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Proposal for COVID-19 Mass Testing Initiative in Nepal
An initiative to break the transmission of SARS-CoV-2 virus

Nepal is currently experiencing the fastest spread of COVID-19 globally. In the last week of April 2021, COVID-19 cases have skyrocketed by over [668%](#). Despite the government mandated lockdowns in over 2/3rd of the country, Nepal has been reporting nearly 9000 cases daily since May 2nd week. The daily new confirmed deaths per million have been higher than India's.

The World Health Organization (WHO) has advised governments that before reopening, rates of test positivity (number of positive tests/all the tests conducted) should remain at 5% or lower for at least 14 days. Nepal is currently reporting a national average of test positivity of 41%, with some districts reporting positivity of >70%. This suggests that there are many more positive cases in the community that we are unable to identify. To reach there, rapid expansion of testing capacity, followed by tracing, isolation, and quarantine, are the only ways to address this burgeoning crisis.

While PCR tests are the gold standard, they are not easily available or affordable. This is where the rapid antigen tests for COVID-19 come in. The results are available within an hour, and we can conduct hundreds within a day that helps municipalities and cities to quickly test their population. They have shown this to be an effective way to control the spread, a major concern with the new variant B.1.617.2, the major variant spreading in Nepal.

Mass testing has been used in many countries like China, Vietnam, Slovakia, etc. to rapidly test, isolate, trace and control the spread. With prompt identification of positive cases, mass testing enables prompt isolation of the infected individuals and prevent further transmission. Health Foundation Nepal (HFN) will work with the local government and health institutions to implement Mass Testing Initiatives in rural Nepal.

The first phase of this project will be implemented in Resunga Municipality of Tamghas, Gulmi. The primary aim of this project will be to demonstrate that Nepal needs to prioritize Mass Testing to break the chain of transmission of SARS-CoV-2 virus. We intend to implement Gulmi as a pilot project where we will measure the effectiveness for replication by government and other organizations in other places. Subsequently, we will implement this in Tulsipur Sub-metropolitan, Rupa municipality, and Kerabari municipality.

We are choosing Gulmi as the first site because the current laboratory at the main hospital, Gulmi district hospital has the capacity of 90-100 PCR tests/day with ~50% positivity rates. There are only 2163 COVID positive patients as per official data. The 2011 census reported a total population of around 14845; we are not diagnosing the majority of the cases. We are planning to conduct at least 10,000 rapid antigen tests within a short duration of a week. Also, the local leaders of Gulmi, including Dr. Uttam Pachya, Medical Superintendent of Gulmi District Hospital and Mayor of Resugna Municipality are eager to implement this project.

Testing protocol:

1. All individuals who present with symptoms of COVID-19 in the last 7 days will be tested.
2. Symptomatic patients with test positive results will be recommended for isolation, if possible, at home or in isolation centers that are being managed by the local government.
3. Contacts of these patients will be tested next after identification.
4. Symptomatic false negatives (patients with COVID-19 symptoms but negative antigen test results) will be retested or referred for PCR tests.
5. Repeat mass testing in the same area to identify new individuals.

NOTE: See detailed presentation attachment for further details. The current lockdown and travel restrictions will help control the spillover effect and transmissions across municipalities/districts though it might be fully within the control of the planners.

Budget proposal:

HFN would like to make urgent fund request of \$20,000 to implement Mass Testing Initiative in Gulmi and Dang. Please see the breakdown below for reference.

- Total population of Tamghas, Gulmi (expected) - 20,000
 - Target testing population (>21yrs) → 10,000
 - Cost of SD Bio (rapid antigen test kit) - \$1.5 plus shipping/taxes ~\$2/kit X10,000 → \$20,000
 - Isolation support kit (sanitizer/masks/pulse ox/meds) - NRS 2000/kit ~ \$20 X 1000 = \$20,000
 - Training/PPE/logistics/hazard pay for lab & support staff (NRS 50,000 X 5 staff = 250,000) ~ \$2500
 - Referral PCR costs - ~10% of tested via antigen test -- NRS 1000/test ~\$10 X 100 = \$1000
 - Administrative costs (data gathering/contact tracing/travel/housing) = \$5000
- Total cost of Initiative = \$ 48,500
Approx. unit cost = \$5/individual

Thus far, funding pledge made by HFN USA (\$5000) and Tulsipur Municipality (NRS 5,00,000) for Mass Testing Initiative. Tamghas Municipality has also pledged to support purchase of testing kits. We are expecting in-kind support of some testing kits from Lumbini Province Ministry of Health and Gulmi District Hospital.

Attachments:

1. Detailed PowerPoint Presentation
2. MOU between HFN, Lumbini Province Ministry of Health, Resunga Municipality, and Gulmi District Hospital

References

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