

# Developing Medical Capacity in Lao PDR

Prior to 1996, Laotian victims of unexploded ordnance were left with few options for medical treatment. Since that time, however, the inadequacy of the health-care system to handle such situations has been addressed and improvements made possible through the efforts of the World Victims Assistance Program. Though UXO accidents will continue to occur in the Lao People's Democratic Republic well into the future, the impact of programs implemented by World Education and numerous other nongovernmental organizations and governmental entities has contributed to a significant increase in the number of survivors who have received effective treatment.

by Barbara Lewis and Sarah Bruinooge [ World Education, Inc. ]

During the American-Vietnam War, the United States dropped an estimated 100 million cluster bombs on the Southeast Asian country of Laos, now known as the Lao People's Democratic Republic. A 1997 study by Handicap International revealed that unexploded ordnance contaminated 25 percent of all communities in Lao PDR.<sup>1</sup> UXO accidents often cause severe abdominal, chest, hand, arm and head injuries, which all require extensive surgery and post-operative care. Most victims are injured as they work in their fields, unknowingly build fires over ordnance buried in the ground, try to dismantle UXO to obtain the scrap metal to sell, or, in the case of children, play with the ball-shaped "bombies."

Since 1995, World Education, with its main office in Boston, Massachusetts, USA, has been active in developing programs in Lao PDR that address all components of UXO victim assistance, as articulated by the International Campaign to Ban Landmines, including medical care, rehabilitation, psychological support, economic integration and legislation.<sup>2</sup> This article focuses on World Education programs that improve emergency care and continuing medical care to UXO survivors, with an emphasis on capacity building and sustainability.

Additionally, since 1996, World Education in Lao PDR has partnered with the Lao National Rehabilitation Center and the Lao Ministry of Health to improve medical care for survivors of UXO accidents and other persons with disabilities. From 1996 through June 2008, the War Victims Assistance Project has helped nearly 600 UXO survivors in five provinces through improved medical care and direct funding assistance.<sup>3</sup> During that time, the WVAP has worked with two provincial and 10 district hospitals in northern Lao PDR, and one regional, one provincial and 10 district hospitals in the southern part of the country.

An initial needs assessment conducted in 1994 by the U.S. Centers for Disease Control and Prevention in Lao PDR revealed that the health services were inadequate and that many victims of UXO accidents did not go to hospitals when they were injured because they did not think they could afford the high cost of surgery.<sup>4</sup> Furthermore, victims had little confidence in hospitals' ability to provide a high standard of care. The WVAP has addressed these concerns through the establishment of a comprehensive program in hospital project management, medical training, hospital repair and renovations, and pharmacy management, and by providing essential equipment to the hospitals.<sup>5</sup>

**Project management.** World Education first implemented the WVAP in Xieng Khouang province, with funding from USAID's Leahy War Victim's Fund in northern Lao PDR. At that time, infrastructure within the province was poor. The dilapidated road system made transport to

a hospital difficult. Hospitals lacked electricity and adequate water systems and did not have the basics for providing emergency care, such as equipment or medicine. Although most medical staff had received medical training both in Lao PDR and abroad, there were few administrative and management systems in place to run the hospitals efficiently.

The project identified a need for development of project-management structures and formed an initial Project Management Committee to guide working groups formed by the Xieng Khouang hospital and Department of Health. The committee and working groups received basic training in project management, which included participatory development, needs assessments, planning, budgeting and evaluation of the medical infrastructure. The working groups performed their own needs assessments, identified gaps and local resources, and implemented and evaluated UXO-survivor health plans.<sup>6</sup> Initial working groups included medical training, hospital pharmacy fund, medical equipment, hospital repair, the War Victims Medical Fund and the Quality of Life Rehabilitation Fund. The last two groups, funded by private donations, provide direct financial and socioeconomic assistance to UXO survivors and their families while they receive immediate and follow-up medical care.

The working group strategy promoted the inclusion of medical and rehabilitation staff at all levels. In the first months of developing the system, the working groups developed a sense of solidarity through their joint sessions in gathering data and generating their plans. The emphasis on leadership, increasingly handing over management of the project's input, and participatory problem-solving all contributed to the sustainability of the program. Once trained, staff members are given opportunities for future professional development as well as follow-up visits from program trainers. Most importantly, in-province networks have their own trained staff, who receive ongoing instruction and are able to teach others what they have learned.

Project-management training has facilitated the streamlining of processes from patient interviewing and intake to drug prescription and follow-up care. As one project beneficiary noted, "Staff now follow prescribed protocols and procedures that are systematic from the point where we receive a patient requiring emergency care all the way through to post-operative care and patient discharge." As a result, more UXO survivors receive better care through the medical system.

**Medical training.** The WVAP developed comprehensive medical training programs to provide necessary refresher courses and practical skill-building activities related to treating UXO survivors. Existing training was often heavily theory-based with little opportunity for hands-on



Dr. Khamkhai and staff in the operating room in Saravane Province Hospital, which was renovated in 2007.  
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application. Administrative staff lacked proficiency in conducting processes such as interviewing patients to assess their ability to pay for treatment or determining appropriate fees for services. Since 1996, the WVAP has offered a variety of refresher training courses, not only for hospital staff at all levels including doctors, X-ray technicians, laboratory, nursing staff and hospital administrators, but also in training hospital staff in the capital city, Vientiane, as well as in provincial and district hospitals.

The WVAP's vision emphasizes the use of local expertise to build the capacity of medical personnel and develop a comprehensive medical referral system for the emergency care of UXO survivors. World Education Project Managers initially worked with the Ministry of Health to identify key medical personnel in the central-level training hospitals of Mahosot and Friendship, which collaborated to develop curricula for trainings. Mobile surgical teams from the Vientiane hospitals were then stationed in the provinces for six months, providing coverage of the surgery service as well as on-the-job training for hospital staff. Participants from the district and provincial levels were subsequently taken to Vientiane to observe what medical services are available there for emergency patients who cannot be treated at the provincial level. Select provincial medical staff also attended the train-the-trainer sessions, where they learned how to write clear objectives, structure interactive lesson plans and evaluate students' level of knowledge. Provincial staff then conducted ensuing training in a "cascading training approach," whereby each group developed the skills necessary to pass on their own learning to others at the provincial and district hospitals.

In the early stages of training, staff learned that basic medical vocabulary has to be adapted to the local language and that math skills need to be emphasized. Practice sessions were developed using locally available materials, such as suture practice using pigs' feet, which are readily available in local markets and provide a realistic training experience.

As a result, medical staff capacity has increased. District and provincial doctors are now performing more surgeries and different kinds of surgeries from what they were capable of 10 years ago. Many UXO patients who need orthopedic surgery, complicated abdominal surgeries or amputations can now be operated on in the provinces, and fewer patients need to be transferred to central-level hospitals in Vientiane. Once given the tools and training, as well as developing a team-based strategy, staff expressed improved job satisfaction and morale, knowing their efforts were supported and that further training was available. Consequently, medical personnel are invested in their hospitals and in helping patients to the best of their ability.

**Hospital renovations and equipment.** When World Education first began working with UXO survivors in Lao PDR in 1996, district and provincial hospitals barely provided basic medical services and lacked adequate facilities, equipment, and training in supplies management and setup. In some cases, equipment had been donated to hospitals without sufficient training being provided on its application. Basic supplies such as first aid and suturing kits were inadequate in both quantity and quality. In other cases, staff had been trained in procedures but did not have the tools or equipment necessary to use these skills.

The WVAP has provided essential medical equipment as well as training in use and maintenance. The project also provided funds for adapting equipment donated through other sources, such as converting electrical equipment so it can run safely on the Lao electrical supply.

WVAP has facilitated the improvement of operating theaters, emergency rooms and intensive care units at provincial and district hospitals. As part of the improvements made, WVAP enlarged some emergency rooms in order to provide adequate space for multiple medical personnel to work together in the treatment of accident victims. Separate areas have been designated for cleaning and dressing wounds, and medical

supply cabinets have been placed in all emergency rooms. New construction has helped to accommodate increased patient caseloads.

**Revolving drug funds.** At the beginning of the project, hospitals had no pharmacy system to properly inventory medicines and ensure they were kept in stock. World Education trained the hospital staff to set up and implement a revolving drug fund in which drug inventory is maintained by replenishing supplies with proceeds from the sale of drugs. The Department of Health in Xieng Khouang province first established a revolving drug system for all hospitals in the province, which ensured that UXO survivors could receive essential medicines as soon as they arrived in the emergency room. Staff from other hospitals in the WVAP have traveled to Xieng Khouang to learn from their experiences and replicate the fund in their hospitals.

### War Victims Medical Fund

The costs of medical treatment for a UXO survivor are very high in comparison with the annual income of a rural family. Funding medical care expenses for UXO survivors is coordinated through a privately funded working group. The provincial Departments of Health<sup>7</sup> and World Education co-manage the War Victims Medical Fund to assist survivors of UXO accidents with both the immediate medical expenses and continuing care. The working group consists of a provincial hospital surgeon, a nurse, representatives from district hospitals, a finance officer, and WVAP staff, all of whom decide on policies and criteria for the use of funds.

### World Education's UXO Programming

WVAP and subsequent programs have been implemented in Champassak, Huaphan, Saravane and Xieng Khouang provinces. Through funding from the Japan International Cooperation Agency, the management system for the War Victims Medical Fund was set up in Savannakhet province in 2002, where it continues to provide needed medical funding for UXO survivors.

In addition to the work outlined above, the Quality of Life Rehabilitation Working Group, co-managed by the provincial Departments of Health and World Education, provides aftercare, income-generation support and psychological support. Some of its activities include regularly scheduling the follow-up visits to patients once they have returned home, conducting socioeconomic surveys, providing small grants for income generation, organizing agriculture workshops for recipients of grants, and hosting children's discussion groups.



Surgical rounds in Xieng Khouang province—Dr. Bouavan Upphachak examines a patient.

World Education also implements the UXO Awareness and Education Program for primary school children. This curriculum<sup>8</sup> now reaches over 110,000 children in 1,300 schools and trains over 3,000 teachers in nine provinces in Lao PDR.

### Outcome

The WVAP and related programs have contributed to increased confidence among rural villagers in the ability of hospitals to treat UXO survivors. As a result, the number of UXO victims who seek treatment in district and provincial hospitals has risen dramatically. Surveys reveal both an increase in patient caseloads and a decrease in post-operative infections. Morbidity and mortality rates have declined considerably as well.

UXO accidents will continue to occur in Lao PDR for the foreseeable future; however, in recent years, the impact of programs implemented by World Education and numerous other nongovernmental organizations and government entities have contributed to a significant increase in the numbers of survivors who have received effective treatment. Most importantly, medical administrators and personnel involved in the project have developed the capacity to continue the training, procedures and systems that have been implemented.

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**Barbara Lewis** is a Physician's Assistant who graduated from Stony Brook University in 1992. After working at Clinica Adelante's mobile clinic in Arizona and Golden Valley Health Centers in California, she has worked with World Education's UXO Survivor Programming since 1996. She is currently the Team Leader of the Project to Support War Victims and People with Disabilities.

Barbara Lewis  
Team Leader  
World Education, Inc.  
44 Farnsworth St.  
Boston, MA 02210 / USA  
Tel: +1 617 482 9485  
Fax: +1 617 482 0617  
E-mail: [barbaralewislao@gmail.com](mailto:barbaralewislao@gmail.com)  
Web site: <http://www.worlded.org>



**Sarah Bruinooge** holds a master's degree in intercultural relations and taught at an international school in Thailand for four years. She is adjunct faculty at Lesley University and a Program Officer for Thailand and Lao PDR with World Education.

Sarah Bruinooge  
Thailand Program Officer  
World Education/Consortium  
10 Fa Ngum Road  
Ban Phiavat, Sisatannak  
Vientiane / Lao PDR  
E-mail: [sbruinooge@worlded.org](mailto:sbruinooge@worlded.org)