



Annual Report 2079-80 (2022-23)

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Our Vision

People in rural Nepal receiving quality healthcare services within their own communities.



Our Mission

To innovate solutions in rural healthcare through training and hospital support, and to advocate for their scale up with the government of Nepal.



Our Values

- Share and Care
 - Excellence
 - Integrity
- Respect for the Individual

Message from Executive Director

I am pleased to present the annual report for the year 2079-80 (2022-23).

2079-80 (2022-23) marks the second year of the Rural Hospital Strengthening Project. This year has seen a comprehensive and collaborative approach to delivering on our commitment of providing support on various agendas to the Ministry of Health and Population.

In this year's Annual Report, we focus on the achievements and the challenges faced. As in the previous year, we have continued to work on supporting clinical training for different cadres. This year we were successful in introducing the Learning Resource Package for hemodialysis technicians. We plan to work further on developing the same for nurses and biomedical engineers. In the early period of the project, we had challenges in supporting Family Welfare Division to establish the Onsite Midwife/Skilled health provider led birthing unit, but this year we have been successful in initiating the renovation at Bharatpur hospital for it. We are making progress on this accord and believe this will help in providing comprehensive emergency obstetric and newborn care. We continue our objective of establishing Provincial Biomedical Units in all provinces; this year we have been successful in establishing it at Karnali Province and have formally handed it over to the Health Directorate. This will help in strengthening the hospitals in the provinces on effective management and maintenance of biomedical equipment, which is a key to provide services.

During the past year, our work at the 44 CSSP hospitals has remained persistent as we work to provide quality care at the hospitals. However, the retainment of the Health Force remains a challenge. Gorkha and Trishuli hospitals have been developed as hub hospitals. We have supported 341 different health cadres to the 44 hospitals. Our 2079-78

(2022-23) achievements also include the launching of MSS for 4 specialized hospitals namely Psychiatric, Children, Tropical and Infectious Disease and Maternity and Gynecological disease. We believe that the service readiness and availability of the tool for optimal requirement of the hospitals to provide minimum services that are expected from them will be fulfilled. The MSS remains a continuous journey of learning and we have planned to develop another few in the coming year. Our regular publications and research continues.

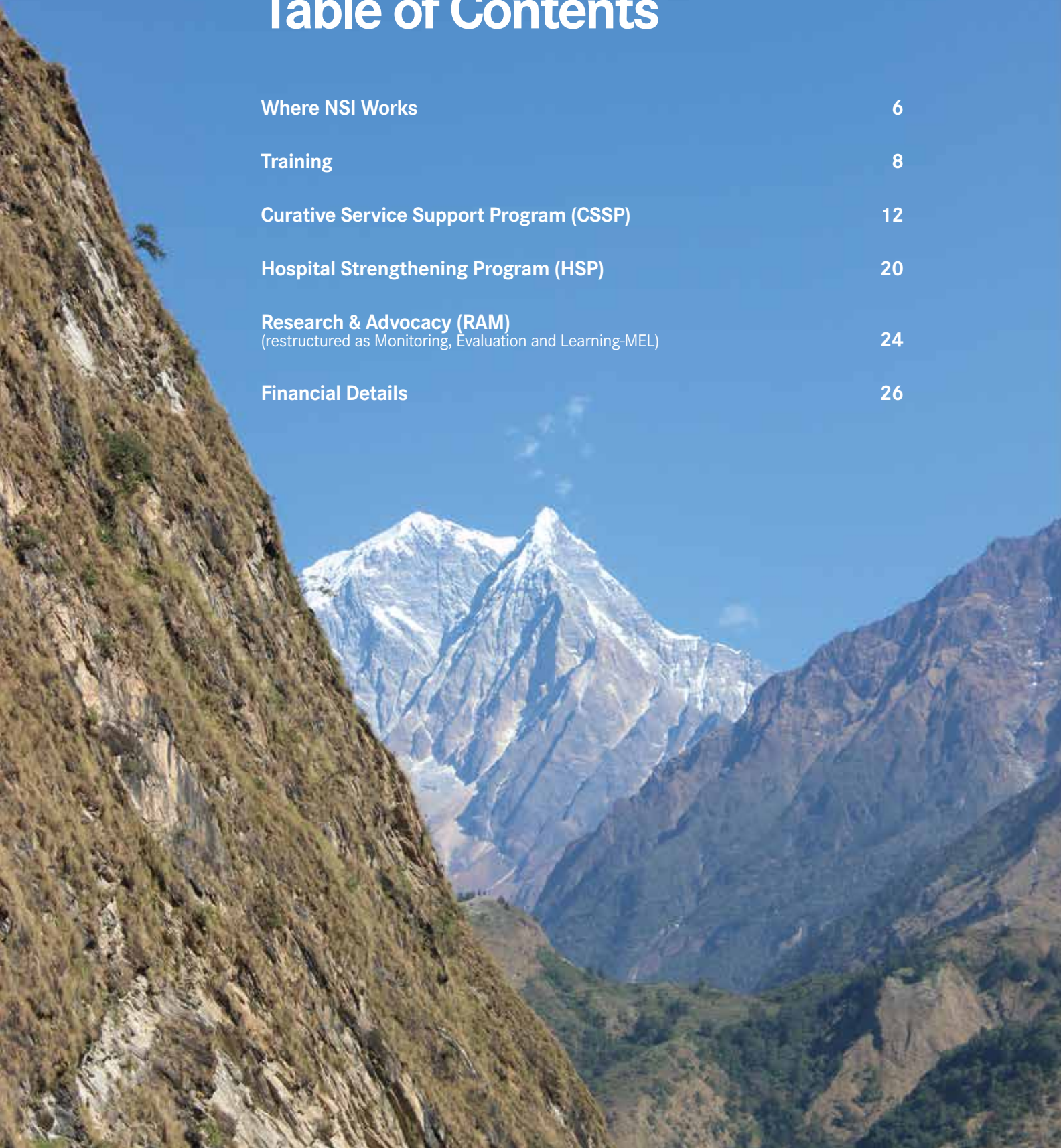
I would like to thank our staff for their commitment and dedication to the project guided by our core values, which is our distinctive strength. The support and guidance from the MoHP, DoHS and the provincial government has been very crucial, and we are always grateful. It is important that we remain positive and continue striving towards our objectives. I believe that if we work together and focus on our goals, we will come out even stronger. I look forward to the year ahead and am excited about what we can achieve together.

Dr. Archana Amatya

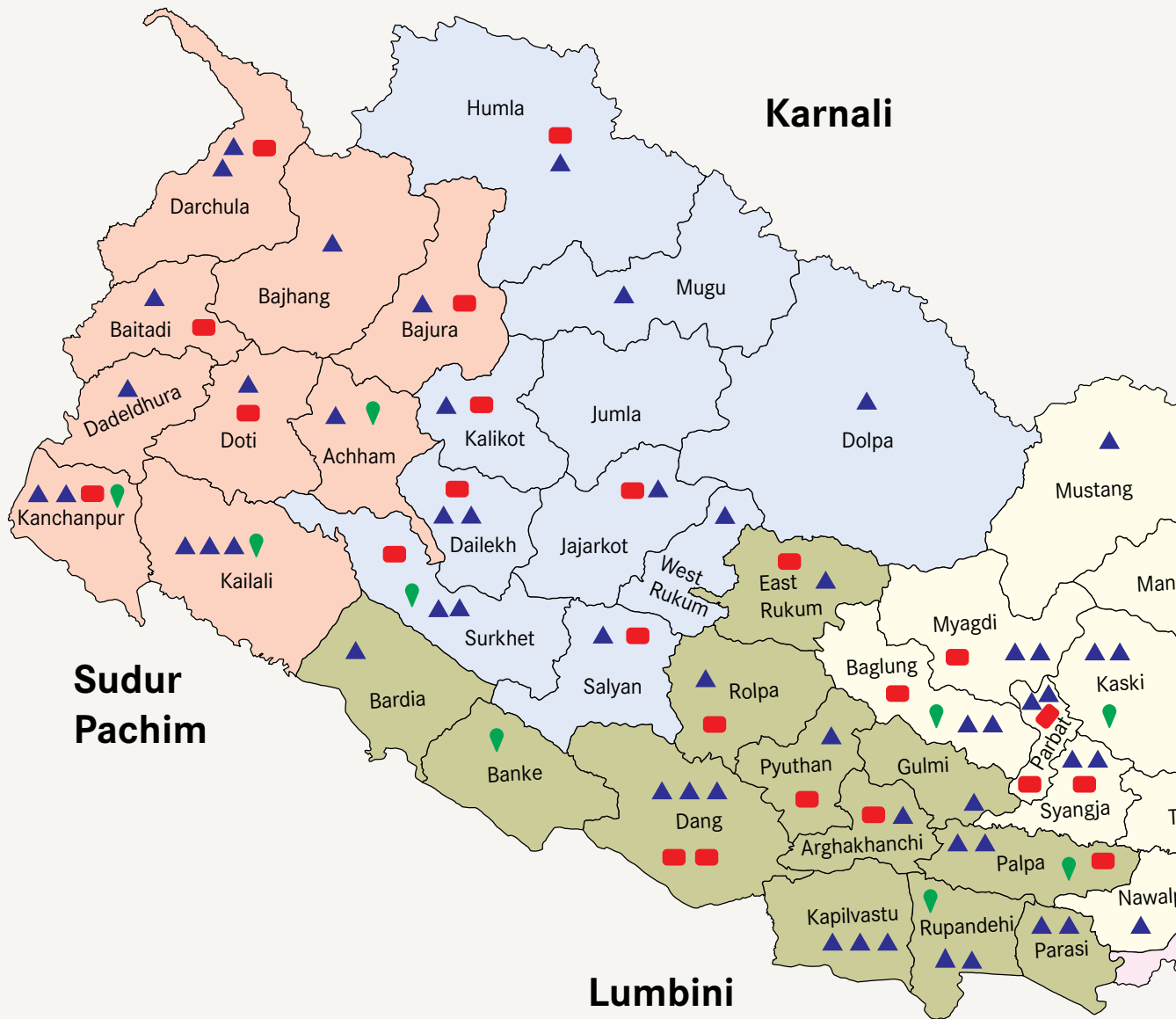
Executive Director

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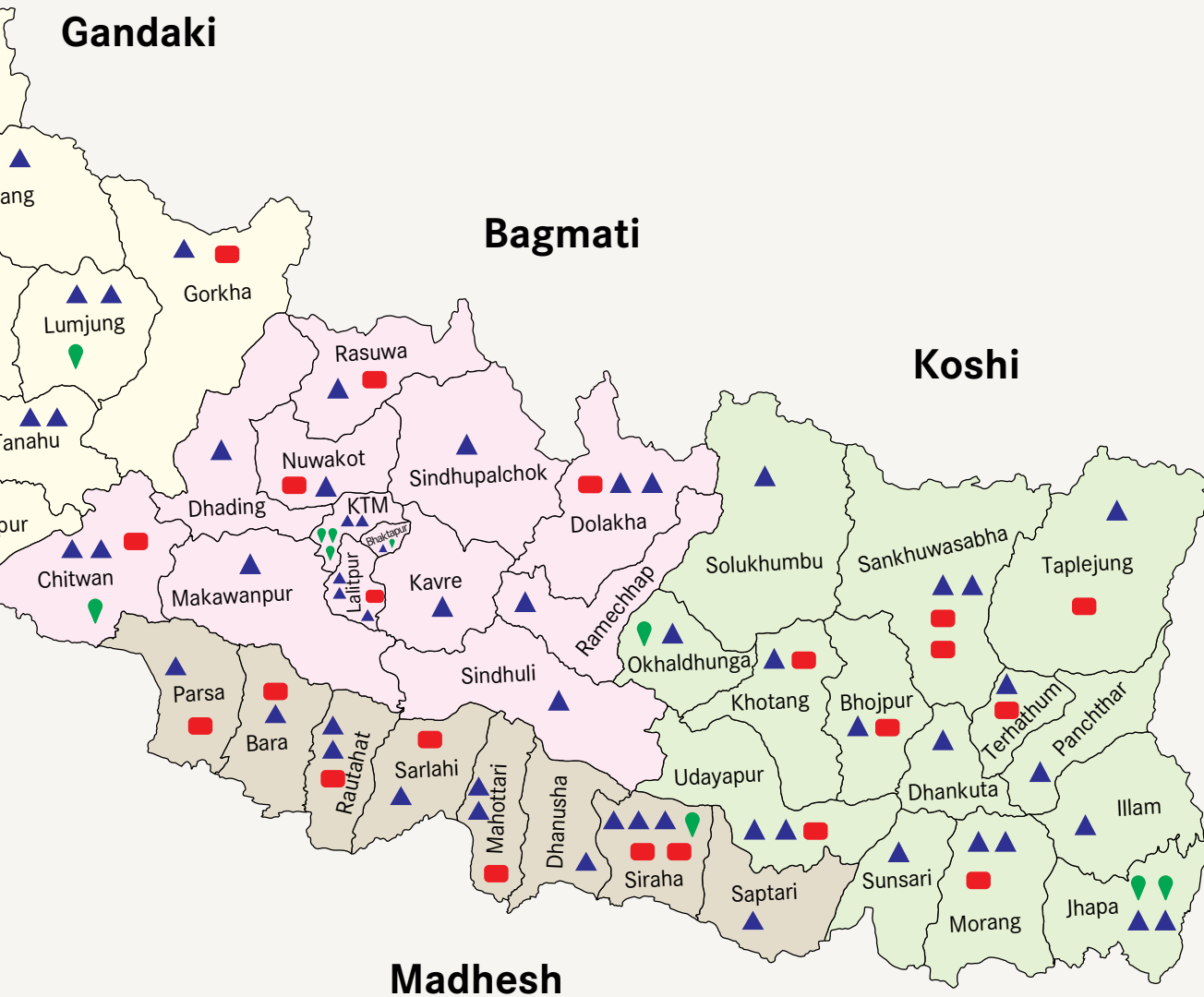


Where NSI Works



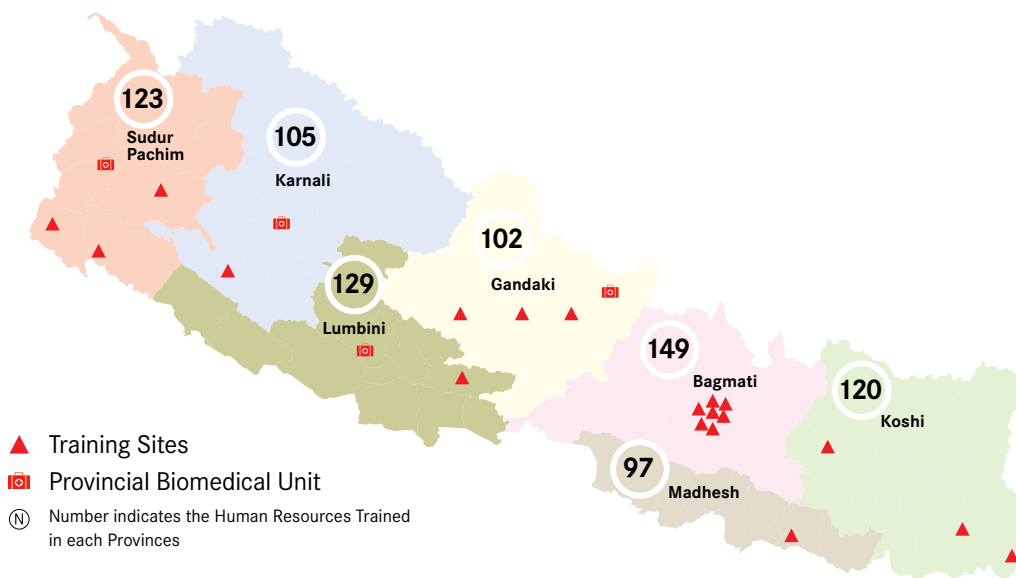


- CSSP Sites (44)
- ▲ HSP Sites (107)
- Training Sites (19)

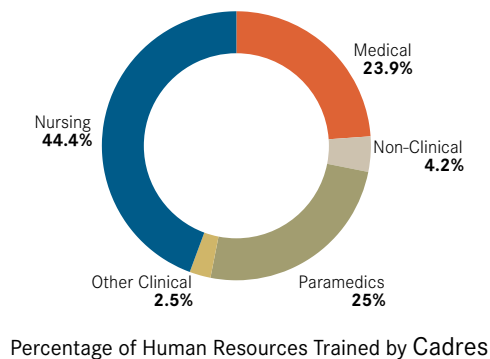
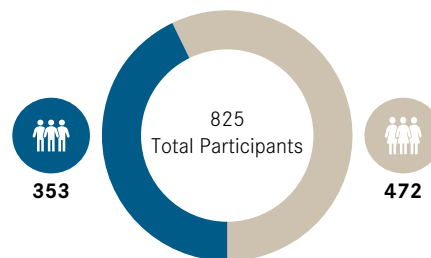


Training

Training Sites and Health Workers Trained by Province



Human Resources Trained	No. of Trained
Long Term Trainings	
Advanced Skilled Birth Attendants (ASBA)	34
Diploma in Biomedical Equipment Engineering (DBEE)	20
Mid Level Practicum (MLP)	156
Skilled Birth Attendants (SBA)	177
Operation Theater Techniques and Management (OTTM)	45
Short Term Trainings	
Clinical Training Skills (CTS)	53
Emergency Critical Care Training (ECCT)	123
Hemodialysis Equipment Maintenance Training	12
Primary Emergency Care (PEC)	132
SAFE Obstetric Anesthesia Course	23
User Maintenance of Laboratory Equipment	10
User Maintenance of X Ray Equipment	11
Orthopedic Exposure Training	8
NCD/Cardiac Conclave	21



NSI supports skills based clinical trainings and non-clinical trainings to improve the competency of healthcare workers by enhancing their existing knowledge and developing new skills in coordination with the National Health Training Center (NHTC) and the Provincial Health Training Centers (PHTC). NSI works through a network of partners hospitals and training sites ensuring the quality of the trainings through trainers' development, curriculum update and development, accreditation and standardization of trainings, implementation of the trainings and strengthening the institutional capacity of the Health Training Centers.

The clinical trainings are AAC, OTTM, ASBA, SBA, MLP, PEC and ECCT and non-clinical trainings are Council for Technical Education and Vocational Training (CTEVT) affiliated DBEE program, trainings for x-ray technicians, lab technicians and hemodialysis technicians. These trainings are being implemented through 19 trainings sites across all 7 Provinces.

Advanced Skilled Birth Attendants (ASBA)

This is a 70-day course designed to train Medical Officers to conduct normal delivery, cesarean section including management of obstetric complications and blood transfusion services. This year 34 Medical Officers received the training from Bharatpur Hospital and Paropakar Maternity and Women's Hospital. NSI also supported the pilot batch ASBA training at Province Hospital, Surkhet.

Anesthesia Assistant Course (AAC)

AAC is a one-year course under the National Academic of Medical Science (NAMS). A total of 24 new students enrolled in the course and will be trained at Bir Hospital, Model Hospital, Paropakar Maternity and Women's Hospital, Bharatpur Hospital, AMDA Damak, Pokhara Academy of Health Sciences, Tansen Mission Hospital. There were no Anesthesia Assistant graduates in 79/80 due to delay in the completion of the course due to COVID.

Diploma in Biomedical Equipment Engineering (DBEE)

DBEE is an 18-month academic course affiliated to CTEVT and led by NHTC at BMET Center, Teku. This year, the 7th batch of 20 DBEE students graduated. The 8th and 9th batch of DBEE program is ongoing comprising of 23 and 24 participants respectively. Likewise, the BMET short courses for Lab & X-ray and hemodialysis equipment maintenance trainings were conducted where total of 33 participants were trained.

Essential Critical Care Training (ECCT)

ECCT was developed and conducted by NHTC and the Department of Anesthesia from NAMS to address the COVID 19 case management. Although the training was designed for the nurses and the doctors who were directly providing services in their COVID care units, it is being provided to the health workers working at ICU and HDU. This year the training was provided to 123 health workers.

Mid Level Practicum (MLP)

MLP is a clinical based course that helps to upgrade the skills of government's mid level healthcare workers (Health Assistants and Auxiliary Health Workers) who form the backbone of the rural healthcare team. This year a total of 156 mid level healthcare workers graduated from 11 training sites.

Training Sites	Yearly Target	Achievement
AMDA Hospital, Damak	140	8
Bayalpata Hospital		24
Lamjung Hospital		27
Mechi Hospital		18
Okhaldhunga Community Hospital		20
Provincial Hospital, Siraha		16
Province Hospital, Surkhet		18
Seti Provincial Hospital		9
United Mission Hospital, Tansen		16
Total		156

Operating Theatre Technique and Management (OTTM)

The OTTM is a 42-day long course designed to enhance the skills of nurses in Operation Theatre Techniques and Management. The key features of this course are overall operation theatre management, infection prevention, pre-operative, intra-operative and post-operative patient care, basic anaesthesia/analgesic, basic orthopaedic surgical care, safety of patient and OT staffs and emergency preparedness in OT. This year, a total of 45 nurses received training from Bharatpur, AMDA and TU Teaching Hospitals. AMDA Hospital, Damak was accredited as a new training site for OTTM by NHTC with support from NSI.

Training Sites	Yearly Target	Achievement
AMDA Hospital, Damak	56	12
Bharatpur Hospital		23
TUTH		10
Total		45

Primary Emergency Care (PEC)

Primary Emergency Care (PEC) is a 6-day training for nurses, Health Assistants (HA) and Medical Officers (MO) who provide emergency care at the emergency units of district hospitals. The course focuses on Basic Life Support (BLS), Primary Trauma Care (PTC), Medical Emergencies, Basic Orthopedic Care and Management of Mass Casualties. A total of 132 health workers were trained in PEC training.

Skilled Birth Attendants (SBA)

This is a 60-day training for nurses to upgrade their skills to manage normal pregnancies, childbirth, immediate neonatal care, postpartum care including identification of obstetric complications and its management. This year a total of 177 nurses received SBA training at various NSI supported training sites.

Training Sites	Yearly Target	Achievement
AMDA Hospital, Damak	120	35
Bhaktapur Hospital		8
Bharatpur Hospital		20
Lamjung Hospital		8
Mahakali Provincial Hospital		29
Province Hospital, Surkhet		42
United Mission Hospital		35
Total		177

Other Trainings:

NSI supports other trainings such as Clinical Training Skills to develop trainers, SAFE obstetric anesthesia courses for AAs and anesthesiologists, Orthopedic training, NCD/Cardiac Conclave for doctors. This year NSI trained 53 trainers on CTS, 23 AAs and anesthesiologists on SAFE obstetric anesthesia course, 8 doctors on orthopedic and 21 doctors on NCDs cardio.

Midwifery Program

NSI supported the establishment of onsite SBA/Midwife-led birthing unit at Bharatpur Hospital where two midwives who received scholarship from NSI will be working to support the birthing unit. This year, NSI provided scholarship to 8 Bachelor in Midwifery students from NAMS, Bir Hospital Nursing Campus.

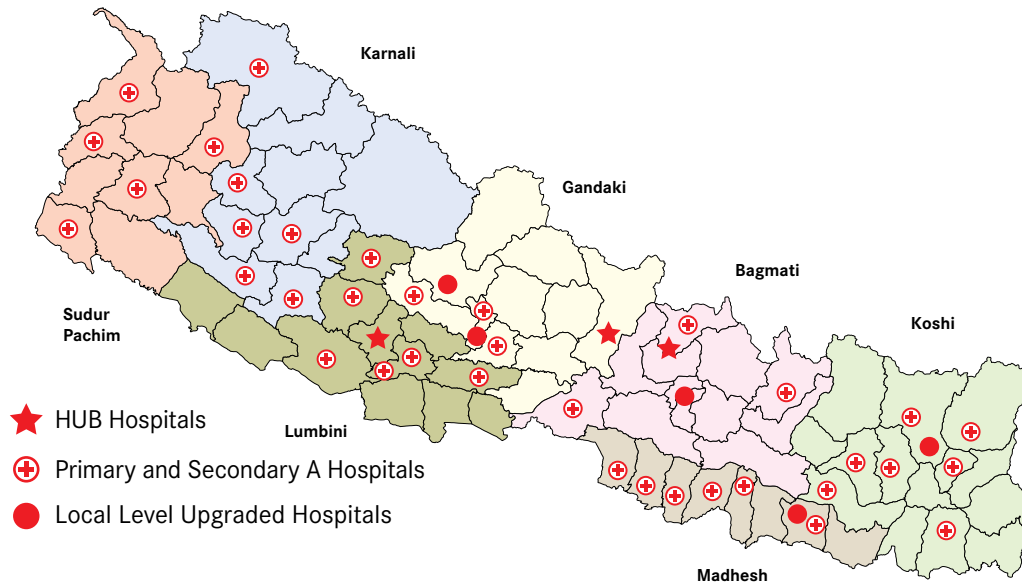
Provincial Biomedical Unit (PBU)

NSI has supported the establishment and operations of 3 provincial biomedical units in Sudurpaschim, Gandaki and Lumbini Provinces. This year, NSI supported the establishment of provincial biomedical unit in Karnali Province.



Curative Service Support Program (CSSP)

Hospitals and Key Service Utilization Data



- ★ HUB Hospitals
- ⊕ Primary and Secondary A Hospitals
- Local Level Upgraded Hospitals



23,560

Surgery

HUB Hospitals	2,836
Primary and Secondary A Hospitals	20,383
Local Level Upgraded Hospitals	341

Surgeries Include
General Surgeries,
Orthopedic Surgeries
Caesarian Section and
Minor Surgeries



32,990

Delivery

HUB Hospitals	3,626
Primary and Secondary A Hospitals	28,927
Local Level Upgraded Hospitals	437

Deliveries Include
Normal, Assisted and
Caesarian Section



58,975

IPD Service

HUB Hospitals	10,290
Primary and Secondary A Hospitals	48,201
Local Level Upgraded Hospitals	484



12,62,855

OPD Service

HUB Hospitals	1,68,426
Primary and Secondary A Hospitals	10,62,664
Local Level Upgraded Hospitals	31,765

The Curative Service Support Program (CSSP) aims to assist government hospitals to increase the effectiveness of surgical and clinical services. This program has been implemented in 44 government hospitals and health facilities across the country. The government has categorized these 44 hospitals as Primary, Secondary 'A' and Local Level Upgraded Primary hospitals (PHC and HP). NSI has grouped these 44 hospitals in 3 groups according to the services they provide and who they are led by. The groups are namely CSSP Hub, CSSP Primary & Secondary A and CSSP Local Level Upgraded hospitals.



This year NSI introduced CSSP in five new hospitals namely Bardibas, Rasuwa, Pashupati Chaulagain Memorial, Baitadi and Gorkha hospitals. The program focuses on 3 areas – i) Human Resources Support, ii) Living Support, and iii) Equipment Support.

Human Resource Support +

Human resource support is fundamental components of CSSP to fill the gaps of the skilled clinical staff. This fiscal year the total number of clinical human resources supported were 341. Doctors and Nurses accounted for the largest cadre.

HR Status

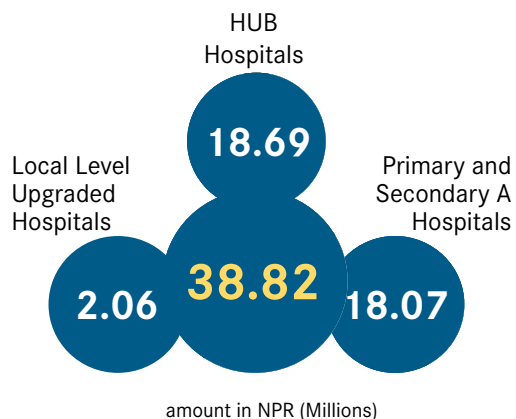
Program	Consultants	MDGP	MO	AA	SN	BMET	Others	Total
CSSP Hub Hospitals	34	0	14	2	18	3	15	86
CSSP Primary and Secondary 'A' Hospitals	0	42	65	24	54	20	32	237
CSSP Local Level Upgraded Hospitals	0	0	9	0	5	0	4	18
Total	34	42	88	26	77	23	51	341

Components of CSSP

Human Resource Support



Equipment Support



Living Support



Capacity Development

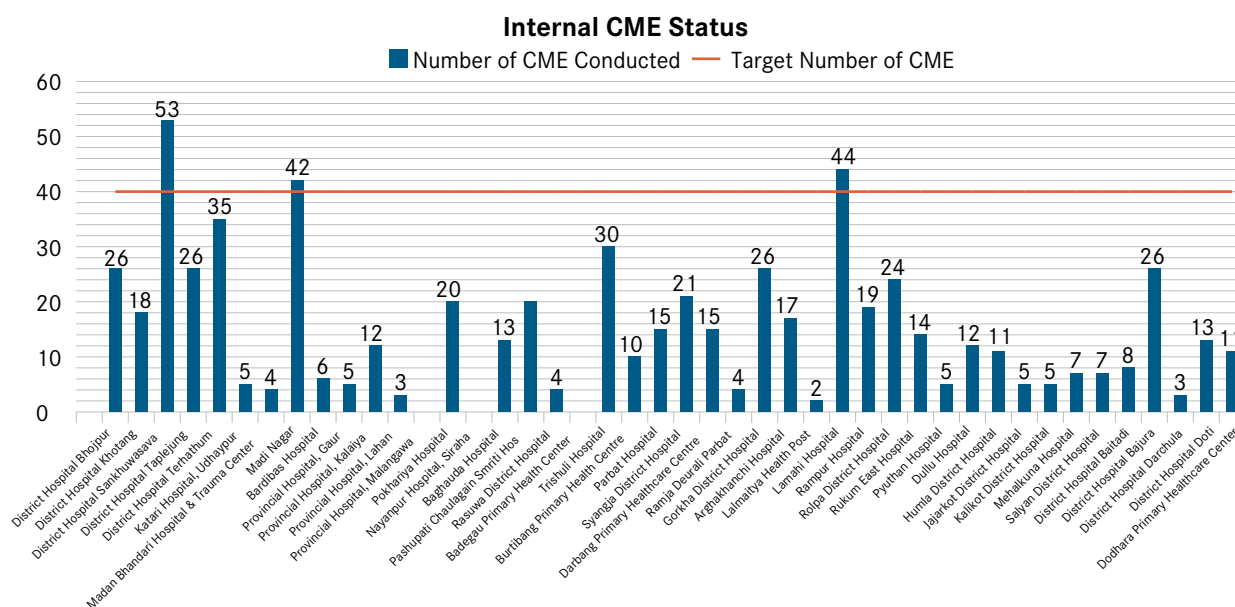
NSI provides various training courses to doctors, nurses and health workers to maintain their skills. This year, 91 health personnels were trained under CSSP. The details are presented in the table below

Training	Participants	No.
ASBA	Medical Officers	12
OTTM	Staff Nurses	10
SBA	Staff Nurses	3
PEC	MO, Nurses & Health Assistants	18
Ortho Exposure	MDGPs	8
Non-Communicable Diseases - Cardiac Conclave	Medical Officers	21
Others		19
Total		91

Internal Continuing Medical Education (CME)

In every hospital where the CSSP is implemented, the hospitals are encouraged to conduct internal CME every week to maintain and update their medical knowledge and skills. Hospitals are required to conduct 40 CMEs per year. On average hospitals conducted only 14 CMEs per year. While the number of the CMEs conducted differ, Koshi provinces on average conducted the most number of CMEs 26.

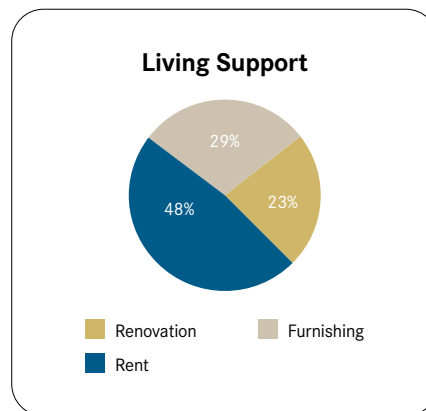
The bar chart below shows the number of internal CMEs conducted in particular hospitals. District Hospital Sankhuwasabha, Madinagar Hospital, Sankhuwasabha and Lamhi Hospital, were able to conduct internal CME more than targeted.



Living Support

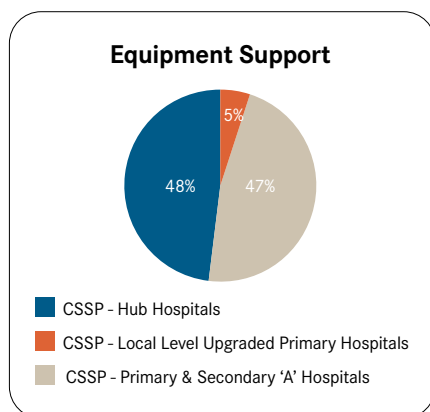
The shortage of accommodation for clinical staff in government hospitals calls for CSSP to provide support for living quarter. This is done in three ways – i) Renting houses, ii) Renovating buildings, and iii) Furnishing.

This year the total amount of NPR. 17,192,309.00 was spent in living support. Rental expenditure was the largest amounting to 48%, renovation and furnishing accounted for 23% and 29% respectively.



Equipment Support

As in the previous years, NSI provided essential equipment to the NSI supported government hospitals in this year. Of the 44 hospitals, 40 requested NSI for equipment support. Based on their need, medical equipment was provided accordingly. The total amount of equipment supplied amounted to NPR. 388,340,83.31. Majority of the expenditure for Equipment Support, 48% went to 3 HUB hospitals, while 5% was spent on 5 CSSP Local Level Upgraded hospitals. Looking at the expenditure on equipment support according to the province, Bagmati, Gandaki and Lumbini provinces where CSSP HUB hospitals are located were the biggest recipients. Province-wise details of medical equipment supported in hospitals are shown in the table.



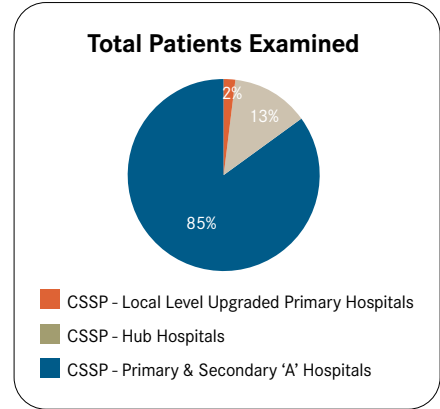
Province	Amount	Percentage
Koshi	3,583,260	9%
Madhesh	4,600,569	12%
Bagmati	10,056,973	26%
Gandaki	7,494,473	19%
Lumbini	8,186,894	21%
Karnali	2,796,571	7%
Sudur Paschim	2,115,345	6%
Total	38,834,083	

Achievements at the CSSP Hospitals

Placing the human resources, providing living and equipment support at the hospitals allowed the hospitals to expand and improve their services. Operation Theatres were established in six hospitals for the first time and performed surgeries including C-Sections. At the Hub hospitals, the placement of the consultants allowed for the expansion of specialty services such as orthopedics, pediatric, ophthalmic, and dental services.

Key Service Utilizations

Key service utilization refers the major services provided by hospitals. Emergency, outpatient, inpatient, delivery including C-section operations and major surgical services make up the key service utilization. A total of 1,555,659 patients were examined in 44 CSSP hospitals. Of these, 1,262,855 (81%) in the outpatient department and 292,804 (19%) in the emergency department. CSSP hub hospitals screened 202,658, (13%) of the patients while 1,319,951 (85%) patients were screened by CSSP Primary and Secondary A hospitals and 33,050 (2%) patients were screened at CSSP Local Level Upgraded Primary hospitals. Of the total number of patients screened 58,975 (4%) required hospitalization.

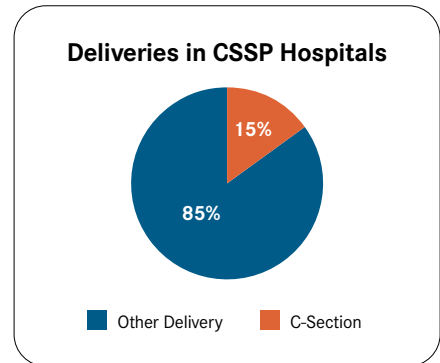


Status of Key Service Utilizations

Utilization Indicators	Total	CSSP-Hub Hospitals	CSSP-Primary & Secondary A Hospitals	CSSP-Local Level Upgraded Hospitals
ER	292,804	34,232	257,287	1,285
OPD	12,62,855	168426	1,062,664	31,765
Admission	58,975	10,290	48,201	484
Total Delivery including C-section Surgeries	32,990	3,626	28,927	437
C-section	4,853	735	4,118	
Gynae Surgery	315	131	184	
Ortho Surgery	1,205	275	930	
General Surgeries	1,083	382	701	

Deliveries

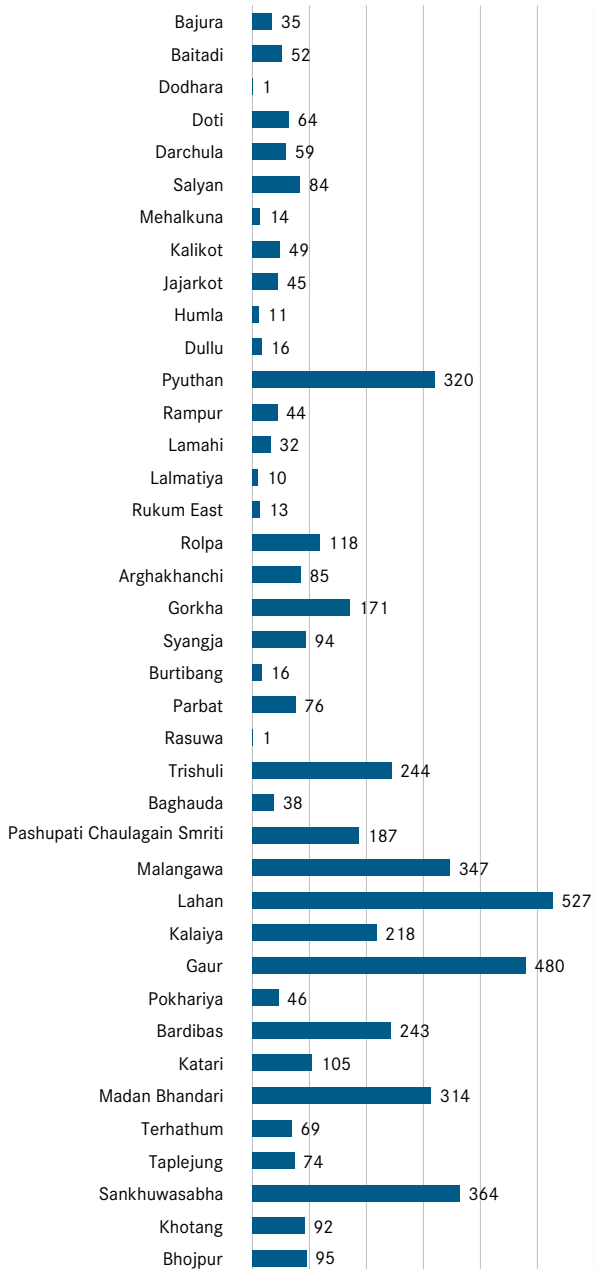
The number of reported deliveries including C-section in the 44 CSSP hospitals was 32,990, of which 15% (4,853) required C-section. Of the total deliveries, 88% took place in CSSP- Primary & Secondary - A Hospitals while 11% of deliveries in CSSP Hub hospitals with on 1% in CSSP- Local Level Upgraded Hospitals.



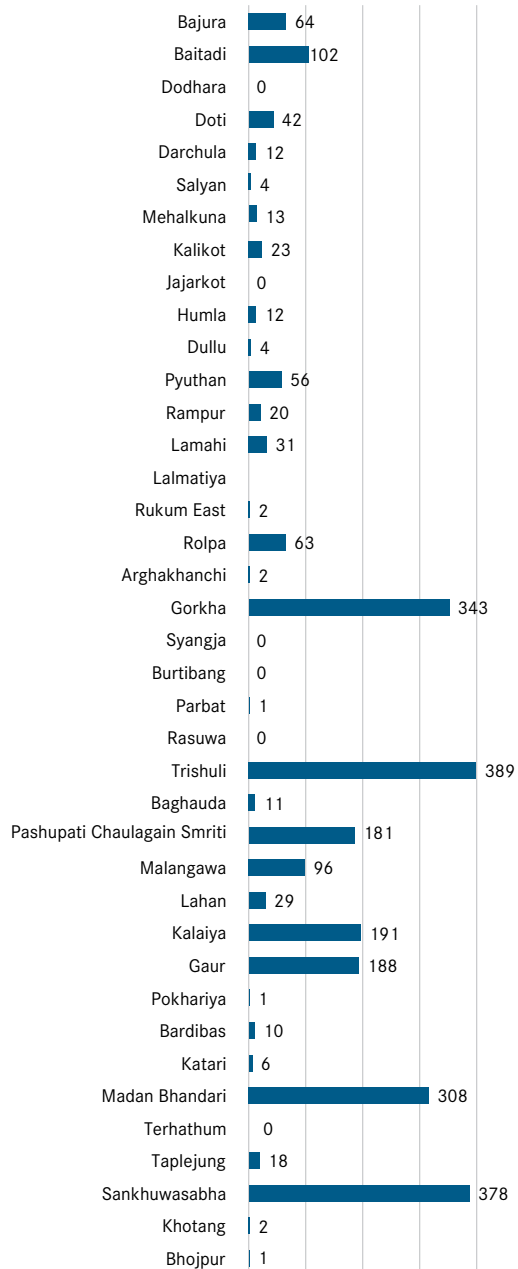
Distribution of Surgeries

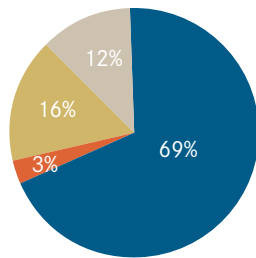
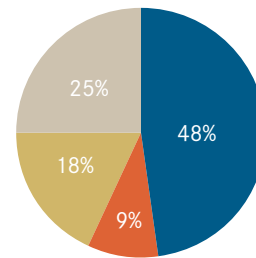
A total of 7,456 surgeries were performed in 39 CSSP supported hospitals and out of that, 80 percent were performed in CSSP-Primary and Secondary-A Hospitals as the number of hospitals while 20% were in CSSP-Hub hospitals. But hub hospitals accounted for about 20% of the total number of surgeries despite having a small number of hospitals 3 (8%). Of the total surgeries performed the majority or 65% were C-section while Gynae surgeries was 4 percent. Correspondingly, 16 percent of surgeries was related to orthopedic, and 15 percent was other general surgery. The CSSP program helps to confirm that some progress has been made in addressing not only maternal health but also the overall health problems of remote and rural people.

C-Section Status



Other Surgeries status



Surgeries in CSSP-Primary & Secondary 'A' Hospitals**Surgeries in CSSP-Hub Hospitals**

■ C-Section ■ Gyane Surgery ■ Ortho Surgery ■ General Surgeries

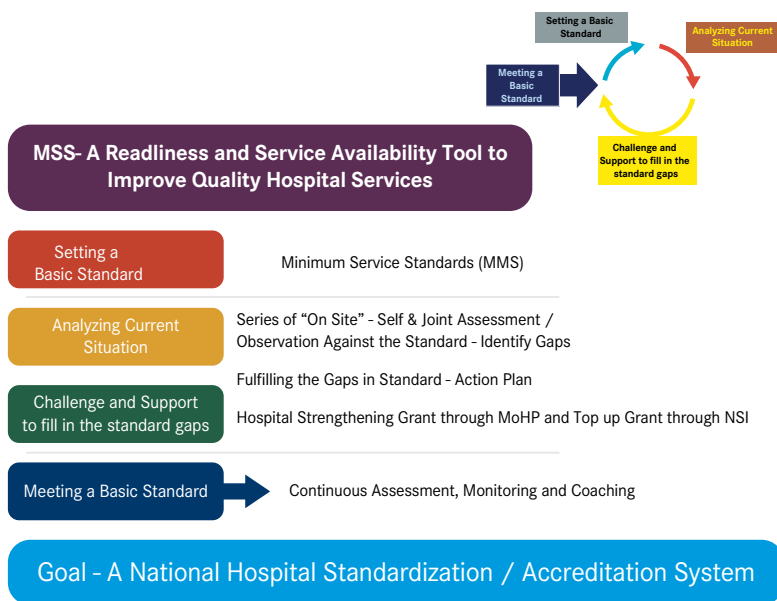
Key Achievements

- Operation theaters were established in CSSP hospitals like Bardiwas, Rasuwa, Bhaluwang, Rukum East, Dullu and Dodhara Chandni and surgical services were provided for the first time in those hospitals.
- Surgical services at Burtibang Primary Health Centre, Pashupati Chaulagain Memorial Hospital, Charikot and Baitadi Hospital were resumed and have been providing regularly.
- Madi Nagar Hospital, Sankuwasabha has expanded 24-hour emergency and indoor services as well as new services like pharmacy and post-mortem services.
- Initiated major services such as indoor and dental along with surgical services orthopedic, C-section, hysterectomy etc in Bardibas hospital.
- Dental services were upgraded with OPG x-ray service and Ophthalmology department with eye operation theater was established in Trishuli Hospital.
- SNCU service has been enhanced at Rasuwa, Kalikot, Jajarkot, Mehalkuna and Salyan Hospitals.

Hospital Strengthening Program (HSP)

Hospital Strengthening Program (HSP) is a continuation of Hospital Management Strengthening Program, which has been implemented in government hospitals since 2015 to ensure the hospital’s readiness towards quality services. The Minimum Service Standards (MSS) tools assess current situation, identifies existing gaps and develops an action plan for improvement. The aim is to establish a “National Standardized Assessment and Monitoring system of the hospitals,” for quality hospital services.

MSS is framed in three broad areas: Governance and Management, Clinical Services Management and Hospital Support Services Management.



Currently Available MSS-Tools (2022-2023)





Minimum Service Standard of Hospitals

Hospitals scoring above 85%
 Total number of Hospitals - 27
 NSI supported Hospitals - 12

Hospitals scoring between 70% to 85%
 Total number of Hospitals - 24
 NSI supported Hospitals - 14

As a part of government health system strengthening, NSI advocated for the establishment of a separate MSS implementation unit in Federal and Provincial health system. NSI has been providing HR and logistic support for the deployment of one MSS Implementation Officers in 7 Provinces and 2 at the center since FY 2077/78.

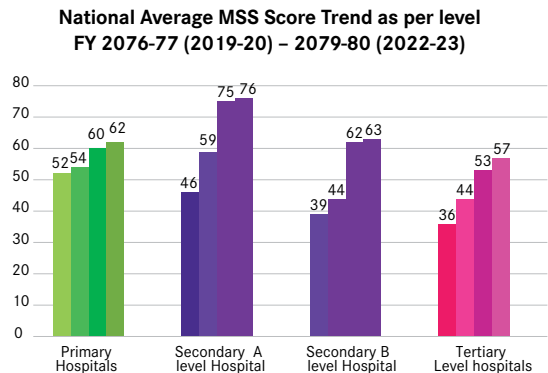
Capacity Development

Developing the capacity of government officials is a key input of Hospital Strengthening Program. NSI conducted the following events for capacity development of government officials:

- MSS orientation and review meeting with 30 participants from 9 MSS units.
- MSS orientation to 100 fresh Medical Graduates in 3 batches at Kathmandu.
- Technical and financial support to provincial annual hospital review in all seven provinces.
- MSS tool development for the development and implementation of MSS tool for Maternity, Children, Infectious Diseases and Mental health service hospital.
- Digitalization of data: NSI is continuously advocating for MSS data digitalization through financial and technical support for the development and use of MSS software during MSS assessments.

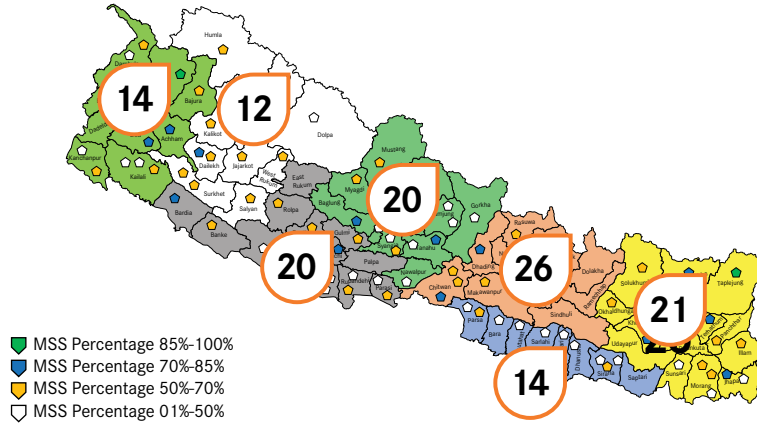
MSS Implementation:

MSS program has expanded in 127 government hospitals including 4 specialized service hospitals. A total of 195 MSS assessments were conducted this year. NSI directly conducted 44 assessments and provided partial support to the government to conduct the remaining 151 assessments.



The above figures explain the increasing trend of average MSS score of hospitals in the last 4 years.

MSS Implemented Hospitals by Province



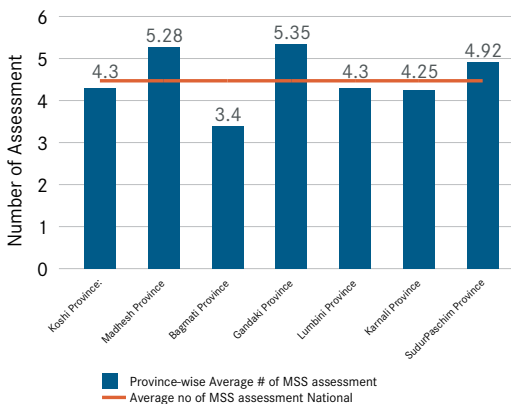
MSS Score

MSS Score	Category	Primary	Secondary A	Secondary B	Tertiary	Specialized	Total
85-100%	Green	12	15	0	0	0	27
70- 85%	Blue	15	13	2	2	0	32
50- 70%	Yellow	17	10	1	6	1	35
0-50%	White	22	2	2	4	3	33
Total		66	40	5	12	4	127

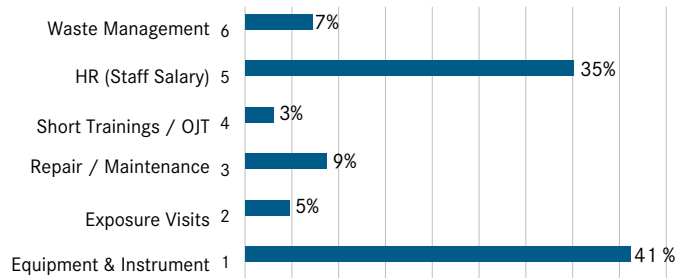
Out of all the provinces, Gandaki province conducted a maximum average event of assessment followed by Madhesh Province. Bagmati has the lowest average assessment events. The national average is 4.47. Three provinces fall above while four falls below the national average.

Grants of NPR. 400,000 were provided to 30 local hospitals to assist them with their development plan. These grants are utilized by the hospitals mainly in the following areas: Equipment and instruments, exposure visits, repair and maintenance, short trainings, Salary/benefits for staff and waste management. Maximum budget (41%) is utilized for equipment and instrument and the lowest for short trainings. The figure below shows the percentage distribution of grants by the areas.

Province-wise Average # of MSS assessment



NSI Grant Utilization Status

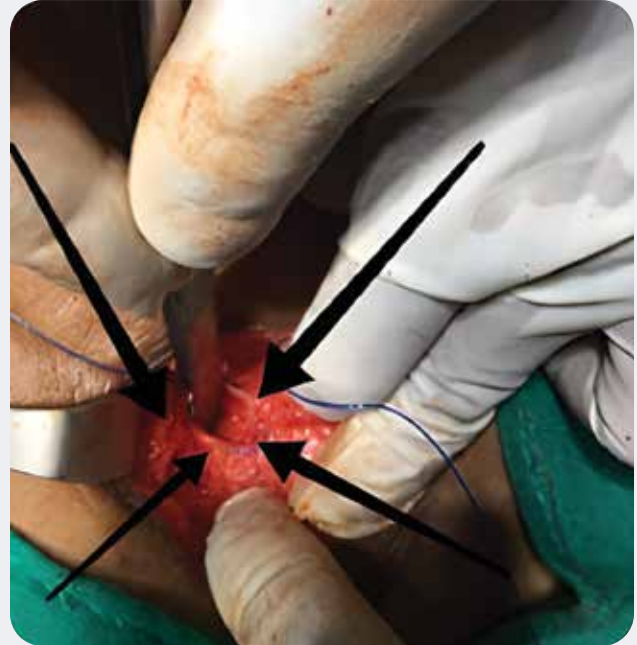


Case of Epigastric Hernia

A 74-year-old female presented to General OPD with a history of epigastric pain for 2-3 years, insidious onset, sharp localized, nonshifting, non-radiating, relieved on lying down, no relation with meals. She had taken over-the-counter analgesics to relieve her pain. There was also a history of a mass in epigastric region which had developed in the past year. The mass was associated with pain as described above. The mass increased in size on standing, coughing, or straining, decreased in size on lying down.

On examination, she was hemodynamically stable. Her respiratory and cardiovascular examinations were normal. Per abdomen findings: a soft, tender, globular mass of size 3x1 cm² was palpable in epigastric region which reduced on lying down. A defect could be felt on anterior abdominal wall on deep palpation. Rest of the examination was nonsignificant.

An Epigastric Hernia was diagnosed clinically. She was taken to Operation Theatre. Under Local Anesthesia, incision was given till rectus sheath. A defect of 2 cm diameter visualized on rectus sheath with preperitoneal fat protruding out through the defect. The preperitoneal fat was reduced into the abdominal cavity. The defect was repaired (Herniorrhaphy) with prolene 2-0. The abdomen was closed in layers. Sterile dressing was applied. The patient was discharged on the same day with oral antibiotics and analgesics.



(Picture showing the defect of the hernia site)

Dr. Mahesh Silwal
MDGP
Lamahi Hospital
Lamahi Municipality

Research, Advocacy and Monitoring

(restructured as Monitoring, Evaluation and Learning-MEL)

Monitoring, Evaluation and Learning are integral parts of NSI as they are the foundation for strengthening programs and organizational work. In the year 2022, the existing Research, Advocacy and Monitoring (RAM) unit of NSI was restructured as Monitoring, Evaluation and Learning department. This department systematically tracks and assesses the progress, effectiveness, and impact of NSI intervention, and uses the information to make informed decision and improve performance.

After the establishment of the MEL department, a comprehensive MEL plan was developed and endorsed by the Executive Committee. This strategic document outlines the result frameworks, monitoring, evaluation, and learning process for the implementation of RHSP project of NSI. NSI will use this document throughout this project to assess progress, measure the outcome/impact, and identify areas for improvement and helps program team make informed decision, improve program effectiveness and be accountable for achieving desired result. The existing M&E software has been upgraded with added features to generate user friendly reports.

MEL department also conducts scientific research to generate evidence-based data for two purposes: to develop NSI strategy; and to strengthen its advocacy for policy/system change. NSI has started an evaluation of Primary Emergency Care Training package. The findings will help government in implementing and improving the training. As part of its regular activities, NSI continues the advocacy and public communications. The Annual Rural Health Conference was held this year after a pause of two years due to the COVID-19 Pandemic. NSI continues preparing and publishing brochures, briefs, and research papers.



Key Activities	Achievements	Remarks
Research and Studies	3	<ul style="list-style-type: none"> A study on the utilization and effectiveness of Primary Emergency Care (PEC) Training program in Nepal ongoing Review of Outpatient Department Readiness in Basic and General (A) Hospitals of Nepal, and its Relationship to Service Utilization and User Satisfaction Job Satisfaction of Biomedical Equipment Technicians (BMETs) in Nepal
Internal Evaluations / Assessments / Reports / Advocacy Materials	7	<ul style="list-style-type: none"> Post-Training assessment of ASBA, OTTM and PEC training graduates Baseline assessment of Gorkha & Trishuli Hospital (HUB Hospital) Need assessment of Hemo dialysis equipment Impact Evaluation of BMEAT. ASBA Report Newsletters NSI brochure
Journal Article	2	<ul style="list-style-type: none"> Impact Evaluation of SBA FEP accepted in PLUS ONE Pathways to effective surgical coverage in a low middle income country-PLOS Global Public health
Conferences Attended	4	<ul style="list-style-type: none"> Seventh Global Symposium on Health Systems Research- 3 presentations 1st International Women's Conference Ninth National Summit of Health and Population Scientists in Nepal 16th International Conference of Nepal Society of Obstetricians and Gynecologists

स्वास्थ्यकर्मीको आवाज
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निक सायनगरस अर्थात् २०२२ का जित्ता जनस्वास्थ्य निरीक्षक प्रो हेमन्त खुरस

हे.स. २०२२ मा एउटा वर्षको लागि स्वास्थ्यकर्मीको अवस्थाको बारेमा जानकारी दिने लेखहरूको एक संकलन। यसमा स्वास्थ्यकर्मीको जीवन, काम, र स्वास्थ्यको बारेमा विभिन्न लेखहरू समावेश छन्। यसमा स्वास्थ्यकर्मीको जीवन, काम, र स्वास्थ्यको बारेमा विभिन्न लेखहरू समावेश छन्।

निक

- १. २०२२ को स्वास्थ्य
- २. स्वास्थ्यकर्मीको जीवन
- ३. स्वास्थ्यकर्मीको काम
- ४. स्वास्थ्यकर्मीको स्वास्थ्य
- ५. स्वास्थ्यकर्मीको भविष्य
- ६. स्वास्थ्यकर्मीको भूमिका
- ७. स्वास्थ्यकर्मीको योगदान
- ८. स्वास्थ्यकर्मीको चुनौति
- ९. स्वास्थ्यकर्मीको सफलता
- १०. स्वास्थ्यकर्मीको भूमिका

PLOS GLOBAL PUBLIC HEALTH

RESEARCH ARTICLE
Pathways to effective surgical coverage in a lower-middle-income country: A multiple methods study of the family physician-led generalist surgical team in rural Nepal

Olisa Ross^{1,2*}, Rakina Shalya^{3*}, Rishav Shrestha⁴, Shrestha Shah⁵, Anita Pradhan^{1,6}, Rajul Shrestha⁷, Pushkar Bhandari⁸, Birey Parajuli⁹, Kaashib Shah¹⁰, Anil Shrestha¹¹, Mark Zimmerman¹², Hannah Herderson¹³, Suresh Tamang¹⁴, Ruma Rajbhandari¹⁵, ...

Abstract

The Lancet Commission on Global Surgery (LCoGS) recommends using specialist surgical workforces densely as one of 6 core indicators for monitoring universal access to safe, affordable surgical and anaesthesia care. Using Nepal as a case study, we explored the capacity of a generalist workforce (led by a family physician or MD general practitioner) and non-physician anaesthetists to enable effective surgical delivery through task-shifting. Using a multiple-methods approach, we retrospectively mapped essential surgical care and the enabling environment for surgery in 28 hospitals in 25 remote districts in Nepal and compared it with LCoGS indicators. All 25 districts performed surgery, 21 performed Caesarean section (CS), and 5 met at least 50% of district CS needs. Generalist surgical teams performed CS, the essential major operation at the district level, and very few laparotomies, but no operative orthopaedics. The density of specialist Surgeon/Anaesthesiologist/District (SAD) was 0.4/100,000; that of Generalist teams (gSAD) led by a family physician (MD General Practitioner/MQGP) supported by non-physician anaesthetists was eight times higher at 3.1/100,000. gSAD presence was positively associated with a two-fold increase in CS availability. All surgical rates were well below LCoGS targets; 46% of hospitals had adequate enabling environments for surgery, 28% had functioning anaesthesia machines, and 75% had blood transfusion services. Despite very low SAD density, and often inadequate enabling environment, surgery can be done in remote districts. gSAD teams led by family physicians are providing essential surgery, with CS the commonest major operation. gSAD density is eight times higher than specialists and they can undertake more complex operations than just CS alone. These family physician-led functional teams are providing a pathway to effective surgical coverage in remote Nepal.

OPEN ACCESS

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Data Availability Statement: All relevant data are within the paper and its Supporting Information files.

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Financial Details

Summary of Expenses

Budget Heading	Federal	Koshi	Madhesh
1. TRAINING			
1.1 Program Coordination, Monitoring and Travel	20,569,192	374,949	215,036
1.2 Biomedical Equipment Technician (BMET)	16,632,577	-	-
1.3 Anesthesia Assistant Course (AAC)	4,546,398	-	-
1.4 Skilled Birth Attendant (SBA)	-	2,368,194	1,869,239
1.5 Advance Skilled Birth Attendant (ASBA)	4,684,784	-	-
1.6 Mid-level Practicum (MLP)	-	2,673,014	2,547,382
1.7 Continuing Professional Development	-	-	-
1.8 Operation Theater Management	4,184,638	-	-
1.9 Course Development	-	-	-
1.10 Short Courses	6,918,094	927,793	479,807
1.11 Technical Support to NHTC and Training Sites	1,892,189	-	-
1.12 Capacity Building of PHTC	-	911,953	376,792
1.13 Midwifery PCL Course	9,759,172	-	-
Training Total	69,187,044	7,255,903	5,488,256
2. CURATIVE SERVICE SUPPORT PROGRAM (CSSP)			
2.1 CSSP-HUB (Multi-speciality)	-	-	-
2.2 CSSP-Primary & Secondary Hospitals (MDGP)	41,248,216	40,275,733	18,300,253
2.3 CSSP-Local level upgraded Hospitals (MBBS)	-	-	-
2.4 CSSP Program Coordination, Monitoring and Travel	13,499,542	5,825,457	4,503,226
CSSP Total	54,747,758	46,101,190	22,803,479
3. HOSPITAL STRENGTHENING PROGRAM (HSP)			
3.1 MSS-System Strengthening	5,383,984	1,937,715	2,087,960
3.2 MSS Program Implementation	-	792,038	1,068,055
3.3 MSS- Complementary Grant	-	-	-
3.4 Electronic Hospital Record	18,679,986	-	-
3.5 Program Coordination, Monitoring & Travel	7,146,941	272,363	392,573
HSP Total	31,210,911	3,002,116	3,548,588
4. RESEARCH, ADVOCACY AND MONITORING (RAM)			
4.1 Research and Studies Conduction	7,365,118	-	-
4.2 Database and Software	11,725	-	-
4.3 Dissemination/Conferences	910,000	-	-
4.4 Healthcare Workers Conference and NS Award	7,334,674	-	-
4.5 Publications (Brochure, Newsletter, etc.)	3,442,662	-	-
4.6 SWC Monitoring and Evaluation fee	-	-	-
4.7 SWC Evaluation Team expenses (DSA, Transport)	-	-	-
4.8 Social Audit	464,754	-	-
4.9 Monitoring visits	24,550	-	-
4.10 Data Management, Software and Equipment	651,074	-	-
RAM Total	20,204,557	-	-
B. Administrative Expenses			
5.1 HR Expenses	51,669,401	-	-
5.2 Staff Development and Planning	7,826,318	-	-
5.3 Consultants	838,434	-	-
5.4 Insurance	3,290,933	-	-
5.5 Utilities	1,188,415	-	-
5.6 Consumables	2,247,720	-	-
5.7 Equipment and Office Expenses	25,859,022	-	-
5.8 AMC/Out Sourcing Services	5,833,779	-	-
Total Administrative Expenses	98,754,022	-	-
Grand Total	274,104,291	56,359,209	31,840,323

Bagmati	Gandaki	Lumbini	Karnali	Sudur Paschim	Local	Total
461,130	409,794	318,447	264,531	145,789	47,700	22,806,568
-	8,706,365	976,463	11,413,230	635,432	-	38,364,066
-	150,000	-	-	-	-	4,696,398
1,511,893	957,597	2,425,751	1,908,297	3,650,081	-	14,691,052
-	-	-	-	-	-	4,684,784
2,014,957	2,145,962	1,809,751	1,978,751	2,239,576	233,816	15,643,209
-	-	-	-	-	-	-
-	-	-	-	-	-	4,184,638
-	-	-	-	-	-	-
1,547,065	1,582,487	476,756	866,928	432,225	-	13,231,155
-	-	-	-	-	-	1,892,189
819,730	1,067,021	1,272,511	560,370	1,127,889	6,269,007	12,405,273
-	-	-	-	-	-	9,759,172
6,354,775	15,019,226	7,279,679	16,992,107	8,230,992	6,550,523	142,358,504
24,914,898	19,978,713	21,979,940	-	-	-	66,873,551
9,251,449	11,194,360	26,338,658	32,375,353	24,988,146	51,144,922	255,117,090
-	-	-	-	-	24,132,817	24,132,817
4,259,242	5,133,156	1,218,092	2,780,576	2,671,264	1,466,125	41,356,680
38,425,589	36,306,229	49,536,690	35,155,929	27,659,410	76,743,864	387,480,138
1,858,196	2,138,263	1,906,445	2,420,516	2,138,244	-	19,871,323
916,730	484,970	1,659,284	476,445	1,502,816	4,015,227	10,915,565
-	-	-	-	-	11,974,773	11,974,773
-	-	-	-	-	-	18,679,986
263,852	97,640	995,703	251,881	442,644	1,737,529	11,601,126
3,038,778	2,720,873	4,561,432	3,148,843	4,083,704	17,727,529	73,042,773
-	-	-	-	-	-	7,365,118
-	-	-	-	-	-	11,725
-	-	-	-	-	-	910,000
-	-	-	-	-	-	7,334,674
-	-	-	-	-	-	3,442,662
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	464,754
-	-	-	-	-	-	24,550
-	-	-	-	-	-	651,074
-	-	-	-	-	-	20,204,557
-	-	-	-	-	-	51,669,401
-	-	-	-	-	-	7,826,318
-	-	-	-	-	-	838,434
-	-	-	-	-	-	3,290,933
-	-	-	-	-	-	1,188,415
-	-	-	-	-	-	2,247,720
-	-	-	-	-	-	25,859,022
-	-	-	-	-	-	5,833,779
-	-	-	-	-	-	98,754,022
47,819,142	54,046,328	61,377,801	55,296,879	39,974,105	101,021,916	721,839,994

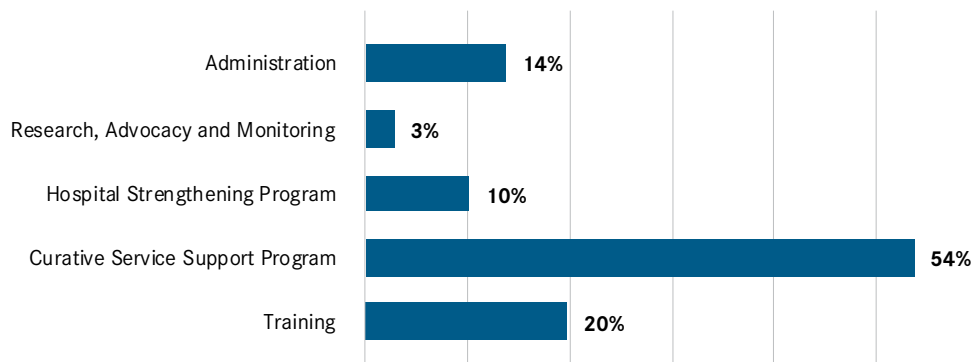
Summary of Program Expenses

	Federal	Koshi	Madhesh
Training	69,187,044	7,255,903	5,488,256
Curative Service Support Program	54,747,758	46,101,190	22,803,479
Hospital Strengthening Program	31,210,911	3,002,116	3,548,588
Research, Advocacy and Monitoring	20,204,557	-	-

Total Expense Summary

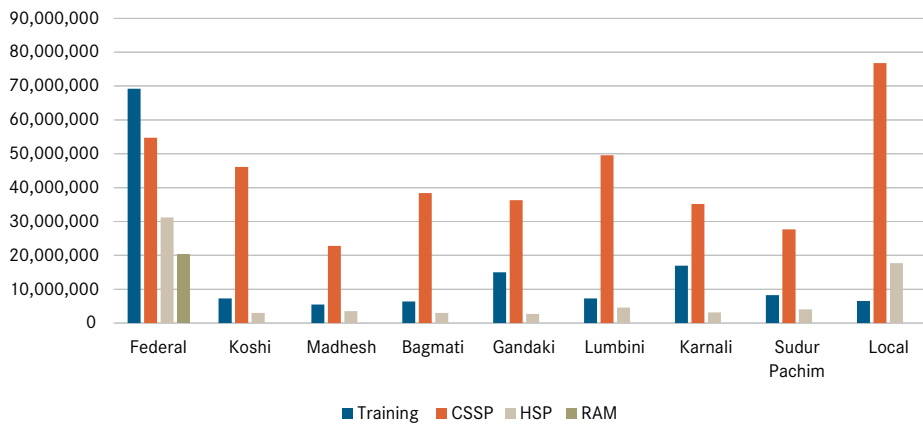
	Total
Training	142,358,504
Curative Service Support Program	387,480,138
Hospital Strengthening Program	73,042,773
Research, Advocacy and Monitoring	20,204,557
Administration	98,754,022

Total Expense Summary

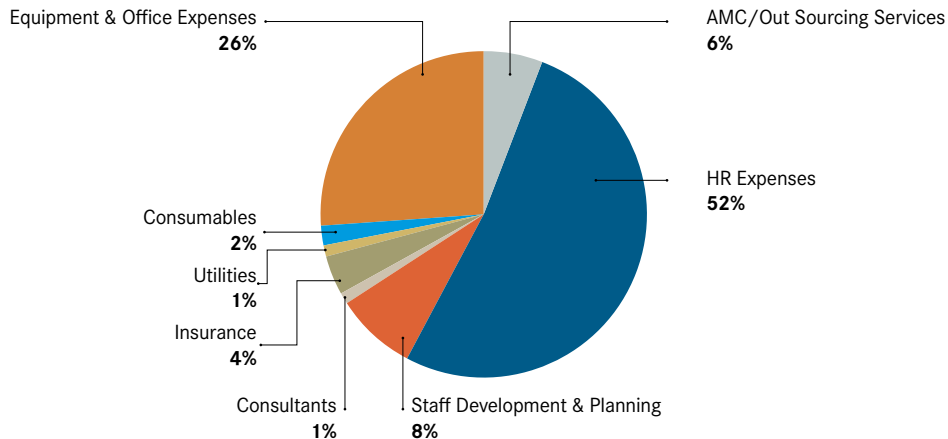


Bagmati	Gandaki	Lumbini	Karnali	Sudur Paschim	Local	Total
6,354,775	15,019,226	7,279,679	16,992,107	8,230,992	6,550,523	142,358,504
38,425,589	36,306,229	49,536,690	35,155,929	27,659,410	76,743,864	387,480,138
3,038,778	2,720,873	4,561,432	3,148,843	4,083,704	17,727,529	73,042,773
-	-	-	-	-	-	20,204,557

Program Expense Summary



Administrative Expense Summary



NSI Staff



Aarati Maharjan
Office
Administrative
Assistant
Since 2023



Abhaya Raj Pradhan
Sr. Finance Officer
Since 2006



Aiesta Shahi
Program Officer,
HSP
Since 2019

Ajay Bholan
Driver
Since 2023



Archana Amatya
Executive Director
Since 2022



Archana Bohara
Training Officer
Since 2023



Arpana BC Kalaunee
Training Manager
Since 2022



Bal Sunder Chansi Shrestha
Sr. Program
Coordinator, HSP
Since 2012



Bhumika Shakya
Cook
Since 2009



Bidhya Gurung
Training Officer
Since 2023



Bikash Shrestha
Deputy Director
Since 2006



Bimal Chandra Pun
Program Officer,
HSP
Since 2017



Bindiya Lama
Program Officer,
HSP
Since 2023



Bishal Shrestha
Administrative
Assistant
Since 2023



Deepa Chitrakar
Program Officer,
M&E
Since 2008



Janardan Pathak
Program Officer,
HSP
Since 2017



Jonu Pakhrin
Program Officer,
Training
Since 2017



Meena Dulal
Housekeeping
Since 2006



Mohammad Kashim Shah
Sr Program
Manager
Since 2014



Mukti Ghimire
Security
Since 2006



Naba Raj Shrestha
Administrative
Coordinator
Since 2006



Palin Subba
Admin/Finance
Officer
Since 2007



Pravin Paudel
MEL Manager
Since 2023



Rabina Shakya
Administrative
Coordinator, HSP
Since 2006

Rita Pokhrel
Sr. Program
Coordinator, HSP
Since 2008



Rukesh Shrestha
Driver
Since 2012



Sagar Singh
Instructor, BMET
Since 2020



Sajani Shakya
Administrative
Officer, Training
Since 2015



Salomi Poudel
BMET Instructor
Since 2015



Subin Man Joshi
Finance Officer
Since 2014

Sujata Bhattarai
Instructor, BMET
Since 2022



Sumati Shakya
Training
Administrator
Since 2008



Suraj Shrestha
Program Officer,
HSP
Since 2019



**Surendra
Shrestha**
Driver
Since 2023



**Suresh K.
Shrestha**
Team Leader,
BMET
Since 2007



Sushil Basnet
Program Officer,
HSP
Since 2019

Susma Lama
Program Officer,
HSP
Since 2016



Taramuni Shakya
Administrative
Manager
Since 2006



**Tej Bahadur
Shrestha**
Housekeeper
Since 2010



Retired (*)/Resigned (**) in this FY



Anil Shrestha*
Executive Director
Since 2016



Indra Rai*
Training Manager
Since 2006



**Madhav
Bhusal****
MLP Training
Coordinator
Since 2010



Rita Thapa**
Research
Officer
Since 2012



**Suresh
Tamang****
Sr. Research
Coordinator
Since 2019

Note: The names are on alphabetical order.



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