Nepal Health Sector Support Programme III

(NHSSP – III)

EVALUATION OF

TASK-SHARING OF BASIC REHABILITATION SERVICES AT PRIMARY HEALTH CARE LEVEL

IN NEPAL

BASELINE REPORT

September 2019

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ABOUT THE REPORT

This is a report on the baseline findings from the evaluation of the task-sharing approach to providing basic rehabilitation services at Primary Health Care (PHC) level by health assistants, which is being supported by the UK Department for International Development and the Nepal Health Sector Support Programme (DFID-NHSSP). This approach is being pilot tested in three districts – Dhanusha, Dhading and Dolakha – in collaboration with the National Health Training Centre (NHTC). DFID-NHSSP is supporting its implementation on the ground through Humanity & Inclusion, a disability-focused international Non-governmental Organisation (NGO), and an independent evaluation of the pilot approach through Partnership for Social Development (PSD), a research and evaluation agency.

This report is being submitted to DFID as the second part of the Payment Deliverable 59. The first part, which was submitted in April 2019, had presented the details on the progress of the project.

LIST OF ABBREVIATIONS

ANC	Antenatal Care
CBS	Central Bureau of Statistics
COPD	Chronic Obstructive Pulmonary Disease
CTEVT	Council of Technical and Vocational Education and Training
DFID	UK Department for International Development
EDCD	Epidemiology and Disease Control Division
FCHV	Female Community Health Volunteer
GoN	Government of Nepal
HA	Health Assistant
HFOMC	Health Facility Operation and Management Committee
HP	Health Post
IFT	Interferential Therapy
LCDMS	Leprosy Control and Disability Management Section
MLP	Mid-level Practicum
MoHP	Ministry of Health and Population
MOS-SS	Medical Outcomes Study Social Support Survey
NFDN	National Federation of Disabled, Nepal
NGO	Non-governmental Organisation
NHSSP	Nepal Health Sector Support Programme
NHTC	National Health Training Centre
NPR	Nepalese Rupees
OPD	Outpatient Department
PCV	Pneumococcal Conjugate Vaccine
PHC	Primary Health Care
PHCC	Primary Health Care Centre
PRC	Physical Rehabilitation Centre
PSD	Partnership for Social Development
PSM	Propensity Score Matching
PTU	Physiotherapy Unit
SD	Standard Deviation
TENS	Transcutaneous Electrical Nerve Stimulation
TOC	Theory of Change
WHO	World Health Organization
WHODAS	World Health Organization Disability Assessment Schedule

EXECUTIVE SUMMARY

According to the World Health Organization (WHO), 15 per cent of the world's population experience some form of disability, and disability prevalence is higher in developing countries. In Nepal, 1.94 per cent of the total population has some kind of disability, with a higher prevalence among persons with low socioeconomic status. As disability rates are correlated with increases in non-communicable conditions, population growth and aging, the need for rehabilitation services in Nepal is projected to increase because of such demographic and epidemiological factors. In this context, health workers at Primary Health Care (PHC) level can play a key role in facilitating timely access to primary rehabilitation and continuum of care, and they could be involved in assessing basic rehabilitation needs and delivering basic rehabilitation interventions. In order to bridge the gap, the UK Department for International Development and the Nepal Health Sector Support Programme (DFID-NHSSP) aim to support the Government of Nepal (GoN) to fill the gap and test an innovative approach, through which Health Assistants (HAs) would be trained on basic rehabilitation skills at primary-level facilities, to enable them to provide basic rehabilitation services and make these services more accessible to people with disabilities.

The programme: Evidence shows that task-sharing approaches where specific tasks are delegated to lower cadres of health workers have been successful. DFID-NHSSP has proposed an innovative task-sharing approach to support the National Health Training Centre (NHTC) to train HAs at PHC level (Primary Health Care Centres (PHCCs), Health Posts (HPs) and, where possible, hospitals with fewer than 15 beds) on basic physiotherapy and rehabilitation skills. The programme will be implemented by Humanity & Inclusion, a disability-focused international Non-governmental Organisation (NGO), and covers a range of activities, such as: training curriculum development for task-sharing, training HAs working at PHC facilities, post-training follow-up, and a simple mechanism to generate awareness at the community level through Female Community Health Volunteers (FCHVs). The project implementation sites of this task-sharing approach were determined based on the mentioned background and included three districts, in which the evaluation will take place: Dolakha (Mountain), Dhading (Hill), and Dhanusha (Terai). As the intervention rolls out, substantial changes at the intermediate and medium-term outcome indicators are expected sooner, while final-outcome-level changes are expected to take longer. The intermediate indicators are expected to show the beginnings of any changes in terms of readiness of services and HAs' knowledge and skills. These will lead to better identification of cases and improved capacities and thereby contribute to impacting improved uptake of physiotherapy services in the short term, and improved access to care and health in the longer term.

The evaluation intends to measure changes in intermediate and some of the medium-term indicators, including service utilisation, which can be assessed within a period of six months.

The evaluation will appraise the task-sharing approach in terms of basic rehabilitation skills gained and retained amongst the HAs, including competencies to identify rehabilitation service needs, treatment, and appropriate referral. It will also document task-sharing process issues, and assess client perspectives on the rehabilitation care received at PHC facilities. In order to answer the evaluation questions, a mixed-method quasi-experimental (matched intervention-comparison) study has been designed, where the programme assignment is not random. The matching procedure on observable characteristics can address the selection bias and ensure internal and external validity of the conclusions. The evaluation covers two intervention arms (in Dhanusha district) and a comparison (or doing nothing) group

(Mahottari district). The allocation of intervention and comparison has been matched using Propensity Score Matching (PSM). The set of variables, such as population and service coverage, volume of services, productivity of health facilities and improvement in performance of health facilities, is covered to create the propensity score. The comparison health facilities were then selected from the Mahottari district (a reservoir of comparison health facilities). After six months of baseline and programme implementation, an endline survey will be conducted. The potential beneficiaries were then selected considering the selected health facilities as clusters, using a systematic random sampling technique. Altogether 72 health facilities and 872 beneficiaries were covered in baseline.

The baseline entailed measuring the initial status of variables as per the Theory of Change (TOC) for HAs, health facilities and beneficiaries.

HAs' demographic characteristics were not found to be systematically different between the intervention and comparison groups at the baseline. This ensures that HAs are similar in these characteristics and reduces the chance of selection biases. Some differences in perceived knowledge were found for a few questions but overall knowledge did not systematically differ between the two groups. The perceived knowledge of skills scores was also found to be at the lower tail of score distribution at the baseline. Similarly, on comparisons between intervention and comparison groups, there was no systematic difference in health workers' perceived self-efficacy to provide physiotherapy and rehabilitation services and health workers' willingness to apply and practise physiotherapy skills.

Significant and systematic differences were recorded between certain characteristics of **health facilities**: for example, the average numbers of people served by each health facility were 6,612.1 and 12,971.1 for the intervention and comparison groups respectively. This difference might have resulted from the practice of health facilities being replaced by nearby similar facilities when HAs were not available for data collection. The average number of technical and non-technical staff present in health facilities during the time of the survey also differed systematically between the intervention and comparison districts. This finding is reflected in the population-to-health-worker ratio, which was also systematically higher in the comparison group. This discrepancy drives the difference in the workload of HAs to be trained as part of the intervention. It is, therefore, necessary to adjust the difference accordingly at the endline. In terms of readiness, none of the health facilities surveyed at baseline had rehabilitation service guidelines/manuals available at their service site. For almost all basic amenities, such as electricity, improved water source, visual and auditory privacy, client latrine, communication equipment and computer with Internet, health facilities in the comparison group were reported to have higher availability and functionality rates.

The beneficiaries' demographic characteristics were not systematically different between intervention and comparison groups, except for occupation, where a higher proportion of respondents in the intervention group were engaged in agriculture. In terms of economic characteristics, the ownership of agricultural land, of a motorcycle and of a computer/laptop were systematically different between the intervention and comparison groups, and a systematically higher proportion of households in the comparison group used a tube well as their main source of water for drinking. The differences observed in socioeconomic status need adjustment at the endline, using appropriate techniques. The level of difficulties faced by clients did not differ systematically for any aspects of activity between the intervention and comparison groups. Similarly, clients did not differ systematically between the intervention and comparison groups on any of the pain characteristics. However, the

average number of days with presence of difficulties was systematically higher among the clients in the intervention group. This aspect is always associated with the level of service utilisation. It is therefore necessary to control the variables in the evaluation. The average distance to a facility with physiotherapy services was systematically greater in the intervention group. This attribute directly affects the access to and utilisation of services. It is therefore necessary to adjust the variable in the endline. However, the cost of rehabilitation did not differ systematically between the intervention and comparison groups. When comparing service attributes from the clients' perspective, satisfaction with privacy, provider's courtesy and the overall experience of physiotherapy care were systematically higher among clients in the comparison group. Similarly, client satisfaction and willingness to recommend the facility to friends were also higher in the comparison group. The degree of social support available to clients for preparing meals was systematically different between the intervention and comparison groups.

The baseline results provide a clear idea about the existing scenario before the intervention and show that though the HAs and beneficiaries are similar in terms of their demographic characteristics, the dissimilarities in other related characteristics that can also affect the short-term and intermediate outcomes must be addressed to improve the internal validity of the results. We have also observed that some of the short-term and intermediate outcome variables are different across intervention and comparison groups. Such differences at baseline will be included in the impact evaluation results and analytical methods will be adopted that are robust to such differences.

1 INTRODUCTION

The purpose of this evaluation is to examine whether the task-sharing approach to deliver basic rehabilitation services works in the Primary Health Care (PHC) system of Nepal. This is the baseline report of the evaluation study, which presents a snapshot of the project, the underlying Theory of Change (TOC) and its evaluation design. The report also presents findings from a quantitative survey and explains the differences in key demographics, beneficiaries, health facility and Health Assistant (HA) characteristics and outcome variables between the intervention and comparison groups.

1.1 BACKGROUND OF THE PROJECT

According to the World Health Organization (WHO), 15 per cent of the world's population experience some form of disability, and disability prevalence is higher in developing countries (WHO, 2011). In Nepal, 1.94 per cent of the total population has some kind of disability, with a higher prevalence among persons with low socioeconomic status (Central Bureau of Statistics (CBS) Nepal, 2012). As disability rates are correlated with increases in non-communicable conditions, population growth, and aging, the need for rehabilitation services in Nepal is projected to increase because of such demographic and epidemiological factors.

The WHO recognises rehabilitation as an essential part of the continuum of care, along with prevention, promotion, treatment, and palliation, and as an essential component of integrated health services. The WHO strategy further promotes the availability of multi-disciplinary, professional skills to ensure universal access to rehabilitation services worldwide (WHO, 2017). For the past 20 years, Nepal has been very active in formulating policies to enhance the rights of persons with disabilities and improve their quality of life. In line with the Constitution of Nepal, Nepal's Disability Rights Act, 2017, has asserted the rights-based approach to disability from a welfare-based approach. However, there is a huge gap in the availability of rehabilitation services: almost 83 per cent of people with disabilities report not having access to rehabilitation services like physiotherapy, occupational therapy and speech therapy (Eide, 2016). In this context, health workers at PHC level can play a key role in facilitating timely access to rehabilitation and continuum of care; further, they could be involved in assessing basic rehabilitation needs and delivering basic rehabilitation interventions.

Catering to the rehabilitation needs of the population remains a challenge in Nepal, as there are only 25 physiotherapists working across ten health institutions. These facilities are far from the reach of the majority of people with disabilities, particularly those living in the western hills and eastern plains of Nepal (Banskota, Poudyal, & Khadka, 2016). A United Nations study also pointed out that the challenges in post-earthquake Nepal were exacerbated for persons with pre-existing conditions as well as those who were newly disabled as a result of the earthquake. In addition, development of an adequate number of physiotherapists and their deployment to Primary Health Care Centres (PHCCs) seems unfeasible in the near future, as physiotherapy or rehabilitation-related education in Nepal is still nascent (Acharya, Adhikari, Oraibi, & Baidya, 2015). The Health Sector Transition and Recovery Programme also revealed high unmet need of physiotherapy and rehabilitation services in the districts affected by the massive earthquake in 2015, highlighting challenges of geographical access and transportation which had resulted in only few physiotherapy sessions being received by patients. The final report of this programme had emphasised the need to carry out activities with Health Posts (HPs) to increase early detection and referrals

(Handicap International, Nepal Health Sector Support Programme (NHSSP), UKAID, 2016). In this context, the UK Department for International Development (DFID) and NHSSP aim to support the Government of Nepal (GoN) to fill the gap and test an innovative approach, whereby HAs are trained in basic rehabilitation skills at primary-level facilities, to enable them to provide basic rehabilitation services and make these services more accessible to people with disabilities.

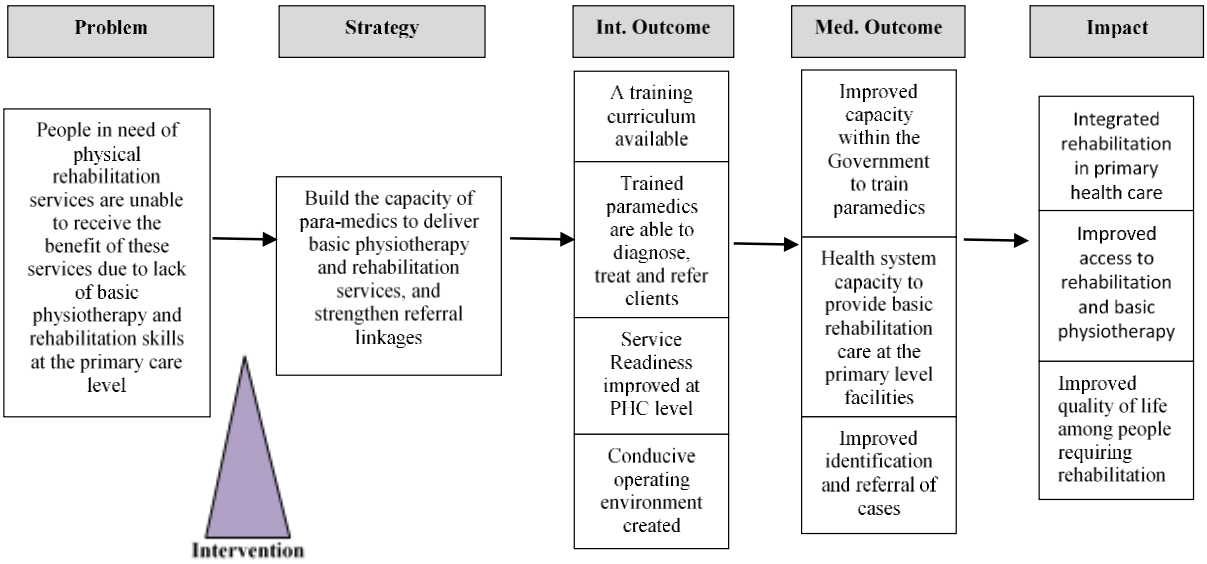
1.2 THE PROGRAMME

Evidence shows that task-sharing approaches where specific tasks are delegated to lower cadres of health workers have been successful. DFID-NHSSP has proposed an innovative task-sharing approach to support the National Health Training Centre (NHTC) to train HAs[1] at PHC level (PHCCs, HPs and, where possible, hospitals with fewer than 15 beds) in basic physiotherapy and rehabilitation skills. The key purpose of the innovation is to test the task-sharing approach and to explore the potential to include basic physiotherapy and rehabilitation skills in the Mid-level Practicum (MLP) training curricula, integrating basic physiotherapy and rehabilitation services with primary-level services.

1.2.1 Theory of Change

The ToC for this innovation was developed by DFID-NHSSP (summary shown in Figure 1)[2]. The underlying problem, identified based on the existing evidence, is that those who need rehabilitation services, including people with disability, either remain undiagnosed or are unable to receive the benefit of these services, in particular because of the lack of basic physiotherapy and rehabilitation skills at the primary care level. Therefore, the key challenge is the capacity of the health system to deliver basic physiotherapy and rehabilitation services while lacking the required skills and resources.

Figure 1 Summary of Theory of Change



[1] HAs are mid-level health workers at PHC level in Nepal. They are trained at Certificate level in General Medicine by the Council of Technical and Vocational Education and Training (CTEVT).

[2] Summarised from the original ToC available in the project planning document

1.2.2 Intervention design

The strategy adopted by the innovation is to address this need by building the capacity of health workers at PHC level to deliver basic physiotherapy rehabilitation services and strengthen referral linkages, so as to ensure that the right care is delivered at the right time and in the right place. A set of interventions has been designed for this approach and is being implemented by Humanity & Inclusion – an international Non-governmental Organisation (NGO) that specialises in training and delivery of basic rehabilitation services. The programme covers the following key activities for the task-sharing of basic rehabilitation services at PHC level:

Curriculum development and building paramedics' skills: Humanity & Inclusion has developed and finalised the basic rehabilitation training package to HAs working at PHC outlets. The training package is being finalised in collaboration with the NHTC and the Epidemiology and Disease Control Division (EDCD). For the training implementation, Humanity & Inclusion will select HAs with support from the NHTC and DFID-NHSSP. There will be physiotherapists- training officers to facilitate the training events. In total, 200 HAs will be trained in ten batches. The proposed duration of training for each batch is seven days, including exposure visits to a Physical Rehabilitation Centre (PRC). During the training implementation phase, the NTHC, the Leprosy Control and Disability Management Section (LCDMS) and local authorities will supervise and monitor training sessions.

Post-training follow-up: The post-training follow-up activity is aimed at performance improvement of the trained HAs on basic rehabilitation skills. Follow-up will be conducted by a team comprised of EDCD/NHTC officials, local physiotherapists working as providers/trainers at PHC facilities and Physiotherapy Units (PTUs) in each district and a representative from Humanity & Inclusion. The sharing/review meetings with Health Facility Operation and Management Committees (HFOMCs) and other relevant stakeholders will also include follow-up activities. These events will allow HAs to share their experiences in service delivery and any challenges faced; the follow-up team will be tasked with finding possible solutions to any problems raised.

Demand-generating activities: Humanity & Inclusion will establish a simple mechanism to generate awareness at the community level through Female Community Health Volunteers (FCHVs). The training curriculum for the HAs will include a component on how to engage FCHVs to encourage them to spread awareness in the community about disability and basic rehabilitation services available at the primary level. This will require HAs to orient FCHVs during their routine monthly meetings. Further, orientation on disability identity cards will also be included in the training curriculum of the HAs.

The planned set of activities is expected to contribute to the intermediate, medium-term and final outcome indicators as shown in the ToC. As the intervention rolls out, substantial changes at the intermediate and medium-term outcome indicators are expected within a year, while final-outcome-level changes are expected to take longer. The intermediate indicators are expected to indicate the beginnings of any changes, leading to better identification of cases and improved capacities and thereby contribute to impacting improved uptake of physiotherapy services in the short term, and improved access to care and health in the longer term.

1.2.3 Project implementation sites

Based on present estimations, the number of people living with disabilities was found to be higher in earthquake-affected districts, including Dhading and Dolakha, than elsewhere. According to the 2011 Nepal Census, while the Terai regions are home to the largest

absolute numbers of people living with disabilities, the Western Hill and Mountain Districts have a higher percentage of people living with disabilities (CBS Nepal, 2012). The project implementation sites of this task-sharing approach were determined based on the mentioned background and included three districts in which the evaluation will take place: Dolakha (Mountain), Dhading (Hill) and Dhanusha (Terai).

1.3 THE EVALUATION

DFID-NHSSP contracted Partnership for Social Development (PSD) – a Nepal-based research and evaluation organisation – to undertake an independent evaluation of the physiotherapy task-sharing pilot. This report presents the overall evaluation design and methodology as well as the findings from the baseline survey that was conducted by PSD.

The study combines an outcome and process evaluation to understand the whole story of the programme in one evaluation report. Findings from the process evaluation will be used to understand and explain the findings of the outcome evaluation as well as to capture the challenges and learning resulting from project implementation. The evaluation will assess the task-sharing approach in terms of basic rehabilitation skills gained and retained amongst the HAs, including their competence in identifying rehabilitation service needs, treatment, and appropriate referral. It will also document any task-sharing process issues, and assess client perspectives on the rehabilitation care received at primary-level facilities.

1.3.1 Evaluation objectives

The specific evaluation objectives are as follows, to:

1. Measure the change in knowledge, ability, and willingness to practise/apply the new set of skills amongst individual health workers (HAs) that will facilitate basic rehabilitation services
2. Measure the change in the client-/beneficiary-level indicators for basic rehabilitation services
3. Measure the change in service delivery indicators of basic rehabilitation services
4. Assess the value for money (in terms of efficiency, effectiveness, economy, and equity) of the programme
5. Document and understand process issues from a programme implementation perspective.

1.3.2 Logical framework

The independent evaluators developed a logical framework for evaluating and analysing the programme, based on an initial draft that was provided by DFID-NHSSP. This is presented in Figure 2, wherein the first two rows show the levels of the programme logic. The input includes the financial, human and other resources mobilised to deliver the programme. It is envisioned that the input level of programme logic estimates the initial cost of launching the programme. The process level indicators include curriculum design, training delivery, service establishment and follow-up, and answers whether the activities of the project have been implemented as planned. The immediate outcome level of indicators investigates the changes in health facility readiness and unit cost to deliver those services as well as the confidence/motivation of HAs to provide basic rehabilitation services. The medium-term level of outcome indicators includes identification and referral of cases (at both health facility and community levels), client's acceptability and satisfaction towards the rehabilitation services and assesses the changes in those indicators. The impact (long-term outcome) level of indicators investigates the access to basic rehabilitation services and quality of life among people requiring rehabilitation. As the task-sharing innovation is expected to be implemented and tested over the period of six months, changes at the process and intermediate level, and

to some extent to the medium-term outcomes, are expected, while long-term changes (at the impact level) are expected to take a longer timeframe of one to two years. This evaluation assignment will focus on the input, process and outcomes (immediate and medium-term) of the intervention.

1.3.3 Evaluation questions

Based on the programme logic and evaluation objectives, the study focuses on the following evaluation questions that will collectively meet the evaluation objectives.

Process evaluation*:* This set of questions will be focused on the input and process aspects of the intervention. It will contribute to the fifth objective. The set of questions includes:

1. Was the training delivered as expected/planned?
2. Was the training competency-based?
3. Did it receive enthusiastic involvement from trainees?
4. Were the trainers competent to deliver it? Did they face any challenges?
5. Were monitoring and follow-up performed as per the plan?
6. What kind of opportunities and challenges were identified during the follow-up?
7. Were the trainees satisfied with the training process? How could it be better?
8. Were NHTC and other government officials involved through the programme? What did they say about the programme process? Was it consultative?
9. Were the HFOMCs supportive to the trained HAs and supporting their needs?
10. Were the level of skills and the curriculum created appropriate for the cadre?
11. Were the FCHVs receptive and active during monthly review meetings with health workers?

Outcome evaluation: This set of questions will evaluate the intermediate and medium-term outcomes of the programme logic and hence contribute to meeting the first three objectives:

1. Was there an increase in identification, treatment, and referral of cases at health facilities and in the community?
2. Are the HAs able to diagnose, treat and refer clients?
3. Do the trained HAs feel confident/motivated to provide basic rehabilitation care?
4. Was the basic physiotherapy and rehabilitation care delivered as per protocol?
5. Do the clients trust providers' skills and are they satisfied with their care?
6. What are the changes in health facility readiness to deliver basic rehabilitation services?
7. What does the evidence show about the pathway to changes in access to rehabilitation services in the longer term?
8. What does the evidence show about the likely changes in quality of life among people requiring rehabilitation services, in the longer-term?

Value for money assessment: The evaluation questions under this subheading will contribute to the fourth objective, i.e. the value for money of the programme, which will be assessed by measuring economy, effectiveness, efficiency, and equity.

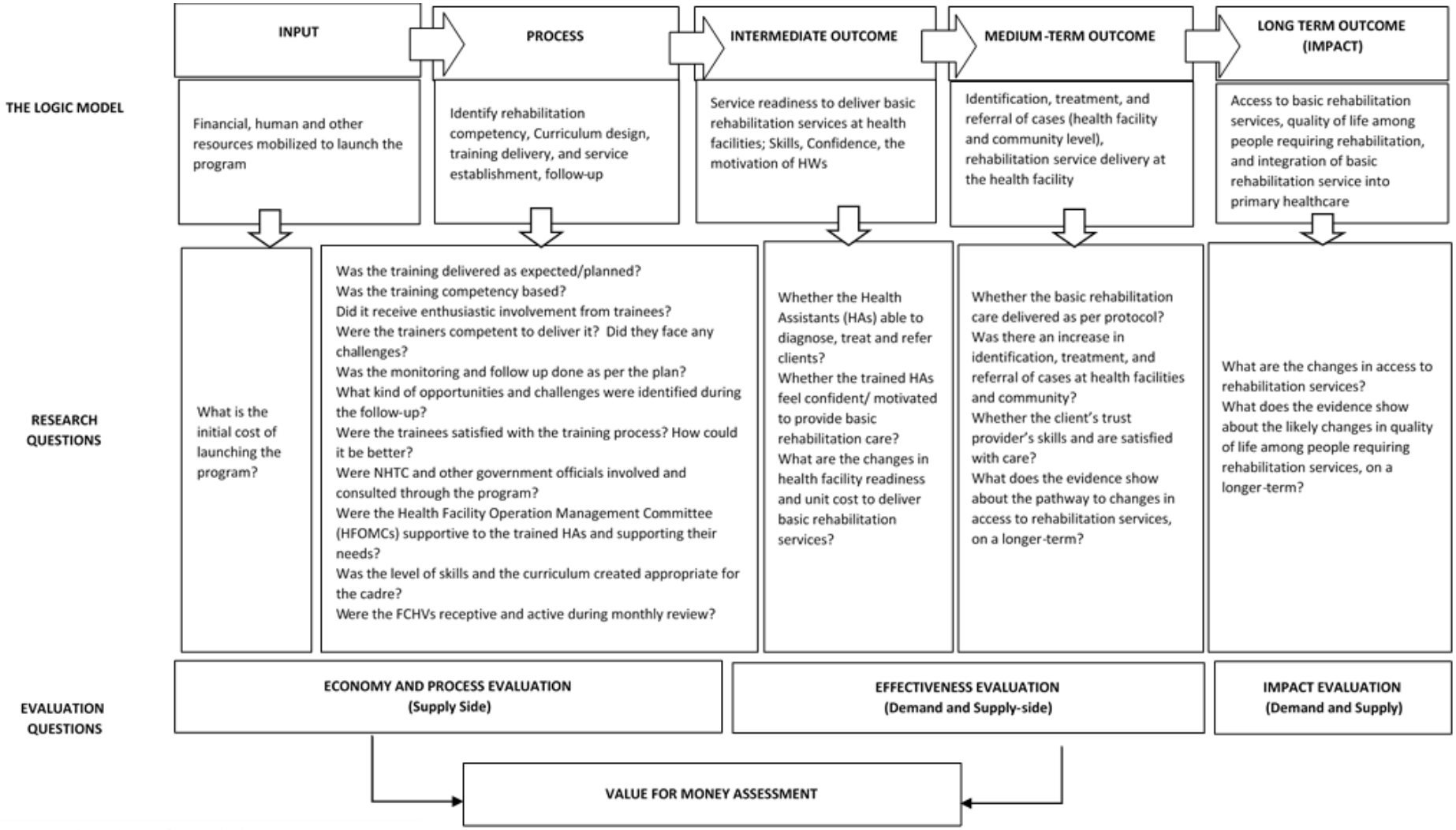
1. *Economy:* What is the cost of delivering basic rehabilitation services at PHC level?
2. *Effectiveness*: Did the programme bring improvement in intermediate and medium-term outcomes?
3. *Efficiency*: Are the resources forgone in bringing basic rehabilitation services at PHC level worth the benefit to society?
4. *Equity*: Who is receiving the benefits from basic rehabilitation services at PHC level?

1.3.4 Objectives of the baseline survey

The evaluation process entails measuring the initial status of variables involved in the ToC. Therefore, the primary purpose of the baseline survey is to measure the starting point for those outcome variables of interest in the sample and to ensure that the intervention and comparison are balanced before the start of the intervention. The objectives of the baseline survey are to:

1. Measure the baseline differences in HAs' background characteristics and perceived knowledge of skills for basic physiotherapy and rehabilitation skills
2. Measure the baseline differences in health facility characteristics and utilisation of health services for primary physiotherapy and rehabilitation services
3. Measure the baseline differences in background characteristics and utilisation of services by programme beneficiaries
4. Report the potential areas of adjustments and way forward for the evaluation.

Figure 2 The Programme Logic and Evaluation Questions



Source: Authors, drawing from multiple sources

2 EVALUATION METHODS

This section provides details of the evaluation, including: the evaluation design, created to answer the evaluation questions, list of indicators and variables covered in the baseline study; the methodology adopted for data collection; and the method of analysis.

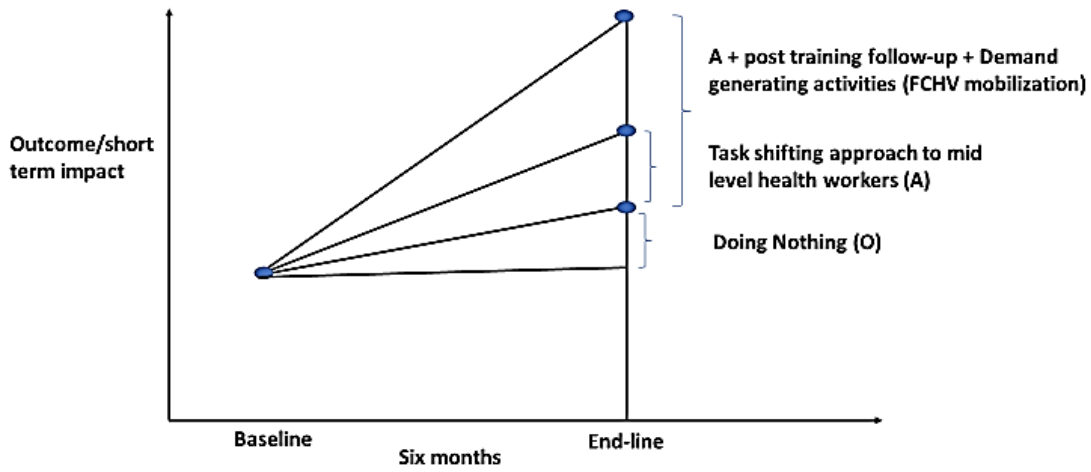
2.1 DESCRIPTION OF EVALUATION DESIGN

The evaluation employs a difference-in-difference design for the quantitative study; the set of activities discussed in sections above are organised as three arms:

A. **Intervention arm I:** HAs receive basic rehabilitation training + post-training follow-up + FCHV involvement
B. **Intervention arm II:** HAs receive basic rehabilitation training only at the beginning of the programme
C. **Comparison arm:** HAs who do not receive any basic rehabilitation training.

The evaluation is expected to reach normative conclusions about the programme being implemented. Therefore, a mixed-method quasi-experimental (*matched intervention-comparison*) study has been designed. The matching procedure on observable characteristics can address selection bias and ensure internal and external validity of the conclusions. The evaluation covers two intervention arms (Dhanusha district) and a comparison (or doing nothing) group (Mahottari district). A baseline survey has been conducted prior to the implementation of the interventions (i.e. training of HAs). The allocation of intervention and comparison has been *matched*. Random assignment of the HAs to each of the intervention arms has been planned. After six months of programme implementation, an endline survey will be conducted; Figure 3 shows the design summary as regards these three arms.

Figure 3 Overview of evaluation design



Secondly, a qualitative assessment of the effects of the training on HAs themselves and people living with disability will be conducted to meet the evaluation objectives. This will include in-depth qualitative interviews with HAs and clients as well as key informant interviews with providers and government staff. These qualitative assessments will form a part of the endline survey and will be conducted in Dolakha and Dhading districts as well. In addition, the endline report will also include major observations from HA training. These observations will document process issues in the training from a programme implementation perspective. The conclusions derived from quantitative and qualitative evaluation of intervention at health worker, service delivery and beneficiary levels will

be combined to reach normative conclusions. Details of the timing and coverage of the key survey methods for the evaluation is shown in Table 1.

Table 1 Overview of evaluation methods at baseline and endline

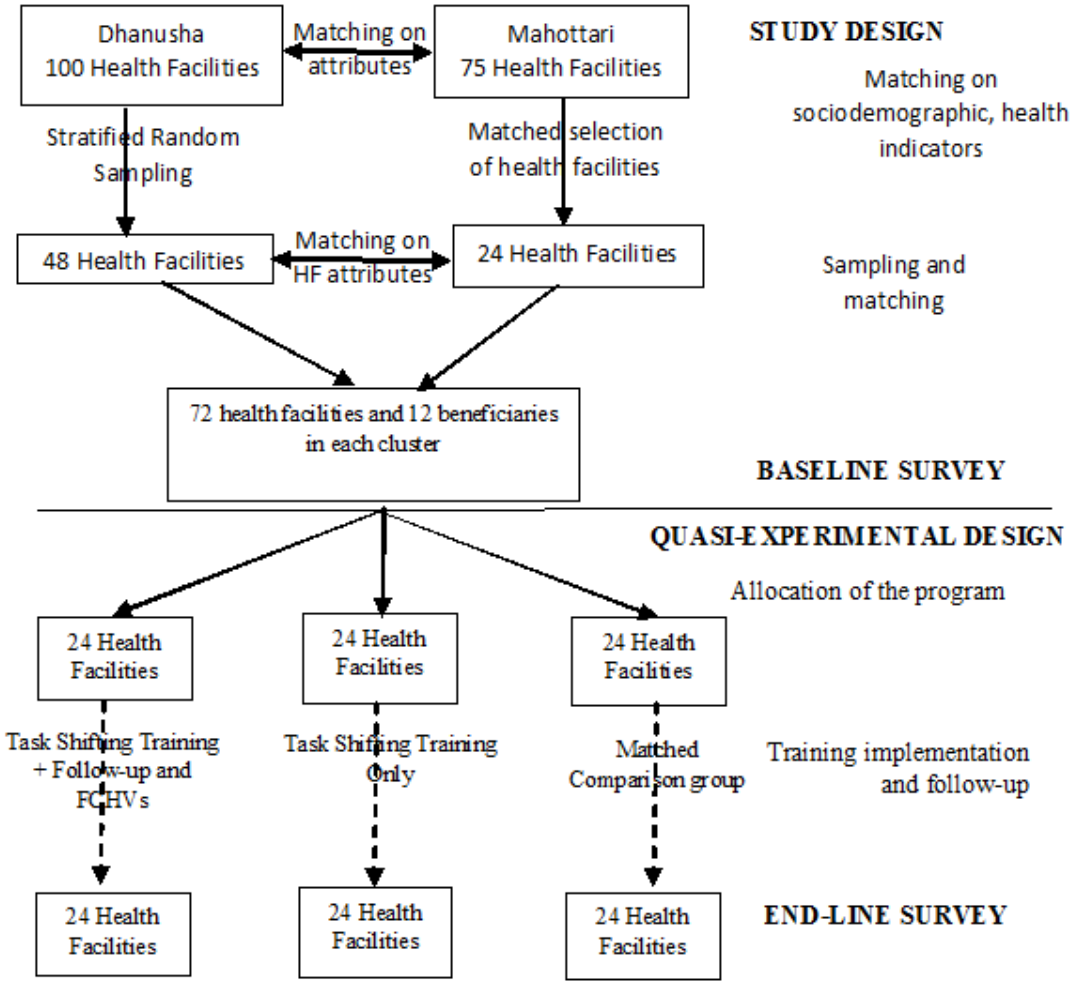
Study	Methods	Intervention			Comparison
		Dhanusha	Dhading	Dolakha	Mahottari
Baseline	Quantitative survey with HAs	√	×	×	√
	Quantitative survey with clients	√	×	×	√
	Qualitative interviews with HAs	√	√	√	×
	Qualitative interviews with clients	√	√	√	×
Endline	Quantitative survey with HAs	√	×	×	√
	Quantitative survey with clients	√	×	×	√
	Observation of the training	√	√	√	×
	Qualitative interviews with HAs	√	√	√	×
	Qualitative interviews with clients	√	√	√	×
	Qualitative interviews with key informants (providers, government etc.)	√	√	√	√

2.2 SAMPLING DESIGN

The evaluation will be based on a sample of the target population from Dhanusha district[3] (the implementation district, with both arms) and Mahottari (the comparison district for the quantitative survey). The Mahottari district lies adjacent to Dhanusha and is comparable on several counts: it has a similar population size and density, shares common sociocultural and demographic characteristics, and has similar human development. Therefore, the study covered Mahottari, which has an adequate pool of health facilities from where the comparison health facilities could be selected using the technique of Propensity Score Matching (PSM). The ToC shows that the programme expects changes at the health facility, health worker and individual levels. As one HA from each health facility will be trained in basic rehabilitation services, sampling the health facility will automatically select an HA. Therefore, the sampling design includes two types of sampling unit: first is the health facility, which is considered as a cluster; and second is the beneficiary, i.e. a person with a physical disability. Beneficiaries are expected to be clustered at the health facility level. A sampling frame is needed for health facilities and beneficiaries so as to be able to use probability-based sampling techniques. A list of eligible health facilities and HAs from the NHTC was used for the sampling frame. However, a ready list of beneficiaries was not available; hence the list of persons with disability registered at the National Federation of Disabled, Nepal (NFDN) was collected from the respective district offices. In addition, research assistants met health facility in-charges, ward representatives and FCHVs to finalise the list. Thus, records from NFDN, ward/Palika offices and discussions with health facility in-charges and FCHVs were combined to yield a complete list of beneficiaries for the respective clusters of Dhanusha and Mahottari districts This list was used as the sampling frame and beneficiaries were randomly selected from the list.

[3] To avoid staff-adjustment-related operational issues and uncertainties, the evaluation offers a design that focuses on Dhanusha, a large district offering an adequate and representative sample size of HAs. The programme is also being implemented in Dolakha and Dhading, which are not included in the evaluation for the quantitative survey but will be included for the qualitative research.

Figure 4: Stages in sampling and the quasi-experimental design



Sampling technique: The study adopted a *two-stage proportionate stratified cluster random sampling* technique to select the study units. In the first stage, a number of health facilities were randomly selected from each category of health facility (HP and PHCC) with probability proportionate to the number of health facilities. In the second stage, beneficiaries were selected randomly from the available list of the sampling frame. The sampling procedure is shown in Figure 4.

Table 2 Parameters for sample size calculations

Parameters	Values
Effect size	0.35
Design effect	2
Intra-class correlation coefficient	0.1
Power	80%
Significance level	5%
Total number of health facilities (each arm)	24
Total number of beneficiaries per health facility (cluster)	12

Sample size: The study has used an effect size approach to arrive at the sample size estimates. As explained by Cohen (2013), the effect size of 0.2 is considered a minimum. Considering standard precision requirements and the available resources, the effect size of 0.35 was taken into account to reach the sample size needed for this study. The effect size reflects the changes in the most challenging indicator – improved access to basic physiotherapy and rehabilitation – measured at the beneficiary level. Given the fact that sample size is calculated considering the final outcome indicator, it will ensure that there is sufficient power to detect the same difference for intermediate and medium outcome indicators. Power calculation for differences in two proportions is used to arrive at the sample size for each arm using the *pwr* package in R (Champely et al., 2018). A design effect of 2 is used to adjust the clustering effect of beneficiaries at the health facility level. With the intra-class correlation coefficient of 0.10, a cluster size was calculated. The data collection involves a follow-up of cases. So, a dropout rate of 5 per cent and 10 per cent were considered for HAs and beneficiaries. With these parameters, the study included 24 health facilities in each arm and 12 beneficiaries from each cluster. Table 2 shows the values of parameters used in arriving at sample size estimates. A detailed syntax to arrive at those estimates is available in Annex 6.1. Altogether, it was proposed that 72 health facilities and 864 beneficiaries would be covered in the survey.

2.3 Matching Procedure

PSM is the most common form of matching method that is used to construct the counterfactual for the purpose of evaluation using quasi-experimental techniques. PSM creates a comparison group from untreated observations by matching treatment observations to one or more observations from the untreated sample, based on observable characteristics. In PSM, matching is not performed on every single characteristic but on a single number: the propensity score. Treated units are matched to untreated units with a similar propensity score

The intervention and comparison health facilities were selected based on these matching principles. In first stage, 48 health facilities were randomly selected from Dhanusha district. In the second stage, Mahottari – a nearby district with similar sociodemographic and macroeconomic characteristics – was chosen as comparison. The health facilities from the comparison districts were matched to the intervention district based on observable characteristics. Among the 48 health facilities in the intervention district, 24 will be randomly allocated to Arm1 – Task-sharing training and training follow-up group – and 24 health facilities will be allocated to Arm 2 – Task-sharing training only group.

The advantage of matching was that the same health facilities will be followed after the intervention, helping to create a set of panel data; matching can also help self-adjust the impact of unobserved confounders that are fairly constant over time. Random allocation of HAs to the individual arms makes the programme assignment independent of individual and health facility characteristics. The spill-over effect is less likely to occur as trained health workers will work within the health facilities and facilities are well separated. It is possible that beneficiaries from the comparison group could access health facilities in the intervention areas, and this can be measured and analysed. Heterogeneity of outcomes can be assessed by stratifying the findings across the relevant strata. Further details of the matching procedure are provided in Annex 6.2

2.4 Tools and Techniques

Table 3 provides a summary of the methods employed to respond to each objective, the range of indicators included and the types of respondents covered. The study included two tools for data collection, mainly from health facility/health workers and beneficiaries of basic physiotherapy and rehabilitation services respectively.

Table 3 Baseline survey methodology matrix

Objective	Research questions	Indicators/themes	Methods	Data source
Measure health-facility-level indicators	Was there any difference in identification, treatment, and referral of cases at health facilities and in the community? Was the basic physiotherapy and rehabilitation care delivered as per protocol? What are the differences in health facility readiness to deliver basic rehabilitation services? What are the differences in baseline level utilisation of services by people requiring rehabilitation services?	• Number of individuals identified who are at the early phase of a disability • Number of people receiving basic rehabilitation care • Number of clients referred from the community to primary-level health facility by FCHVs • Number of clients referred to the secondary- (or tertiary-) level facility (public and private) • Number, type, severity, and duration of physical disability of cases provided with services at health facilities • Health facility readiness score for basic rehabilitation services	Interview with HAs Document review Observation (using health facility observation tool)	Quantitative data (primary) from HAs Document review (programme monitoring reports, periodic progress reports and formats)- Quantitative data (secondary)
Measure individual-workers-level indicators	What are the differences in HAs' ability to diagnose, treat and refer clients? What are the differences in HAs' feeling confident/ motivated to provide basic rehabilitation care?	• Health workers perceived ability to diagnose, treat and refer clients • Level of confidence/motivation in providing a given set of rehabilitation services	Face-to-face interviews with HAs and beneficiaries (baseline/endline)	Quantitative data from HAs and available records
Measure client-/ beneficiary-level indicators	What are the differences in access to facilities providing basic rehabilitation services? What are the differences in quality of life among people requiring rehabilitation services and physical therapy? What are the differences in client's acceptability towards the basic rehabilitation services? Whether the differences in trust provider's skills and are satisfied with care?	• Physical access to basic rehabilitation services • Utilisation of basic rehabilitation services • Financial access to primary rehabilitation services • Self-reports on change in client well-being • Acceptability of rehabilitation services • Level of client satisfaction on physiotherapeutic services	Face-to-face interviews with beneficiaries/clients In-depth Interviews with beneficiaries	Quantitative and qualitative data from clients or beneficiaries

Two main tools have been designed for the quantitative survey:

- **Tool 1: Interview schedule for people needing physical therapy and/or persons with disability:** This includes seven sections covering the following:
  - *Section I-General Information*
  - *Section II-Sociodemographic Information*
  - *Section III-Measure of Well-being*
  - *Section IV-Type of Disability and Disability Card*
  - *Section VI-Satisfaction with Physiotherapy or Rehabilitation Services*
  - *Section VII-Perceived Social Support*
- **Tool 2: Interview schedule for HAs and health facility**
  - *Section I-General Information*
  - *Section II-Sociodemographic Information of HA*

- *Section III-Health Facility Characteristics*
- *Section IV-Perceived Knowledge of Skills in Basic Rehabilitation Services*
- *Section V-Self-efficacy/Confidence to Provide Rehabilitation Services and Job Satisfaction*
- *Section VI-Willingness to Practise Physiotherapy Skills*
- *Section VII-Rehabilitation-service-specific Readiness.*

The well-being of clients with disability was measured using the WHO Disability Assessment Schedule (WHODAS 2.0). Further, clients' satisfaction was measured using the MedRisk Instrument for Measuring Patient Satisfaction with Physical Therapy Care. The items contained within the MedRisk Instrument were modified to meet the study objectives. Moreover, the questions from the Medical Outcomes Study Social Support Survey (MOS-SS) were adapted to assess the perceived social support of clients.

The interview schedule for HAs and health facilities consisted of questionnaires designed by researchers. The questions employed to assess the availability of basic amenities were adapted from the Nepal Health Facility Survey 2015. Further, the revised physical therapy self-efficacy questionnaire was used to measure the self-efficacy and confidence of HAs to provide rehabilitation services.

Further details of the tools are provided in Annex 6.3

2.5 Data Collection and Data Quality Assurance

The baseline survey included interviews with 72 health workers and 872 clients who required basic physiotherapy/rehabilitation services. Data collection was carried out from 14 to 27 August 2019. The health facilities and clients were selected from 17 and 11 municipalities/rural municipalities of Dhanusha and Mahottari districts respectively. The detail of the study sites is presented in Annex 2.

The following steps were adopted for data collection and to ensure the quality of research data (though not limited just to the following):

Selection and composition of study team: The core study team was composed of ten field enumerators divided into five teams. Each enumerator had a university degree and possessed previous research experience. To minimise language barriers in data collection, each team included at least one enumerator who could speak the local dialect (Maithili).

Orientation to field enumerators: A one-day training session was organised for field enumerators in Kathmandu. In the training, ten field enumerators received orientation on best practices for interviewing, the ethics of research, and on electronic data collection devices, including a briefing on the health facility and client survey instruments. Both survey instruments were practised in Maithili and Nepali language.

Pre-test and debrief: Prior to the start of data collection, a one-day pre-test for the baseline survey was implemented in three communities and health facilities of Tokha and Budhanilkantha Municipality, Kathmandu district. The goal of the pre-test was to refine the relevance, sequencing, and wording of survey questions, as well as to ensure that the mobile platform could accommodate skip patterns and logic checks in the survey. Another half-day pre-test debrief consisted of a review of participants' observations, experiences, challenges, comments and recommendations from pre-test, which informed additional improvements in the survey instruments and mobile platform.

Digital data collection: The survey instruments were designed in a Kobo toolbox (online platform) and were incorporated in the open data kit KoBoCollect to enable the digital execution of data collection using tablets and smartphones. KoboCollect allows users to carry out surveys or to collect

data that are compiled into an online database for future downloading and aggregation as necessary. In the questionnaire, skip logics and validation criteria were applied where appropriate, to prevent the input of illegal values. The use of electronic data collection allowed enumerators to submit raw data daily to the online database.

Data quality monitoring and supervision: The research supervisor checked online submissions of data on a regular basis, checked variation in duration, assessed the distribution of interview types by team and enumerator, and assessed missing and "don't know" responses to ensure survey implementation fidelity. In addition, field supervision and spot checks were performed by the field manager and researchers involved in data management and analysis on a regular basis, ensuring homogeneity and adherence to the study protocol.

The supervisors controlled the quality of the information using the following procedures:

- During the interview, accompanying the enumerators while running the survey.
- The missing data points were controlled after the survey. The research supervisor checked the consistency of the missing points in the original submission, checking for issues such as non-completed questions or sections with missing or inconsistent data (e.g. age of health worker not missing). Where deficiencies of any kind were detected, the supervisor asked to re-contact the respondent and complete the missing information.

2.6 DATA MANAGEMENT AND ANALYSIS

The data has been cleaned and analysed in STATA version 13. The analysis covered descriptive statistics including comparison of the characteristics between the intervention and comparison arms. The difference between the arms was presented in terms of standardised difference, which is a widely-accepted measure to report the group differences in impact evaluations. Another advantage of measuring standardised difference is that this measure is independent of sample size and hence considered a better measure to report the group differences as compared to standard t-test.

3 BASELINE RESULTS

The primary purpose of the baseline data collection has been to measure the starting point for everyone in the sample and ensure that the treatment and comparison conditions are balanced before the start of the intervention. This chapter reports the mean differences at baseline for key background variables and primary outcomes between the intervention and comparison groups, captured through the household and service provider surveys. Section 3.1 describes the differences in health workers and health facility characteristics across the intervention and comparison groups while Section 3.2 compares the characteristics among beneficiaries across the groups.

3.1 HEALTH FACILITY CHARACTERISTICS

This section presents findings on health facility characteristics of the 72 health facilities that were included in the baseline survey. This includes characteristics, conditions and outcomes for intervention and comparison groups

3.1.1 Characteristics of health facilities

Table 4 presents the characteristics of health facilities studied at baseline. The majority (97.2%) of the health facilities selected at baseline were HPs. The average numbers of target population served by a health facility were 6,612.1 and 12,971.1 for intervention and comparison groups respectively. This difference was systematically significant (Standard Deviation (SD)>0.25). Only 43.1 per cent of the studied health facilities had routine HFOMC meetings. When comparing intervention and comparison groups, the health facility characteristics comparison groups showed a significantly higher number of technical and non-technical staff filled by the Ministry of Health and Population (MoHP) and through contract (SD>0.25). There were differences in the average number of technical staff (3.3 (SD=1.2) in intervention group vs 3.9 (SD=2.0) in comparison group) and non-technical staff (0.5 (SD=0.5) in intervention group vs 0.8 (SD=0.5) in comparison group) present at the health facility at the time of baseline survey. The ratio of population to technical health worker was systematically higher in the comparison group (SD=0.6). The average number of Outpatient Department (OPD) visits was also higher in the comparison group (SD=0.8). However, based on HFOMC meetings, health facilities in the comparison district did not appear different from those in intervention group.

Table 4 Health facility characteristics between intervention and comparison groups

Variables	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Type of health facility										
HP	48	1.000	0.000	24	0.917	0.282	72	0.972	0.165	0.417
PHCC	48	0.000	0.000	24	0.083	0.282	72	0.028	0.165	-0.417
Have routine HFOMC meetings	48	0.417	0.498	24	0.458	0.509	72	0.431	0.499	-0.083
No. of population to be served	48	6612	3181	24	12971	17755.2	72	8732	10859	-0.499
Number of OPD visits (per day)	48	20.68	8.812	24	30.21	14.117	72	23.90	11.710	-0.810
Human resource status										
Technical staff filled by MoHP	48	5.125	1.104	24	6.125	1.541	72	5.458	1.342	-0.746
Technical staff filled by contract	48	0.271	0.962	24	0.333	0.637	72	0.292	0.863	-0.077
Technical staff present during survey	48	3.333	1.243	24	3.875	2.007	72	3.514	1.547	-0.324
Non-technical staff filled by MoHP	47	0.234	0.476	23	0.435	0.590	70	0.300	0.521	-0.375
Non-technical staff by contract	48	0.417	0.613	24	0.542	0.509	72	0.458	0.580	-0.222

Non-technical staff present during survey	48	0.458	0.544	24	0.833	0.482	72	0.583	0.550	-0.730
Population-to-health-worker (technical staff) ratio	48	1250.299	600.899	24	1745.265	1132.335	72	1417.611	845.088	0.546

3.1.2 Availability and functionality of basic amenities at health facility

Table 5 reports summary statistics and standardised differences in the availability and functionality of basic amenities across intervention and comparison groups. Electricity was available and functioning well in more than four out of five (83.3%) health facilities. However, a functioning improved water source was available in less than three out of five (56.9%) surveyed health facilities. Smaller proportions of health facilities had well-functioning client latrines, visual and auditory privacy, communication equipment, computers with Internet and emergency transport.

For almost all basic amenities such as electricity, improved water source, visual and auditory privacy, client latrine, communication equipment and computer with Internet, health facilities in the comparison group were reported to have higher availability and functionality rates (SD>0.25). However, health facilities in both the intervention and comparison groups had similar availability and functionality rates of emergency transportation/ambulance and did not differ systematically between the groups.

Table 5 Availability and functionality of basic amenities at health facilities across intervention and comparison groups

Variable	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Electricity										
Available and functioning	48	0.792	0.410	24	0.917	0.282	72	0.833	0.375	-0.355
Available but not functional	48	0.063	0.245	24	0.042	0.204	72	0.056	0.231	0.092
Not available	48	0.146	0.357	24	0.042	0.204	72	0.111	0.316	0.358
Improved water source										
Available and functioning	48	0.458	0.504	24	0.792	0.415	72	0.569	0.499	-0.723
Available but not functional	48	0.104	0.309	24	0.083	0.282	72	0.097	0.298	0.070
Not available	48	0.438	0.501	24	0.125	0.338	72	0.333	0.475	0.731
Visual and auditory privacy										
Available and functioning	48	0.271	0.449	24	0.625	0.495	72	0.389	0.491	-0.750
Available but not functional	48	0.167	0.377	24	0.083	0.282	72	0.139	0.348	0.250
Not available	48	0.563	0.501	24	0.292	0.464	72	0.472	0.503	0.561
Client latrine										
Available and functioning	48	0.333	0.476	24	0.625	0.495	72	0.431	0.499	-0.601
Available but not functional	48	0.042	0.202	24	0.042	0.204	72	0.042	0.201	0.000
Not available	48	0.625	0.489	24	0.333	0.482	72	0.528	0.503	0.601
Communication equipment										
Available and functioning	48	0.042	0.202	24	0.167	0.381	72	0.083	0.278	-0.410
Available but not functional	48	0.021	0.144	24	0.000	0.000	72	0.014	0.118	0.204
Not available	48	0.938	0.245	24	0.833	0.381	72	0.903	0.298	0.326
Computer with Internet										
Available and functioning	48	0.042	0.202	24	0.125	0.338	72	0.069	0.256	-0.299
Available but not functional	48	0.000	0.000	24	0.083	0.282	72	0.028	0.165	-0.417
Not available	48	0.958	0.202	24	0.792	0.415	72	0.903	0.298	0.511
Emergency transport										

Available and functioning	48	0.063	0.245	24	0.083	0.282	72	0.069	0.256	-0.079
Available but not functional	48	0.000	0.000	24	0.083	0.282	72	0.028	0.165	-0.417
Not available	48	0.938	0.245	24	0.833	0.381	72	0.903	0.298	0.326

3.1.3 Availability and readiness of rehabilitation service

In terms of rehabilitation-specific equipment, health facilities in both the intervention and comparison groups lacked all the equipment listed in the survey, such as parallel bars, crutches, canes, walking frames, gym balls, pegboards and blocks, weight cuffs, grip balls, wobble boards, Transcutaneous Electrical Nerve Stimulation (TENS) units, Interferential Therapy (IFT) machines, ultrasound machines, moist heat, traction machines and bed and muscle stimulators.

In terms of readiness, none of the health facilities surveyed at baseline had rehabilitation service guidelines/manuals available at their service site. Furthermore, none of the health facilities had a health worker trained specifically on rehabilitation skills. This result is expected as the facilities are currently not equipped to provide basic physiotherapy and rehabilitation services.

3.1.4 Treatment and referral of patients requiring physiotherapy care

Table 6 presents the summary statistics on treatment and referral of patients requiring physiotherapy care. Just more than three out of five health facilities surveyed at baseline reported receiving patients who required basic physiotherapy and rehabilitation care and treatment. Of these patients received at health facilities, 4.3 per cent of health facilities reported providing only treatment while just less than half of the health facilities (48.9%) reported treating and referring the patient. A similar proportion of health facilities (46.8%) reported referring patients without treatment. Furthermore, among the health facilities that referred patients with physiotherapy needs, the reasons for referral included lack of equipment/basic facilities (49.0%), lack of skills to treat physiotherapy patients (46.8%) and need for higher-level care (25.2%).

With regards to the proportion of health facilities receiving patients with needs for physiotherapy care, including their treatment and referral by health facility, there was no systematic difference between the intervention and comparison groups. The reasons for referral also did not appear systematically different between the two groups.

Table 6 Treatment and referral of patient requiring physiotherapy care

Variables	**Intervention**			**Comparison**			**Total**			**SD**
	n	**Mean**	**SD**	**n**	**Mean**	**SD**	**n**	**Mean**	**SD**	
Receive patients requiring physiotherapy care and treatment	48	0.625	0.489	24	0.708	0.464	72	0.653	0.479	-0.175
If yes, treat or refer them to higher centre?										
Treat them	30	0.033	0.183	17	0.059	0.243	47	0.043	0.204	-0.119
Refer them	30	0.500	0.509	17	0.412	0.507	47	0.468	0.504	0.174
Treat and refer	30	0.467	0.507	17	0.529	0.514	47	0.489	0.505	-0.123
Reasons for referral										
No skills to treat patients	29	0.345	0.484	16	0.250	0.447	45	0.311	0.468	0.204
No equipment/basic facilities	29	0.586	0.501	16	0.688	0.479	45	0.622	0.490	-0.207
For higher-level care	29	0.069	0.258	16	0.063	0.250	45	0.067	0.252	0.025

3.2 HEALTH ASSISTANTS' CHARACTERISTICS

3.2.1 Characteristics of Health Assistants

Table 7 shows that the mean age of the respondents was 33.31 years (mean±SD=33.31±10.26 years; age range 21–58), and that the majority of them were male. Only 16.7 per cent of the respondents were female. The majority of respondents were Hindu (91.7%), and many belonged to the Madhesi ethnic group (77.8%). More than seven in ten (73.6%) health workers had certificate-level education; the average years of work experience as a HA was 5.7 years (mean±SD=5.71±8.04 years); and average years of work in the current health facility was 2.1 years (mean±SD=2.1±2.2 years). Only 1.4 per cent of the health workers had received training on basic physiotherapy and rehabilitation services. As reported by the respondents, this training was offered by an NGO, Friends of the Disabled. There was no systematic difference as regards any of the health workers' demographics between the intervention and comparison groups at the baseline.

Table 7 General characteristics of HAs across treatment and comparison groups

Variable	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Age in years	48	33.271	10.195	24	33.375	10.611	72	33.306	10.261	-0.010
Gender										
Male	48	0.854	0.357	24	0.792	0.415	72	0.833	0.375	0.162
Female	48	0.146	0.357	24	0.208	0.415	72	0.167	0.375	-0.162
Religion										
Hindu	48	0.896	0.309	24	0.958	0.204	72	0.917	0.278	-0.239
Muslim	48	0.104	0.309	24	0.042	0.204	72	0.083	0.278	0.239
Ethnicity										
Madhesi	48	0.771	0.425	24	0.792	0.415	72	0.778	0.419	-0.050
Non-Madhesi	48	0.229	0.425	24	0.208	0.415	72	0.222	0.419	0.050
Education attained										
Certificate	48	0.729	0.449	24	0.750	0.442	72	0.736	0.444	-0.047
Bachelors and above	48	0.271	0.449	24	0.250	0.442	72	0.264	0.444	0.047
Experience										
Years of experience as HA in government sector (in months)	48	5.354	7.506	24	6.427	9.143	72	5.712	8.039	-0.128
Years of working in current health facility	48	2.128	2.398	24	2.167	1.841	72	2.141	2.215	-0.018
Received training on physiotherapy	48	0.021	0.144	24	0.000	0.000	72	0.014	0.118	0.204

3.2.2 Perceived knowledge of basic physiotherapy and rehabilitation skills

Table 8 presents baseline data on health workers' perceived knowledge of basic physiotherapy and rehabilitation skills across intervention and comparison groups. In this study, we categorised each health worker's perceived knowledge of skills on physiotherapy services into four levels (1=No knowledge, 2=Little knowledge, 3=Some knowledge, 4=A lot of knowledge) based on the number

and type of responses provided (an operational definition has been provided in Annex 3). The average knowledge score for each knowledge item therefore ranged from 1 to 4. Although the health workers in both intervention and comparison groups had 'some' to a 'lot' of knowledge regarding common mobility aids, this knowledge was systematically higher in the comparison group (SD=0.315). Furthermore, knowledge regarding the warning signs of stroke was also systematically higher among health workers in the comparison group (SD=422). Nevertheless, the health workers' perceived knowledge of skills on other aspects of physiotherapy services were not found to differ systematically.

Furthermore, the overall knowledge score of each group was compared. For this, scores from each of the 12 knowledge categories (ranging from 1=No knowledge to 4=A lot of knowledge) were added. Hence the maximum knowledge score that could be obtained by a health worker was 48. At baseline, the average knowledge score across all variables obtained by health workers was 29.02 (SD=5.19) in the intervention group and 29.96 (SD=5.47) in the comparison group. The overall levels of knowledge were not systematically different between the two groups.

Table 8 Perceived knowledge of basic physiotherapy and rehabilitation skills

Variables	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Early signs of cerebral palsy	48	1.667	0.694	24	1.792	0.833	72	1.708	0.740	-0.163
Role as HA in managing cerebral palsy cases	48	1.938	1.019	24	1.750	1.032	72	1.875	1.020	0.183
Role as HA in managing patient with Chronic Obstructive Pulmonary Disease (COPD)	48	2.875	0.531	24	2.833	0.482	72	2.861	0.512	0.082
Warning signs of COPD complications	48	2.063	0.665	24	2.167	0.565	72	2.097	0.632	-0.169
Exercises/therapies for post-burn contracture patients	48	1.688	0.903	24	1.792	0.977	72	1.722	0.923	-0.111
Early signs/symptoms of osteoarthritis	48	2.625	0.672	24	2.667	0.565	72	2.639	0.635	-0.067
Role as HA in managing patient complaining of chronic joint pain (osteoarthritis)	48	2.521	0.772	24	2.625	0.875	72	2.556	0.803	-0.126
Name of common mobility aids	48	3.417	0.739	24	3.625	0.576	72	3.486	0.692	-0.315
Role as HA in managing patient with complaints of neck pain	48	2.646	0.838	24	2.708	0.751	72	2.667	0.805	-0.079
Warning signs of stroke	48	2.438	0.943	24	2.792	0.721	72	2.556	0.886	-0.422
Warning signs of post-fracture complications	48	2.729	0.818	24	2.875	1.035	72	2.778	0.892	-0.156
Role as HA in managing patient complaining of low back pain	48	2.417	0.577	24	2.333	0.761	72	2.389	0.640	0.123

Overall knowledge score (Total score=48)	48	29.021	5.188	24	29.958	5.473	72	29.333	5.265	-0.176

3.2.3 Job satisfaction and perceived self-efficacy/confidence

Table 9 reports health workers' satisfaction with their current job and their perceived self-efficacy to provide basic physiotherapy and rehabilitation services. The results showed that health workers were not very satisfied with their jobs and that many were also dissatisfied with the level of opportunity to use their abilities in their current role. The average job satisfaction score for health workers was 2.07 (SD=0.98) (which is less than a neutral score of 3)[4]. In terms of job satisfaction, health workers in the comparison group were not systematically different from those in the intervention group.

Health workers did not feel that they had much confidence in dealing with physiotherapy cases. Their self-rated confidence in performing assessments for clients requiring a physiotherapy worker was 2.17 (SD=1.10). Similarly, the confidence of health workers in identifying and prioritising problems (mean score±SD=2.61±0.97), performing treatments (mean score±SD=2.88±1.09), and dealing with range of patient's physical conditions (mean score±SD=2.64±1.07), was also lower than a neutral score of 3. Between intervention and comparison groups, there was no systematic difference in health workers' perceived self-efficacy to provide physiotherapy and rehabilitation services.

Table 9 Self-reported job-satisfaction

Variables	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
I am very satisfied with my current job	48	2.083	1.007	24	2.042	0.955	72	2.069	0.983	0.042
I am satisfied with opportunity to use my abilities in my job	48	2.125	1.024	24	2.250	1.260	72	2.167	1.101	-0.109
I am confident in performing assessments for clients with needs of physiotherapy services	48	2.375	1.024	24	2.500	0.978	72	2.417	1.004	-0.125
I am confident in identifying and prioritising problems for physiotherapy cases (for treatment or referral)	48	2.646	0.978	24	2.542	0.977	72	2.611	0.972	0.107
I am confident in performing treatments for physiotherapy cases	48	2.875	1.024	24	2.875	1.227	72	2.875	1.087	0.000
I am confident in dealing with a range of patient's physical conditions	48	2.542	1.010	24	2.833	1.167	72	2.639	1.066	-0.267

*1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly disagree

3.2.4 Willingness to practise basic physiotherapy skills

Table 10 reports the willingness of health workers to practise physiotherapy and rehabilitation skills. The health workers reported high levels of willingness to participate in physiotherapy and rehabilitation training (mean score±SD=4.92±0.33). Such willingness was nearly identical between the intervention and comparison group (SD<0.001). Similarly, health workers were also very willing to apply the knowledge and skills received during their training (mean score±SD=4.82±0.48) including within the constraints of the existing resource setting (mean score±SD=4.14±0.79). In addition, health workers were willing to practise their physiotherapy knowledge and skills despite it being an added responsibility (mean score±SD=4.14±0.79).

[4]A score of 3 implies that the respondent was neither satisfied nor dissatisfied. Scores lower than 3 indicated dissatisfaction and those higher than 3 signified satisfaction.

When comparing intervention and comparison districts, no systematic difference was observed in terms of health workers' willingness to apply and practise physiotherapy skills (SD<0.25).

Table 10 Health workers' willingness to practise rehabilitation skills

Variables	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
If basic physiotherapy training is provided, how much are you willing to participate?	48	4.917	0.347	24	4.917	0.282	72	4.917	0.325	0.000
How willing are you to apply the knowledge and skills provided during the training?	48	4.875	0.489	24	4.708	0.464	72	4.819	0.484	0.349
How willing are you to apply physiotherapy knowledge and skills within the existing resource setting	48	4.146	0.772	24	4.125	0.850	72	4.139	0.793	0.026
How willing are you to practise physiotherapy knowledge and skills as an added responsibility?	48	4.125	1.265	24	4.125	1.035	72	4.125	1.186	0.000

*1=Not willing at all, 2=Not willing, 3=Not sure, 4= Somewhat willing, 5=Very willing

3.3 CLIENT CHARACTERISTICS

In this section, we provide analysis of various client characteristics at the time of the baseline survey for the 872 clients in the baseline sample.

3.3.1 Household demographics and socioeconomic characteristics

Tables 11 and Table 12 report summary statistics of several key sociodemographic and socioeconomic characteristics of the clients across intervention and comparison groups. The mean age of respondents was 56.49±14.84 years. Out of 872 respondents, more than half (54.6%) were male. The majority of respondents were Hindu (91.5%), were married (80.5%), belonged to the Madhesi ethnic group (63.1%) and were engaged in agriculture (52.2%) for occupation. More than one-quarter(26.4%) of the respondents were homemakers/housewives. The average years of education attained by respondents was 1.4±3.3 years. At baseline, the intervention and comparison groups did not show systematic differences with respect to any of the client's sociodemographic characteristics except occupation, where a higher proportion of respondents in the intervention group were engaged in agriculture.

Table 11 Sociodemographic characteristics of respondents across intervention and comparison groups

Variables	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Age in years	580	56.409	14.258	292	56.678	15.966	872	56.499	14.843	-0.018
Sex										
Male	580	0.455	0.498	292	0.452	0.499	872	0.454	0.498	0.006
Female	580	0.545	0.498	292	0.548	0.499	872	0.546	0.498	-0.006
Religion										
Hindu	580	0.933	0.251	292	0.880	0.325	872	0.915	0.279	0.181
Non-Hindu	580	0.067	0.251	292	0.120	0.325	872	0.085	0.279	-0.181
Ethnicity										
Dalit	580	0.169	0.375	292	0.154	0.362	872	0.164	0.370	0.040
Janajati	580	0.098	0.298	292	0.089	0.285	872	0.095	0.294	0.032
Madhesi	580	0.659	0.475	292	0.575	0.495	872	0.631	0.483	0.172

Variables	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Muslim	580	0.053	0.225	292	0.116	0.321	872	0.075	0.263	-0.227
Brahmin Chhetri and Others	580	0.021	0.142	292	0.062	0.241	872	0.034	0.182	-0.207
Years of education	580	1.517	3.394	292	1.243	3.014	872	1.425	3.273	0.085
Marital status										
Unmarried	580	0.022	0.148	292	0.041	0.199	872	0.029	0.167	-0.107
Married	580	0.822	0.382	292	0.771	0.421	872	0.805	0.396	0.129
Widow/widower	580	0.155	0.362	292	0.188	0.392	872	0.166	0.373	-0.088
Occupation										
Agriculture	580	0.569	0.496	292	0.428	0.496	872	0.522	0.500	0.284
Service or business	580	0.060	0.238	292	0.082	0.275	872	0.068	0.251	-0.085
Labour	580	0.069	0.254	292	0.082	0.275	872	0.073	0.261	-0.050
Homemaker/housewife	580	0.241	0.428	292	0.308	0.463	872	0.264	0.441	-0.150
Others (student, driving, no work)	580	0.009	0.093	292	0.014	0.116	872	0.010	0.101	-0.048

In terms of ownership, 54.4 per cent of respondents had a family member holding an account in a bank or cooperative. Furthermore, 75.3 per cent had a household member with ownership of agricultural land. In 86.5 per cent of the cases, the house in which the respondent had been residing was self-owned or owned by a family member. In terms of assets, the majority reported having electricity (98.9%), a fan (92.4%), a mobile phone (89.4%) and a television (69.5%). About two in five respondents (41.1%) reported having a motorcycle at their household. The ownership of agricultural land, motorcycles and computers/laptops was systematically different between the intervention and comparison groups.

In terms of housing characteristics, 47.1 per cent had houses with finished walls made of cement or brick, 36.2 per cent had finished floors of concrete, and 83.9 per cent had finished roofs of concrete, cement or ceramic tiles. Fuel for cooking is one measure of economic well-being, and the majority of respondents in the survey reported using very poor fuel for cooking, which included wood and timber (64.4%) and animal dung (13.6%). Just more than one in five (21.2%) reported using Liquefied Petroleum Gas (LPG) as their main source of fuel for cooking. Furthermore, 71.2 per cent of respondents reported having a tube well as the main source of drinking water for members of their household. Moreover, 17.0 per cent household had a piped water source.

On comparison, a higher proportion of respondents in the intervention group had a separate kitchen room, although the difference was relatively small in magnitude (SD=0.252). However, a systematically higher proportion of households in the comparison group used a tube well as the main source of water for drinking (SD=0.357).

Table 12 Ownership of assets and housing characteristics

Variables	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Household member has a bank account	580	0.578	0.494	292	0.476	0.500	872	0.544	0.498	0.204
Household member owns agricultural land	580	0.791	0.407	292	0.678	0.468	872	0.753	0.431	0.258
Ownership of house currently resided in										
Self-owned	580	0.881	0.324	292	0.832	0.374	872	0.865	0.342	0.140

Rented/not owned	580	0.119	0.324	292	0.168	0.374	872	0.135	0.342	-0.140
Ownership of housing assets										
Electricity	580	0.990	0.101	292	0.986	0.116	872	0.989	0.107	0.031
Television	580	0.726	0.446	292	0.634	0.483	872	0.695	0.461	0.199
Mobile phone	580	0.900	0.300	292	0.884	0.321	872	0.894	0.307	0.053
Refrigerator	580	0.048	0.215	292	0.024	0.153	872	0.040	0.196	0.130
Computer/laptop	580	0.055	0.229	292	0.007	0.083	872	0.039	0.194	0.281
Sofa	580	0.048	0.215	292	0.021	0.142	872	0.039	0.194	0.152
Fan	580	0.922	0.268	292	0.928	0.259	872	0.924	0.265	-0.022
Motorcycle	580	0.481	0.500	292	0.271	0.445	872	0.411	0.492	0.445
Housing characteristics										
Wall of the dwelling										
Natural wall	580	0.064	0.245	292	0.051	0.221	872	0.060	0.237	0.053
Rudimentary wall	580	0.443	0.497	292	0.514	0.501	872	0.467	0.499	-0.141
Finished wall	580	0.491	0.500	292	0.432	0.496	872	0.471	0.499	0.120
Floor of the dwelling										
Natural flooring	580	0.621	0.486	292	0.671	0.471	872	0.638	0.481	-0.106
Finished flooring	580	0.379	0.486	292	0.329	0.471	872	0.362	0.481	0.106
Roof of the dwelling										
Natural roofing	580	0.019	0.137	292	0.038	0.191	872	0.025	0.157	-0.113
Rudimentary roofing	580	0.126	0.332	292	0.154	0.362	872	0.135	0.342	-0.081
Finished flooring	580	0.855	0.352	292	0.808	0.394	872	0.839	0.367	0.126
Have separate room as a kitchen	580	0.624	0.485	292	0.500	0.501	872	0.583	0.493	0.252
Main source of fuel for cooking										
LPG	580	0.217	0.413	292	0.202	0.402	872	0.212	0.409	0.037
Wood or timber	580	0.638	0.481	292	0.658	0.475	872	0.644	0.479	-0.041
Dung cake/guitha	580	0.140	0.347	292	0.130	0.337	872	0.136	0.343	0.028
Biogas, kerosene	580	0.005	0.072	292	0.010	0.101	872	0.007	0.083	-0.058
Main source of drinking water										
Piped water into house	580	0.186	0.390	292	0.137	0.344	872	0.170	0.376	0.134
Public tap water	580	0.041	0.199	292	0.048	0.214	872	0.044	0.204	-0.032
Tube well	580	0.660	0.474	292	0.815	0.389	872	0.712	0.453	-0.357
Dug well	580	0.112	0.316	292	0.000	0.000	872	0.075	0.263	0.502

3.3.2 Measure of well-being

Tables 13 and 14 present the summary statistics on the personal well-being of the clients in terms of the difficulties reported by them while performing various activities. On average, clients had faced a moderate level of difficulty when standing for longer periods (mean±SD=3.3±1.2) or taking care of household responsibilities (mean±SD=3.1±1.1) at least some time in the past 30 days. However, the levels of difficulty that clients had experienced when learning a new task (mean±SD=2.6±1.2) or joining community functions and activities (mean±SD=2.6±1.3) were mild to moderate. In terms of emotional aspects, the clients were moderately affected by their health problems (mean±SD=2.9±1.2).

In addition, clients were asked about the extent of difficulty they had faced in doing several personal activities independently without assistance in the past 30 days. The difficulties in walking a long distance were moderate to severe (mean±SD=3.4±1.2). Meanwhile, the clients had faced mild to

moderate difficulties in concentrating on something for at least ten minutes (mean±SD=2.7±1.2), washing their whole body (mean±SD=2.3±1.2), getting dressed (mean±SD=2.0±1.2) and performing day to day work and school activities (mean±SD=2.9±1.2). Similarly, on average, the difficulties were mild for dealing with new people (mean±SD=1.9±1.2) and maintaining a friendship (mean±SD=1.9±1.2). On comparison, the levels of difficulties faced by clients did not differ systematically for any aspects of activities between the intervention and comparison groups.

Table 13 Difficulties faced by clients in performing various activities

Variables	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
In the past 30 days (for at least for some time over the 30 days), how much difficulty did you have in:										
Standing for long periods such as 30 minutes?	580	3.228	1.197	292	3.390	1.077	872	3.282	1.160	-0.143
Taking care of your household responsibilities?	580	3.009	1.157	292	3.175	1.022	872	3.064	1.116	-0.152
Learning a new task?	580	2.602	1.219	292	2.579	1.120	872	2.594	1.187	0.020
Joining in community activities?	580	2.538	1.282	292	2.603	1.184	872	2.560	1.250	-0.053
How much have you been emotionally affected by your health problems?	580	2.855	1.255	292	2.952	1.174	872	2.888	1.229	-0.080
In the past 30 days, how much difficulty did you have in doing the following independently (without assistance):										
Concentrating on doing something for ten minutes?	580	2.710	1.294	292	2.709	1.110	872	2.710	1.235	0.001
Walking a long distance such as a kilometre [or equivalent]?	580	3.295	1.299	292	3.527	1.088	872	3.373	1.237	-0.194
Washing your whole body?	580	2.233	1.264	292	2.315	1.191	872	2.260	1.240	-0.067
Getting dressed?	580	1.986	1.241	292	2.103	1.223	872	2.025	1.235	-0.095
Dealing with people you do not know?	580	1.898	1.131	292	2.010	1.206	872	1.936	1.157	-0.096
Maintaining a friendship?	580	1.821	1.135	292	1.925	1.185	872	1.856	1.152	-0.090
Your day-to-day work/school?	580	2.786	1.267	292	3.010	1.126	872	2.861	1.226	-0.187

*1=None, 2=Mild, 3=Moderate, 4=Severe, 5=Extreme

In the 30 days preceding the survey, the clients reported facing difficulties for 22.8 days (SD=10.5 days) on average. The average number of days with presence of difficulties was systematically higher among the clients in the intervention group (SD=0.307). These clients reported being unable to carry out usual activities or work for an average of 7.0 days (SD=10.6 days). In the meantime, more than nine in ten (94.6%) clients reported experiencing pain or discomfort in their body in the past three months. The major locations for pain included knee joints (65.8%), legs (46.9%), back (46.7%), arms and hands (33.7%) and the hip region (32.8%).

Among the clients who had experienced pain more than half (54.5%) reported that the pain was always present with varying intensity. While more than one-quarter (28.0%) of clients reported the presence of pain all the time with similar intensity. In a scale of 1 to 10, the average intensity of pain experienced by the clients was 6.70 (SD=1.5). The clients did not differ systematically between the intervention and comparison groups as regards any of the pain characteristics.

Table 14 Experience of difficulties and pain across intervention and comparison groups

Variables	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
No. of days with difficulties present (past 30 days)	580	21.705	10.980	292	24.822	9.227	872	22.75	10.52	-0.307
Days totally unable to carry out usual activities	580	7.105	10.427	292	6.760	10.902	872	6.990	10.584	0.032

or work										
Experience of pain/discomfort in past three months	580	0.952	0.215	292	0.935	0.247	872	0.946	0.226	0.073
Location of pain (multiple response)										
Head	552	0.027	0.163	273	0.018	0.134	825	0.024	0.154	0.059
Facial region	552	0.031	0.173	273	0.026	0.158	825	0.029	0.168	0.031
Neck or shoulders	552	0.188	0.391	273	0.187	0.390	825	0.188	0.391	0.004
Back	552	0.433	0.496	273	0.535	0.500	825	0.467	0.499	-0.205
Stomach or abdominal pain	552	0.024	0.152	273	0.022	0.147	825	0.023	0.150	0.011
Hip region	552	0.315	0.465	273	0.355	0.479	825	0.328	0.470	-0.085
Knee	552	0.652	0.477	273	0.670	0.471	825	0.658	0.475	-0.038
Arms or hands	552	0.335	0.472	273	0.341	0.475	825	0.337	0.473	-0.012
Legs	552	0.487	0.500	273	0.432	0.496	825	0.469	0.499	0.111
Other body parts	552	0.083	0.277	273	0.110	0.313	825	0.092	0.289	-0.090
Which statement best describes your pain?										
Always present, always the same intensity	552	0.290	0.454	273	0.260	0.439	825	0.280	0.449	0.067
Always present, intensity varies	552	0.543	0.499	273	0.549	0.498	825	0.545	0.498	-0.012
Pain comes and goes	552	0.167	0.373	273	0.190	0.393	825	0.175	0.380	-0.062
Pain intensity (in a scale of 1-10)	552	6.665	1.518	273	6.744	1.315	825	6.691	1.453	-0.055

3.3.3 Disability cards

Of the 872 respondents surveyed at baseline, just 1.6 per cent reported having disability cards issued by GoN (Table 15). Among them, more than half (57.1%) reported having a blue colour card that indicates a severe disability. More than two in five (21.4%) reported having a red card (complete disability).

Table 15 Possession of disability card by the respondents

Variables	**Intervention**			**Comparison**			**Total**			**SD**
	n	**Mean**	**SD**	**n**	**Mean**	**SD**	**n**	**Mean**	**SD**	
Possess disability card	580	0.010	0.101	292	0.027	0.164	872	0.016	0.126	-0.125
Card colour										
Red	6	0.167	0.408	8	0.250	0.463	14	0.214	0.426	-0.191
Blue	6	0.500	0.548	8	0.625	0.518	14	0.571	0.514	-0.235
Yellow	6	0.333	0.516	8	0.000	0.000	14	0.143	0.363	0.913

3.3.4 Access to physiotherapy and rehabilitation services

Table 16 reports summary statistics and standardised differences in access to physiotherapy and rehabilitation services across the intervention and comparison groups. Just 2.4 per cent of the respondents surveyed at baseline had been receiving physiotherapy/rehabilitation services at the time of survey. These clients had been receiving physiotherapy/rehabilitation services for 10.2 months on average (SD=13.7 months). The majority of these clients reported receiving physiotherapy services from private hospitals and rehabilitation centres. The details have been summarised in Annex 5. The average time taken to travel to a health facility by the usually available means of transportation was 74.8 minutes (SD=99.4 minutes). The average time taken to travel to a facility with physiotherapy services was systematically greater in the intervention group (SD=0.605).

In the past six months, clients had spent an average of 34,585.2 Nepalese Rupees (NPR) on rehabilitation services (SD=NPR 42,601.1). However, the cost of rehabilitation did not differ systematically between the intervention and comparison groups.

Table 16 Access to rehabilitation services

Variables	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Receiving rehabilitation services	580	0.031	0.174	292	0.010	0.101	872	0.024	0.153	0.146
Period of receiving treatment (months)	18	9.500	14.156	3	14.667	11.372	21	10.238	13.663	-0.402
Time taken to travel to the facility by usual means of transportation (minutes)	18	81	106	3	35	23	21	75	99	0.605
Referral										
First point of contact (Self)	18	0.333	0.485	3	0.000	0.000	21	0.286	0.463	0.972
Referred by family/friends/others	18	0.333	0.485	3	1.000	0.000	21	0.714	0.463	0.972
Total cost of rehabilitation in past six months (NPR)	17	32747	39090	3	45000	69462	20	34585	42601	-0.217

3.3.5 Satisfaction with physiotherapy services

Table 17 presents the summary statistics on clients' satisfaction with physiotherapy and rehabilitation services. The 31 clients who had received physiotherapy services were relatively satisfied with various aspects of care, such as: privacy (mean score±SD=3.5±1.3), courtesy of provider (mean score±SD=3.5±1.3), promptness of care (mean score±SD=3.6±1.3), treatment provided by therapist/provider (mean score±SD=3.5±1.1), helpful instruction given by physical therapist/provider (mean score±SD=2.61±0.97) and overall quality of physiotherapy care (mean score±SD=3.3±1.0). On comparison, respondents' satisfaction with privacy (SD=0.53), provider's courtesy (SD=0.48) and overall experience of physiotherapy care (SD=0.64) was systematically higher among clients in the comparison group. Similarly, the satisfaction and willingness to recommend the facility to friends was also higher in the comparison group (SD=0.54).

Table 17 Satisfaction with physiotherapy or rehabilitation services

Variable	Intervention			Comparison			Total			SD
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
How much do you agree or disagree with the following statements?										
My privacy was respected during my physiotherapy care	18	3.389	1.290	3	4.000	1.000	21	3.476	1.250	-0.530
My physical therapist/provider was courteous	18	3.444	1.294	3	4.000	1.000	21	3.524	1.250	-0.481
I was seen promptly (within 30 minutes) when I arrived for treatment	18	3.556	1.294	3	3.667	1.528	21	3.571	1.287	-0.079
I was satisfied with the treatment provided by physical therapist/provider	18	3.500	1.043	3	3.667	1.528	21	3.524	1.078	-0.127
The instructions that physical therapist/provider gave me were helpful	18	3.500	1.249	3	3.667	1.528	21	3.524	1.250	-0.119
I was satisfied with the overall quality of my physiotherapy care	18	3.333	1.029	3	3.333	1.155	21	3.333	1.017	0.000
I would recommend the facility to family or friends	18	3.389	1.243	3	4.000	1.000	21	3.476	1.209	-0.542

Overall, I was satisfied with my experience with physiotherapy care	18	3.389	0.916	3	4.000	1.000	21	3.476	0.928	-0.637

*1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

3.3.6 Perceived social support

reports the perceptions of client respondents regarding the level of social support available to them when needed. On average, the social support to be assisted to a health facility (mean score±SD=3.7±1.4), to prepare meals (mean score±SD=3.9±1.4) and to be helped with daily chores during sickness (mean score±SD=3.7±1.4) was available some of the time to most of the time. The degree of social support available to clients for preparing meals was systematically different between the intervention and comparison groups (SD =0.274).

Table 18 Perceived social support

Variable	**Intervention**			**Comparison**			**Total**			**SD**
	n	**Mean**	**SD**	**n**	**Mean**	**SD**	**n**	**Mean**	**SD**	
How often are the following kinds of support available to you if required?										
To assist you to health facility if you need it?	580	3.586	1.472	292	3.805	1.227	872	3.659	1.398	-0.161
To prepare your meals if you are unable to do it yourself?	580	3.752	1.503	292	4.134	1.276	872	3.880	1.442	-0.274
To help with daily chores if you were sick?	580	3.572	1.477	292	3.856	1.204	872	3.667	1.398	-0.211

4 MAJOR FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter summarises major findings of the baseline survey, implications of those findings on data analysis and evaluation after the endline survey. The chapter continues with the potential risks that have been observed at the baseline that can limit teams' ability to answer all the evaluation questions. The chapter ends with conclusions based on the findings of the baseline survey and recommendations.

4.1 MAJOR FINDINGS

The major findings of the baseline survey conducted among health facilities, HAs and beneficiaries are as follows:

1. The survey found no systematic difference in any of the HAs' demographics between the intervention and comparison groups at the baseline. This ensures that health workers are similar in these characteristics and reduces the chance of selection biases.
2. However, the average numbers of population served by each health facility was 6,612.1 and 12,971.1 for intervention and comparison groups respectively. This difference was found systematically significant. This difference might have resulted from the practice of health facilities being replaced by nearby similar facilities when HAs were not available for data collection It is, therefore, necessary to adjust the difference at the endline.
3. The average number of technical and non-technical staff present at a given health facility during the time of survey also differed systematically between the intervention and comparison groups. The population-to-health-worker ratio was also systematically higher in the comparison group. This discrepancy drives the differences in the workload of HAs to be trained as part of the intervention. It is, therefore, necessary to adjust the difference accordingly at the endline.
4. For almost all basic amenities, such as electricity, improved water source, visual and auditory privacy, client latrine, communication equipment and computer with Internet, health facilities in the comparison group were reported to have higher availability and functionality rates.
5. Some differences in perceived knowledge were found for a few questions but overall knowledge did not systematically differ between the two groups. Similarly, when comparing intervention and comparison groups, there was no systematic difference in health workers' perceived self-efficacy to provide physiotherapy and rehabilitation services and health workers' willingness to apply and practise physiotherapy skills.
6. In terms of readiness, none of the health facilities surveyed at baseline had rehabilitation service guidelines/manuals available at their service site.
7. At baseline, the intervention and comparison groups of beneficiaries did not show systematic differences with respect to any of the client's sociodemographic characteristics except for occupation, where a higher proportion of respondents in the intervention group were engaged in agriculture. Similarly, ownership of agricultural land, motorcycles and computers/laptops was systematically different between the intervention and comparison groups, and a systematically higher proportion of households in comparison group used a tube well as the main source of water for drinking (SD=0.357). The differences observed in socioeconomic status need adjustment using appropriate techniques at the endline.
8. The level of difficulties faced by clients did not differ systematically for any aspects of activity between the intervention and comparison groups. Similarly, the clients did not differ

systematically between the intervention and comparison groups with regards to any of the pain characteristics. However, the average number of days with presence of difficulties was systematically higher among clients in the intervention group (SD=0.307). This aspect is always associated with utilisation of services. It is therefore necessary to control the variables in the endline.

9. The number of beneficiaries with a yellow card (disability card) was higher in intervention areas. This aspect must be considered as it drives the number of potential cases to be managed and referred by health workers after training.

10. The average time taken to travel to a health facility by the usually available means of transportation was 74.8 minutes (SD=99.4 minutes). The average time taken to travel to a facility with physiotherapy services was systematically greater in the intervention group (SD=0.605). This attribute directly affects the access to and utilisation of services. It is therefore necessary to adjust the variable in the endline. However, the cost of rehabilitation did not differ systematically between the intervention and comparison groups.

11. On comparison, the satisfaction with privacy (SD=0.53), provider's courtesy (SD=0.48) and overall experience with physiotherapy care (SD=0.64) was systematically higher among clients in the comparison group. Similarly, the satisfaction and willingness to recommend the facility to friends was also higher in the comparison group (SD=0.54). The degree of social support available to clients for preparing meals was systematically different between the intervention and comparison groups (SD =0.274).

4.2 Risks To The Evaluation

This section briefly highlights any known major issues with the baseline data collection that may risk the team's ability to answer all the evaluation research questions.

1. The mobility of health workers as a result of transfers and government reallocation in the process of implementing federal structure might affect the hypothesised changes in attributes of key players in the ToC. Considering this possibility, the survey was implemented in districts where there were minimal claims for reallocation. This endeavour is expected to minimise any potential harm.

2. At the time of this report, Nepal is facing an epidemic of dengue that can potentially affect the performance of health workers providing primary physiotherapy and rehabilitation services. This might hamper health workers' performance in providing primary physiotherapy rehabilitation services.

3. The lack of infrastructure at the chosen health facilities and the significant delays in implementation of the intervention (as a result of ongoing priority activities of the MoHP) could reduce beneficiaries' exposure to the intervention.

4. The study team replaced health facilities where the HAs were not available at the time of data collection. These replacements have some implications for the match balance characteristics of the study. It will therefore be necessary to adjust any observed difference at the endline data analysis.

4.3 Conclusion And Recommendations

The baseline survey found that the demographic characteristics of the intervention and comparison units were similar. Some differences were observed that might pose the potential problem of selection bias and hence confound the outcome of interest. These variables, however, have been identified and are good candidates for adjustment before measuring the impact of the intervention.

At health worker and facility levels, these characteristics include: population served, OPD visits, number of technical and non-technical staff, availability of amenities at health facilities, and level of confidence among health workers. These properties will require adjustment at the endline. Further, some of these variables are time-varying and might therefore have different values at the endline; in such cases, additional variables will be adjusted to ensure robust findings. At the beneficiary level, the baseline survey found that variables such as occupation, asset index, yellow disability card, distance to health facility and period of receiving services were systematically different across the intervention and comparison groups and need adjustment accordingly.

At the health assistant and facility levels, baseline values of outcome variables such as readiness and perceived knowledge of skills were found to be lower and similar in terms of receiving patients for physiotherapy services. No difference was observed in the total score of perceived knowledge of skills: the average score was found to be nearly 21 (out of 44) for both groups. Willingness to apply physiotherapy skills was found to be slightly higher in comparison units. The readiness of health facilities for physiotherapy services was also found to be very low and was not systematically different between the groups. At the beneficiary level, no systematic difference was found for the categories of those facing difficulties in usual activities, or needing assistance for usual activities. However, pain duration in terms of number of days was found systematically higher in the comparison units. Other pain-related characteristics, such as location of pain, nature of pain, and pain score on pain scale, were not systematically different. Similarly, we also observed low levels of service utilisation with no systematic differences in utilisation of rehabilitation services. However, satisfaction from the services was found to be higher in comparison units.

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6 APPENDICES

6.1 ANNEX – 1. SYNTAX

6.1.1. R syntax for sampling design

```
#The r-syntax below provides sample size calculation for impact evaluation of prima
ry physiotherapy and rehabilitation

#load the following library. If this library is not available, use the following co
mmand to install the 'pwr' package
#install.package("pwr")

library(pwr)

#Effect size approach to sample size calculation is used here. The effect size (h)
is used to reflect the changes in most challenging indicator-improved access to bas
ic physiotherapy and rehabilitation-measured at the beneficiary level.
eff_size=0.35

#Total sample size in each arm to detect the effect size of 0.35 at 80% power and 5
% significance level
n1=pwr.2p.test(h=eff_size, power=0.80, sig.level =0.05)
n1

##
##      Difference of proportion power calculation for binomial distribution (arcsi
ne transformation)
##
##               h = 0.35
##               n = 128.1447
##       sig.level = 0.05
##           power = 0.8
##     alternative = two.sided
##
## NOTE: same sample sizes

#Since beneficiaries are clustered at health facility level, consider a design effe
ct of 2 to adjust the relative homogeneity within each cluster
Deff=2

#Adjust sample size with design effect
n2=n1$n*Deff; n2

## [1] 256.2893

#This section identifies cluster size following formula is used for this purpose De
sign_effect=1+(cluster size-1)*inter class correlation coefficient
#inter class correlation coeficient (Roh)=0.1
#Final cluster size
Roh=0.1
cluster_size=(Deff-1)/Roh+1; cluster_size

## [1] 11
```

```r
#Number of clusters/Health Facilities
n_clus=n2/cluster_size; n_clus

## [1] 23.29903

#Aadjusting response rate of 5% for clusters and 10% for cluster size
number_of_clusters_HF=round(n_clus*1.05)
cluster_size=round(cluster_size*1.10)
Total_Beneficiaries=number_of_clusters_HF*cluster_size

sampling_str=c(number_of_clusters_HF=number_of_clusters_HF,
cluster_size=cluster_size,
Total_Beneficiaries=Total_Beneficiaries)


#final sample size including number of clusters and cluster size in each arm
sampling_str

## number_of_clusters_HFcluster_sizeTotal_Beneficiaries
##                    24                    12                   288
```

6.1.2. Syntax for health facility level data

```
*Keep the data and do file in the working directory in your PC
*reading the file
use "Health facility raw data in stata_cleaned", replace

*Generating new variable for intervention/comparison
gen Group=1 if  q3district==1
replace Group=2 if q3district==2
label define In 1 "Intervention" 2 "Comparison"
label values Group In
lab var Group "Intervention/Comparison"

*Generating new variable for population to health worker ratio
gen popn_hw_ratio=abs(q20_population/(q24a_mohp + q24a_contract))
label var popn_hw_ratio "Population to health worker (technical staffs ratio"

*recoding a variable with multiple categories into
gen q13nonmadhesi=q13ethnicity==1|q13ethnicity==2|q13ethnicity==4|q13ethnicity==5
if q13ethnicity~=.
label var q13nonmadhesi "respondent is non-madhesi"

gen q13madhesi=q13ethnicity==3 if q13ethnicity~=.
label var q13madhesi "respondent is madhesi"

*creating categorical variables into dummy variables
gen q11male=q11sex==1
label var q11male "respondent is male"

gen q11female=q11sex==2
label var q11female "respondent is female"

gen Hindu=q12religion==1 if q12religion~=.
label var Hindu "is hindu"

gen Muslim=q12religion==3 if q12religion~=.
label var Muslim "is Muslim"
```

```
gen q14certificate=q14_education==1 if q14_education~=.
label var q14certificate "has certificate level qualification"

gen q14bachelor=q14_education==2|q14_education==3 if q14_education~=.
label var q14bachelor "has bachelor or above qualification"

gen q19hp=q19hf_type==1 if q19hf_type~=.
label var q19hp "health post"

gen q19phcc=q19hf_type==2 if q19hf_type~=.
label var q19phcc "Primary Health Care Center"

//Q25A
gen q25a_available=q25a==1 if q25a~=.
label var q25a_available "Electrictiy is available and functioning"

gen q25a_nonfunc=q25a==2 if q25a~=.
label var q25a_nonfunc "Electrictiy is available but not functioning"

gen q25a_notavail=q25a==3 if q25a~=.
label var q25a_notavail "Electrictiy is not available"

//Q25B
gen q25b_available=q25b==1 if q25b~=.
label var q25b_available "Improved water source is available and functioning"

gen q25b_nonfunc=q25b==2 if q25b~=.
label var q25b_nonfunc "Improved water source is available but not functioning"

gen q25b_notavail=q25b==3 if q25b~=.
label var q25b_notavail "Improved water source is not available"

//Q25C
gen q25c_available=q25c==1 if q25c~=.
label var q25c_available "Privacy is available and functioning"

gen q25c_nonfunc=q25c==2 if q25c~=.
label var q25c_nonfunc "Privacy is available but not functioning"

gen q25c_notavail=q25c==3 if q25c~=.
label var q25c_notavail "Privacy is not available"

//Q25D
gen q25d_available=q25d==1 if q25d~=.
label var q25d_available "Latrine is available and functioning"

gen q25d_nonfunc=q25d==2 if q25d~=.
label var q25d_nonfunc "Latrine is available but not functioning"

gen q25d_notavail=q25d==3 if q25d~=.
label var q25d_notavail "Latrine is not available"

//Q25E
gen q25e_available=q25e==1 if q25e~=.
label var q25e_available "Communication equipment is available and functioning"

gen q25e_nonfunc=q25e==2 if q25e~=.
label var q25e_nonfunc "Communication equipment is available but not functioning"

gen q25e_notavail=q25e==3 if q25e~=.
label var q25e_notavail "Communication equipment is not available"
```

```
//Q25F
gen q25f_available=q25f==1 if q25f~=.
label var q25f_available "Computer with internet is available and functioning"

gen q25f_nonfunc=q25f==2 if q25f~=.
label var q25f_nonfunc "Computer with internet is available but not functioning"

gen q25f_notavail=q25f==3 if q25f~=.
label var q25f_notavail "Computer with internet is not available"

//Q25G
gen q25g_available=q25g==1 if q25g~=.
label var q25a_available "Emergency transport is available and functioning"

gen q25g_nonfunc=q25g==2 if q25g~=.
label var q25g_nonfunc "Emergency transport is available but not functioning"

gen q25g_notavail=q25g==3 if q25g~=.
label var q25g_notavail "Emergency transport is not available"

//Q27
gen q27treat=q27_trt_or_refer==1|q27_trt_or_refer==4 if q27_trt_or_refer~=.
label var q27treat "treat or others"

gen q27refer=q27_trt_or_refer==2 if q27_trt_or_refer~=.
label var q27refer "refer"

gen q27trt_ref=q27_trt_or_refer==3 if q27_trt_or_refer~=.
label var q27trt_ref "treat and refer"

//Q28
gen q28noskills=q28_refer_reason==1 if q28_refer_reason~=.
label var q28noskills "no skills"

gen q28no_equipment=q28_refer_reason==2 if q28_refer_reason~=.
label var q28no_equipment "no equipment and facilities"

gen q28higher_care=q28_refer_reason==3 if q28_refer_reason~=.
label var q28higher_care "for higher level care"

//Q34
gen q34obs_seen=q34==1
label var q34obs_seen "observed and seen"

gen q34rep_notseen=q34==2
label var q34rep_notseen "reported but not seen"

//Q35A
gen q35a_available=q35a==1
label var q35a_available "Parallel bar is available and functioning"

gen q35a_nonfunc=q35a==2
label var q35a_nonfunc "Parallel bar is available but not functioning"

gen q35a_notavail=q35a==3
label var q35a_nonfunc "Parallel bar is not available"

//Q35B
gen q35b_available=q35b==1
label var q35b_available "Crutches is available and functioning"

gen q35b_nonfunc=q35b==2
label var q35b_nonfunc "Crutches is available but not functioning"
```

```
gen q35b_notavail=q35b==3
label var q35b_nonfunc "Crutches is not available"

//Q35C
gen q35c_available=q35c==1
label var q35c_available "Cane is available and functioning"

gen q35c_nonfunc=q35c==2
label var q35c_nonfunc "Cane is available but not functioning"

gen q35c_notavail=q35c==3
label var q35c_nonfunc "Cane is not available"

//Q35D
gen q35d_available=q35d==1
label var q35d_available "Walking frame is available and functioning"

gen q35d_nonfunc=q35d==2
label var q35d_nonfunc "Walking frame is available but not functioning"

gen q35d_notavail=q35d==3
label var q35d_nonfunc "Walking frame is not available"

//Q35E
gen q35e_available=q35e==1
label var q35e_available "Gym ball is available and functioning"

gen q35e_nonfunc=q35e==2
label var q35e_nonfunc "Gym ball is available but not functioning"

gen q35e_notavail=q35e==3
label var q35e_nonfunc "Gym ball is not available"

//Q35F
gen q35f_available=q35f==1
label var q35f_available "Pegboard and blocks is available and functioning"

gen q35f_nonfunc=q35f==2
label var q35f_nonfunc "Pegboard and blocks is available but not functioning"

gen q35f_notavail=q35f==3
label var q35f_nonfunc "Pegboard and blocks is not available"

//Q35G
gen q35g_available=q35g==1
label var q35g_available "Weight cuff is available and functioning"

gen q35g_nonfunc=q35g==2
label var q35g_nonfunc "Weight cuff is available but not functioning"

gen q35g_notavail=q35g==3
label var q35g_nonfunc "Weight cuff is not available"

//Q35H
gen q35h_available=q35h==1
label var q35h_available "Grip ball is available and functioning"

gen q35h_nonfunc=q35h==2
label var q35h_nonfunc "Grip ball is available but not functioning"

gen q35h_notavail=q35h==3
label var q35h_nonfunc "Grip ball is not available"
```

```
//Q35I
gen q35i_available=q35i==1
label var q35i_available "Wobble board is available and functioning"

gen q35i_nonfunc=q35i==2
label var q35i_nonfunc "Wobble board is available but not functioning"

gen q35i_notavail=q35i==3
label var q35i_nonfunc "Wobble board is not available"

//Q35J
gen q35j_available=q35j==1
label var q35j_available "TENS is available and functioning"

gen q35j_nonfunc=q35j==2
label var q35j_nonfunc "TENS is available but not functioning"

gen q35j_notavail=q35j==3
label var q35j_nonfunc "TENS is not available"

//Q35K
gen q35k_available=q35k==1
label var q35k_available "IFT is available and functioning"

gen q35k_nonfunc=q35k==2
label var q35k_nonfunc "IFT is available but not functioning"

gen q35k_notavail=q35k==3
label var q35k_nonfunc "IFT is not available"

//Q35L
gen q35l_available=q35l==1
label var q35l_available "Ultrasound is available and functioning"

gen q35l_nonfunc=q35l==2
label var q35l_nonfunc "Ultrasound is available but not functioning"

gen q35l_notavail=q35l==3
label var q35l_nonfunc "Ultrasound is not available"

//Q35M
gen q35m_available=q35m==1
label var q35m_available "Moist heat is available and functioning"

gen q35m_nonfunc=q35m==2
label var q35m_nonfunc "Moist heatis available but not functioning"

gen q35m_notavail=q35m==3
label var q35m_nonfunc "Moist heat is not available"

//Q35N
gen q35n_available=q35n==1
label var q35n_available "Traction machine & bed is available and functioning"

gen q35n_nonfunc=q35n==2
label var q35n_nonfunc "Traction machine & bed is available but not functioning"

gen q35n_notavail=q35n==3
label var q35n_nonfunc "Traction machine & bed is not available"

//Q35O
gen q35o_available=q35o==1
```

```
label var q35o_available "Muscle stimulator is available and functioning"

gen q35o_nonfunc=q35o==2
label var q35o_nonfunc "Muscle stimulator is available but not functioning"

gen q35o_notavail=q35o==3
label var q35o_nonfunc "Muscle stimulator is not available"


*creating dummy variable for Yes/No categories
gen q17rec=abs(q17training-2)

gen q23hfomc_met=abs(q23_hfomc_meet-2)

gen q26rec=abs(q26_receive_patients-2)

gen q32rec=abs(q32trained_HW-2)

gen q33rec=abs(q33_have_guidelines-2)

gen q30arec=abs(6-q30a)
label var q30arec "Likert scale score reversed"

gen q30brec=abs(6-q30b)
label var q30brec "Likert scale score reversed"

gen q30crec=abs(6-q30c)
label var q30crec "Likert scale score reversed"

gen q30drec=abs(6-q30d)
label var q30drec "Likert scale score reversed"

gen q30erec=abs(6-q30e)
label var q30erec "Likert scale score reversed"

gen q30frec=abs(6-q30f)
label var q30frec "Likert scale score reversed"


*calculating total scores for Knowledge Questions
egen q29a=rowtotal(q29a1-q29a8)

egen q29b=rowtotal(q29b1-q29b4)

egen q29c=rowtotal(q29c1-q29c5)

egen q29d=rowtotal(q29d1-q29d6)

egen q29e=rowtotal(q29e1-q29e4)

egen q29f=rowtotal(q29f1-q29f6)

egen q29g=rowtotal(q29g1-q29g5)

egen q29h=rowtotal(q29h1-q29h4)

egen q29i=rowtotal(q29i1-q29i5)

egen q29j=rowtotal(q29j1-q29j5)

egen q29k=rowtotal(q29k1-q29k4)

egen q29l=rowtotal(q29l1-q29l6)
```

```
*categorizing knowledge score for individual questions
//Q29A
gen
q29a_cat=cond(q29a<1,1,cond(q29a>0&q29a<3,2,cond(q29a>2&q29a<6,3,cond(q29a>5,4,.)
)))
label define q29_cat 1 "No Knowledge" 2 "Little Knowledge" 3 "Some Knowledge" 4
"A lot of Knowledge"
label values q29a_cat q29_cat
lab var q29a_cat "Level of knowledge on early signs of CP"

//Q29B
gen
q29b_cat=cond(q29b<1,1,cond(q29b>0&q29b<2,2,cond(q29b>1&q29b<3,3,cond(q29b>2,4,.)
)))
label values q29b_cat q29_cat
lab var q29b_cat "knowledge on roles in managing CP cases"

//Q29C
gen
q29c_cat=cond(q29c<1,1,cond(q29c>0&q29c<2,2,cond(q29c>1&q29c<4,3,cond(q29c>3,4,.)
)))
label values q29c_cat q29_cat
lab var q29c_cat "knowledge on roles in managing COPD cases"

//Q29D
gen
q29d_cat=cond(q29d<1,1,cond(q29d>0&q29d<3,2,cond(q29d>2&q29d<5,3,cond(q29d>4,4,.)
)))
label values q29d_cat q29_cat
lab var q29d_cat "knowledge on warning signs of COPD complications"

//Q29E
gen
q29e_cat=cond(q29e<1,1,cond(q29e>0&q29e<2,2,cond(q29e>1&q29e<3,3,cond(q29e>2,4,.)
)))
label values q29e_cat q29_cat
lab var q29e_cat "knowledge on exercises and therapies for post burn contracture
patients"

//Q29F
gen
q29f_cat=cond(q29f<1,1,cond(q29f>0&q29f<3,2,cond(q29f>2&q29f<5,3,cond(q29f>4,4,.)
)))
label values q29f_cat q29_cat
lab var q29f_cat "knowledge on early signs and symptoms of osteoarthritis"

//Q29G
gen
q29g_cat=cond(q29g<1,1,cond(q29g>0&q29g<2,2,cond(q29g>1&q29g<4,3,cond(q29g>3,4,.)
)))
label values q29g_cat q29_cat
lab var q29g_cat "knowledge on managing patient with chronic joint pain -
osteoarthritis"

//Q29H
gen
q29h_cat=cond(q29h<1,1,cond(q29h>0&q29h<2,2,cond(q29h>1&q29h<3,3,cond(q29h>2,4,.)
)))
label values q29h_cat q29_cat
lab var q29h_cat "knowledge on common mobility aids"
```

```
//Q29I
gen
q29i_cat=cond(q29i<1,1,cond(q29i>0&q29i<2,2,cond(q29i>1&q29i<4,3,cond(q29i>3,4,.)
)))
label values q29i_cat q29_cat
lab var q29i_cat "knowledge on managing patient with neck pain"

//Q29J
gen
q29j_cat=cond(q29j<1,1,cond(q29j>0&q29j<2,2,cond(q29j>1&q29j<4,3,cond(q29j>3,4,.)
)))
label values q29j_cat q29_cat
lab var q29j_cat "knowledge on warning signs of stroke"

//Q29K
gen
q29k_cat=cond(q29k<1,1,cond(q29k>0&q29k<2,2,cond(q29k>1&q29k<3,3,cond(q29k>2,4,.)
)))
label values q29k_cat q29_cat
lab var q29k_cat "knowledge on warning signs of post-fracture complications"

//Q29L
gen
q29l_cat=cond(q29l<1,1,cond(q29l>0&q29l<3,2,cond(q29l>2&q29l<5,3,cond(q29l>4,4,.)
)))
label values q29l_cat q29_cat
lab var q29l_cat "knowledge on warning signs of COPD complications"

*Total score of all knowledge questions
gen
q29know_score=abs(q29a_cat+q29b_cat+q29c_cat+q29d_cat+q29e_cat+q29f_cat+q29g_cat+
q29h_cat+q29i_cat+q29j_cat+q29k_cat+q29l_cat)
lab var q29know_score "Total knowledge score of Health Assistant (for scale of 1-
4 max score=12*4=48"

*Computing variables
//Converting years of experience from months to yrs
gen q15rec=abs(q15_exp_yrs/12)
label var q15rec "years of experience working as HA in gov sector"

gen q16rec=abs(q16_workatHF/12)
label var q16rec "years of experience working in this HF"

*Ordering Variables for easy analysis
order start A__GPS_longitude Group q10age q11male- Muslim q13madhesi
q13nonmadhesi q14certificate q14bachelor q15rec q16rec q17rec q19hp q19phcc
q20_population q21avg_opd q23hfomc_met q24a_sanction-q24b_present popn_hw_ratio
q25a_available- q25g_notavail q26rec q27treat q27refer q27trt_ref q28noskills
q28no_equipment q28higher_care q29a_cat- q29l_cat q29know_score q30a- q31d q32rec
q33rec q35a_available- q35o_notavail


*creating summary statistics

tabstat q10age-q17rec q18b_trg_period q19hp q19phcc q20_population q21avg_opd
q23hfomc_met q24a_sanction-q24b_present popn_hw_ratio q25a_available-
q25g_notavail q26rec q27treat - q28higher_care q29a_cat- q29l_cat q29know_score
q30a - q31d q32rec q33rec q35a_available - q35o_notavail , by(Group) st(n, mean,
sd)


*calculating standarized difference
```

```
stddiff q10age-q17rec q18b_trg_period q19hp q19phcc q20_population q21avg_opd
q23hfomc_met     q24a_sanction-q24b_present     popn_hw_ratio     q25a_available-
q25g_notavail q26rec q27treat - q28higher_care q29a_cat- q29l_cat q29know_score
q30a - q31d q32rec q33rec q35a_available - q35o_notavail , by(Group)
```

6.1.3. Syntax for client level data

```
*reading the stata file for analysis
use "Client raw data in stata_cleaned", replace

*Generating new variable for intervention/comparison
gen Group=1 if  District==1
replace Group=2 if District==2
label define In 1 "Intervention" 2 "Comparison"
label values Group In
lab var Group "Intervention/Comparison"

*Generating new variables
//Q5 Education
gen q5noedu=q5edu==0
label var q5noedu "no formal education"

gen q5primary=q5edu==1|q5edu==2|q5edu==3|q5edu==4|q5edu==5
label var q5primary "primary level (1-5)"

gen q5secondary=q5edu==6|q5edu==7|q5edu==8|q5edu==9|q5edu==10
label var q5secondary "Secondary 6-10"

gen q5abovesec=q5edu==11|q5edu==12|q5edu==13|q5edu==9|q5edu==15
label var q5abovesec "Above Secondary"

*creating categorical variables into dummy variables
//Q2 Sex
gen q2male=q2sex==1
label var q2male "respondent is male"

gen q2female=q2sex==2
label var q2female "respondent is female"

//Q3-Religion
gen q3hindu=q3religion==1 if q3religion~=.
label var q3hindu "is hindu"

gen q3nonhindu=q3religion==2|q3religion==3|q3religion==5 if q3religion~=.
label var q3nonhindu "is non-hindu"

//Q4 Ethnicity
gen q4dalit=q4eth==1 if q4eth~=.
label var q4dalit "is dalit"

gen q4janajati=q4eth==2 if q4eth~=.
label var q4janajati "is janajati"

gen q4madhesi=q4eth==3 if q4eth~=.
label var q4madhesi "is madhesi"

gen q4muslim=q4eth==4 if q4eth~=.
label var q4muslim "is muslim"

gen q4br_chhetri=q4eth==5 if q4eth~=.
label var q4br_chhetri "is brahmin chhetri and others"
```

```
//Q6 Marital Status
gen q6unmarried=q6marital==1 if q6marital~=.
label var q6unmarried "is unmarried"

gen q6married=q6marital==2 if q6marital~=.
label var q6married "is married"

gen q6widow=q6marital==3 if q6marital~=.
label var q6widow "is widow/widower"

//Q7 Occupation
gen q7agri=q7occu==1 if q7occu~=.
label var q7agri "agriculture"

gen q7service=q7occu==2|q7occu==3 if q7occu~=.
label var q7service "service/business"

gen q7labour=q7occu==4 if q7occu~=.
label var q7labour "labour/daily wage"

gen q7homemaker=q7occu==5 if q7occu~=.
label var q7homemaker "housewife/homemaker"

gen q7others=q7occu==6|q7occu==6 if q7occu~=.
label var q7others "student, driving, no work"


//Q10 Home Ownership
gen q10self=q10home_own==1 if q10home_own~=.
label var q10self "currently residing home is self-owned"

gen q10rent=q10home_own==2 if q10home_own~=.
label var q10rent "currently residing home is rented or not owned by self"

//Q12 Sources of water
gen q12pipedhome=q12water==1 if q12water~=.
label var q12pipedhome "piped water into house"

gen q12publictap=q12water==2 if q12water~=.
label var q12pipedhome "public tap water"

gen q12tubewell=q12water==3 if q12water~=.
label var q12tubewell "tubewell or borehole"

gen q12dugwell=q12water==4 if q12water~=.
label var q12dugwell "dug well"

//Q12 Sources of fuel
gen q13lpg=q13fuel==2 if q13fuel~=.
label var q13lpg "LP Gas"

gen q13wood=q13fuel==5 if q13fuel~=.
label var q13wood "wood or timber"

gen q13dung=q13fuel==6 if q13fuel~=.
label var q13dung "Dung or guitha"

gen q13others=q13fuel==3|q13fuel==4|q13fuel==7 if q13fuel~=.
label var q13others "Includes Biogas, kerosene"

//Q15 Floor
gen q15natural=q15floor==1|q15floor==2|q15floor==3|q15floor==4 if q15floor~=.
label var q15natural "natural or rudimentary floor"
```

```
gen q15finished=q15floor==5|q15floor==7|q15floor==8 if q15floor~=.
label var q15finished "finished floor"

//Q16 Roof
gen q16natural=q16roof==1|q16roof==2 if q16roof~=.
label var q16natural "natural roofing (no roof, thatch/palm leaf)"

gen q16rudiment=q16roof==3|q16roof==4|q16roof==5|q16roof==6 if q16roof~=.
label var q16rudiment "rudimentary roof"

gen
q16finished=q16roof==7|q16roof==9|q16roof==9|q16roof==10|q16roof==11|q16roof==12|
q16roof==13 if q16roof~=.
label var q16finished "finished roofing"

//Q17wall
gen q17natural=q17wall==1|q17wall==2|q17wall==3 if q17wall~=.
label var q17natural "natural wall"

gen
q17rudiment=q17wall==4|q17wall==5|q17wall==5|q17wall==7|q17wall==9|q17wall==10 if
q17wall~=.
label var q17rudiment "rudimentary wall"

gen
q17finished=q17wall==11|q17wall==12|q17wall==13|q17wall==14|q17wall==15|q17wall==
16 if q17wall~=.
label var q17finished "finished wall"

//Q36 pain statement
gen q36always_same=q36pain_st==1 if q36pain_st~=.
label var q36always_same "always present, always the same"

gen q36always_varies=q36pain_st==2 if q36pain_st~=.
label var q36always_varies "always present, intensity varies"

gen q36come_go=q36pain_st==3 if q36pain_st~=.
label var q36come_go "pain comes and goes"

//Q40 card color
gen q40red=q40color==1 if q40color~=.
label var q40red "red color card"

gen q40blue=q40color==2 if q40color~=.
label var q40blue "blue color card"

gen q40yellow=q40color==3 if q40color~=.
label var q40yellow "yellow color card"

gen q40white=q40color==4 if q40color~=.
label var q40white "white color card"

*Referral point of contact
gen q46firstpoint=q46referral==1 if q46referral~=.
label var q46firstpoint "first point of contact"

gen q46refothers=q46referral==4 if q46referral~=.
label var q46refothers "referred by family,friends,others"


*creating dummy variable for Yes/No categories
gen q8rec=abs(q8account-2)
```

```
label var q8rec "have a bank account/cooperative or other savings account"

gen q9rec=abs(q9have_land-2)
label var q9rec "household own agricultural land"

gen q14rec=abs(q14kitchen-2)
label var q14rec "has a separate kitchen"

gen q18rec=abs(q18disaster-2)
label var q18rec "suffered from disaster in past six months"

gen q34rec=abs(q34pain-2)
label var q34rec "experienced pain or discomfort in past three months"

gen q39rec=abs(q39card-2)
label var q39rec "possess disability card"

gen q41rec=abs(q41rehab-2)
label var q41rec "receiving rehabilitation services"


*Order variables for easy analysis
order end- Group q2male- q4br_chhetri q5noedu- q5abovesec q6unmarried q6married q6widow q7agri q7service q7labour q7homemaker q7others q8rec q9rec q10self q10rent q11a_electricity- q11h q12pipedhome- q13others q14rec q15natural- q17finished q18rec q19none-q30extreme q34rec q35head- q35other q36always_same q36always_varies q36come_go q37pain_scale q39rec q40red q40blue q40yellow q40white q41rec q46firstpoint q46refothers q49a_stragree- q52_alltime

creating summary statistics
tabstat q1age q2male - q4br_chhetri q5edu q6unmarried-q10rent q11a_electricity - q11h q12pipedhome- q30extreme q31 q32 q34rec q35head - q35other q36always_same - q36come_go q37pain_scale q39rec - q41rec q42long q44distance q46firstpoint q46refothers q48totäl - q48g q49a_stragree - q52_alltime, by(Group) st(n, mean, sd)

*calculating standarized difference
stddiff q1age q2male - q4br_chhetri q5edu q6unmarried-q10rent q11a_electricity - q11h q12pipedhome- q30extreme q31 q32 q34rec q35head - q35other q36always_same - q36come_go q37pain_scale q39rec - q41rec q42long q44distance q46firstpoint q46refothers q48totäl - q48g q49a_stragree - q52_alltime, by(Group)
```

6.2 ANNEX – 2. MATCHING PROCEDURE

The key challenge for an evaluation is identifying and measuring valid counterfactual estimates of the outcomes of interest, i.e. what would have happened in the absence of an intervention to actual outcomes occurring with the intervention. In this study, the evaluation would like to capture what would happen in the absence of implementing basic primary physiotherapy and rehabilitation over the period of time. The study used matching methods to construct the comparison group that will play the role of counterfactual. Propensity Score Matching (PSM) is the most common form of matching method that is used to construct the counterfactual for the purpose of evaluation using non-experimental techniques. PSM creates a comparison group from untreated observations by matching treatment observations to one or more observations from the untreated sample, based on observable characteristics. In PSM, matching is not on every single characteristic but on a single number: the propensity score. Treated units are matched to untreated units with a similar propensity score.

The intervention and comparison health facilities were selected based on matching principles. In first stage, 48 health facilities were randomly selected from Dhanusha district. Among the 48 health facilities, 24 were randomly allocated to Arm 1, the Task-sharing training and training follow-up group; and 24 health facilities were allocated to Arm 2, the Task-sharing training only group. In the second stage, a nearby district with similar sociodemographic and macroeconomic characteristics was chosen as a comparison. The health facilities from the comparison district were matched to the intervention district based on observable characteristics. The list of observable characteristics is included in Table 19 below.

Matching on observable characteristics is beneficial in several respects: the same health facilities will be followed after the intervention, which helps create a set of panel data; and it can help self-adjust the impact of unobserved confounders that are fairly constant over time. The random allocation solves the problem of multiple factors as programme assignment becomes independent of individual and health facility characteristics. Similarly, the randomly assigned comparison group captures the impact of concurrently running activities and hence solves the problem of contamination. The spill-over effect is less likely to occur as trained health workers will work within the health facilities and facilities are well separated. There could be a possibility that the beneficiaries from the comparison group can access the health facilities in the intervention areas, and this can be measured and analysed. Heterogeneity of impact can be assessed by stratifying the findings across the relevant strata.

The following steps ensued to create the matching procedure.

6.2.1 Observable characteristics at health facility level for matching

The study proposed to create a counterfactual by balancing the observable characteristics of health facilities. The list of characteristics included in the matching procedure is shown in Table 19. The variables were identified based on availability of data at the time of study design, purpose of matching and performance of health facility at that point and over the period of time.

Table 19 List of variables included in the matching procedure

VARIABLE TYPES	PURPOSE	LIST OF VARIABLES
Population and service coverage (X)	To ensure that the intervention and comparison arms will cover the population of similar size, types of service packages provided by the facilities and fiscal support from the government.	1. Total population to be served 2. Health facility type

Volume of services provided (V)	To match across the volume of service provided by the facilities. It ensures that health facilities in two arms are similar in terms of caseload and work burden.	3. Measles vaccine 4. PCV 3rd vaccine 5. ANC coverage as per protocol 6. New OPD visits
Productivity of health facilities (P)	To match across the key coverage indicators to ensure that health facilities are similar for the productivity of maternal and child health services.	7. Measles coverage rate 8. ANC coverage as per protocol
Improvement in performance of health facilities in one year (T)	To ensure that health facilities in two arms are similar in terms of change in performance across coverage indicators for key service indicators. It will also contribute to ensure **parallel trend assumption**.	9. Change in OPD visits 10. Change in measles coverage 11. Change in PCV 3rd coverage 12. Change in ANC coverage as per protocol

6.2.2 Listing health facilities to be included in comparison

The comparison health facilities were selected from Mahottari district, which is similar to Dhanusha district in terms of socioeconomic, macroeconomic and health-system-related characteristics. All the health facilities in Mahottari district were listed and used in the matching process. There are 76 health facilities in the comparison district. The matched comparison group was selected from this population (or a control reservoir) based on propensity score.

6.2.3 Estimation propensity score

Our purpose was to ensure that health facilities in the intervention and comparison arms are similar to each other with respect to the characteristics listed in Table 19. As it seemed not possible to match the two arms across many characteristics, the next step, therefore, was to estimate the propensity score based on the observable characteristics. For this purpose, we used a linear probability model to estimate the propensity score. Intervention health facilities selected from Dhanusha district were coded as 1 and all the health facilities from Mahottari districts were coded as zero. Using the characteristics listed in Table 19, propensity score was estimated using following equation:

$$Y = B_0 + XB_1 + VB_2 + PB_3 + TB_4 + u \qquad \text{i}$$

where, Bs are regression coefficients, Y is the binary variable (0=Intervention and 1=Comparison), X is a vector of population and service coverage indicators, V is volume of service related indicators, P is productivity-related indicators, T is time trend of performance indicators and u is the random error.

The estimated equation becomes

$$\hat{P}\big(Y = 1 \big| (X, V, P, T)\big) = \hat{Y} = \hat{B}_0 + X\hat{B}_1 + V\hat{B}_2 + P\hat{B}_3 + T\hat{B}_4 \qquad \text{ii}$$

The left-hand side of the *equation ii* is the propensity score (also called linear propensity score), which is a single variable capturing the differences in characteristics across intervention and comparison groups. This score is then used create the *matching distance matrix*.

6.2.4 Selection of matched comparison group

We used the *optmatch* package in R software for statistical computing to implement the matching algorithm (Hansen, Fredrickson, Fredrickson, Rcpp, & Rcpp, 2019). From the linear probability

model, the package extracts distances on the *linear* propensity score: fitted values of the linear predictor, the link function applied to the estimated conditional probabilities, as opposed to the estimated conditional probabilities themselves (Rosenbaum & Rubin, 1985). The distance matrix thus produced is used to create the matched comparison group from the pool of comparison units. The algorithm prepared by Hansen et al. (2019) and Hansen and Klopfer (2006) selects the comparison units that are closest to the intervention units in terms of distance matrix created from the propensity score. In this way, 24 health facilities were selected that match with those of 48 health facilities in the intervention group. The next section describes the match balance statistics of intervention and comparison units.

6.2.5 Match balance statistics

Table 20 provides the match balance statistics between intervention and comparison health facilities. Before matching, facilities in the two groups were quite different in terms of characteristics such as number of cases vaccinated for measles or PCV 3rd, and number of clients given ANC as per protocol etc. (SD greater than 0.25). After matching, the differences between the groups are minimised (less than 0.25) except for ANC visits as per protocol. These match balance statistics shows that there is a good balance of health facilities between the groups.

Table 20: Match balance statistics

Characteristics	Before Matching		After Matching	
	SD.	z-stat	SD.	z-stat.
Population covered	-0.220	-1.191	-0.064	-0.859
Number of cases vaccinated for measles	-0.336	-1.802	-0.083	-0.410
Number of vaccinated cases for PCV 3rd	-0.401	-2.138	-0.074	-0.405
Number of ANC as per protocol	-0.697	-3.580	-0.330	-2.463
New OPD visits	-0.388	-2.068	-0.075	-0.479
Health Posts	0.107	0.581	-0.089	-0.577
Primary Health Care (PHCC)	-0.107	-0.581	0.089	0.577
Change in ANC coverage	0.234	1.263	0.124	0.788
Change in PCV 3rd coverage	-0.541	-2.841	-0.166	-1.033
Change in measles vaccine coverage	0.059	0.320	-0.055	-0.314
Change in no. of OPD visits	-0.184	-0.996	-0.071	-0.327
PCV 3rd vaccine coverage	-0.137	-0.743	0.085	0.439
Measles vaccine coverage	-0.043	-0.233	0.095	0.464
ANC as per protocol coverage	-0.378	-2.021	-0.124	-0.835

6.3 ANNEX – 3. TOOL DESCRIPTION

Tool 1: Interview schedule for people needing physical therapy and/or persons with disability

- *Section I – General Information:* The purpose of the general information section is to obtain the details of study participants, including their names, addresses and contact numbers. This section also includes enumerator codes and dates of interview.
- *Section II – Sociodemographic Information:* The sociodemographic section should start with a general overview of the study tool. The second section of the tool records the sociodemographic characteristics of study participants, including their age, sex, religion, ethnicity, major occupation, educational level, marital status, and the status of agricultural land and house ownership within their family. This section is also designed to measure the availability of everyday household items, such as electricity, televisions, mobile phones, laptops, sofas, fans and motorcycles or scooters. The household's main source of drinking water, the usual type of fuel used to cook food, and the main materials of the dwelling's, roof, floor and walls are also recorded. Respondents' socioeconomic characteristics are gathered so as to learn about each person's economic standing based on their lifestyle, prestige, power, and control of resources.
- *Section III – Measure of Well-being:* The measures of disability section is designed to measure how much difficulty respondents have faced for at least some time in the recent past (30 days). Difficulty is measured by using the Likert scale, using the following categories: None, Mild, Moderate, Severe, Extreme or Can't Perform. Respondents were asked questions such as, 'Have you experienced difficulty: standing for long periods such as 30 minutes; taking care of your household responsibilities; learning a new task, for example, learning how to get to a new place; or joining in community activities (for example, festivities, religious or other activities)? Have you been emotionally affected by your health problems?' This section also measures how much difficulty respondents have faced within the past 30 days while: walking a long distance such as a kilometre; washing their whole body; getting dressed; dealing with people that they do not know; maintaining a friendship; independently performing his/her day-to-day work/schoolwork (without assistance). Respondents were also asked to consider the last 30 days and declare: overall, on how many days were these difficulties present; what was the location of the pain; what was the typical average level of pain; and for how many days they were totally unable to carry out their usual activities or work because of any health condition. The main motive for this section is to calculate Disability Adjusted Life Year and Quality Adjusted Life Year.
- *Section IV – Type of Disability and Disability Card:* In this section, the questions were designed to ascertain: the availability of disability cards to respondents; the colour of their cards; and the disability conditions of study participants.
- *Section V – Access to Rehabilitation Services:* This section aims to determine the status of those receiving physiotherapy or rehabilitation services at present. Respondents were asked about: the accessibility of rehabilitation and physiotherapy centres; the usual means of transport to reach such facilities; the duration for which they had been receiving rehabilitation and physiotherapy; the first contact point for referral to the rehabilitation and physiotherapy centre; and the amount expended by clients over the past six months for rehabilitation and physiotherapy services.
- *Section VI – Satisfaction with Physiotherapy or Rehabilitation Services:* This section aims to measure how satisfied the study participants were with the physiotherapy or rehabilitation services that they accessed. To measure satisfaction we used a Likert scale, with the categories Agree, Disagree, Neutral, Strongly Agree and Strongly Disagree on areas such

as: privacy during physiotherapy, satisfaction with the treatment provided by the physical therapist etc.

- *Section VII – Perceived Social Support:* This section aims to measure how often participants are able to get support to assist them in: visiting a health facility, preparing meals (if unable to do so), and performing daily chores when sick.

Tool 2: Interview schedule for Health Assistants and Health Facility

- *Section I – General Information:* The purpose of the general information section is to record the names and addresses of the health facility visited by the study participants. This section also includes enumerator codes and dates of interview.
- *Section II – Sociodemographic Information of Health Assistant:* The sociodemographic section should start with a general overview of the study tool. The second section of the tool records the sociodemographic characteristics of Health Assistants, including their name, age, sex, gender, religion, ethnicity, major occupation, educational level, marital status, how long they have been working as a health assistant (in the government sector), how long they have been working in the health facility in question, and whether they have ever received any training on physiotherapy/rehabilitation skills and services.
- *Section III – Health Facility Characteristics:* This section is designed to record the: type of health facility; total population to be served in a year; average number of OPD visits per day; status of the HFOMC; number of staff (technical and non-technical) sanctioned in each health facility; number of posts filled by MoHP; number of posts filled by contract; and total number of members of staff present on the day of assessment. This section also details the availability and functionality of basic amenities, such as: regular electricity, improved water source, visual and auditory privacy, client latrines, communication equipment, Internet connectivity, computers and ambulances.
- *Section IV – Perceived Knowledge of Skills on Basic Rehabilitation Services:* In this section questions are designed to measure health assistants' perceived knowledge of basic rehabilitation skills by asking questions related to diseases such as: cerebral palsy, COPD, burn contracture etc., for which physiotherapy is needed. Possible responses to each disease-specific set of questions are defined in the enumerator's key, which is used by field researchers to record and analyse respondents' knowledge.
- *Section V – Self-efficacy/Confidence to Provide Rehabilitation Services and Job Satisfaction:* This section aims to measure respondents' self-efficacy or confidence to provide rehabilitation services by using a Likert scale, with the categories Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree. To measure satisfaction and self-efficacy, respondents are asked how much they agree with the following statements, 'I am: satisfied with my current job; satisfied with the opportunity to use my abilities in my job; confident in performing assessments for clients requiring physiotherapy services; confident in identifying and prioritising problems for physiotherapy cases (for treatment or referral); confident in performing treatments for physiotherapy cases; confident in dealing with a range of patient's physical conditions.'
- *Section VI – Willingness to Practise Physiotherapy Skills:* In this section, the questions are designed to measure health assistants' willingness to: practise and apply their physiotherapy knowledge and skills; practise and apply their physiotherapy knowledge and skills within the existing resource setting; and practise their physiotherapy knowledge and skills as an added responsibility if basic physiotherapy and rehabilitation training is provided or made available to them.
- *Section VII – Rehabilitation-service-specific Readiness:* This section aims to know availability of trained health workers regarding rehabilitation skills and availability of the rehabilitation service guideline/manuals available in this service site today. Also observe the availability and functionality of basic rehabilitation specific equipment's.

6.4 ANNEX – 4. OPERATIONAL DEFINITION OF VARIABLES

Perceived knowledge of basic physiotherapy and rehabilitation skills

The study used 12 sets of knowledge questions to assess Health Assistants' (HAs') perceived knowledge of basic physiotherapy and rehabilitation skills. Each set of questions included four to eight correct answers. Based on the number of correct responses to each knowledge question, each HA's perceived knowledge was further coded into four categories: 1=No knowledge, 2=Little knowledge, 3=Some knowledge, 4= A lot of knowledge. The criteria for classification included the following:

Knowledge questions	Maximum no. of correct answers	Criteria for classification into knowledge categories
Early signs of cerebral palsy	8	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If 1–2 correct answers are given **Some Knowledge:** If 3–5 correct answers are given **A lot of Knowledge:** If more than 5 correct answers are given
Role as HA in managing cerebral palsy cases	4	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If any 1 correct answer is given **Some Knowledge:** If any 2 correct answers are given **A lot of Knowledge:** If more than 2 correct answers are given
Roles as HA in managing COPD patient	5	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If any 1 correct answer is given **Some Knowledge:** If 2–3 correct answers are given **A lot of Knowledge:** If more than 3 correct answers are given
Warning signs of COPD complications	6	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If 1–2 correct answers are given **Some Knowledge:** If 3–4 correct answers are given **A lot of Knowledge:** If more than 4 correct answers are given
Exercises/ therapies for post-burn contracture patients	4	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If any 1 correct answer is given **Some Knowledge:** If any 2 correct answers are given **A lot of Knowledge:** If more than 2 correct answers

		are given
Early signs/symptoms of osteoarthritis	6	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If 1–2 correct answers are given **Some Knowledge:** If 3–4 correct answers are given **A lot of Knowledge:** If more than 4 correct answers are given
Role as HA in managing patient complaining of chronic joint pain (osteoarthritis)	5	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If any 1 correct answer is given **Some Knowledge:** If 2–3 correct answers are given **A lot of Knowledge:** If more than 3 correct answers are given
Name of common mobility aids	4	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If any 1 correct answer is given **Some Knowledge:** If any 2 correct answers are given **A lot of Knowledge:** If more than 2 correct answers are given
Role as HA in managing patient with complaints of neck pain	5	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If any 1 correct answer is given **Some Knowledge:** If 2–3 correct answers are given **A lot of Knowledge:** If more than 3 correct answers are given
Warning signs of stroke	5	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If any 1 correct answer is given **Some Knowledge:** If 2–3 correct answers are given **A lot of Knowledge:** If more than 3 correct answers are given
Warning signs of post-fracture complications	4	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If any 1 correct answer is given **Some Knowledge:** If any 2 correct answers are given **A lot of Knowledge:** If more than 2 correct answers are given
Role as HA in managing patient complaining of low back	6	**No Knowledge:** If the HA is unable to provide any response or if none of the responses are correct **Little Knowledge:** If 1–2 correct answers are given

pain		**Some Knowledge:** If 3–4 correct answers are given **A lot of Knowledge:** If more than 4 correct answers are given

6.5 ANNEX – 5. PLACES WHERE REHABILITATION SERVICES ARE RECEIVED BY CLIENTS

Name of Facility	Location
Mahendranagar Health Care Center	Mahendranagar, Dhanusha
Bardibas Ceragem	Bardibas, Mahottari
Model Hospital	Lalgadh, Dhanusha
Himalaya Yuwa Club	Janakpurdham, Dhanusha
Dynamic Hospital	Janakpurdhan, Dhanusha
Kayak Polyclinic	Janakpurdham, Dhanusha
Janakpur Zonal Hospital	Janakpurdham, Dhanusha
BP Koirala Institute of Health Sciences	Dharan, Sunsari
Other private practitioners	