Lady Health Worker Programme

External Evaluation of the National Programme for Family Planning and Primary Health Care

Sindh Survey Report

Oxford Policy Management
August 2009

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Cover photo: Village girl in rural Punjab

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Executive summary

The Lady Health Worker Programme (LHWP) is an increasingly important element in the Government of Pakistan's plan to improve the health status of women and children in villages and poor urban areas. The Programme has expanded substantially since it was founded in the early 1990s. Over 80 million people now have access to services from a Lady Health Worker (LHW) in their community.

The third independent programme evaluation (the 3rd Evaluation) in 2000 showed that these services have a positive impact on the health of the poor, particularly women and children. It showed that through their work, LHWs are contributing directly to improved hygiene and higher levels of contraceptive use, iron supplementation and vaccination amongst their clients. In 2008, over 90 percent of communities reported that the LHW has generally improved peoples lives and that there have been improvements in health due to LHWs work.

This report comprises part of the 4th Evaluation. Specifically, it reports key findings of the quantitative survey on the performance of the LHWP in Sindh. Where appropriate, these findings are compared nationally and with the results of the 3rd Evaluation (2000).

Service delivery

In terms of LHWP service delivery, LHWs in Sindh are working harder than they were in 2000. Nationally, they report an average of 30 hours per week of work, compared with 20 in 2000, although an appreciable part of this increase is accounted for by increased activity on National Immunisation Days (NIDs).

In Sindh, LHWs are providing many services to a higher proportion of their clients than they were in 2000. The proportion of eligible clients receiving services provided by LHWs varies according to the type of service. The LHW performance score, which measures the coverage rate of preventive and promotive services, increased from 42 percent to 52 percent nationally, and by a similar amount in Sindh. Half of the LHWs' clients in Sindh are now receiving the preventive and promotive services for which they are eligible.

In delivering these services the LHW should be visiting all of her registered households at least once every two months. In Sindh this would mean visiting an average of 17 households per week, as she has on average, 117 registered households. If she was following the Programme's norm of visiting five households per day, for six days a week, she would cover all of her registered households in less than five weeks. The average Sindh Lady Health Worker is actually visiting nearly 20 households per week. However, 19 percent of households in Sindh had not received a visit in the past three months.

In addition to providing preventive and promotive services, curative services continue to be an important part of the workload, although the use of LHW curative services by adults appears to have declined slightly since the previous evaluation, and fewer LHWs report having seen an emergency case than in the previous evaluation. The survey found an average of 117 households registered per LHW in Sindh, compared with the national average of 131.

The results from the survey showed that overall 82 percent of LHWs in Sindh have worked on National Immunisation Days (NIDs) for the EPI Programme, in the past three months, for an average of twelve days, of which half of these worked outside of their catchment area. Nearly all of those LHWs working on NIDs in Sindh received extra payment.

Differing levels of performance

As in the previous evaluation, a composite performance score was calculated for every interviewed LHW. The average score for Sindh is just below the national performance score. The score can also be used to classify Lady Health Workers into: High Performers, Good Performers, Below Average and Poor Performers. High Performing LHWs provide nearly four out of five of their eligible clients with relevant services. Poor Performers on the other hand, are providing a service to just over a quarter of their eligible clients.

In Sindh 21 percent of LHWs are High Performers and 25 percent are Poor Performers compared to 29 percent in each category nationwide.

Statistical analysis was used to identify the factors associated with variations in LHW performance nationally. The analysis identified a range of factors which help to explain these variations, some of which are within the control of the LHWP and which therefore imply some clear policy implications. Specifically, efforts should be made to:

- Retain experienced LHWs;
- Ensure LHWs are working the full hours required of them – this requires adequate supervision support – but LHWs should not be working a seven day week;
- Ensure that LHW supervisors are themselves regularly and effectively supervised by the FPO and that performance monitoring tools such as the diaries and work plans continue to be used;
- Encourage women's health committees to be established/maintained in all served areas;
- Maintain a focus on MIS reporting – in particular, making clear the services that the LHW should be providing, and ensuring LHWs understand that their performance in delivering these services is being monitored;
- Encourage DPIU's to instigate effective LHW performance management regimes with effective procedures for reporting and sanctioning LHW non-performance. Punishing LHWs with salary deductions or delays does not appear to be an effective response to non-performance, in contrast to providing additional training, ideally directed at the specific area of non-performance; and
- Ensure all served health facilities have an individual with overall responsibility for overseeing LHWP activities.

The knowledge test

The survey asked LHWs and their supervisors a series of questions designed to assess their clinical knowledge levels. This was found to be high in many areas. On average LHWs in Sindh scored 74 percent which is the same as national average. LHWs' average knowledge score has increased since 2000 in Sindh, though slightly less than the overall improvement nationally.

The improvements have not been uniform, with knowledge improving in some topic areas but not in others. A minority of LHWs continue to lack basic clinical knowledge. The low scores and lack of in-depth knowledge of this minority of LHWs could have serious clinical consequences as well as undermining the professional reputation of the programme.

The Programme needs to continue to develop its on-going system of knowledge assessment and reinforcement for all LHWs and LHSs. It has been shown that education, effective training and supervision and good district management practices are important factors in

determining LHW levels of knowledge. These results also have clear policy implications for the programme. Specifically, efforts should be made to:

- Retain experienced LHWs;
- Strive to ensure new LHW recruits have high levels of education. Since this is often at odds with efforts to increase coverage (remaining unserved areas tend to have fewer education women), this may require innovative approaches;
- Maintain and improve the frequency and quality of refresher training courses. Current training courses should be reviewed to ensure they focus on areas where LHW knowledge is weakest (e.g. growth monitoring, diarrhoea treatment, pneumonia);
- Make efforts to monitor and maintain the LHWs' supervisors' knowledge levels; and
- Ensure all served health facilities have an individual with overall responsibility for overseeing LHWP activities, and that within each district regular meetings are held between these individuals and the DPIU.

Organisational support – supervision, pay and supplies

Nearly all LHWs now have supervisors. Some 78 percent of LHWs in Sindh had received at least one visit from their supervisor in the past month (compared to 80 percent nationally) and 83 percent LHWS had attended a monthly meeting at the health facility in the past month. Under two thirds of LHWs in the Sindh reported that the LHS had used her checklist in her previous supervision visit (compared to 78 percent nationally).

LHWs and supervisors should expect to receive their pay monthly in full and on time. In Sindh 94 percent of LHWs had received their pay within the past three months. This is a substantial reduction in the level of such late payments compared with 2000, but is still a cause for concern.

Medical supplies and equipment are essential in ensuring an effective community health service and ensuring the credibility of the LHW. The previous evaluation found a substantial problem with stock outs, with many LHWs out of stock of medicines for a significant period. The 4th Evaluation has shown there remains a significant problem, with many LHWs having key medicines out of stock for two months or more. Sindh is the worst performing province in terms of keeping LHWs stocked up.

Looking ahead

The Programme has expanded substantially since 2000, at the same time as facing the challenges due to decentralisation. As it has expanded, it has penetrated into more rural and less advantaged areas, although it is still not reaching some of the most disadvantaged areas.

At the same time, the Programme has managed to institute a number of improvements that were identified as important in the previous evaluation. It has improved supervision and has increased average levels of knowledge. The level of service delivery has increased. These changes must all be recognised as significant achievements.

However, there remain a group of underperforming LHWs, whose working practices must be further improved, and important gaps in LHWs' knowledge. There remain also significant failures in supply systems, both in medicines and equipment. These issues must be further addressed going forwards.

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Abbreviations

ADC	Assistant District Coordinator
AIDS	Acquired Immune Deficiency Syndrome
AJK	Azad Jammu and Kashmir
APC	Assistant Provincial Coordinator
BHU	Basic Health Unit
DC	District Coordinator
DPIU	District Programme Implementation Unit
EDO-H	Executive District Officer of Health
EPI	Expanded Programme of Immunisation
FANA	Federally Administered Northern Areas
FATA	Federally Administered Tribal Areas
FLCF	First Level Care Facility
FPIU	Federal Programme Implementation Unit
FPO	Field Programme Officer
FY	Financial Year
GOP	Government of Pakistan
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
LHS	Lady Health Supervisor
LHW	Lady Health Worker
LHWP	Lady Health Worker Programme
MCH	Maternal and Child Health
MIS	Management Information System
MoH	Ministry of Health
NAs	Northern Areas (FANA)
NIDs	National Immunisation Days
NWFP	North Western Frontier Province
PC	Provincial Coordinator
PC-1	Planning Commission 1
PHC	Primary Health Care
POL	Petrol, Oil and Lubrication
PPIU	Provincial Programme Implementation Unit
PSU	Primary Sampling Unit
RHC	Rural Health Centre

1 Evaluating the Lady Health Worker Programme

1.1 Background

The Lady Health Worker Programme (LHWP) is an important element in the Government of Pakistan's plan to raise the health status of women and children in rural villages and poor urban areas. The Programme was launched in April 1994 as a Federal development programme funded by the Ministry of Health (MoH), and implemented by both the MoH and the provincial Departments of Health. The Lady Health Worker Programme (LHWP) has, with increased funding, delivered more services in the past five years. Since the previous evaluation in 2000, the Programme has expanded from 38,000 LHWs to 90,000 Lady Health Workers (LHWs), only 10,000 short of the target of 100,000. The LHWs are now an occupational group that is recognized by the community for the services that they are able to deliver. The organizational structure and service delivery model has remained the same.

The main goal of the programme was to establish a primary health care service:

- Providing accessible promotive, preventive, curative and rehabilitative services to the entire population;
- Bringing about community participation;
- Improving the utilisation of health facilities;
- Expanding availability of family planning services in urban slums and rural areas of Pakistan; and
- Gradually integrating existing health care delivery programmes like EPI, Malaria control, Nutrition, MCH within the programme.

1.2 Lady Health Worker Programme evaluation

This report[1] presents information on the performance of the LHWP in Sindh against the background of information on the national picture. It is based on data collected through quantitative surveys undertaken in 2008 as part of the fourth independent evaluation of the LHWP (the 4th Evaluation). Wherever appropriate the report compares findings with those of the previous evaluation (the 3rd Evaluation), conducted in 2000.

Specifically, this report covers the following areas:

- Characteristics of LHWs;
- The range and level of preventive, promotive, curative and referral services provided by the LHW;
- Differences between high performing and poor performing LHWs;
- Activities of the LHW including hours of work and the number of registered clients;
- Knowledge and skills levels that the LHWs bring to their jobs; and
- Quality of the organisational support received by the LHW.

[1] This report is one of a series of ten reports providing the results of the evaluation. Provincial reports have been written for Punjab and ICT, NWFP, AJK/FANA, Sindh and Balochistan. FATA was not able to be included in the survey due to security concerns for the field workers. In addition there are five national level reports: the Final Report which summaries the key findings, the Quantitative Survey Report providing an extensive analysis of the quantitative results, the Financial and Economic Analysis presenting costs and spending patterns of the LHWP, the Management and Systems Review, and the Study of the Lady Health Worker, Socio-Economic Benefits and Experience.

This information should support programme managers in Sindh and at the Federal level to identify initiatives to improve the quality and level of service delivery.

1.3 Characteristics of Lady Health Workers

The Programme has specific recruitment criteria for Lady Health Workers. It is important for Programme credibility and reputation as a professional service that these criteria, once determined, are adhered to.[2]

LHWs should be between twenty and fifty years old, when recruited, though if married, eighteen and nineteen-year-olds are acceptable. Only 1 percent of LHWs were under twenty years old at the time of the survey.

In Sindh, LHWs tend to be slightly younger than the national average with 16 percent under age 25, compared to 13 percent nationally. Similarly, nearly 70 percent of the Sindhi LHWs are currently married as preferred by the Programme. This is higher than the national average of 66 percent (Annex Table B.1). The assumption is that married LHWs are more likely to have gathered knowledge and skills from personal experience, particularly with regard to family planning practices and child and maternal health.

LHWs should be educated to at least the eighth class, though it is preferable for them to be matriculated. All Sindhi Lady Health Workers report having an education of at least an eight class pass and 64 percent have class ten or above. Seventy-four per cent of LHWs in Sindh could confirm class achievement through showing their school certificate.

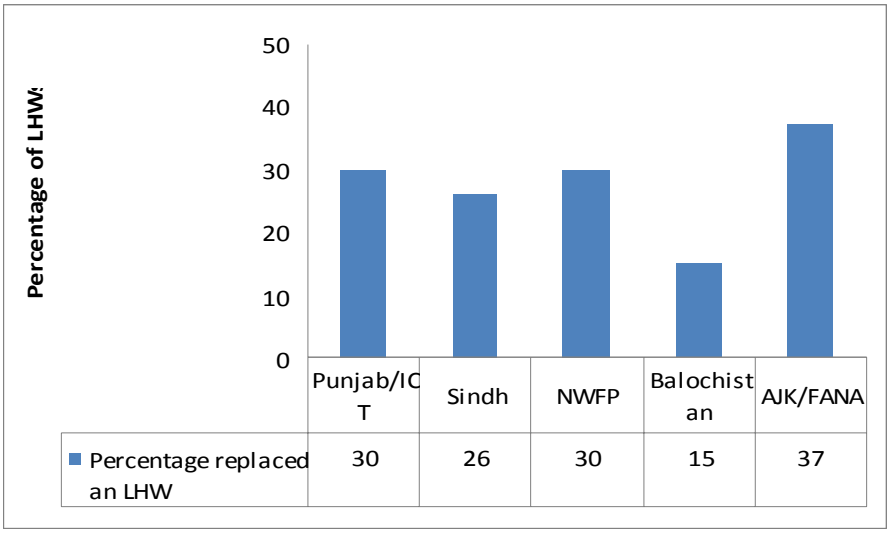
The vast majority of LHWs live in the village/mohalla in which they work, as required by Programme standards. In Sindh 11 percent are non-resident, higher than the national average. LHWs are very much part of the community they work in. In Sindh 54 percent of the LHWs were born within the community and a further 38 percent have been resident for more than five years (Annex Table B.1). The Programme in Sindh has been successful in ensuring that the vast majority of LHWs and their supervisors meet the educational, age and residency criteria.

Due to staff turnover, villages are starting to have a second generation of Lady Health Workers. In Sindh, 26 percent of LHWs are currently working in a catchment area that was already being served by the Programme before they took over (Figure 1.1). This compares to 29 percent nationally.

LHWs tend not to move from their village, particularly in Balochistan (Figure 1.2). Some 86 percent of serving LHWs in Sindh are still serving their original catchment area.

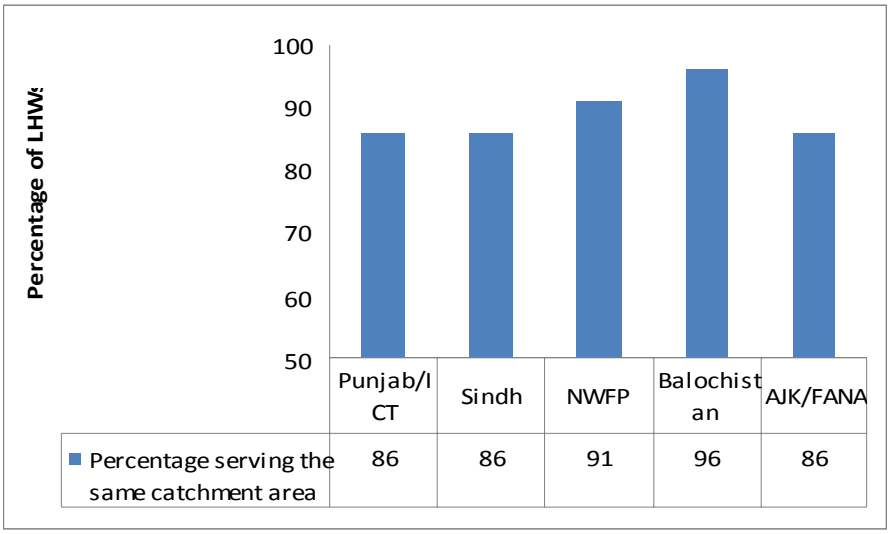
[2] See Quantitative Survey Report for more information.

Figure 1.1 Percentage of LHWs who have replaced an LHW in their catchment area



Source: Quantitative Survey Report 2008.

Figure 1.2 Percentage of LHWs serving their original catchment area

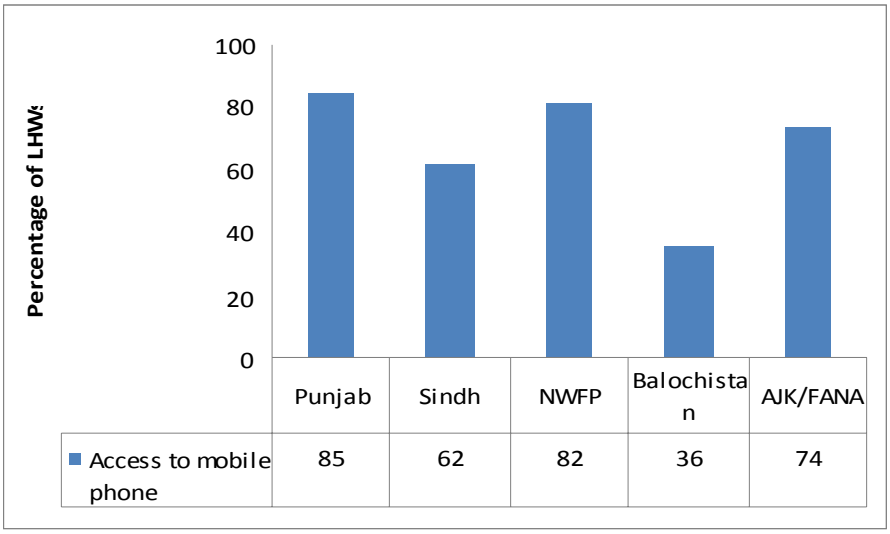


Source: Quantitative Survey Report 2008.

LHWs and mobile phones

Access to a mobile phone could potentially enable the LHW to strengthen the link between the community and health care providers, for example by facilitating communication between the LHW and health facilities in regard to referral cases. In Sindh, only 62 percent of LHWs have use of a mobile phone, compared to 79 percent nationally (Figure 1.3). Many of these have shared access with their husband or another family member.

Figure 1.3 Percentage of LHWs with the use of a mobile phone, by province



Source: Quantitative Survey Report 2008.

1.4 Key points

- In Sindh as in the other provinces, the Programme has been successful in ensuring that the vast majority of LHWs meet the educational, age and residency criteria.
- Due to staff turnover, villages are starting to have a second generation of Lady Health Workers. Serving LHWs do not often change their catchment area, however – in Sindh 86 percent of serving LHWs are still serving their original catchment area.
- The majority of LHWs have access to a mobile phone, though access in Sindh is lower than the national average.

2 Providing services at the doorstep

2.1 Levels of service delivery

The range of services that LHWs provide to their clients includes:

- Hygiene education on drinking water and sanitation;
- Nutritional advice and growth monitoring;
- Monitoring and advising women on their health, and that of their babies;
- Motivating and educating women on family planning; and
- Promoting and facilitating vaccination.

The survey shows that over 80 million people in Pakistan are receiving services from the LHW and that these services are making a difference. LHWs are providing health services to the poor, particularly women and children, which contribute directly to higher levels of contraceptive use, antenatal care, iron supplementation, neo-natal check-ups, and immunisation amongst their clients.[3]

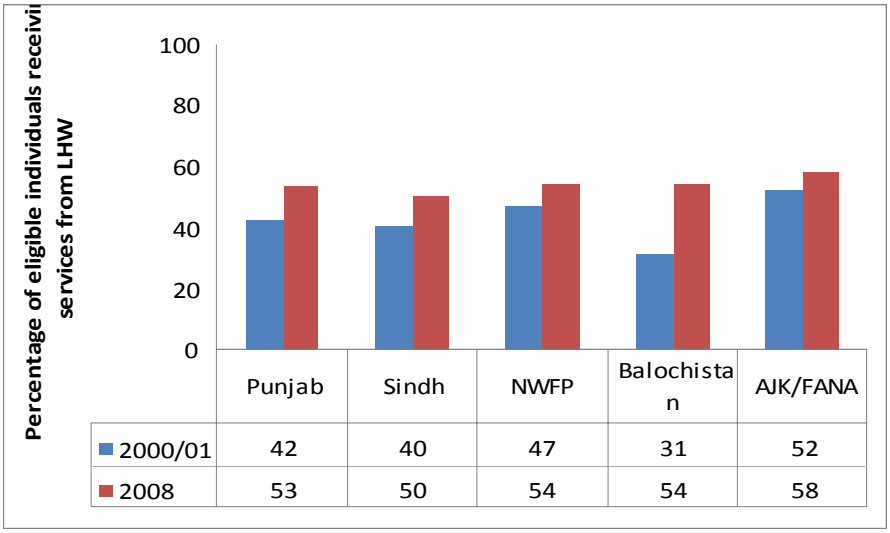
Overall there has been some increase in the level service provision in all provinces,[4] although variations exist between them. The overall rate of LHW service provision, as assessed by the percentage of eligible individuals receiving services from LHW, has increased in Sindh, from 40 to 50 percent (when considering all LHWs). However, comparing provinces there is variation, with Sindh and Punjab/ICT having the lowest performing LHWs on average on this measure. This contrasts with 2000, when Balochistan was singled out as worst performing province (Figure 2.1).[5] However, as well as the *rate* of LHW service delivery, which is what is being measured here, the total number of households registered and clients served is also important. Figure 4.1 and Figure 4.5 in Section 4 below show that in both these two measures Punjab/ICT LHWs are the most active and Balochistan LHWs the least.

[3] See the Quantitative Survey Report for information on the impact of the LHW on health outcomes.

[4] 'Province' is used throughout the Report to refer to both Provinces and Federally Administrated Areas.

[5] See Annex C: Service delivery of Lady Health Workers, by province.

Figure 2.1 Lady Health Workers average coverage of preventive and promotive services to eligible individuals (performance score)



Source: Quantitative Survey Report 2000 and 2008

Similarly, provincial variations exist in the type of service provided. For example, 42 percent of children under 3 years age in Sindh whose mothers say that the LHW encouraged her to take the child for vaccination at the age when it was necessary compared to 70 percent in NWFP/FATA and AJK/NAS. The survey also revealed that 41 percent of households in Sindh who are current users of modern contraceptives were supplied by the LHW compared to 68 percent in Balochistan.

The analysis of what factors can help increase LHW performance is presented in Chapter 3.

2.2 Delivery of curative services

While the majority of individuals in the served population who are sick or injured do not see the LHW, LHWs are nevertheless an important source of consultation. In Sindh, 12 percent of individuals who were ill or injured in the previous fourteen days consulted the LHW if they consulted anyone at all. Nationally, 17 percent consulted their LHW if they consulted anyone at all, a figure which has reduced compared to 2000 (19 percent).

Across the board, the main reason why LHWs were not consulted – for children under five, at least – was that they felt that consultation was not necessary. A fifth felt that the LHW was not available or was not helpful, down from 37 percent in 2000. However, this is a problem that better supervision and training ought to be able to address. When the lack of medicines is added to this, over a third of the reasons given for not taking up the service are due to factors that the programme should be able to improve in order to increase the uptake of curative services.

When the LHW is consulted, she usually provides the expected 'first contact' service. In most of the cases where the LHW was consulted for children under five with diarrhoea or respiratory infections, she was the first service provider consulted.

Some 22 percent of mothers with children under five, consulted their LHW about a respiratory infection in the past fortnight, compared to 18 percent in 2000. In the case of

diarrhoea, the level of consultation was slightly lower, although there was a similar slight improvement since 2000. Given that there are a number of other sources of care available, this level of use indicates some confidence in the LHW on behalf of the households served. As would be expected, female members of a household are more likely than males to consult with the LHWs.

As found in the 3rd Evaluation, curative services remain an important part of the LHWs' work. Treatment of fever and diarrhoea were the most commonly reported activities (excluding 'other').

Table 2.1 Consulting the Lady Health Worker for illness or injury, by province

Measure	Punjab & ICT	Sindh	NWFP	Balochistan	AJK & FANA
% of individuals who were ill or injured in the previous 14 days who consulted the LHW – if they consulted anyone at all	21	12	12	18	27

Source: Quantitative Survey Report 2008.

LHWs were also asked to report on the last emergency case seen – that is, the last case that they saw who required immediate referral to a health facility or hospital. Throughout the country, 35 percent had never seen such a case, up from 20 percent in 2000. This might reflect increased access to other providers in emergencies. For those who had seen an emergency case, complications of delivery and pregnancy together with severe dehydration, were the most common. This may reflect the community's awareness of her role and services.

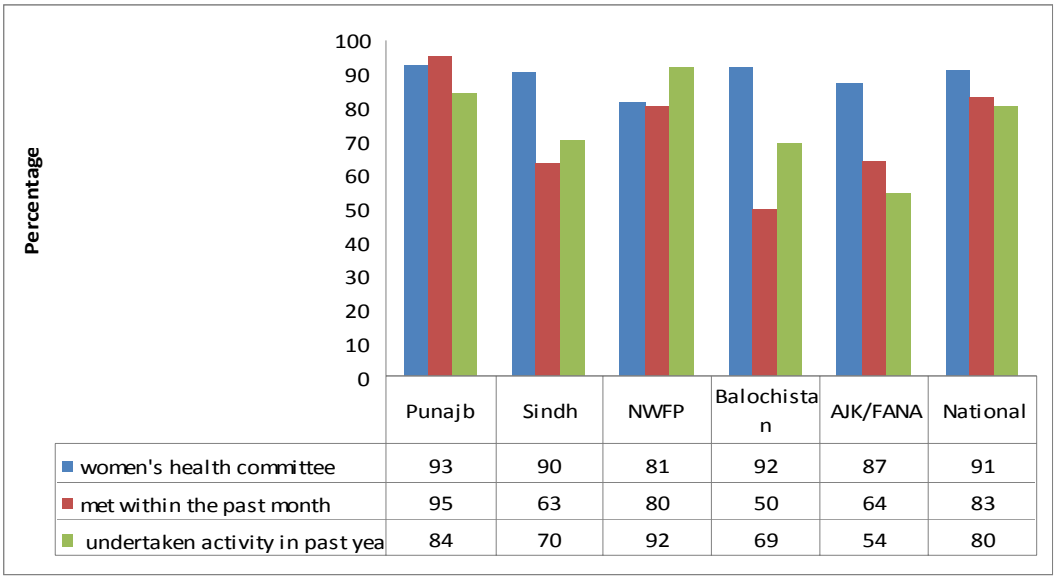
A small proportion of LHWs appear to be charging a consultation fee to see sick children. This is against Programme policy. The only provision for which charges are permitted is for oral contraceptive pills and for condoms. Nationally, respondents stated that they paid the LHW in 9 percent of consultations for diarrhoea.

2.3 Activities in the community

The LHW is responsible for mobilising the community to promote and improve health through her participation in the village health committee (male) and in the women's health committee. There has been a significant increase in activity of health committees since the previous evaluation.

In the 4th Evaluation, Punjab/ICT has the highest proportion of communities with women's health committees (93 percent), 95 percent of which met in the last month. This drops to 90 percent of communities with women's health committees, only 63 percent of which met in the last month in Sindh. NWFP has the lowest proportion of communities with women's health committees with 81 percent (Figure 2.2)

Figure 2.2 Activity and meetings of women's health committees, by province



	Punajb	Sindh	NWFP	Balochistan	AJK/FANA	National
women's health committee	93	90	81	92	87	91
met within the past month	95	63	80	50	64	83
undertaken activity in past yea	84	70	92	69	54	80

Source: Quantitative Survey Report 2008.

There is also a positive perception of the work of most LHWs. The majority of the communities in Sindh reported that the LHW has generally improved peoples' lives in the village and nearly all reported that once the women had become an LHW, she was usually respected.

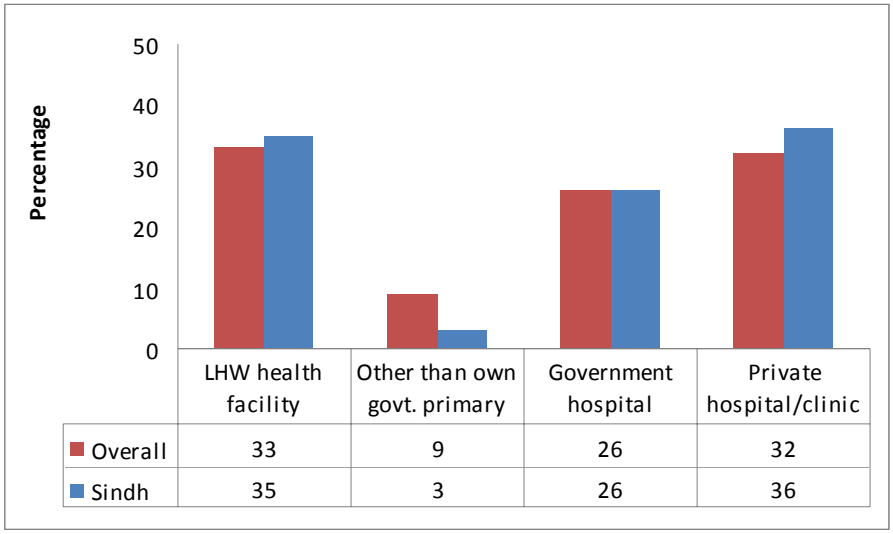
2.4 Referral to health facilities

One objective of the LHWP was to improve the utilisation of public health facilities through client referrals. Private facilities are often not accessible in rural areas or are too expensive for the poor to afford. Adequate publicly provided services that are either free or cheap at the point of delivery are therefore an important part of improving community health. However, for emergency cases, the programme policy is now to refer to wherever the most appropriate place is for treatment.

The LHW was asked to where she had referred her last acute case (Figure 2.3). Referrals tend to be dispersed fairly evenly between the LHWs own facility, the government hospital and private hospitals or clinic. In the previous evaluation, a half of these referrals were to the LHWs own health facility. This has fallen to a third. Referrals to private providers, has risen from nearly a quarter of all referrals in 2000, to nearly a third in 2008.

There are differences throughout the country. Particularly in Sindh, the LHW is more likely to refer to a private hospital/clinic or her own health facility (36 percent and 35 percent of all referrals respectively) rather than elsewhere. However, in NWFP the referrals tend to be to the LHW's health facility, government hospital or another primary health facility. In AJK/FANA, the referrals are typically to her health facility, then to a private hospital or clinic. Clearly variations in the type of facility to which cases are referred will depend greatly on the availability of the various facilities across the different provinces.

Figure 2.3 Place of referral of last acute case by LHW in Sindh



Source: Quantitative Survey Report 2008.

Only 27 percent of LHWs had used a referral slip with their last acute case in Sindh, much lower than the national average of 42 percent (Table 2.2). Some 94 percent of LHWs in Sindh reported that patients went to the facility they had been referred to, which compared favourably nationally and to other provinces. Yet only 70 percent of LHWs (compared to 78 percent overall) reported receiving information including feedback slips from the health facility, though this was significantly less for AJK/FANA with only 56 percent.

Table 2.2 Comparison on LHW reports on referrals to health facilities

	Punjab	Sindh	NWFP	Balochistan	AJK/FANA	Overall
% LHWs filled referral slip	45	27	52	62	19	42
% LHW reported that patient went to facility	75	94	94	92	92	85
% LHWs accompanied the patient to health facility	51	32	28	22	0	38
% LHWs received some feedback from health facility	83	70	89	83	55	79

Source: Quantitative Survey Report 2008.

Unfortunately, nationwide, staffing and supplies at the health facilities to which the LHWs are attached are often very poor and some of the communities where LHWs work are under-served by vaccination services.[6] Similar problems were identified in the 3rd Evaluation and would be expected to limit the effectiveness of the LHWs' referral role. It is recognised that this is an area where it is difficult for the Programme by itself to institute change.

[6] See the Quantitative Survey Report for information on services at health facilities.

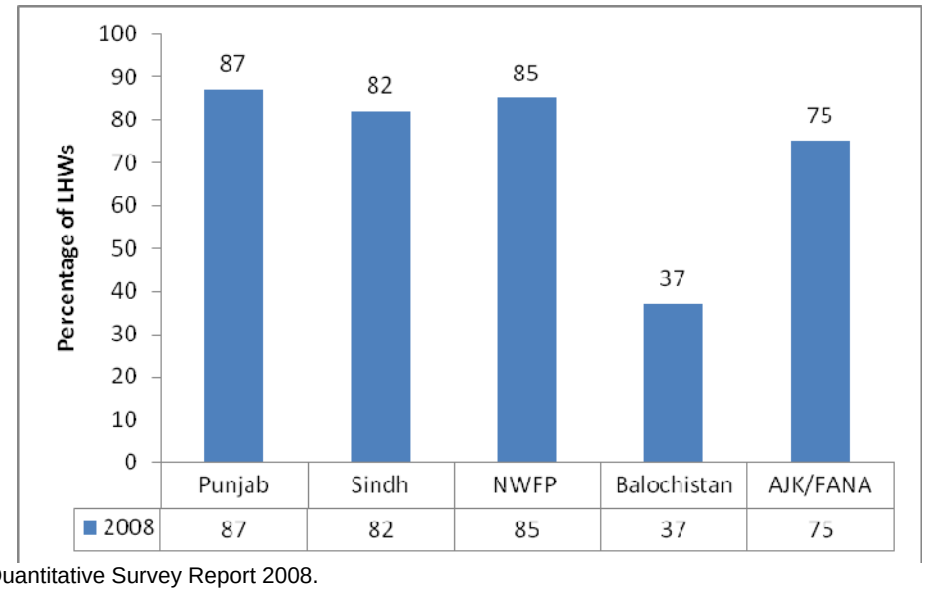
2.5 Contribution to National Immunisation Days (NIDS)

As part of an international campaign to eliminate polio, Pakistan holds National Immunisation Days. LHWs are important to the campaign because they provide access to homes in their catchment area which gives the opportunity for children under the age of six months to be immunised. LHWs are supposed to be paid Rs.150 per day by the organisers of the Polio Campaign.

The results from the survey show 82 percent of LHWs in Sindh have worked on National Immunisation Days or Sub-National Immunisation Days (NIDS) in the past three months (compared to 81 percent nationally).

Only half of those LHWs working on NIDs in the Sindh had worked outside of their catchment area (see Table C.2 in Annex C). Those LHWs in the Sindh who had worked on NIDs had done so for an average of twelve days. Nearly all LHWs (99 percent) working on NIDs in the Sindh reported receiving extra payment, compared to 78 percent nationwide.

Figure 2.4 Participation of LHWs in NIDS in the past three months



Source: Quantitative Survey Report 2008.

2.6 Key points

- Throughout the country over eighty million people are receiving services from the LHW, up from around 30 million at the time of the previous evaluation;
- Overall the services the LHWP has been providing are having a positive impact on health amongst the poor and particularly women and children. LHWs are contributing directly to higher levels of contraceptive use, iron supplementation, antenatal care, neo-natal checkups and vaccinations amongst their clients;
- The level of service varies according to the type of service. However, in Sindh the proportion of clients receiving preventive and promotive services has increased since 2000. Nevertheless, there remains a large group who are unserved and whom the Programme must aim to reach;
- In Sindh client communities continue to have a positive perception of their LHW, and the activity of health committees seems to have increased substantially;
- The results from the survey showed that overall 82 percent of LHWs in Sindh have worked on NIDs in the past three months, for an average of twelve days. Half of these worked outside of their catchment area; and
- Nearly all of those LHWs working on NIDs in Sindh received extra payment (99 percent).

3 Levels of performance

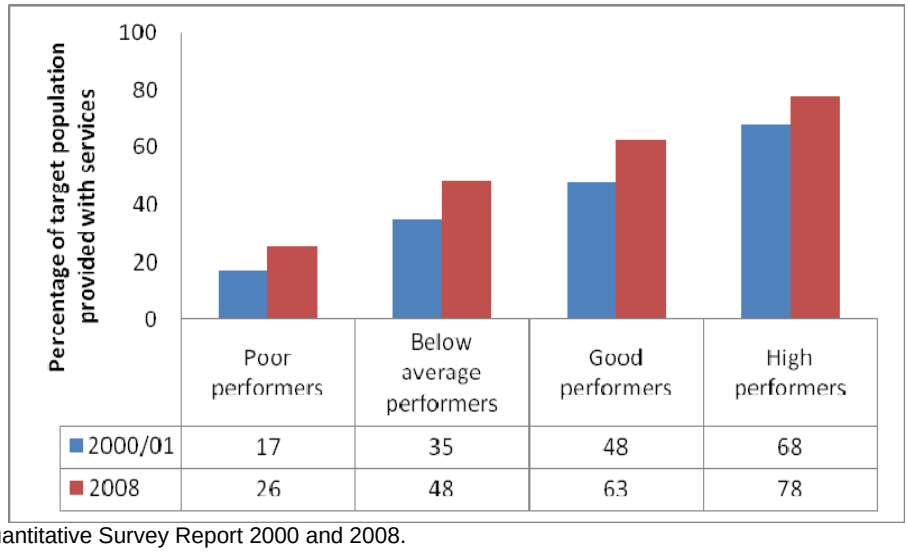
3.1 Performance of Lady Health Workers in service delivery

The performance measure of LHW service delivery described in the previous chapter is based on a selection of ten preventive services. These cover LHW activities in, hygiene, health education, vaccination promotion, family planning, pregnancy and birth, child nutrition and growth monitoring[7]. As in the previous evaluation, this performance score can be used to distinguish better and worse performing LHWs. The top 25 percent – the High Performers provide significantly more services than the bottom 25 percent – the Poor Performers. In between we have the Good Performers and those who are Below Average.

On our performance measure, the poor performers are on average only providing services to 26 percent of their eligible clients. By comparison, High Performers provide services to 78 percent (Figure 3.1)

Overall service delivery, as measured by the proportion of expected services being delivered to eligible clients, has improved in all categories since 2000. Poor performers previously only provided services to 17 percent of their eligible clients and High Performers provided services to 68 percent.

Figure 3.1 Comparing Lady Health Worker provision of service by performance category between 2000 and 2008



Source: Quantitative Survey Report 2000 and 2008.

It is easy to distinguish Poor Performers because they fail to deliver across the whole range of services whereas High Performers cover nearly 80 percent of clients[8] – and often well above this for all services, except growth monitoring.[9] In other words, performance appears

[7] See Annex D for specific details

[8] See Annex E for more information on different levels of performance amongst Lady Health Workers.

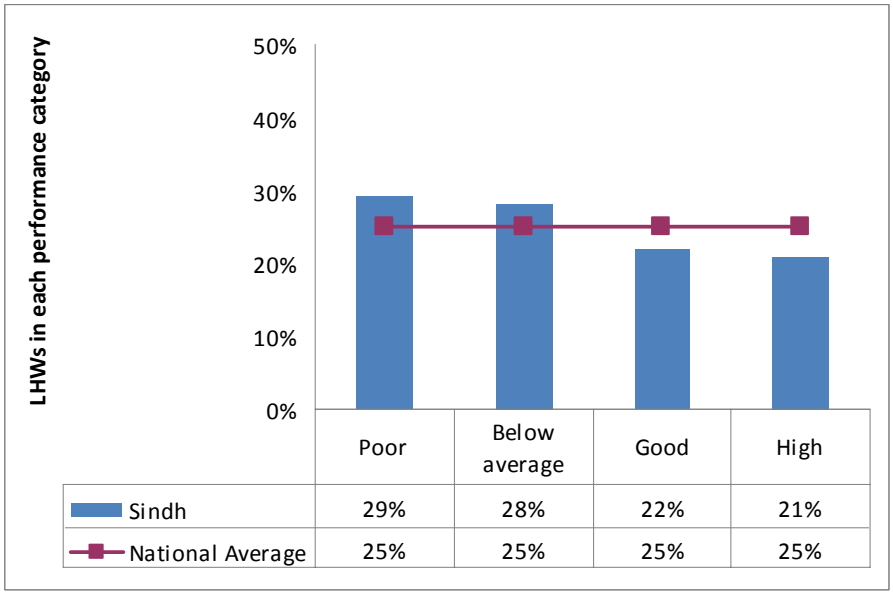
[9] As in the 3rd Evaluation, the low level of growth monitoring even in the relatively high performing LHWs suggests that there continue to be specific problems that need to be addressed if the Programme considers it important to offer this service. This service level is even lower than the previous evaluation.

to be linked across different services, indicating that specialisation is not taking place. This is consistent with the previous evaluation. High Performing LHWs are also working longer hours, score higher on the knowledge test, and the households registered with them are more likely to have been visited by the LHW in the past three months.

In Sindh 21 percent of LHWs are in the high performing category and 29 percent are Poor Performers (Figure 3.2). Note that over the entire (national) sample each category contains 25 percent of LHWs by design.

While there have been improvements amongst all categories, the challenge for the LHWP managers' remains to further improve the performance of the Poor and Below Average Performers.

Figure 3.2 Proportion of Sindh Lady Health Workers in each performance category



Source: Quantitative Survey Report 2000 and 2008

3.2 Explaining high performance

What are the key factors that the programme can use to improve performance?[10] The evaluation investigated the determinants of this performance in the entire (national) sample. A number of factors are positively linked to performance, including LHW-specific factors (experience, hours worked, training and supervision received), district level factors, and community factors (such as the existence of women's health committees). However, some factors which might be expected to be significant were not found to be so, including LHWs having another paid job, non-residency, LHS having access to vehicles and also the knowledge score of the LHW.

[10] A model was constructed and regression methods used to show the variables, which have the strongest relationship with performance. For a full description of the model and techniques used see the Quantitative Survey Report.

The statistical analysis identifies a range of factors which help to explain these variations, some of which are within the control of the programme and which therefore provides some clear policy implications. Specifically, efforts should be made to:

- Retain experienced LHWs;
- Ensure LHWs are working the full hours required of them – this requires adequate supervision support. The number of hours LHWs in Sindh are working per week is below the national average;
- Ensure that LHW supervisors are themselves regularly and effectively supervised by the FPO and that performance monitoring tools such as the diaries and work plans continue to be used;
- Encourage women's health committees to be established/maintained in all served areas;
- Maintain a focus on MIS reporting – in particular, making clear the services that the LHW should be providing, and that LHWs understand their performance in delivering these services is being monitored;
- Encourage DPIU's to instigate effective LHW performance management regimes with effective procedures for reporting and sanctioning LHW non-performance. Punishing LHWs with salary deductions or delays does not appear to be an effective response to non-performance, in contrast to providing additional training, ideally directed at the specific area of non-performance.
- Ensure all served health facilities have an individual with overall responsibility for overseeing LHWP activities.

3.3 Key points

- As was found in the 3rd Evaluation, there continues to be a marked variation in service delivery amongst LHWs between High Performers and Poor Performers. High Performers cover nearly 80 percent of their clients and the Poor Performers provide a significantly lower level of service, covering only a quarter of their eligible clients. There has been some improvement in service provision by all categories, however.
- In Sindh 21 percent of LHWs are in the High Performers, and 29 percent are Poor Performers.
- The ability of the Programme to target and deal with non-performance needs to be increased. This should include strengthening LHW support and supervision systems at a number of points: the LHW's supervisor, at her health facility, in the community through the health committees, and at district level.

4 The Lady Health Worker workload

4.1 Client registration

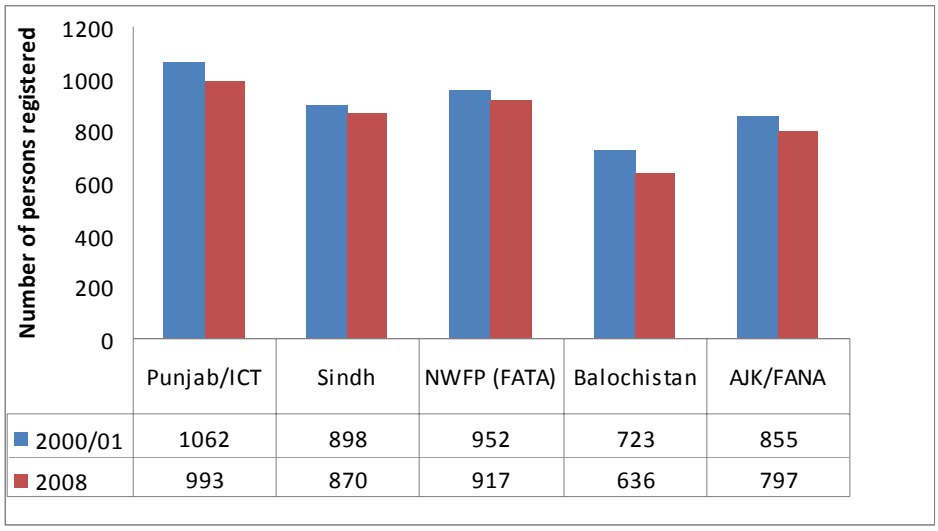
LHWs are supposed to serve a population of 1,000 individuals or approximately 200 households.

In Sindh each LHW serves 117 households registered.[11] This figure is lower than the national average, where each LHW registers 131 households (down from 145 in 2000). However, the number of individuals served is a more important indicator of population covered. Based on LHWs' own reports, in Sindh the average number of individuals registered is 870 (Figure 4.1), which is below the national average.

Despite being contrary to programme norms, variations in the number of households per households per LHW could be appropriate if they reflect relative ease of access and transportation feasibility and other factors that affect registration and other service parameters. In fact the 'one size fits all' policy might usefully be examined with a view to developing different norms and standards for different parts of the country, based on factors such as the degree of difficulty in providing LHW services.

In every province there are fewer people registered on average by LHWs, than in 2000. The national average has reduced from 980 in 2000 to 919 in 2008.

Figure 4.1 Average number of persons registered with the LHWs



	Punjab/ICT	Sindh	NWFP (FATA)	Balochistan	AJK/FANA
2000/01	1062	898	952	723	855
2008	993	870	917	636	797

Source: Quantitative Survey Report 2000 and 2008.

The minimum population for a catchment area of an LHW is 700 people. In Sindh, only 7 percent of LHWs had less than 700 people registered. The standard for client registration is being met.

In addition to recording the numbers of people that the LHW reported having registered, the survey team checked a sample of her households from her register. The households were

[11] See Annex F for information on LHW activities and population coverage.

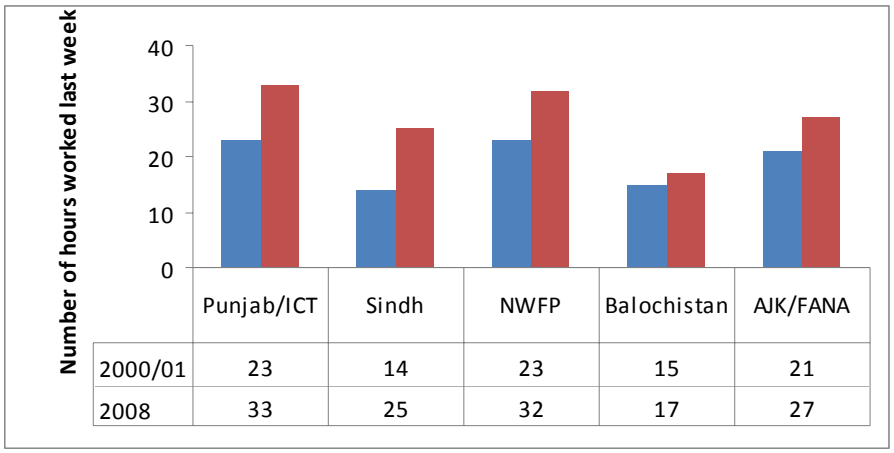
asked if they knew they were registered with their LHW. In Balochistan and NWFP they all did. In the other provinces there was a small proportion of households (around 5 percent), who did not know they were registered with their LHW, suggesting that they were not being served at all by the LHW.

4.2 Time spent working

On average, LHWs work 30 hours a week, up from 20 hours a week in 2000. This is a reasonable week's work of five hours a day over a six day working week, and meets the Programme's expectation. In Sindh this falls to twenty-five hours a week, eleven hours more than the LHW was working previously (Figure 4.2), although part of this is due to increased time spent on NIDS (see the discussion below).

In Sindh only 90 percent of LHWs reported working at least one day in the previous week against 4 percent nationally. A variety of reasons were given including taking leave, illness and Eid holidays.

Figure 4.2 Comparison of the number of hours worked last week by LHWs

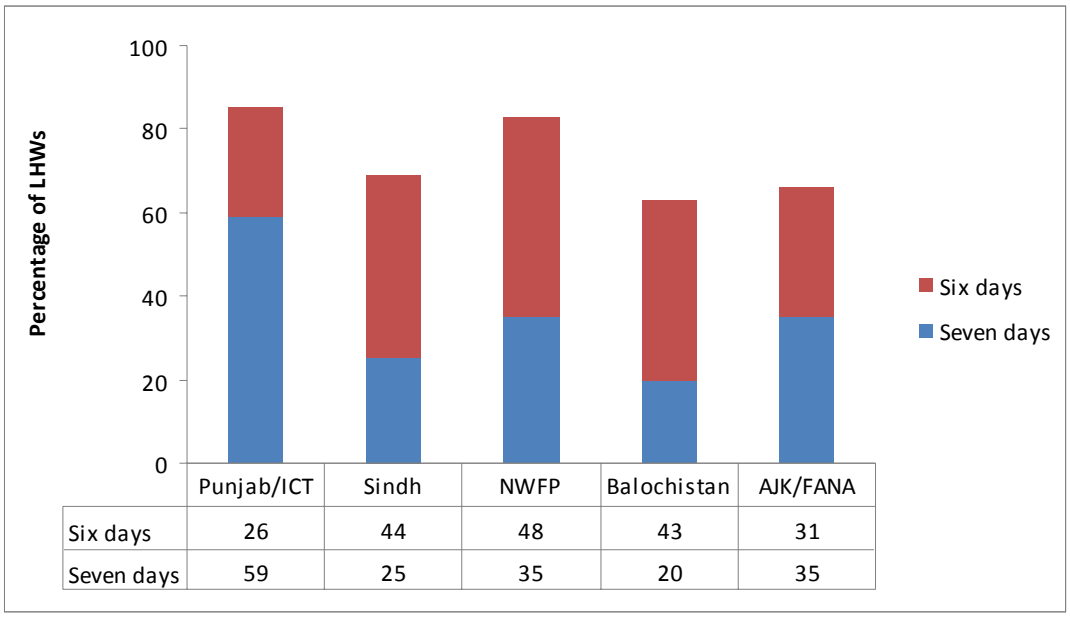


	Punjab/ICT	Sindh	NWFP	Balochistan	AJK/FANA
2000/01	23	14	23	15	21
2008	33	25	32	17	27

Source: Quantitative Survey Report 2000 and 2008.

Nearly half of the LHWs reported working seven days in the week prior to the survey, which is contrary to Programme policy. Field visits by the evaluation team to LHWs confirmed this was happening and that it was being reinforced with monitoring by the LHSs. In Sindh, a quarter of the LHWs reported working seven days in the previous week.

Figure 4.3 Number of days worked by the LHW in the previous week, by province



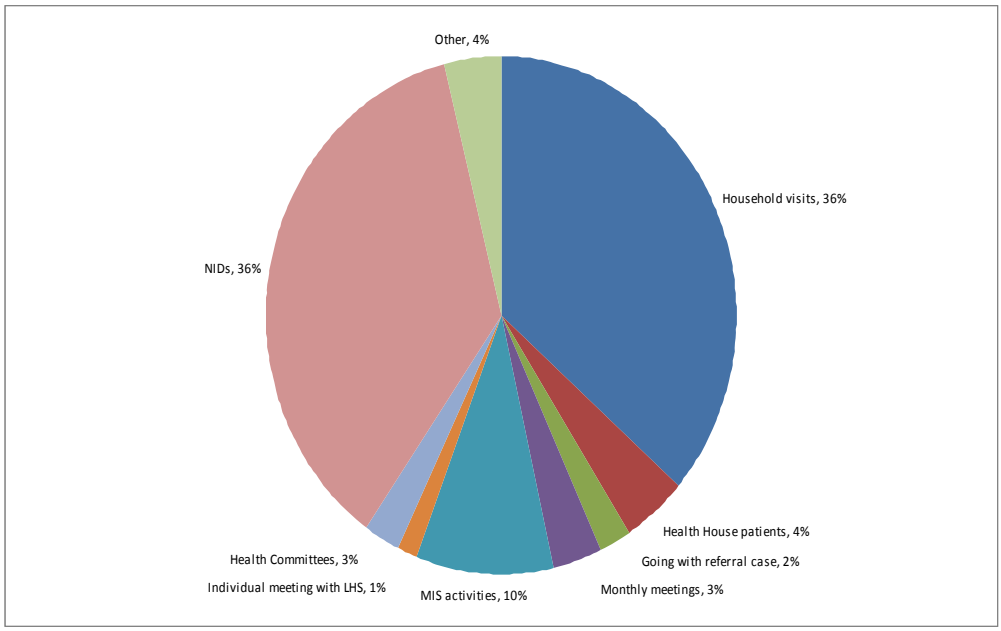
	Punjab/ICT	Sindh	NWFP	Balochistan	AJK/FANA
Six days	26	44	48	43	31
Seven days	59	25	35	20	35

Source: Quantitative Survey Report 2008.

In Sindh, reflecting what is happening nationally, the activity taking up the largest portion of an LHW's time is visiting households and working on NIDs (Figure 4.4).

On average, LHWs had spent seven hours participating in NIDS in the previous week. Once a LHW is working outside her catchment area, even in providing a public health service, should it still be considered a part of her core service provision? The programme might consider how much time it is appropriate for LHWs to spend on NIDs, in the light of other service requirements.

Figure 4.4 Allocation of work time by Lady Health Workers in Sindh



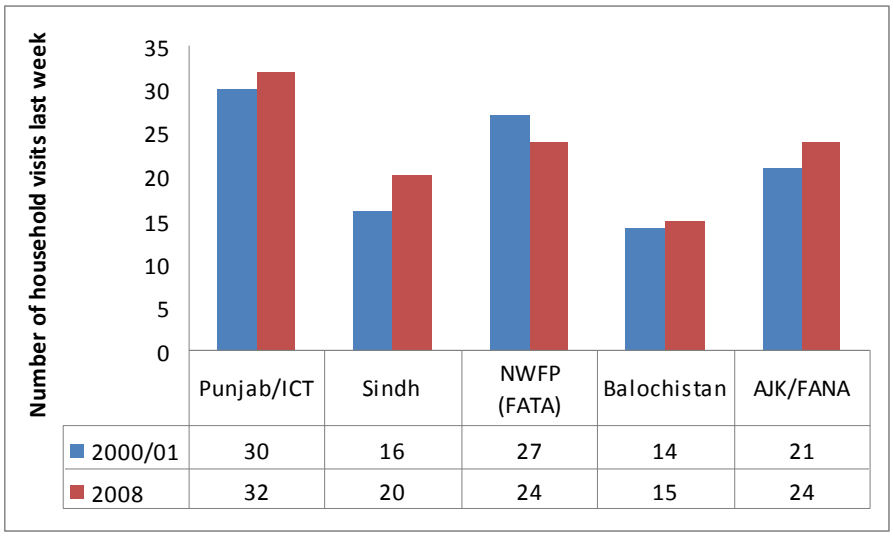
Source: OPM LHWP Fourth Independent Evaluation, Quantitative Survey Data (2008).

4.3 Household visits made and clients seen

Some 19 percent of households in Sindh had not received a visit from their LHW in the past three months, compared to the national average of 15 percent.

The number of household visits reported by the LHW is highest in Punjab/ICT, and it has increased slightly in all provinces since 2000 with the exception of NWFP, where there has been a decrease (Figure 4.5). The overall average number of household visits was 27 per week. Given that the average number of households registered with the LHW is now 131, she would only need to visit fifteen households per week to achieve the programme standard of visiting all households at least once in two months.

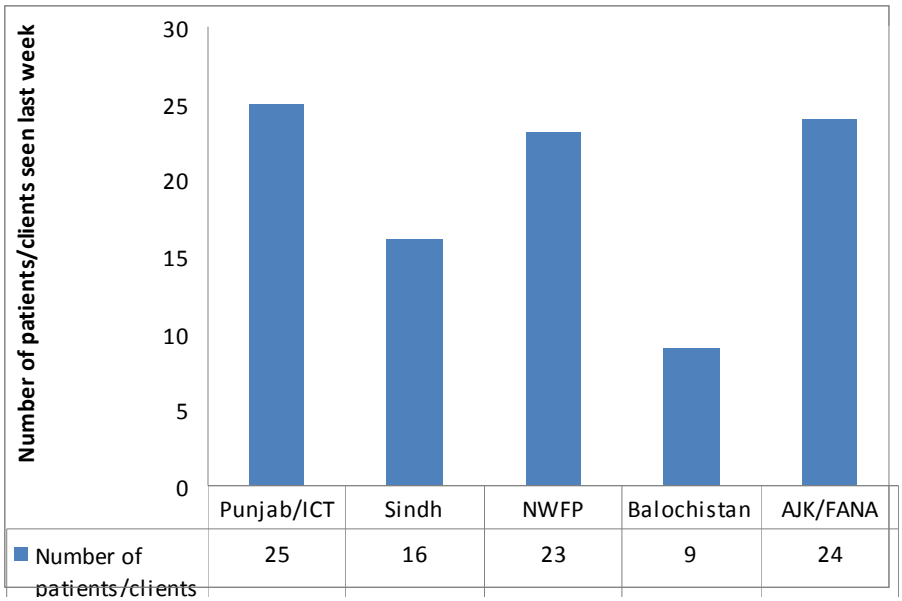
Figure 4.5 Average number of household visits made last week by Lady Health Worker



Source: OPM LHWP Quantitative Survey Data 2000 and 2008.

The LHWs were also asked how many patients/clients they saw in the week preceding the survey including those to whom they only gave advice. In Sindh the average was 16 clients (Figure 4.6). In Sindh, 24 percent of LHWs had seen less than ten clients in the past week.

Figure 4.6 Average number of clients seen last week by Lady Health Worker



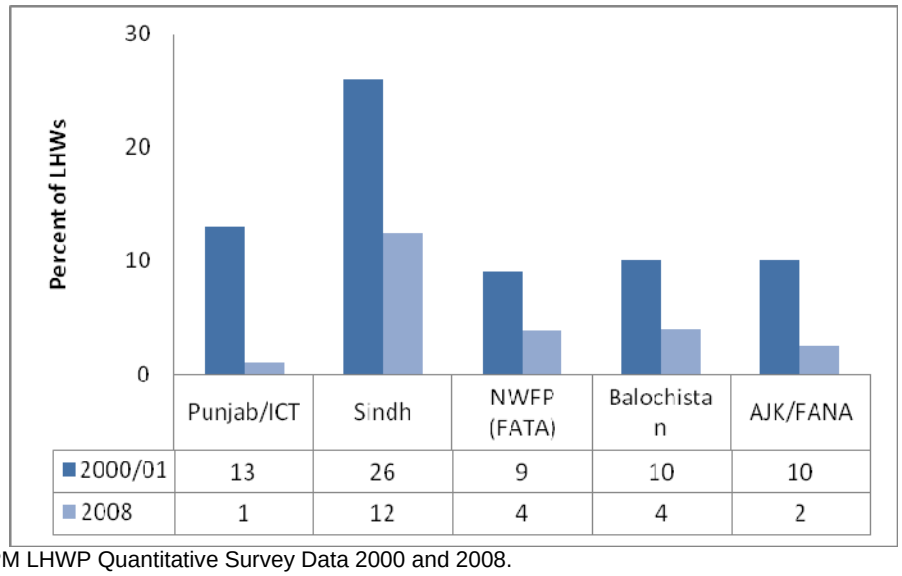
Source: OPM LHWP Quantitative Survey Data (2008).

4.4 Taking on additional paid work

The proportion of LHWs who report having other paid work has declined in all provinces (Figure 4.7), but remains highest in Sindh at 12 percent. In Punjab/ICT only 1 percent of LHWs had another paid job.

Although the percentage of LHWs with other paid jobs is significantly less than in 2000, in undertaking other paid employment LHWs are not complying with programme policy. However, the statistical analysis of the factors associated with high performance, suggest that once other factors are accounted for, having additional paid work does not affect LHW performance, although there may be other policy objectives that could be put at risk by some forms of employment.

Figure 4.7 Proportion of Lady Health Workers with another paid job



	Punjab/ICT	Sindh	NWFP (FATA)	Balochistan	AJK/FANA
2000/01	13	26	9	10	10
2008	1	12	4	4	2

Source: OPM LHWP Quantitative Survey Data 2000 and 2008.

4.5 Key points

- The LHWs in Sindh have registered less households and clients than the national average and the number registered has declined since 2000, reflecting the national trend. Around 19 percent of LHWs' households in Sindh had not received a visit in the past three months. At the time of the survey, 10 percent of LHWs in Sindh reported not working in the previous week;
- Overall 44 percent of LHWs are working seven days a week. Whilst this falls to 25 percent in Sindh this is not good practice;
- LHWs throughout the country spend most of their time in household visits and participating in NIDs; and
- The proportion of LHWs with another paid job has declined substantially since 2000. In Sindh this is highest at 12 percent.Knowledge, skills and training of Lady Health Workers and their supervisors

5 Knowledge, skills and training of Lady Health Workers and their supervisors

5.1 The knowledge test

LHWs and their supervisors were tested using the 'knowledge test'.[12] The knowledge test is divided into two sections:

- General questions covering a range of preventive and curative health care issues; and
- Case histories where the problem must be identified and responded to with the treatment or advice that would be provided to the patient.

A knowledge score was arrived at on the basis of how many questions were answered correctly. The score is the percentage of correct answers given out of the total number of questions.[13] For purposes of comparison, exactly the same test that was applied in the previous evaluation was also used in the current one.

5.1.1 Knowledge test results

The average score for LHWs in Sindh was 74 percent. LHWs in NWFP have the highest average score of 78 percent, and the largest improvement since 2000 (Figure 5.1). As was the case in the previous evaluation, LHWs in Balochistan again had consistently lower scores than their counterparts in other areas. Nevertheless, there was a significant improvement in the knowledge score in all provinces compared with 2000.

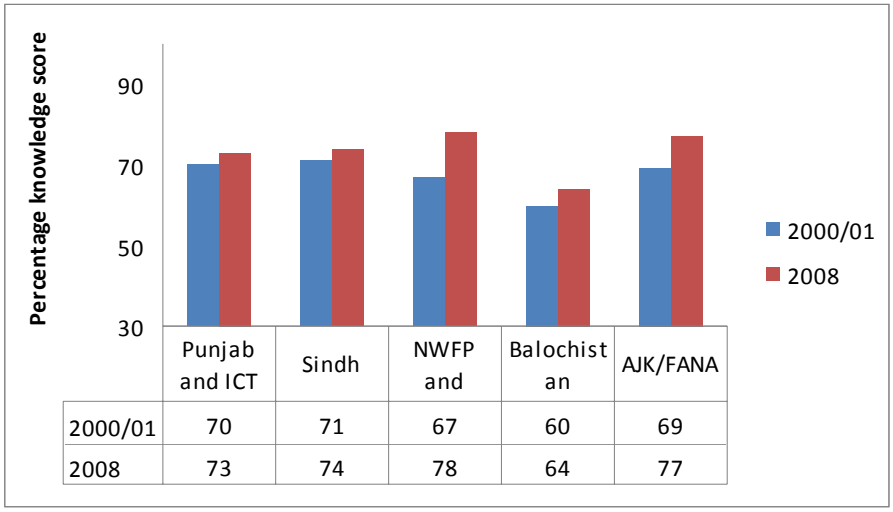
Nationally, the overall mean score was 74 percent – an improvement on the mean score of 69 in 2000. There was some variation in the score between LHWs, although some 90 percent of LHWs scored between 60 and 90 percent of the possible total. Around 8 percent of LHWs scored below 60 percent; less than 3 percent of LHWs scored less than 50 percent.

LHSs' knowledge scores have also increased. The national average LHS knowledge score was 78 percent, compared to 74 percent in 2000. The LHS knowledge scores cannot be analysed by province because the sample sizes are too small.

[12] This is a test developed by the Evaluation team to assess LHWs and LHSs work-related knowledge and skills.

[13] See the Quantitative Survey Report for further information on the knowledge test and the results.

Figure 5.1 Knowledge score for Lady Health Workers (2000 and 2008)



	Punjab and ICT	Sindh	NWFP and	Balochistan	AJK/FANA
2000/01	70	71	67	60	69
2008	73	74	78	64	77

Source: OPM LHWP Quantitative Survey Data 2000 and 2008.

5.1.2 Analysing the results

The level of general clinical knowledge of LHWs and their supervisors is reasonably good. There has been some improvement in the level of in depth knowledge, as is shown by the large number of LHWs able to provide multiple correct responses.[14]

There were some specific areas of weakness in Sindh. Whilst the knowledge of LHWs and LHS about HIV transmission has improved substantially, knowledge in Sindh was lower than the national average with nearly a fifth of LHWs (18 percent) unable to give at least one correct response on how HIV is transmitted.

Knowledge of the vaccination schedule in Sindh is above the national average. Well over three quarters of the LHWs (88 percent) were able to name all four vaccines, provide correct doses and also the correct ages for each dose.

There are also serious deficiencies in the ability of LHWs to provide the correct doses of medicines required in basic situations, as was found in the 3rd Evaluation. Only 8 percent of the LHWs in Sindh were able to provide the correct dose of Chloroquine to a child with symptoms of malaria, even though they were encouraged to use the Programme manual or medicine box to answer the question.

In Sindh, LHW performance was not good on the case history-based questions. Only 67 percent of LHWs were able to provide the correct weight of a normal/moderately malnourished child, and just 53 percent for a severely malnourished child, according to the growth card.

LHWs in Sindh had difficulties on the management of pneumonia especially in comparison to the national level. In the case of pneumonia, less than half of the LHWs stated that a child should be given fluids or breast fed more often. Even less LHWs and Supervisors (43 percent) stated they would give a full course of Cotrimoxazole to a child in case of

[14] See Annex G for the knowledge test results.

pneumonia and of those only 23 percent of LHWs were able to provide a correct dose and duration of Cotrimoxazole.

The knowledge of LHWs in Sindh on the identification and management of anaemia was much higher than the national level in any dimensions examined. All LHWs in the province were able to identify anaemia, and 96 percent stated that they would prescribe iron tablets to anaemic patients.

Although the knowledge levels of LHWs in Sindh have generally improved, further improvements are required to avoid serious clinical consequences to their clients.

5.2 Improving knowledge through training

The level of clinical knowledge of LHWs and their supervisors is important in the provision of a professional and safe service and for the reputation of the LHWP.

The training system has produced sufficient number of trainers to ensure that all LHWs have completed their initial training. At the district level, a half of the EDO-Hs, nearly three quarters of the District Coordinators and four out of five of the Assistant District Coordinators are master trainers.

LHWs across the country are receiving their core training.[15] Doctors at the health facility have been important in the provision of the training along with the Lady Health Visitor and Dispensers. Dispensers are being used less than in 2000.[16]

LHWs have completed their training, but it appears that not all of them had a female trainer. Sindh had the highest proportion of LHWs (45 percent) who were not trained by either a female medical doctor, a Lady Health Visitor or a female medical technician compared to nearly to a fifth nationally. The Programme also appears to have difficulty in providing female trainers in AJK/FANA. While it is not common practice, in some instances Districts have used LHSs to conduct initial training.

[15] The standard is three months basic training and twelve months task-based.

[16] See Annex I for more information on training of LHWs (I.1) and their supervisors (I.2).

Table 5.1 Percentage of LHW training that was provided by at least one female trainer

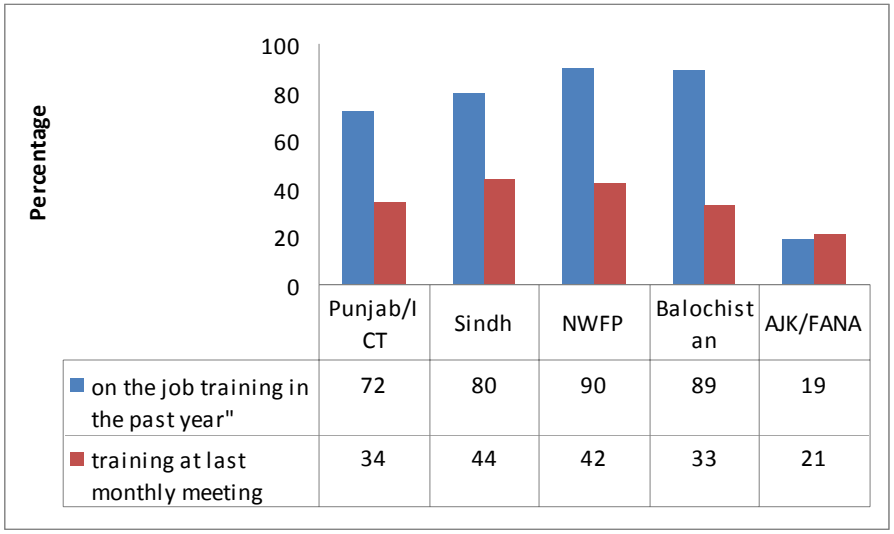
	Punjab	Sindh	NWFP	Balochistan	AJK/FANA	Overall
% with at least one female trainer	90	55	96	92	80	81
% not trained by either a LHV, a female doctor or a female medical technician	10	46	4	8	20	19

Source: Quantitative Survey Report 2008.

Refresher and on-the-job training needs to be readily available in order to maintain and update knowledge. The Programme has put enormous effort into developing and conducting refresher training for all LHWs (Figure 5.2 and Table 5.2). In Sindh 80 percent of LHWs report receiving on-the-job training from their supervisor.

The improvement in the average knowledge score reflects some success. However, there remain substantial gaps in LHWs' knowledge across the country. This problem was identified in the 3rd Evaluation, and although knowledge levels have improved, it appears that more needs to be done to strengthen the initial and subsequent training processes.

Figure 5.2 Percentage LHWs who have received on the job training in the past year and training at their last monthly meeting, by province



Source: Quantitative Survey Report 2008.

Table 5.2 Type of refresher training received by LHW in the previous year, by province

	Punjab	Sindh	NWFP	Balochistan	AJK/FANA	Overall
Child health	83	85	88	59	38	81
Injection contraceptives	71	57	55	35	68	63
Revised MIS tools	44	51	49	17	50	45
OBSI/family planning	70	71	76	69	69	71
Counselling cards	70	82	77	72	37	73
Food and nutrition	18	15	26	17	2	18

Source: Quantitative Survey Report 2008.

5.3 Explaining LHW knowledge levels

Statistical techniques were used to evaluate what factors show the strongest relationship with LHW knowledge scores, taking into account the effect of other variables. The potential explanatory factors can be split into various groups: LHW characteristics; the characteristics of the LHW's supervisor; the characteristics of the community served by the LHW; and district level factors.

The results show that LHWs who are more experienced and/or more educated tend to have higher knowledge scores. LHWs that are currently married will, all else equal, have higher knowledge scores. A possible interpretation of this is that married LHWs are more likely to have gathered knowledge and skills from personal experience.

Knowledge scores are considerably lower amongst LHWs whose household's main source of income is agricultural wage earnings, suggesting that LHWs from poorer households will have lower knowledge levels. This is also suggested by the finding that LHWs serving communities with poor road access have lower knowledge levels.

Refresher training does not appear to have had an effect on LHW knowledge levels in general, although those LHWs with a Counselling Cards Refresher Training manual (received during refresher training) do have considerably higher knowledge scores. Knowledge levels are higher for LHWs who received Continuing Education Training at the last monthly meeting at the health facility, and also for those who have attended additional Food and Nutrition training in the past year, perhaps because this is an area of particular weakness. LHWs that produced a monthly plan for the previous month tend to have much higher knowledge scores.

In terms of the impact of LHS and DPIU supervision and support, it appears that those LHWs with more knowledgeable supervisors have higher knowledge scores. Furthermore LHWs in districts where all served facilities have a specific individual with responsibility for overseeing LHWP activities also have higher knowledge scores.

These results have some clear policy implications for programme. Specifically, efforts should be made to:

1. Retain experienced LHWs;
2. Strive to ensure new LHW recruits have high levels of education. Since this is often at odds with efforts to increase coverage (remaining unserved areas tend to have fewer educated women), this may require innovative approaches. Punjab/ICT, followed by Sindh are the provinces with the lowest proportion of LHWs who have Matric level education or higher;
3. Maintain and improve the frequency and quality of refresher training courses. Current training courses should be reviewed to ensure they focus on areas where LHW knowledge is weakest (e.g. growth monitoring, diarrhoea treatment, pneumonia). The proportion of LHWs reporting attending each of the Refreshing Training courses in Sindh is generally line with the national average;
4. Make efforts to monitor and maintain the LHWs' supervisors' knowledge levels. LHSs who are older, more experienced and received all the required training tend to have higher knowledge levels; and
5. Ensure all served health facilities have an individual with overall responsibility for overseeing LHWP activities, and that within each district regular meetings are held between these individuals and the DPIU.

5.4 Key points

- The knowledge score has increased since the previous evaluation for LHWs, nationally and in Sindh;
- LHS knowledge has also increased nationally;
- There has been some improvement in the level of in depth knowledge, as is shown by the large number of LHWs able to provide multiple correct responses. However, there are still areas where clinical knowledge needs to be improved for patient safety and treatment. The Programme must therefore continue to aim to increase the knowledge of both LHWs and their supervisors;
- The Programme has been successful in ensuring LHWs and supervisors attended core-training programmes. The Programme now has an extensive programme of refresher training that is reaching LHWs nationwide. Attention must be paid to ensure that it effectively imparting the full range of knowledge that LHWs require; and
- As found in the previous evaluation the level of education of Lady Health Workers and supervisors is correlated with their knowledge score. The higher the education, the higher the score. It is important that the Programme does not lower its education criteria if it wants to maintain performance.

6 Supervision of Lady Health Workers

6.1 Managing performance through supervision

Supervision is one of the most important levers the programme has for improving performance. Supervisors should meet at least once a month with the LHW in her community and ideally meet with client households both with, and without the LHW. These meetings provide the opportunity to monitor the quality of the LHWs service delivery and her knowledge, and to support good work-planning. The LHW should also attend a monthly meeting at her local health facility where she can replenish her kit and may receive additional training.

The LHS receives her supervision from the District Co-ordinator and the Assistant District Coordinator (ADC). She should attend a monthly meeting at the District Programme Implementation Unit (DPIU) where she reports on the past month's work and plans for the following month. Both the LHW and the LHS may receive feedback from the Field Programme Officer (FPO) who acts as an internal inspector and advisor, and from Programme Management.

6.2 Supervision of Lady Health Workers

Nationwide, nearly all LHWs now have supervisors. Given the importance of supervision to the Programme, and the identification of a lack of supervisors as a significant problem in the 3rd Evaluation, this is an important achievement.

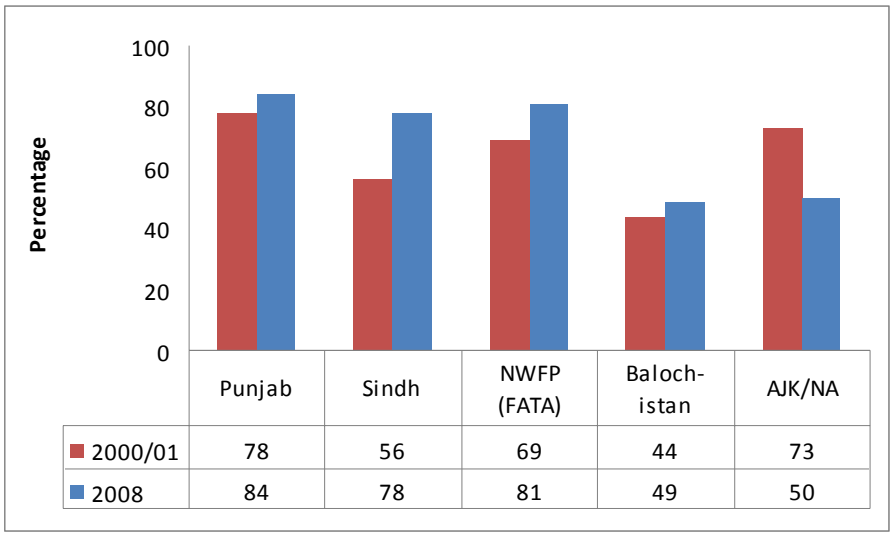
The intention of the programme was that each supervisor would be responsible for the supervision of twenty-five LHWs. The national average is 23, which has come down from 28 in 2000. Supervisory responsibilities have therefore become better spread across supervisors.

The percentage of LHWs who reported that they met their supervisors in the last 30 days has increased nationwide. However there was a sharp decline in AJK/FANA where only 50 percent of LHWs reported a visit by LHS in the last month, compared to 73 percent in 2000 (Figure 6.1). In Sindh 78 percent of LHWs had had a supervision meeting with their supervisors in the last month, compared to 56 percent in 2000.

The LHS checklist is used to inspect the LHW's level of service delivery and check her knowledge. A high proportion of LHSs are using their performance checklists when supervising the LHWs. There are variations in actual practices between provinces, with LHSs in AJK/FANA being more likely to use the checklist and LHSs in Sindh least likely (Figure 6.2).

Only 62 percent of LHWs in Sindh reported that the LHS had used this checklist in her previous supervision visit. Of these, only a quarter had informed the LHW of her score.

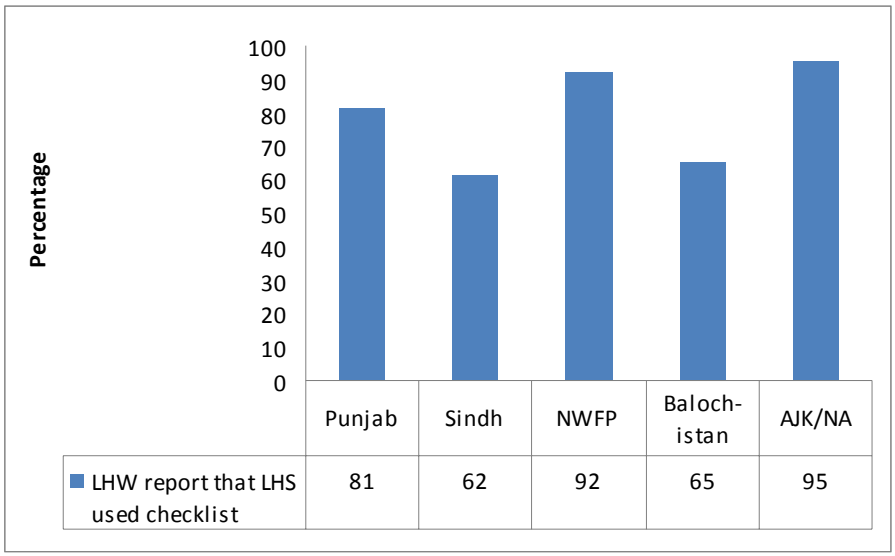
Figure 6.1 Percentage of Lady Health Workers visited by supervisor in the past month for supervision



	Punjab	Sindh	NWFP (FATA)	Baloch-istan	AJK/NA
2000/01	78	56	69	44	73
2008	84	78	81	49	50

Source: Quantitative Survey Report 2000 and 2008.

Figure 6.2 Percentage of LHWs who reported the LHS using her checklist in her previous supervision visit



	Punjab	Sindh	NWFP	Baloch-istan	AJK/NA
LHW report that LHS used checklist	81	62	92	65	95

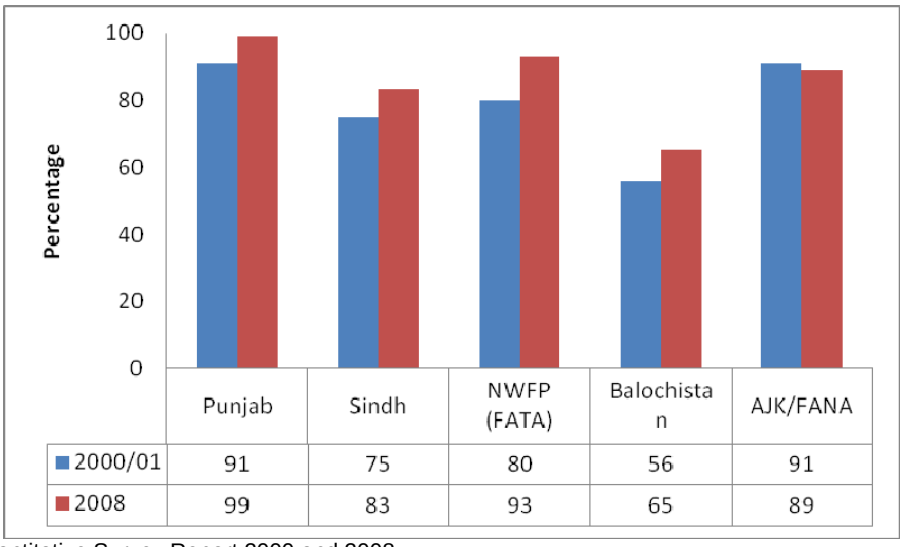
Source: Quantitative Survey Report 2008.

A high proportion of LHWs in all provinces could produce reports for the previous month and two thirds of the LHWs in Sindh could show a current work plan.[17]

Monthly meetings at the health facility are well attended. There has been an increase in LHWs attending their monthly meeting since the previous evaluation.

[17] See Annex K: Work planning and reporting.

Figure 6.3 Percentage of Lady Health Workers who have attended the monthly meeting at their health facility in the past month



	Punjab	Sindh	NWFP (FATA)	Balochistan	AJK/FANA
2000/01	91	75	80	56	91
2008	99	83	93	65	89

Source: Quantitative Survey Report 2000 and 2008.

6.3 Transportation

In the original design of the programme, all supervisors were supposed to have access to their own vehicle, a driver and an appropriate POL allowance. Transportation is essential for supervisors for monitoring LHWs and visiting the health facilities and the community.

At the time of the 3rd Evaluation, there were substantial shortfalls in supervisors' access to vehicles and POL. Nationally, the situation has improved, with 72 percent of supervisors usually or always having access to a programme vehicle compared with 64 percent in 2000. However, problems remain. At the time of the survey, DPIU staff reported that, on average, that over a quarter of their vehicles were non-operational.

The POL allowance is supposed to be a budget in litres rather than a set amount. This is not happening. The POL allowance needs to be sufficient to enable the Lady Health supervisor to visit all of her LHWs once a month as well as undertaking her additional responsibilities, for example National Immunisation Days and transportation of supplies.

If a LHS did not have vehicle she used other forms of transport. However this incurs expenses. The average cost for the previous month was Rs.1,730. This was paid by the LHS and only 66 percent of them reported that it would be reimbursed. In addition, nationally, 62 percent of LHS were responsible for the repair of their vehicle and only 77 percent reported being reimbursed for vehicle repairs.

6.4 Key points

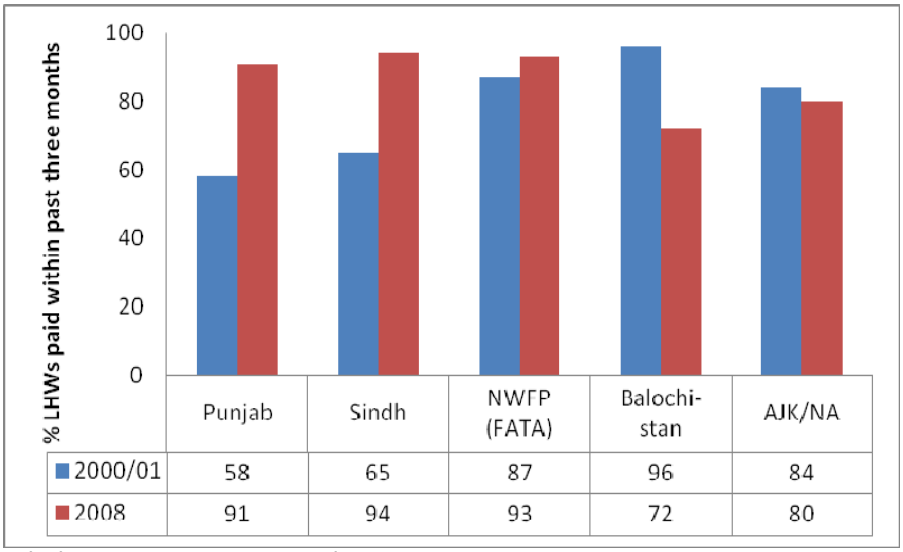
- Nationally, there has been a reduction in the proportion of over-burdened supervisors, which should allow for better supervision. The national average is 23 LHWs per LHS, down from 28 in 2000;
- There have been improvements in the level of supervision of LHWs in Sindh and nationally;
- There is a high level of attendance at the health facility monthly meeting. Over four-fifths of the LHWs in Sindh have attended the monthly meeting at the health facility in the past month;
- Nationally, there has been an improvement in LHS access to Programme vehicles; and
- The Lady Health supervisors across the country cannot be confident of receiving her FTA or reimbursement for vehicle repairs.

7 Programme salary payment and medical supply systems

7.1 Performance of the pay system

LHW salaries are supposed to be paid monthly, directly into the LHW's own bank account. In Sindh 94 percent of LHWs had received their pay in the past three months, compared to 65 percent in 2000 (Figure 7.1). However, 11 percent of LHWs in Sindh had received less money than expected when they last received their salary (Table 7.1).

Figure 7.1 Percentage of LHWs paid within the past three months



Source: Quantitative Survey Report 2000 and 2008

Table 7.1 Proportion of Lady Heath Workers receiving less salary than expected

	Punjab	Sindh	NWFP	Balochistan	AJK/FANA	Overall
% LHW received less salary than expected when last paid	13	11	6	5	6	11

Source: Quantitative Survey Report 2008.

7.2 Supply of medicines and equipment

There are continuing problems in the supply of medicines and contraceptives for LHWs. Comparing across provinces, Sindh has the largest problem with 'stock outs' of two months or more, followed by Punjab/ICT (Table 7.1).

Sindh appears to have particular problems with the following items: Chloroquine tablets, Mebendazole tablets, Injectables, Iron and Folic acid tablets.

In general, expired stock is not a big problem. If the LHW has the item in stock it appears to be dispensed with a reasonable frequency.[18]

Table 7.2 Percentage of LHWs with stock outs for more than two months

Item	Punjab	Sindh	NWFP	Balochistan	AJK/FANA
Paracetamol tablets	2.6	9.5	5.1	2.5	2.0
Paracetamol syrup	13.2	17.0	14.2	3.4	0.0
Chloroquine tablets	14.0	37.0	41.2	5.1	25.8
Chloroquine syrup	28.1	22.5	25.0	5.3	4.7
Mebendazole tablets	29.6	41.1	15.4	8.2	16.0
Piperazine syrup	17.8	14.5	14.7	9.7	21.7
Oral rehydration salts	14.3	8.7	5.8	6.2	0.0
Eye ointment	16.3	16.6	3.2	6.2	0.0
Cotrimoxazole syrup	28.4	11.4	23.2	8.3	1.4
Vitamin B complex syrup	4.3	10.5	3.9	3.0	0.0
Iron and folic acid tablets	8.4	38.6	17.8	2.1	6.1
Antiseptic Lotion	15.7	17.0	8.6	10.0	4.8
Benzyl Benzoate	8.1	15.0	5.1	9.1	6.3
Bandages (cotton)	10.2	12.7	7.7	8.1	9.4
Condoms	0.9	8.5	4.9	7.5	2.2
Injectables	17.6	39.8	15.0	18.2	40.8
Oral contraceptive pills	0.1	7.1	2.1	2.3	0.0
Average	**13.5**	**18.7**	**12.0**	**6.6**	**8.0**

Source: Quantitative Survey Report 2008.

Though most LHWs have the necessary equipment, only one third has a functional weighing scale. The proportion of LHWs that have a functioning weighing scale is worryingly low in Sindh at only 23 percent. Less than two-thirds of LHWs in Sindh have blank growth monitoring cards. Lack of weighing scales means that the growth monitoring service cannot be provided.

In general, LHWs in Sindh are relatively less likely to have all the required functional equipment and administrative materials compared to LHWs in other provinces.

Overall, though, it is clear that there remain significant problems in keeping LHWs supplied with all the necessary equipment. The programme needs to both furnish the LHW's kit when she begins her job and ensure that items are replaced or kept up-to-date throughout her service.

7.3 Improving distribution and supply

Since 1999 the Programme has had a system of replenishment for LHW supplies. This system is not working as effectively as it should. While purchasing is based on an annual stock take, the long lead time for awarding tenders, receiving supplies, and having them tested, means that either the purchasing and distribution process must be made a lot more

[18] See Quantitative Survey Report.

efficient or minimum stock levels need to be higher. The level of purchasing needs to be better aligned to actual usage rates and this relates to budget requests. These problems are for the FPIU to resolve with co-operation from the PPIU and DPIU.

Some 75 percent of DPIUs reported that they do not issue to facilities on the basis of their demands; in other words the replenishment system is not operational. The LHS is often taking the medicines from the DPIU to her facilities, after she has come into her monthly meeting (not necessarily every month).

7.4 Key points

- In Sindh 94 percent of LHWs had received their pay in the past three months, compared to 65 percent in 2000 (Figure 7.1). However, 11 percent of LHWs in Sindh had received less money than expected when they last received their salary (Table 7.1);
- Nationally, there are continuing problems with the supply of medicines and contraceptives. Numerous medicines had not been available for over two months. Sindh appears to have particular problems with the following items: Chloroquine tablets, Mebendazole tablets, Injectables, Iron and Folic acid tablets;
- There are also still problems in the supply of equipment. In Sindh, only 23 percent of the LHWs had weighing scales necessary for growth monitoring. In general, LHWs in Sindh are relatively less likely to have all the required functional equipment and administrative materials compared to LHWs in other provinces; and
- Similar supply problems were identified in the previous evaluation. Unlike supervision and knowledge, which both show some improvement, the supply problems have not improved sufficiently. The Programme still needs to address this effectively.

Annexes

Annex A The quantitative survey

The objective of the quantitative survey was to provide a nationally representative picture of the functioning of the programme. Interviews were conducted with lady health workers; the households that they serve; the communities where they work; the LHWs' supervisors; and the First Level Care Facilities (FLCFs) to which the LHWs are attached ('served' FLCFs).

This information provides a comprehensive picture of the work carried out by the LHWs and of the functioning of the programme support services necessary to their work. Information was collected on a set of unserved households in areas where the Programme does not operate, to enable an assessment of the impact of the LHWs on the health status of the population they serve. Information was also collected from health facilities and from the community in these areas.

Altogether, 554 LHWs and 5,752 households were interviewed. The final sample sizes for each type of interview used in the analysis are shown in Table A.1.

Table A.1 Sample breakdown by unit of observation

Unit of observation	Area		Province					Total
	LHW areas	Unserved	Punjab & ICT	Sindh	NWFP	Balochistan	AJK/FANA	
Districts			19	12	9	10	7	57
Lady Health Workers	554		189	119	86	90	70	554
Households	4,378	1,374	1,864	1,925	853	978	762	5,752
First Level Health Facilities (FLCFs)	267	68	116	71	52	51	45	335
Community interviews	486	86	178	132	73	105	84	572
Lady Health supervisors	298		96	73	45	45	39	298

Source: Quantitative Survey Report 2008.

The sample used five geographic strata, which were provinces or federally administered areas: Punjab, Sindh, NWFP, Balochistan and AJK/FANA.[19] The focus of this report is on the performance of the programme as a whole, although some of the key estimates are also presented by stratum. Separate reports have also been produced for each of the five strata.

Sampling weights were defined to allow the calculation of representative national and provincial estimates. All estimated standard errors used in significance testing and in the econometric modelling have been adjusted for sample clustering. More details on the sampling methodology and the calculation of the survey weights are given in Annex A in the main Quantitative Report.

In the first stage of sampling 60 districts were selected to be covered by the survey. Districts assessed to be too insecure for fieldwork to be conducted safely were excluded from being selected. In this way, nine of the 133 districts in existence in Pakistan in April 2008 were excluded from the sample frame due to insecurity: two in North West Frontier Province (NWFP) and the whole of the Federally Administered Tribal Areas (FATA). In addition, after

[19] Note that two districts in NWFP and all seven districts in FATA were excluded from the sample frame in 2008 due to high levels of insecurity.

the district sample was drawn, three of the selected NWFP districts were dropped, also due to insecurity. So the final number of districts covered by the evaluation is 57.

In each selected district a sample of served health facilities (i.e. those with LHWs attached) was drawn from the programme database.[20] LHWs were then sampled from these facilities. LHWs were included in the sample if they had completed their initial three months training.[21] Households were sampled from the selected LHWs' registers. The supervisor of each selected LHW was interviewed; community interviews were also conducted for each LHW sampled.

A different sampling scheme was used for the unserved population. One or two FLCFs not attached to the LHWP ('unserved' FLCFs) were sampled in each of the 60 selected districts. Since it was not possible to get a reliable national list of all unserved health facilities, these were identified in each of the sampled districts with the help of District Coordinators of the programme. For each sampled unserved FLCF, the in-charge of the health facility was consulted to assist the field-teams in dividing the FLCF catchment area into small territorial segments. The segmentation was designed so as to mimic the partition of the area into the territories of 'virtual LHWs' (see Annex A of the main Quantitative Report for details). At each facility one segment was randomly selected. All households were listed in the selected segments and a sample of unserved households was randomly selected for interview.

Fieldwork was conducted between July and November 2008. Losses were generally low. The largest problem of non-response was at the unserved FLCFs, where around 23 percent of interviews with facility staff could not be undertaken (although households attached to these FLCFs were interviewed in any case).

[20] The sampling procedure was designed such that the served FLCF sample included a small panel of FLCFs that had been covered in the 3rd Evaluation.

[21] Note this is a difference from the design of the TIPE where only LHWs with at least three years experience were covered by the evaluation.

Annex B Demographic and educational characteristics of LHWs

Table B.1 Demographic and educational characteristics of Lady Health Workers

Characteristic	National	Punjab & ICT	Sindh	NWFP	Balochistan	AJK & FANA
Age distribution (age groups)						
15-19	1	1	0	2	3	0
20-24	13	7	16	20	30	10
25-29	25	19	21	42	44	29
30-34	27	29	33	20	7	32
35-39	16	20	12	7	11	16
40-44	9	12	7	6	4	12
45+	9	12	10	2	3	2
Total*	100	100	100	100	100	100
Mean age now	32	34	32	29	28	32
Mean age when recruited	25	27	24	24	21	23
Marital status of the LHWs						
Never married	26	19	27	47	35	16
Currently married	66	69	69	50	58	78
Widow/divorced/separated	9	12	5	3	7	7
Years LHW has resided in village/mohalla						
0-2	4	4	4	2	0	4
3-4	8	6	5	7	1	0
5-20	31	34	32	31	13	31
More than 20	8	12	6	4	3	4
Since birth	52	45	54	56	83	61
Total	100	100	100	100	100	100
Non resident	3	0.9	11	0	2	2
Educational level						
Less than 8th class	1	1	0	0	0	0
8^{th}–9^{th} class	36	40	36	24	30	28
Matric (10^{th}–11^{th})	44	46	36	51	46	53
Intermediate	15	9	23	25	19	15
Graduate	4	5	5	0	6	4
Class certificate seen and confirmed	77	80	74	83	62	57

Source: Quantitative Survey Report 2008. Note: All figures are per cent. * Due to rounding issues some totals do not actually equal 100.

Annex C Service delivery of Lady Health Workers, by province

Service delivery by Lady Health Workers to four of their important target groups is shown in Annex Table C.1. These are: households (as a unit); women who have had a birth in the previous five years; married women aged 15–49; and children under three.

LHWs provide a range of promotive and preventive services to these groups. The Table shows the extent to which LHWs in each of the provincial areas:

- Provide hygiene education on drinking water and sanitation;
- Provide nutritional advice and growth monitoring;
- Monitor and advise women on their health, and that of their babies, after birth;
- Supply and refer women for family planning;
- Motivate and educate women on family planning; and
- Promote and facilitate vaccination.

Table C.1 Lady Health Workers preventive and promotive services by province

Measure	National average	Punjab ICT	Sindh	NWFP	Balochistan	AJK FANA
Households registered with the LHW						
% who report that the LHW has ever talked to them about ways to improve the cleanliness of drinking water	63	64	60	58	73	72
% who report that the LHW has ever talked to them about ways to improve hygiene and reduce diarrhoea	64	63	66	61	72	72
Women who had a birth since 1997 (reporting on their last birth):						
% who report that the LHW gave them advice on which foods to eat while pregnant	50	50	51	52	47	57
% who report that the LHW came to see her and the baby within 24 hours	14	11	19	16	8	17
% who report that the LHW came to see her and the baby within 7 days	46	46	52	41	26	49
% LHWs who weighed the baby (of those who came to see the baby within 7 days)*	16	19	12	11	3	26
% LHWs who gave advice on breastfeeding (of those who came to see the baby within 7 days)*	31	30	36	30	16	36
% who report that the LHW gave her advice on family planning within 3 months of the birth	50	52	47	48	52	42
Currently married women (aged 15-49)						
% of current users of modern contraceptives who were supplied by the LHW	41	39	31	56	68	23
% of current users of modern contraceptives who were supplied or referred by the LHW	52	52	39	60	77	57
% of current users of pills and condoms who were last supplied by the LHW	74	78	59	75	84	48
% of non-users of modern contraceptives who have discussed family planning with the LHW	41	40	48	39	34	36
% of non-users of modern contraceptives who have discussed family planning with the LHW in the last 6 months	21	21	25	21	10	18
% of current users of modern contraceptives who were not supplied or referred by the LHW who have discussed family planning with her	40	39	41	38	29	61
% of current users of modern contraceptives who were not supplied or referred by the LHW who have discussed family planning with her in the last 6 months	14	17	6	19	14	1
Children under age 3 years:						
% whose mothers say that the LHW talked	75	74	76	77	71	75

Measure	National average	Punjab ICT	Sindh	NWFP	Balochistan	AJK FANA
to her about vaccinating the child						
% whose mothers say that the LHW encouraged her to take the child for vaccination at the age when it was necessary	59	62	42	70	59	70
% whose mothers say that the LHW gave her advice on feeding the child	48	45	50	53	53	61
% ever weighed by the LHW	21	26	12	15	5	31
% weighed by the LHW in the previous 3 months	11	15	5	8	0	15

Source: Quantitative Survey Report 2008. Note: * Excludes those where LHW was present at birth.

Table C.2 Lady Health Workers participation in National Immunisation Days (NIDS)

	Punjab	Sindh	NWFP	Balochistan	AJK/FANA	Overall
% LHWs participated in NIDs during last 3 months	87	82	85	37	75	81
% LHW reported that worked outside catchment area	69	50	40	68	59	60
Mean number days participate in NIDS	8	12	11	9	3	9
Of those who participated in NIDS, % LHWs received payment	70	99	73	95	92	78

Source: Quantitative Survey Report 2008.

Annex D Creating a measure of performance for Lady Health Workers

Households sampled from each LHW's register were asked about the provision of a range of services by the LHW. For each LHW, we construct a summary measure of LHW performance which covers a range of the preventive services that all LHWs are supposed to provide.

This summary LHW Performance score is exactly equivalent to that in the 3rd Evaluation. It includes five broad categories of preventive and promotive services in the areas: hygiene promotion, vaccination, family planning, pregnancy and birth, child nutrition and growth. For each category two tasks were selected.

The ten measures included in the performance score are:

- Number of households who report that the LHW talked about ways to improve cleanliness of water;
- Number of households who report that the LHW talked about ways to improve hygiene;
- Number of women aged 15-49, who are non users of modern contraceptives, who report that the LHW discussed family planning;
- Number of women aged 15-49, who are users of modern contraceptives, who report that the LHW supplied them or referred them to a health centre;
- Number of mothers who gave birth in last 3 years who report that the LHW gave advice on which foods to eat during pregnancy;
- Number of mothers who gave birth in last 3 years who report that the LHW saw mother at birth or within a week of birth;
- Number of children under 3 years whose mothers report that the LHW talked about vaccination;
- Number of children under 3 years whose mothers report that the LHW encouraged vaccination of the child at appropriate ages;
- Number of children under 3 years whose mothers report that the LHW gave advice on feeding the child; and
- Number of children under 3 years whose mothers report that the LHW weighed the child within the last three months.

Most of these services are only relevant to particular groups. For example, in order to evaluate a LHW's performance on vaccination and weighing children under 3 years, we must sum the total number of children under 3 years in the sample interviewed for that LHW. This provides the denominator for the measure. The numerator is given by the number of those children whose mothers were informed about vaccination, were encouraged to take their child for vaccination at an appropriate age and the number who were weighed in the last three months.[22]

In this way each LHW was evaluated on the basis of the people she should have served, which vary across the LHWs. The summary performance measure was constructed by

[22] To illustrate, suppose there were six children below three years in the sample of households interviewed for a particular LHW. She weighed two in the last three months, and discussed vaccination for five and encouraged vaccination for four. In other words, she was supposed to carry out 18 tasks (6 weightings + 6 discussions on vaccination + 6 encouragements of vaccinations). Out of the 18 she has performed 2 + 5 + 4 = 11. Hence, a simple score on these three tasks alone is 11/18.

summing the numerator and denominator in this manner across all of the services listed above. The final proportion was then expressed as a percentage. It was decided not to standardise for client group composition.

Curative services are excluded from this measure as they are carried out on demand and may therefore reflect a more complex range of factors than the promotive services listed above. Measures of activities, rather than services delivered, are also excluded. For example, the number of hours worked, numbers of households visited etc. This is partly because many of these measures are reported by the LHW herself, and therefore more likely biased, whereas the service delivery measures are reported by the households.

Annex E Levels of performance

Annex Table E.1 provides more detailed information on the difference between Poor Performers and High Performers on ten services provided by the LHW.[23] We can see from the table that the Poor Performers (the bottom 25 percent of LHWs scored an average of 26 percent, and the High Performers (the top 25 percent of LHWs) scored and average of 78 percent. It is quite easy to distinguish Poor Performers from High Performers.

Table E.1 Different levels of performance amongst Lady Health Workers

Measure	Lowest quartile	2nd lowest quartile	2nd best quartile	Best quartile
Mean summary performance score	26	49	63	78
% of households who report that LHW talked about ways to improve cleanliness of water	34	64	74	88
% of households who report that LHW talked about ways to improve hygiene	33	65	77	90
% of women aged 15-49, who are non users of modern contraceptives, who report that LHW discussed family planning	24	36	49	63
% of women aged 15-49, who are users of modern contraceptives, who report that LHW supplied them or referred them to a health centre	23	39	46	62
% of mothers who gave birth since 2004 who report that LHW gave advice on which foods to eat during pregnancy	16	40	65	80
% of mothers who gave birth since 2004 who report that the LHW saw mother at birth or within a week	20	38	54	78
% of children < 3 yrs. whose mothers report that the LHW talked about vaccination	47	74	88	98
% of children < 3 yrs. whose mothers report that the LHW encouraged vaccination at the correct age	31	56	70	84
% of children < 3 yrs. whose mothers report that the LHW gave advice on feeding the child	17	41	61	81
% of children < 3 yrs. whose mothers report that the LHW weighed the child within the last three months	2	7	12	29

Source: Quantitative Survey Report 2008. Note: * Excludes those where LHW was present at birth.

[23] For further information see the Quantitative Survey Report.

Annex F Lady Health Worker activities and population coverage

Table F.1 Number of households and persons registered by Lady Health Workers

Activity	National %	Punjab &ICT%	Sindh %	NWFP %	Balochistan %	AJK & FANA%
Number of households registered						
Up to 50	1	0	0	0	10	0
51–100	17	4	25	22	63	42
101–150	54	53	62	68	22	48
151–200	26	40	13	10	6	11
201–250	2	4	0	0	1	2
Total	100	100	100	100	100	100
Mean number of households registered with LHW	131	150	117	118	86	108
Number of persons registered with the LHWs						
Up to 500	3	0	2	0	29	6
501–700	6	1	5	10	35	14
701–900	33	22	51	38	25	58
901–1100	47	61	36	41	10	9
1101–1300	10	15	3	7	1	9
More than 1300	2	1	2	4	0	4
Total	100	100	100	100	100	100
Mean number of persons registered with LHW	919	993	870	917	636	797

Source: Quantitative Survey Report 2008.

Table F.2 Number of hours Lady Health Workers worked last week by type of activity

Activity	National %	Punjab & ICT %	Sindh %	NWFP %	Balochistan %	AJK & FANA%
Total no. of hours LHW worked last week						
Less than 15	20	9	35	11	69	19
15–19	10	8	15	9	7	15
20–24	12	16	6	12	5	15
25–35	25	29	18	32	5	22
More than 35	33	38	26	36	14	29
Total	100	100	100	100	100	100
Average no. of hours/ activity						
Household visits	14.0	16.0	9.1	15.4	11.4	18.0
Seeing patients at health house	1.5	1.9	1.1	0.9	0.8	1.0
Accompanying referral case	0.8	1.0	0.6	0.5	0.1	0.2
Monthly meeting	1.4	1.7	0.8	1.6	0.4	1.3
MIS activities	3.3	3.9	2.4	3.8	1.1	2.9
Meeting with LHS individually excluding monthly meeting	0.4	0.6	0.3	0.2	0.2	0.1
Meeting or working with health committees	0.4	0.5	0.6	0.1	0.2	0.5
Participation in NIDS	6.8	6.4	9.1	8.4	1.9	1.9
Others	0.7	0.8	1.0	0.4	0.4	0.6
Total	29.5	32.9	25.1	31.7	16.6	26.8

Source: Quantitative Survey Report 2008.

Table F.3 Days worked by Lady Health Workers during last week

Measure	National %	Punjab & ICT%	Sindh %	NWFP %	Balochistan %	AJK & FANA %
Number of days, LHW worked last week						
Did not work at all	4	0	10	4	18	2
1–3 days	7	8	7	2	7	10
4–5 days	10	7	14	11	13	22
6–7 days	79	85	69	83	62	66
Total	100	100	100	100	100	100
Mean number of days worked last week	6	6.2	5.2	5.9	4.7	5.6
Reasons for not working for full week*						
Taking leave	9	2	7	22	19	9
Sickness	32	16	44	41	42	22
Travelled out of village/mohalla	3	1	5	4	4	0
Work completed /not enough to do	1	0	0	0	6	10
Others	55	81	44	33	30	59
Total	100	100	100	100	100	100

Source: Quantitative Survey Report 2008. Note: * Full week means six days or more

Table F.4 Number of household visits made by the LHW and number of clients seen during the past week as reported by the client

Measure	National %	Punjab & ICT %	Sindh %	NWFP %	Balochi-stan %	AJK& FANA%
Number of household visits						
Up to 10 household visits	19	8	34	16	61	10
11–20	19	11	31	20	20	37
21–30	27	23	26	46	11	27
31–40	21	32	5	12	7	21
41–50	12	20	2	6	1	4
More than 50 household visits	3	5	2	0	0	0
Total	100	100	100	100	100	100
Mean number of household visits made last week	26.8	32.3	19.7	23.9	14.5	23.6
Number of clients seen last week						
Up to 10 clients	29	17	41	23	79	18
11–25	37	36	46	38.5	19	42
26–50	31	41	13	34.8	3.	36
More than 50 clients	3	4	0	4.1	1	4
Total	100	100	100	100	100	100
Mean number of clients seen last week	21.8	25.0	16.1	23.11	9.1	25.1

Source: Quantitative Survey Report 2008.

Annex G The knowledge test

During their interviews LHWs and LHSs were asked a number of questions to test their knowledge in areas important in the LHWs service delivery. The questions covered a range of preventive and curative health care issues, hygiene and nutrition. They were also presented with a number of hypothetical case histories where they were asked to identify the problem and to respond with the treatment or advice they would provide the patient.

A Knowledge Score was arrived at on the basis of how many questions were answered correctly. It is possible to score fifty-five points, twenty-eight for the general knowledge section (Annex Table G.1) and twenty-seven points (Annex Table G.2) for the case studies. The score is presented as a percentage of the highest possible score.

The scoring attempts to identify LHWs with sufficient, general knowledge as well as to identify those LHWs with a depth of knowledge. For example, for questions with multiple possible responses, one point was given if a LHW was able to provide one correct response, and another point if she was able to provide three or more correct responses. The scoring was as follows:

Table G.1 Scoring for general knowledge section of the knowledge test

Question	Answer	Points
Contraindications for oral contraceptive pill	One correct answer	1
	Three or more correct answers	1
Contraindications for IUD	One correct answer	1
	Three or more correct answers	1
Advice about breast feeding to mother of new born	One correct answer	1
	Three or more correct answers	1
How soon after birth should a mother start breast-feeding her baby?	One point if response is less than 4 hours after birth.	1
Should the mother feed to her baby the colostrum?	One point for ‘yes’	1
At what age should a mother begin to introduce semi-solid foods into her baby’s diet?	One point for 4 to 6 months, or 4, 5 or 6 months.	1
Can you name the vaccine and dose for:	One point for each correct answer	
BCG?		1
DPT?		1
Polio?		1
Measles?		1
Can you name the correct age for doses of:	One point for each correct answer	
BCG?		1
DPT?		1
Polio?		1
Measles?		1
How would you advise a mother of a child with diarrhoea and mild dehydration if you did not have ORS?	One point for any one correct answer	1
	One point for three or more correct answers	1
What advice if child will not take ORS?	One point for any one correct answer	1

Question	Answer	Points
What advice to prevent diarrhoea?	One point for any one correct answer	1
	One point for three or more correct answers	1
How is malaria caught?	One point for correct answer	1
What treatment and advice for a two-year old child with symptoms of malaria?	One point if Chloroquine given	1
	One point if Paracetamol given or advice to reduce child's temperature	1
	One point for 'refer to health facility immediately- or if no improvement'	1
Name correct dose of Chloroquine for a child referred to health facility	One point for correct dose (1 teaspoon- one time)	1
How is HIV/AIDS transmitted?	One point for any one correct answer	1
Total possible points for General Knowledge Section		**28**

Table G.2 Scoring for case-based section of the knowledge test

Question	Answer	Points
Growth Monitoring		
Case 1:		
How much did the child weigh at four months?	One point for 4.1 to 4.7 kilograms	1
According to the card, what is the child's nutritional status now?	One point for 'normal to severely malnourished'	1
What does the card show about the child's growth over the last four months?	One point for stating that the child was gaining weight/ growing adequately	1
Would this child need to be referred to a health facility?	One point for 'No'	1
Case 2:		
How much did the child weigh at four months?	One point for 3.7 to 4.2 kilograms	1
According to the card, what is the child's nutritional status now?	One point for severely malnourished	1
What does the card show about the child's growth over the last four months?	One point for stating that the child was failing to gain weight	1
What extra information would you request if any?	One point if requested information about eating and feeding practices	1
Would this child need to be referred to a health facility?	One point if requested information about recent illnesses	1
	One point for 'Yes'	1
Diarrhoea		
Case 1:		
What is the degree of dehydration of the child?	One point for mild to moderate (some) dehydration	1
What treatment and advice would you give?	One point for rehydration (ORS or SSS) or breast-feed more often.	1
	One point if they advise to bring the child back for reassessment soon or to seek help if the child does not improve.	1
Case 2:		
What is the degree of dehydration of the child?	One point for severe dehydration	1

Question	Answer	Points
What treatment and advice would you give?	One point for rehydration (ORS or SSS) or to breastfeed more often	1
	One point for referral to the health centre	1
Respiratory Infections		
Case 1:		
Does the child have a simple cough or cold, pneumonia or severe pneumonia?	One point for severe pneumonia	1
Would this child need to be referred to a health facility?	One point for 'yes'	1
What treatment and/or advice would you give?	One point for Cotrimoxazole/antibiotics	1
Case 2:		
Does the child have a simple cough or cold, pneumonia or severe pneumonia?	One point for pneumonia	1
What treatment and/or advice would you give?	One point for Cotrimoxazole/ antibiotics	1
	One point for giving fluids/ continuing breastfeeding	1
Pregnancy		
Case 1:		
What is the woman's problem?	One point for 'anaemia'	1
What kind of examination is required and what extra information would you request?	One point for examine 'conjunctiva' or 'ask about eating habits or recent illnesses'	1
What treatment and advice would you give?	One point for 'Fefan' or 'eating more iron- rich foods'	1
Case 2:		
What treatment or advice would you give?	One point for referral to health centre	1
Would this referral be urgent?	One point for 'yes'	1
Total possible points for Case-Based Section		**27**

Annex H The knowledge test results

The results for Lady Health Workers, both nationwide and for Sindh are presented below. These include the results for the general knowledge (Annex Table H.1) and the case based results (Annex Table H.2)

Table H.1 The knowledge test-general knowledge section, percentage of correct answers given by LHWs, nationally and in Sindh

Measure	LHWs	
	Total %	Sindh
Contraindications for the contraceptive pill		
% giving at least one correct answer	92	97
% giving 3 or more correct answers	55	61
Contraindications for the IUD		
% giving at least one correct answer	85	90
% giving 3 or more correct answers	11	15
Breastfeeding and nutrition		
% stating that mothers should start breastfeeding within four hours of birth	97	96
% stating that weaning foods should be introduced at the age of 4-6 months	82	77
EPI vaccination schedule		
% who could name all four vaccines (BCG, DPT, Polio, Measles)	94	95
% identifying all four vaccines and giving correct number of doses	91	95
% identifying all four vaccines and giving the number of doses and the correct ages for each dose	72	88
Diarrhoea		
% giving at least one correct answer to mother of child with diarrhoea and mild dehydration, if lacking packets of ORS	100	99
% giving three or more correct answers to mother of child with diarrhoea and mild dehydration, if lacking packets of ORS	57	56
% giving at least one correct answer to mother of a child that will not take ORS	89	87
% giving three correct answers to mother of child that will not take ORS	21	31
% able to give at least one correct response on how to prevent diarrhoea	98	96
% able to give three or more correct responses on how to prevent diarrhoea	67	74
Malaria		
% giving correct answer on how malaria is caught	99	100
% saying they would give Chloroquine	74	69
% saying they would refer to a health facility	77	78
% giving correct dose of Chloroquine	9	8
HIV		
% giving at least one correct response on how HIV is transmitted	93	82
% giving three or more correct responses on how HIV is transmitted	77	68

Source: Quantitative Survey Report 2008.

Table H.2 The knowledge test-case based questions, percentage of correct answers given by LHWs, nationally and in Sindh

Measure	LHWs	
	Total %	Sindh %
Growth Monitoring Card		
Case 1 – Normal to Moderate Malnutrition:		
% giving correct weight of child	50	67
% saying that the child is normal or moderately malnourished	86	85
% stating that the child is growing adequately	71	60
% correctly stating that referral is not necessary	74	76
Case 2 – Severely Malnourished:		
% giving correct weight of child	58	53
% saying that the child is severely malnourished	37	45
% stating that the child is failing to gain weight	35	30
% correctly stating that referral is necessary	62	63
% requesting information about eating and feeding practices	84	82
% requesting information about recent illnesses	58	70
% requesting information about eating and feeding practices and recent illnesses	54	67
Diarrhoea/Dehydration Management		
Case 1 – Mild to Moderate Dehydration:		
% stating that the child is mild to moderately dehydrated	73	68
% stating that the child should be rehydrated (ORS or SSS)	82	78
% stating that the child should be breast fed more often	81	83
% stating that the child should be rehydrated (ORS or SSS) or breast fed more often	96	95
% stating that the child should be brought back soon for reassessment	1	1
% stating that the parents should seek help soon if the child does not improve	9	8
% correctly stating that referral is not necessary	31	27
Case 2 – Severe Dehydration:		
% stating that the child is severely dehydrated	64	76
% stating that the child should be rehydrated (ORS or SSS) or breast fed more often	87	79
% stating that the child should be rehydrated (ORS or SSS) or breast fed more often and referred to a health centre	80	72
% stating that the child should be referred to a health centre	93	93
Respiratory Infections		
Case 1 – Severe Pneumonia:		
% identifying severe/very severe pneumonia	63	56
% stating that the child should be referred to a health centre	92	95
% stating that the child should be given antibiotics	87	82
% stating that the child should be given a single dose of antibiotics and referred	76	76

Measure	LHWs	
	Total %	**Sindh %**
Case 2 – Pneumonia:		
% identifying pneumonia	20	20
% stating that they would give antibiotics	88	86
% stating that the child should be given fluids or breast fed more often	58	44
% stating that the child should be watched for danger signs	8	8
% stating that they would give a full course of Cotrimoxazole (of all LHWs/supervisors)	67	43
% stating correct dose & duration of Cotrimoxazole course (of those who would give a full course)	24	23
Pregnancy		
Case 1 – Anaemia:		
% identifying anaemia	97	100
% stating that they would examine the patient's conjunctiva/eye for anaemia	92	94
% stating that they would examine the patient's conjunctiva/eye for anaemia, ask about the patient's diet and ask about recent illnesses	24	40
% stating that they would give iron tablets (Fefan)	87	96
% stating that they would advise the patient to eat iron-containing foods	80	87
% stating that they would advise the patient to avoid heavy work and to rest	19	38
Case 2 – Pre-eclampsia:		
% stating that they would refer to a health centre and that the referral would be urgent	73	67

Source: Quantitative Survey Report 2008.

Annex I Training of Lady Health Workers and Lady Health supervisors

Lady Health Workers' training requirements

The minimum standards that are expected of the training system for LHWs are:

- Three months full time basic training for each LHW at the health facility where she was recruited.
- Twelve months task based (in-service) training, comprising one week full-time per month for twelve months at the health facility.

After 2005, the LHWP has introduced 15 days mandatory refresher trainings for all the Lady Health Workers. The lady health workers are provided with 15 days compulsory refresher training on different topics, which are decided by the National training cell in consultation with the provinces

All the LHWs who were recruited before 2005 were provided with a refresher training on the revised LHW manual.

In addition, training can be provided, though not on a universal and compulsory basis, via:

- Training given in monthly health facility meetings; It is for one day.
- Training by supervisor in one-to-one monthly supervisory meetings.

Lady Health Supervisors' training requirements

The minimum standards that are expected of the training system for LHW supervisors are as follows:

- Phase One: Three months training including initial training using the same curriculum as the LHW (8 weeks) and on supervisory skill (3 weeks);
- Phase Two: Three months task-based training with two weeks in the field and two weeks at their training centre; and
- Phase Three: Six months task-based training with three weeks in the field and one week at their training centre.

The training pattern was changed in 2005 and the new training schedule is as follows:

- Phase One: Three months training including the initial training, using the same curriculum as the LHW (8 weeks) and additional supervisory skills (3 weeks);
- Phase Two: Nine months of task based training with three weeks in the field and one week at their training centre.

In addition, training can be provided, though not on a universal and compulsory basis, via:

- Training given in monthly DPIU meetings; and
- Training by supervisor (FPO, ADC, etc) in one-to-one monthly supervisory meetings.

Table I.1 Training Received by Lady Health Workers

Category	National average	Punjab & ICT	Sindh	NWFP	Balochistan	AJK&FANA
% of LHWs with initial training	100	100	100	100	100	100
Duration of initial training (% of LHWs)						
Less than three months	0	0	0	0	0	0
Three months	94	93	93	96	100	96
More than three months	6	7	7	4	0	4
Total	100	100	100	100	100	100
Mean months for initial training	3.1	3.1	3.1	3.1	3.00	3.2
Proportion of LHWs attended part-time training (one week/month)	96	96	98	98	76	95
Mean months of part-time training attended	11.6	11.7	11.4	11.8	11.6	11.8
Training was imparted by:* (% of LHWs)						
Medical doctor (male)	88	91	87	74	97	93
Medical Doctor (female)	18	4	28	10	77	17
Lady Health Visitor	25	34	23	2	24	33
Dispenser	67	89	32	80	40	78
Male medical health technician	17	14	3	58	32	16
Female medical health technician	5	3	11	13	7	0
Others	5	4	6	3	3	12
Proportion of LHWs who received task-based training (one week/month)	96	96	98	98	76	95
Mean months of task-based training	11.6	11.7	11.4	11.8	11.6	11.8
Proportion of LHWs who received refresher training	97	95	10	98	98	95

Source: Quantitative Survey Report 2008. Note: * Multiple responses expected

.

Annex J Supervision

Table J.1 Supervision of Lady Health Workers

s	National average	Punjab & ICT	Sindh	NWFP	Balochistan	AJK & FANA
% LHWs without supervisors	3	2	0	3	9	8
% LHWs who have had a monthly meeting at the health facility within:						
Last 30 days	91	99	83	93	65	89
31-60 days	67	0	15	6	23	11
More than 60 days	12	1	3	1	8	0
Never attended	0	0	0	0	5	0
Total	100	100	100	100	100	100

Source: Quantitative Survey Report 2008.

Annex K Work planning and reporting

Work planning is an important self-management tool for LHWs. The LHW reports contribute to the Programme's management information system. For Sindh LHWs 66% could produce last month's report were able to show their current work plan.

Table K.1 Lady Health Worker work planning and reporting

Category	National average	Punjab & ICT	Sindh	NWFP	Balochistan	AJK& FANA
LHWs who said they had developed a work plan for current month	86	95	72	89	58	88
LHWs who could show the interviewer the work plan	84	95	66	89	47	84
LHWs who said they had produced a report for previous month	98	98	97	100	94	98
LHWs who could show the interviewer the report	89	95	78	97	67	95

Source: Quantitative Survey Report 2008.

Annex L Supplies of medicines and equipment

Table L.1 Lady Health Worker stock of medicines, nationwide

Item	Stock units	% LHWs-out of stock at time of survey	%of LHWs – with item out of stock for more than 3 months	If they had stock:% LHW with expired stock
Paracetamol tablets (500mg)	Strip pack	32	46	0.6
Paracetamol syrup	Bottle	45	9.	0.7
Chloroquine tablets (250mg)	Strip pack	56	14	1.8
Chloroquine syrup	Bottle	58	13	0.3
Mebendazole tablets (100mg)	Strip pack	62	20	0.5
Piperazine syrup	Bottle	50	10	0.1
Oral rehydration salts	Packet	41	4	0.9
Eye ointment	Tube	59	10	0.0
Cotrimoxazole syrup	Bottle	69	14	0.5
Vitamin B complex syrup	Bottle	40	3	0.0
Iron and folic acid tablets (Fefan)	Strip pack	34	10	0.0
Antiseptic lotion	Bottle	60	10	1.8
Benzyl benzoate	Bottle	53	6	2.5
Bandages (cotton)	Pack	42	7	0.0
Condoms	Piece	34	3	0.0
Oral contraceptive pills	Cycle	22	1	0.0
Injection contraceptives		76	16	0.0

Source: Quantitative Survey Report 2008. Note: Number of LHWs with oral rehydration salts in stock was too small to provide reliable estimates.

Table L.2 Percentage of Lady Health Workers with functional equipment and administrative materials

Item	Percentage of LHWs who have Item					
	Nationally	Punjab & ICT	Sindh	NWFP	Balochistan	AJK & FANA
Weighing scale	32	39	23	30	11	34
Thermometer	59	72	43	47	24	81
Torch	36	41	32	33	23	47
Scissors	73	86	54	73	41	78
Household register	97	97	98	100	84	98
Diary:						
New Format	78	78	71	89	51	94
Old Format	59	47	87	64	57	44

Item	Percentage of LHWs who have Item					
	Nationally	**Punjab & ICT**	**Sindh**	**NWFP**	**Balochistan**	**AJK & FANA**
Manual:						
Current LHW manual	85	87	82	93	65	88
Refresher LHW manual	83	88	73	95	57	82
LHW manual – old version	65	56	84	69	60	64
Counselling card manual (Refresher)	85	81	93	55	81	83
Child health refresher manual	93	86	92	52	76	88
Injectable contraceptive refresher manual	88	75	90	42	81	82
Revised MIS refresher manual	63	60	87	34	82	65
OBSI refresher manual	83	79	94	37	85	80
Blank growth monitoring cards	72	76	62	88	42	69
ARI case management charts (all 3)	90	96	82	96	54	90
Diarrhoea case management chart	90	95	83	97	61	90
Plastic cards	72	79	55	92	48	57
Family planning charts	90	96	81	96	63	88
Eye chart	78	80	68	92	61	74
Maternal health chart	89	94	81	99	62	91
Health house board	84	84	78	92	86	76
Blank referral slips	76	80	57	97	69	67

Source: Quantitative Survey Report 2008.