



TELEMEDICINE

Connecting Kalikot to Kathmandu (Technical
Perspective)



Brief Introduction



The telemedicine concept started from July 2010 with

1. Four young doctors, fresh out of medical school,
2. A young engineer and
3. Patron figure, an old philanthropist who was an electrical engineer himself.

This team was approached by an organization that was working towards improving Livelihood, Education and Healthcare in one of the remotest parts of the nation (Rural Welfare Council, Sipkhana VDC, Kalikot District), a village one would have to walk a day from the nearest motorable road to reach.

We had the health worker from Kalikot come to Kathmandu for a training session, and he went back home, he took the equipment with him and set it up.

Problem Statement

1. Traditional beliefs and cultural practices, which creates low level of awareness
2. No one for Counselling them on real time, which means a need for a proper counseling system.



Interactive Telemedicine Model



It was real-time interactions between patients and health care provider, to include phone conversations and online communications.

- It required both parties to be online at the same time, which meant a stable Internet connection. In the village, the local community had leased a locally powered VSAT installed by the government, where they bear the running costs, while in Kathmandu, we relied on a broadband lease line from a reputed ISP.
- For conferencing, we used an open source video-conferencing software like VSEE, or simply Microsoft's SKYPE.
- The computer itself is a low power consuming Intel Atom® based CPU that can be powered by a Solar Panel equivalent to about 80 watts, which was essentially donated one.
- The local community had their own 50 KW hydro power station, which enable them to operate computer 24 hours a day.

Technical Challenges

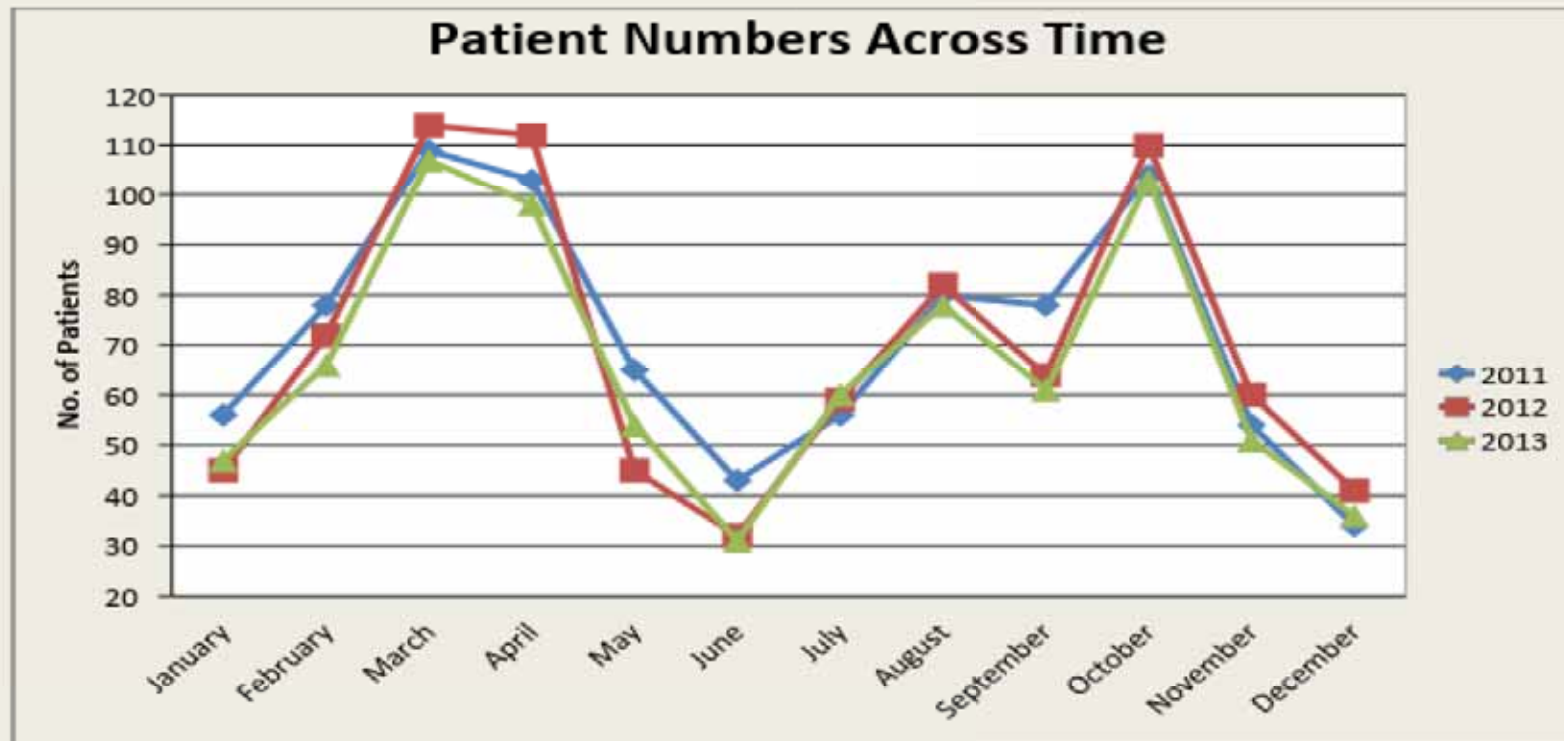
- The costs of telecommunication and data management equipment
- The cost of technical training for medical or non-medical personnel who will employ it.
- There is also a concern that telemedicine may actually decrease time efficiency due to the difficulties of assessing and treating patients through virtual interactions.
- Additionally, potentially poor quality of transmitted records, such as images or patient progress reports, whether it be digital or otherwise, and decreased access to relevant clinical information are risks that can compromise the quality and continuity of patient care for the attending doctor.
- **No single repository for the patient information.**
- **No Smart Contract between Patients and Healthcare Providers in order to share the patient information**

Outcomes



- The area of coverage is primarily the VDC of Sipkhana (Kalikot) (that is a day and a half's walk from the nearest motorable centre, *Manma*, which is the district headquarters for Kalikot) and its surrounding VDCs.
- Secondary areas of coverage include villages in the adjoining districts of Bajura, Achham and sometimes, Jumla.
- The majority of patients that visited the telemedicine centre over the past three years were Females, mostly because a large fraction of the male population in Kalikot usually goes outside of the village seeking work, most commonly to India.
- Total 3, 500 People were served from 2010 to 2013

Outcomes



Glimpses

The infamous “chaupadi” trend where a woman having her monthly periods has to live separately in a shed with household animals:



Photos from Telemedicine Sessions:



A child with congenital hydrocele



First Patient with UTI/ APD

News Published

'Online' clinic saving lives in Kalikot

TULARAM PANDEY

KALIKOT, JAN 12

RAMPURA Damai of Siphana VDC-1 in Kalikot district has every reason to smile, now that she is better after some gruelling years of health complications since the birth of her first child at home.

Following heavy bleeding recently, Damai was admitted to a telemedicine facility that has been set up in the village.

The woman, who had never seen a hospital during her previous deliveries and who was battling death, got a new lease of life after assistant health worker Hamsharaj Neupane treated her "online" with advice from doctors in Kathmandu through the Internet.

Dr Smriti Upadhyay, Dr Asim Bhattarai and Dr Nabin Khanal of the Teaching Hospital in the Capital helped Neupane in Damai's treatment via the Internet. "The doctors ultimately saved my wife," said Khaire, Damai's husband.

Sangita Simkhada, another local woman, gave birth to a baby in a sim-



Women wait for their turn at the telemedicine facility in Kalikot.

POST PHOTO

ilar fashion through the "online" treatment.

Damai and Simkhada are, however, not the only ones to have benefited from the telemedicine facility.

Lila Simkhada, the chairperson of Rural Welfare Council, an NGO that launched the service in the VDC, said the facility that provides free treatment has saved the lives of 19 women suffering from serious ailments so far.

Neupane said a total of 1,432 people (851 women and 581 men) have

availed of the services since the facility's launch last year. He said doctors also write prescriptions for the patients online.

Patients from neighbouring VDCs—21 from Bajura, nine from Achham and three from Mugu—have also benefited from the service, he said.

Advocate Pramod Neupane said the service has turned out to be a boon for the poor people in rural areas of the district who are still deprived of treatment and medicine.

News excerpt from the Kathmandu Post: Jan 12, 2012



THANK YOU.