

Market Assessment of Health Care Services, Quality and Price of Medicines and Kits



Report : Market Assessment of Health Care Services, Quality and Price of Medicines and Kits

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Foreword

Transparency International (TI) Nepal is undertaking ‘Open Contracting for Health Initiative (OC4H)’ in Nepal, a project that emphasizes publishing, using and monitoring public procurement processes and related information openly by all concerned parties. The aim is to ensure the best usage of public funds while ensuring health services to the citizens. The interventions also encourage the government to enhance efficiency, better monitor delivery of health services and acquire value for money.

The responsibility of delivering quality public health services primarily falls on the Government of Nepal. However, due to various reasons, people do not receive health services efficiently and adequately as per government’s commitment. Among many reasons, issues related to public procurement of health-care services and medical items is a major contributor. In this backdrop, TI Nepal commissioned “Market Assessment of Health Care Services, Quality and Price of Medicine and Kits”, to capture the status of health services being delivered, public procurement processes along with quality and price of medicines and diagnostic kits.

On behalf of TI Nepal, I would like to thank the team of Centre for Research on Education, Health and Social Science (CREHSS) lead by Mr. Mohan Sharma for their efforts to conduct this study. This study has been possible with the cooperation and support of concerned government institutions of the Federal government, Provincial governments of Bagmati and Province No. 2, and local level authorities. We express sincere gratitude for their cooperation, time and information. We also thank the private sector and their associations along with civil society members for their contributions. The inputs of TI Nepal members and efforts of staff in realizing this publication have been valuable. Last but not the least, we express our gratitude to UKaid and Transparency International for their technical and financial contribution to the Open Contracting for Health-OC4H project through which this publication has been made.

Padmini Pradhananga
President
Transparency International (TI) Nepal

Executive Summary

Background

Health care service is a crucial facet of human life. Medicines have a direct impact on patients' life. For the therapeutic efficacy, both the health care service and medicines should be of standard quality. On the other, both poor health service and low-quality medicines have dire consequences on human health and life. The quality of health care service depends on accessibility of specialist health workers and sufficiency of modern medical equipment including quality of medicines. Additionally, the quality of medicine depends on the composition of ingredients used and its procurement process as well. This study aims to assess the health care services, quality and price of medicines and kits at different level of health settings and in the Government agencies in Nepal.

Method

It was a descriptive cross-sectional study. The study was carried out in two provinces, namely: Bagmati Province and Province 2. There were 8 districts; 4 districts each were purposively selected from each province. There were altogether 247 respondents; 4 pharmaceuticals, 58 health facilities, 33 Logistic Management Division/Section, and 152 beneficiaries. The 58 health institutions comprise 2 central hospitals, 2 provincial hospitals, 8 district hospitals, 40 health posts, and 8 Primary Health Care Centers (PHCC). Similarly, 19 beneficiaries from each district were also purposively selected for interview, so, there were a total of 152 beneficiaries.

Individual face-to-face interviews were conducted by using structured and unstructured tools. Data were edited to detect errors, to assure the collected data were accurate and consistent. After editing, data were coded in numerical symbols. It was then entered, and data cleaning was done subsequently. Data analysis was done using Statistical Package for the Social Science (SPSS) version 20.0. The analyzed data was presented in different statistical forms like frequencies, percentages, tables, and charts.

Findings

Price and quality of free medicine

Price: Among all the pharmaceuticals, three in four (75%) stated that prices of free medicines is determined by the Government and the methods for setting prices is similar to other medicines. Also, a Similar percentage (75%) stated that free medicines are like free distributed medicines or sample medicines. Among the methods of procurement three methods; Direct Purchase Method (DPM), Open Quotation Method (OQM), and E-Bidding were the most common with (75%). All pharmaceuticals stated that they used these methods as directed by the Procurement Act and guidelines for reasons of transparency. The same (50%) proportionate pharmaceuticals revealed VAT/TAX is applicable in free medicine.

Quality: The quality of free medicine was appraised by testing each batch which was applicable to all. Overall, three out of four (75%) pharmaceuticals stated that companies have been black listed if they are

unable to provide quality products. Exactly half (50%) of the pharmaceuticals stated it took 2-4 weeks time while another (50%) stated it took 1 to 6 months' to ensure the quality of free medicine. All responded that the quality testing of free medicine was the same as of regular medicines. Among all, three out of four (75%) stated storing free medicine in a safe place whereas, only one out of four (25%) stated that it stored at the central medicine store during quality assessment. Among all beneficiaries, more than four out of five (83%) stated to have recovered from the use of free medicine. In addition, nearly three out of five (59%) beneficiaries stated that they received free medicine before expiry date, whereas nearly two out of five (39%) were not certain about the expiry date.

Price and quality of COVID-19 medicines and testing kits

Price: All pharmaceuticals stated that the price of medicines for COVID-19, testing kits, and equipment was set by the Government. Among medicines for all, three out of four (75%) stated that the price determination process for COVID-19 was similar to others. Among procurement methods, OQM and E-bidding were highly practiced with 75% each. The reasons for preferring these types of procurement, where three out of four (75%) stated that it was transparency, while another (75%) stated that it was determined by act, whereas one out of four (25%) stated the process was easy. All of them stated that the price of COVID-19 medicines, testing kits, and equipment were listed in the bill. Considering the wholesale and retail price of COVID-19 medicines, testing kits, and equipment, three out of four (75%) replied "No" whereas the rest one out of four (25%) reported "Yes". Everyone agreed on the VAT/GST for COVID-19 medicines, testing kits, and equipment. A majority (75%) stated that this applied to VAT/GST in private and public sector, whereas some (25%) stated it applied only in the private sector. Among all beneficiaries, more than three out of five (62%) reported that they paid for the cost for PCR/RDT testing. In addition, they stated that the testing cost range of PCR/RDT were from NRs 1000 to 5500. Along with this, less than half (45%) beneficiaries stated that they had to wait over 120 hours for the PCR and RDT test result.

Quality: At all levels of the Logistic Management Section (LMS) representatives stated that the GoN evaluates the quality of COVID-19 medicines, testing kits, and equipment by testing each batch. Of the total, three out of four (75%) stated that they cancelled the procurement process if the bidder failed to maintain the quality of drugs and equipments. Considering the due time required for quality assurance, half (50%) stated it took more than 1 week, while an equal (50%) stated it took 1-6 months. All of them reported that the quality measurement time for COVID-19 medicine, testing kits, and equipments took the same time as for others. Of the total, three out of four (75%) pharmaceuticals reported that they stored COVID-19 medicines and kits in safe places while only one out of four (25%) stated that they stored in central medicine store during quality testing.

Access to health care services with special focus on COVID-19 crises

Access: Of the total, more than 90 (93%) of the health facilities from the 3 different levels, central, provincial, and local were found to be without adequate physical infrastructure to provide COVID-19 health services. With these inadequacies, four out of five (77%) health institutions suggested to patients to stay at home isolation, a slightly higher 10 (11%) referred patients to other hospitals, whereas a very few, 4% transferred patients to other wards. Among all, nearly 90 (88%) of health institutions were found to be without separate isolation rooms for the COVID-19 patients. Additionally, nearly three out of four (74%) health institutions were found to be with inadequate beds for COVID-19 patients. Though, a majority (71%) of health institutions managed by suggesting patients to stay at home isolation, one out of five

(20%) managed by adding extra beds, 4% did not accept COVID-19 cases, while another 4% managed by transferring regular patients to other wards. All health institutions, almost three out of four (74%) stated that they had inadequate health workers. In this situation, almost four out of five (79%) health institutions managed by referring patients to better health institutions, 16% managed by dividing existing health workers into shifts, and a few 4% did not accept COVID-19 cases.

A Majority of health institutions (65%) were found to have sufficient PPE, whereas more than a third, (35%) were found with insufficient PPE and received them from donor organizations, local level, and other organizations. Considering the PCR and RDT tests in health facilities, more than half (51%) had no PCR and RDT test and referred patients to the district, provincial, and central level hospitals. In a similar way, more than a third (32%) of health facilities had both PCR and RDT testing facility, while less one fifth (16%) had facility for PCR tests, and less than 2% were found to be providing than only RDT test services. All health facilities with no PCR and RDT testing services referred patients to higher-level health facilities. For instance, health posts referred patients to district hospitals, district hospitals to provincial hospitals, and provincial hospitals to central or COVID-19 hospitals. Among those health facilities having PCR and RDT testing kits, half (50%) reported to always have PCR and RDT kits, while an equal proportion (50%) reported that they had no PCR and RDT testing kits.

Among all health facilities, a majority (65%) reported that COVID-19 patients received health services. Almost all health facilities (98%) were found to provide PCR and RDT tests free of cost. A very few (2%) were found to have charged for PCR and RDT tests. Among those health institutions who charged for testing also had provision for free health services for COVID-19. If any patient was found not capable to afford they were asked to fill a poor and marginalized form and proceed for the free health services. Nearly all, (95%) of health workers were found to have worn PPE during the health service.

Quality: Though the need for specialist health workers has increased drastically after COVID-19 pandemic outbreak globally. In all levels of health institutions, more than four out of five (82%) were found to be without specialist health workers; Medical specialist, Chest specialist, infectious disease specialist with nurse and assistance staff. Moreover, nearly four out of five (79%) of health institutions had no research and clinical services, Radiologist, Pathologist, Microbiologist, and Lab Technician. Among the health institutions that did not have specialist services, a majority (75%) referred to better health facilities, while out of five (21%) managed through existing health workers. Unfortunately, more than 90 (91%) of health institutions reported to be without ICU and Ventilator services. Nearly three out of five (56%) health institutions buried hospital garbage, while nearly half (49%) used incinerator, and 47% managed hospital garbage through dumping.

Budget and expenditure with special focus on procurement of free medicines and COVID-19

Budget and expenditure of free medicine: Overall, in the fiscal year 2076/077, it was found that each level of the Government had the tendency to allocate budget for free medicine varied at each level ranging from NRs 4,50,000 to NRs 60,0000. Similarly, the overall expenditure for the fiscal year was found to be in the ranges of Rs 3, 40,000 to Rs 50, 00000. The data clearly showed that the allocated budget is higher than expenses for free medicine.

In the fiscal year 2075/076, it was found that the lowest budget allocated by the LMS ranged from Rs 3,65,000 to Rs 30,00000 in the subheading for free medicine while preparing the annual budget. And their expenses were found to range from NRs 13,65,000 to NRs 30,00000 annually. This indicates that the

expenditure is higher than the allocated budget which may be due to the high demand for free medicine in the middle of the fiscal year.

The lowest allocation for free medicines was found in the fiscal year of 2074/075 with amounts from NRs 1,10,000 to NRs 15,00000. Additionally, in the same fiscal year the operating costs was found to be from NRs 1,98000 to NRs 9,00000. So, on the basis of these evidences it can be said that the requirement for free medicine varies at each level. The budget allocated for free medicine is borne at the local level by the Government while expenses depends on pandemics, epidemics, and other disasters faced by local levels.

Budget and expenditure of COVID-19: LMS reported that the budget ranged from NRs 16,67,130 to NRs 80,00,000 while expenses ranged from NRs 10,00000 to NRs 75,00000 till study date.

Conclusions

The prices of freely distributed medicines and COVID-19 medicines are set by the Government. In the distribution of free medicine there is clear indication as freely distributed medicine or sample medicine. The quality of free medicine is judged by testing each batch which took from 2 weeks to 6 months. Overall, the majority of patients recovered from the freely distributed medicine. Three out of five were aware of free medicines had an expiry date, whereas nearly two out of five were unaware about the expiry date.

With regards to the prices of free medicine and COVID-19 goods, prices was set by the GoN and was settled through the bill. Similarly, the GoN evaluated the quality of COVID-19 medicines, testing kits, and equipment by testing each batch. Overall, three out of four stated that COVID-19 medicines, testing kits, and equipment had no wholesale and retail prices. Additionally, everyone agreed about VAT/GST in COVID-19 medicines, testing kits, and equipments and three out of four disclosed that it applied to both the public and private sector. More than three out of five reported that they payed for PCR/RDT tests. It ranged from NRs 1,000 to NRs 5,500. Nearly half of them stated that they had to wait more than 120 hours for COVID-19 test results.

A majority of the health institutions from all 3 levels had insufficient physical infrastructure to provide COVID-19 health services. With these inadequacies, nearly four out of five health facilities sent patients for home isolation. A few referred patients to another hospital, and others provided health services through transferring regular patients to other wards. A large majority of health facilities had no isolation rooms and beds for COVID-19 patients. Though, nearly three out of four health facilities managed by counselling patients to stay at home isolation, one out of five handled by adding extra beds. It was also noted that less than five health facilities did not accept COVID-19 cases due to inadequate physical and human resources. Overall, three out of four health facilities had insufficient specialist health workers. In these circumstances, almost four out of five health facilities managed by referring patients to better equipped health institutions, and less than 20 by shifting their health staff, and some did not accept COVID-19 cases at all.

In total, more than half of the health facilities had no PCR and RDT testing services and referred patients to other health institutions equipped with specialist health workers and modern medical equipments at provincial and central hospitals and or COVID-19 special hospitals. Only one third of the health facilities had PCR and RDT testing facilities, where less than 20 were found to have only PCR testing service. Almost all health facilities provided free testing services; for PCR and RDT. A few health facilities made patients pay for PCR and RDT tests. However, the notable thing was that there was a provision for free health services to those citizens unable to afford the cost of health service by filling a “poor and marginalized form” for free health services.

The requirements for specialist health workers has increased dramatically after COVID-19 pandemic at each level of health institutions. Even though, more than four out of five were found to be without specialist health workers; Medical specialist, Chest specialist, and Infectious disease specialist with nurse and assistance staff. Moreover, nearly four out of five health facilities also had no research and clinical services; Radiologist, Pathologist, Microbiologist, and Lab Technician. Considering ICU and Ventilator services, more than 90% of these health facilities had no ICU and Ventilator services.

Overall, in the fiscal year 2076/077, it was found that each level of the governments had allocated budget for free distribution of medicine which varied at each level, starting from NRs 4, 50,000 to NRs 60, 0000. Similarly, the overall expenditure for the same fiscal year allocated ranged from NRs 3, 40,000 to NRs 50,00000. The data clearly showed that the budget allocated was higher than expenses for the free medicine.

In the fiscal year 2075/076, it showed the lowest budget allocated by LMS ranged from NRs 3,65,000 to NRs 30,00000 for free medicine under the subheading in the annual budget, while expenses were found to range from NRs 13,65,000 to NRs 30,00000 annually. Here, it is evident that the disbursement is higher than the allocated budget. It may be due to the high demand for free medicine caused by various circumstances in the middle of the fiscal year.

The lowest budget allocated for free medicine was found in the fiscal year of 2074/075 in the range of NRs 1,10,000 to NRs 15,00000. Similarly, the fiscal year expenditure was found to be in the range of NRs 1,98000 to NRs 9,00000. So, on the basis of these evidences it can be said that the demand for free medicine's is very high at each level. The budget allocation for free medicines relies on the local level Governments where expenses depends on the pandemic, epidemic, and other disasters faced by local levels.

LMS/PHLMS/LLG reported that the budget ranged from NRs 16,67,130 to 80,00,000 where expenses were from NRs 10,00000 to NRs 75,00000 till study data (November, 2020). Now it is increasing day by day due to its spreading and affecting ratio. So, the net cost of this outbreak will take time to account for.

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Abbreviations

AD	Anno Domini	NHP	Nepal Health Policy
CAGR	Compound Annual Growth Rate	NHRC	Nepal Health Research Council
CAPP	Consolidated Procurement Plan	NHSS	National Health Sector Strategy
CCMC	COVID Crisis Management Center	NRs	Nepalese Rupees
CCS	Country Cooperation Strategy	OAG	Office of Auditor General
CoN	Constitution of Nepal	OQM	Open Quotation Method
COVID	Corona Virus Disease	PCR	Polymerase Chain Reaction
CREHSS	Center for Research on Education Health and Social Science	PGs	Provincial Government
DC	Direct Contract	PHCC	Primary Health Care Centers
DH	District Hospital	PHLMS	Provincial Logistic Management Section
DoHS	Department of Health Service	PIP	Procurement Improvement Plan
DPM	Direct Purchase Method	PPA	Public Procurement Act
e-GP	electronic Government Procurement	PPE	Personal Protective Equipment
FCHVs	Female Community Health Volunteers	PPG	Public Procurement Guidelines
FMIP	Financial Management Improvement Plan	PPMO	Public Procurement Monitoring Office
FMoHP	Federal Ministry of Health and Population	PPR	Public Procurement Regulation
GoN	Government of Nepal	RDT	Rapid Diagnostic Test
GST	Goods and Service Tax	SBD	Standard Bidding Documents
ICB	International Competitive Bidding	SDGs	Sustainable Development Goals
ICU	Intensive Care Unit	SHPs	Sub Health Post
IFB	Invitation for Bidding	SNG	Sub National Government
LGs	Local Governments	SPSS	Statistical Package of Social Science
LLG	Local Level Government	SQ	Sealed Quotation Method
LMD	Logistics Management Division	TI	Transparency International
LMS	Logistics Management Section	TYIP	Three Years Interim Plan
MoHP	Ministry of Health and Population	UHC	Universal Health Coverage
NCB	National Competitive Bidding	VAT	Value Added Tax
NDP	National Drug Policy	VFM	Value for Money
		WHO	World Health Organization

CHAPTER I

1. Introduction

1.1 Background

Health care service is a crucial facet of human life. The government of Nepal (GoN) is committed to providing essential health care services to the population towards Universal Health Coverage (UHC) through modernizing the health infrastructure and building the capability of doctors, nurses, midwives, and health management employees.

The Constitution of Nepal 2015 (CoN) states that health as a fundamental right of the people (GoN, 2015). National Health Policy (NHP) 2019, aims to implement this right by ensuring equitable access to high-quality health care services for all, which comes under the overarching framework of the constitution (GoN, 2019). Similarly, the Country Cooperation Strategy (CCS) (2018-2022), of the National Health Policy (2014), Nepal Health Sector Strategy (2015-2020), and Sustainable Development Goals (SDGs), priorities to advancing UHC in a federalized governance structure (MoHP, 2018).

Further, the Federal Ministry of Health and Population (FMoHP) has endorsed the Nepal Health Sector Strategy (NHSS) 2016-2021 implementation plan, which provides the budgetary framework to make sure Nepal's commitment to achieving UHC and SDGs by 2030.

Public Procurement Act (PPA) was introduced in 2007, to bring transparency, competitiveness, and efficiency in the procurement system. Currently, the Financial Management Improvement Plan (FMIP) (2016/17-2021/22), and Procurement Improvement Plan (PIP) (2017/18-2022/23) have been developed and subsequently implemented by the Federal Government (FG) (MoHP, 2019). The implication of the aforementioned plans with budgeting in both Provincial Governments (PG) and Local Government (LG) provides the foundation for effective, efficient, and quality service delivery.

Since 2007, the GoN has started free health services to all people. Under the free essential health care services, Nepal provisioned no charges for the dispensation of 32 essential drugs at the Hospital level and of 22 drugs at the SHP level. Similarly, since 2009, the GoN provisioned all citizens' access to District Hospitals (DH) and Primary Health Care Centers (PHCC) without having to pay for registration; they are eligible for free outpatient, emergency and in-patient services, as well as drugs.

Similarly, the Ministry of Health and Population (MoHP) and World Health Organization (WHO) coalesced to advancing strategic priorities of universal health coverage in a federalized governance structure. The quality of health care directly impacts life expectancy and the overall health of the public, where it indirectly impacts peoples' socio-economic well-being. The health care service comprises appropriate infrastructure, availability of skilled physicians, proper distribution of medicines and kits.

The present demographic scenario has resulted in an overall increase for health care services in the country. For instance, the population has nearly doubled since 1980 and has been growing at a Compound Annual Growth Rate (CAGR) of 1.23% over the past decade, life expectancy at birth has increased to 69.2 from 64.2 in the same period (Nepal Pharmaceutical Profile, 2017). Moreover, demand for quality health

care service is also increasing due to the growing incidence of lifestyle diseases like diabetes, cardiac and psycho-social complications. Such diseases require life-long care and medication, including consultative care and in-patient care. Besides, the COVID-19 (Lu et al., 2020) pandemic (Alzoubi et al., 2020) is now a major global health threat, which requires high levels of health care services, vaccines, testing kits, and psycho-social counseling.

Every patient has the right to get information about medicines. To ensure the citizen's fundamental right to obtain free health services, the WHO commenced the concept of essential drugs list in 1997. As per the WHO, essential drugs are those that satisfy the health care needs of the majority of the population, they should therefore, be available at all times in adequate amounts and in the appropriate dosage, (WHO, 2017). Nepal has also published its first essential drug list in 1986, to promote the quality in health care services. This essential drug list aims to satisfy the priority health care needs of the population and to ensure a higher quality of care, better management of medicines, including improved quality of prescribed medicines, and a more cost-effective use of available health resources (NHRC, 2016). In 1995, the National Drug Policy (NDP) listed essential drugs at all levels of health facilities including central and referral hospitals to manage the procurement, storage and distribution system accordingly as a part of its strategy. The NDP aims at producing 80% of the formulation of essential drugs within 10 years in the country (MoHP, 1995). Further, in 2016 the GoN listed essential drugs including 70 medicines for district hospitals, 60 medicines for primary health care centers, and 34 medicines for health posts (MoHP, 2016).

At present, Nepal's medical infrastructure has 0.36 doctors, 1.17 nurses, and 0.9 hospital beds per 1000 people (UKAID Nepal, 2014), which is significantly less than the WHO recommendation of 2.3 doctors, and nurses per 1000 people. This situation signifies a huge gap between demand and supply in the health care services. Beside this, the outbreak of COVID-19 pandemic requires additional health services that comprise preventive, curative and referral health services including an overall health strategy. In this context, this study has focused on market assessment of health care services, quality and price of medicines and kits.

1.2 Objectives of the Study

1.2.1 General Objectives

The general objective of this study was to assess the market for health care services, quality and price of medicines and kits in Bagmati Province and Province 2 of Nepal.

1.2.2 Specific Objectives

1. To assess the market price and quality of free medicines at all three levels for Government, in Bagmati province.
2. To assess the market price and quality of COVID-19 medicines and testing kits, provided by the Federal Government in Bagmati province and Province 2.
3. To assess the health care services provided by the federal and provincial hospitals in Bagmati Province and Province 2 with special focus on COVID-19 crisis.
4. To analyze the budget and expenditure of the federal Government with special focus on procurement of free medicines for the last 3 years and COVID-19 procurement.

CHAPTER II

2. Review of Policies

2.1 The Public Health Service Act, 2075 (2018)

The Public Health Service Act (PHSA) was initiated in 2018 in order to provide legal provisions for implementing the right to free basic health service and emergency health services guaranteed by the Constitution of Nepal. It aims to establish access of the citizens to health service by making it regular, effective, qualitative, and easily available (PHSA, 2018).

The GoN ensured access to and certainty of free health service as a fundamental right of the people. It is clearly mentioned in the act that every citizen has the right to obtain quality health service in an easy and convenient manner. To provide the basic health services determined by the federal government the provincial and local level government has a crucial role, to take initiatives in the health sector like partnerships with any health institutions operated under the province and the federation.

Each health institution and health worker has the responsibility to provide emergency health services to the people. It further gives emphasis to refer to another health institution for additional treatment, after providing treatment available at such an institution, if emergency health service is not available in any health institution

The act further provisions specialist services as necessary on the basis of the nature of service, geographical condition and the rate of epidemic disease to the Provincial Government. Moreover, under the referral service, every health institution has a right to refer immediately to the health institution that can provide additional treatment to such a patient, if there is no possibility to provide further treatment to the patient who comes for treatment due to the structure, equipment of the health institution, lack of specialist's service or any other appropriate cases.

The Federal, Provincial, and Local Level Government are responsible to ensure quality health services to each citizen. To implement this act and provide quality health services, each Government makes arrangement for human resources, technology and equipment in such institution on the basis of necessity.

2.2 National Health Policy 2076 (2018)

Nepal is a federal democratic republic with 3 tiers of governments, with a Federal, Provincial, and Local Government. In the federal context, the health system of Nepal is based on UHC. The MoHP has developed health policy 2076 with high priority for UHC. In the new structure of MoHP from Fiscal Year 2075/2076, there are 5 divisions and 5 centers under the Department of Health Services (DoHS). Among them one of the Divisions is the Management Division.

Within this federal context, there exists a Logistic Management Section (LMS) in DoHS, 6 Provincial Health Logistic Centers (PHLMC) one Logistic Management Section (LMS) in Karnali province, 77 Health Offices, 753 Local Government (Health Unit) and 6934 service delivery points are functioning for health service delivery (NHP, 2018). The LMS is responsible for overall logistic management of the department, vaccines, and commodity management at the national level. Its function is to ensure a regular supply of medicines,

equipment, and vaccines for the effective operation of health services in consultation with all health agencies and institutions.

The LMC contributes directly towards achieving the goals envisioned in the NHP 2076 which aspires to provide UHC including prevention, promotion, treatment, rehabilitation and analgesic care for all citizens. Additionally, LMS plays a significant role, bending over backwards to attain HA 2018, for ensuring availability of the Basic Health Services (BHS) to all people.

The objective of the restructured health management sector as LMS, PHLMC, and LLG is to improve efficiency and effectiveness in the health sector procurement, distribution, and quality assurance, management of drugs, equipment & services to ensure VFM in the context of federalism. The 3 tiered organizational structure and major functions are presented in the table below.

Table 1. Organizational structure and their core functions

Level	Organization	Major Functions
Central	Ministry of Health and Population (MoHP), Department of Health Services (DoHS), Management Division, and Logistic Management Section (LMS)	• Provide Annual Procurement Plan (APP) and Consolidated Procurement Plan (CAPP) in consultation with division and center of DoHS. • Facilitate on provincial and local level to prepare procurement plan and procedure. • Procurement for storage, distribution, and re-distribution, transportation, at federal, provincial, and local level.
Provincial	Ministry of Social Development (MoSD), Provincial Health Directorate (PHD-7), Provincial Health Logistic Management Center (PHLMC-6)	• Prepare provincial level guidelines, procurement, and logistic supply plan. • Store and supply of instruments, equipment, medicines and other health logistics. • Management of provincial buffer stock of medicines and health related materials for emergencies. • Facilitate and coordinate for regular procurement and supply instruments, equipments, medicines and other health logistics to the local level government entities.
Local	Metropolitan/Sub-Metropolitan City/ Municipality/Rural Municipality, Health Section, Basic Health Facilities	• Procurement planning, quantification, and forecasting of health commodities. • Receive regular supply of essential medicines, vaccines, and FP commodities from district and supply to the SDPs. • Storage of medicines, contraceptives, nutrition supplements and other health logistics. • Supervision and monitoring technical support. • Coordination with district and SDPs related to SCM and regular supply of medicines and commodities.

2.3 Public Procurement Act 2007 (3rd amendment on 13 March 2019)

Public Procurement Act (PPA) was introduced in 2007, aiming to bring a more open, transparent, competitive, reliable, and efficient procurement system. It also aims to obtain the maximum returns of public expenditures in an economical and rationale manner by promoting competition, fairness, honesty, accountability, and reliability in the public procurement process. Furthermore, it ensures good governance by enhancing the managerial capacity of procurement of public entities in procuring, construction works, procuring goods, consulting services by enhancing the equal opportunities for products, sellers, suppliers,

construction entrepreneurs to participate in public procurement process without any discrimination (PPA, 2007).

As per the PPA (2007), 'Procurements' means acquisition of any goods, consultancy services or other services or carrying out or causing to be carried out any construction works, by public entity to this Act. A substantial proportion of the national health budget goes towards the purchase of pharmaceutical products/drugs. The following procurement methods are prescribed by PPA 2007 for the procurement by any public entity.

A. For procurement of goods, construction works or other services

1. By inviting open bids at international level,
2. By inviting open bids at national level,
3. By inviting sealed quotations,
4. By procuring directly,
5. Through preparation of users' committees or beneficiary groups,
6. Through force account,
7. Lump sum piece rate method,
8. Catalogue shopping,
9. Limited tendering,
10. Buy-back method

B. Procurement of consultancy services

1. By requesting competitive proposals,
2. Through direct negotiations

Table 2. Procurement process, methods and financial limitation

Methods	Procure of	Financial limit	Process
A. For procurement of goods, construction works or other services			
1) Open bids at international level	Any type of goods/works/services as per requirement	No financial limit	• Competitive procurement, following all bidding process, and standard bidding process as PPMO
2) Open bids at national level			
3) Through sealed quotations	• Any type of goods/works/services as per requirement	• Goods/works/services- Rs. 20 Lakh • Medical Supplier-Rs. 50 Lakh	• Competitive procedure, single bid process, and at least 3 quotations required
4) Through direct procurement	• Unique goods and services, single sourced item, single producer domestic, proprietary goods, from public entity, and G-to-G.	• Small and non-recurring procurement (Rs. 5 lakh) • Standing list (Rs. 1 Lakh)	• Cost and Qualification based Selection (CQS)
5) Through preparation of users' committee or beneficiary group	• Mostly construction services • No heavy equipment purchase (an exception exists)	• Cost estimation up to NRs 10 million including overhead, VAT, contingency and public contribution	• Public notice by entity or request letter from UC, agreement, all bills must be passed by UC, and public audit (Expenses)

Methods	Procure of	Financial limit	Process
6) Through force account	Regular repair, cleaning, regular small works	Very small works	- Good procurement under usual procedure, - only labour part is force account, no standard document practiced by usual procedure
7) Lump sum piece rate method	Goods/works/services per need	Competition on rate of discount on cost estimation	A competitive under national bid (may be multi-year)
8) Catalogue shopping,	Goods/works/services per need	NA	Authorized producer/agent only eligible for bid, competition of price amongst supplier on the published price,
9) Limited tendering,	Goods/works/services per requirement	Up to NRs 1 billion domestic competition	A competitive procedure with suppliers, no multi-year benefit
10) Buy-back method	Procurement of goods having hazardous impact with the condition that it will be returned after expiry and new procurement	NA	First bid is purely competitive method from downward stages, goes to single sources
B. Procurement of consultancy services:			
1) By requesting competitive proposals	Particularly for training activities	NA	Public notices by entity or request letter from concerned, minimum cost basis, other process are as similar to sealed quotation.
2) Through direct negotiations / Emergency procurement	Goods/works/services per need during emergency phases (immediately in short period), COVID-19 pandemic is contextual recently	NA	Process permission from one higher level, competitive or negotiation.

Although, PPA (2007) envisions various procurement methods, TI Nepal (2020) study mentioned only three methods: direct purchase, sealed quotation, and open bid (national and international) are being widely practiced by the Government institutions (TIN, 2020).

2.4 Public Procurement Regulation (2007) (10th Amendment on (2077/01/15 April, 27, 2020)

Public Procurement Regulation (PPR) was initiated in 2007, to support the Public Procurement law that further describes and regulates the procurement activities of public procurement by public bodies included in the PPA 2007. Currently, the GoN has endorsed the Public Procurement Regulation (10th amendment) 2020. The amended PPR has scrapped the previous provision of extending the term of any project worth above Rs. 20 million, which were awarded before Jestha 23, 2076 B.S, by one year. As per the newly endorsed regulation, the term of any project will be extended for a maximum of one year right from the extended term of the project. The regulation also scrapped the provision of receiving 10% compensation fee from the contractors for extending the term of the project.

Simultaneously, the newly endorsed PPR has the provision submitting a letter of line of credit service from banks while inking the final extended contract paper of any project. The credit line service should be obtained from banks of Nepal under the given framework of the PPMO. The amended PPR is intended to maintain transparency, pace of the project work and ability of the contractors.

Initially, under the PPR, a procurement unit was established which may have individuals or a group of individuals authorized to carry out public procurement. Furthermore, procurement unit constitutes; ministries, districts councils, state owned legal entities, any other bodies covered by public law; and or any project implementing authority authorized to carry out public procurement and funded by foreign loans, grants and assistance(PPR, 2007). As per the PPR, the functions of the procurement units are as follows;

1. Apply the Government standard conditions of contract appropriate to the nature of the purchase,
2. Maintain, update, and disseminate Government standard conditions of contract,
3. Place advertisements for procurements and awards of contracts in the contracts bulletin of the Government.

PPA 2007 clearly presents the basis for contractor selection, which are presented below;

1. Comparing prices of quotations obtained from a minimum of three suppliers,
2. The evaluation of quotations shall follow the same principles as of open bidding,
3. Contractors shall not be divided into smaller units in order to make them less attractive, any proposal to divide a contract into smaller packages shall require the prior approval of the chief accounting officer,
4. Open procedures of procurement may be used where the advantages of securing competition outweighed the need for expediency,
5. Advertising of tenders shall be made in the mass media or in the contracts bulletin of the Government in either one or both official languages,
6. Tender documents shall be written in either of the official languages providing clear instructions on how bids should be submitted, how prices should be offered, the time and place for submission of bids, and
7. Methods used in the evaluation of bids and the awards of contracts shall be objective and made known to all bidders in the bidding documents, and the results shall be published.

2.5 Public Procurement Guidelines (2009)

The Public Procurement Guidelines (PPG) originated in 2009. The overarching purpose of these guidelines is to provide an overview of the procurement process and to provide specific insights into commonly applicable articles and rules to enable health professionals to ascertain if the process has been followed properly prior to reaching a decision. Further purposes is to inform those concerned at the Ministry of Health and Population (MoHP) and the departments under its umbrella about the procedures that are required to be followed in the course of procuring goods, services, and works in accordance with the PPA 2007 and the PPR 2007 (MoHP, 2009).

Initially, it is applicable to health sector procurement, even though the articles within PPA and PPR are commonly applicable to all public sector procurements. As we know, public sector entities comprise all government entities, public hospitals, and government academic institutions for which the PPA and the PPR are applicable.

The following principles are set for public procurement by PPG (2009), are mentioned below.

1. To render working procedures, processes, and decisions on procurement more open, transparent, and credible.
2. To promote competition, clarity (non-discrimination), integrity, accountability, and credibility,
3. To obtain the maximum output from public expenditure in a cost effective and judicious manner,
4. To enhance the capacity for procurement management,
5. To ensure that suppliers/procurement providers have equal opportunity for participation without discrimination,
6. To make felt the dispensation of good governance,

Since, procurement is understood as a series of stages of activities in a logical sequence, known as the procurement cycle, which is presented below;

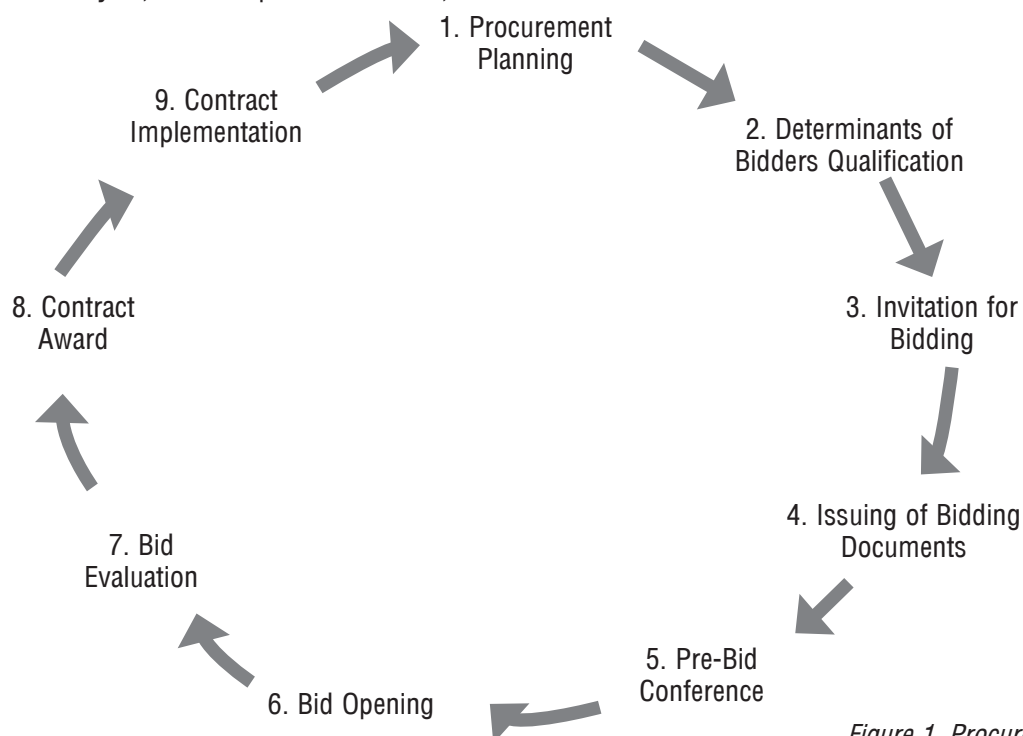


Figure 1. Procurement cycle

2.5.1 Free Health Program

The Three Years Interim Plan (TYIP) 2007-2010 refers to the Interim Constitution of Nepal (2006) which recognizes basic health as a fundamental right of all citizens. Considering the provision in the Interim Constitution (2006), the Ministry of Health and Population (MoHP) and Government of Nepal (GoN) decided to implement essential health care services (emergency and in-patient services) free of cost to targeted people (ultra-poor, poor, helpless, senior citizens, people living with physical and psychological disabilities) from FCHVs at the level of SHPs, HPs, PHCCs, and DHs. The main health goal of the Three-Years Plan (2010-2013) is to increase the utilization of quality health services by ensuring availability and accessibility of free health services to the citizens of all the geographical regions, class, gender and ethnicity. Although Nepal has made significant progress in providing free essential health care services, essential drug delivery, transport subsidy for safe delivery, legal basis for safe abortion, increased family planning, immunization and various mother and child health programmes through policy changes and program initiatives, quality health services are yet to reach the targeted groups.

Therefore, it has been argued that health care services including essential drugs are not available for universal coverage and does not reach to all the citizens of the country. In addition, whatever health services including essential drugs and other determinants are available a large share has been claimed by the well-off population.

2.5.2 Procurement and distribution of free medicines

Since FY 2017/018, the health budget has been allocated to the LGs. In FY 2018/019 a share of the health budget was also allocated to PGs. As per the Budget Analysis in Health Sector Report 2019, in FY 2019/20, the GoN, provided a conditional grant of NPR 4.9 billion to PGs (7%), to LGs (32%), and the remaining to the MoHP (62%)¹. The key drivers for the health budget are salary and wages for LGs, capacity building for PGs, and grants to hospitals for FGs. Program activities are the second most important health budget driver for sub-National Government. Under procurement of medicines and supplies, the main cost driver at LGs and PGs is the purchase of free health medicines, consisting of 77% and 60% of the entire procurement budget respectively (MoHP, 2019). More than half of SNGs' health budget is consumed by MCH services, followed by free health services. At the federal level, a quarter of the health budget is allocated for treatment of target populations and target diseases.

As procurement of medicine takes several steps; information collecting, advertisement, contact with suppliers, tendering, quotations, and direct procurement, aiming to provide quality drugs at the lowest possible cost. As the GoN has developed PPA (2007) and PPR (2007) for procurement, it has to follow the procurement procedures. As procurement process consists of various steps like planning, determination of bidders' qualification, invitation for pre-qualification for bidding, issuing of bidding documents, pre-bid meeting, bid opening, bid evaluation, bid selection, contract award, and its implication. The overarching aim of these mentioned steps is to discourage fragmented procurement practices in an attempt to reduce the price of goods and services. Furthermore, funds have been transferred to the districts to address the immediate needs for medicines. Besides, several sorts of tendering mechanisms and procurement are in practice in Nepal.

In Nepal, domestic production meets less than half of the total demand of medicines thus more than half of all the drugs have to be imported either from India or Bangladesh. There is no single domestic pharmaceutical company able to supply all the essential drugs demanded by the public sector. Therefore, Nepal enters into international competitive bidding process, which is usually the way to obtain drugs at the lowest possible prices. The supplies of essential drugs by the GoN are not sufficient to meet the requirement of the communities. The unavailability and out of stock of drugs may be due to factors related to drug procurement and distribution management system. What is more, the frequency and rate of drug procurement at the health facilities varies from one to another.

2.6 Health Sector Emergency Response Plan COVID-19 Pandemic 2020

The first COVID-19 infection in Nepal was verified on 23 January, and the second on 22 March, 2020. As of 21 September, 2020, a total of 65,276 confirmed cases with 427 deaths and 9,23,823 RDT-PCR tests (MoHP, 2020). Further, a total of 47 designed COVID-19 laboratories are now functional in the country, of which 34 are public and 13 are private.

1. https://www.democracyresource.org/wp-content/uploads/2020/04/DRCN_Covid-Update-English_24_April20_Final.pdf

2.6.1 Formation of high-level committee to prevent and control transmission of COVID-19 pandemic

Meanwhile, the Government of Nepal formed the COVID-19 Prevention and Control High-Level Coordination Committee under the leadership of Deputy Prime Minister, on 1 March, 2020. Additionally, subcommittees were also formed within the Council of Ministers and various line ministries. Moreover, the COVID-19 Crisis Management Center (CCMC) was formed at the federal level to implement the federal government's decisions on COVID-19, and similar mechanisms were operationalized at the PGs and LGs.

2.6.2 Classification of health institutions to identify and treat COVID-19 infections

The Government of Nepal classified health institutions and hospitals in three categories as level 1, Level 2, and Level 3 to identify and treat COVID-19 infections (MoHP, 2020). Level 1 COVID-19 hospitals are tasked with managing basic cases and consultation services, as are all health posts, primary health centers and primary hospitals. Level 2 COVID -19 hospitals are tasked with managing moderate cases by providing isolation services, collecting and referring samples to provincial hospitals at the district level or government and non-government hospitals. And the Level 3, COVID hospitals are tasked with managing COVID-19 positive patients who require multispecialty services.

2.6.3 Procurement and supply of medical equipment relating COVID-19

The first medical equipment procurement process was initiated by the Government of Nepal. The GoN on March 25 had awarded the contract to the private company the Omni Tech Group (OTG) to import necessary coronavirus testing kits, masks and medical equipment from China through fast track² on the condition that it will import the goods within 5 days. The Nepal Government has cancelled the contract with the OTG, accusing it of large-scale corruption in the deal (MoHP, 2020). For instance; delays in procurement, low quality and inflated prices of the medical equipments³. After cancelling the 'controversial procurement deal' with the OTG, the GoN has decided to entrust the Nepal Army to procure the required medical equipment from China. A new procurement process had been undertaken by the Nepal Army to make it transparent, shortly after the Ministry of Defense, in coordination with the MoHP, had passed a decision to purchase the required medical supplies through the government-to-government process.

2.6.4 Procurement and management of medical equipment by Provincial and Local Governments:

LGs were fearful in purchasing necessary equipment from the market because their costs had increased drastically, which created the possibility that officials could be caught up in corruption. Even though, some provincial governments had initiated the process for procuring health materials, challenges persisted due to unavailability of such material throughout the nation. Almost all local units revealed that a lack of PPEs, thermometers, N-95 masks including other required materials in adequate numbers. Districts and local levels stakeholders reported receiving a few PPEs from the FGs and PGs, however, but not in sufficient numbers. Health professionals faced several difficulties in performing their duties due to lack of PPEs and additional essential equipment.

2.6.5 Management of hospitals, setting up quarantine facilities for the treatment of COVID-19 infected person:

There has been inadequate hospital beds both in general and ICUs. Each province established quarantine,

2. <https://kathmandupost.com/national/2020/06/23/public-accounts-committee-begins-investigation-into-omni-group-s-procurement-of-medical-supplies>

3. <https://english.onlinekhabar.com/omni-group-barred-from-public-procurement-contracts-for-one-year.html>

isolation units, and other required of health services. The limited number of ICU beds and ventilators available have created many difficulties by the increasing rates of COVID-19's infections.

Almost every local and provincial government made provisions for isolating individuals with suspected COVID-19 infection and quarantine them for 14 days in community halls, schools, or in tent-houses set up in the open grounds. However, the quality of quarantine facilities and standards varied between each PGs and LGs depending upon their ability to manage resources. Most LGs had inadequate quarantine facilities, even if they were not built as per the FGs standards. Further, the quarantine facilities constructed had inadequate health workers available and Water, Sanitation, and Hygiene (WASH) facilities, and the required distance between patient beds.

2.6.6 COVID-19 Logistics Management Activities (Health Logistic Report 2076/2077)

Initially, COVID-19 was detected in China. Later, from February onwards, it soared across Europe, Asia, and Africa. Till date, the novel coronavirus has continuously been wreaking havoc on daily life globally, affecting 62,109,880 people 213 countries including deaths totaling 1,451,783 (WHO, 2020).

In Nepal, the first case of COVID-19 was formally identified on January 25, 2020, when a 32-year Nepali student returning from the city of Wuhan, China tested positive. The GoN made a slow start in its response to the spread of the virus despite its rapid spread in many countries including neighboring countries. Consequently, Nepal has a total 2, 24, 077 confirmed infections with 1361 deaths till 25th November, 2020 (GoN, 2020).

To prevent the transmission of the COVID-19 infection, a majority of governments around the world have endorsed a nationwide and/or localized lockdowns. Meanwhile, GoN prepared quarantine and isolation wards in health institutions and commenced procurement and supply chain management of essential lab equipments, reagents, kits, protective equipments, IR thermometers, disinfectants, and sanitizers, side by side with MD/LMS to connect e-LMIS software to all provinces (PHLMC), COVID Hospitals/Clinics and Health Offices for real time information on health materials and equipments for the prevention, treatment and control of COVID-19 as well as the regulation of demand and supply.

In this regard, the overarching Logistics Management Activities (LMA) on COVID-19 is focused on procuring, receiving, distributing, and stock available on site commodities. The specific activities are to:

1. Procurement of equipment/materials (COVID-19 items): Thermal scanners, PPEs, Gowns, Face Shields, Goggles, N95 Masks, Face Masks, Sanitizers, IR Thermometers, PCR machines, PCR kits, and RDT kits RNA extraction kits VTM etc.
2. Received COVID-19 items from Donor Partners and others
3. Storage of COVID-19 items
4. Distribution and transportation of COVID items to all PHLMC and COVID Hospitals as per requirement, to districts and to some affected palikas as well as laboratories.
5. Recording and reporting of COVID items daily, weekly, and monthly to concerned authorities.

2.6.7 Organization of Logistic Management Section

Nepal is a federal democratic republic with 3 tiers of governments with a Federal Government, Provincial Government (7), and Local Government (753). In the federal context, Logistic Management Section (LMS) in DoHS, 6 Provincial Health Logistic Management Centers (PHLMC) one Logistic Management Section (LMS) in Karnali province, 77 Health Offices, 753 Local Government (Health Units) and 6934 Service

Delivery Points are functioning for health service delivery. The logistic function is to ensure a regular supply of medicines, equipment, and vaccines for the effective operation of health services in consultation with all health agencies and institutions.

In the context of federalism, the LMS is the key responsible organization for overall logistic management at the national level. As the country adopts a federal system the 3 types of LMS at the federal level, PHLMC in provincial level, and LLG in local levels have adopted, aiming to improve efficiency and effectiveness in the health sector procurement, distribution, and quality assurance, management of drugs and equipment & services to ensure value for money.

2.6.8 Procurement

The principle of economy, efficacy, competition, accountability, and transparency in procurement procedures as well as logistics management leads towards Value for Money (VFM) of health expenditures. The Logistics Management Section (LMS) is responsible for implementing procurement at the federal level. Before decentralization, the procurement functions to the provinces and local levels in 2018/19, this responsibility lay with LMD of DoHS. The functions of the then LMD and now LMS has been internalized through the procurement and distribution of free essential drugs and equipment at all levels by implementing the following four pillars of improvements.

- Improvements in Pre-bid information systems through TSB and LMIS.
- Efficient procurement planning through APP, MPP, and CAPP,
- Strengthening of standard procurement process through implementation of new health sectoral SBDs and e-GP system, and
- Enhancing capacity building program at the local, province, and federal level

2.6.9 Procurement Modality

In practice, LMD of DoHS is using open, competitive and transparent modality. In 2016/17 the total number of contracts was 175, whereas it dropped in 2017/18 to 118 and in 2018/19 to 73. The main reason for the reduction was the CAPP budget and also due to the diffusion of procurement to the province and local level.

Table 3. *Procurement modality*

SN	Procurement Modality	2016/2017		2017/2018		2018/2019	
		No of contracts	%	No of contracts	%	No of contracts	%
1	Open Bid Method (ICB)	116	66.29	57	48.31	23	21.50
2	Open Bid Method (ICB)	34	19.43	39	33.05	32	43.84
3	Sealed Quotation Method (SQ)	9	5.14	20	16.95	10	13.70
4	Catalogue Shopping (CS)	13	7.43	0	0.00	0	0.00
5	Direct Purchase (DP)	3	1.71	2	1.69	8	1.96
Total Contract		175	100	118	100	73	100

Source: DoHS, Health Logistic Report 2076/077

Among all procurement modalities, Goods (drugs & equipment) procurement is popular with weightages of 96% in 2016/17, with a slight decrease to 93.22% in 2017/18, and to 89.04% in 2018/19. This consists of procurement of drugs, medical equipment, instruments, contraceptives, cold chain equipment, insecticides,

and other goods. The most commonly applied method of procurement of these goods seems to be an open bid method. The procurement of Drugs comprises the highest value at 43.4% in 2018/19 and the procurement of medical equipment the second highest value at 30.1% in the same year using the open bid method.

2.6.10 Standardization of Procurement Process

Immediately after the introduction of PIP 2014, LMD/DoHS initiated a standardized procurement system. In the process of standardization, PIP was reviewed, restructured, and endorsed by MoHP and implemented as a prime document as a procurement reform initiative. As per the PIP update, the followings are the key highlights of the standardization of the procurement process:

2.6.10.a Usage of Standard Bidding Documents

All bidding documents are mandatorily referenced from the SBDs issued by the PPMO and used as per PPA and PPR. The LMD/DoHS have drafted three sets of health sectoral specific SBDs for the procurement of drugs and equipment and sent them to PPMO for endorsement. Further, since 2017/18, the online e-GP portal of PPMO has been used for bidding procedures in LMD and ICB publications also come through electronically. An e-GP includes common SBDs for all, DoHS is practicing the e-GP with no specific health sectoral SBDs for the procurement of drugs and equipment.

2.6.10.b Solicitation Periods

Bid publication and preparation time in practice, is a minimum of 30 days for NCB and 45 days for ICB as per PPA and PPR. Almost all bids have proceeded in a transparent and non-discriminating way, accepting a wide range of standard time period as 30 days for NCB and 45 days in ICB for bid preparation and submission, except the time used in SQ and DC methods. Further, a systematic practice of bid opening report has been established.

2.6.10.c Bid Evaluation and Approval

The standard time for bid evaluation and approval are a maximum of 120 days as per PPA and PPR. All ICB and NCB bids were evaluated within the maximum period of 90 days and 35 days in 2017/2018. The e-GP II implementation in 2017/18 sharply reduced the time of bid evaluation and approval. The evaluation period in 2018/19 was reduced to an average of 41 days and 31 days in ICB and NCB respectively. Thus, procurement of all drugs and equipment has improved to good timing of bid evaluation and approval.

2.6.10.d ICT Initiatives in Solicitations of Bid

LMD is initiating the use of ICT in bid proceedings since 2014/15. In 2016/17 LMS completed all bids 99.43% through e-GP system, issued by PPMO which is bid submission only while other processes are completed manually. In 2017/18 LMS started the technical preparation for online e-GP II which includes online bidding and evaluation process and used it in all modality of bidding process of procurement. Almost 83% of bids in contract value have been processed through e-GP.

2.6.10.e Contract management

Contract management in procurement covers the period of the commencement of contract to the completion of contractual liability and requires a high level of monitoring to develop mutual understanding to perform the contractual liabilities by both sides. A simple Contract Management System Software

(CMS) was in use; while however, it could not monitor the institutional capacity of the contracts by using this software for the contracts in hand. The e-GP modules of PPMIS have not been able in practice, to monitor the contract management. CAPP-MC has been done manually by preparing it into Excel sheets from individual active contract files. The development of a new CMS is planned to embed it in the e-CAPP system of TABUCS.

2.6.10.f Market analysis

A large number of medical goods (medicines and equipment) are procured by all agencies of the Government. Since 2018/19 either the local or the provincial governments at SNG have done most of the procurements of free and essential medicines. The procurement agencies do not have updated information regarding the availability of items under defined specifications. A large variation is observed in the prices offered by the suppliers in different institutions. Similarly, the capacity of Nepalese pharmaceutical industries in producing free essential medicines is not yet known.

CHAPTER III

3. Methodology

The following methodological procedures were used for this study, entitled market assessment of health care services, quality and price of medicines and kits.

3.1 Study Design

This study was designed as a descriptive cross-sectional study to assess the market of health care services, quality and price of medicines and kits in Bagmati province and Province 2 of Nepal.

3.2 Study Site

This study was carried out in 8 districts representing eco-development regions. The rationale for the selection of districts was based on their geographical representation. The selected districts are listed below:

Table 4. *Study area*

Provinces	Districts
Bagmati province	1. Makwanpur 2. Kavrepalanchowk 3. Kathmandu 4. Lalitpur
Province 2	5. Dhanusha 6. Siraha 7. Sarlahi 8. Mahottarai

3.3 Study Population

The population surveyed included 3 levels (central, provincial, and local) health institutions' representatives/in-charges, health procurement officers from the 3 levels, and pharmaceuticals, and beneficiaries/clients from each selected district.

3.4 Study Unit

Hospitals and health procurement offices from 3 levels central, provincial, and local were the unit of the study. It included pharmaceuticals and beneficiaries from the selected districts.

3.5 Sample Size and Sampling Technique

The sample size was purposively determined to represent the entire target groups. For this, the following sample was determined as presented in table below.

Table 5. *Sample size of the study*

Participants	Central Level	Provincial Level	Local Level			Total
			District hospitals	Health posts	PHCC	
Pharmaceuticals	2	2				4
Health facilities	2	2	4	42	8	58
Logistic Management Unit/Division	3	2	28			33
Beneficiaries	152: Each district comprises 19 beneficiaries					152
Total						247

3.6 Data Collection Procedure

3.6.1 Training for data collection team

Prior to field deployment, a one day virtual training was organized. The enumerators were oriented about the objectives of the study, research tools, how to probe questions, with participants to ensure accurate responses. The training focused on interview techniques, sample respondents, and data collection process.

3.6.2 Data Collection Technique

Individual face-to face interviews was conducted with the participants. Standard data collection tools were adopted to collect the data. Experienced local enumerators were hired for data collection.

3.7 Quality Control

This study adopted standard tools. Initially, the tools were formulated in English which were translated into Nepali and the survey results translated into English. Before finalization of tools, it was verified by a panel of experts and pretesting was done. The experts' comments and feedback of pre-test participants were compiled into a single report and used to finalize the research instruments. Prior to use in the field, instruments in Nepali version was refined and endorsed by the experts..

Local enumerators having proper knowledge of research were hired. Prior to deployment in the field, a one day webinar orientation was organized relating to the study's purpose and importance. Individual face-to-face interviews was conducted with the respondents and field notes taken by the researchers. The team leader monitored the data collection of each day through phone.

3.8 Data Processing and Analysis

Prior to analyzing the data, checking for consistency and completeness of data was undertaken. The team leader checked the completed questionnaires of the day during the evening and provided feedback each day by remote mode. Data were edited to detect errors and to assure whether the collected data were accurate and consistent. After editing, data were coded in numerical symbols to reduce several replies to a small number of classes. Data entering and data cleaning were done subsequently. Data analysis was done using SPSS version 20.0. The analyzed data were presented in different statistical forms; frequencies, percentages, tables, and charts.

3.9 Ethical Considerations

Formal permission was obtained from the concerned authorities in the 3 levels (federal, provincial, and local) in the selected districts. An informed oral consent was taken from all the participants, health institutions officers or in-charges, procurements' officers', and MRs, Buyers, and Sellers. Prior to interviews, the objectives of the research were explained, participants were also provided with an information sheet containing the research objectives, data collection method, role of participants, voluntary participation, personal and community benefits, as well as, any possible harm to the participants. The anonymity and confidentiality of the information gathered was maintained.

CHAPTER IV

4. Research Findings

4.1 General information about participants

This section shows the distribution of participants; Pharmaceuticals, health institutions, LMS/PHLMC/LLGs, and beneficiaries in this study. The distribution of participants' is presented separately.

4.1.1 General information about pharmaceuticals

The table below shows the frequency and percentage of pharmaceuticals who participated in this study. The pharmaceuticals who participated from the four districts: Makawanpur, Kathmandu, Lalitpur, and Dhanusha. Among those pharmaceuticals, half (50%) were from the central level (Kathmandu and Lalitpur) and the remaining (50%) were from the province level (Makawanpur and Dhanusha). Meanwhile, the pharmaceuticals covered were in equal proportion (50%) from Metropolitan and Sub Metropolitan city.

Table 6. *Geographical coverage of the pharmaceuticals*

		N	%
Districts	Makawanpur	1	25.0
	Kathmandu	1	25.0
	Lalitpur	1	25.0
	Dhanusha	1	25.0
Local Level	Sub-Metropolitan City	2	50.0
	Metropolitan City	2	50.0
Organizations	Apple In	1	25.0
	Aurashih	1	25.0
	Deurali Janata	1	25.0
	Farma me	1	25.0
Total		4	100.0

4.1.2 General information about the health facilities

The table below shows the frequency and percentages of health facilities that took part in this study. An equal proportion (50%) of health facilities were from Bagmati Province and Province 2. Among all local levels, a majority (71%) of health facilities were from municipalities and less than (3%) were from the Municipality. Among all health institutions, nearly three out of four (72%) were health post, less than (3%) were from the central level health institutions and province level health institutions had an equal (3%) to the central level. The proportion of PHCCs was 14% while district hospitals were 7%.

Table 7. *Geographical distribution of health facilities*

		N	%
Provinces	Bagmati Province	29	50.0
	Province 2	29	50.0
Districts	Makawanpur	8	13.8
	Kavrepalanchowk	7	12.1
	Kathmandu	7	12.1
	Lalitpur	7	12.1
	Dhanusha	8	13.8
	Siraha	7	12.1
	Sarlahi	7	12.1
	Mahotarai	7	12.1
Local Level	Rural Municipality	7	12.1
	Municipality	41	70.7
	Sub-Metropolitan City	8	13.8
	Metropolitan City	2	3.4
Health facilities	Central Hospital	2	3.4
	Provincial Hospital	2	3.4
	District Hospital	4	6.9
	Health Post	42	72.4
	PHCC	8	13.8
Total		58	100.0

4.1.3 General distribution of LMS/PHLMS/LLG

The table below shows the frequency and percentages of LMS/PHLMC/LLG. The study covered an equal proportion (50%) of LMS/PHLMSC/LLG from Bagmati/province 3 and 2. In the case of districts LLG, some variations occurs as Makwanpur has more than one in five (21%) while lalitpur has only 5 (6%). Meanwhile, nearly half (49%) LLG were from municipality level, one third (30%) were from the Rural-Municipality, while 12% were from Sub-Metropolitan city, and less than (9%) were from the Metropolitan city.

Table 8. *Geographical distribution of Logistic Management Division/Unit*

		N	%
Provinces	Bagmati Province	16	48.5
	Province 2	17	51.5
Districts	Makawanpur	7	21.2
	Kavrepalanchowk	3	9.1
	Kathmandu	4	12.1
	Lalitpur	2	6.1
	Dhanusha	4	12.1
	Siraha	4	12.1
	Sarlahi	5	15.2
	Mahottari	4	12.1
Local Level	Rural Municipality	10	30.3
	Municipality	16	48.5
	Sub-Metropolitan City	4	12.1
	Metropolitan City	3	9.1
Total		33	100.0

4.1.4 General information about the beneficiaries

The table below shows the frequency and percentages of health service users/beneficiaries from different level of health facilities. This study covered an equal proportion (50%) of beneficiaries from Province 2 and 3. An equal member of beneficiaries (12%), were chosen from each selected 8 districts. Meanwhile, nearly half (49%) of beneficiaries were from the municipality level, while 20% were from Metro-politian city, and 16% from Sub-metropolitan city, whereas 15% were from the Rural-municipality.

Table 9. *Geographical coverage of beneficiaries*

		N	%
Provinces Districts	Bagmati Province	76	50.0
	Province 2	76	50.0
	Makwanpur	19	12.5
	Kavrepalanchowk	19	12.5
	Kathmandu	19	12.5
	Lalitpur	19	12.5
	Dhanusha	18	11.8
	Siraha	19	12.5
	Sarlahi	19	12.5
	Mahotari	20	13.2
Local Level	Rural Municipality	23	15.1
	Municipality	74	48.7
	Sub-Metropolitan City	25	16.4
	Metropolitan City	30	19.7
Total		152	100.0

4.2 Objective 1: Price and quality of free medicines

4.2.1 Pharmaceuticals' perspective on price and quality of free medicines

Three out of four pharmaceuticals (75%) stated that free medicine was medicine for free distribution or sample medicine. An equal member of pharmaceuticals (75%) revealed that the price determination process of free medicine is the same as for other medicines. Among all types of procurement, DPM, OQM, and e-bidding were found to be the popular procurement methods. These three procurement methods had equal weightage, three in four (75%) while SQM covered up half (50%). All pharmaceuticals had a preference for these methods, as they allowed by PPA and PPG, half (50%) used it as they are transparent, and the rest one in four (25%) used it because they are easy in the procurement process.

The amount of distribution of free medicine is allocated as per the level of the health institutions'. All pharmaceuticals agreed that the quality of free medicine is assessed by testing each batch. A majority, three out of four (75%) companies mentioned that they will be black listed, half (50%) stated that they will be dismissed from the procurement process, if any goods (medicine and equipment) are below the agreed quality. Considering the time required for quality assessment, (50%) stated that it took from 2-4 weeks and from 1-6 months. Three out of four (75%) stored free medicine safely, whereas only one out of four (25%) stored in the central medicine store during quality assessment.

Table 10. *Price and quality of free medicine from the pharmaceuticals*

		N	%
Do free medicines have a sign to indicate that it is provided "Free of cost"	Yes	3	75.0
	No	1	25.0
Procurement process of free medicine*	Direct purchase	3	75.0
	Sealed quotation	2	50.0
	Open quotation	3	75.0
	E-Bidding	3	75.0
Preference/prioritization of this method*	Transparent	2	50.0
	Easy process	1	25.0
	Determined by act	4	100.0
Quantity determination of the free medicine	As per health institution's level	3	75.0
	As per the disease and patient's ratio	1	25.0
Quality assessment of free medicine	Test of each batch	4	100.0
If, free medicine cannot maintain quality*	Dismiss the procurement process	2	50.0
	Re-procurement	2	50.0
	List in Black list	3	75.0
	Others	2	50.0
Time due to measure the quality of free medicine	2-4 weeks	2	50.0
	1-6 months	2	50.0
Total		4	100.0

*Multiple responses

4.2.2 Beneficiaries' perspective on price and quality of free medicine

A majority (90%) of beneficiaries noted that they visited health institutions during illness. Nearly 90 (87.5%) beneficiaries had knowledge that the GoN distributes free medicine to the people from health institutions. Among the health institutions visited by beneficiaries, more than two out of five (84.9%) reported that they received free medicine. Furthermore, among all beneficiaries who received free medicine from the health facilities, a majority (83%) recovered. A majority (55%) beneficiaries reported that health services provided were normal by the health institutions, followed by good service by 42%. Subsequently, among the total beneficiaries who visited health facilities, more than four out of five (81%) stated that they got better/well from health services.

Table 11. *Price and quality of free medicine from the beneficiaries' perspectives*

		N	%
Visited Hospital, Health Post, PHC, CHC, and SHC during sickness	Yes	138	90.8
	No	14	9.2
Know about the free medicine	Yes	133	87.5
	No	19	12.5
Received free medicine	Yes	112	84.9
	No	20	15.2

		N	%
Health care services provided by health institutions	Good	60	42.3
	Normal	79	55.6
	Poor	3	2.1
Get better from the health services	Get better	115	81.0
	Visited another health institutions	27	19.0
Total		142	100.0

The figures below depict the percentage of expiry date of free medicine and the percentage of beneficiaries recovered after using free medicine. Among all beneficiaries, less than half (45%) reported that free medicines had more than 3 months expiry date while 15% revealed that free medicines had less than 3 months expiry date. The study found that almost two in five (39%) were unaware about the expiry date of free medicine's. Figure No. 3 illustrates the total number of beneficiaries who received free medicine from health institutions, a majority (83%) recovered from the use of free medicine, whereas, a few (17%) reported that they did not recover from free medicine.

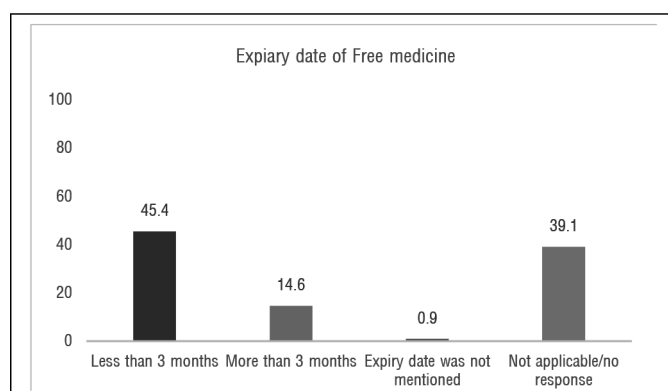


Figure 2. Expiry date of free medicine

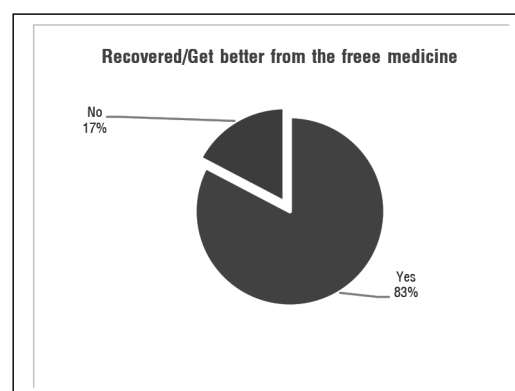


Figure 3. Recovered % after using the free medicine

4.3 Objective 2: Price and quality of COVID-19 medicines and kits

4.3.1 Pharmaceutics perspective on price and quality of COVID-19 medicines and kits

All pharmaceutics stated that the Government fixed the price of COVID-19 medicines and testing kits. Among all, three in four (75%) pharmaceutics stated that the prices of COVID-19 medicines and testing kits were the same as for other medical goods. Out of total procurement types, two: OQM and e-bidding were practiced with weightage equal three in four (75%). Following, DPM, SQM, and other purchasing types equally covered up half (50%). An equal (75%) pharmaceutics reported it as being transparent and guided by PPA and PPR behind using these procurement methods. All pharmaceutics stated that the price of COVID-19 medicines, testing kits, and equipment were communicated through the bill. Considering, the wholesale and retail prices of COVID-19 medicines, three out of four (75%) stated that there was no wholesale and retail price, while the rest, one out of four (25%) reported that wholesale and retail price do exist. Everyone agreed COVID-19 medicine has VAT/GST. A majority (75%) disclosed that the VAT/GST is applicable, in both the private and public sector, whereas (25%) stated it is applicable only in the private sector.

Table 12. *COVID-19 medicines and kits prices*

		N	%
Price determining organization for COVID-19 medicines, kits, and equipment	Government	4	100.0
Price determination of COVID-19 medicines, kits, and equipment	Same as others	3	75.0
	Different to others	1	25.0
Procurement process of COVID-19 medicines, kits, and equipment*	Direct purchase	2	50.0
	Sealed quotation	2	50.0
	Open quotation	3	75.0
	E-Bidding	3	75.0
	Others	2	50.0
Preference/prioritization reason of this method*	Transparent	3	75.0
	Easy process	1	25.0
	Determined by act	3	75.0
Total		4	100.0

* Multiple responses

4.3.2 Beneficiaries' perspectives on price and quality of COVID-19 medicines and testing kits

It was found that the GoN evaluates the quality of COVID-19 medicines by testing each batch. A majority (75%) of participants stated that they are dismissed from the procurement process, whereas 25% stated that they are black listed if bidders cannot maintain quality. Considering the time required for quality measurement, where half (50%) stated it took more than 1 week while another 50% stated it took 1-6 months. All participants reported that the quality measurement time for COVID-19 medicines took the same, as for others. Three out of four (75%) pharmaceuticals stored COVID-19 medicines in safe places, while only one out of four (25%) stored it at the central medicine store during quality testing.

Table 13. *Quality of COVID-19 medicines, testing kits, and equipment*

		N	%
Quality measurement of COVID-19 kits and equipment	Test of each batch	4	100.0
Quality measurement organization	Government	4	100.0
If, COVID- medicines, kits, and equipment does not maintain quality	Dismiss the procurement process	3	75.0
	List in Black list	1	25.0
Due time to measure the quality of COVID-19 medicines, kits, and equipment	< 1 week.	2	50.0
	1-6 months	2	50.0
Due time to measure the quality of COVID-19 medicines, kits, and equipment	Same as others	4	100.0
Storing and managing techniques during quality measuring	Store in central medicine store till not completing measure	1	25.0
	Store in other safe places	3	75.0
Total		4	100.0

* Multiple responses

4.4 Objective 3: Assessment of health care services with special focus on COVID-19 crisis

4.4.1 Health workers perspective on assessment of health care services with special focus on COVID-19 crisis

Of the total 58 health institutions, more than three out of five (65%) were found to have sufficient physical infrastructure. In a similar vein, a slightly higher three out of five (62%) health facilities were found to be without sufficient medical equipment. Similarly, a majority of health facilities (71%) were found to have inadequate health workers as compared to the patient ratio. Almost all, health facilities (97%) were found to be providing health services to patients as usual, during the COVID-19 pandemic. For this, a large majority (88%) health facilities divided health workers into shifts and only, one out of five (19%) had appointed new health workers in order to care for the caseload.

Table 14. *Availability of health services*

		N	%
Sufficient physical infrastructure in health institutions	Yes	20	34.5
	No	38	65.5
Availability of medical equipment on health institution	Sufficient	22	37.9
	No sufficient	36	62.1
Health workers to patient ratio	Sufficient	41	70.7
	No sufficient	17	29.3
Regular health services during the COVID-19 pandemic	Yes	56	96.6
	No	2	3.4
Management of health workers during COVID-19 pandemic*	Appointed new health workers	11	19.0
	Divided into shift to health workers	51	87.9
Total		58	100.0

*Multiple responses

4.4.2 Health workers perspective on physical infrastructure of health facilities to treat COVID-19 cases

Out of the total, a large majority (93%) of health institution from the 3 different levels i.e. central, federal, and local were identified to be without sufficient physical infrastructure to provide health services to COVID-19. With this background, four out of five (77%) health facilities suggested patients to stay at home isolation, slightly higher, 10 (11%) referred patients to another hospital, while a very few, 4% managed by transferring regular patients to other wards.

Physical infrastructure of health institutions to cure COVID-19's patients

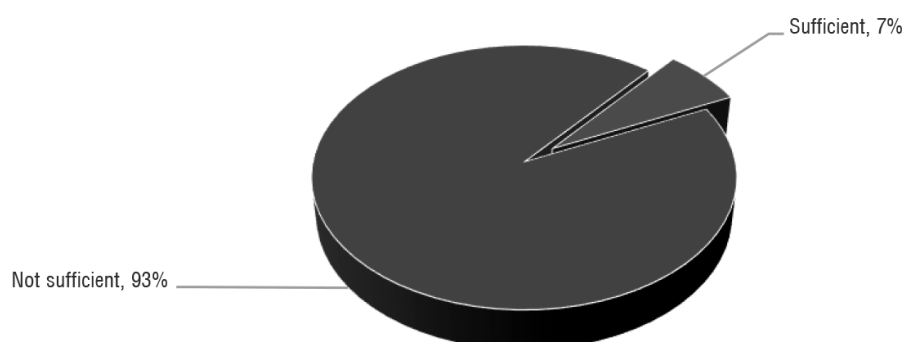


Figure 4. *Physical infrastructure of health institutions*

All of the health facilities, almost three out of four (74%) stated that they had inadequate health infrastructure, while one out of four, health facilities reported insufficient health workers. In this situation, almost four out of five (79%) health facilities managed by referring patients to better health institutions, while 16% managed by dividing existing health workers into shifts, and a few, 4% did not accept COVID-19 cases. It may be due to poor physical and human resources of these health institutions.

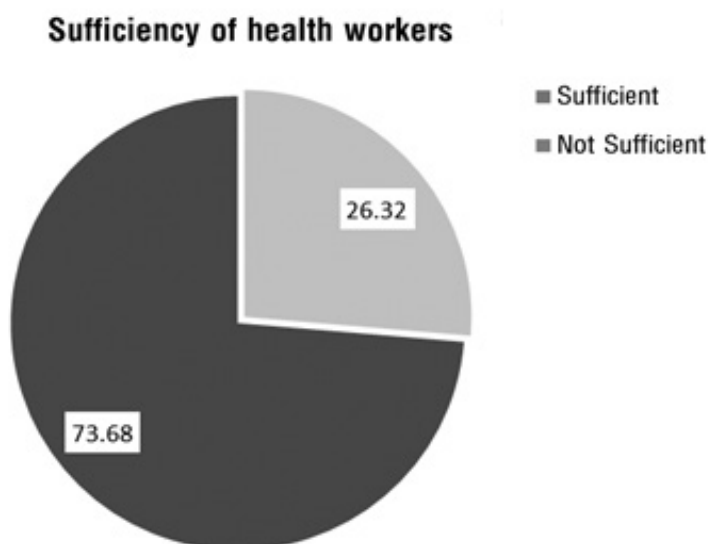


Figure 5. *Sufficiency of health workers*

All health facilities 88% were found to be without a separate isolation room for COVID-19 patient. Additionally, nearly three out of four (74%) health facilities had inadequate beds for COVID-19 patients. Though, a majority (71%) of health facilities managed by suggesting patients to stay at home isolation, while one out of five (20%) managed by adding extra beds, and another 4% did accept COVID-19 cases by transferring regular patients to other wards.

A majority of health facilities (65%) were found to have sufficient PPE, while the rest, more than a third, (35%) were found to have insufficient PPE and received them from donor organizations, local level, and other organizations.

All of the health facilities, a majority (65%) reported that COVID-19 patients received services from their facilities. Almost all health facilities (98%) reported that they have provided PCR and RDT test free of cost. Only (2%) charged for PCR and RDT testing cost and those unable to afford were asked to fill a “poor and marginalized form” and proceed for free health services. Nearly all (95%) of health workers were found to have worn PPE during the health service.

Table 15. *Physical infrastructure of health facilities to cure COVID-19 patients'*

		N	%
Separate isolation room for the COVID-19 patient at hospital	Yes	7	12.3
	No	50	87.7
Sufficiency of hospital bed for COVID-19 patient ratio	Yes	15	25.9
	No	43	74.1

		N	%
If no, managing ways	Home isolation	32	71.1
	Added extra bed	9	20.0
	Do not accept the cases	2	4.4
	By transferring the regular patients to other wards	2	4.4
Availability of Personal Protective Equipment (PPE) for health workers	Yes	37	64.9
	No	20	35.1
Health services for COVID-19 patients	Yes	38	65.5
	No	20	34.5
If no, what do you do for those people who cannot afford PCR & RDT testing kits	Filled up the poor and marginalized form and proceed with it for free service	3	100.0
Total		57	100.0

**Multiple responses*

The figure below shows the percentage of RDT and PCR testing services from health institutions. Among all, more than half (51%) had no PCR and RDT test and referred patients to the district, provincial and central levels' hospitals. In a similar way, more than a third (32%) of health facilities tested both for PCR and RDT, while only one out of five (16%) were found to be testing for PCR only, and less than 2% were found to be providing RDT tests. Those health facilities who had no PCR and RDT testing services referred to higher-level health facilities, for instance, health post to district hospital, district hospital to provincial hospital, provincial hospital to COVID-19 special hospitals. Among those health facilities having PCR and RDT testing kits, half (50%) reported that they always have PCR and RDT kits, whereas, the other (50%) reported that they had no PCR and RDT testing kits.

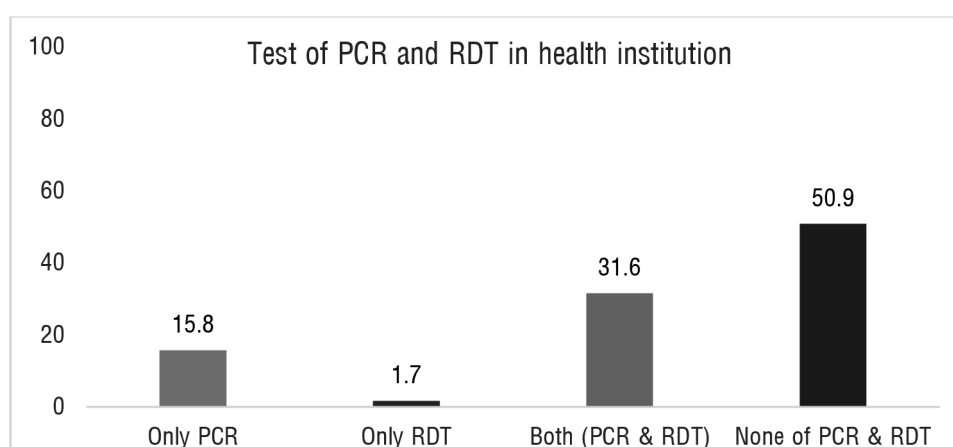


Figure 6. PCR and RDT testing services

4.4.3 Quality of health services on COVID-19 pandemics health workers perspectives

Though the need for specialist health workers has increased drastically after COVID-19 pandemic in each level of health institutions, more than four out of five (82%) were found to be without specialist health workers: i.e. Medical specialist, Chest specialist, infectious disease specialist with nurse and assistance staff. Moreover, nearly four out of five (79%) health facilities had no research and clinical services: i.e.

Radiologist, Pathologist, Microbiologist, and Lab Technician. Among those health institutions that had no specialist services, a majority (75%) referred to other health facilities, while one out of five (21%) managed through existing health workers. Considering the availability of ICU and Ventilator services, 91% of health facilities reported that they had no ICU and Ventilator services. Dishearteningly, more than (93%) of health institutions had no ventilators and 91% of health facilities had no ICU and ventilator services.

This study examined the cost of PCR/RDT tests that clients needed to pay. The clients reported that the cost ranged from NRs 1500 to 4500. Considering the time of COVID-19 test results, almost a third, did not know the time needed for PCR test results while more than half (46%) reported to have waited for more than 120 hours, whereas, (35%) reported to have waited 72 hours for COVID-19 result. The table below shows the frequency and percentage distribution of COVID-19 health services and testing kits.

In response to how hospitals disposed of their medical waste, more than half (56%) stated that they buried their garbage, while nearly half (49%) used incinerators, and 47% dumped their hospital produced garbage.

Table 16. *Quality of health services to COVID-19 pandemic*

		N	%
Specialist services (Medical Specialist, chest specialist, and infectious disease specialist) with nurse and assistance staff with 3 shifts	Yes	10	17.5
	No	47	82.5
Other research and clinical decision (Radiologist, Pathologist, Microbiologist, Lab Technician) services	Yes	12	21.4
	No	44	78.6
If not, who performs the tasks	Refer to other places	40	75.5
	Invite the specialist	1	1.9
	Perform through existing health workers	11	20.8
	Others	1	1.9
ICU and Ventilator services	Only ICU service	1	1.8
	Only ventilator service	2	3.6
	Both (ICU + Ventilator)	2	3.6
	None of both	51	91.1
If yes, number of ventilators	None	54	93.1
	2	1	1.7
	6	1	1.7
	23	1	1.7
	33	1	1.7
If yes, number of ICU	None	53	91.4
	2	1	1.7
	5	1	1.7
	17	1	1.7
	28	1	1.7
	124	1	1.7
Cost of PCR or RDT test	Yes	95	62.5
	No	41	27.0
	Do not know	16	10.5

		N	%
Duration of PCR/RDT test result	24 hours	10	6.8
	48 hours	19	12.8
	72 hours	51	34.5
	120> hours	68	45.9
Handling the hospital produced garbage	Use of incinerators	28	49.1
	Disinfection and send it to vehicle	10	17.5
	Dumping	27	47.4
	Buried	32	56.1
Total		57	100.0

4.5 Objective 4: Budget and expenditure with special focus on procurement of free medicines and COVID-19 procurement.

4.5.1 Legal format of the procurement process

All of the LMS/PHLMC/LLG practiced open, competitive, and transparent bidding during the procurement process. Among all types of bidding, Sealed Quotation Method (SQM) was popular covering 73% of the total. Similarly, e-bidding covered nearly half (48%), Open Bidding Method (OBM) covered more than two out of five (42%), and the rest a third (30%) through Direct Purchasing Method (DPM). A majority (79%) followed the PPA 2063 while procuring medical goods, drugs and equipment. More than four out of five (82%) reported that the existing PPA/PPR/PPG is good in quality. In the meanwhile, slightly more than half (55%) reported that PPA is available publicly in Google, unfortunately, more than half (55%) at the local level had not formatted procurement guidelines till study date.

Table 17. *Legal format of procurement process*

		N	%
Process of public procurement	Direct purchase	10	30.3
	Sealed quotation	24	72.7
	Open quotation	14	42.4
	E-Bidding	16	48.5
Public procurement basis on	Public procurement Act 2063	26	78.8
	Public procurement rules 2064	13	39.4
	Public procurement guidelines 2063	10	30.3
Perception about applied public procurement	It is good	27	81.8
	Others would be better	6	18.2
If available, getting way	Book shop	6	30.0
	Internet	11	55.0
	Health Depart	3	15.0
Prepared public procurement guidelines at local level	Yes	14	45.2
	No	17	54.8
Total		31	100.0

Multiple responses

4.5.2 Format of public procurement

Among all of the participants, almost 70% stated that health procurement was done within the three levels: FG, PGs, and LGs as per need. In this way, nearly all (97%) of the participants reported that the internal procurement center regulates the procurement process. Considering the appraisal and approval of the public procurement process, more than half (54%) stated that it was done by three levels officers, while 30% stated by the Office of the Auditor General (OAG) Nepal.

Table 18. *Format of public procurement*

		N	%
Health procurement	Local level	10	30.3
	Three level as per required	23	69.7
Procurement regulation institution	Central Procurement center	1	3.0
	Internal procurement center	32	97.0
Process of public procurement	Office of the Auditor General Nepal	10	30.3
	Office of the Comptroller and Auditor General	5	15.2
	Internal Auditor General	5	15.2
	Officer referred by committee/Board	4	12.1
	3 Levels Officers	18	54.5
Total		33	100.0

**Multiple responses*

4.5.3 Registration and participation

Overall, three out of five (60%) LMS allowed all participating bidders in the bidding process followed by 36% already listed. A criterion set to participate in the procurement process, a majority (62%) LMS required bidders should be registered in VAT followed by TAX clearance by nearly half (47%). Similarly, some LMS/PHLMC/LLGs (34%) also required bidders' turnover capacity and one out of four (25%) agreed with this GoNs' rule. Moreover, nearly one out of five (18%) also found that having no criteria, where everybody can participate in the procurement process. A primary action towards distributors who do not perform as per agreement, keep in black list were nearly four out of five (79%). Other actions towards distributors who failed in their commitment were to dismiss the agreement and compensation for loss of property, which occurred in about 18%.

Table 19. *Registration and participation*

		N	%
Sellers list	Already listed	12	36.4
	Anyone can participate	21	63.6
Certain criteria to participate procurement process	Registered in VAT	20	62.5
	Clearance of TAX	15	46.9
	Turn over capacity	11	34.4
	As per Government rule	8	25.0
	No any criteria	6	18.8

		N	%
Action towards distributors who cannot distribute as per agreement	Keep in black list	26	78.8
	Case file	4	12.1
	Compensation for the lost property	6	18.2
	Dismiss agreement	6	18.2
	Others	4	12.1
Total		33	100.0

**Multiple responses*

4.5.4 Procurement planning

Almost (97%) of LMS/PHLMC/LLG stated that they had an annual procurement plan for budget formulation every year. However, at least (3%) were found not to have an annual procurement plan for budget. In addition, nearly all (97%) had included emergency medicine and health services as part of the budget while formulating the annual budget. At least (3%) identified that they had not endorsed emergency medicine and health services in their annual budget.

Table 20. *Procurement planning*

		N	%
Annual procurement plan during budget formulations	Yes	32	97.0
	No	1	3.0
Emergency medicine/health services while preparing budget	Yes	32	97.0
	No	1	3.0
Total		33	100.0

4.5.5 Procurement method

Among all methods for procurement of free medicine, SQM was the most popular with a weightage of three out of five (60%), followed by emergency procurement by a third (27%). Correspondingly, the open contract and direct procurement was followed by nearly one out of four (24%) and by a slightly higher one out of five (21%) respectively. Less than one out of five (15%) reported following E-bidding procurement process. With COVID-19, medicines, testing kits, and equipment, a majority/slightly less than half (47%) used emergency procurement, followed by direct procurement by 34%. In the meanwhile, it was reported that an equal, one out of four (25%) LMS/PHLMC/LLG followed both sealed quotation and open bid methods while less than (9%) followed e-bidding. The major reason for selecting these methods as revealed by four out of five (81%) was its easiness, where, less than two out of five (36%) stated it was transparent. In the similar vein, less than 10 (9%) stated that prioritization was determined by act and less than (3%) stated it was prioritized through emergency condition.

Table 21. *Procurement method*

		N	%
Procurement methods for free medicine	Direct procurement	7	21.2
	Sealed Quotation Method (SQM)	20	60.6
	Open contract	8	24.2
	Emergency procurement	9	27.3
	E-bidding	5	15.2

		N	%
Procurement process of COVID-19 medicines, kits, and equipment	Direct procurement	11	34.4
	Sealed quotation	8	25.0
	Open quotation	8	25.0
	Emergency procurement	15	46.9
	E-Bidding	3	9.4
Preference/prioritization reason of this method	Transparent	12	36.4
	Easy process	27	81.8
	Determined by act	3	9.1
	Emergency condition	1	3.0
Total		33	100.0

**Multiple responses*

4.5.6 Bidding process

Among all of the LMS/PHLMC/LLG, a majority, more than three out of five (64%) stated that procurement notice published in national and international forum where every eligible bidder can compete in the bidding process. On the other hand, less than two out of five (36%) were found not to practice open national and international bidding. In addition, nearly half (58%) LMS published procurement notices nationally and internationally for COVID-19 goods. In this way, a slightly higher two out of five (42%) were found not to practice to publish procurement notices in national and international. More than half (54%) LMS stated that they that they excluded bidders/companies, if they did not meet the GoN rules/criteria. Similarly, it was also found that companies were prohibited from participating in the bidding process if they had non-renewable licenses, less turnover capacity, unable to keep deposit, and unable to meet WHO/GMP criteria.

Table 22. *Bidding process*

		N	%
Nationally and internationally publish procurement notice/vacancy by organization/Government relating to free medicine	Yes	21	63.6
	No	12	36.4
Nationally and internationally publish procurement notice/vacancy related to COVID-19	Yes	19	57.6
	No	14	42.4
Prohibition factors from competitions to companies	Renewable organization	13	39.4
	Turnover capacity	10	30.3
	Keep deposit	9	27.3
	WHO GMP	7	21.2
	As per Government rule	18	54.5
Total		33	100.0

**Multiple responses*

4.5.7 Record keeping and competitions

A majority (90%) kept information and complaint record on the public procurement process. At least, (9%) were found not to be practicing to keeping records of complaints about the procurement process. In

order to respond to complaints on public procurement, 60% had formed an internal complaint response unit/mechanism, while three out of five 60% had no complaint response unit/mechanism.

Table 23. *Record keeping and competitions*

		N	%
Record of information and complaints on the procurement process	Yes	30	90.9
	No	3	9.1
Complaint handling mechanism	Yes	20	60.6
	No	13	39.4
Record system of complaint to COVID-19	Yes	27	81.8
	No	6	18.2
Independent institutions responses to COVID19 complaint	Yes	18	54.5
	No	15	45.5
Total		33	100.0

Similarly, in order to make the public procurement process transparent, more than two out of five (44%) stated to make it public through notice board, nearly one third stated (28%) to make it public through website and another 28% stated to make it accessible publicly.

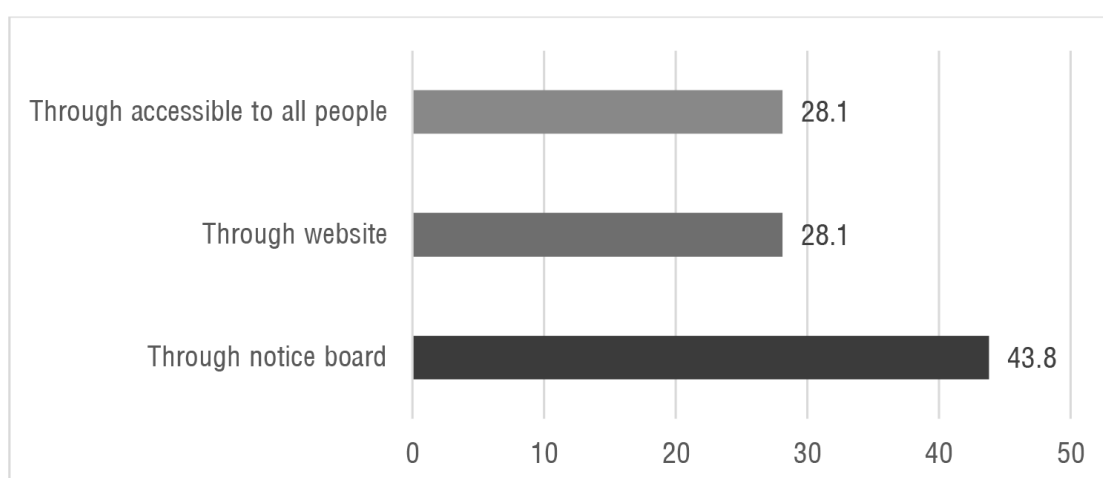


Figure 7. *Ways of making procurement transparent.*

4.5.8 Transparency

Among all of the LMS/PHLMC/LLG, nearly (80%) stated that they do have certain criteria to participate in the procurement process, to award bidders, make it transparent through different means, and punish bidders if they do not perform as per agreement, whereas, a slightly higher, one out of five (21%) stated that they had no criteria required to participate in the bidding process till study date.

Table 24. *Transparency*

		N	%
Criteria and rules on the procurement process	Yes	26	78.8
	No	7	21.2
Total		33	100.0

4.5.9 Monitoring and auditing

The table below depicts the frequency and percentage of LMS/PHLMC/LLG which used monitoring and auditing in the procurement process. A majority of LMS/PHLMC/LLG (72%) stated that they followed all of the suggestions provided by the Office of the Auditor General (OAG) Nepal, while only one third (27%) used it to some extent. Similarly, a majority (72%) were found not to invite independent civil society during the procurement process, whereas some (27%) did invite independent civil society.

Table 25. *Monitoring and auditing*

		N	%
Suggestions for implementation provided by Office of the Auditor General (OAG) Nepal	Completely	24	72.7
	To some extent	9	27.3
Invite independent civic society during the procurement process for monitoring	Yes	9	27.3
	No	24	72.7
Total		33	100.0

4.5.10 Budget and expenditure

The Table below shows the budget and expenditure, for 3 fiscal years of the Government for free medicine and COVID-19 goods. Overall, in the fiscal year 2076/077, it identified the trend that each level of governments used to allocate budget for free medicine which varied at each level, starting from NRs 4,50000 to 600,000. Similarly, the overall expenditure for the fiscal year was found to range from NRs 340,000 to 5,000,000. The data clearly shows that the allocated budget was higher than the expenditure for free medicine.

For the fiscal year 2075/076, it shows a lower budget allocated by LMS, ranging from NRs 3, 65,000 to 30,00000 for free medicines in the subheading in the annual budget. And their expenditure was found to range from NRs 13,65,000 to 30,00000 annually. Here, the amount clearly shows that the expenditure is higher than the allocated budget that may be due to the high demand for free medicine in the middle of the fiscal year.

In the FY 2074/075, the budget allocated for free medicine was found to be low compared to FY 2076/077 and FY 2075/076. The budget ranges between NRs 1,10,000 to 15,00000 in FY 2074/075. Additionally, fiscal expenses was found in the ranges of NRs 1,98000 to 9,00000.

4.5.11 Budget and expenditure on COVID-19

The table below depicts the budget and expenses on COVID-19 at different levels. LMS reported budget ranges from NRs 16,67,130 to NRs 80,00,000 where expenses amounted from NRs 10,00000 to 75,00000 till study date. It is increasing day by day due to the spreading pandemic. So, the net cost of this outbreak will increase with time.

5. Conclusions and Recommendations

5.1 Conclusions

The GoN is committed to providing essential health care services to the population towards meeting Universal Healthcare Coverage (UHC) to ensure equitable access to essential health services by modernizing the health infrastructure, and enhancing the capacity of doctors, nurses, midwives, and health managers. The GoN is facing the twin challenge of balancing limited resources with the increasing need for improving health care services. In addition, with the outbreak of the COVID-19 pandemic, challenges to ensure equitable access to health services has doubled for the Government, especially in a resource limited setting.

5.1.1 Price and quality of free medicines

- **Unaware about the types of free medicines:** Though a majority of the people are aware about the availability of free medicines that is distributed through health institutions by GoN, almost all beneficiaries were unaware about the actual types of medicines distributed by health institutions.
- **The quality of free medicines:** The quality of free medicine is assessed by testing every batch and is conducted by the GoN, which took from two weeks to 6 months. Overall, a majority of the patients stated that they recovered after taking free medicine. In a similar way, a majority of patients stated that free medicines were provided before its date of expiry.

5.1.2 Price and quality of COVID-19 medicines

- **Price variations in COVID-19 testing kits:** Though the Government took the responsibility to treat COVID-19 patients, they are compelled to pay for its services. The PCR/RDT testing kits has price variations. The PCR/RDT testing kit prices range from NRs1,000 to 5,500.
- **Time variations in test results:** People got test results at various time intervals, even if they provided test sample at the same time at different health institutions. The time to get PCR/RDT results on COVID-19 ranged from 24 hours to more than 120 hours. These may be due to transportation of sample, available facilities, availability and skills of lab technicians.

5.1.3 Health care services during COVID-19

- **Insufficient health infrastructure, inadequate medical equipment:** At all levels health institutions had insufficient physical infrastructure, they had no isolation rooms and separate beds. During this crisis, health facilities managed patients by persuading them home quarantine or referring them to other hospitals or by transferring regular patients to other wards. Some health facilities provided health services by adding isolation rooms, separate beds; however some did not accept COVID-19 cases. Furthermore, a majority of health facilities had no PCR/RDT testing services, and had recourse to refer patients to other health institutions that had testing services.
- **Insufficient specialist health workers:** In the case of health workers, both (i. therapeutic specialist: Medical specialist, Chest specialist, and Infectious disease specialist and ii. research and clinical specialist: Radiologist, Pathologist, Microbiologist, and Lab technician) including nurses and other

supporting staff were inadequate to provide health services in the COVID-19 pandemic. Many health facilities allocated their health workers and served patients in shifts.

- **Poor quarantine management:** A majority of beneficiaries reported that during quarantine there was no minimum standard of health services including daily facilities.

5.1.4 Budget and expenditure of free medicines and COVID-19 procurement

- **Variations in budget allocated for free distribution of medicine:** Each LG has the tendency to allocate budget in the sub-heading of free medicine. The total budget for free medicine has large variations ranging from NRs 4,50,000 to 60,0000 in 2076/077 FY. The overall expenditure during the fiscal year ranged from NRs 3,40,000 to 50,00000. The data clearly showed that the allocated budget was higher than expenditure in free medicine. From an analysis of the budget it was concluded that the allocated budget was higher than expenditure in the sub-heading budget for free medicine.

Simultaneously, fiscal year 2075/076 has lower budget allocation than fiscal year 2076/077 that ranges from NRs 3,65,000 to 30,00000 on free medicine subheading while formulating the annual budget program. And their expenditure was found from the range of NRs 13,65,000 to 30,00000 annually. The evidence demonstrates that the expenditure is high than allocated budget that may be due to the high demand of free medicine in middle of fiscal year.

The lowest budget allocation for free medicine was found in the fiscal year 2074/075 ranging from NRs 1,10,000 to 15,00000. Additionally, fiscal expenditure was found to range from NRs 1,98000 to 9,00000. So, on the basis of these evidences it can be said that free medicine's requirement varied at each level. The budget allocated for free medicine relies on the Government at the local level where the expenses depends on the pandemic, epidemic, and other disasters faced by local levels.

- **Variations in the budget allocated for COVID-19:** The overall budget and expenses for COVID-19 differ at each level due to demand, strategies and pandemic's severity. LMD/PHLMS/LLG reported budget ranges from NRs 16, 67,130 to 80,00,000 where expenses amounted to NRs 10,00000 to 75,00000 till study date. As the rate of infection increases, the net cost of this outbreak will increase with time.

5.2 Recommendations

This research has identified some core issues on the free distribution of medicine and health care services, including COVID-19 medicine, and testing kits. It is urgent to provide essential, regular health care services to the population towards UHC. More than that, the strategic policy response to COVID-19 appeared to be significant for preventive, therapeutic and rehabilitative efficacy of the population. In this context, the following are specific recommendations:

5.2.1 Policy Level

- **Establishment of health institutions and extensive preparation:** All three tiers of the Government have commenced to establish new health institutions with separate isolation rooms, ICU rooms, ventilators, and VDM machines. It is necessary for all three levels of the Governments to immediately focus on increasing the capacity of health institutions.
- **Expansion of laboratory and diagnostic centers:** Laboratories and testing centers need to be expanded at the LGs level

- **Appoint expert health workers:** All the three levels of the Government must appoint two types of specialist health workers (i. Medical specialist, Chest specialist, and Infectious disease specialist for therapeutic efficacy, ii. Radiologist, Pathologist, Microbiologist, and Lab technician for research and clinical decision) including nurses and other supporting staff.
- **Standardize the quarantine facilities:** The PGs and LGs should be instructed to provide standardized quarantine facilities.
- **Procurement and supply of medical equipment and vaccine:** The Health Service Department of the MoHP procure and distribute sufficient amounts of medical supplies to hospitals and health institutions across the provinces. Besides, vaccines on COVID-19 should be immediately procured those that have been successfully tested in several countries.

5.2.2 Implementation Level

- **Public awareness about free medicine and COVID-19 pandemic:** Public awareness about free medicine is essential to the people, which have been distributed freely by the GoN from different health institutions. Besides, to eliminate the fault and stigma about COVID-19, and to educate and provide correct information about COVID-19, an awareness program is mandatory.
- **Timely distribution of free medicines:** Free medicines should be distributed timely by health facilities in the required quantity.
- **Monitoring and supervision during the procurement process:** To make the public procurement process transparent, close supervision and monitoring by independent civil society and government authority is crucial.
- **Commence laboratories in local levels:** Each local level must establish (at least temporary) laboratory services. To do so, it is necessary to coordinate among the three levels of Government. The coordination will assist governments to evaluate the technical capacity of the LGs.
- **Free health services on COVID-19:** All health services on the COVID-19 pandemic should be free including PCR/RDT test.
- **Motivate and encourage frontline service providers on COVID-19:** All three levels of the government needs to motivate and encourage the health workers, doctors, and security forces deployed at the perilous frontlines of the COVID-19 crisis by paying attention to their safety and providing the necessary means for protecting them from the pandemic.

5.3 Way forward

Table 26. *Way forward*

S. N.	Issues/Problems	Expected Results	Strategies	Activities for results
1.	Poor public awareness on free medicine	People are aware about free medicine	Collaboration and partnership	Organize public awareness programs collaborating with public, non-governmental, private sector, development partners, and academia.
2.	Weak health care services in unusual and COVID-19 crisis	Optimum health care services in unusual and COVID-19 crisis	Establish modern infrastructure and appoint health specialist	Establish robust and easily accessible healthcare infrastructure with modern medical equipment. Appoint specialist health workers as per health institutions. Commence laboratories in each LGs.
3.	Poor management in preparation and response to COVID-19 crisis	Appropriate management to respond to COVID-19	Form a committee and task teams	Form committees and task teams in each LG to prepare and respond to COVID-19.
4.	Inadequate medical equipment and no vaccines	Easily accessible COVID-19 related medicines and vaccines	Collaborate with national and international Pharmaceuticals and Government	Procure medical equipment and COVID-19 vaccines from Pfizer and Moderna.

ANNEX

Annex Table

Annex table 1. *Budget and expenditure*

		N	%
Annual budget of 2076/077	No answer/Don't know	8	24.2
	10,00000	2	6.1
	11,50,000	1	3.0
	13,50,000	1	3.0
	15,00000	2	6.1
	18,50,000	1	3.0
	20,00000	4	12.1
	25,00000	1	3.0
	25,50,000	1	3.0
	27,00,000	1	3.0
	30,00000	2	6.1
	31,50,000	1	3.0
	4,50,000	1	3.0
	40,00000	1	3.0
	45,00,00	1	3.0
	45,00000	2	6.1
	6,20,000	1	3.0
	60,00000	1	3.0
	7,50,000	1	3.0
Annual Expenditure of 2076/077	No answer/Don't know	16	48.5
	10,00000	1	3.0
	11,42,0500	1	3.0
	13,50,000	1	3.0
	15,00000	1	3.0
	17,85,00	1	3.0
	20,00000	3	9.1
	25,00000	1	3.0
	25,50,00	1	3.0
	27,00,00	1	3.0
	28,96,43	1	3.0
	3,50,000	1	3.0
	30,00000	1	3.0
	41,52,78	1	3.0
	50,00000	1	3.0
	7,00,000	1	3.0
Annual budget of 2075/2076	No answer/Don't know	22	66.7
	10,00000	1	3.0
	11,00,00	1	3.0
	13,50,00	1	3.0
	15,00000	1	3.0
	20,00000	1	3.0
	25,00000	1	3.0
	29,50,000	1	3.0
	30,00,00	1	3.0
	30,00000	1	3.0
	3,65,000	1	3.0
	4,50,000	1	3.0

		N	%
Annual Expenditure of 2075/076	No answer/Don't know	22	66.7
	10,00000	2	6.1
	13,50,00	1	3.0
	15,00000	2	6.1
	20,00000	1	3.0
	22,97,00	1	3.0
	28,35,00	1	3.0
	30,00000	1	3.0
	34,91,83	1	3.0
	8,62,625	1	3.0
Annual budget of 2074/075	No answer/Don't know	27	81.8
	10,00000	1	3.0
	11,00,00	1	3.0
	15,00000	1	3.0
	22,50,00	1	3.0
	8,00,000	1	3.0
	9,00,000	1	3.0
Annual Expenditure of 2074/075	No answer/Don't know	29	87.9
	10,98,00	1	3.0
	21,65,00	1	3.0
	7,00,000	1	3.0
	9,00,000	1	3.0
Total		33	100.0

Annex Table 2. Budget and expenditure in COVID-19

		N	%
Budget in COVID-19 theme	No answer/Don't know	23	69.7
	1,00,00,00	1	3.0
	1,667,130	1	3.0
	12,87,890	1	3.0
	19,00,000	1	3.0
	3,00,00,00	1	3.0
	3,50,00,00	1	3.0
	35,00,000	1	3.0
	50,00,000	1	3.0
	51,27,420	1	3.0
	8,00,0000	1	3.0
Budget in COVID-19 theme	No answer/Don't know	22	66.7
	1,00,00,00	1	3.0
	1,14,00,00	1	3.0
	1,547,560	1	3.0
	10,000,00	1	3.0
	12,87,890	1	3.0
	24,00,000	1	3.0
	3,00,00,00	1	3.0
	4,50,00,00	1	3.0
	4500,000	1	3.0
	50,00,000	1	3.0
	7,50,0000	1	3.0
Total		33	100.0

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