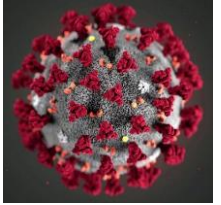


Assessment of health related country preparedness and readiness of Nepal for responding to COVID-19 pandemic



कोभिड-१९ महामारीको सन्दर्भमा
कोभिड तथा अन्य स्वास्थ्य सेवा प्रवाहका लागि
अन्तरिम निर्देशिका
२०७६



नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय

Objective of the study

- **To assess the preparedness and readiness of Government of Nepal designated COVID hospitals and Hospitals-running-COVID clinics for COVID-19 related services**

Methodology

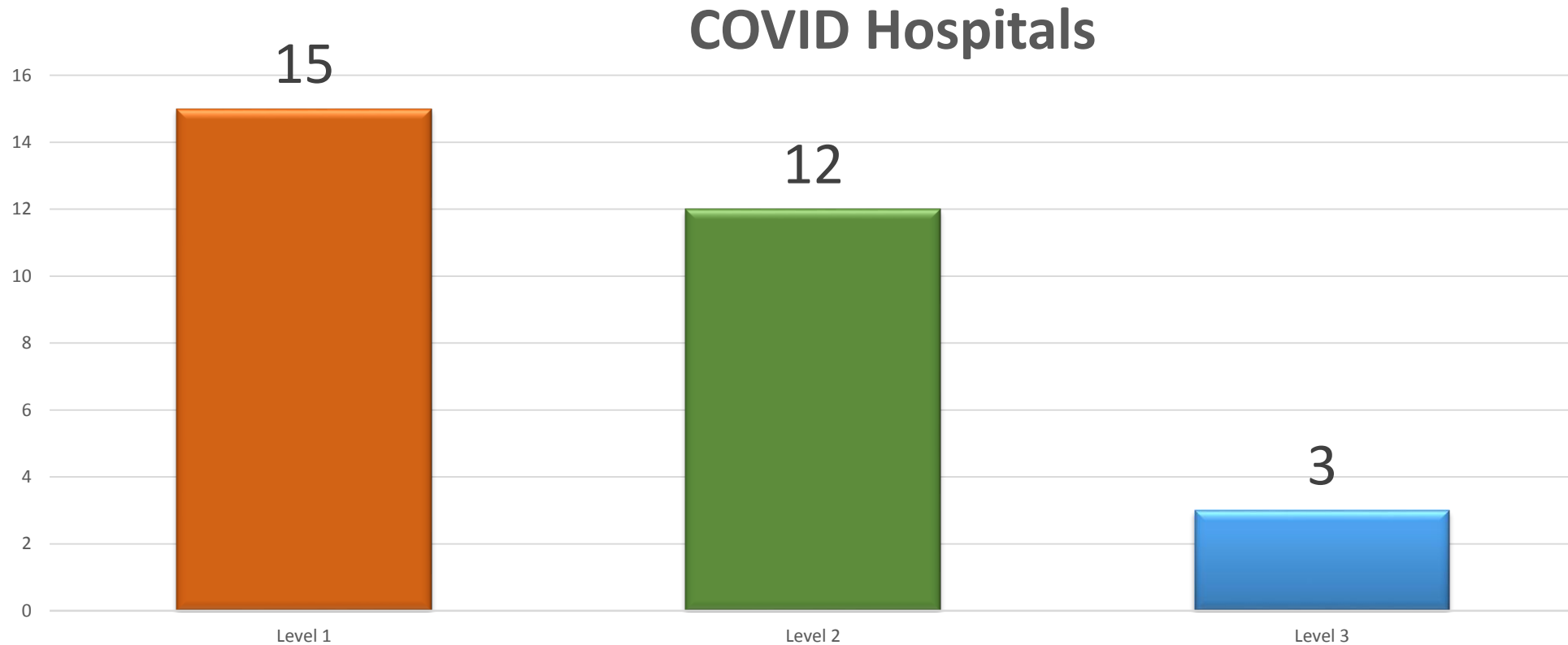
- Cross-sectional study design
- Face to face interview
- Telephonic interview
- Data collection:

26 April 2020 – 27 May 2020



Government of Nepal designated
COVID hospitals

Government of Nepal designated COVID hospitals (N) = 30



Health care facility preparedness and planning

- Existing functional hospitals - 25 (83.3%) of 30
- coordinated with the government – 100%
- COVID management core team – 29 (96.7%)
- COVID-19 Preparedness response plan – 28 (93.3%)
- Infection Prevention Committee (IPC)- 19 (60.3%)
- Hand washing (soap water/ alcohol hand rub) provision- 100%
- Infra-red thermometer provision at the hospital entrance- 93.3%

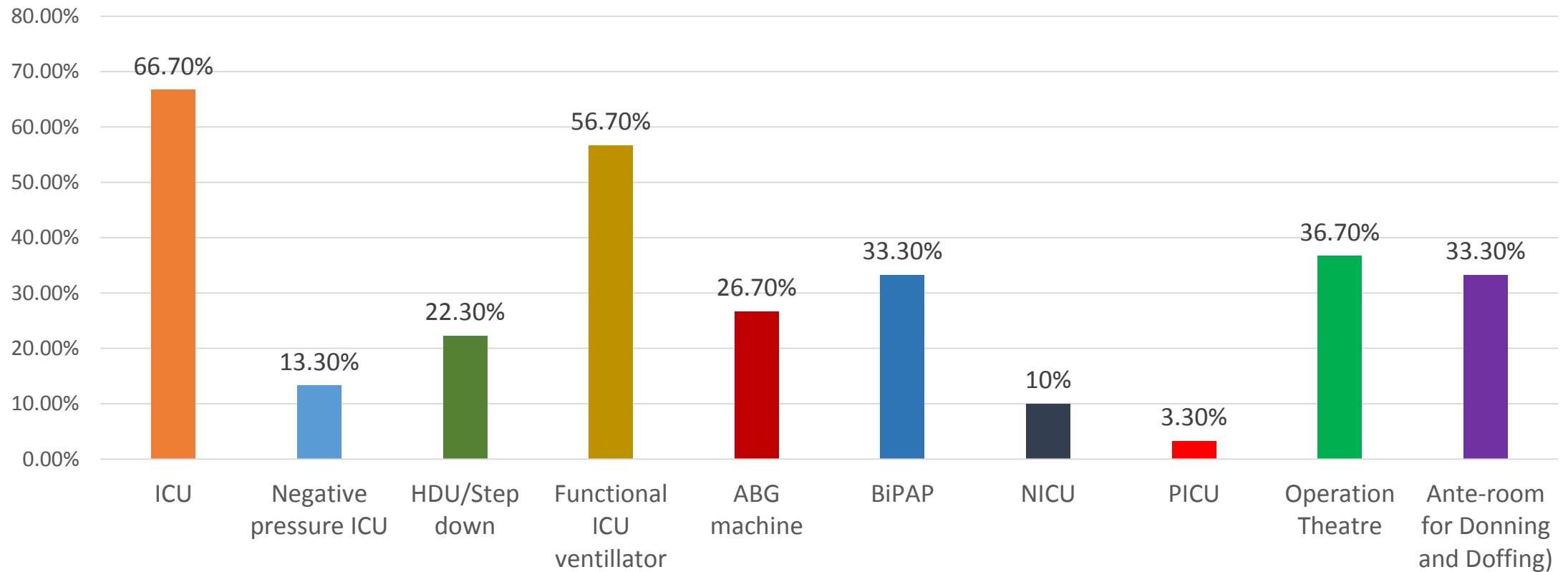
Infrastructure

- Adequate space between the beds (at least 1 meter)- 100%
- 24 hours' electricity and water supply- 100%
- Total no. of beds allocated for COVID patients- 1,926
- Waiting/holding areas- 23 (92%)
- separate examination areas- 22 (88%)
- Triage systems - 19 (76%)
- Designated Emergency- 7 (23.3)



Clinical services

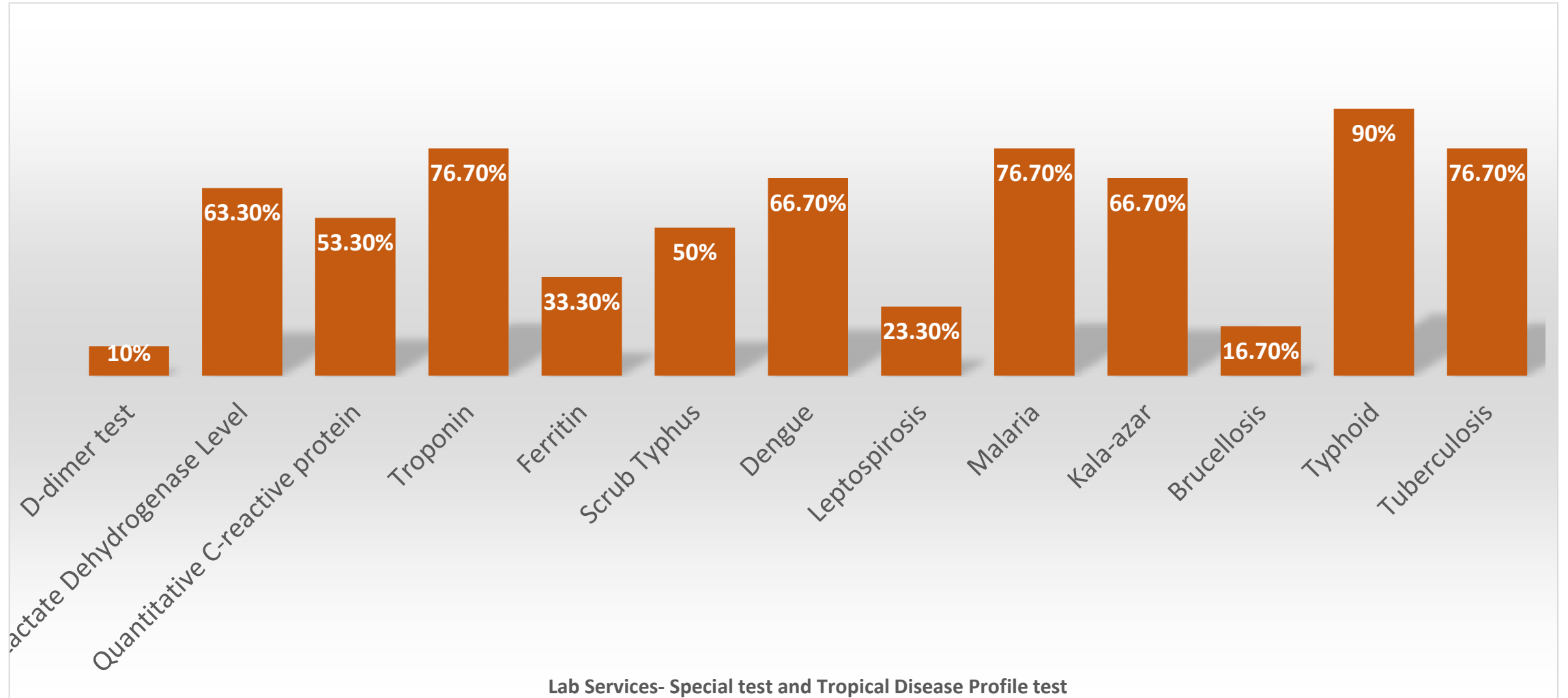
Critical care equipments



Critical equipment's number in ICU

Facility	Number
Total no. of ICU Beds	235
Total no. of HDU	95
Total no. of OT rooms	30
Total no. of Functional Ventilators	98
Total no. of NICU	10
Total no. of PICU	21
Total no. of ECMO	0
Total no. of ABG machine	11

Laboratory Services



COVID Investigation Provision and Services

COVID Investigation Provision and Services

	Yes (%)	No (%)	Quantity
Provision of investigation in same hospital	21 (70)	9 (30)	
Separate designated area for sample collection	26(86.7)	4 (13.3)	
RDT service	17 (56.7)	13 (43.3)	
RT-PCR service	10 (33.3)	20 (66.7)	
Trained human resource to conduct RT-PCR	19 (63.3.)	11 (36.7)	70

Isolation Facilities Provision

	Yes (%)	No(%)	Quantity
Provision of Isolation for suspected case till the result is available (n=30)	25 (83.3)	5 (16.7)	
Ante-room attached for PPE donning and doffing (suspected cases) (n=25)	22 (88)	3 (12)	
Total number of beds in isolation for suspected case			729
Provision of admitting confirmed COVID patient	25 (83.3)	5 (16.7)	
Ante-room attached for PPE donning and doffing (confirmed cases) (n=25)	21 (70)	4 (30)	
Total number of beds for confirmed case			836

Personal Protective Equipment (PPE)

	Yes (%)	No(%)	Quantity
Categorization of PPE sets according to MoHP and NMC guidelines	12 (40)	18 (60)	
N95 mask			9,280
Goggles or Visor			3,796
Gloves (loose gloves acceptable/surgical)			174,950
Water resistant OR standard disposable gowns			3,805
Cap: Regular disposable			28,520
Surgical mask			123,031
Gloves (any types of nonsurgical)			220,350
Gowns			8,425
Eye protection (if risk of splash)			1,460

Support services

- CPOS facility in hospital- 16 (53.3%)
- CPOS facility in COVID clinic- 4 (13.3%)

No. of beds covered with CPOS -503

- Ambulance services- 23 (76.7%)
 - Number of Ambulance- 41

Diagnostic services			
	Yes (%)	No(%)	Quantity
Portable X-ray	23 (76.7)	7 (23.3)	28
Portable USG	22 (73.3)	8 (26.7)	23

Human resources

	Yes(%)	No(%)	Number
General Medicine/ Emergency Medicine	25 (83.3)	5 (16.7)	138
Anesthesiologist	23 (76.7)	7 (23.3)	71
Pulmonologist/ Respiratory physician	9 (30)	21 (70)	17
Infectious disease specialist	5 (16.7)	25 (83.3)	9
Critical Care specialist	6 (20)	24 (80)	38
Trained Nursing staff for isolation ward	14 (46.7)	16 (53.3)	193
Trained Nursing staff for intensive care	19 (63.3)	11 (36.7)	180

Capacity building (Training/ Orientation)

COVID-19 testing and sample handling	24 (80)	6 (20)	
Handling of dead body	13 (43.3)	17 (56.7)	

Infection, Prevention and Control (IPC)



Practice of Segregation
and transportation of
Waste as per Health care
waste management
guidelines 2014- 28
(93.3%)

Provision of disinfecting modality for PPE

Hypochlorite solution - 28 (93.3%)

UV sterilization- 3 (10%)

Autoclave- 25 (83.3%)

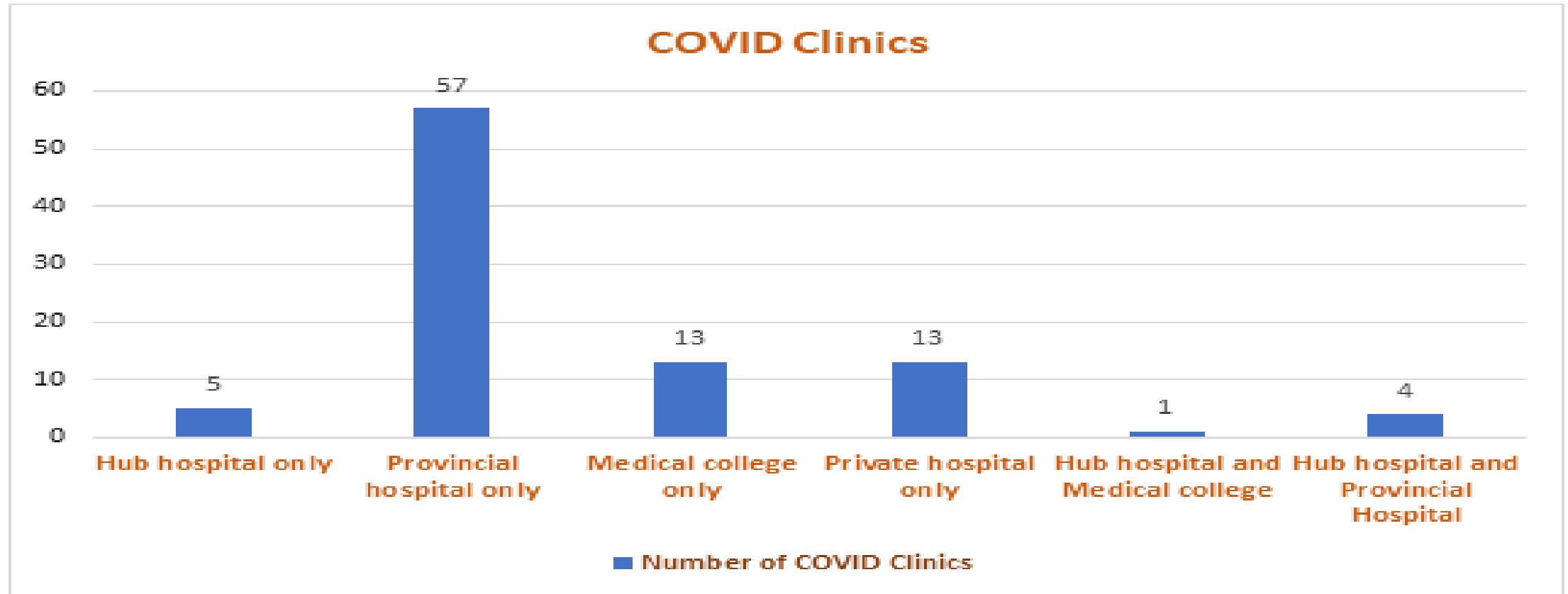
Medicine and Consumables			
	Yes (%)	No(%)	
Availability of Essential & Emergency Medicines	29 (96.7)	1 (3.3)	
Availability of Recommended Drugs for COVID-19	28 (93.3)	2 (6.7)	
Referral			
Facilities of referring to higher level COVID -19 hospitals	21 (70)	9 (30)	
Discharge and Follow up			
Provision of Ambulance service	27 (90)	3 (10)	
Provision for Contact and Follow up	28 (93.3)	2 (6.7)	
Counseling Provision for home isolation	28 (93.3)	2 (6.7)	
Safety provisions for staffs			
COVID-19 testing provision	24 (80)	6 (20)	
Quarantine provision	28 (93.3)	2 (6.7)	
Handling of dead body			
Availability of body bags	6 (20)	24 (80)	

Presence of printed copies of Guidelines and Directives published or endorsed by Ministry of Health and Populations

- Most of them have archived the documents

**Government of Nepal designated
COVID Clinics**

Government of Nepal designated COVID Clinics (93)



Health care facility preparedness and planning

- **Coordination with the government – 94 (99%)**
- COVID-19 task force committee – 79 (83.2%)
- COVID management core team – 80 (84.2%)
- COVID-19 Preparedness response plan – 79(83.2%)
- Hand washing (soap water/ alcohol hand rub) provision- 95.8%
- Infra-red thermometer provision at the hospital entrance- 92.6%

Infrastructure

For COVID Clinic

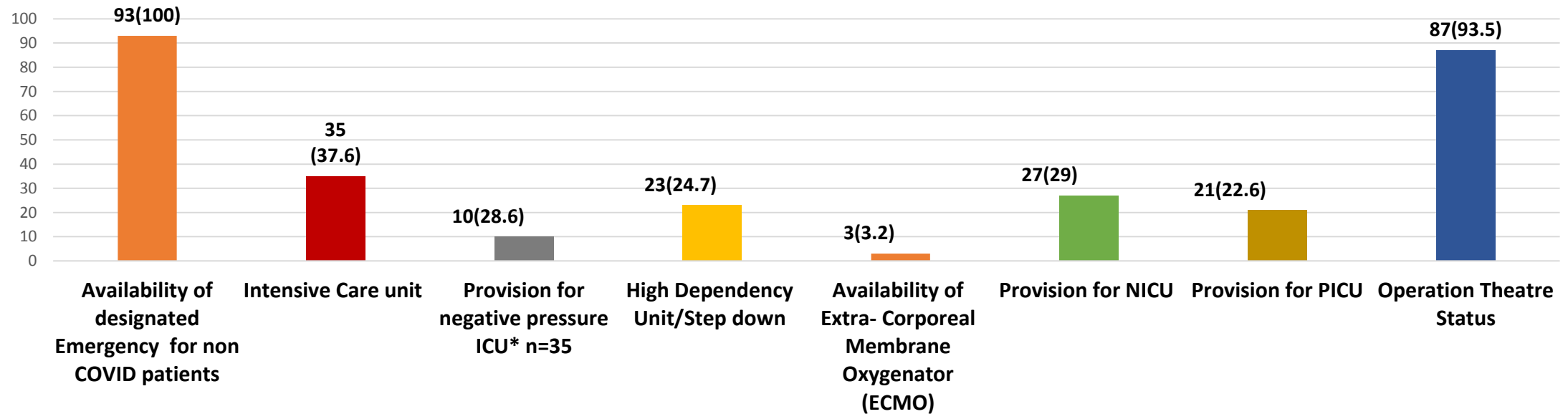
- Waiting area/holding area: 80 (86%)
- Examination area: 83 (89.2%)
- **Triage system: 46 (49.5%)**
- 24 hours COVID clinic service: 52 (55.9%)

For Entire hospital

- **Total beds: 13724**

Infrastructure

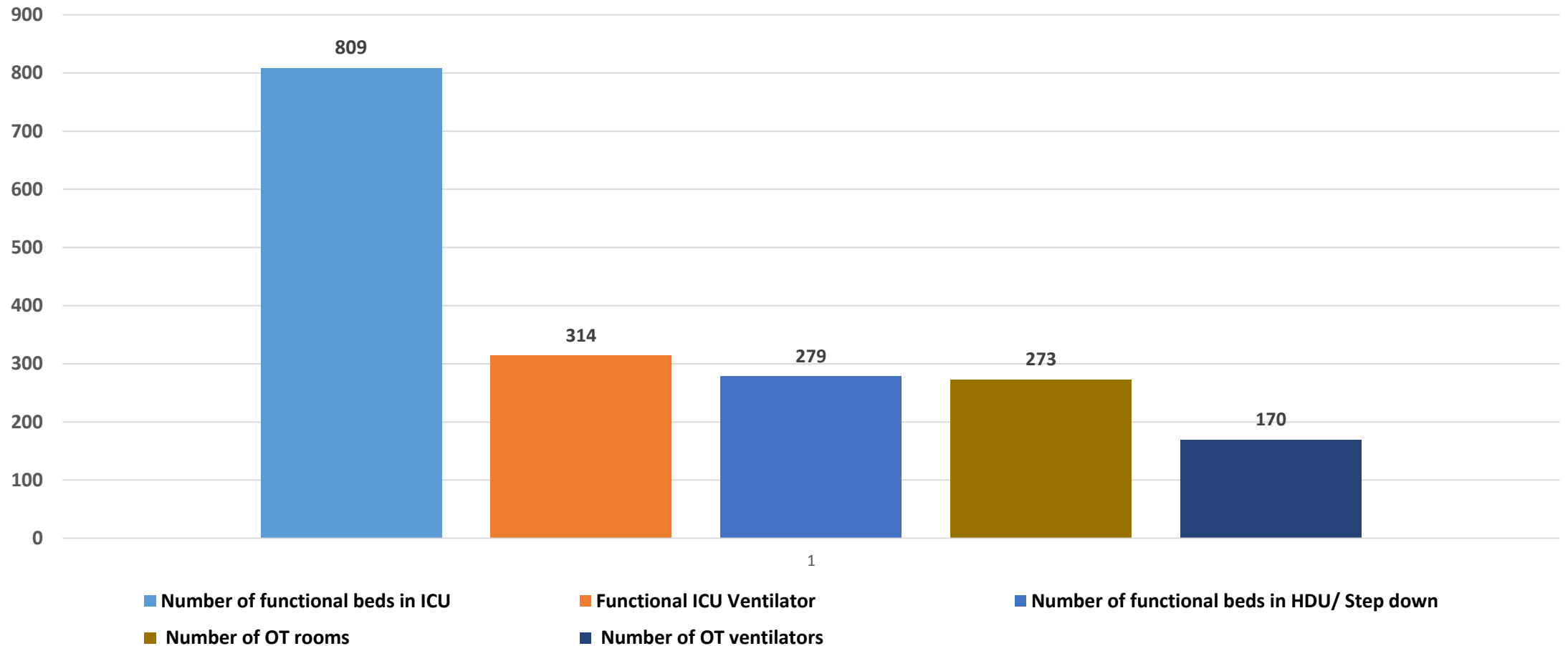
Infrastructure of Entire Hospital



- Availability of designated Emergency for non COVID patients
- Intensive Care unit
- Provision for negative pressure ICU* n=35
- High Dependency Unit/Step down
- Availability of Extra-Corporeal Membrane Oxygenator (ECMO)
- Provision for NICU

Infrastructure

Infrastructure of ICU and HDU



Clinical services

- Provision of investigations in the same hospital: 7 in 10 hospitals
- Provision of RDT services : 61 (65.6%)
- RT-PCR service: 3 (3.2%)
- Trained human resources to conduct RT-PCR: 31 (33.3%)

Laboratory services

- **COVID Clinics shared the laboratory services** (Routine Blood tests, Special blood tests, Culture and Tropical Disease Profile Test) with the general hospital: 100%
- Large variation in the capacities of Tropical Disease Profile Test of the hospitals in 93 hospitals.

Malaria	83 (89.2)
Typhoid	84 (90.3)
Tuberculosis	84 (90.3)
Dengue	70 (75.3)

Isolation Facilities

- Provision of Isolation for suspected case till the result was available: 96%
 - Ante-room attached for PPE donning and doffing: 68.5% .
 - Total beds: 1, 185
- Provision of admitting confirmed COVID patients: 15 (16.1%)
 - Ante-room attached isolation facility for PPE donning and doffing: 11 (73.3%)
 - Total beds: 243

PPE

- Categorised PPE sets according to MoHP and NMC guidelines: 42

N95 mask	10761
Goggles or Visor	5454
Gloves (loose gloves acceptable)/ Surgical gloves	213033
Water resistant OR standard disposable gowns	5310
Cap: Regular disposable	107173
Surgical mask	197360
Non surgical gloves	181029
Gowns	5331
Eye protection (if risk of splash)	2643

Support services

- COVID clinic with dedicated diagnostics services: 3.2 %
- Reported to pool the diagnostic services in surge of COVID cases: 95%.
- CT services: None
- Designated Portable X-ray: 3 (3.2%)
- Designated Portable USG :3 (3.2%)
- Central Pipeline Oxygen Supply (CPOS): 18 (19.4%)
- Designated ambulance services: 40 (43%) hospitals
 - Total ambulances : 53.

Human resources

- Average Health Care Workers (doctors and/or nurse) in one shift:3
- Average Number of working hours in one shift: 9

Capacity building (Training/ Orientation)

- **Orientation on COVID clinics: 56 (60.2%)**
- Majority of the COVID clinics had provided training on COVID-19 testing and sample handling: 67 (72%)
- Use of PPE : 71 (76.3 %)
- **Handling the dead body: 25 (26.9%)**

Infection, prevention and Control (IPC)

- Practice of segregation and transportation of waste: 80 (86%)
- Provision of disinfecting modality for PPE:
 - Hypochlorite solution: 89.2%
 - UV sterilization: 10.8%
 - Autoclave: 83.9% clinics

Medicine and Consumables

- Essential Emergency medicines: 90 (96.8%)
- Recommended drugs for COVID-19: 74 (79.6%) .
- Hydroxychloroquine, Chloroquine and Azithromycin available in all COVID clinics.
- Ramdesivir, Tocilizumab (IL-6 blocker) or provision of convalescent plasma: None

Discharge and Follow up

Indicators	Yes (%)	No (%)
Provision for Contact and Follow up	78 (83.9)	15 (16.1)
Provision for home isolation	73 (78.5)	20 (21.5)
Provision of Ambulance service for discharge	68 (73.1)	25 (26.9)

Safety provisions for staffs

- Provision of COVID-19 testing: 51 (54.8%)
- Quarantine provision: 46 (49.5%)
- **Handling of dead body**
 - **Body bags: 6 (6.5%)**
 - The total number of body bags: 214.

Presence of printed copies of Guidelines and Directives published or endorsed by Ministry of Health and Populations

- COVID Clinics with archived printed copies of most of the guidelines and directives published or endorsed by MoHP: More than 50% except one

Recommendation

- Strengthen the infrastructures of hospitals
- Supply RT-PCR machines to the institutions where Trained personnels are available
- Support the hospitals to establish designated laboratory facilities
- Increase the number of beds in Isolation facilities for confirmed cases
- Increase CPOS facilities
- Need more Orientation on COVID clinics and Handling the dead body
- Encourage use of UV sterilization as disinfection modality for PPE
- Available more body bags

Thank you

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