Read about NPH Haiti's nutritional program on page 6.

Judeland receives an extra meal daily to help combat malnutrition.

Message from the Medical Services Executive Director

Greetings from the NPHI Medical Services team:

Overall, 2011 has been marked by great accomplishments, some of them pursued for a long time. One of the most important accomplishments Medical Services is proud to report is being able to provide all the missing vaccines to every child in our homes. The "Catch Up Vaccines Project" is in progress, since some vaccines require a waiting period between doses. This has been a remarkable achievement.

We are also very thankful for the current professional relationship with local staff. For the last few years we have been working hand in hand, not only to develop policies and implement evidence-based best practices, but most importantly to build trust and strong working relationships.

Dr. Pilar Silverman with a patient in the DR.

We hope that by now having our children's health "under control", so to speak, we will be able to share and extend our services to the very impoverished surrounding communities as an act of solidarity and generosity.

Now, when someone asks "what makes us different" from other organizations, NPH is poised to be able to state an additional difference - "NPH children are very healthy". Our healthcare system allows us to identify and intervene early.

The Medical Services team is very thankful for all the blessings benefiting the health department that NPH received during 2011: surgeries abroad, vaccines, nutritional funds, drugs support, and advice from renowned American and European specialists are among the great cooperation without borders.

We will keep working as much as we can to improve nutritional status, to provide the most updated care for children with chronic conditions, to keep fighting against public health threats such us scabies, lice, waterborne diseases, tick-borne diseases such dengue, malaria, and much more.

As the last issue for 2011, I want to thank and send our gratitude to all the fundraising offices for their tireless efforts to keep funding the NPH programs, to our donors and benefactors, to the local health staff, and to the RMC who always, no matter what, are ready to support and keep improving how we all work together, in order to have "healthy children with healthy life" ready to reach their full potential.

Prevention! Prevention! Prevention! This is what it is all about in this issue of the Medical Services Bulletin. Keeping the diseases away!

Dr. Pilar Silverman, *Executive Director of NPHI Medical Services*

Teaching Hand Washing at NPH Mexico

Washing hands, when done correctly, is the most effective, economic and simplest way to prevent the spread of diseases like pneumonia and diarrheal diseases, together responsible for the majority of childhood mortality. For that reason hand washing education can be considered one of the most important lifesaving steps in primary prevention.

We took Global Handwashing Day, October 15th, as motivation to establish hand washing with soap and water as a routine hygiene procedure in our Mexican home. As a fortunate coincidence we received a donation of more than 600 gallons of liquid soap at the beginning of October, so we already had all the materials we needed: water and soap.

But before starting a project like this a lot of information needs to be provided. Therefore, good communication tools and a motivated team are necessary. Our first step was to inform the directors and then the caregivers about our plans. They were very cooperative and enthusiastic about our idea and were willing to collaborate.

Afterward, we went to the school and asked the teachers to give the children a homework assignment to write or paint something about hand washing. A few days later, our clinic team of nurses, doctors and volunteers, went to the school in two groups to instruct the students about why, when, and how to wash their hands. The most effective way of teaching was an interactive lesson, which allowed students to contribute. We were pleased to see their beautiful pictures and posters and to realize that they were really excited about the subject and most already had good theoretical knowledge. The challenge for the clinic team was now - and still is - to ensure that this knowledge is put into practice.

The same day we started to give soap to the children in the "comedor" before eating and practiced with them how to wash their hands correctly. We instructed the caregivers that from now on they have to give soap to each child before eating, after going to the toilet and whenever hands are dirty, and to always remind them of the importance of hand washing. Over the next few days we were pleased to see that everyone involved – doctors, nurses, directors, caregivers and last but not least the children – seemed to already be getting used to this very important habit.

Our aim is to turn hand washing from an abstract idea into an automatic routine each member of our home performs several times a day. We adults - clinical teams but also directors, caregivers and other staff working for our children - should be a good example, washing our hands with soap in the correct way and constantly teaching the children about the technique and the importance of washing hands. It is not a lesson once taught and done, it is an ongoing learning process and we are all responsible for educating our kids so that they grow up in the best and healthiest way possible.

Corinna Lawrenz, MD *Regional Medical Coordinator for México*

NPH Immunization Catch Up Campaign 2011

Vaccines Save Lives and Help to Prevent Infectious Diseases

Since August 2011, an exciting project has been implemented in all NPH homes by local clinic staff and supported by the Regional Medical Coordinators of NPHI - a massive catch up vaccination campaign. Most of the homes have already completed the first and second round of vaccines that need two or three doses to be considered fully immunized.

Thanks to vaccines, a lot of diseases that previously killed many children and adults have been eradicated worldwide. Every year more than 2.5 million children die from preventable diseases because they were not vaccinated. Newborn babies are immune to many diseases because they have antibodies they got from their mothers, however, the duration of this immunity may last only a month to about a year. Thus it is critical to vaccinate in early years. It is always better to prevent a disease than to have to treat it.

Vaccines prevent diseases in the people who receive them and also protect those in the community who are unvaccinated, such as those too young to be vaccinated, those who cannot be vaccinated for medical reasons, and those whose bodies do not adequately respond to vaccination. Vaccines are responsible for the control of many infectious diseases that were once common, including polio, measles, diphtheria, pertussis (whooping cough), rubella (German measles), mumps, tetanus, and Haemophilus influenzae type b (Hib).

Immunization also slows down or stops disease outbreaks. Our homes, as with other groups where a lot of people live closely together, such as military facilities, university dorms, etc., are considered at risk since any epidemic can easily spread among all the children and staff.

Dr. Pilar Silverman, *Executive Director of NPHI Medical Services*

December 1st - World Aids Day

World AIDS Day is an opportunity for unity in the fight against HIV/AIDS worldwide and to show our solidarity with people who have the disease. Early detection and early treatment are the objectives to control HIV/AIDS and end this brutal disease. The number of new people infected decreased about 21% between 2005 and 2010. Last year the number of persons infected worldwide was 34 million; 2.5 million were children (ONUSIDA 2010) and 2.7 million new people became infected. Fifty percent of children are infected from vertical transmission (mother-to-child at birth) and will die before their second birthday without treatment or delayed diagnosis.

Ninety percent of HIV cases in children are caused from mother-to-child transmission. One hundred percent of those infections are preventable with early diagnosis and early intervention with the mother. In this area it has been a great accomplishment stopping new cases, specifically in developed countries. In developing countries where we work, the situation is different. There is still a lot of work and education to do, since the infected mother has a lot of obstacles to overcome (gender, women's rights, education, prevention, access to antiretroviral drugs, etc.)

Another important finding is that half of the population who recently contracted HIV through sexual transmission is between 15-24 years old (ONUSIDA 2004). Right now, the most vulnerable population to contract the infection is adolescents and young adults.

At NPH we have 70 children and adolescents who are HIV positive. Our major challenge as a family and responsibility for their health and wellbeing is to provide interdisciplinary care - from access to antiretroviral drugs they need, giving them advice on how to become "healthy and productive members of their community and family", providing psychological support and sexual education, as well as fighting the stigma, not only with them but also educating the people around them.

Some facts on HIV/AIDS:

1. Difference between being infected with HIV and having AIDS. Being infected as with any virus or bacteria means the germ has entered your body and it is able to replicate and silently destroy the immune system and the body's defenses. When the destruction reaches a certain level, there is no way back and the first complications occur such as opportunistic infections - in this situation we begin to talk about AIDS.

2. Difference between the two types of HIV (HIV-1 and HIV-2) Ninety-nine percent of the world's infections are caused by HIV type 1 (HIV-1). Type 2 (HIV-2) is somehow lighter, has a slower evolution, and is more frequent in Africa.

3. Ways of becoming infected. Ninety-five percent of infections worldwide are sexually transmitted. Other ways are sharing infected needles and mother-to-child transmission. If the mother receives treatment after early detection, the probability of infection in the newborn is now quite low. HIV transmission from blood transfusions or organ transplants is possible; however, such units in medical centers have a security protocol, not only for HIV but also for hepatitis C and cytomegalovirus, among others.

4. Initial symptoms in an infected person. Initially, infection may not be noticeable because there are not evident symptoms more than a mild cold, if any. If there is any doubt, one should be tested.

5. HIV tests. To confirm the diagnosis, a blood test looking for antibodies or the virus is best. There are also rapid tests requiring only a blood drop or saliva, and in a matter of minutes one has the results. Detection of the disease is quite easy.

6. Treatment once the diagnosis is confirmed. HIV is part of a virus family called "retrovirus" and the generic name for the drugs fighting HIV is antiretroviral (ARVs). The drugs aim to destroy virus replication and stop the virus from entering a person's cells. The sooner a person starts treatment, the more possibilities to respond successfully to therapy with ARVs. Currently, there is no cure, though many scientists are investigating to find a vaccine or cure for the infection.

Despite recent advances, four key challenges remain in the fight against HIV/AIDS:

1. Improve current treatments and reach a treatment/cure which does not necessitate the patient taking medicines for life.
2. Increase efforts to promote preventive measures. Each year there are still too many newly infected persons.
3. Have a vaccine available to prevent infection.
4. Create universal access to ARVs worldwide.

Dr. Pilar Silverman, *Executive Director of NPHI Medical Services*

Impressions of NPH Mexico Clinic

I was very excited and a little nervous when I left for my first trip as Regional Medical Coordinator to Mexico. In my experience as a volunteer doctor in Guatemala I had become familiar with the medical policies of NPH, the structure of the homes and what it means to work in a small clinic in another country, only equipped with the basics. On the other hand I was a little anxious with the idea of arriving in this very big Mexican home with the intention to coordinate, support and collaborate in the clinic - I considered it a new adventure.

Dr.Corinna with a patient from the clinic.

I was happy and very grateful that Dr. Susan Haverkamp came a few days after my arrival to introduce me to the work, the people, and to the peculiarities of the clinic and the home of NPH Mexico. She gave me some advice and opinions but also gave me the opportunity to develop my own work concept and my own idea of the medical clinic.

However, in the beginning I thought I would never get an overview with so many children and staff living and working there. But little by little, working and especially talking to many people and internalizing the "no te preocupes" ("don´t worry") and "todo tiene su solución" ("everything has a solution") that sounds everywhere, I felt more and more familiar and safe.

Dr. Azucena, whom I had already met in the most recent medical workshop in the Dominican Republic in April, and the entire clinical team welcomed me wholeheartedly and were all eager to work together. The three chronic patients living in the clinic also received me with anticipation. They had many things to tell and so I spent several nights beside their beds, looking at their pictures and talking. Especially Paty, who unfortunately has been oxygen dependent for several months and cannot leave her room as she used to, always had a story handy about the old days at NPH Mexico.

were a lot of things to work on and to develop: for example, we created a new local health manual with the help of the doctors and the clinic administrator. We also focused on health and hygiene education, which is a topic that is always relevant and needs the cooperation of the entire home.

In addition, we worked to improve nutrition. Fortunately, two students of nutritional science came and gave talks in the school, assessed the food in the home and suggested a dietary plan. Another important issue was the medical workshop in 2012 which will take place in Mexico - we have already started to make initial plans. It was notable that the clinic team also made a lot of advancements with vaccines and the pharmacy was well-equipped.

For me it was a very intense and busy month but it was very happy and enriching at the same time. I realized that we really are one big, united family. From the beginning I felt at home. The children curiously wanted to know my name, my origin and my intention in the home. Sometimes they asked me, "Are you from Guatemala?", when I wore the shirt from the Guatemalan home, and that made me smile. I met a lot of very friendly, frank and admirable people - adults and children. They not only let me enter into their daily routine and work, but also showed me a lot of their rich culture that fascinates me.

I want to thank Dr. Azucena for her patience, for her endless desire to improve things, and for always being available to her team and all the children and patients living at NPH Mexico. I also want to thank and congratulate the entire medical team for their support and honesty, their good work, and for being a good team. They are always looking forward to work, making their best efforts for the progress of the clinic, and fighting for the health of our children.

Corinna Lawrenz, MD *Regional Medical Coordinator for México*

Home Updates

Mexico: Challenging Cases
Growth Hormone Treatment for a Young Boy

Francisco*, who just celebrated his 14th birthday on November 21st, is a happy, humorous, and cooperative young boy. Almost three years ago, when registering for "Brimex" for the first time to get free medical service, the pediatrician examining Francisco indicated he was likely malnourished because he presented low height for his age. She prescribed food supplements, but after a while she noticed that Francisco did not gain weight, nor height, but actually lost weight. He was then referred to a endocrinologist, who requested special tests and indicated that Francisco was not malnourished but was short for his age, and presented delayed puberty due to growth hormone deficiency. Francisco remained under observation and more specific tests were done regarding further treatment.

Thanks to the kind donations of Pfizer, Francisco began his treatment, the subcutaneous application of growth hormone, in September. Such treatment costs about 35,000 pesos a month, but the necessary medical care and the required treatment for Francisco was achieved with the help of many interested and dedicated people. Francisco has been treated only 3 months, but during those months the boy has become even happier because he has already grown 3 centimeters and has gained half a kilo of weight.

A Different Body

Alejandro*, 11-years-old, is a boy who at first sight looks like any other child, but he has a medical condition known as "Situs Inversus". That means that all of Alejandro's organs are located on the opposite side of his body from where they are supposed to be found. Alejandro is an exceptional case - on average only 1 of every 8,000 people in the world have this condition. Sometimes Situs Inversus can cause serious health problems, but Alejandro has been thoroughly examined by specialist physicians who conducted various tests, and fortunately no complications have been found. However, Alejandro will always have to remember that his organs are on the opposite side for future medical referrals.
*Names have been changed

Azucena Hernández López, MD, Local Health Coordinator NPH México

Guatemala: Dental Care

NPH Guatemala and the Dental Clinic have begun a program that will benefit many children by providing braces. Started in June 2011, the program began with a dental evaluation, exam, and x-rays, to help guide the dental team in selecting three children who would benefit most. As part of the program, they receive a monthly visit from an orthodontist who follows their progress. Aside from improving the oral health of our children, we have also observed an improvement in their self-esteem and behavior.

Note: NPH Guatemala has a formal agreement with a local university which allows a recent dentistry school graduate to help provide daily preventative cleaning, supervised by the NPH Dentist, Dr. Luis Pablo Mendez.

Nadia Cortez González, EPS Odontología, NPH Guatemala

Dominican Republic: Summer Camp for HIV Positive Young People

Once again, the HIV positive children from our home in the Dominican Republic attended a one-week summer camp along with one of the nurses from Clinic Santa Ana. The summer camp is a freeing place for children from all parts of the country where they are able to share stories and play, receive psychological therapy through games, and have common values such as self esteem, generosity, solidarity, responsibility and honesty reinforced. As in previous summers, all of the children returned from camp very excited and happy and planning to attend again in 2012. The benefits the children get from the camp are obvious: good adherence to treatment, improved behavior, safe health practices, improved self-esteem and responsibility regarding their chronic condition.

Pilar Silverman, MD, *Executive Director Medical Services NPHI*

(continued next page)

Home Updates Continued...

El Salvador: A traumatic recovery for a pequeña.

Liseth* is a 15-year-old girl that was born with a severe right sided convexity Scoliosis. As a child, this condition did not cause much disability or illness and she lived a normal cheerful, life. During her growth and development, with this severe form of scoliosis, her lungs and other organs had limited growth causing a severely restricted respiratory pattern. This then caused chronic pneumonia and she was hospitalized three times in one month, each case presenting itself with more complications.

On her third hospitalization, she suffered from hypoxic encephalopathy and was put on permanent oxygen. She also experienced respiratory exacerbation, which resulted in neurological deterioration with loss of consciousness. Liseth had developed respiratory distress pneumonia and was put in intensive care. She was intubated and placed on a ventilator. The infectious process of the pneumonia was getting better with intravenous antibiotics and Liseth was alert enough to communicate through writing.

They tried various times to discontinue the use of the mechanical ventilator but where unsuccessful because Liseth had not recuperated well enough to breathe on her own. Meanwhile Liseth would spend her days drawing, writing and watching T.V. Because of her deformity and chronic respiratory issues it was decided that the best option for her would be to perform a tracheotomy. The procedure was performed two moths ago and Liseth is recuperating well.

Three weeks ago the children had their final examinations in school and Liseth did very well. She will be going into ninth grade this next school year. On November 9th, Liseth, along with friends, celebrated their 15th birthday where she had a wonderful time and looked very beautiful and happy.

Liseth continues to get better each day with the help of God, the continued prayers of us all, and the fighting spirit which she possesses. Undoubtedly she is an amazing example to us all.

*Name change.
Dr. Yesenia Vargas, *NPH El Salvador.* Translated by Darren Blue, *Regional Medical Coordinator El Salvador, Honduras, Peru and Bolivia*

Haiti: Fr. Wasson's Angels of Light Nutritional Program

Shortly after my arrival in August, the nurses and I began the task of establishing a baseline height and weight for each of the children in the Fr. Wasson Angels of Light program, and plotted those against the Centers for Disease Control growth charts. In the process of doing this, we identified 50 children who were significantly under height and under weight for their ages. (Their height and weight was severely below the 5th percentile for children of the same age worldwide). We brought this to the attention of the directors of the FWAL program, and a plan was made to initiate a Nutrition Program. We began by giving an extra glass of milk to 15 children at St. Louis who were the most severely in need, and then began planning for an additional meal to increase the caloric intake of the children. We were blessed to find a large donation of a complete meal-in-a-bag, packaged by Meals of Hope and given to FWAL in the previous months. One bag contains a complete meal, with soy proteins and the addition of 21 essential vitamins and minerals, and feeds six children. Through coordination with the kitchen staff at both St. Louis and Ste. Anne, the program began in October. At 10:00 each morning, the identified children receive an extra meal. This time coincides with a break at the FWAL school, so all children are able to participate without missing classes.

After the first month, seven children had made significant weight gain and were found to no longer need the additional nutrition. An additional child was identified and added to the program. Currently there are 44 children who continue to receive the extra meal. They all actually enjoy eating the food and often ask for another serving once their plates are cleaned! We are excited to see the difference this program has made in their health and energy levels. We will continue to perform monthly weights on all of the children in the program, and will monitor its effectiveness. The plan is to maintain the program for three months, finishing in January of 2012. At that time, we will reevaluate if we see that there is a continuing need for it or certain children continue to need supplemental nutrition.

Bridget Holz, *RN and FWAL volunteer*

Traveling Abroad Safely

The Center for Disease Control and its European counterpart recommend preparing yourself before traveling to developing countries, in order to prevent major health problems in an environment where it can take more time to receive medical treatment. This advice comes directly from the CDC.

Cholera: An outbreak of cholera has been ongoing in the Dominican Republic since November 2010. Cases continue to remain at elevated levels. Authorities are taking measures to prevent the spread of the disease, strictly monitoring suspicious and confirmed cases of cholera. The risk of cholera for travelers to the Dominican Republic is likely very low if precautions are taken. Travelers should consume only safe food and water, and exercise hand washing frequently.

Cholera is a bacterial disease that can cause diarrhea and dehydration. Cholera is most often spread through the ingestion of contaminated food or drinking water. Water may be contaminated by the feces of an infected person or by untreated sewage. Food is often contaminated by water containing cholera bacteria or by being handled by a person ill with cholera. Most travelers are not at high risk for getting cholera, but people who are traveling to Haiti and the Dominican Republic should exercise caution to avoid getting sick. We would like to recommend visiting http://wwwnc.cdc.gov/travel/page/pack-smart.htm before going abroad as well as always carrying water purification tablets and oral rehydration salts (ORS). In the United States, these products can be purchased at stores that sell equipment for camping or other outdoor activities.

Although no cholera vaccine is available in the United States, travelers can prevent cholera by following these basic steps:

1. Drink and use safe water*
• Drink only from bottles of water with unbroken seals. Canned/bottled beverages such as carbonated drinks are safe to consume.
• Use safe water to brush your teeth, wash and prepare food, and make ice.
• Clean food preparation areas and kitchenware with soap and safe water and let dry completely before reuse.
*Piped water sources, drinks sold in cups or bags, or ice may not be safe. All drinking water and water used to make ice should be boiled or treated with chlorine.

2. Wash your hands often with soap and safe water*
• Before you eat or prepare food.
• Before feeding someone: a sick person, your children, etc.
• After using the latrine or toilet.
• After taking care of someone ill with diarrhea.
* If no soap is available, use an alcohol-based hand cleaner (containing at least 60% alcohol).

3. Cook food thoroughly (especially seafood), keep it covered, eat it hot, and peel fruits and vegetables*
• Boil it, cook it, peel it, or forget it.
• Be sure to cook shellfish (like crab and crayfish) until they are very hot all the way through.
*Avoid raw foods other than fruits and vegetables you have peeled yourself, and do not eat food from street vendors.

If you get sick with diarrhea while you are in Haiti or the Dominican Republic, you can take an antibiotic as prescribed by your family doctor. Also, remember to drink fluids and use oral rehydration salts (ORS) to prevent dehydration. If you have severe watery diarrhea, seek medical care right away.

Dengue: Dengue is the most common cause of fever in travelers returning to the United States and to other countries from the Caribbean, Central America, and South Central Asia. Dengue is reported commonly from most tropical and subtropical countries of Oceania, Asia, the Caribbean, the Americas, and occasionally Africa.

This disease is caused by four similar viruses and is spread through the bites of infected mosquitoes. Dengue virus transmission occurs in both rural and urban areas; however, dengue infections are most often reported from urban settings. As of December 2, 2011, more than 900,000 cases have been reported to the Pan American Health Organization (PAHO) during 2011. Several countries across the region are reporting high incidence rates, including Brazil, Paraguay, Bolivia, the Bahamas, and Aruba.

Travelers can reduce their risk of infection with dengue fever by protecting themselves from mosquito bites. The mosquitoes that spread dengue usually bite at dusk and dawn but may bite at any time during the day, especially indoors, in shady areas, or when the weather is cloudy.

Travelers should follow the steps below to protect themselves from mosquito bites:
• Where possible, stay in hotels or resorts that are well screened or air conditioned and that take measures such as spraying with insecticide to reduce the mosquito population.
• When outdoors or in a building that is not well screened, use insect repellent on uncovered skin. If sunscreen is needed, apply before applying insect repellent.

(continued next page)

• Look for a repellent that contains one of the following active ingredients: DEET, picaridin (KBR 3023), Oil of Lemon Eucalyptus/PMD, or IR3535. Always follow the instructions on the label when you use the repellent.
• Wear loose, long-sleeved shirts and long pants when outdoors. For greater protection, clothing may also be sprayed with a repellent containing permethrin or another EPA-registered repellent. (Remember: don't use permethrin on skin.)

In general, repellents protect longer against mosquito bites when they have a higher concentration (percentage) of any of these active ingredients. However, concentrations above 50% do not offer a marked increase in protection time. Products with less than 10% of an active ingredient may offer only limited protection, often no longer than 1-2 hours.

The American Academy of Pediatrics approves the use of repellents with up to 30% DEET on children more than 2 months old. To protect babies less than 2 months old use a carrier draped with mosquito netting with an elastic edge for a tight fit. For more information about the use of repellent on infants and children, please see the "Insect and Other Arthropod Protection" section on the CDC's Traveling Safely with Infant and Children webpage: http://wwwnc.cdc.gov/travel/yellowbook/2012/chapter-7-international-travel-infants-children/traveling-safely-with-infants-and-children.htm

Malaria: About 3.3 billion people - half of the world's population - are at risk of malaria. Every year, this leads to about 250 million malaria cases and nearly one million deaths. People living in the poorest countries are the most vulnerable.

Malaria is a disease which can be transmitted to people of all ages. It is caused by parasites of the species plasmodium that are spread from person to person through the bites of infected mosquitoes. In the human body, the parasites multiply in the liver, and then infect red blood cells.

Symptoms of malaria include fever, headache, and vomiting, and usually appear between 10 and 15 days after the mosquito bite. If not treated, malaria can quickly become life-threatening by disrupting the blood supply to vital organs. In many parts of the world, the parasites have developed resistance to a number of malaria medicines.

Key interventions to control malaria include: prompt and effective treatment with artemisinin-based combination therapies; use of insecticidal nets by people at risk; and indoor residual spraying with insecticide to control the vector mosquitoes. There is also a preventive treatment to take before, during and after your trip. Please visit your family physician to talk more about how to protect yourself.

Typhoid Fever: Salmonella Typhi lives only in humans. Persons with typhoid fever carry the bacteria in their bloodstream and intestinal tract. In addition, a small number of persons, called carriers, recover from typhoid fever but continue to carry the bacteria. Both ill persons and carriers shed Salmonella Typhi in their feces (stool).

You can get typhoid fever if you eat food or drink beverages that have been handled by a person who is shedding Salmonella Typhi or if sewage contaminated with Salmonella Typhi bacteria gets into the water you use for drinking or washing food. Therefore, typhoid fever is more common in areas of the world where hand washing is less frequent and water is likely to be contaminated with sewage. Once Salmonella Typhi bacteria are eaten or drunk, they multiply and spread into the bloodstream. The body reacts with fever and other signs and symptoms.

Two basic actions can protect you from typhoid fever:
• Avoid risky foods and drinks (go to cholera section for details).
• Get vaccinated against typhoid fever.

Watching what you eat and drink when you travel is as important as being vaccinated. This is because vaccines are not completely effective. Avoiding risky foods will also help protect you from other illnesses, including travelers' diarrhea, cholera, dysentery, and hepatitis A.

"Boil it, cook it, peel it, or forget it".

If you are traveling to a country where typhoid is common, you should consider being vaccinated against typhoid. Visit a doctor or travel clinic to discuss your vaccination options. Remember that you will need to complete your vaccination at least 1-2 weeks (dependent upon vaccine type) before you travel so that the vaccine has time to take effect. Typhoid vaccines lose effectiveness after several years. If you were vaccinated in the past, check with your doctor to see if it is time for a booster vaccination. Taking antibiotics will not prevent typhoid fever; they only help treat it.

Your Vaccines Up to Date - Not Only for Children
Some vaccines may lose protection over the years, thus we need a boost to reinvigorate our defenses against infectious diseases. You should review where you are traveling to with your physician and if you are well protected or need any boosters or additional vaccines. For instance, it is mandatory for all travelers to Peru and Bolivia to have the yellow fever vaccine; you may be banned from entering the country if you have not had the vaccine.

The recommended vaccines to travel to Central/South America and the Caribbean are: hepatitis A, hepatitis B, tetanus/diphtheria/acellular Pertussi or tetanus/diphtheria depending on travelers' age, rabies, typhoid fever, poliomyelitis, measles, mumps, rubella, tuberculosis test (PPD), pneumococcal for persons over 50 and anyone with chronic conditions, as well as influenza since it exists year-round in tropical areas. You may also considerer varicella if you have questionable history of the disease during childhood.

In NPH countries, we cope year round with epidemics such as measles, mumps, varicella, scarlet fever, hepatitis A, dengue and cholera.

For more information contact: **Dr. Pilar Silverman** at: psilverman@nph.org, Design by: Monica Gery, NPHI Information Officer