Dr Rajesh Singh is a surgeon by profession and a very courageous one at that. He has conducted many a complicated surgeries with limited resources relying on his sound clinical knowledge. His wife Mrs. Rajkumari is a nurse by profession. She has been a strong support to her husband and was his assistant in his surgeries. She now leads the community health programs of the organization and involved in many research activities. Together, they have created a niche for themselves in the Tehri Garhwal district of Uttarakhand – one of most underserved regions of the county. This place is 6000 feet above sea-level. The Christian Hospital or the “Masiha Hospital” as it is locally known was established in 1991 by them. This case describes the work done by the organization in the last two decades.
Acknowledgements

This case study on Garhwal Community Development and Welfare Society (GCDWS) has been complied after thorough primary and secondary research on the organization. Information has been assimilated from several individuals who have made significant contribution in the development of this case study. ACCESS Health International would like to give special acknowledgement to Dr Rajesh Singh and Mrs. Rajkumari Singh from GCDWS for granting us the permission to visit the organization and sharing with us the relevant information needed for the case study. We would also like to thank all the team members for sharing with us their inputs and hospitality.

And most importantly, we would like to express gratitude to Rockefeller Foundation, Results for Development Institute, Indian School of Business and all the team members working with Centre for Health Market Innovations (CHMI) for their support and contribution, without which the case study would not have been possible.
Garhwal Community Development and Welfare Society

Dr Rajesh Singh is a surgeon by profession and has conducted many complicated surgeries with limited resources relying solely on his sound clinical knowledge. His wife Mrs. Rajkumari is a nurse by profession. She leads the community health programs of the organization and also involved in many research activities. Together, they have created a niche for themselves in the Tehri Garhwal district of Uttarakhand – one of most underserved regions of the county. This place is 6000 feet above sea-level. The Christian Hospital or the “Masiha Hospital” as it is locally known was established in 1991 by them.

This case describes the work done by the organization in the last two decades.

A brief on the community

Uttarakhand is a predominantly hilly region with 11 out of 13 districts totally or partially in the mountainous region (Himalayan region). Uttarakhand is amongst the poorest states of India as people are predominantly dependent on subsistence farming for their livelihood. There is great pressure on the available land with less than 20 percent of the land belonging to the people supporting a population density of 159 per square kilometres. Land is equitably distributed among people and the incidence of landless families is very low; however the average land holding size is less than 1 acre per family in the hill areas. Farming on these fragmented landholdings gives poor agriculture yields, which are insufficient in meeting the basic food and nutritional security. These conditions lead to migration of male members of the hills to plains for work or join the military forces. The majority of the adult population in the villages is comprised of women who are responsible for the household chores and activities such as farming, tending to cattle and health needs of the family. Due to all of these responsibilities, the health needs of the women are compromised. Compounded with this
is predominance of home remedies and cultural beliefs and inadequate public health facilities, all of which can worsen the condition.

**History of Garhwal Community Development and Welfare Society**

Dr Rajesh Singh and his wife Mrs. Rajkumari, a nurse by profession started a small clinic in 1991. The clinic also doubled up as their home. They started their clinic with as little as 45 USD in hand and some second hand basic surgical instruments. The district did not have a single surgeon then in the rural areas (and even now there is no full time surgeon). The basic intention was to provide surgical services to the people of Tehri Garhwal district. The clinic gained prominence gradually and with the revenue earned they were able to build their resources. Soon it became apparent that the needs of the community were far greater and they were not able to reach all of them. To resolve this problem, a weekly clinic in a village called Bhaur was established. Tuberculosis was rampant at that time and that became the focus of their work in the community. They also started visiting the villages, talking to the people, understanding their needs and cultural beliefs. The high maternal mortality (600/100000) appalled them and they initiated health awareness programs. Still, community work required finances and the revenue generated by the clinic was not enough to sustain the community work. A separate entity, the Garhwal Community Development and Welfare Society (GCDWS), was created to raise funds for the community work. The first big community health project for GCDWS came about when they were awarded the SIFSA project funded by USAID. Mrs. Rajkumari took over the community work from then on and Dr Rajesh pitched in with technical support whilst continuing to work in his hospital. Most of the community health work is now in collaboration with the state government. The organization is recognised as the district training centre for the Accredited Social Health Activist (ASHA)\(^1\) and mother NGO\(^2\) for four NGOs in the district.

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\(^1\) Community health workers cadre created by the government in for every 1000 people in rural area

\(^2\) Mother NGO scheme under National Rural Health Mission provides nurturing and capacity building support to other field NGOs.
The activities of GCDWS can be segregated at community level and hospital level (direct health services). It has been recognized as the district training centre for the ASHA worker and also as Mother Non-Governmental Organization (MNGO) under the National Rural Health Mission.

Figure 2: Pictorial representation of the GCDWS activities

Christian Mission Hospital

The Christian Mission hospital or “Masiha Aspatal” situated in Chamba (6000 square feet above sea-level) is the only private hospital with surgical facilities and full time surgeon for Tehri Garhwal district and also for the neighbouring district (Uttarakashi) and parts of other neighbouring district. The nearest district hospital (tertiary level of care in public health system) is 25 kilometers from the Mission hospital and often under-resourced. There is also a community health centre (secondary level care in the public health system) at 50 kilometers in

After finishing his basic training in medicine and his higher training in surgery from Christian Medical College, Ludhiana, Dr Rajesh Singh went on to work in various places with little satisfaction. It was a childhood dream of his to help the people in need with medical and education services specially those in the hills. So in 1991, he and his wife (a nurse with training in anesthesia) decided to take the plunge and set up a clinic in Chamba in Tehri Garhwal district of Uttarakhand.

• Immediate catchment is 125000 from the two blocks close to the hospital – Chamba and Thouldhar
• Patients from the entire district, Uttarakashi and Pauri Garhwal (few parts) come to the hospital
• Majority of surgical patients from Tehri and Uttarakashi are operated at Mission Hospital
similar condition. Surgical intervention is rare in both the centres.

The 25-bed hospital is managed by Dr. Rajesh Singh along with his hospital employees. It is also serves as the base hospital for the community health project. Being the only hospital with surgical facilities and full time surgeon, the conditions treated are varied in nature. The teams also handles many emergency-related conditions. The hospital provides curative and preventive services. In addition, they also keep track of notified diseases such as tuberculosis and diarrhea and report to the government as per the rules. The curative services include medical and surgical management of conditions. This centre also provides care in case of emergencies due to trauma, complicated labour and other medical conditions. The preventive services include immunisation, antenatal and postnatal care, adolescent immunization, health awareness and health check-ups for school going children.

The hospital also has a well equipped laboratory capable of conducting various tests required for the patients, radiological services (X-ray) capable of conducting all kinds of X-ray, barium meal test etc., electrocardiogram, ultrasonography and colposcopy (for screening of cervical conditions).

![Figure 3 Services at the hospital](image-url)
Human resources

Dr. Rajesh Singh is the only doctor in the hospital. He seldom has any other doctor working with him and most of the assistance is from his nurses and technicians. He has four staff nurses and 18 paramedics with him. They all have accommodation within the hospital premises. The paramedics are local girls trained by Dr. Rajesh himself in clinical work. These girls have been chosen by the community itself and agree to work for the community. Most their training is hands on combined with classroom training on a weekly basis. They are trained in the basics of first aid, some laboratory tests, administrating injections and health awareness programs. This kind of training was chosen as the nurses can then be useful for the community health work and, in the absence of a doctor, could complete a basic examination and diagnosis of patients. Dr. Rajesh also personally funds their further training in nursing in a recognized college with a commitment of working at the hospital for a minimum of two years.

Impact on the community

On an annual basis, the hospital treats 3500 to 4000 patients of which 60% of patients are referred including from the public centres. On an average day, the outpatient would total to 30 to 35 patients and surgeries would average to 20 to 22 a month. Deliveries alone in the period 2006 to 2011 (up to May 31st) were 1167 with 44 percent cesarean section and 3.7 percent stillbirth. The high rate of cesarean is due to patients with complications being referred here. The still birth rate was as high as 7.6 percent in 2006, due to women being referred to the hospital too late. Intensive awareness programs by GCDWS and national rural health mission have helped to bring the rate down. The recent introduction of emergency services (ambulance) has helped address the logistic gaps. The terrain poses the biggest challenge to bring a pregnant woman to a motor-able road. Most of the time, a woman in labor is lifted physically by men and carried uphill on a stringed cot.

In the same period (2006-May 2011) 1472 patients were operated upon, of which nearly 56 percent were major surgeries. Rashtriya Swasthya Baima Yolanda (RSBY) has enabled many people to access health care services which otherwise were financially not feasible. The introduction of the scheme has enabled people to access surgical services which otherwise would not be a priority. The scheme was adopted by the hospital in December 2010. Since then the hospital has treated 1020 patients, of which nearly 15% were surgical. It needs to be remembered that all these were done by a single surgeon.
The Mission hospital is not funded by grants and generates its own revenue. The pricing of the services has been done in such a way that no patient should spend beyond Rs. 250 for a visit including all services (consultation, diagnostics and medicines). The hospital is able to keep its cost low by adopting family practitioner model (i.e. one doctor for all conditions and interventions), a doctor dispensing generic drugs pharmacy and most of the diagnostics operated by the doctor. This allows the hospital to price its services less. For patients who cannot pay, the hospital writes off the charges. There are no charges for accident cases.

Average monthly operating expenses approximate between INR 400000 (9090 USD) and INR 500000 (11363 USD). Of this, medical and consumables alone amount to 60 percent of the expenses and salaries up to 30 percent. Post the adoption of RSBY, the hospital is able to meet its expenses. Back of the envelope calculations by Dr Rajesh suggest that if daily admission and discharges under RSBY can be maintained at 10 per day, they hospital can be sustainable. The income earned by the hospital is INR 30000 (681 USD) per month. This money is diverted into a saving scheme to ensure that the hospital does not suffer due to want of money.

**Community Level Activities**

Within a year or so of starting the hospital, the couple soon realized that treating patients in the clinic alone won’t suffice. They would have to go to the community and work there. At that time the MMR was about 600 and IMR about 65 with 95% home deliveries. The practice of home remedies and the cultural beliefs was prevalent. Also, the adult population mostly comprised of women due to male member migration for work and old people. All these conditions were not conducive for good health conditions.
Community work began with a weekly clinic in the village of Baur in Thouldhar block. They started treating patients with tuberculosis, creating health awareness and understanding the community needs. They needed more hands and hence decided to train village health workers. Today, the community health programs are mostly those done in collaboration with the government.

The community level work of GCDWS can be divided into capacity building, creating awareness, service delivery and research. Most of their programs have the first three components.

**Capacity Building and Service Delivery**

The capacity building work of GCDWS revolves around training of various cadres of people in the community. The training conducted is relevant to the needs and attached to a service delivery program. Around 1994, their work became more intense given the high MMR. They trained Village Health Workers (VHW) in health awareness, primary medical services with medications, first aid, antenatal care (ANC) and identifying when to referral. The training was for 9 months with class room training on weekends in the hospital in Chamba, Tehri Garhwal. Some of the VHW were also trained in conducting deliveries.

The other group of people trained was the Traditional Birth Attendants (TBAs). Given the high percentage of home deliveries (more than 95 percent), there were quite a few TBAs or Dias as they are known locally. These were older women in the community but untrained. They did not practice any aseptic methods during childbirth. Moreover, as was the custom, the delivery was conducted in a cowshed with little ventilation. As it was usually cold, there would be fire from a clay oven to keep the room. The room would be filled with smoke. The cowshed’s unhygienic condition, the non-ventilated rooms, the smoke and the unhygienic practices and lack of knowledge of the TBA were the major cause of deaths.

There were other cultural factors that were conducive towards maternal mortality. Some of them were:

- It was believed that pregnant women should not be given lot of food and even less that was nutritious as it would harm the baby. This often led to mothers being anemic.

- Post partum hemorrhage was considered to be accumulated menstrual blood of nine months and was not know as a cause of worry.
• Prolonged labor was considered natural and not necessarily a cause of worry.

• The mother was kept away from home for 20 days post delivery and left to cook her own meager meals and bathe in waste water.

• The placenta was left to shrivel and never cut.

• The colostrum was never fed to the baby; instead the baby was fed jaggery in water.

These and many such practices often left the mother malnourished and susceptible to infections which led to mortality. These causes harmed the baby too which most of the time was born with low weight, decreased immunity and added to this was no practice of immunization. Lack of public health facilities did little to help these conditions. GCDWS undertook these TBAs under their wing and trained them in “5 Cleans” of delivering babies. The village health workers created awareness on the importance of wholesome food for the mothers, immunization and other wrong practices. They were taught to identify symptoms of referral during complicated labor. This was not always easy but it helped that the Mission Hospital had resources to treat referred patients. The work with Village Health Workers continued up to 1997. In 1997, USAID had awarded them SIFPSA project through the government of Uttarpradesh where family planning was the focus. The project called for health workers at the village level. GCDWS instead of recruiting new women decided to recruit the already existing VHW as Community Based Distributor (CBD) in agreement with the community. The role of the CBD worker remained more or less the same. In addition to the work they did as VHW they were trained in creating awareness on family planning methods, distribution of folic acid (both for pediatric and pregnant woman) and distribution of Oral Rehydration Salts. The SIFPSA project also saw Mrs. Rajkumari becoming completely involved in the community health project with technical assistance from Dr Rajesh. The project continued till 2005. The termination of a project was never the end of the community health program of GCDWS. Till 2007, they continued working as VHW for GCDWS work. In 2007, the Government of India under the National Rural Health Mission (NRHM) created a cadre of health workers known as Accredited Social Health Activitist (ASHA) with focus on institutional deliveries. ASHA was similar to a VHW and was to be chosen by the community. Most of the ASHAs of the district have either worked as a CBD workers or VHW with GCDWS. As the area of work remained the same, the migration was not very difficult.

**District Training Centre for ASHA**

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3 The CBD worker is a married woman from the village where she is to work. She looks after a population of 2,000 and her work includes: identifying and counting eligible couples, supplying condoms and pills, family planning counseling and referral for sterilization. This was part of USAID funded SIFPSA project (http://www.sifpsa.org).

5 NRHM is a five year plan to improve the health conditions of the rural areas in the country.
GCDWS is now recognized as the district training centre for ASHA and also as MNGO with four NGOs under it. They are responsible for training these NGOs in community health work. The training for the ASHA is as per the content prepared by government. They are responsible for the work of the ASHAs and sending monitoring reports to the government regularly. They are also responsible for training the Panchayat Raj Institutions and Village Health and Sanitation Committees on health, hygiene and environmental issues. In addition to the government’s mandate, GCDWS has trained Indigenous System of Medical Practitioner also known as the rural health practitioner in family planning methods, sexually transmitted infections (STI), reproductive tract infection (RTI), HIV/AIDS and unwanted pregnancies under the SIFPSA project.

**Swasthya Ghar (Health Centre)**

An interesting activity by GCDWS was creation of “Swasthya Ghar” in the 1999 to 2005. This was done in collaboration with the government. GCDWS negotiated with the village head for a
two room house. This was converted as a place for safe and clean deliveries. This was an important thing to do as there were very public centres and few that were, were very far. The centre was equipped for delivery and as a first aid centre. The traditional birth attendants managed the deliveries. The centre was equipped by the health department and financed by Mahila Uthan\(^6\). Forty three such centres were created in the villages where GCDWS worked. A local driver was negotiated for conveyance during the time of labor. This was important as that there were very few taxis then and it was not always feasible to life the woman physically.

Post NRHM twenty eight centres have come to be known as ANM centres and few others adopted as Anganwadi centres (AWC)\(^7\). In each of the nine blocks in the district, the public primary health centres have been converted to First Referral Units\(^8\) where pregnant women recognized for high risk are referred. Very often these are understaffed or doctors not capable to handle complicated pregnancies.

*Disaster Management*

An important part of the service delivery component is disaster management. Tehri Garhwal located in sub Himalayan range is often a victim of cloud bursts and land-slides during monsoons and earthquakes. Cloud bursts are associated with washing away of villages and houses. Often, the post disaster period is associated with epidemics. GCDWS is often called for disaster management for managing the trauma patients. The health workers and the doctor all pitch in such situations. They closely monitor the post disaster epidemics and implement preventive programs. They are also funded by Efficor (donor agency) to supply the people with basic needs such as food and clothing during natural calamities. Being in the hills, the hospital and the community health staff are trained for such times.

<table>
<thead>
<tr>
<th>Cadres</th>
<th>Area trained</th>
<th>Numbers</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Health Workers</td>
<td>First aid, RCH, personal and environment hygiene, awareness on community issues</td>
<td>280</td>
<td>GCDWS</td>
</tr>
<tr>
<td>Traditional Birth Management</td>
<td>of 500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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\(^6\) Women’s self help group  
\(^7\) Anganwadi centre is a government sponsored centre mother and child care centre to combat malnutrition and child hunger under the Integrated Child Development Services  
\(^8\) FRUs were set up for emergency obstetric care close to the community in sub district level hospital/community health centre
### Table 1: Capacity Building Impact as of 2011 by GCDWS

<table>
<thead>
<tr>
<th>Attendants</th>
<th>Home delivery, five cleans, identification of high risk pregnancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village Health and Sanitation Committee</td>
<td>Health and sanitation of the community, building of toilets</td>
</tr>
<tr>
<td>ASHA</td>
<td>As per the training curriculum</td>
</tr>
<tr>
<td>ASHA/ANM</td>
<td>Sambhav voucher scheme</td>
</tr>
<tr>
<td>Adolescent girls, peer group educators and field trainers</td>
<td>ARSH</td>
</tr>
<tr>
<td>Police Personnel</td>
<td>First Aid</td>
</tr>
</tbody>
</table>

**Awareness generation**

An important aspect of all the community health programs has been awareness generation. It took nearly a decade to bring about the change that one sees today (MMR is 445). There has been attitudinal change and better health outcomes. The village health workers who themselves were unaware of the impact of the prevalent customs now understand them better. More and more pregnant woman are being referred on time for further care when indicated. The awareness activities revolve around the programs such as reproductive and child health, HIV/AIDS, tuberculosis, elimination of female feticide, sexually transmitted infections, promotion of institutional deliveries, women environment, personal and environmental hygiene, ecology protection, government schemes and benefits and the most recent against tobacco. These activities are conducted by the health workers trained at various points of time. Any awareness program is preceded by a needs assessment of the condition. The information is then disseminated to the villagers. Once agreed upon, a program is designed with clear objectives. Most of the planning is done on a log frame. This structure planning has helped GCDWS to allocate resources efficiently.
Research

GCDWS was launched into research with a fund from population council of India on care seeking behavior and quality of care provided by Indigenous System Medicine Practitioners (ISMP) of INR 12,000,000 (272727 USD). Mrs. Rajkumari is usually involved in the research activities.

Some of the research findings have found places in their program. The results of the above said study were used to develop training programs for the ISMP to diagnose and treat sexually transmitted and reproductive tract infections. They were also trained in family planning methods and HIV/AIDS. The ongoing research is on formal integration of ISMP into health system.

Challenges

Finance and Human Resources

The challenge to the organization has always been with regards to finance and human resources. The hospital to an extent has managed to become sustainable due to the health finance schemes launched by the government, but the human resource constraint remains. The situation is such that if Dr Rajesh is not present, a patient needs to travel a distance of 100 kilometers for treatment (this very often proves fatal). Additionally, the patient would have to bear the expenses of travel and accommodation upon reaching the centre. Few doctors want to work in the rural areas for various reasons. To date, there is only one other young doctor couple serving the population in the private sector. All the others in the sector are ISMP. The staffing issue also exists in the public hospital. Under the NRHM, a lot of emphasis has been on institutional deliveries and infrastructure built accordingly. Still, the failure in many instances is shortage of clinical staff.

Geographical access

Terrain poses another challenge. Logistics support is poor in these places. Even if there is a public health centre physical access to the centre is often challenging. Recent introduction of emergency services by the state government has addressed limited to motor-able roads.

Cultural Beliefs

Initially GCDWS had to fight against low awareness on healthcare, superstitions and inappropriate home remedies. It has taken them almost a decade to overcome these hurdles. But the poor economic conditions still prevent access to better healthcare. The priority on preventive health is low as in case of many rural areas.

Collaboration with Government
GCDWS works with the government on many of its programs and the biggest challenge is the non-timely payments. Most of the time, a program is approved and the organization finishes both recruitment and training but the finances have yet to come in. As the organization has a moral responsibility towards their staff, they cover the expenses, despite that it puts the organization in a precarious position.

**Scaling**

The kind of programs and activities GCDWS is involved in are resource intensive and the same cannot generate much revenue. So there needs to be a separate stream in order to achieve financial sustainability. An option GCDWS is exploring is to develop a training centre that will help train clinical cadre to work in poor resource setting scenarios. They are already recognized by NARCI for a diploma in obstetrics and gynecology course.

**Conclusion**

The work done by GCDWS is noteworthy. Replication of such a model is difficult, as it would involve the replication of clinical skills. What can be learned is the family practitioner approach. This would bridge the gap of specialists’ doctors in rural areas and also some parts of the urban, especially in a scenario where primary care is essential and referral not very effective. Another option will be to integrate the existing ISMP (effective use of existing resources) into the formal health system through training or other means. This is something even GCDWS is focusing on through research.

The GCDWS model goes on to prove that only not are more public facilities required but also clinicians with better skills. The conditions treated at the Mission Hospital are many a times those that should be seen in a tertiary care centre. Treating such conditions needs experience and confidence.

ASHA workers in this area seem to be more confident and better trained. This was due to the fact that they were already integrated into this kind of work. The most important part is the support system that GCDWS provides to them. Each one of them knows that if they refer a patient, they are sure to be treated appropriately and in case of any problems they can always call someone at the organization. This system also makes them responsible for their work and they become more accountable.

Policy makers need to interact with such organizations to refine the health care policy to better suit to the needs of the people. Having a sub centre for a certain population is not enough. The accessibility should also be noted. These understandings come with experience of working in such regions.
GCDWS has proved that with limited resources a lot of work can be done. It has also proved that rural health care needs have outgrown simple primary care. These needs to be looked into carefully by the policy makers.
Disclaimer

The case study has been compiled after primary and secondary research on the organization and has been published after due approval from the organization. The case has been complied after field visit(s) to the organization in June 2010 and March 2011. The author of the case or ACCESS Health International are not obliged or responsible for incorporating any changes occurred in the organization after receiving the due permission from the organization to publish the case. The case study has been developed with a specific focus to highlight some key practices/interventions of the organization and does not cover the organization in its entirety.

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