



# First Bi-Yearly Report on Preventing Hearing Loss among Nepalese Children

**Submitted to:**

Rotary Club of Potomac-Bethesda, USA  
Through  
Rotary Club of Kathmandu Mid-Town, Nepal

**Submitted by:**



**Ear Care Nepal**

Nidan Hospital, Pulchowk, Lalitpur, Nepal  
GPO Box: 10581  
Phone: +977-1-5000128  
Mobile: +977-9851014876  
E-Mail: [earcarenepal@gmail.com](mailto:earcarenepal@gmail.com)  
info@earcarenepal.org  
Website: [www.earcarenepal.org](http://www.earcarenepal.org)  
Facebook: [www.facebook.com/earcarenepal](https://www.facebook.com/earcarenepal)

## **1. Background:**

About 5.3% (360 million) of world population has disabling hearing loss. According to a survey conducted by Tribhuvan University Teaching Hospital (TUTH) with Britain Nepal Otology Services (BRINOS), 16.6% of the Nepalese population suffers from hearing disability, which is one of the highest in South Asia (India 6%, Myanmar 8%, Bangladesh 9% and Indonesia 4.2%). Sadly, in Nepal about 55.2% of the hearing loss in school going age group, the hearing loss is due to preventable causes like ear infection.

Hearing impairment is particularly serious in children, leading to various problems like communication difficulties, delayed educational progress and social isolation having a lifelong impact not only on the children but their families and ultimately to the society. By targeting this age group, we can deliver an ear care program, which prevents unnecessary deafness in the most vulnerable population of the society. In a developing country like Nepal school based health programs can be one of the best methods to deliver health care to a population which would otherwise receive no care.

## **2. Ear Care Nepal (ECN):**

ECN, a voluntary organization, established in 2013 by a group of dedicated ENT surgeons and intellectuals with the aim of “Prevention of Deafness and Promotion and Conservation of Hearing in children in Nepal”. All the Executive Members of ECN work purely on charity basis without any financial benefit. They have dedicated their time to help in fight with deafness in Nepal. Founder and Executive Chairperson, Dr. Milan Maharjan, a consultant ENT surgeon has been leading to help the underprivileged children of Nepal suffering from hearing problems through social services by establishing Ear Care Nepal.

Since its establishment in 2013, ECN has been conducting school based ear health program which makes ECN the only organization in Nepal running purely school based ear health program focusing on prevention of deafness.

Few rich people from Kathmandu overshadow the poorer and larger section of the population, therefore at present ECN has been focusing community schools of urban area in order to cover urban poverty which is highly overlooked.

After screening 41,268 children from different community schools and Buddhist monastic schools of Nepal, we have learnt that there is a very high prevalence of ear diseases and deafness among Nepalese children. From the experiences gained so far, it is found that the percentage of ear diseases causing deafness is much higher in these underprivileged children; Bhaktapur 10.26%, Lalitpur 8.26% and Buddhist monastic school children 12.05%.

For the continuity of the school based ear health program, ECN applied for Global Grant Program through Rotary Club of Potomac-Bethesda which was approved and the agreement was signed to screen about 5000 school children for ear diseases and deafness, to conduct at least 100 ear surgeries, procurement of surgical and screening equipments, salary of two staffs, and production cost of education materials. The program is scheduled to be completed within 18 months. Besides these, Ear Care Nepal is covering other costs like office expenses, administration expenses and salaries of other staffs involved to implement the program from its own sources. As per to the agreement this first bi-yearly report is being prepared.

### **3. Program Objectives:**

The aim of this program is to prevent and cure deafness among the school children in community schools of Kathmandu Valley, Nepal. The objectives were;

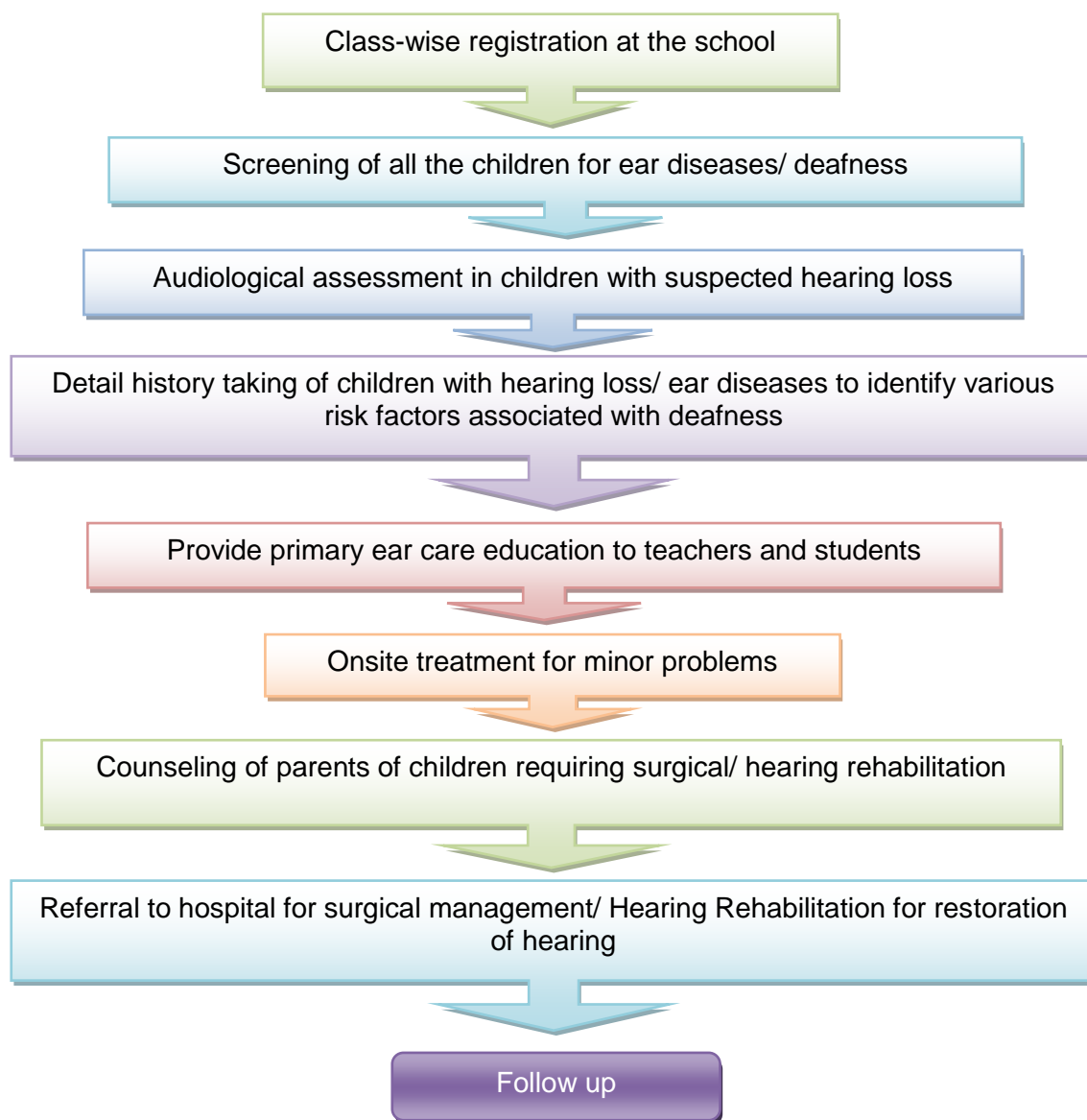
- 3.1 To enhance the capacity of Ear Care Nepal to identify correctible ear problems of children so they can be provided treatment to improve their ear health and hearing
- 3.2 To evaluate the prevalence of deafness among underprivileged school going children of public schools of Kathmandu valley
- 3.3 To provide clinical, audiological and otolaryngological services to the children of these schools
- 3.4 To provide primary ear care education to children, teachers and parents/guardians
- 3.5 To provide 'en-situ' conservative treatment for minor ear problems
- 3.6 To refer and to treat children with major ear diseases at Nidan hospital for surgical treatment and rehabilitation and restoration of hearing

**4. Program location:** Kathmandu valley

**5. Total program period:** 16<sup>th</sup> July 2017 to 15<sup>th</sup> January 2019(Eighteen Months)

**6. 1st Quarter program duration:** 16<sup>th</sup> July 2017 to 15<sup>th</sup> January 2018

## 7. Methodology:



After prior arrangements with school principal, ear screening was carried out during school hours within school premises. All the children were screened class-wise for ear diseases and hearing loss in one of the classrooms. Audiological evaluation was carried out by audio-technician in another room in children with suspected hearing loss and ear diseases.

All risk factors associated with deafness were collected from each child with hearing loss and data generated were digitized. Primary ear care education was delivered to all the school children and teachers using power points, flip charts, posters and other educative manual. Children with minor problems were treated at site with medications.

A second visit was made again to the school to meet parents/ guardians of the children with ear and hearing problem. They were counseled about their respective child's ear and hearing problems and further treatment options were explained carefully for restoration of hearing. Those children who required further management were referred to Nidan hospital for further management by ENT surgeons from Ear Care Nepal. They were seen by the team of ENT surgeons from Ear Care Nepal and pre-operative investigations were carried out for those requiring surgery. Ear surgery of all the children who required surgical intervention for correction of hearing was planned and conducted at Nidan hospital and followed up for the next three months.

## **8. Limitation:**

Although the program is being executed smoothly, there were some limitations with reference to the following factors:

### **8.1 Co-operation**

Since this is a government school based program, following governmental procedures took some time in receiving the approval from the concerned district level offices like District Education Office and District Public Health Office.

### **8.2 School calendar**

Since this is a school based program, screening as well as surgical program had to be conducted according to the school's academic calendar (exam schedule, vacations, and school programs) limiting the mobility of the whole team during those period.

### **8.3 Parents/Guardians participation**

Most of the parents of government school children were illiterate migrant workers with low economic conditions and as hearing loss is an invisible disability; it was hard to convince them for their child's treatment which consumed more time and effort of the team.

## 9. Team Composition:

- ENT Surgeon
- Program Manager
- Medical Doctor
- Staff nurse/ Health Assistant/ Community Ear Assistant
- Audiometric Technician
- Support Staffs

## 10. 1<sup>st</sup> Bi Yearly progress details: (16/07/2017 to 15/01/2018)

### 10.1 Medical Equipments/Instruments

Under the program, Ear Care Nepal has procured and installed following screening and surgical equipment in operation theatre and outpatient department.

- a. ENT operating microscope (with standard accessories, foot switch and extra lens)
- b. Portable Audiometer
- c. Handheld Tympanometer with battery and cradle with printer
- d. Two sets of middle ear surgery set

### 10.2 Ear Screening and Surgery:

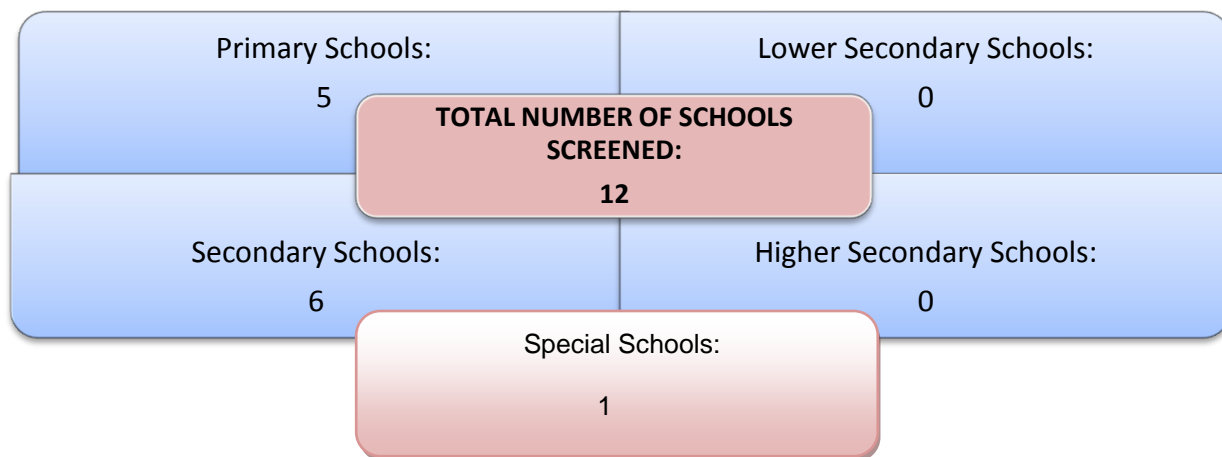
In last 6 months period a total of 12 community schools were visited by Ear Care Nepal's team where 2,724 students were screened for ear diseases and deafness. Total of 301 students were found having ear problems. Those with minor problems were treated on school premises and primary ear care education was provided to the students and teachers using various education materials. Altogether 33 students showed off for the surgical intervention which was performed successfully at Nidan Hospital showing overwhelming signs during follow ups.

### 10.3 List of schools and their details:

Public Schools of Kathmandu Valley Free Ear Screening Program by Ear Care Nepal in cooperation with Rotary Club of Potomac-Bethesda and Rotary Club of Kathmandu Mid-Town				
S.N	Name of School	Total children screened	No. of children with ear problem (%)	No. of children requiring ear surgery
1	Hope Rising Children Home, Tikathali, Lalitpur	25	6 (24.00%)	2

2	Mary Ward School, Jhamsikhel, Lalitpur	155	14 (9.03%)	4
3	Shree Nepal Rastra Nirman Secondary School, Mulpani, Kathmandu	555	51 (9.19%)	11
4	Shree Bal Byabasayee Kendra Secondary School, Sifal, Kathmandu	327	35 (10.70%)	11
5	Namuna Machhindra Secondary School, Lagankhel, Lalitpur	415	50 (12.05%)	12
6	Shree Mahalaxmi Secondary School, Nakhipot-14, Lalitpur	158	15 (9.49%)	4
7	Nepal YMCA BalBikash Kendra, Khumaltar, Lalitpur	40	1 (2.50%)	0
8	Shree ChoinaBina Guru Ganesh AdharbhutVidhyalaya, Lalitpur-14, Lohachowk	39	3 (7.69%)	1
9	Prabhat Secondary School, Tyagal, Lalitpur	601	77 (12.81%)	12
10	BalBikash Kendra Primary School, Tyagal, Lalitpur	31	2 (6.45%)	0
11	Shree Mahendra Bhrikuti Secondary School, Ekantakuna, Lalitpur	353	46 (13.03%)	9
12	Krishna Udaya Primary School, Dupat-7, Lalitpur	25	1 (4.00%)	0
<b>Total</b>		<b>2724</b>	<b>301 (11.05%)</b>	<b>66</b>

**Figure 10.1: Project Coverage**




Total number of children screened: **2724**

Total number of children with ear problem: **301 (11.05%)**




Total number of surgeries conducted for restoration of hearing: **33**



#### 10.4 Details of the children who underwent middle ear surgery





SN.	Name	Sex/ Age	Name of Schools / Monastery	Surgery	Remarks	Photo
1	Mr. Tenzin Dorjee	M/13	Shelkar Gumba, Boudha, Kathmandu	Right Type I Tympanoplasty	GA	



2	Mr. Lobsang Choklang	M/11	Shelkar Gumba, Boudha, Kathmandu	Right Myringoplasty	GA	
3	Mr. Binod Shahi	M/9	Hope Rising Children Home, Tikathali, Lalitpur	Right Tympanoplasty	GA	
4	Mr. Sohan Shrestha	M/16	Shree Naulin Secondary School, Chunikehl, Kathmandu	Left Myringoplasty	GA	
5	Mr. Subash Bhumi	M/10	Hope Rising Children, Tikathali, Lalitpur	Right Myringoplasty	GA	

6	Mr. Nawang Tenzing	M/11	Shelkar Gumba, Boudha, Kathmandu	Left Myringoplasty	GA	
7	Ms. Gita RanaMagar	F/7	Mary Ward School, Jhamsikhel, Lalitpur	Left Myringoplasty	GA	
8	Mr. Satya Ram Rokaya	M/12	Bal Byabasayee Kendra Secondary School, Sifal, Kathmandu	Right Type I Tympanoplasty	GA	
9	Mr. Nausad Khan	M/15	Bal Byabasayee Kendra Secondary School, Sifal, Kathmandu	Right Myringoplasty	GA	

10	Ms. Nisha Jaiswal	F/10	Mary Ward School, Jhamsikhel, Lalitpur	Left Myringoplasty	GA	
11	Ms. Khushi Jaiswal	F/9	Mary Ward School, Jhamsikhel, Lalitpur	Left Myringoplasty	GA	
12	Mr. Domraj Tamang	M/13	Shree Nepal Rastrya Nirman secondary School, Mulpani, Kathmandu	Right Myringoplasty	GA	
13	Mr. Dhanraj Khadka	M/13	Shree Mahalaxmi Secondary school, Nakhipot, Lalitpur	Left Myringoplasty	GA	

14	Mr. Birendra Lohan	M/16	Namuna Machhindra Secondary School, Lagankhel, Lalitpur	Right Myringoplasty	GA	
15	Ms. Meera Gabeju	F/16	Namuna Machhindra Secondary School, Lagankhel, Lalitpur	Right Myringoplasty	GA	
16	Mr. Manoj Chaudhary	M/17	Namuna Machhindra Secondary School, Lagankhel, Lalitpur	Right Myringoplasty	GA	
17	Ms. Rashmi Bisunkhe	F/11	Shree Nepal Rastrya Nirman Secondary School, Mulpani, Kathmandu	Left Myringoplasty	GA	

18	Ms. Sophiya Rai	F/15	Shree Nepal Rastrya Nirman Secondary School, Mulpani, Kathmandu	Right Myringoplasty	GA	
19	Ms. Seema Magar	F/14	Shree Nepal Rastrya Nirman Secondary School, Mulpani, Kathmandu	Left Myringoplasty	GA	
20	Ms. Sanjana Jaiswal	F/8	Mary Ward School, Jhamsikhel, Lalitpur	Right Modified Radical Mastoidectomy with Cartilage Grafting	GA	
21	Mr. Aashish Baram	M/16	Namuna Machhindra Secondary School, Lagankhel, Lalitpur	Left Myringoplasty	GA	

22	Ms. Laxmi Uparkoti	F/15	Shree Mahendra Bhrikuti Secondary School, Ekantakuna, Lalitpur	Right Myringoplasty	GA	
23	Ms. Janaki Thapa	F/15	Shree Mahendra Bhrikuti Secondary School, Ekantakuna, Lalitpur	Left Revision Cartilage Tympanoplasty	GA	
24	Ms. Rishika Rai	F/16	Shree Mahendra Bhrikuti Secondary School, Ekantakuna, Lalitpur	Right Myringoplasty	GA	
25	Ms. Sabita Sadda	F/8	Prabhat Secondary School, Tyagal, Lalitpur	Left Myringoplasty	GA	

26	Mr. Anil Mahot	16/M	Shree Shanti Niketan Secondary School, Bhaktapur	Right Myringoplasty	GA	
27	Mr. Dil Prasad Pun Magar	17/M	Mahendra Bhrikuti Secondary School, Ekantakuna, Lalitpur	Right Myringoplasty	GA	
28	Mr. Aashish Sunwar	M/10	Shree Mahendra Bhrikuti Secondary School, Ekantakuna, Lalitpur	Left Myringoplasty	GA	
29	Ms. Ashika Lama	F/13	Shree Prabhat Secondary School, Tyagal, Lalitpur	Left Myringoplasty	GA	



30	Mr. Sonam Paljor	M/13	Tsechen Chokkar Ling Sakya Gompa, Pharping	Right Modified Radical Mastoidectomy with TM Grafting	GA	
31	Ms. Romika Gurung	F/16	Shree Prabhat Secondary School, Lalitpur	Left Cartilage Tympanoplasty	GA	
32	Mr. Kunsang Lama	M/16	Namkha Khyung Dzong, Boudha, Kathmandu	Left Atticotomy with Type III Tympanoplasty	GA	
33	Mr. Pema Tengey	M/16	Namkha Khyung Dzong, Boudha, Kathmandu	Left Myringoplasty	GA	



## 11. Financial details:

The breakdown of financial details of bi-yearly is as following:

S.N	Particulars	Budget	1st Quarter	2nd quarter	Total expenses	Balance
1	Screening and Surgical Equipment	2,050,204.00	907,170.00	1,143,034.00	2,050,204.00	-
2	Maintenance of equipment	270,000.00	-	70,000.00	70,000.00	200,000.00
3	Surgery for 100 children	1,934,500.00	229,607.00	478,277.32	707,884.32	1,226,615.68
4	Community Ear assistant	144,000.00	24,000.00	24,000.00	48,000.00	96,000.00
5	Training and educational materials	100,000.00	50,000.00	-	50,000.00	50,000.00
6	Transportation costs	100,000.00	16,666.66	16,666.66	33,333.32	66,666.68
7	Contingency cost	64,978.00	10,829.66	10,829.66	21,659.32	43,318.68
	<b>Total</b>	<b>4,663,682.00</b>	<b>1,238,273.32</b>	<b>1,742,807.64</b>	<b>2,981,080.96</b>	<b>1,682,601.04</b>

## 12. Summary:

Total of 2,724 students studying in 12 different community schools were screened for ear diseases and deafness in the 1<sup>st</sup> quarter. The prevalence of preventive ear diseases was found to be very high 11.05% (301).Thirty-three children underwent major middle ear surgeries for restoration of hearing. All the medical equipment were procured and installed.

**Photo Gallery:**



Children after finishing ear screening in a special school



Dr.Milan Maharjan treating a child with ear problem



Dr. Samjhana Phuyal examining the ear of a child



Children posing in between screening program





Community Ear Assistant “CEA” conducting audiological evaluation



CEA making power point presentation about primary ear care



Children attentively reading booklet on primary ear care



Children registering their name for ear examination





A counseling session with parents/Guardian



A child at Nidan hospital undergoing pre-operative investigations



At pre-operative unit preparing for surgery



At operating theatre, ECN team conducting ear surgery





During dressing



Children after ear dressing during follow- up





Children looking at their gifts



Ear Care Nepal team along with the organizers of project



Use of Microscope in Operation Theatre



Tympanometer and Audiometer