



## Patient Demographic & Diagnosis Report

The Oda Foundation fosters community empowerment through health and education initiatives in Nepal's most remote villages. The Foundation is located in the Odanaku VDC (Village Development Committee) of the Kalikot District of Nepal. The Oda Foundation focuses on sustainable, locally driven programs that aim to improve health and education while more broadly reducing regional poverty. The Foundation was incorporated in August 2013 and began operations on December 12, 2013.

Picture: Dipika Pariyar, a two year old from Oda-1, suffering from an Acute Respiratory Infection.



## About the Report

Data for the *Oda Foundation Patient Demographic & Diagnosis Report* was obtained from a handwritten log accounting for every patient visit from the Oda Foundation's conception to present. During each medical visit, the Foundation's CMAs (Community Medical Assistants) obtain each patient's name, caste, sex, age and residential location. They also note the patient's diagnosis and whether the appointment is a follow-up to a previous condition within 10 days of their last appointment or a new condition. Pharmacy assistants handwrite this information in a logbook when the patients present a slip of paper noting their prescription at the pharmacy window.

Data for this report were taken from one randomly selected month from each seasonal quarter from October 2015 to July 2016. Specifically, October/November 2015, January 2016, April 2016 and July 2016 were chosen. Half of October and half of November were selected to more accurately project annual patient information, as October is Dasaai – a month-long holiday celebration in Nepal – resulting in the lowest patient visits of any month throughout the year. Every patient within the four-month period was selected for this study, regardless of missing categories or illegible handwriting in the logbook. First names were omitted from this study to ensure anonymity. The study contained **4,151 participants** over the four-month period.

## Long-term Health Outlook

The Oda Foundation has established a replicable healthcare prototype for rural Nepal. **Since opening, the Foundation's health clinic has conducted over 26,000 patient visits in an area comprised of roughly 40,000.** Our health solutions have been quite impactful for major health complications, resulting in a significant reduction in the number of avoidable deaths within our immediately addressable area. While this is remarkable, the medical equipment and practices needed reduce avoidable mortalities are quite rudimentary – the vast majority of patients can be treated with basic medications and care.

It is our goal to work in concert with village, district, zone, and national level governments to address the management issues plaguing the health systems of Kalikot and the Karnali Zone. By cultivating our co-investment approach, we seek to provide operational efficiencies to a wildly inefficient area. Working together with the District Health Office, we plan to support the existing government network ensuring reliable, well equipped, and well managed health facilities are available to hundreds of thousands of people living in Karnali. By using a fusion of western medical and management practices with local knowledge and practice, it is our goal to mitigate many of the issues that are so pervasive in the region.

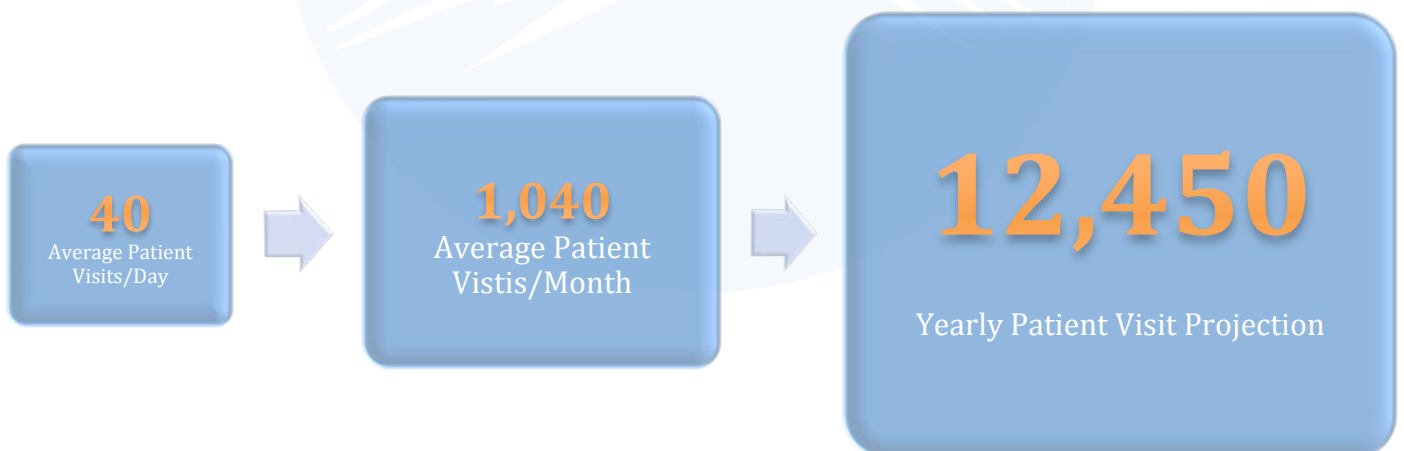
In addition to curative solutions, the Foundation has also partnered with local and international organizations to provide access to preventative health strategies. Through programs ranging from Maxi-Pad distribution to lessons on the “five healthy habits,” the Oda Foundation is increasing awareness and use of scientifically-validated health practices, thus decreasing reliance on superstition which is prevalent in the region. The Foundation provides a safe environment for communities to receive medical care, access preventative health information and discuss health-related issues.



## Health Statistics at the Oda Foundation

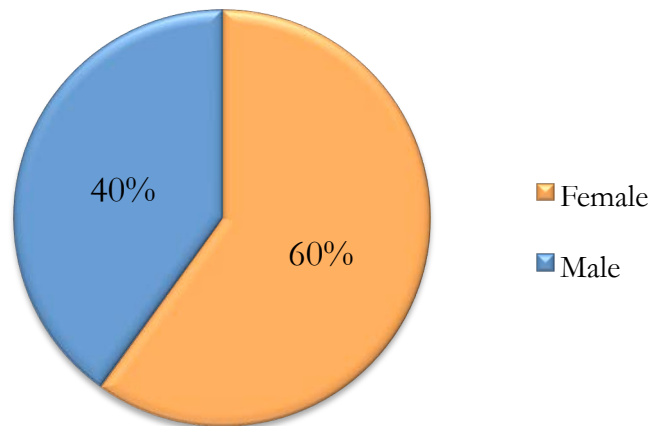
### Yearly Appointment Projection

On busy days at the Oda Foundation, clinicians will see more than 75 patients a day. Factoring in days where few patients were seen (due to harvest season, monsoon rains, festivals, etc.), **the Oda Foundation tends to, on average, 40 patients a day.** Since two CMAs conduct medical appointments and one works at the pharmacy window, each CMA sees, on average, 20 patients a day.



## Patient Demographic Information

### Patient Distribution by Sex

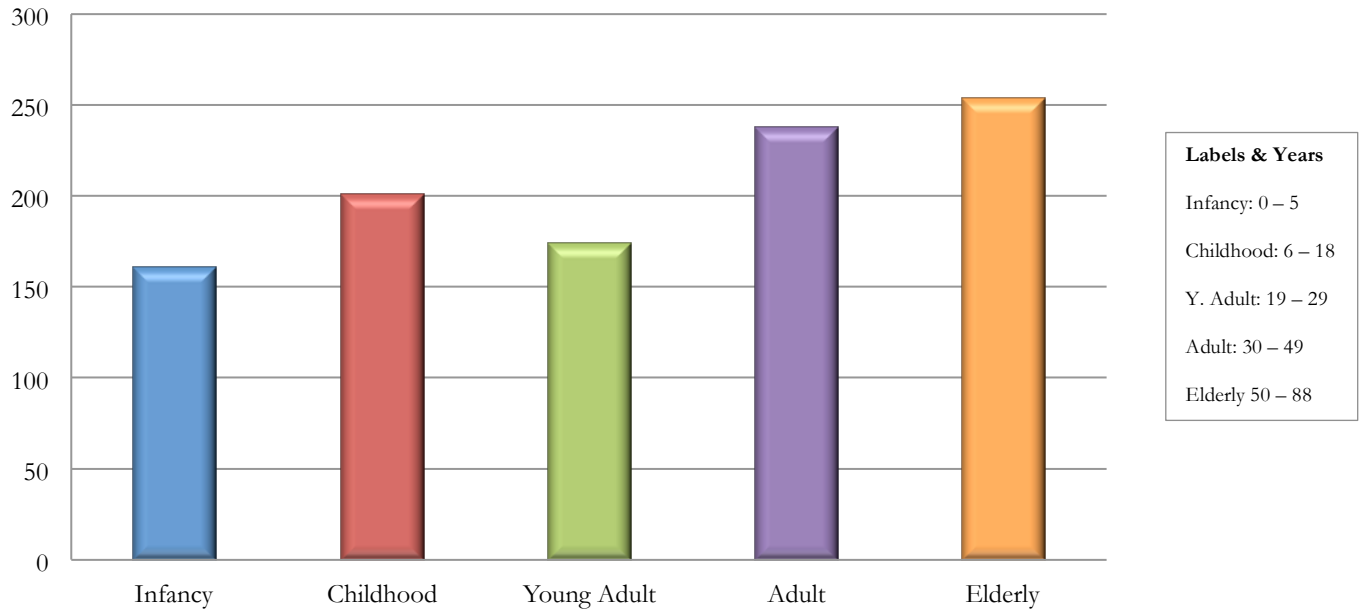


**The Oda Foundation sees more female than male patients.** We predict this is due to a couple of different factors:

- 1) Males oftentimes must leave Kalikot for gainful employment. Remittances are 29.4% of Nepal's GDP, and an even higher percentage in Kalikot; this is the highest percentage among the Southeast Asian countries.
- 2) Females in Kalikot do the majority of the family's agricultural work and cooking. This may make women more prone to conditions that originate from smoke-filled environments such as COPD as well as ailments that arise from years of hard labor such as arthritis and back pain.
- 3) Women are more likely to have UTIs and experience other women's health problems such as prolonged vaginal bleeding. Some women's health issues are associated with early childbirth; median age of women's marriage in Nepal is 17.5 years old, and 50% of Nepali women give birth by age 20.
- 4) We have observed that women may be more likely than men to bring babies and children to medical appointments. After the doctor treats her child, many mothers will also have an appointment.

## Age Distribution

### Patient Age Distribution per Month



The Oda Foundation treats patients throughout the lifespan. Our data indicates that we treat similar proportions of patients within each age category – 35% of our patients are children (between ages 0 to 18), 40% are adults (19 to 49) and 25% are elderly (50 to 88).

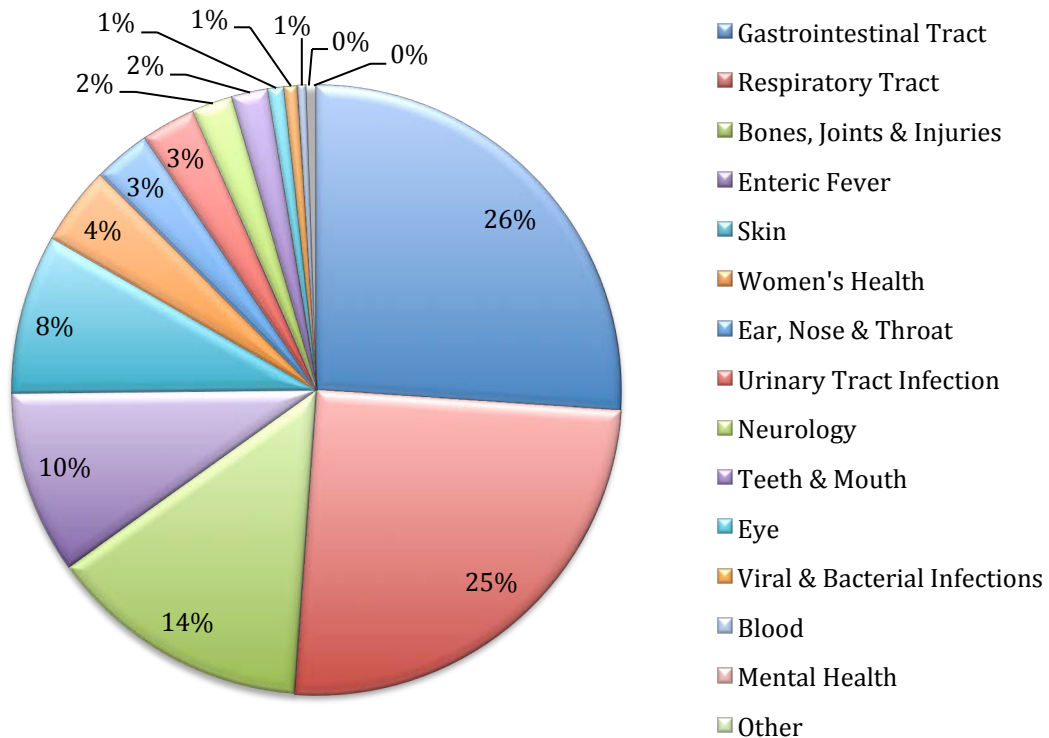
We categorize “elderly” patients as those 50 years and older because life expectancy in Kalikot is fairly young. According to the National Population and Housing Census for Kalikot in 2011, only 11% of the population is 50 years or older. As noted on the previous page, we predict that when adult women bring in their children for a medical visit they also often request to be seen by the doctor, thereby increasing the numbers of young adults and adults seen by the clinic. Ongoing observation in the clinic agrees with this hypothesis. Additionally, as shown in the “Diagnosis” section of this report (seen in the proceeding pages), two out of the three most common illnesses treated by the Oda Foundation (gastritis and COPD) most commonly occur among those 50 years and older. But again, the age dispersal of patients across the lifespan is fairly well distributed.

Kalikot has a very young population – 45% is comprised of children under 15 years old. **Our data projects that the Foundation conducts 4,300 medical visits for children per year.**

Based on the Nepal Demographic & Health Survey in 2011, the median age at marriage in Nepal as a whole is 17.5 years old for women and 21.6 years old for men. In conjunction with early marriage, 25% of women give birth by age 18 and 50% by age 20. Based on anecdotal evidence, we assert that the median age of marriage and first birth is even lower in Kalikot.

## Diagnoses

### Diagnoses by Category



- Women's Health does not include the distribution of contraceptives
- We predict that mental health issues (mainly depression and anxiety) are unreported

### Specific Diagnoses in the Top 5 Categories – sorted by most to least common

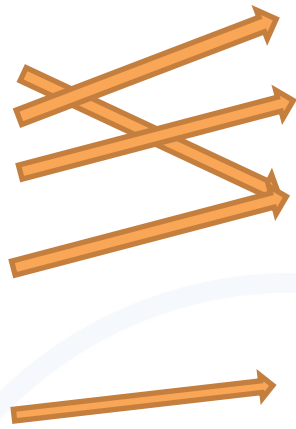
Gastrointestinal Tract	Gastritis, diarrhea, dysentery, piles, vomiting, worm infestation, stomatitis, constipation, indigestion
Respiratory Tract	Chronic obstructive pulmonary disease (COPD), acute respiratory infection (ARI), common cold, pneumonia, cough, chest infection, asthma, sinusitis
Bones, Joints & Injuries	Arthritis, joint/body pain, wound, injury, back pain, burn, gout
Enteric Fever	Fever, typhoid fever
Skin	Allergic reaction, scabies, ringworm, impetigo, cellulitis, fungal infection, abscess

**Leading Causes of Morbidity in Rural Nepal**

vs.

**Top 10 Diagnosis at the Oda Foundation**

- Acute Respiratory Infection
- Gastritis
- Enteric Fever
- Chronic Bronchitis
- Cancer
- Accidents and Injuries



Diagnosis	Yearly Projected Treatments
Gastritis	2,196
Enteric Fever	1,095
Chronic Obstructive Pulmonary Disease	996
Acute Respiratory Infection	963
Arthritis	552
Injury, Wound, Burn	507
Common Cold	474
Joint/Back Pain	471
Allergic Reaction	441
Diarrhea	417

The graphic above shows that the Oda Foundation is making huge strides in treating the leading causes of morbidity in rural Nepal. Acute Respiratory Infection, Gastritis, Enteric Fever, Chronic Bronchitis and Injuries are among the top 6 diseases treated at our clinic.

*Why these Conditions?*

Life in Oda and its surrounding villages is very challenging and physically demanding. The majority of adults are self-employed in the agriculture sector where they tend to their fields, by hand, year around. Women in Oda can be seen tending to the fields, cutting grass for their cows and carrying firewood on a daily basis. Additionally, Kalikot is extremely mountainous, not only making work extremely physically taxing, but also increasing the chance of falls, accidents and injuries. In this way, cooking fires also provide a constant danger of burns, especially for children. With little to no insulated clothing, many villagers are face the cold winters without protective proper weather wear.



- ARI: Symptoms of cough, throat pain and fever; can be a viral or bacterial infection of the trachea and big bronchi; can develop into pneumonia

- Gastritis: Inflammation of the mucosa of the stomach that happens for a variety of reasons: long period of an empty stomach, alcohol, tobacco, spicy food (chili peppers are a staple in the Nepali diet), stress, bacterial infection
- Enteric Fever: A category that encompasses the diagnoses of either a fever or typhoid fever. Typhoid fever's main symptom is a continual fever for 4-5 days. Lab tests are needed to confirm the presence of typhoid fever and before the clinic's lab opened, doctors often diagnosed patients with a "fever" rather than specifying if it was indeed typhoid. Now that the Foundation's lab is fully functional, we are able to differentiate between the symptom of a fever and the diagnosis of typhoid fever.
- Accidents and Injuries: Significant falls or other forces, burns

*Other conditions to highlight:*

- Chronic Obstructive Pulmonary Disease is the third most common diagnosis at our clinic. The main symptom of COPD is a cough/wheezing can usually be heard on the chest. This disease usually starts after age 30-40 and is associated with exposure to smoke – either from cooking and/or cigarettes. We predict that COPD is prevalent in Oda due to a lack of proper ventilation from indoor cooking apparatuses and cigarette/pipe smoking.
- Arthritis is the fifth most common diagnosis that we see in our medical. Arthritis is chronic pain, sometimes accompanied by mild swelling, of the joints. In Oda, agricultural work is done by hand so joints are subject to hard wear over the lifespan.

Picture: Purna Singh, 18 years old, having her wound treated by Mim Karki.





## Residential Location

### Patients' Residential VDC



The majority of our patients live in the Odanaku Village Development Committee (VDC). This is not because people are more prone to disease in Odanaku than other villages; it is merely due to proximity to our clinic. This data leads us to believe that other high-quality medical facilities need to open in surrounding VDCs to treat individuals that are not able to travel to the Oda Foundation.

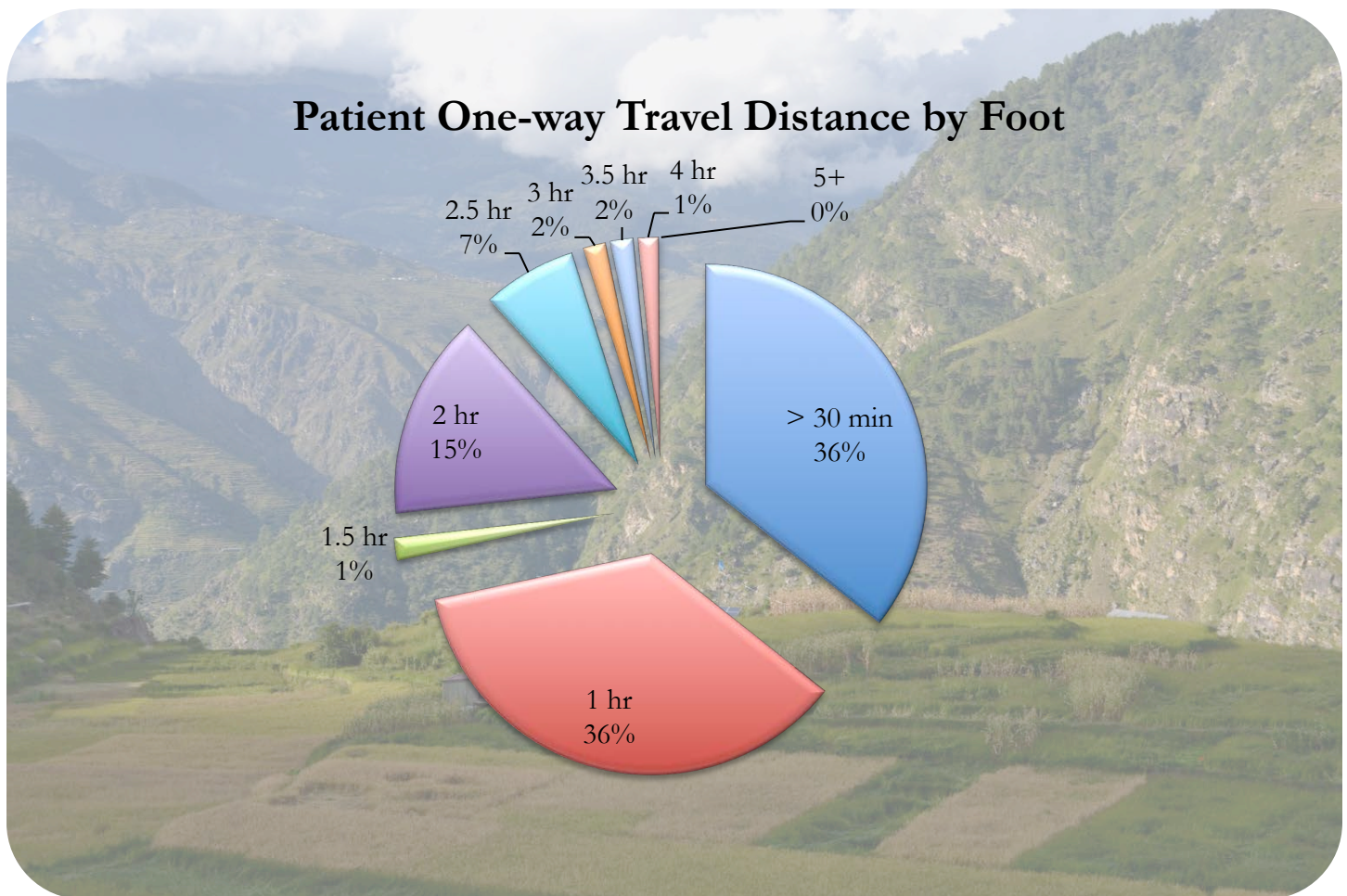
Picture: Bham Bahadur Singh, diagnosed with COPD, from Oda-6.



## Travel Time

Due to the geography of the region, patients must walk (or be carried) to the Oda Foundation clinic. One can only imagine how hard it is to walk to the doctor with a fever, otherwise sick or physically injured... We have seen patients that have walked up to 7 hours, one way, to visit the medical.

**The Oda Foundation is the highest-quality medical facility within the Kalikot District, or 10 hours of walking across, up and down the mountains.** It is an unfortunate reality that people must walk long distances to seek medical attention. The long treks and steep climbs that patients must make to visit the Oda Foundation impede routine care, meaning that patients sometimes come through our doors only when their condition has become chronic or severe.



The above pie chart shows that **64% of patients walk about 1 hour or more to visit our medical facility.** It is important to remember that this is just one-way; patients must turn around and walk back to their prospective homes after their appointment and visiting our pharmacy.

**Our data projects that 3,400+ patients a year are estimated to travel 3+ hours, round trip, to visit the Oda Foundation's medical facility.**

## Caste

The caste system is still very much a part of culture and day-to-day life in Kalikot, Nepal. An individual's caste can be identified by simply asking his or her last name. Four major castes make up the Oda community: B.K., Kafle, Pariyar and Singh. The Oda Foundation strongly opposes caste-based discrimination and has made a conscious effort to employ individuals from a variety of caste groups. The communal waiting area provides a place where all castes sit together and are able to socialize – a rarity for adults outside of the Foundation's gates.

Few conclusions can be drawn from examining the distribution of patients from each caste due to the population differences between them. For example, about 40% of our patients have the last name "Singh" but this group also makes up the large majority of the population in Oda's immediately surrounding VDCs. Our estimates project that we will treat over 500 patients from each of Oda's three major castes over the course of one year.

Caste Group	4-month #s
Brahmin	521
Chhetri/Thakuri	2726
Dalit (Untouchable)	702
Unidentified/Other	202

The table to the left shows that our clinic treats more patients from the Dalit (untouchable) caste than the Brahmin (top) caste. This data shows that **the Oda Foundation is treating the most vulnerable population** while also accepted by all caste groups as a suitable place to receive medical treatment.

## Follow-Up Appointments

11%

Of appointments at our clinic are follow-up appointments

Patients are asked to return to the clinic 10 days after their original appointment if their condition has not improved. Follow-up appointments are free of charge. The appointment's status is signaled to the clinician when a patient brings the sheet of paper listing the patient's diagnosis and prescription information from his or her previous appointment.

We think that only 11% of appointments at the medical are follow-ups for a number of reasons:

- 1) A patient's condition may have improved and therefore they may not feel the need to return to the medical.
- 2) People in Kalikot are constantly busy – doing agricultural work, cutting grass, tending to their animals, taking care of children, cooking, traveling by foot, etc. so they may not have the time to return to the Foundation.
- 3) Patients must walk to the medical and may either be too sick to walk all of the way back to our site. See the "Travel Time" section for more information on the incredible distances patients travel for treatment.

## Health Spotlight – Sunita’s Story

Sunita was a patient at our facility this year. Sunita’s father carried her to our clinic on his back because there is no health care facility in Sunita’s village, and Sunita was too sick to walk. The treacherous journey took 4 hours.

When she arrived at Oda’s clinic, Sunita was suffering from severe dehydration and diarrhea, a common but fatal condition in the developing world. Our professionally trained staff ascertained that without immediate care, their new patient would likely die.

Sunita was given IV fluids, antibiotics and expert care. The next day, Sunita walked home smiling and holding her father’s hand rather than sleeping on his back.

Our care is efficient; **the average cost of a visit to our facility is \$2.31**. A \$1,500 donation can provide medicine for our facility for a month.



*Sunita being carried to the clinic by her father*

**\$2.28**  
COST OF  
SUNITA’S CARE

**\$250**  
MONTHLY  
SALARY OF HER  
DOCTORS

**1 Million**  
CHILDREN DIE  
FROM  
DIARRHEA/YEAR

The Oda Foundation has made incredible improvements in the lives of some of the world’s most needy people.  
**Please consider a donation** and help us continue our care and expand our services.