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Short Communication

# Home Isolation Kits Designed and Distributed Support COVID-19 Patients Across Nepal - A Field Action Report

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## Abstract

Nepal was on a brink of a humanitarian crises during the peak of delta wave of the COVID-19 Pandemic. As an effort to mitigate the strain on already overstretched health system, a local non-governmental organization, HAPSA Nepal, designed and distributed a home isolation kit to encourage care from home. The kit included items like pulse oximeters, detailed instructions for home COVID 19 management, and a COVID-19 support hotline information. This rapid response in coordination with the local governments across Nepal supported nearly 7000 people in home isolation during the height of the pandemic in Nepal.

## Background

During the peak of COVID-19 Delta wave, Nepal was on the brink of humanitarian crises with its health sector nearly collapsing [1]. At its worst, Nepal was reported to have the highest per capita cases of COVID-19 in the world [2]. With nearly 10,000 cases a day, Nepal's health system was ill equipped due to numerous factors including low human resources, shortage of hospital beds, supplementary oxygen, and intensive care facilities [3]. Those in rural Nepal were significantly negatively affected due to country's overstretched health infrastructure [4].

It is well established that the majority of COVID-19 infected can be managed at home if appropriate equipment were available [5]. In May 2021, more than 80,000 people across Nepal were reported to be in home isolation on a daily basis [6]. In an attempt to lower health facility visit by these large number of infected, HAPSA Nepal, a Non-Governmental Organization (NGO) working in Nepal, rapidly designed and distributed home isolation kits (HIKs) to rural communities across Nepal based on the local need. The HIK was aimed at providing education and equipment needed to care for a mild COVID-19 infected individual at home, and providing education of when to seek expert level care. This paper describes the process used by the NGO in rapid deployment of HIKs as a response to COVID 19 pandemic.

## The Home Isolation Kit (HIK)

### Kit Design

Table 1: Components of the Home Isolation Kit

Item	Quantity
Thermometer	1
Pulse Oximeter	1
Surgical Mask	25
Hand Sanitizer (236 ml)	1
Soap	1
Home Isolation Guidelines and Instructional Video Link	1
Kit Bag	1
Paracetamol 500mg	20 tabs
Cough syrup 100 ml	2 bottles
Vitamin C 500 mg	20 tabs
Zinc 20mg	40 tabs
Vitamin D 60000 IU	2 sachets
ORS	2 Sachets

The components of HIK were designed in correspondence with emergency care experts, public health professionals, infectious disease experts, and the Health Emergency Operation Center of the Ministry of Health and Population. The kit included essential items deemed important for home care of COVID 19. The contents of the HIK are listed in Table 1. Financial support for the kit components were provided by multiple sources of funders donating directly to HAPSA in form of cash and in-kind donations.

**Kit Assembly**

The HIKs were assembled by volunteers, who were recruited by HAPSA and a local partner organization The White Grain Foundation. (Appendix 1) Before assembly, volunteers were briefed on the contents of the isolation kit bag, and trained on assembly. Items in each kit were quality checked prior to assembly. The pulse oximeters were tested by health care workers to assure their accuracy. Apart from the COVID-19 kits, additional kits were assembled directed for areas with monsoon flooding. Figure 1 shows images of assembly.

**Appendix 1:** Volunteers supporting the HIK Assembly, Municipality Follow up

S. No	First Name	Surname
1	Ashlesha	Chaudhary
2	Gita	Bhattarai
3	Pragesh	Bhattarai
4	Pratik	Upadhyaya
5	Prakash	Bhattarai
6	Sudip	Kharel
7	Roshan	Bhandari
8	Pankaj	Bhattarai
9	Ramu	Kharel
10	Priya	Belbase
11	Rabin	Bhandari
12	Sagar	Kharel
13	Asmita	Kharel
14	Maya	Gurung
15	Man	Bahadur
16	Suresh	Stapi
17	Raju	Nepali
18	Binod	Shrestha
19	Jeevan Ram	Shrestha
20	Diwakar	Subedi
21	Magda	Jung
22	Aayush	Lama
23	Amit	Tamang
24	Binod	Shrestha
25	Shristi	Singh
26	Smriti	Sedhain
27	Timila	Maharjan
28	Kajal	M
29	Suprah	Khatriwada
30	Rajini	Bishwakarma
31	Himal	Pandey
32	Prakash	Amatya
33	Simran	Mahotwa
34	Samrat	Basnet
35	Jyoti Krishna	Lamichhane

**Appendix 2:** Municipalities and areas of kit distribution

S.N.	Municipality/ RM/ SMC/NGO	No. of HIK delivered	Dispatch Date (AD)
1	Indrawati	100	1-Jun
2	Shankharapur	68	28-May
3	Barhabise	100	28-May
4	Musikot	100	31-May
5	Ghorahi	100	3-Jun
6	Galkot	100	1-Jun
7	Barekot	100	28-May
8	Halesi Tuwachung	40	2-Jun
9	Manang Ngisyang	50	NA
10	Kalinchowk	50	3-Jun
11	Badigad	75	31-May
12	Anandakuti Isolation Center	50	NA
13	Bethanchowk	40	3-Jun
14	Tripura Sundari	100	2-Jun
15	Palungtar	41	4-Jun
16	Ganga Jamuna	22	6-Jun
17	Barpak	59	4-Jun
18	GUTHI (NGO)	51	3-Jun
19	Jwalamukhi	80	5-Jun
20	Raksirang	40	7-Jun
21	Thaha	100	11-Jun
22	NHEDF	30	8-Jun
23	Melung	40	30-Jun
24	Annapurna	50	13-Jun
25	Rupa	50	13-Jun
26	Doramba	50	14-Jun
27	Melamchi Flood Relief Kits	755	21-Jun



**Figure 1:** HIK Assembly by volunteers

**Kit Dissemination**

Figure 2 presents the process of dissemination. HIK were disseminated according to the local need as given by the municipal governments. Based on their needs, Municipalities across Nepal were requested to send a letter of need to HAPSA. Based on the request and the local available data, HAPSA team determined the number of kits to be sent. To ensure accountability and that the kits were given to the requested population, a memorandum of understanding was formed between HAPSA and the local municipal government. NGO also provided virtual training to municipality officials on the contents and indications of HIK disbursement locally. Specific training was given to the municipal health official regarding messaging that must go along with the HIK distribution. An instructional video was also provided using QR code. Each



kit also had a partner organization, ASK Foundation's, COVID-19 support phone number included [7]. Once agreement was reached, the kits were sent to respective municipalities (Figure 3). The municipality officials provided updates with photos and videos on local kit distribution. HAPSA had volunteers assigned to each municipality to assist the municipality official with any challenges in the distribution process.

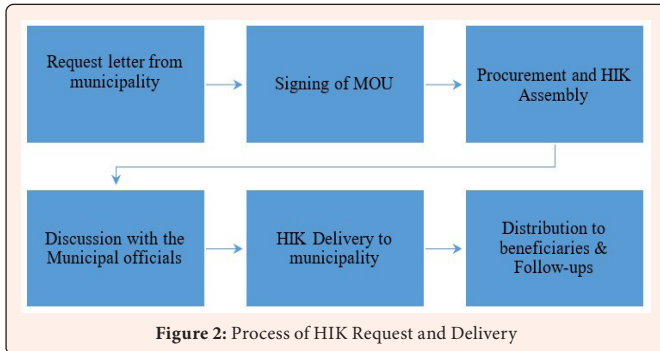
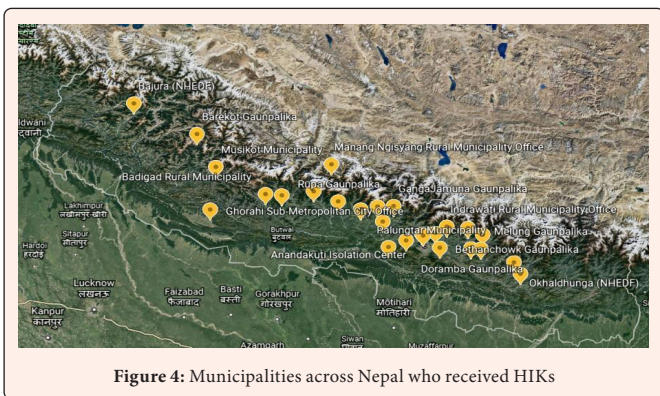


Figure 3: Kit Distribution Images

### Impact

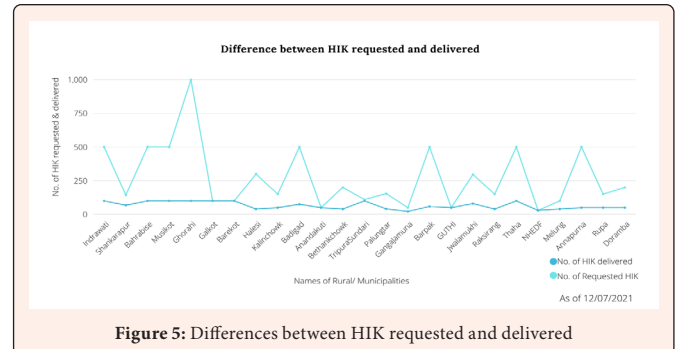
Total of 2,891 kits were assembled and distributed to 25 different municipalities across the country (Figure 4). Of these, 755 kits were made to support monsoon flooding areas. The kits were disseminated on a need-and availability basis, and estimated to be used by nearly 7000 individuals across the country. Per ASK Foundation's report, more calls to the hotline were received from the HIK distributed sites [7].



### Challenges

One of the major challenges was the funding of these isolation kits. Overall, municipalities' requests of the kits always exceeded the amount available (Figure 5). Second challenge, was the difficulty in delivery of the kits to rural areas. Monsoon flooding and limited road access always added difficulty in the distribution of the kits. Another challenge was the coordination with the municipal governments. Specifically, municipalities were responsive in receiving the kits, but lack of response was seen

during the follow-up period. In some areas, partnership with a local organization made follow-up easier.



### Conclusion

During a major humanitarian crisis in Nepal, a local NGO was able to rapidly support Nepalis across the country, and in-turn, lowered the burden on the overstretched health system. The addition of pulse oximeters, video and written instructions, and a free phone hotline to the kits provided unique support to those who would otherwise not have access to care. Thoughtful and rapid responses by community-based organizations can significantly contribute to large humanitarian crises.

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