



# Use of telehealth services among Nepali living overseas during Covid-19 pandemic: The opportunities, limitations, lessons learned and recommendations

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## ABSTRACT

There are estimated over 8 million Nepali migrants spread across various countries around the globe. Though the majority of them enjoy good health in general, a large proportion of them suffer from non-communicable diseases, mental health issues and communicable diseases. Telemedicine services, which are organized by Non-Resident Nepali Association (NRNA), have been proven to be effective in addressing some of the health and medical needs of the migrant Nepali workers. The purpose of this study is to assess the use of tele-health services among Nepali migrant population and examine the limitations. During the pandemic period from March 2020 through August 2021, Nepali in different countries utilized telehealth services. Mental health issues, chronic diseases, skin diseases were the most common ailments people sought telehealth services for. Many of them sought for urgent medical consultations related to Covid-19 symptoms and ailments. Digital gap, lack of cross-border regulations and unwillingness to utilize telemedicine were the challenges the service faced in the optimal utilization of such services. Training and education, use of easy Apps and subsidies from the government would help in the long-term use and sustainability of telehealth services amongst the Nepali migrants.

## 1. Introduction

From the onset of the pandemic caused by SARS-CoV-2, commonly known as coronavirus, in-person visit to health care facilities has been drastically limited.<sup>1,2</sup> Inability to visit health care providers and health care facilities have particularly hit hard on people with low income and those who are economically deprived.<sup>3</sup>

The pandemic has been the precursor for the rise and expansion of telehealth services.<sup>4</sup> Healthcare workers, health facilities, hospitals and clinics have all acknowledged the need for tele-health services to compensate for the dwindling in-person visit and make accommodations to increase access to virtual services.<sup>4</sup>

Through telehealth, doctors and nurses have the ability to use worldwide web and electronic devices (computers, smartphones, or

tablets) to connect with patients virtually while simultaneously assessing the home environment where patients reside.

Telehealth could be thought of as a spectrum. On one end of the spectrum is as simple as a doctor communicating via email with patients and providing health guidance or advising the patient telephonically over the phone. The other end of the spectrum can be as sophisticated as examining the middle ear of the patient from a remote place, using a remote otoscope and that image being assessed by an ENT surgeon to determine the cause of the painful ear, or even a cardiologist listening to cardiac murmurs of a patient using the stethoscope placed on his chest by a health assistant in a remote health care center.

This article describes the usage of telehealth service provided to people of Nepali origin during the pandemic, the limitations, lessons learned and strives to provide further recommendations.

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### 1.1. Service provision and development

Estimatedly, there are more than 8 million people of Nepali origin that reside outside Nepal in over 100 countries around the world<sup>5</sup>. Whilst most are migrant workers, some are students and even less are permanent residents of the host country, among who some hold citizenship of the host country.<sup>5</sup> Over half of the Nepalis diaspora are in the countries of the Middle East, Malaysia and India. The rest reside in Europe, Americas, Asia, Africa and Australia.<sup>5</sup>

In accordance with the well-recognized global disease burdens, Nepali migrants suffer from several health issues that include but are not limited to heart diseases, urinary-renal diseases, mental health issues that lead to suicidal ideation and attempts.<sup>6–9</sup> Unpublished data from the Middle East show the health seeking behavior is low among Nepali migrants as they tend to be of younger population demographics and they do not visit a doctor or clinic until the health situation is serious.

Beginning early March 2020, Non-Resident Nepali Association (NRNA) in collaboration with Danphe Care, a virtual health care systems based in Nepal, launched a telehealth service. Any person of Nepali origin residing in any part of the globe could access this telehealth service via phone, text or email. The health seeker used WhatsApp, Viber, Facebook Messenger, or email to communicate with the relevant health care provider.

The telehealth service included specialists and experts in wide field of medicine, including but not limited to, physicians, (internists), infectious diseases specialists, surgeons and Surgical subspecialist (e.g. orthopedic surgeons), ophthalmologists, urologists, oral & dental experts, neurologists, cardiologists, intensivists, nephrologist, rheumatologists, endocrinologists, gastroenterologists, experts on epilepsy management, oncologists. Mental health care experts included psychiatrists and psychologists. The telehealth also included allied health professionals such as dieticians and physiotherapists. Once a person contacted the telehealth service, a nurse registered him/her and triaged using color codes: green, yellow or red. Simple health issues that could be managed by medical officers were coded green Medical issues that require specialist consultations got yellow and those that need urgent care received red. The telehealth service was limited to non-emergency related health issues. Those who get red were urged to immediately contact the local emergency center or call an ambulance.

Many Nepali received telehealth services during the pandemic in different countries around the world. Doctors and nurses in one country provided health consultation to patients in another country. But some consultations occurred in the same country. All the doctors and nurses were of Nepali origin and so were the patients.

Mental health related issues following infection from SARS-CoV-2 and its positive test was the primary reason people contacted the service. Symptoms of Covid-19 such as fever, cough, difficulty breathing were the major symptoms for contacting the telehealth services. Joint pain, back pain, loss of appetite, palpitation were other reasons people sought health guidance for.

Majority of the consultation was asynchronous and was provided via email. The healthcare seeker contacted the telehealth program via email explaining their health condition. They left their phone number in the email. Next, a triage nurse called the individual via virtual internet based communication platform of Whatsapp, Viber, messenger or Facetime or Zoom.

Some examples of telehealth consultations provided around the world are:

1. A migrant worker in Malaysia emailed to ask the cause of his widespread itching on his body. A dermatologist provided consultations via phone.
2. A woman in Kuwait called and asked for advice on her gynecological issue. A gynecologist in the service immediately provided consultations.

3. A person in Europe wrote on behalf of his friend who was mentally depressed for weeks. A psychiatrist in the service provided consultations on ways to get out of the depression.
4. An elderly man in Japan went to the toilet several times in the night and was unable to empty his bladder. The urologist from the telehealth services provided him with further health guidance.
5. Covid +ve patient from Kuwait was evaluated and immediate oxygen therapy was recommended for him while he was waiting for admission to the nearest hospital.
6. Covid + ve individual in Japan, required immediate ambulance transfer; he was successfully transferred to hospital on time that saved his life.

### 1.2. Limitation and constraints

Several limitations and challenges were observed during the telehealth services. Due to numerous restrictions placed on the doctors by the regulation bodies of their respective countries' regulatory bodies, doctors were hesitant to provide consultations to individuals residing in areas outside of their country or jurisdictions. Lack of regulation or certification of the telehealth services operating across the international border was another limitation of this service. Because transborder telehealth services have yet to be regulated or formally certified, this service could not be called a real 'telemedicine' or 'telehealth service'. This made the doctors hesitate consulting international patients. However Medical licensing regulating agencies in many countries provided waiver to provide ability to examine individuals across the border.

Another limitation was the inability of this service to prescribe medications or to perform minor surgical procedures. Most of the providers and the seekers of the telehealth being in two different countries and the lack of transborder medical licensing prescriptions could not be written. Most doctors in one country stayed away from prescribing medicine to patients in another country. They did however provide 'recommendations' for medications. This helped patients in another country get the prescriptions needed from the locally based doctor. Surgical recommendations needed to be followed up by the patient seeking advice of the telemedicine health team.

Digital gap was another major challenge. Not everyone had the required internet connectivity and the preferred device for the optimal performance. People in some countries have sophisticated smartphones, while others may not even have the internet where they live. For a successful telehealth service, the individual seeking service needs to have an electronic device and a reliable internet connectivity that is capable of at least clear audio communication. If the internet service is able assist download images and videos.

Literacy level and language are amongst the key barriers in the widespread use of telehealth services among migrants. Most of the migrant workers have a literacy level that is below high school or 12th grade. Majority of them are not proficient in English. English language is used for medical terminologies and in the usage of telehealth to a large extent. This deters migrants from readily using the services.

### 1.3. Future development

Affordable and user-friendly information technology are critically important to promote the use of telehealth services amongst the migrant workers. Lack of understanding of basic English language and literacy level of migrants pose hindrances. Use of Apps that can be easily operated by people with low literacy levels and that are translated in Nepali language go a long way towards the widespread usage of telehealth services. Use of artificial intelligence that is suitable for migrants needs to be explored. Technical and funding opportunities from private and public sector greatly support in expanding the telehealth services.

## 2. Conclusions

Migrant workers and economically deprived people could benefit maximally from telehealth services that operate across the border, but internet connectivity, technical illiteracy and willingness to seek services pose challenges. Focusing on creating affordable and user-friendly technologies that help overcome language and literacy barriers in the promotion of telehealth will help the telehealth service reach out to those who are in great need. Stakeholders and government authorities could provide encouragement to migrant workers to seek such services and help them overcome challenges towards seeking it.

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