



Oxford
Policy
Management

Lady Health Worker Programme Evaluation

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Evaluation Context

- Focus: changes since previous OPM evaluation (2000)
 - Significant LHWP expansion during this period
 - Programme has expanded to serve relatively more disadvantaged populations
 - But, remaining unserved population is still more disadvantaged
- Differences between populations covered in the two OPM evaluations (2000 & 2009)
 - Care must be taken in interpreting trends and analysis of programme impact

Service Delivery

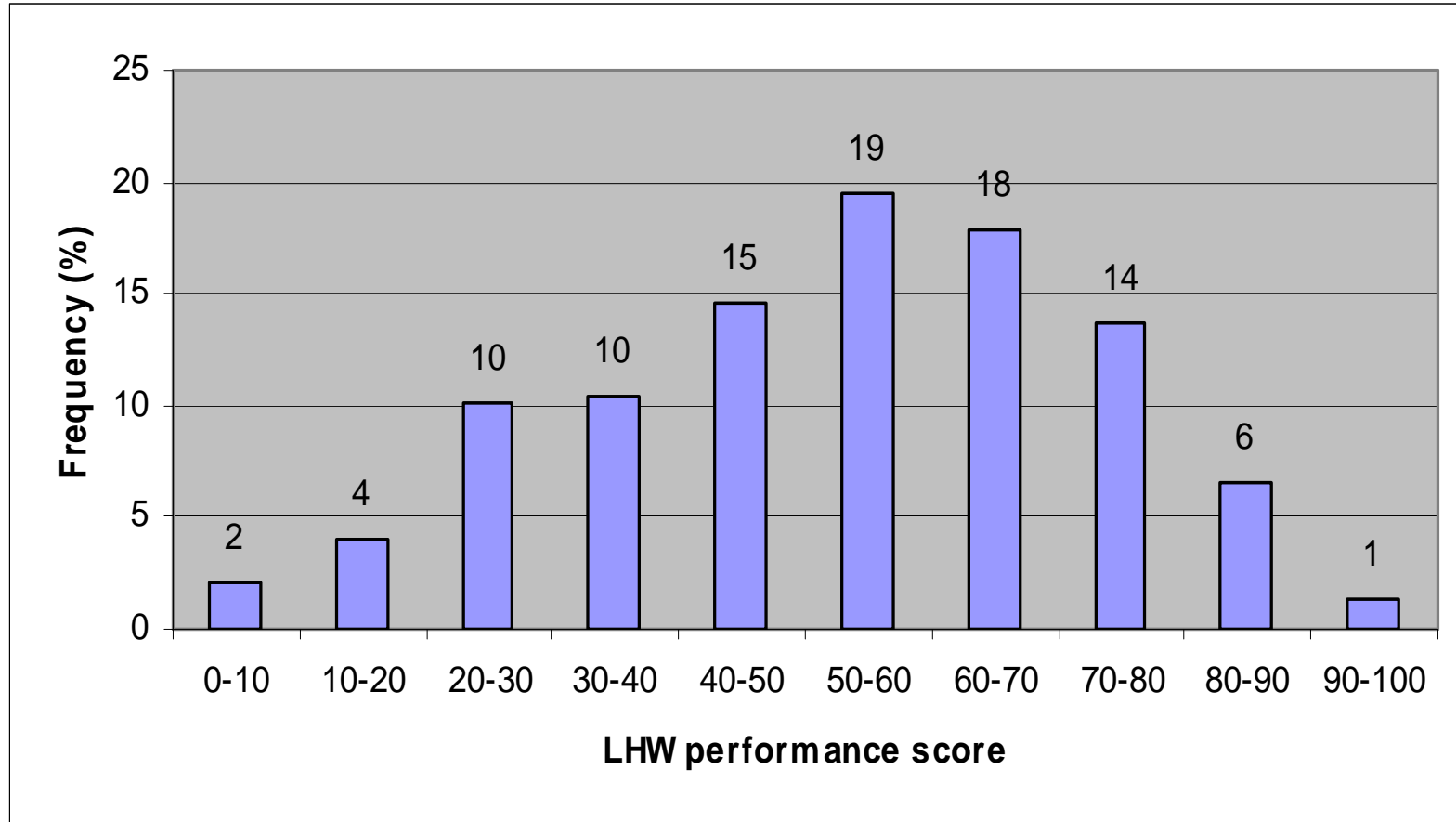


- LHWs working harder compared to 2000
 - Increase from 20 to 30 hrs/week on average
 - Increase in rate of service delivery (42% to 52%)
- Rate of service delivery defined as:
 - *“Proportion of preventive and promotive services rendered to eligible clients”*
 - Rate of service delivery = OPM’s LHW Performance Score

Service Delivery

- However...
 - Uptake of LHWs' curative services by adults has fallen
 - Average number of households registered per LHW has gone down:
 - from 145 to 131
- ***So total volume of services delivered may not have risen as much as rate of service delivery***
- There remains a substantial group of under-performing LHWs
 - The worst performing 25% of LHWs provide services to less than 1/3rd of their eligible clients

Figure 4.1 Distribution of LHW performance score



Source: OPM LHWP 4th Independent Evaluation, Quantitative Survey Data (2008).

Supervision & Pay



- Improvement in supervision levels
 - 78% of LHWs had a supervision meeting in previous month
- Fewer LHWs per LHS
 - 27 in 2000; 23 in 2008
- Better access to transport for the LHS
 - But still 22% never have access to a programme vehicle, and 42% did not receive their POL allowance in previous month
- LHS supervision has improved
 - 93% of LHSs received supervision meeting in previous month

Supervision & Pay

- Some improvement in timeliness of salary payments
 - Only 10% of LHWs had not paid within past 3 months
- But still big problems
 - Only 21% (compared to 32% in 2000) had received salary payment within past month

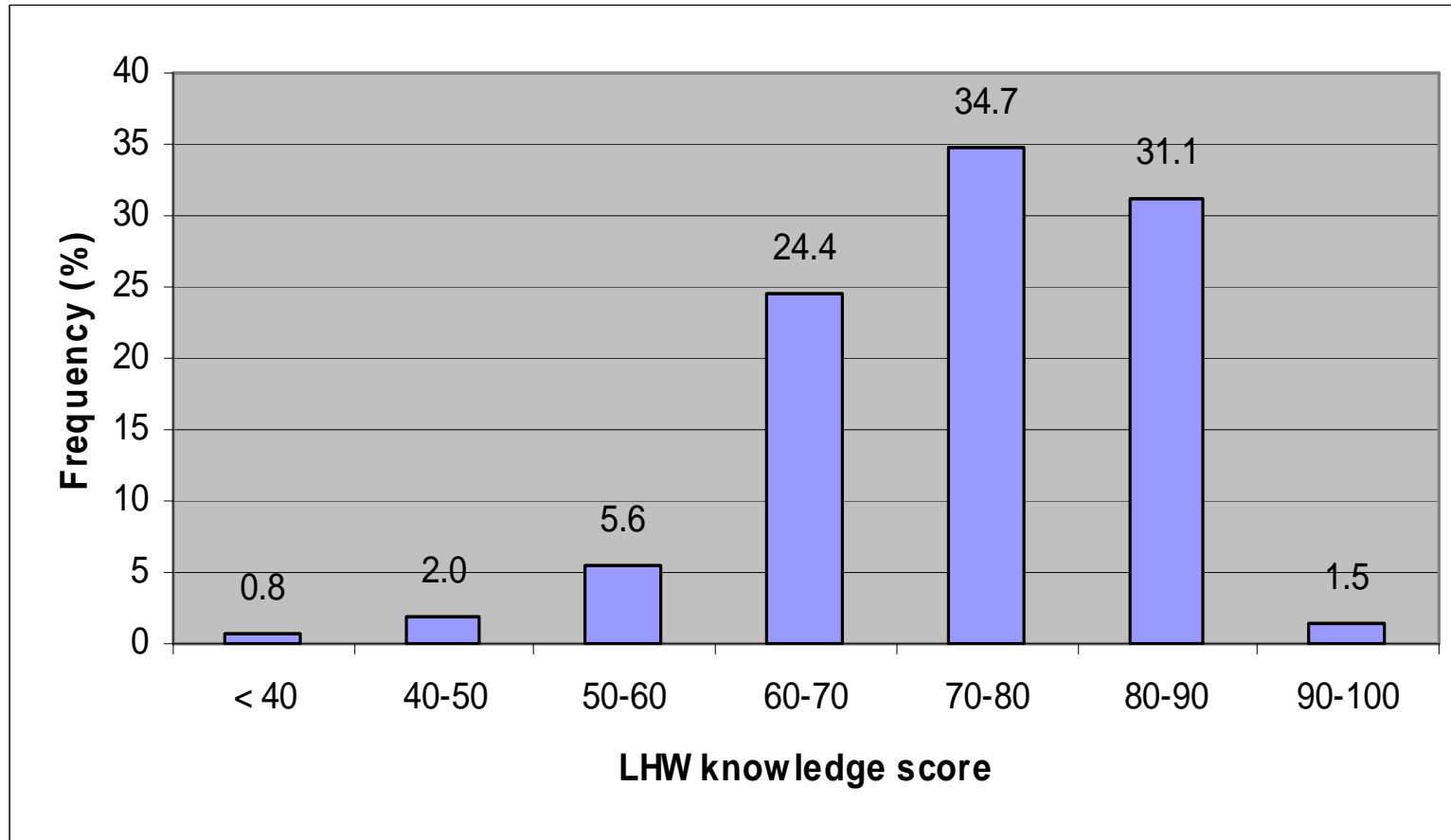
Clinical Knowledge

- LHWs and LHSs given same knowledge test as in 2000 survey
- Improvement in LHW and LHS knowledge scores
 - Average LHW knowledge score: 69 to 74
 - Average LHS knowledge score: 74 to 78

Clinical Knowledge

- But, improvements not uniform
 - Knowledge has improved in some areas but not others
 - A small but significant proportion of LHWs lack basic clinical knowledge
 - Depth of knowledge a concern
- Factors associated with high LHW knowledge levels:
 - Previous education
 - Effective training & supervision
 - Good district management practices

Figure 2.1 Distribution of LHW knowledge score



Source: OPM LHWP 4th Independent Evaluation, Quantitative Survey Data (2008).

Supplies & Equipment

- **Continuing problems of stock-outs...**
- **Medicines commonly out of stock**
 - Chloroquine tablets & syrup
 - Mebendazole tablets
 - Eye ointment
 - Cotrimoxazole syrup
 - Antiseptic lotion
 - Benzyl benzoate
 - Injectables

LHW stock of medicines and other materials

Item	LHWs with item in stock (%)	LHWs out of stock for over 2 months (%)
Paracetamol tablets	68	5
Paracetamol syrup	55	13
Chloroquine tablets	44	22
Chloroquine syrup	42	24
Mebendazole tablets	38	28
Piperazine syrup	50	16
Oral rehydration salts	59	11
Eye ointment	41	13
Cotrimoxazole syrup	31	21
Vitamin B complex syrup	60	5
Iron and folic acid tablets	66	16
Antiseptic lotion	40	14
Benzyl benzoate	47	9
Bandages (cotton)	58	10
Condoms	67	4
Injectables	24	22
Oral contraceptive pills	78	2

Source: OPM LHWP 4th Independent Evaluation, Quantitative Survey Data (2008).

Supplies & Equipment

- **Continuing lack of basic equipment...**
- **Equipment commonly missing or non-functional**
 - Weighing scale
 - Thermometer
 - Growth monitoring cards
 - Eye chart
 - Referral slips

Presence of functional equipment and administrative materials

Item	Percentage of LHWs with this item (%)	
	2000	2008
Weighing scale	91	32
Thermometer	47	59
Blank growth monitoring cards	74	72
ARI case management charts (all 3)	91	90
Diarrhoea case management chart	87	89
Plastic cards	<i>n/a</i>	72
Family planning charts	<i>n/a</i>	89
Eye chart	<i>n/a</i>	78
Maternal health chart	<i>n/a</i>	89
Health house board	<i>n/a</i>	84
Blank referral slips	77	76

Source: OPM LHWP 4th Independent Evaluation, Quantitative Survey Data (2008).

Clinical Support Services

- Inadequate support from referral facilities...
 - Shortage of trained medical staff
 - Only 74% of served FLCFs have a doctor's post sanctioned and filled,..
 - ...of which only 85% had a doctor present during time of survey
 - Medical supplies commonly out of stock
 - Shortage of functional equipment

Presence of trained medical staff and functional equipment at First Level Care Facilities (FLCFs) served by the programme

Measure	Percentage of served FLCFs (%)
With a doctor was present on the day of the survey	63
With any doctor's post sanctioned and filled (male or female)	74
With a female doctor's post sanctioned and filled	16
With a doctor in post where at least one doctor was present during time of survey	85
<u>Proportion of FLCFs with functional:</u>	
Infant weighing scales	73
Blood pressure gauge	89
Steriliser	59
Oxygen	45
Refrigerator	80
FLCFs offering routine in-house vaccination services (%)	82

Source: OPM LHWP 4th Independent Evaluation, Quantitative Survey Data (2008).

Presence of medicines and medical equipment at First Level Care Facilities (FLCFs) served by the programme

Item	Percentage of served FLCFs with item in stock (%)
Intravenous rehydration drips	80
Cotrimoxazole	73
Other antibiotics	89
Sedative (for toxemia)	40
Valium (for eclampsia)	34
Synometrin (for post-partum haemorrhage)	19
IUDs	51
Contraceptive injectables	48
Contraceptive pills	59
Condoms	56
Chloroquine tablets	76
Chloroquine syrup	61
ORS packets	69
Iron tablets (with or without Vitamin B)	76

Source: OPM LHWP 4th Independent Evaluation, Quantitative Survey Data (2008).

Variation by Province (Strata)

- Many overall findings also observed across provinces/strata
 - Less certainty over province-level estimates
 - Smaller sample sizes
 - Some differences in populations covered (insecurity, etc)
- All areas show improvement in:
 - LHW knowledge scores
 - Largest increase is in NWFP
 - but potentially biased by exclusion of insecure areas in NWFP
 - LHW performance scores
 - Particularly large increase Balochistan
 - but note HHs per LHW is low in this province

Variation by Province (Strata)



- Households registered per LHW
 - Only 86 in Balochistan; 150 in Punjab/ICT
- Supervision of LHWs
 - Only 50% of LHWs in Balochistan & AJK/NA visited by LHS in previous month
- Medical supplies & equipment
 - Stock-outs of medicines are a particular problem in Sindh
 - LHWs in Balochistan and Sindh most likely to lack key equipment & administrative materials

LHWP Target Indicators

- Comparison with 2000 survey shows **improvements** in:
 - Tetanus toxoid coverage (5 or more doses)
 - **14% to 31%** *[PC-1 target: 40%]*
 - Proportion of deliveries attended by doctor, nurse or LHV
 - **27% to 48%**
 - Proportion of children fully immunised
 - **57% to 68%**
 - Exclusive breastfeeding
 - **7% to 26%** *[PC-1 target: 50%]*
 - Defined here as % children aged 6-35 months that were exclusively breastfed up to 6 months
- But improvement in CPR is very small
 - **33% to 34%**

LHWP Target Indicators

- Improvements not as large as intended in previous PC-1
 - But LHWP has expanded to cover more disadvantaged populations
 - Improvements still important in terms of overall health of population
- LHWP might want to consider more realistic levels of change when developing next PC-1

Measuring Programme Impact

- Cannot attribute improvements in health indicators exclusively to LHWP
 - Other factors: economic growth; provision of other health services; better education; etc
- Comparison between served and unserved households for reliable estimates of programme impact
 - But, must adjust for systematic differences between these population groups
 - Served population has better health status measures than unserved,...
 - ...but not necessarily due to LHWP because unserved population disadvantaged in many other ways

Measuring Programme Impact

- Two modelling techniques used:
 1. Multivariate regressions
 2. Propensity Score matching (PSM)
- Both approaches adjust for observable differences between served & unserved households,...
- ... and generally yielded similar results

Results of Impact Analysis



- LHWP has had a **substantial positive impact** on some key health indicators....
 - Family planning
 - Served households are 11 percentage points more likely to use modern family planning method
 - Antenatal care
 - Served households are 13 percentage points more likely to have had tetanus toxoid vaccination
 - Neo-natal check-ups
 - Served households are 15 percentage points more likely to have received check-up within 24hrs of birth
 - Immunisation
 - Served households are 15 percentage points more likely to have children under 3 years fully immunised

Results of Impact Analysis

- ...however, limited or no overall impact on other indicators
 - Health knowledge and sanitation practices
 - Exclusive breastfeeding
 - Skilled attendance at delivery
 - Growth monitoring
 - Diarrhoea and ARI incidence in children
- These areas present more intractable behavioural issues
 - but high-performing LHWs do have a positive effect on a number of them
- Therefore scope for improvements if LHWs given sufficient support

Results of Impact Analysis



- Programme impact is generally much greater for **poorer** households
 - In particular:
 - **maternal health practices** (antenatal consultations, use of iron tablets, tetanus toxoid injections and neo-natal check-ups);
 - **immunisation**;
 - **growth monitoring**
- Possibly supply side constraints are more binding for poorer households,...
- ...whereas better-off households can access these services from other sources
 - E.g. at the health facility, private clinics, etc

Results of Impact Analysis



- However, knowledge-base interventions have greater impact amongst better-off households
 - E.g. diarrhoea treatment
- The effect on family planning (FP) practices is also larger for better-off households
 - Possibly because FP services are often provided by LHWs “on demand”
 - A key FP impact achieved by the LHWs is to convince current FP clients to switch to modern methods
- Impact on mortality and fertility was not analyzed,...
- ...preliminary analysis of the effect on morbidity shows no aggregate effect

Improving Programme Impact



- Focus on two factors that potentially drive programme impact:
 1. **High rates of service delivery**
 - As measured by the LHW Performance Score
 - *LHW Performance Score: measures success with which LHW delivers the services required of her, given size and demographic breakdown of her registered population*
 2. **High levels of LHW knowledge**
 - As measured by the knowledge test score

Improving Programme Impact

- **Result: more knowledgeable and better-performing LHWs deliver greater impact**
 - In particular for:
 - ANC, vaccination & treatment of basic illnesses
 - These LHWs even have an impact in areas where programme is having no effect overall:
 - Hand-washing, waste disposal & delivery practices
- Therefore by increasing rate of LHW service provision and knowledge levels, programme impact can be improved

Improving Programme Impact by Increasing LHW Performance



- **Regression analysis used to identify factors associated with variations in LHW performance**
- **Results suggest efforts should be made to:**
 1. Retain experienced LHWs
 2. Ensure LHWs work full hours required of them
 - But not a 7 day week
 3. Ensure LHW supervisors are effectively supervised by FPOs
 - Using performance monitoring tools, i.e. diaries and work-plans
 4. Encourage active women's health committees

Improving Programme Impact by Increasing LHW Performance



5. Focus on MIS reporting
 - Make clear the services that LHW should be providing
 - Ensure that LHWs understand their performance in delivering these services is being monitored

6. DPIUs to set up effective LHW performance management regimes
 - Must have procedures for reporting and sanctioning LHW non-performance

7. Ensure all served health facilities have a designated individual with overall responsibility for overseeing LHWP activities

Improving Programme Impact by Increasing LHW Knowledge



- **Regression analysis used to identify factors associated with variations in LHW knowledge levels**
- **Results suggest efforts should be made to:**
 1. Ensure new LHW recruits have high levels of education
 2. Maintain and improve the frequency, focus and quality of refresher training courses
 3. Target training efforts to strengthen knowledge in areas where it is found to be insufficient
 4. Ensure served health facilities have an individual with overall responsibility for overseeing LHWP activities
 - And ensure that regular meetings are held between these individuals and the DPIU

Conclusions

- The LHWP is having a significant impact on the health status of the populations it serves
 - Impact can be increased further by taking measures to increase:
 - Rate of LHW service provision
 - LHW knowledge levels
 - Expansion into underserved and poor areas
 - These measures include ensuring effective:
 - LHW recruitment and retention
 - LHW supervision & performance management
 - Training regimes (core & refresher)
 - District-level management

Conclusions

- Impact has been maintained despite significant expansion of the LHWP
 - **This is a considerable achievement**
- But there remain serious weaknesses in the provision of adequate:
 - Supplies;
 - Equipment; and
 - Clinical referral services
- Addressing these failings is an urgent concern
 - but doing so will further enhance programme impact

Conclusions

- Looking forward... as LHWP matures it should consider issues of efficiency more systematically:
 - Maximise health impact given a fixed level of financial inputs
 - Identify areas with potential for substantial health benefits that have not yet been properly realised
 - Consider what combination of inputs and services can be expected to maximise impact on health outcomes