access to health services in a variety of ways. Women face social constraints in managing their own health and that of their children, although they are largely responsible for domestic management of health: preventing disease by good health and hygiene practices; recognizing illness early and providing home care; seeking medical care when needed; and interpreting and implementing medical instructions. In order to take effective care of their own and their children's health, women need to be well-informed and to be able to act quickly on their perceptions.

4.10. Chapter 3 shows how women and girls' limited mobility constrains female schooling. A number of studies on women's access to health services in South Asia emphasize women's restricted mobility as a constraint.<sup>125</sup> Survey data from rural Pakistan depict the restrictions on travel to health facilities that women face (Table 4.3). The majority of women report they are unable to a health facility unaccompanied. Indeed, for women and girls, having family members (especially male members) accompany them to health facilities constitutes "social resources"<sup>126</sup> that can greatly improve their utilization of health services.

4.11. A qualitative study on gender conducted in rural areas of Punjab and Sindh as part of this Gender Assessment (Box 1.3) found that women spontaneously raised concerns about access to health services, even though the study did not directly ask about this. As many as 40 percent of respondents stated that the primary constraint to accessing health services was their mobility, and fewer (27 percent) stated that the primary constraint was proximity to the facility. Difficulties getting to the health facility included

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<sup>123</sup> Sathar (2001); Sultan, Cleland, and Ali (2002).

<sup>124</sup> This is facilitated by the availability of detailed information in the PIHS survey, and other surveys.

<sup>125</sup> Dyson and Moore (1983); Durrant and Sathar (2000); Schuler, Hashemi, and Riley (1997); Khan (1998); Mumtaz and Salway (2005).

<sup>126</sup> Mumtaz and Salway (2005). They analyze how restricted mobility influences women's access to health facilities. They combine a detailed ethnographic study from rural Punjab with a nationally representative survey data from Pakistan Fertility and Family Planning Survey (1997).

having to be accompanied by the husband or mother-in-law—even if the treatment was for her children and not for herself. If there was an emergency health situation and no one around to accompany them, some women said that as a last resort they were permitted to venture outside the household only if they took along one of their children as a guarantee of proper conduct.

4.12. Restrictions on women traveling to a facility do not disappear if a health facility is nearby, but they do become less stringent with proximity (Table 4.3). A number of studies from Pakistan document similar patterns in women’s health-seeking ability.<sup>127</sup> This mirrors the negative impact on girls’ schooling if a school is located outside the village or settlement boundary: rural women and girls face the most stringent restrictions on mobility if accessing a health care provider outside the village.<sup>128</sup> Access to doctors by unmarried girls tends to be even more circumscribed as they cannot go unaccompanied by their parents. Moreover, frequent visits to the doctor by girls has a negatively affect on the family’s reputation in the community.<sup>129</sup>

4.13. Another reason women cannot quickly seek health care is that they are typically not empowered to make independent decisions: husbands and other male elders decide whether or not women may act on their perceived need for health care outside the home.<sup>130</sup> An overwhelming majority of rural women reported the need for permission, typically from a male household member, to visit a health facility (Table 4.3). Although women are typically the first to perceive their own and their children’s health problems, they must first overcome successive hurdles of decisionmakers within the household, which can result in significant delays in seeking care and sometimes denial of permission altogether. Delays can be life-threatening for infants experiencing dehydration from diarrhea, and women experiencing complications while giving birth.

4.14. The problems of mobility are compounded by difficulties in accessing the information needed to enable women to access health services in a timely and effective way. Illiteracy rates are high, especially among women, and this in conjunction with limited mobility reduces the opportunities to learn from interacting with the outside world. This problem is partly offset by sources of information within the home or the neighborhood. For example, 40 percent of rural women interviewed in 2000-01 reported watching television, and 36 percent reported listening to the radio.<sup>131</sup> The messages received from these and other sources are further disseminated through informal social networks. International evidence from countries such as Bangladesh suggests that such social networks can be quite effective in aiding the flow of health-related information among women.<sup>132</sup>

4.15. The obstacles that women face in seeking timely health care, even if a functioning facility is available nearby and the household can afford the financial costs involved, are considerable. They have to

**Table 4.3: Percentage of Rural Women Reporting Restricted Access to Health Facilities**

Travel time to facility:	Cannot Go Alone		Need Permission	
	< 1hour	>=1 hour	< 1hour	>=1 hour
Hospital	65	78	81	91
Rural health center	49	74	66	89
Basic health unit	62	82	84	93
Dispensary	71	87	88	94
Private hospital/clinic	49	72	71	88
Private doctor	61	87	85	94
Hakim	50	60	75	85
Homeopath	27	40	56	80
Pharmacy	61	67	78	86

Note: Cross-tabulations for women aged 15-29 from a question asking respondents if they could travel to the facility alone and whether they needed permission from someone in the household to go to the facility. Source: Pakistan Rural Household Survey (2001).

<sup>127</sup> Sathar and Kazi (1997); Khan, 1998; Mumtaz and Salway (2005).

<sup>128</sup> Based on a qualitative study from three villages in rural Punjab (Khan 1998).

<sup>129</sup> Khan (1998).

<sup>130</sup> Khan (1998).

<sup>131</sup> Pakistan Reproductive Health and Family Planning Survey 2000-01, National Institute of Population Studies (2001).

<sup>132</sup> Munshi and Myaux (1998); Montgomery, Casterline, and Heiland (2001)

persuade their husband and/or elders that care is needed, obtain permission to seek care, and find someone to accompany them. They also have to know *when* to seek medical care and *what* health services are supposed to be available to them. We discuss below how some of these hurdles can be overcome to increase effective health-seeking behavior.

## II. WOMEN’S HEALTH: THE DIMENSIONS OF THE PROBLEM

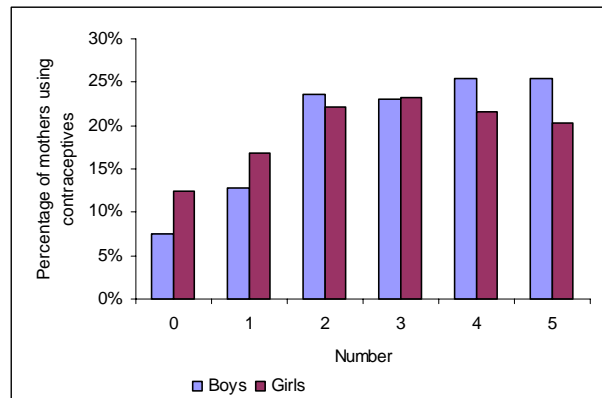
### Early Childhood

4.16. Infant and under-five mortality rates remain high in Pakistan, for both boys and girls (Tables 4.1 and 4.2). But girls suffer disproportionately high mortality. Although mortality is usually higher for males, the reverse holds in Pakistan (Table 4.2). While mortality estimates from national and United Nations sources differ (see Table 1.1, Chapter 1), they show similar patterns by gender.

4.17. The biological advantage for female survival is offset by cultural patterns of son preference and attendant underinvestment in girls. Women report a preference for boys over girls, and this is mirrored in actual family-building behavior. Women with relatively more daughters than sons are more likely to want more children and less likely to practice contraception (Figure 4.2 and Table A4.3).

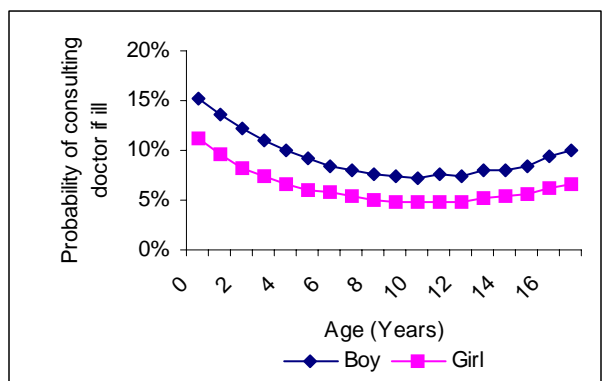
4.18. Son preference is reflected also in gender differentials in child care, which are significant even controlling for household socioeconomic status, parental education, and distance to health facilities. First, girls’ illnesses are significantly less likely to be reported.<sup>133</sup> Second, those whose illnesses are reported are significantly less likely to be taken for a medical consultation (Figure 4.3). Third, even if girls are taken for a consultation, less is spent on their medical care than on care for boys (Figure 4.4). Richer households show greater gender discrimination in medical expenditures than do poorer households (Table A4.1). Another study in Pakistan found that rural households were more likely to consult

**Figure 4.2: Women with More Sons Are More Likely to Use Contraceptives**



Source: Cross-tabulations of Pakistan Integrated Household Survey 2001-02 data for currently married women aged 15-49 in rural areas, who are not currently pregnant.

**Figure 4.3: Gender Differences in Probability of Consulting a Doctor in Case of Illness**



Source: Pakistan Rural Household Survey 2001. The probability of consulting a doctor is predicted using regression results shown in Table A.4.1.

<sup>133</sup> The problems of under-reporting in self-reported morbidity data are well-documented (see for example Murray and Chen). We find that only 11 percent of children aged 0-17 years were reported to have been ill during the year preceding the survey, which implies significant under-reporting. However, this does not necessarily affect our analysis, because there is no reason why there should be differential under-reporting by the gender of the child; such a differential should reflect parents’ lesser concern about the illness of children of one gender.

private doctors (considered to be of higher quality) for boys than for girls.<sup>134</sup> They also found that the use of medical care for girls was more sensitive to the price of services.

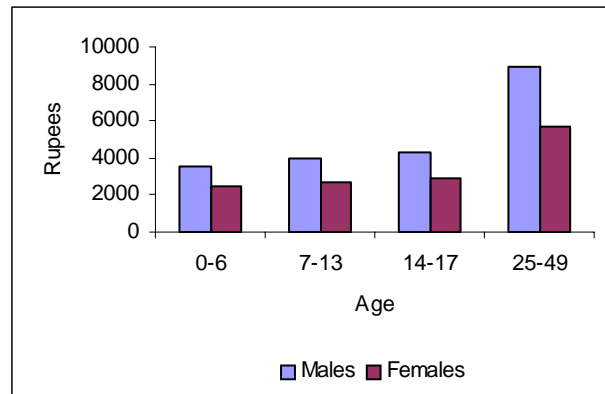
4.19. Despite these household preferences, government efforts to improve child health outcomes, as well as gender differentials in child health outcomes, are taking effect. Childhood immunization coverage rose significantly during the 1990s (Figure 4.5a), as a result of the efforts undertaken through the Expanded Program on Immunization (EPI). By 2001-02, over one-half of children aged 12-23 months were “fully immunized,” i.e., they had received the full course of recommended vaccinations against tuberculosis, diphtheria, pertussis, tetanus, measles, and polio (Figure 4.5b).<sup>135</sup>

4.20. As immunization coverage increased during the 1990s, the gender gap in immunization coverage narrowed (Figure 4.5a).<sup>136</sup> Substantial gender gaps remain only in rural Sindh and urban NWFP (Figure 4.5c). This is probably attributable to heightened efforts to make bring free immunization to people’s doorsteps through health worker outreach, as well as through immunization camps.

4.21. When we control for household economic status and other factors, we find that girls continue to be significantly less likely to receive measles and BCG vaccination (Table A4.2), even though these are supposed to be provided free of charge along with the other childhood immunizations. Also, there is still a long way to go to reach the EPI goal of universal immunization. In the rural areas of Balochistan less than one-quarter of children were fully immunized (Figure 4.5c).

4.22. Levels of undernutrition are also very high among children, as indicated by their height and weight at given ages. The Pakistan Rural Household Survey 2001 shows that high proportions of rural children under age five are malnourished, regardless of gender. Nearly one-half of these children are

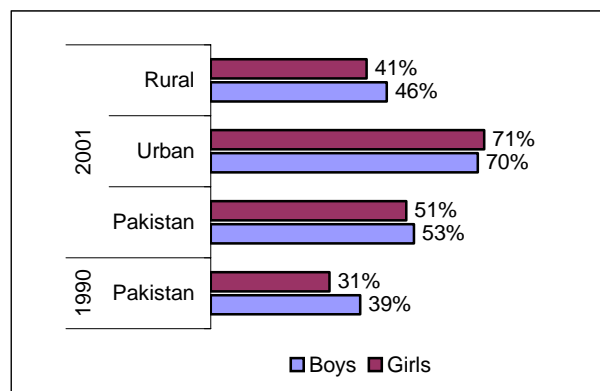
**Figure 4.4: Rural Households’ Annual Average Medical Expenditure by Age and Sex**



*Note:* The gender differences in expenditures are statistically significant.

*Source:* Cross-tabulations based on Pakistan Rural Household Survey 2001 data. The figures refer to medical expenditures reported for each household member who had been ill during the year and for whom any medical practitioner was consulted.

**Figure 4.5a: Percentage of Children Fully Immunized by Gender, 1990-91 and 2001-02**



*Note:* The percentages refer to children aged 12-23 months who have completed immunizations. Polio 3 and DPT 3 refer to last dose of the respective immunizations.

*Source:* Pakistan Demographic and Health Survey 1990-91 and Pakistan Integrated Household Survey 2001-02.

<sup>134</sup> Alderman and Gertler (1997).

<sup>135</sup> The government-initiated Expanded Program on Immunization (EPI) of 1982 recommended that all children be immunized against the six preventable childhood diseases by the age of 12 months. The recommended vaccinations include one dose of BCG (against tuberculosis), three doses of DPT (against diphtheria, pertussis, and tetanus), four doses of polio vaccine, and one dose of measles vaccine.

<sup>136</sup> See also Hazarika (2000).

underweight, and nearly two-thirds are stunted (Table 1.2). The prevalence of malnutrition is similar for girls and boys.

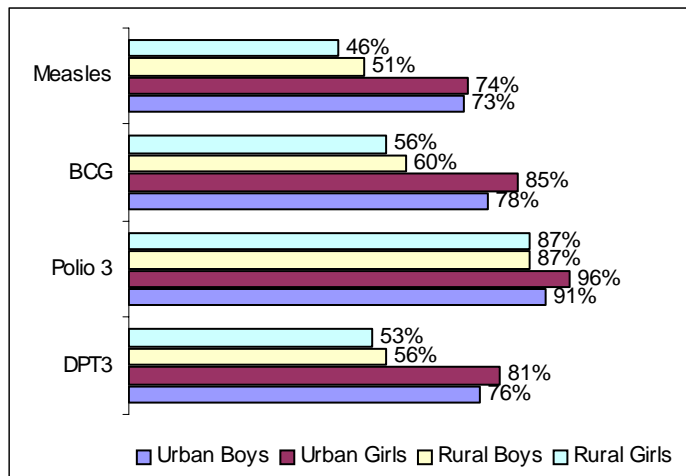
4.23. Our results are consistent with several studies in Pakistan and elsewhere in South Asia, which find significant gender differentials in medical care but not in child nutritional outcomes.<sup>137</sup> Excess female child mortality has also been documented in other parts of South Asia and East Asia, notably India and China, but there is no clear evidence that son preference in Pakistan has yet manifested in sex-selective abortions or female infanticide.<sup>138</sup>

### Women's Health

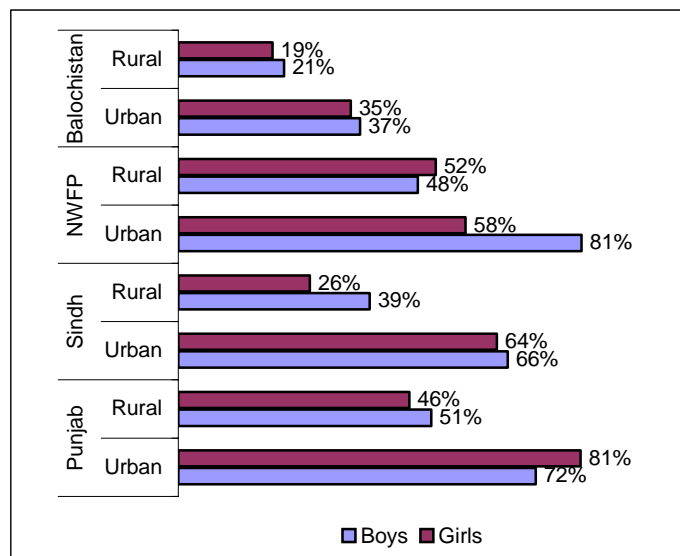
4.24. Maternal health outcomes are poor in Pakistan, as in some other parts of South Asia. For example, the maternal mortality ratio is estimated to be 500 per 100,000 live births.<sup>139</sup> Given the relatively high number of births per women, this translates into a lifetime risk of dying of one in 38—that is, it is estimated that one of every 38 women dies due to causes related to childbirth. High levels of fertility are a major contributor to poor maternal and child health because repeated childbearing depletes maternal resources and increases the risk of ill-health for the mother. In Pakistan, the Total Fertility Rate has fallen gradually since the 1990s, but is still fairly high (Figure 4.1).<sup>140</sup>

4.25. Physical depletion from repeated childbearing is superimposed on a

**Figure 4.5b: Percentage of Children Fully Immunized by Gender and Type of Immunization, 2001-02**



**Figure 4.5c: Percentage of Children Fully Immunized by Province, 2001-02**



Source: Pakistan Demographic and Health Survey 1990-91 and Pakistan Integrated Household Survey 2001-02.

Note: The percentages refer to children aged 12-23 months who have completed immunizations. Polio 3 and DPT 3 refer to last dose of the respective immunizations.

<sup>137</sup> Chen, Haq, and D'Souza (1981); Das Gupta (1987). Also see Chapter 1. The multivariate regression analysis of nutritional status is available on request. Other studies in Pakistan have obtained the same results: Hazarika (2000), Strauss and Thomas (1995), Behrman (1992). One might expect health disadvantages to show up as stunting and low weight, but this is not the case in Pakistan. This may be because severely disadvantaged girls drop out of the population, as implied by the recorded excess female child mortality. Anthropometric standards are age sensitive, moreover, so differentials in age misreporting by gender could result in girls appearing less malnourished than they really are.

<sup>138</sup> See Annex 4.2 to this chapter.

<sup>139</sup> The estimates in this paragraph are taken from WHO, UNICEF and UNFPA (2004), Table 4 and Annex Table G. Due to the paucity of data, estimates of maternal mortality for most developing countries are subject to a wide confidence interval. However, it seems clear that the ratios are very high in Pakistan by world standards.

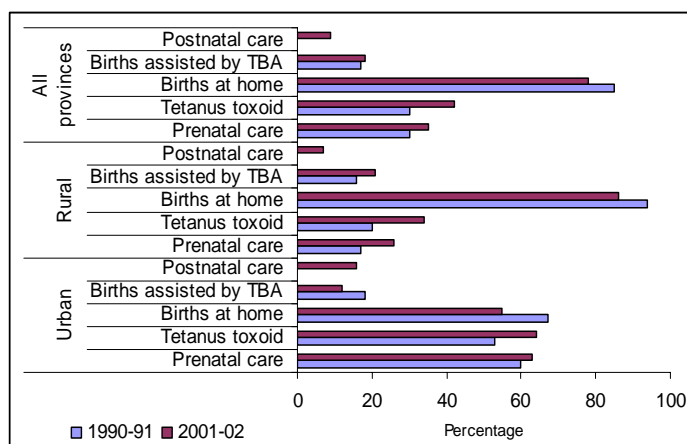
<sup>140</sup> According to the NIPS (2001), which is based on Pakistan Reproductive Health Survey, the TFR at the end of the 1990s was just under five births per woman. See also Sathar and Casterline (1998).

population with poor health and nutrition. Women enter their childbearing years bearing the scars of childhood under-nutrition as well as underinvestment in girls' health during childhood and adolescence. Poor health conditions at the start of childbearing are further exacerbated by neglect of women's dietary needs during childbearing: evidence from both Pakistan and Punjab state of India indicates that women's nutritional intakes do not rise as needed during pregnancy, and especially during lactation.<sup>141</sup>

4.26. Levels of anemia are high in the population as a whole, except among adult urban males, as found in a survey in the early 1990s (Table 1.2).<sup>142</sup> There is a sharp gender gap in the prevalence of anemia among adolescents and adults—perhaps because in addition to the anemia resulting from malnutrition and exposure to diseases such as malaria and intestinal parasites, women have additional demands on their iron supply because of menstruation and childbearing. This gender gap is sharpest among adult women: 37 percent of women aged 25-44 in both rural and urban areas were found to be anemic, nearly double the rate for rural males and over four times the rate for urban males.

4.27. Maternal and child health are greatly influenced by the quality of care during pregnancy, delivery, and after delivery. This is especially important under conditions of repeated childbearing by women who are in poor overall health. The Pakistan Integrated Household Survey (PIHS) 2001-02 data indicate that the proportions of women receiving good maternal care have risen slowly since the 1980s, but is far from adequate (Figure 4.6, see also Annex to Chapter 4). Only 35 percent of women in Pakistan reported receiving prenatal care during their most recent pregnancy, which represents only a 17-percent increase from the late 1980s. The figure for urban areas is 63 percent, but only 26 percent in rural areas. During their most recent pregnancy, 41 percent of women received tetanus toxoid immunization. This coverage could be raised, given the simplicity and effectiveness of the intervention. Encouragingly, coverage expanded during the 1990s by 40 percent overall, and by 70 percent in rural areas.

**Figure 4.6: Percentage of Women Receiving Maternal Health Services**



*Note:* These percentages are based on cross-tabulations from the PIHS data. Data refer to use of maternal health services by pregnant women in the three years preceding the PIHS survey. Note that the categories “births at home” and “births assisted by trained birth attendants” are not mutually exclusive. The percentage changes in use of maternal health services are calculated by comparing 2001-02 percentages with percentages for 1990-91 from the Pakistan Demographic and Health Survey Report (NIPS and Macro International, 1992). Percentage of women getting postnatal care not available for 1990-91.

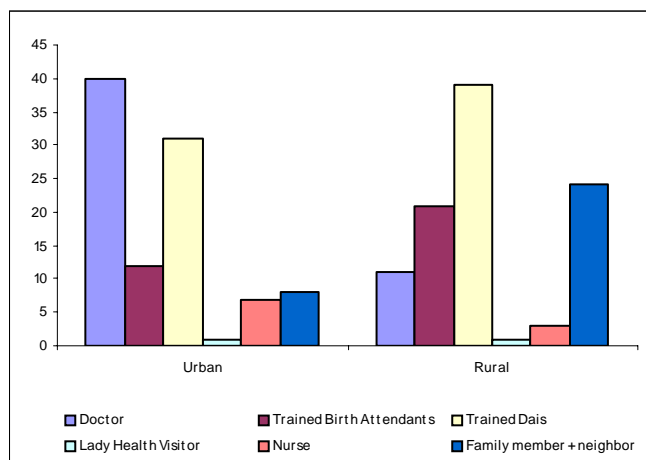
*Source:* PIHS 2001-02 household survey data.

<sup>141</sup> National Nutrition Survey (2001). Similar findings emerge from Indian Punjab (Das Gupta)

<sup>142</sup> 1990-94 National Health Survey of Pakistan.

4.28. Nearly four out of five births in Pakistan during 1998-2001 took place at home (Figure 4.6). In urban areas, nearly one-half of deliveries occurred in institutions, but in rural areas 86 percent of deliveries occurred at home. The proportion of institutional deliveries rose by only 8 percent from the late 1980s. The risks of home delivery have potentially been diminished by programs to provide various types of trained birth attendants. As a result, few births in urban areas of Pakistan take place without a trained person, and only one-quarter of births in rural areas are attended solely by family members / neighbors (Figure 4.7). There have in particular been programs to train traditional midwives (*dais*) and trained birth attendants (TBAs). We have no information on the trend in the proportion of births attended by trained traditional midwives (*dais*), but there has been little overall change in the proportion of births attended by trained birth attendants (TBAs) (Figure 4.7). Levels of postnatal care are very low, even in urban areas (Figure 4.7).

**Figure 4.7: Percentage of Births Assisted by Type of Attendant, 1998-2001**



Source: PIHS 2001-02. The data are for births in the three years prior to the survey.

Note: Dais are traditional birth attendants. While PIHS asked about whether Lady Health Workers attended any births, no woman reported the presence of these workers during birth.

4.29. The PIHS 2001-02 data also indicate large interprovincial differences in coverage of maternal care services (see Annex to chapter 4). Punjab is the best served province, and Balochistan shows the lowest service coverage, followed closely by NWFP. Sindh shows the sharpest rural-urban differences, with a relatively well-served urban population (probably because of Karachi), and a poorly served rural population. There is also some indication that the coverage of services in Sindh has declined over time.

4.30. In sum, not only are health and nutrition levels low in Pakistan, but *over and above this*, females face additional health disadvantages. They enter their childbearing lives carrying the burdens of deprivation during childhood and adolescence. Their health reserves are further drained by repeated childbearing and inadequate care during pregnancy, childbirth, and the postnatal period. The resultant cumulative depletion takes its toll in high maternal morbidity and mortality, and in poor health outcomes for their children.

### III. DELIVERY OF GOVERNMENT HEALTH SERVICES IN RURAL PAKISTAN: THE INSTITUTIONAL SETUP

4.31. Health services are provided by two separate ministries in Pakistan: the Ministry of Health and the Ministry of Population Welfare. The latter focuses largely on the provision of family planning and some reproductive health services. The network of medical services provided by the Ministry of Health includes dispensaries, Basic Health Units (BHUs), Maternal and Child Health (MCH) centers and Rural Health Centers (RHC). The facilities are linked to Tehsil Headquarters Hospital (THQ) and district headquarter hospitals (DHQ)—the secondary care facilities. The management of services on the ground was devolved in 2001 from the provincial to the district Departments of Health (DoH). Each district now has an Executive District Officer of Health (EDO-H), under whom all the health facilities, including

district headquarters hospitals, have been placed. The procurement of medical supplies also has been devolved to the district government.<sup>143</sup>

4.32. Typically each administrative unit or Union Council (typically covering a population of about 10,000 individuals) has a BHU where primary health services, including maternal and child health and family planning services, are provided. MCH centers, which are fewer in number, offer midwifery services and are equipped to handle routine deliveries. Rural health centers are fairly large with 20-30 staff and act as referral centers for four to five BHUs and offer limited inpatient services and emergency care. The BHUs and RHCs are primary- or first-level care facilities and are meant to provide all maternal and child health and primary health services. Aside from the network of medical facilities, there are a number of national programs. These include disease control services such as the directly observed therapy for tuberculosis (TB DOTS) program.<sup>144</sup>

4.33. Maternal and child health services provided within this framework of health facilities include female paramedics such as Lady Health Visitors and Trained Birth Attendants. In addition, the Ministry of Population runs Family Welfare Centers that provide family planning and reproductive health services. However, access to services are limited by the coverage of health facilities, as well as by women's mobility constraints. Two important national programs seek to overcome these constraints by bringing maternal and child health services to people's doorsteps. These include the Expanded Program on Immunization (EPI) which provides immunization services through clinics and active outreach through immunization camps, and the Lady Health Workers Program (LHW), described below.

### Coverage and Quality of Health Services

4.34. Only 58 percent of rural communities in 2001 had any type of public primary health care facility within five kilometers (Table 4.4, Figure 4.8). Furthermore, 35 percent of communities had neither a nearby public health facility nor a LHW. The distribution of facilities between provinces is uneven. Punjab and NWFP are relatively well-served, while Sindh and especially Balochistan are poorly served. About one-third of rural communities have a LHW, except in Balochistan, where only 10 percent of communities have them. These interprovincial differences in the distribution of health services are broadly consistent with differences in levels of maternal care received (Figure 4.6). The distribution of rural health centers is more even across provinces, perhaps because these relatively large facilities are located in places where it is easier to attract staff.

**Table 4.4: Percentage of Rural Communities with Primary Health Facilities Within Five Kilometers**

	<i>Basic health unit</i>	<i>Maternal and Child Health Center</i>	<i>Family Welfare Center</i>
Punjab	48	18	24
Sindh	22	10	13
NWFP	58	29	30
Balochistan	17	5	3
Pakistan	43	18	21

*Note:* Figures for Pakistan include the territories of [spell out both AJK and FATA] AJK and FATA.

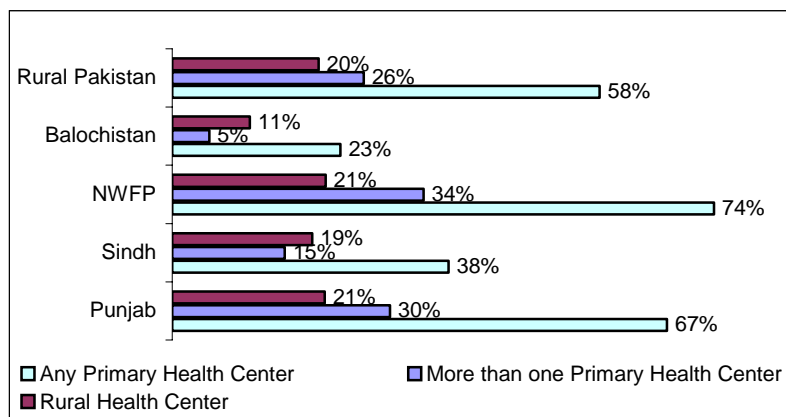
*Source:* PIHS 2001-02 rural communities' survey.

<sup>143</sup> World Bank (2004a).

<sup>144</sup> World Bank (2004a).

4.35. Even where facilities are available, the quality of services varies from good to deficient. The Pakistan Poverty Assessment outlines a number of problems that plague the provision of health and education services, as well as other social services. Programs often are poorly managed and implemented, and lack internal accountability as well as social accountability for quality of services. There is little political pressure to increase service quality, especially since richer people are able to access quality services in the private sector. Both health and education suffer from low budgetary allocations, relative to those of other developing countries.<sup>145</sup>

**Figure 4.8: Percentage of Rural Communities With Any Government Primary Health Center or Rural Health Center Within Five Kilometers**



Note: Percentages for rural Pakistan include the territories of [spell out] AJK and FATA. Primary health facilities include Basic Health Units, Maternal and Child Health Centers, Family Welfare Centers, and Rural Health Centers.

Source: PIHS 2001-02 rural communities' survey.

4.36. A variety of problems render government health facilities of limited value to potential users.<sup>146</sup> Insufficient allocations for non-salary inputs result in widespread shortages of drugs, supplies, and equipment. A shortage of female staff affects the ability to provide health care to women. The PIHS 2001-02 found that 40 of the 100 rural BHUs visited had a sanctioned position for a female doctor, but only three had filled the position. In the case of midwives or Lady Health Visitors (LHV), 86 BHUs had positions sanctioned, but over one-half of these had not filled the position. Staff absenteeism is also a problem: a study of rural primary health facilities found about 36 percent of doctors were absent during normal duty hours.<sup>147</sup>

4.37. A social audit of public services carried out in 2002<sup>148</sup> shows low levels of end-user satisfaction with the quality of services provided in public health facilities. Only 23 percent of households reported overall satisfaction with these services. The most common reasons for dissatisfaction with services were (1) the health problem not being solved, (2) medicines not available at the facility, and (3) poor quality of services or staff. Only 31 percent of households reported that they usually used government health facilities.

4.38. The combination of low access to public facilities and poor service quality at these facilities means that the effective availability of public health care is very low in many parts of the country. Many households use private medical services – for example, the PRHS survey shows that two-thirds of sick children in rural areas received private medical care – but less so for preventive services like immunization. Public facilities are more often used for preventive services such as immunization, which are provided with very active outreach. According to the PIHS survey (2001-02), less than 1 percent of rural children aged 12-23 months received their most recent immunization from a private facility. In urban areas, this percentage was about 5 percent. In the case of prenatal care it is evenly divided: 40 percent of rural women reported going to a public facility while 37 percent had gone to a private facility. For postnatal care, private facilities are preferred, perhaps because the few women who obtain this care

<sup>145</sup> World Bank (2002).

<sup>146</sup> *Pakistan: Reforming Punjab's Public Finances and Institutions*, cited in World Bank (2002).

<sup>147</sup> Parvez, Chaudhury, Rehman and Khan (1993) cited in World Bank, 1998 (Improving women's health in Pakistan)

<sup>148</sup> National Reconstruction Bureau (NRB), social audit of governance and delivery of public services, Baseline Survey 2002.

are from richer households: 38 percent of rural women reported receiving postnatal care at a private facility and 28 percent at a public facility.

4.39. The issue, then, is not merely to increase coverage of public facilities, but also to improve the actual availability of services in the existing facilities. In Pakistan, the process of translating physical proximity into actual proximity and availability is further complicated by the cultural constraints placed on women. This is discussed below.

### The Lady Health Worker (LHW) Program

4.40. The LHW program (formally called the National Program for Family Planning and Primary Health) seeks to provide active outreach of maternal and child health services. LHWs are contract workers hired by the program, to serve populations of about 1,000. They are residents of the communities they work in, and work out of their home, which makes it easy for them to reach their clients. They are young married women aged 20-50 with at least 8 years of schooling. Their status in the community is enhanced by the fact that their wages were initially set at a level comparable to that of primary school teachers, though their real wages have eroded over time. They operate in rural and poor urban areas, and their job is to deliver preventive and promotive health services to women and their children. By 2001, about one-third of rural communities had a LHW in the community, but coverage was low in Balochistan (Table 4.5).

**Table 4.5: Rural Communities with a Lady Health Worker, 2001-02**

<i>Region</i>	<i>Percent</i>
Punjab	34
Sindh	33
NWFP	38
Balochistan	10
Rural Pakistan	35

*Source:* PIHS 2001-02 rural community survey data.  
*Note:* While LHWs are also supposed to work in poor urban areas, the PIHS does not provide any data on this.

4.41. The LHW is expected to register all the children under five and married women aged 15-49 in her catchment area, and to provide various services to them. These include providing essential drugs for treatment of minor ailments (such as diarrhea, malaria, acute respiratory tract infection, and intestinal worms); supplying contraceptives; and identifying those eligible to receive vaccinations and coordinating vaccinator visits to the villages or setting up immunization camps near the villages. Since 2001, more LHWs are being trained to give vaccinations to children and mothers.<sup>149</sup> They are also expected to motivate and refer women to obtain safe motherhood services (prenatal care, safe delivery, and postnatal care). To this end, LHWs are supposed to coordinate with the nearest primary health care facility, traditional birth attendant, or other skilled birth attendant. In addition, they are supposed to organize women's groups and health committees in the community to discuss issues related to better health, hygiene, nutrition, sanitation, and family planning.<sup>150</sup> LHWs are supposed to provide hygiene education on drinking water and sanitation, advice on child care and nutrition, and growth monitoring of children.

4.42. The LHW program is a national program, centrally funded and directed.<sup>151</sup> Policy formulation and operational planning are done at the federal level. Implementation of this operational plan is the responsibility of the provincial and district program implementation units. These implementation units are staffed either by health department employees who are on deputation to the LHW program or by contract employees. The LHWs are hired, placed, and supervised by the District Implementation Units of the program, with oversight by the Federal and Provincial Implementation Units of the program (see Table 4.6).

<sup>149</sup> Government of Pakistan (2004).

<sup>150</sup> Government of Pakistan (2004).

<sup>151</sup> World Bank (2004a).

**Table 4.6: Lady Health Worker Program: Levels of Responsibilities**

<i>Government unit</i>	<i>Responsibility</i>
Federal Program Implementation Unit (Ministry of Health)	Primary health care policy formulation, operation planning and budgeting
Provincial Program Implementation Units (Provincial Health Department)	District LHW allocation, operational plan implementation, payroll
District Implementation Unit (District Health Office)	LHW-primary health care facility allocation, LHW firing, Lady Health Supervisor hiring/firing, training, operational plan implementation
Primary Health Care Facility	Selection of LHW, training, organizing replenishment of supplies, providing meeting point for LHW and Lady Health Supervisor

*Source:* Based on table reported in Ministry of Health, “National Programme for Family Planning and Primary Health Care: Promoting Health; Reducing poverty” (Government of Pakistan 2004).

4.43. The LHWs are not accountable directly to the health facilities. A separate cadre of Lady Health Supervisors (LHS) is employed by the LHW Program on a contract basis to supervise and monitor the LHWs. A 2001 review<sup>152</sup> found the frequency of supervision was quite high: 70 percent of LHWs had been supervised in the preceding month and 87 percent in the two months preceding the survey. The Lady Health Supervisors report to the District Program Implementation Unit. Provincial Program Officers from the Provincial Coordinator’s office oversee the District and LHW Supervisors.

4.44. At the same time, the LHW has some relationship with the local primary health care facilities. She is attached to the nearest BHU or other public primary health facility, which has a say in her selection and trains her. They are expected to refer patients to these facilities. They visit the facility periodically to collect supplies and to meet with and report to the Lady Health Supervisor. They do not report to the person in charge of the health facility. The LHW program thus runs through the provincial and district departments of health, in cooperation with the local health facilities.

4.45. A 2001 review by DFID of the LHW program,<sup>153</sup> calculated larger impact on health outcomes per unit of cost than comparable alternative services provided through the public primary health facilities. This suggests a high level of worker motivation, since LHWs have no benefits other than their salary, and no prospects of promotion or reward for good performance. Also, they face problems of supply shortages due to budget cuts. Following this review, the program was expanded. By 2004, 70,000 LHWs were working in the field, and further expansion is underway (Table 4.7). Punjab will be the greatest beneficiary of the projected expansion, while Balochistan’s low coverage will receive much less attention. Part of this interprovincial inequality can be attributed to differences in the availability of qualified women.

**Table 4.7: Planned Allocation of Lady Health Workers, 2004-05**

	<i>Number of districts</i>	<i>Number of LHWs</i>
Punjab	34	52,381
Sindh	16	21,225
NWFP	24	15,108
Balochistan	26	5,800
Pakistan	120	100,206

*Note:* The figures for Pakistan includes the territories of Azad Jammu Kashmir, Federally Administered Tribal Areas, Northern Areas, and Islamabad.

Of the planned 100,206 LHWs, 98 percent were already allocated to districts by early 2005, and the rest will be allocated effective July 2005. The number of LHWs actually working could be different from the planned allocation because many districts may not have completed recruitment.

*Source:* National Programme for Family Planning and Primary Health Care.

<sup>152</sup> Oxford Policy Management (2002).

<sup>153</sup> Oxford Policy Management (2002).

## Lady Health Workers are More Likely to be Placed in Communities with Girls' Schools

4.46. The strongest determinant of LHW placement is the availability of a school for girls in the community (Table A4.5). This is not a surprising finding, as LHWs are required to have at least middle school education, and the availability of a school increases the supply of such women. Thus the incentive programs discussed in Chapter 3 for retaining girls in middle and high school can be expected to have a direct bearing on the possibilities for expanding the coverage of the LHW program. Since women are much less likely to work outside their own village, it could be difficult to expand the LHW program to areas underserved by girls' schools.

4.47. Given that the LHW program has to find educated women within the catchment area of a functioning facility, the placement of LHWs would be expected to be somewhat regressive, as the likelihood of finding this conjunction of circumstances is higher in better developed areas. The data show that they are indeed more likely to be placed in more developed areas, as indicated by the presence of drainage in the community (Table A4.5). The DFID review also found that LHWs were placed in better-off areas.<sup>154</sup> Our data confirm that LHWs are indeed placed as the program intended, where DoH primary health facilities are available. As of 2001, only one-half of rural communities had a public health facility nearby, and only 20 percent had an LHW as well as a public health facility nearby.

## IV. OVERCOMING WOMEN'S CONSTRAINTS TO ACCESSING HEALTH SERVICES

4.48. Given the various constraints that women face in meeting their health needs, what can be done to alleviate these problems? The analysis of data from two surveys conducted in rural Pakistan in 2001-02—the Pakistan Rural Household Survey and the Pakistan Integrated Household Survey<sup>155</sup>—shows much can be achieved through fairly simple measures to expand the outreach for services and generate greater demand for them.

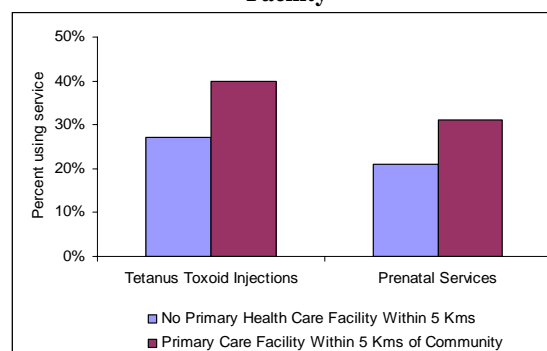
4.49. Expanding outreach and generating demand for services are, of course, highly related: if a service is provided, people gradually become aware of its availability and benefits. However, it is possible to accelerate the pace of demand generation by specific outreach measures, which we discuss next.

### Expanding Service Outreach

#### *The Proximity of Public Health Facilities Matters*

4.50. Although the general quality of public health service delivery is low, certain aspects of these services appear to work well. People use public sector services if a facility is close by for several reproductive health services—immunization for children and pregnant women, and prenatal consultations (Figure 4.9).

**Figure 4.9: Utilization of Maternal Health Services: Impact of Proximity to Public Primary Health Facility**



Notes: PIHS 2001-02 data for rural married women aged 15-49 who had given birth in the three years before the survey. The figures refer to statistically significant predicted probabilities from Tables A4.3-A4.5

<sup>154</sup> Oxford Policy Management (2002).

<sup>155</sup> The PRHS 2001 covers the rural areas of the four provinces and had a detailed module on illness, which we used to analyze determinants of seeking medical treatment for sick children. The PIHS 2001-02 collected data on availability of health facilities and programs, such as the LHW program, so this is used to analyze the determinants of child immunizations, use of maternal health services, and contraceptive use. Although the PIHS was also conducted in urban areas, data on the availability of health facilities and programs were collected only in rural areas. Both surveys contain household and community-level data.

4.51. Having a facility close by, however, does not increase the likelihood of receiving more skilled attendance at delivery (delivery in an institution or with a TBA in attendance), or postnatal care. More effort is needed to improve the outreach for these services, and perhaps also the demand for them. Use of postnatal services may be limited by both a low perceived need for these services and the customary practice of keeping a woman and her newborn at home for 40 days after birth.

4.52. Having a facility close by significantly increases the probability of seeking medical care for a sick child (Table A4.1). The further away the health facility is the higher is the probability of a child being reported ill—where curative services are less accessible, illnesses may become more severe and therefore more likely to be reported. The success of the EPI program in closing the gender gap in childhood immunization indicates that more aggressive outreach campaigns may also be successful in reducing gender inequities in accessing medical care for sick children.

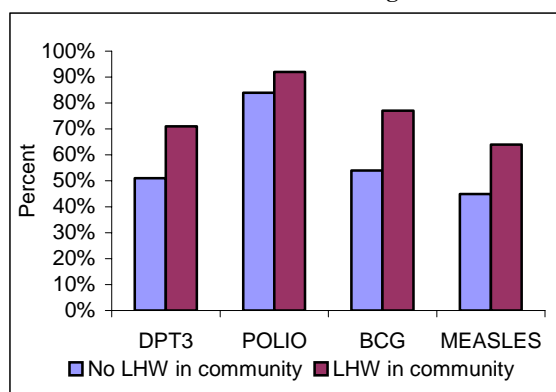
*The Presence of Lady Health Workers is Effective at Increasing the Uptake of Some Services*

4.53. Making services available near people’s homes facilitates the use of health care services. But given the mobility constraints that women face in Pakistan, however, having more women involved in delivering services at the doorstep seems to improve access and outcomes even more. The LHWs provide maternal and child health and contraceptive services at people’s doorsteps, and our analysis indicates that this is quite effective for several purposes.

4.54. The data indicate that LHWs are effective at delivering the main services for which they are responsible: expanding use of contraception and facilitating the immunization programs<sup>156</sup>—rate for both childhood immunizations, as well as tetanus immunizations during pregnancy has improved (Figures 4.10 and 4.11 and Tables A4.2 and A4.3). The presence of an LHW appears to be more strongly associated with immunization uptake than the proximity of primary health facilities, probably because they guide clients directly to mobile vaccinators. Moreover, there is no gender difference in the probability of a child being immunized if a LHW is present in the community (see Table A4.2). Polio immunization is delivered largely through special outreach efforts and camps, so the effect of LHWs is muted.

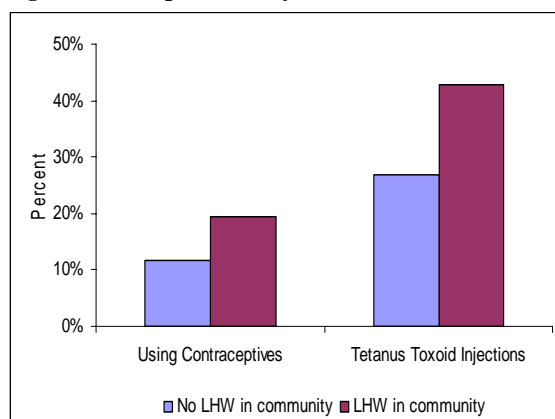
4.55. The presence of an LHW does not, however, significantly increase the probability of receiving prenatal consultations, skilled attendance at delivery, or postnatal care (Table A4.3). These are not services the LHW is trained to deliver, but she is expected to

**Figure 4.10: Presence of Lady Health Worker Increases Child’s Chances of Being Immunized**



Note: The figures refer to predicted probabilities from Table A4.2. Source: PIHS 2001-02 survey data for children aged 12-23 months.

**Figure 4.11: Impact of Lady Health Worker Presence**



Notes: PIHS 2001-02 data for rural married women aged 15-49 who had given birth in the three years before the survey. The figures refer to statistically significant predicted probabilities from Tables A4.3-A4.5.

<sup>156</sup> This was also found by the DFID review (Oxford Policy Management 2002).

refer women to the network of health facilities to avail of themselves of these services. The DFID review came to similar conclusions.

*Expanding Complementarities between the Lady Health Worker Program and Primary Health Care Facilities*

4.56. The LHWs and the primary health care facilities are intended to form a network to provide health services to rural households. Outreach work by LHWs is intended to stimulate families' use of BHUs and other health facilities to meet their health care needs. However, we find virtually no evidence that the presence of an LHW significantly stimulates the use of nearby health facilities for reproductive health services (Table 4.8). Only in the case of postnatal consultations do we find some weak evidence that LHWs increase the use of nearby government health facilities and reduce the use of nearby private health facilities. The uptake of postnatal care is extremely low, however. In the case of contraception, we find that if an LHW is present in a community, then people are less likely to turn to private health facilities nearby. This is in line with the fact that distributing contraceptives is one of the main tasks of the LHW.

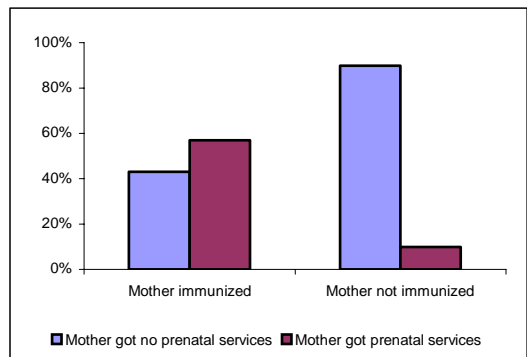
**Table 4.8: Impact of Lady Health Workers and Proximity to Health Facility on Rural Health Center Use**

	<b>LHW presence in community</b>	<b>Proximity to public primary health care facility</b>	<b>Proximity to private health care facility</b>	<b>LHW in community interacted with proximity to public health care facility</b>	<b>LHW in community interacted with proximity to private health care facility</b>
Family planning methods	Yes	No	No	No	Yes (negative)
Maternal care:					
Prenatal care	No	Yes	No	No	No
Tetanus toxoid immunizations	Yes	Yes	No	No	No
Postnatal care	No	No	No	Yes (weak effect) (positive)	Yes (negative)
Birth in medical institution	No	No	No	No	No
Attendance at delivery	No	No	No	No	No
Childhood immunizations	Yes	Yes	No	No	No

*Notes:* This table summarizes the impact of availability of LHWs in the community and the proximity to health facilities on households' utilization of various services based on the regression results in the Appendix. These regressions control for characteristics of the households and for the availability of various facilities and LHWs in the community. They also control for community-level factors such as electricity, drainage, and distance to the following: tehsil capital, nearest bus stop, market, nearest motorable approach road, public primary school for girls, middle school for girls.

4.57. Prenatal services offer a stark example of this lack of synergy. Pregnant women are supposed to receive tetanus toxoid injections *and* check ups for signs of potential complications of pregnancy. As part of the Expanded Program on Immunization (EPI), LHWs encourage pregnant women to get tetanus immunization, and our data indicate that this is very effective.<sup>157</sup> The link with the DoH facilities is weak, however: over 40 percent of the women who received a tetanus immunization report not getting any prenatal care (Figure 4.12). That is, they are contacted by government staff during their pregnancy, but do not receive the prenatal check-ups which the DoH facilities are supposed to provide.

**Figure 4.12: Use of Prenatal Services and Antenatal Tetanus Immunization Status**



Notes: Cross tabulation for rural married women who reported births in the three years preceding the PIHS survey (2001-02).

4.58. In sum, the presence of LHWs has a strong positive impact on the use of contraceptives, which they supply to women, and on the uptake of immunization. This indicates good coordination between two national programs (EPI and LHW) that bring services to people’s doorsteps. However, there is no significant impact of LHW presence on the uptake of maternal care services from government health facilities. LHWs’ efforts to motivate people to access services should, *ceteris paribus*, raise the demand for and utilization of services—making women and their households more aware of the benefits of seeking these available services.

4.59. This lack of complementarity between LHWs and health facilities may have little to do with whether the LHWs are referring women to health facilities and motivating them to use these facilities for maternal health services. The LHW program is not designed to overcome mobility constraints on women, which hinder them from going to the centers to avail themselves of these services. Yet as we see below, if the demand for services increases, people make greater efforts to access services even if facilities are not close by. Also people avoid the health facilities because of previous experiences with unavailable staff and lack of supplies. Low service uptake, however, cannot be entirely attributed to the unavailability of staff and supplies especially since LHWs are placed near the more “functioning” facilities.

4.60. This suggests a deeper issue of poor synergy between the LHW program and the DoH facilities. LHWs may be working to meet their supervisors’ expectations for the vertically-organized program, but not be working to meet ancillary objectives regarding service utilization at facilities run by another department. The LHW’s supervision and monitoring process does not hold them accountable for ensuring uptake of services at health facilities.<sup>158</sup>

<sup>157</sup> In some districts, LHWs may be delivering these injections themselves.

<sup>158</sup> It appears that the monitoring and supervision of LHWs has no checks for whether the women referred to health facilities by the LHW for maternal care services actually go to the facility to avail themselves of the services. The supervisor’s checklist includes an assessment of whether the LHW has knowledge and skills for making appropriate referrals. The LHS also reviews records of the referrals made by the LHW. Independent of this monthly supervision of the LHWs, the primary health facility reports to the district-level program implementation unit, the number of referrals made by LHWs affiliated with the facility. In this system, therefore, there is very little incentive for LHWs to ensure that women actually use these services. If there were adequate incentives, such as, escorting women to health facilities, then we would observe LHWs making efforts to ensure uptake of services.

## Demand for Services

### *Female Education Matters*

4.61. Female education is widely found to be one of the most powerful predictors of maternal and child health outcomes.<sup>159</sup> It is associated with better domestic management of health. Among other things, educated mothers are more likely to be exposed to information from a wider range of sources, and to be better able to process the information received. In Brazil, a study analyzing the pathways through which maternal education affects child health found that most of the correlation between maternal education and child height could be explained by mothers' listening to the radio and watching TV.<sup>160</sup> A study from Central Java (Indonesia) found that mother's schooling affects shorter-term measures of nutritional status mainly through nutritional knowledge.<sup>161</sup>

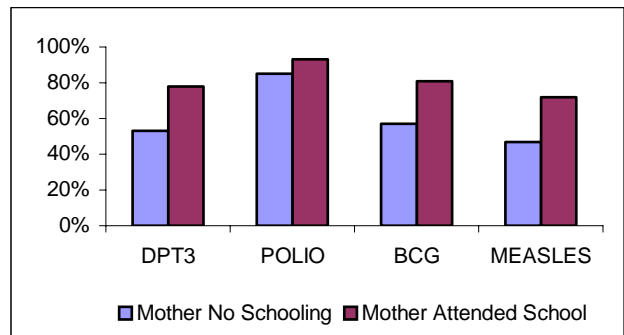
4.62. Education can also enable women to allocate resources better.<sup>162</sup> for example, in the World Bank's first community nutritional loan to Indonesia in the 1970s, significant improvements in child nutritional status were found to be related mainly to nutritional education.<sup>163</sup> It is also possible that educated women have greater bargaining power, both within the household and in their ability to interact with care providers in obtaining the services they seek.

4.63. We find that the schooling of both parents is significantly associated with the probability of a child being immunized (Figure 4.13a) but the effect of mother's education is stronger than that of the father. The same applies to a women's probability of using contraceptives and having prenatal consultations and tetanus immunization during pregnancy (Figure 4.13b and Tables A 4.2 and A4.3). For postnatal consultations, only the woman's schooling has a significant positive association.

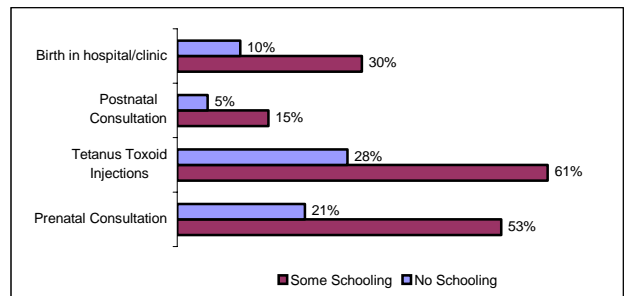
### *Information Campaigns Also Generate Demand for Services*

4.64. There is considerable evidence that greater exposure to information can "substitute" in some ways for schooling. This has been widely noted, for example, in the spread of information on contraception and the uptake of contraceptive use.<sup>164</sup> Some studies have sought to specifically tease out the extent to which education and information substitute for each other. A study in Brazil found that

**Figure 4.13a: Female Education and Childhood Immunization**



**Figure 4.13b: Female Education and Use of Maternal Health Services**



Source: The graph is based on data from the PIHS survey (2001-02). In graph A, the percent immunized based on the level of the mother's education is predicted using the regression results displayed in Table A4.2 in the Appendix to Chapter 4. In graph B, the percentage of women utilizing maternal health services is predicted using regression results displayed in Table A4.3.

<sup>159</sup> Strauss and Thomas (1995).

<sup>160</sup> Thomas, Strauss, and Henrique (1990)

<sup>161</sup> Webb and Block (2004).

<sup>162</sup> Welch (1970).

<sup>163</sup> Webb and Block (2004).

<sup>164</sup> Rosenzweig and Schultz (1989); Casterline, Sathar, and ul-Haq (2001).

schooling and messages gained through community health services acted as substitutes for each other.<sup>165</sup> A study in Morocco found that maternal knowledge and not maternal schooling strongly influences measures of child's long-term nutritional status (height for age).<sup>166</sup> This study also found that this maternal knowledge in this setting is obtained mainly from the media and public service announcements.

4.65. In Pakistan, there are a number of information campaigns on maternal and child health issues.<sup>167</sup> The Ministry of Population Welfare has a Communication and Advocacy Strategy that focuses on disseminating family planning information, especially to rural areas, youth, and men.<sup>168</sup> The Ministry of Health also sponsors health education campaigns that focus on safe motherhood.<sup>169</sup> Campaigns on family planning are also undertaken by the private sector. The EPI program has had campaigns for childhood immunization and antenatal tetanus immunization.

4.66. We explore how dissemination of health information can offset the disadvantages of low female education and low coverage of health facilities. Our survey data include information on whether a woman had been exposed to media messages on hygiene practices, and we use this as an indicator of women's exposure to health messages from the media. We find that this indicator is positively related to the probability of using contraception, prenatal consultations, tetanus toxoid immunization, and institutional delivery (Table A4.3). However, there was no significant association with the use of postnatal consultations.

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<sup>165</sup> Thomas, Strauss, and Henrique (1990)

<sup>166</sup> Glewwe (1999).

<sup>167</sup> Sathar and Casterline (1998).

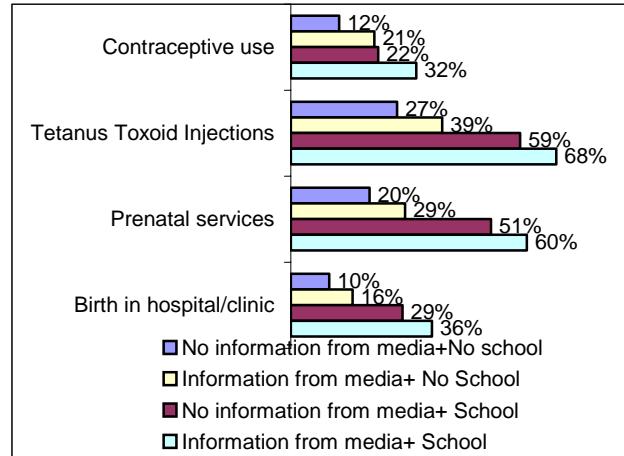
<sup>168</sup> Government of Pakistan (2003)

<sup>169</sup> As part of the Women Health Project (Government of Pakistan 2003)

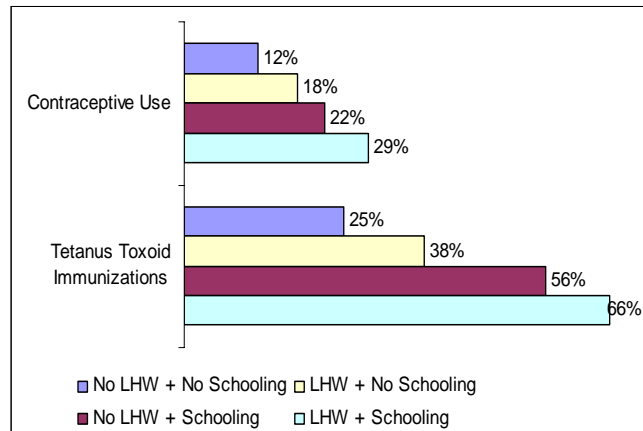
4.67. Does having information reinforce or substitute for the benefits of having an education? It appears that media exposure to health messages plays a positive role *independent from* maternal education. The interactions between media exposure and female education show that both educated and uneducated women benefit from media exposure (Figure 4.14a). For example, among uneducated women the percent seeking prenatal consultations rose from 20 to 29 percent with media exposure. Among women with some schooling, the percent seeking prenatal consultations went up from 51 to 60 percent with exposure to media messages.

4.68. Since LHWs deliver information along with services to women’s doorsteps, they might be expected to be more helpful to women with no schooling, or to women who may have less access to information from the media. The analysis suggests that this is not the case: the presence of an LHW benefits women *independently* of their schooling or exposure to media (Figures 4.14b and 4.14c). Note that the effects are significant only for the services (contraception and immunization) for which the presence of a LHW has a significant impact.

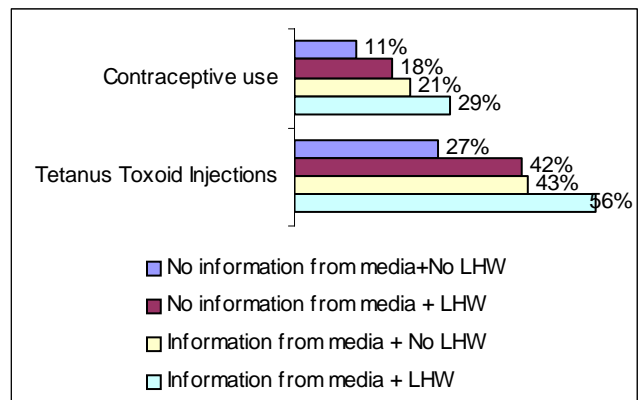
**Figure 4.14a: Impact of Media Exposure and Female Education on Use of Maternal Health Services**



**Figure 4.14b: Impact of Lady Health Worker Presence and Female Education on Use of Maternal Health Services**



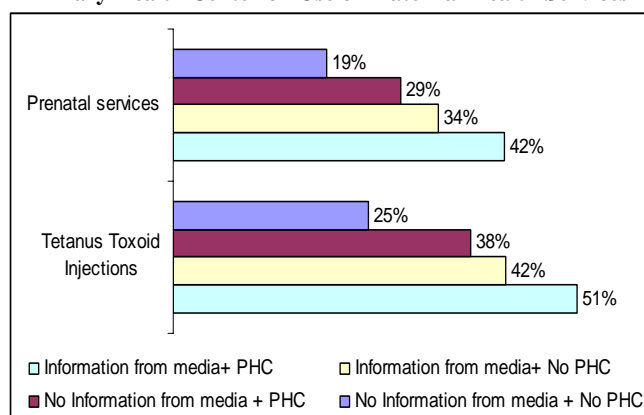
**Figure 4.14c: Impact of Lady Health Worker Presence and Media Exposure on Use of Maternal Health Services**



.Note: These figures pertain to rural married women aged 15-49. The figures refer to the predicted probabilities of using these services from Tables A4.3 and A4.4. In graph A, the predicted effect of media exposure is added to the effect of woman’s schooling on the use of these services. In graph B, the predicted effect of media exposure is added to the effect of LHW presence.

4.69. Media exposure has an even more striking impact on stimulating the use of health facilities. For example, women without a primary health facility close by, the percent with prenatal consultations rose from 19 to 34 percent with media exposure, and from 29 to 42 percent for those with a facility close by (Figure 4.15). In sum, media exposure appears to play a role independent of other factors which generate demand for services (in this case female schooling and the presence of an LHW), as well as the supply of services.

**Figure 4.15: Impact of Media Exposure and Distance to Primary Health Center on Use of Maternal Health Services**



Notes: These figures pertain to rural married women aged 15-49. The figures refer to the predicted probabilities of using these services from Tables A4.3. The predicted effect of media exposure is added to the effect of proximity to a primary health center (PHC) on the use of these services.

## V. POLICY RECOMMENDATIONS

4.70. If one had a magic wand, it would be possible to address simultaneously all the major factors underlying poor health outcomes in Pakistan: poverty, exposure to disease, poor public services delivery, low levels of education, and the constraints women face in caring for themselves and their families.

4.71. Pending larger shifts in policy priorities and their actual implementation, however, much can be done to improve health outcomes. For instance, steps can be taken to expand effective access to public primary health facilities, especially in rural areas, as they are pro-poor in nature. Many communities do not have a facility close by, however. Studies also show that even when facilities are in place, service delivery in many of these facilities is hindered by staff absenteeism and lack of supplies and equipment. Here there may be scope for efficiency gains through private contracts to run public facilities. International experience suggests that private-public partnerships can be an effective way to improve public health service delivery.<sup>170</sup>

4.72. Improving poor coverage and quality of public services is critical to improving health outcomes, but it will not eliminate the obstacles faced by women and girls in accessing health services. The discussion in the chapter focused on reducing the gender-related constraints to accessing health services and our findings indicate the effectiveness of expanding service outreach, information dissemination, and improving the coordination of services. This leads us to several policy recommendations.

4.73. First, the LHW program should be expanded to areas with relatively low coverage and strengthened, as it appears to be highly effective at delivering basic maternal and child health services to

<sup>170</sup> World Development Report (2003). A successful example of a contracting-out arrangement is the tuberculosis (TB) detection and treatment project in Hyderabad, India (Loevinsohn and Harding 2004). The Government engaged a private non-profit trust working in a poor neighborhood in Hyderabad to deliver TB treatment using the DOTS (directly observed therapy-short course chemotherapy) method. An evaluation of this project found that the private provider was able to achieve a treatment success rate 14-percentage points higher than the public sector provider in a nearby area. The private provider was also able to diagnose 21 percent more TB cases per year. The private delivery of services was also found to be more cost-effective. In Pakistan, the Punjab Government contracted an NGO to manage BHUs in Rahim Yar Khan district in 2003. While no evaluation of this project is as yet available, initial assessments suggest that since the NGO took over the management of BHUs in this district the staffing and supply of drugs was greatly enhanced and there was an appreciable increase in the number of outpatient visits (Loevinsohn and Harding 2004).

people. We find that having these women deliver services to people's doorsteps considerably enhances the probability of children being immunized and of women receiving prenatal care and using contraception. The DFID evaluation (2001) found the same.<sup>171</sup>

4.74. Although distance to primary health care centers is an important determinant of the use of postnatal care, LHWs are at the right place to deliver a range of such services effectively, and their efforts should be further reinforced through training. Experience in Bangladesh shows that when the demand for contraceptive and maternal health services is low, much can be achieved by moving from fixed-point service delivery to active outreach through home visits—and when the demand has risen significantly, it is possible to revert to fixed-point service delivery because women are more likely to seek these services on their own (ICDDR,B, 2003).

4.75. Second, our analysis of the placement of LHWs suggests that the supply of women with middle school or higher education in rural areas may constrain the ability of the LHW program to expand into underserved areas. Policymakers need to find ways to deliver services to those parts of the country which, for the foreseeable future, the LHW program will not reach. The LHW program could finance scholarships for girls in middle school in underserved areas with an option to work as an LHW upon completion. In more remote and underdeveloped areas, it may be instructive to follow the example of Vietnam (Box 4.1).

#### **Box 4.1: Overcoming Barriers to Accessing Health Services: Insights from Vietnam**

In Vietnam ethnic minorities living in mountainous terrain are frequently underserved with health facilities. These people are often not accustomed to seeking reproductive and child health services on a routine (nonemergency) basis. Under these circumstances, putting outreach staff in the field to actively identify women who need these services may miss those who are most socially and financially disadvantaged.

To reach these socially and geographically marginalized groups with reproductive and child health services, the government tried several pilot initiatives, the most popular and successful of which was to organize campaigns on reproductive and child health services for disadvantaged areas that consisted mobile teams deliver the services, a model that has been tested in many settings.

What distinguished the campaigns in Vietnam from campaigns in other places is that the visits by the mobile teams were *preceded* by extensive information outreach. This ensured maximum effectiveness of the mobile teams. Communities were informed repeatedly about when and where the team would arrive (typically at a local market where people tend to congregate), how long the teams would stay, and which services the team would provide and who should seek their services (e.g., pregnant women for antenatal checkups). The mobile team would then spend a few days in that location to provide the services announced.

These campaigns did much to generate demand and increase service utilization in the most underserved regions of the country. Provincial staff expressed a high level of satisfaction with this effort because they felt that not only had they raised people's awareness of women's reproductive health needs, but also the campaign had enabled them to actually respond to increased demand by providing free services, including surgery.

The campaigns were successful in overcoming a variety of obstacles to better reproductive and child health: , including the following: (1) limited supply of health facilities; (2) limited information about the need for health services; and (3) inability to pay user charges for regular health services. In Pakistan, such a model could be especially powerful because of the constraints on women's mobility.

*Source:* World Bank (2004e)

<sup>171</sup> They also found that the LHW program was more cost-effective than other primary care services. This may be due partly to the fact that they provide both family planning services and child health services, a combination which has been found effective elsewhere (see for example Fauveau 1994, on Bangladesh).

4.76. Third, the apparent disjunction between the services of LHWs and the health facilities needs to be addressed, through measures to increase their mutual support and accountability. There are many potential synergies and benefits to all from coordinating the LHW program with overall public health care services: the health facilities can provide important technical and logistical support for LHWs, while LHWs can increase facility utilization by referring potential users to them. An example of coordination between a central program (LHW) and provincial health departments is the Auxiliary Nurse Midwife (ANM) program in India (Box 4.2). In Pakistan, the potential for synergy is apparent in the coordination between the EPI program and the LHW program.

**Box 4.2: Integrating Centrally-sponsored Programs with State Programs: The Auxiliary Nurse Midwife Program in India**

Auxiliary Nurse Midwives (ANMs) in India are the outreach staff responsible for maternal and child health services. They are typically posted outside their native village and are subject to transfer. This means that they have to live and work in communities often unfamiliar to them, and they have to travel on their own to reach all the villages for which they are responsible. Another problem arises from the fact that they are evaluated largely on their performance of maternal and child health care tasks, while the communities they serve would like them to meet broader curative service needs.

In many ways, then program is far from perfect, but it offers insights into how vertical and horizontal programs can be meshed. The ANMs' salaries are covered by the central government's vertically -organized Family Welfare Pprogram, which also provides and their supplies of contraceptives, folic acid, etc., also are supplied directly by this program. In their work set-up, however, the ANMs are integrated into the regular health services, which are organized and funded by the state governments. They are assigned either to Primary Health Centers, or (more typically) to their sub-centers. They form part of the staff of the Primary Health Center to which they are attached, and this manifests itself in a high level of integration. They are supervised along with other staff by the medical officer (and health assistant reporting to the medical officer) of the primary health center., and by his/her health assistants. This takes place at monthly staff meetings at the PHC to evaluate workers' progress and suggest improvements. During monthly staff meetings, the medical officers convey information from their meetings with the district health officer, inform staff about campaigns and surveys proposed by the district-level administration, monitor existing activities, and outline work schedules for the next month. ANMs thus participate in regular facility meetings in which the work program of the facility as a whole is discussed. The support flows in both directions: for example, medical officers are supposed to visit the subcenters periodically and attend clinics organized there to examine and treat difficult cases.

The fact of participation in regular meetings and being accountable to the facility head means that the ANMs function as part of the Primary Health Center team. Thus, although the ANMs are part of the centrally-run vertical program for family welfare, and the health facilities are managed by the state and local governments, the ANMs have a clear incentive to work closely with their health facilities. This assures coordination between the vertical RCH program and the health department.

*Source:* Iyer and Jesani (1999).

4.77. In a broader sense, it is important to strengthen the integrated delivery of maternal, child health, and family planning services. Under the devolution policy, the delivery of health services is already moving toward this more integrated structure. Population and health services are being decentralized to the provincial level and devolved to the district level. At the federal, provincial, and district levels the Ministries of Health and Population Welfare are becoming more integrated (Government of Pakistan, 2003).

4.78. Fourth, it is critical to have intensive information campaigns covering a wide range of issues geared toward enhancing people's ability to manage and protect their own health. A large proportion of women have never been to school and/or do not have access to LHWs or health facilities, and our analysis suggests that carefully designed information campaigns can do much to offset the associated

disadvantages for women's and children's health. Television reached an estimated 40 percent of women in rural Pakistan in 2001, and radio reached 36 percent.<sup>172</sup> If, in addition to this, it were possible to use village loudspeakers to communicate a few well-chosen health-related messages, it would be possible to tap further the special advantage of intensive media campaigns that reach all members of the community and gradually raise overall awareness on health issues. More local media campaigns can also build community acceptance for paying more attention to women's health needs and reduce the social barriers to women accessing health care independently. For example, loudspeakers in local mosques have been used successfully to alert people when the vaccinator visits the village,<sup>173</sup> and their use could be expanded.

4.79. Closing the gaps in health service delivery for women requires action on many fronts. More active coordination of existing programs that have already yield effective results is worth considering. The LHW program is an ongoing and expanding program and it should be monitored as changes are introduced to the program to shape its continued success. Furthermore, the design of national programs and interventions can be guided by lessons learned from many ongoing pilot projects across Pakistan. One such pilot project in the area of maternal health is the Balochistan Safe Motherhood Initiative, which emerged out of an operations research study by The Asia Foundation. The Balochistan Safe Motherhood Initiative tested a package of community-based interventions, including providing health education to women and their husbands, training midwives to recognize and referring high-risk pregnancies, and setting up transport systems to improve access to health care centers. This initiative was successful in significantly lowering perinatal, neonatal, and maternal mortality. Much can be learned, moreover, from the successes with improving immunization coverage in Pakistan since the early 1990s. While logistical and coordination improvements ensured a better and steadier supply of vaccines, intensive efforts to bring services to people's doorsteps was key to improvements in immunization coverage. The polio immunization campaign, for example, made very successful use of media and outreach to increase service uptake.

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<sup>172</sup> Pakistan Reproductive Health and Family Planning Survey 2000-01.

<sup>173</sup> Oxford Policy Management 2002