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ASSESSMENT OF COMPLETED AND ONGOING VIETNAM VETERANS OF AMERICA FOUNDATION P&O ACTIVITIES IN VIETNAM

This publication was produced for review by the United States Agency for International Development's War Victims Fund, DG/DCHA, under Contract #DFD-M-00-04-00238-00 with Manila Consulting Group, Inc. The views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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September 11-15, 2006

Melvin L. Stills CO (e)

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LIST OF ACRONYMS

AFO	ankle-foot orthoses
BMH	Bach Mai Hospital
KAFO	knee-ankle-foot orthoses
MoH	Ministry of Health
NHP	National Hospital of Pediatrics
PP	thermoplastic polypropylene
VIETCOT	Vietnamese Training Centre for Orthopaedic Technologists
VVAF	Vietnam Veterans of America Foundation
TATCOT	Tanzania Training Centre for Orthopaedic Technologists

EXECUTIVE SUMMARY

This report includes two assessments. First is an assessment of the completed prosthetics and orthotics (P&O) activities at the Bach Mai Hospital (BMH) and the National Hospital of Pediatrics (NHP) supported under the Vietnam Veterans of America Foundation's (VVAF) Sustainable Benefits for the Mobility Impaired project. Second is an assessment of the ongoing activities at the Nam Dinh Provincial P&O Workshop, also supported through VVAF's sustainable benefits project. This project is funded under an agreement between VVAF and the U.S. Agency for International Development's War Victims Fund.

All activities planned at Bach Mai and National Hospital of Pediatrics have been completed. No further activities or new projects are proposed in connection with these centers. Both centers have received national recognition from the Ministry of Health (MoH) for the services they provide. The P&O workshops are established and equipped, and personnel have received training to an internationally recognized standard.

The two provincial P&O workshops at Ha Giang and Nam Dinh are currently operational, and three more will become operational in 2007. The three additional workshops are on schedule with regard to their development. All personnel have received internationally recognized P&O training. The assessment team observed orthotic service at Nam Dinh and made recommendations on completing that mission. As per agreement between VVAF and USAID, the workshops at Ha Nam and Thai Binh will be assessed as to the appropriateness of orthotic services after one year of operation and prior to the initiation of outreach activities. Outreach activities are not planned for Hoa Binh due to its proximity to Hanoi.

ASSESSMENT OF VVAF'S SUSTAINABLE BENEFITS FOR MOBILITY IMPAIRMENT PROGRAM

Vietnam Veterans of America Foundation (VVAF) in their request for grant extension requested that an assessment of the completed projects at Bach Mai Hospital (BMH) and National Hospital of Pediatrics (NHP) be undertaken along with an assessment of one of the representative provincial Prosthetic & Orthotic (P&O) workshops. Nam Dinh Provincial P&O workshop was selected. The following individuals participated in the assessment:

- Mr. Wendell Endly-Rehabilitation Program Manager (VVAF)
- Mr. Olivier Pierron-Cat. I P&O Viet Ortho (Private Local P&O Company)
- Mr. Dang Xuan Khang-Cat. I P&O Deputy Director VIETCOT School
- Ms. Bach Thi Thanh Huong- National Rehabilitation Program Manager (VVAF)
- Mr. Nguyen Uan Uinh-Deputy Director Rehabilitation Program (VVAF)
- Ms. Le Thi Thu Huong-Rehabilitation Program Manager Assistant (VVAF)
- Mr. Mel Stills CO (e)-Leahy War Victims Fund P&O Technical Advisor

An appropriate Scope of Work was not prepared prior to this assessment being undertaken. The original objectives of the 2002 cooperative agreement provide guidelines for a Scope of Work and were followed by this assessor. They in part include:

- To promote the institutional will and capacity of NHP and BMH to achieve excellence in physical rehabilitation through a program of education, training, and mentoring.

- To extend rehabilitation services to five selected provinces (Ha Nam, Hoa Binh, Thai Binh, Nam Dinh, and Ha Giang).

- To support the Vietnam Rehabilitation program at Bach Mai and NHP and among self-help groups through the development of linkages with educational and rehabilitation institutions in North America, Europe, and Australia.

- Implementation of structured mentoring, a support plan, and an exit strategy for Ha Giang and Nam Dinh.

- Implementation of structured mentoring, a support plan, and an exit strategy for Ha Nam, Hoa Binh, and Thai Binh.

A close review of the agreed extension was undertaken prior to and again immediately following the assessment. Vietnam's Ministry of Health (MoH) recognizes BMH and NHP as the strongest rehabilitation facilities in Vietnam. In 2003, NHP was upgraded from an institute to a hospital, and in 2005, the Rehabilitation Department at BMH was classified as The National Rehabilitation Center. "VVAF staff and the experts who have conducted evaluations of these facilities have at times expressed a different

understanding of the level of treatment provided at these two facilities. Such differences were most pronounced in the areas of outputs and quality management." Over the period of the cooperative agreement, the MoH has awarded NHP and BMH the highest recognition for the staff, services, and expertise. VVAF's handover of all activities at BMH and NHP will be completed following the submission of the full partner evaluation of which this report is a part.

Bach Mai Prosthetics and Orthotics Workshop

The full assessment team visited the Bach Mai P&O facility and the director of Rehabilitation Department, Prof. Nguyen Xuan Nghien on September 13 and 14, 2006. Prof Nguyen reports the following:

- The program is very successfully providing orthopaedic devices
- The center wishes to include more prosthetics in the future
- The number of victims of diabetes and traffic accidents seen at the center is increasing
- Raw materials and plastics are available for at least one year of operation
- A continued relationship with VVAF is desired to develop more modern technology
- Significant staff cutbacks were necessary within the P&O Department following the withdrawal of VVAF discontinued support
- Cost recovery programs are in place but services to those under six years of age is free
- Physiotherapists are provided training in orthotic manufacturing so that small services (AFO, as example) can be made available in other provinces. Bach Mai Physical Medicine Department can issue a certificate of such training
- Funds are needed to print more copies of the Orthotic Reference Guide

It is very evident that there has been a significant reduction in clinical activity within the BMH P&O workshop. In 2005, 603 cases were reported; to date, in 2006 222 cases have been reported. A total of fifty patients are reported to have been served in August 2006 with the majority being spinal cases. A total of sixteen ankle-foot orthoses (AFO) and two knee-ankle-foot orthoses (KAFO) were reported. The reliability of these numbers is now in question because the workshop does not have a staff member assigned to perform patient admissions or registration.

Currently, the P&O Department is staffed with three Cat. II individuals, one Cat. II orthotic single-discipline individual, and one individual with no formal training in either prosthetics or orthotics, but who manages patients on a regular basis. The four staff members trained as "orthotic bench technicians" were let go and not replaced.

The registration log for Sept. 11, 2006, indicated that only one patient was registered. However, there were at least four patients in the department during the assessment team's visit. A request to see random patient records for the previous week revealed that the records could not be located. A request was made for six particular records to be located and available for review the following day. None were located.

One set of bilateral KAFOs was in production, as well as one pair of AFOs. Approximately ten spinal casts were observed in the plaster room. There were no previously rectified lower-limb casts or spinal casts available for assessment, and there were no items in production except for the set of KAFOs and AFOs mentioned. A thorough technical assessment of BMH's P&O services could not be made, but conclusions can be made based on what was observed and from comments from BMH's P&O staff and VVAF staff.

Records show that patients came in for casting and fitting of lumbar sacral orthoses (LSO), but an interview revealed that a soft cloth corset was made and no actual casting took place. The majority of thoracic lumbar sacral orthoses (TLSO) are for the treatment of scoliosis. Prescriptions identify the magnitude of the curve but do not identify the direction or location of curves. Curve corrective pad placement is not identified on x-rays. There is no indication in all the records reviewed that there is any systematic follow-up of scoliosis patients.

There were filled TLSO casts sitting on the floor during the assessment team's visit, but no modification, thermoforming, or fitting of spinal devices took place. There is no evidence that the Risser Tables constructed and used in the instructional program in scoliosis bracing are currently being used or have been used in the past.

Risser Tables were specifically constructed based on designs submitted by VVAF and the organization responsible for the scoliosis training. The tables observed at BMH, NHP, and Nam Dinh were of the same design. The single most fundamental characteristic of a Risser Table is the three- to four-inch webbing strap that runs from end to end down the center of the table. This strap is attached to a ratcheting system that allows the strap to be tightened to the point where a person can lie on the strap without additional support. The strap is made so taut that the spine will not sag into flexion. A cast is applied over this strap and lateral forces can be made through the cast to the spine to aid in correcting scoliosis.

None of the tables observed had a ratcheting system, and, in fact, the strap ends of these tables were held together with the equivalent of shoelaces. The straps were very loose, could not be appropriately tightened, and any cast taken on the table would have resulted

in a severely flexed spine. Either these tables have been modified since the course, or they were not designed or constructed appropriately at the outset.

During the assessment, a patient who had sustained a spinal cord injury eleven months ago was being fit with bilateral KAFOs. The assessment team learned that the intent was to fit the patient that day and then send him back to his province. The patient had received no therapies, and the quality of the fit of the orthotic device was yet to be determined. During the initial fitting, the assessor observed that the KAFOs, which are of a thermoplastic polypropylene (PP) design, were of different lengths, and fenestrations in the PP were at different levels. The offset knee joint uprights were temporarily attached with flat head screws, which were sharp and prominent. The assessment team stopped the trial fitting so that tape could be placed over the screw heads to protect the patient. The PP had significantly spread after thermoforming resulting in excessive gapping along all trimlines. Such gapping is generally caused by removing thermoformed model from the vacuum too soon, and not waiting overnight to cut the PP from the cast.

The technicians recognized the significant gapping and tried to mask it by tightly taping the KAFOs to the patient. No protective stocking was applied to the patient. Knee joints on either side were at equal height and were fairly congruent to the anatomic knee. However, with spreading of the plastic and the force needed to close the gap, it will be difficult to engage the drop locks. The ankle is rigid and appears to be at 90 degrees.

The assessment team observed the final fitting of the KAFO patient on September 12, 2006. At that time, the orthoses were still too large on the patient, the overall heights were not equal, and the orthoses were not mirror images of each other. Aluminum uprights had not been finished nor had contouring marks been removed. The ankle position and rigidity did not permit the patient to stand and balance himself without support. There is no benefit to offset knee joints with drop locks in the treatment of a patient with a new spinal cord injury who has not demonstrated the capacity to ambulate or is not scheduled to receive the therapies necessary to effectively use the offset characteristics.

A second KAFO user was at the center to fit replacement KAFOs. The patient has a reported diagnosis of spina sifida and is fully ambulatory in KAFOs. The patient was previously fit with PP KAFOs with adjustable position locking knee joints. There is no reason to use an adjustable knee joint on an adult patient when the position of the knee is not going to be changed. Overall, fit and function was within acceptable guidelines, but manufacturing principles were below acceptable standards. Uprights were reported to break frequently. This is due to poor judgment in contouring and placement of the attachment screw, and in the selection of the joint design. A screw was placed where the uprights are bent to contact the plastic, creating a common stress riser.

Two AFO fittings were also observed. No outstanding discrepancies were identified in the AFO fittings.

There is no evidence that any form of quality control program is in place. The "P&O supervisor" indicated that the remaining staff was trained and that it was not necessary to monitor their work. There does not seem to be any form of final assessment of fit, function, or appropriateness. The supervisor also indicated that there is no P&O Department budget for salaries, materials, upkeep, or maintenance. The supervisor further indicated he had enough material for two to three months of operation, but the assessor observed at least 100 sheets of PP in storage. A budget will be required next year, but the supervisor does not know the cost of items. None of the technical staff have contracts with Bach Mai, meaning that they have limited salary support and no job security.

It was reported that patients stated that cash payments had been made to someone within Bach Mai for the orthotic services provided. Bach Mai P&O staff could not identify any procedure that would report the actual cost of components for any individual orthotic design. There is not clear documentation indicating to whom money was given, how money was collected, and where money is deposited for the center. Clearly, there is no transparency regarding payment for P&O services or how the amount is determined. All indications are that there may be an income-generation plan in effect, but there is no indication that any organized cost-recovery program has been developed.

Bach Mai's technical delivery of orthotic services, patient intake/admission procedures, prescriptions for devices, patient training in use of devices, patient treatment follow-up, and inventory control, for example, are all well below a standard expected after ten years of leadership, guidance, and mentoring from VVAF. What has been accomplished is the establishment of the P&O workshop that is and always has been under the total control of the Physical Medicine Department at Bach Mai.

VVAF has had no control over personnel, procedures, or management, and limited selection of training activities within Bach Mai Hospital. Physicians in charge are satisfied with the quality of P&O services provided, and the MoH is satisfied that Bach Mai is providing an appropriate standard of rehabilitation services.

National Hospital of Pediatrics

The assessment staff met with Dr. Dung at the National Hospital of Pediatrics on September 13, 2006. NHP has a staff of six Cat. II P&O, all trained at the Vietnamese Training Centre for Orthopaedic Technologists (VIETCOT), with one staff member having failed the final exams at the Tanzania Training Centre for Orthopaedic Technologists (TATCOT) Cat. I P&O training program. There are no "bench technicians" or other staff assisting the P&O technical personnel. The hospital provided 730 orthotic devices in 2005, and 530 have been provided in 2006 to date. AFOs, spinal, and wrist hand orthoses are the leading devices provided. Cerebral palsy, clubfoot, and scoliosis are the leading classifications of disease being treated at this center.

Dr. Dung basically sees all of his patients simultaneously in the large conference room. Patients and family members are seated in the room at the same time, with patients in

various stages of undress. The process for seeing patients can easily deteriorate into a circus-like atmosphere, depending on the number of visitors present and the number of questions being asked at any given time.

This clinic is very busy treating patients with a range of disorders, from the simple to the very complex. Clearly, an exceptional depth of knowledge would be required to independently assess and treat each of the children seen. There is no team involvement. Neither a physiotherapist nor an orthotist participated in any of the assessments undertaken during our visit. A staff conference does take place on another day, but it is unclear whether that conference includes a presentation where options are explored. Observations made during fitting and casting activities indicate that instructions and prescriptions are provided by the examining physician, and that no discussions take place between the orthotics staff and the examining physician concerning alternative options or the intent of the orthotic devices.

A two-year-old child was being cast for a solid ankle AFOs. The child is reported to have been treated for clubfoot. A physical examination revealed that the child had very supple feet, a normal range of motion, no residual deformity, and no history of any foot surgery. This child has no evidence of a residuum of clubfoot. The child's foot appears to be a totally normal. Mr. Ha, aCat.II P&O, went through a very elaborate physical assessment of the patient, and then cast the child for bilateral AFOs. This child will not benefit from this service.

Another child was observed being fit with a solid ankle AFO. The child's gait was observed, and he appears to have some weakness in ankle dorsiflexors. It is questionable if this child will benefit from orthotic fitting, but clearly if fitting is undertaken, there is no reason to inhibit ankle motion. A posterior trimline would provide assistance in dorsiflexion and not adversely influence an otherwise normal gait pattern.

There were two casts being rectified, and both were reported to be for children with clubfeet. One was for an infant. Neither cast gave any evidence of a clubfoot deformity. NHP stated that an AFO would be used after serial casting. There is no indication that tendon lengthening procedures are routine following serial castings, and hip abduction/foot positioning devices are not being used in the management of clubfeet at NHP. Internationally, the Ponseti method of clubfoot management has become the gold standard in the treatment of clubfeet internationally. None of those procedures are in place at NHP.

Injections of unknown substances into the deltoid (shoulder) muscles of children are producing significant numbers of bizarre upper limb disorders currently being seen in Vietnam and NHP—15,000 cases have been reported. There is no clear indication of the nature of this substance or the reason for its having been administered to these children. One reported case observed by the assessment team was a ten- to twelve-year-old boy with severe bilateral winged scapulae. His arms were crossed in front of his chest and he was unable to use his hands because he needed one hand to support the other. He was reported to have received these injections/shots in the deltoid muscles. There is no

evidence of necrosis due to the injections. The anterior chest muscles appear to be in spasm. There is no orthotic solution to this child's needs.

Two scoliosis patients were observed. One had a very high thoracic scoliosis that is not treatable orthoticly. The second had a long "C" curve measure at 35 degrees, and the apices and direction were not identified. The progression of this deformity has not been documented, and correction was observed when leg lengths were addressed. None of the patients' x-rays had any reference marks as to the proper position of any corrective pads, if an orthosis is to be used.

The final case seen was a young boy who was reported to have "rickets." He has some bowing of both tibias with thickening of the medial cortex of each tibia. The rickets could be treated, but orthotic treatment to control or prevent tibial bowing has not proven effective and is not commonly used. The clinic did not make a decision on the child's treatment in the presence of the assessment team.

The parents of a two-year old commented to us that the orthotic device provided this time cost more than the device provided on a previous occasion. One parent told us that the family had needed to provide the plaster that was being used to cast for the AFOs in the case of a child's clubfeet. Dr. Dung told us that orthotic services to children under six was free of charge. There is no formalized cost-recovery system in place.

The clinic has a considerable stock of PP (between 150 to 200 sheets), which should last for up to two years. Technicians were observed thermoforming AFOs. They appeared efficient and a minimal amount of material was used. Overall, the fit of AFOs observed was acceptable. The quality of fit about the calcaneus may not be sufficient to provide quality hind foot control in the cerebral palsy population. The thickness of material appears appropriate.

The orthotic workshop is unchanged since it opened in 1995. The same space and equipment are being used. A low of 339 devices were produced in 1995, followed by 714 in 1996. There was a significant increase to 945 in 2000, but the yearly average is about 747. The workshop has provided 530 devices to date in 2006. In the past, NHP has conducted a significant amount of outreach activity. However, the activities were severely curtailed in 2005. None have been provided in 2006. Quality control has been a significant problem in outreach activities in the past. Lack of follow-up was equally troublesome. Decreased funding for this activity has eliminated outreach from NHP at this time.

VVAF has had no operational control over NHP, but it would appear that there has been some positive impact as to the production of AFOs. The concept of an orthotic team has not successfully been implemented. It is unclear how patients with a clubfoot diagnosis can progress to the point of no visual signs of the disease, without having had any of the normal corrective surgeries or having worn any of the post serial casting devices. AFOs and KAFOs are not included in the routine Ponseti armamentarium. Clearly, when a trained orthotist is confronted with a case and is asked to provide a device that will not

benefit the patient, the orthotist should ask for a clarification of that patient's needs and offer a better alterative to the treating physician. This does not occur at NHP.

The effective treatment of scoliosis is in question. The same Risser Table design was provided to NHP during the scoliosis training and has not been used. There is no evidence of an effective scoliosis follow-up protocol or any effective surgical alternative if orthotic intervention is determined to be ineffective. It appears that an orthosis is offered in the treatment of scoliosis without a clear indication of its potential for success. It is unclear whether any lessons are being learned as to which treatment is effective and which is not.

The members of the medical staff appear to be satisfied with the quality of orthotic services provided, and the MoH is satisfied with the rehabilitation services provided by NHP.

Status of the Provincial P&O Workshops

The Nam Dinh and Ha Giang workshops are very much still in the formative stages of their service development.

- Nam Dinh and Ha Giang are currently operational and support will end in September of 2007.
- Thai Binh will become operational at the end of 2006.
- Hoa Binh will become operational in March of 2007. Outreach is not planned at this center due to its proximity to Hanoi.
- Ha Nam will open sometime in 2007, but the hospital has completed construction of the buildings.

All provincial workshops are each approximately 130 square meters in size. Much of the equipment is being locally manufactured.

Nam Dinh Provincial Workshop

The assessment team visited the Nam Dinh Provincial Workshop on September 15, 2006. The wokshop is located some three hours south and slightly east of Hanoi. Nam Dinh is midway (one hour's drive) between Ha Nam and Thai Binh. Thai Binh workshop will become operational toward the end of 2006; Ha Nam will be operational sometime in 2007.

The selection of these three sites as provincial P&O workshops came at the insistence of the MoH. Each is in a different province but very convenient to each other and have the potential to compete for some of the same patients.

The Nam Dinh Workshop is on the grounds of the provincial hospital and occupies approximately 135 square meters. It is directly adjacent to the physiotherapy unit. It is currently staffed with three trained Cat. II graduates of VIETCOT, one individual who

has not completed training but intends to return to VIETCOT, and one individual who has failed final examinations twice at VIETCOT and appears to be functioning as a Cat. III bench technician. That function was not confirmed. Some of the staff will move on to other provincial workshops as they become operational.

Quarterly reports indicate that in the first half of 2006, 65 devices were delivered, about half of which were delivered as a result of outreach activities. The majority of services are for AFOs, with only seven KAFOs and one TLSO provided. Three outreach sites have been identified in the province. Current orthotic workloads are sufficient for one full-time Cat. II P&O, but if outreach activities continue, it would be necessary to have at least two full-time Cat. II so that services at the workshop can continue during outreach.

Four patient treatment activities were observed. A young man was being fit with bilateral KAFOs. The young man had undergone tibial lengthening procedures to treat his dwarfism. The son of a Vietnamese trauma surgeon and pathologist, he had undergone an eighteen centimeter elective lengthening procedure, and the family had sought out this workshop because it was most convenient to them. The KAFOs are intended to protect the regenerate of both lengthening procedures, but it is unclear how long he has gone without protection already and if his actual needs are general strengthening due to the 180 days required to complete the process. This young man is basically supported/carried by his parents, although crutches seem more appropriate. Because of his shortened stature and body habitus, this will be a difficult fitting and wearing procedure.

A young woman was fit with an articulated AFO to provide support following a tendo-Achilles lengthening. The orthosis fit well, and the only addition would be an adjustment screw to increase dorsiflexion angle as it developed. This young woman was very pleased with the outcome of her surgery and orthotic treatment.

A young child with cerebral palsy was being evaluated for AFOs. She has a very spastic (athetoid) type gait and has been previously braced, but she and her family abandoned use of her AFOs. They are again considering bracing this child without any clear understanding that new orthoses will not improve function or have any lasting effect.

One twenty-seven-day-old infant was observed being cast for bilateral clubfeet. The child has classic presentation for clubfeet. The workshop staff indicated that they had Ponseti training in October, through NHP. However, nne of the Ponseti casting procedures were being followed. The child was cast over wet stockinet that was several times too big for the infant, and no cast padding was used. Two persons were assisting with the casting, but the infant was cast with the foot and knee in full extension; the knee and foot were positioned after the plaster was applied. Cast padding should be used and the foot should be held by the toes until the lower section is applied. Then, the cast should be extended above the knee while the limb is held in flexion. Flexing the cast after it is applied bunches up the plaster behind the knee and across the front of the ankle and can cause circulatory problems and/or excessive pressures that may cause tissue damage.

Approximately twenty to twenty-five thermoformed lower limb orthoses were in the process of being finished. These were from the last outreach activity. One of the orthoses should not have been finished due to gross errors made during thermoforming. Two large wrinkles occurred across the ankle area. These sites will be prone to breakage if the orthosis is worn, and they also make the orthosis uncosmetic. This error should have been noticed during the thermoforming process or when the plastic was cut.

The patients' names were on each of the orthoses, but the individual finishing each orthosis did not have patient prescription or a description of the intended orthotic design readily available for reference during this manufacturing process. There were no reference marks or indications of placement of trimlines on any of the orthosis indicating individualized orthotic design. Observations made during "fittings" indicated that trimlines are modified but a great deal of time could be saved if individual needs were first addressed in the initial fabrication process. During outreach, time is limited. Therefore, the more that can be accomplished "in house," the greater potential for a positive outcome.

Outreach has been an ongoing activity of this workshop since it became operational. Nam Dinh is one of the outreach sites of the combined NHP and Bach Mai outreach activities. Past War Victims Fund assessment teams have visited this site. The cooperative agreement with VVAF indicates that the Nam Dinh Provincial Workshop has twelve more months of operational support. Support to this facility will end in September 2007.

CONCLUSIONS

Bach Mai and National Hospital of Pediatrics

All commitments to NHP and Bach Mai have been met, to the extent that it is possible at this time. VVAF has never been able to find the right combinations of elements that would foster a more effective professional P&O relationship with NHP or Bach Mai. Over the past twelve year history of the grant, seven to eight well qualified Cat. I prosthetists/orthotists have undertaken different approaches/styles of management and technical mentoring without a clear indication that any desirable professional ethic has been passed on. Orthotic services today are where they should have been three years into the project. The physician oversight for the delivery of orthotic services has not developed as it should have with appropriate prescriptions, rejection of inappropriate designs/fittings, demands for therapies to improve functional use of devices provided, and follow-ups to determine the effectiveness of service and future direction. NHP does appear to be further ahead technically, however.

There are indications that some form of a "fee for service" plan is in effect for some patients at both NHP and Bach Mai. VVAF staff has been warned that this is an area with which they need not concern themselves. There is no "transparency" to this activity and one can only speculate as to the motivation or intent.

Without VVAF support, it has been alleged that Bach Mai orthotic services will not continues. Bach Mai has produced a glossy brochure advertising the P&O services available through their center. The fact that over half of the technical staff and all administrative staff were let go and that none of the current staff have working contracts is not an indicator of a viable department within the hospital.

NHP wishes for continued financial support from VVAF, but there has been no indication that orthotic services will terminate if VVAF's support is discontinued.

Because VVAF was never really in control of the service delivery programs at both institutions, technical and medical staff did not need to adhere to any standard suggested by VVAF. The technical oversight provided over the years varied, and at times appeared very casual. Certainly the working relationship has not been ideal and at times it has been very difficult. VVAF has been able to make suggestions or recommendations, but it has never been able "call the shots" at either institution. We have not put enough emphasis on the rationale for quality and the benefits to individual patients. "Do no harm" does still apply, but with the technology made available at BMH and NHP, they should be far more advanced technically than they are today.

I believe that VVAF has accomplished all that they can within Bach Mai and NHP. An orthotic workshop has been established at both institutions, each has been equipped and supplied, and technical training has been provided. Both workshops are under medical leadership recognized by the MoH as being of appropriate quality.

Provincial P&O Workshops

The Nam Dinh workshop did not demonstrate competency in serial casting of clubfeet, the ability to recognize an inappropriately thermoformed orthosis, or effective orthotic management of a patient with severe spasticity. These are basic principles expected of trained P&Os. Outreach activities should not have started in this project site or any other sites until the sites' technical capacity had been well documented.

With regard to the workshops, we may not be able to go back and stop activity once it has started, but we can require that each workshop focus its activities into the area of "sustainable benefits for the mobility impaired" as agreed to by all parties. Services should be concentrated in the areas of AFO and KAFO delivery. Idiopathic scoliosis is not a priority and without the intellectual and technical capacity of physicians, surgeons, and orthotists, it should not be undertaken. The appropriateness of orthotic design needs to be reinforced so that a capacity to recognize successful results will be developed. It is one thing to be able to make something, and another to recognize its usefulness.

We need to focus our energies in the delivery of AFOs and KAFOs, what works, what does not work, and what we can do to improve the fit and usefulness of these orthotic devices. The only exception would be the provision of a TLSO for a patient with an unstable spine, and the potential for neurologic injury. If and when 95+ percent if the orthoses are judged appropriate, then it may be possible to expand into other areas of orthotic/prosthetic services if all the other necessary elements in medicine and therapies are also available.

RECOMMENDATIONS

- No further activities with Bach Mai or NHP are required
- Focus services at the provincial workshops to mobility impairments per the cooperative agreement
- Establish training/mentoring activities at Ha Giang and Nam Dinh that will improve the quality of lower limb orthotics services
- Establish a check-off list of things to be accomplished at Ha Giang and Nam Dinh before the end of support
- Establish training and protocols in the management of clubfeet
- Contact Veterans International in Cambodia so that those capable of providing proper training in the treatment of clubfeet can be identified/contacted and a course of instruction provided. The Ponseti method could become a national program in Vietnam as it has become in Cambodia via teaching from The Christian Blind Mission (CBM)
- Establish ongoing communication with other organizations working in the region so that when internationally recognized professionals are in the area, more might benefit
- Ensure that any teaching faculty, materials, or equipment to be presented is appropriate, necessary, and in line with the mission of the project
- Gain approval for any outside international instructional programs prior to any agreements being made
- Provide only training/instruction in areas that contribute to enhancement of mobility over the remainder of the cooperative agreement
- Establish a check-off list for all devices provided to ensure they meet an established criteria of fit and function
- Ensure that mentors have more contact time with staff
- Establish milestones, and quality indicators to ensure that Ha Nam and Thai Binh meet the necessary criteria prior to initiating any outreach activities
- Ensure that quality indicators are included for all elements of prescription, orthotic service delivery, therapies, and follow-up, and that these indicators are used in all project sites

- Establish a realistic cost for devices provided using ISPO guidelines
- Aid in the establishment of transparent cost sharing, income generation, and fee-for-service activities, if services are not free
- OUTPUTS 4.1.1 states “Provide devices meeting the ISPO standard.” Request that ISPO assess the devices to determine if that standard is being met
- Develop incentives that encourage/foster quality improvement activities
- Develop teaching styles that do not threaten a consequence for action but rather encourage emulation of the mentor
- Identify quality leadership in the P&O/therapies/medical professional community and do whatever is possible to reward that behavior

APPENDIX A: CONTACT LIST

No.	Ministry of Health
1	Dr. Tran Trong Hai Director of International Cooperation Department- MoH
No.	**VVAF**
2	Mr. Tom Leckinger VVAF Vietnam Country Representative
3	Mr. Wendell Endley VVAF Rehabilitation Program Manager
4	Ms. Bach Thi Thanh Huong VVAF National Rehabilitation Program Manager
5	Mr. Nguyen Van Vinh VVAF Provincial Development Advisor, Rehabilitation Program
6	Ms. Le Thi Thu Huong VVAF Rehabilitation Program Manager Assistant
No.	**Nam Dinh workshop**
7	Ms. Pham Thi Tam, doctor Head of Rehabilitation Department, AGAPE Hospital
8	Mr. Dinh Van Dinh P&O technician from Thai Binh province on rotation plan at Nam Dinh workshop
9	Mr. Nguyen Duc Tung P&O technician from Hoa Binh province on rotation plan at Nam Dinh workshop
10	Mr. Nguyen Huu Kieu P&O technician from Thai Binh province on rotation plan at Nam Dinh workshop
11	Mr. Nguyen Van Duc P&O technician from Hoa Binh province on rotation plan at Nam Dinh workshop
12	Mr. Nguyen Viet Quang P&O technician, Nam Dinh Provincial Manager Workshop
No.	**NHP-National Hospital Pediatrics**
13	Dr. Trinh Quang Dung, doctor Deputy Head of Rehab Dept. National Hospital Pediatrics
14	Mr. Pham Van Ha P&O National Hospital of Pediatrics
15	Mr. Duong Manh Hung P&O National Hospital of Pediatrics, Workshop Manager
16	Ms. Nguyen Ngoc Lien P&O National Hospital of Pediatrics
17	Mr. Dao Van Toan P&O National Hospital of Pediatrics
No.	**Bach Mai Hospital**
18	Prof. Nguyen Xuan Nghien Director of Rehabilitation Center, Bach Mai Hospital
19	Dr. Tran Van Chuong

	Deputy Director of Rehabilitation Center
20	Ms. Le Thi Luyen P&O Rehabilitation Center Bach Mai Hospital
21	Mr. Le Ngoc Hoan P&O Rehabilitation Center Bach Mai Hospital
22	Mr. Nguyen Manh Cuong P&O Rehabilitation Center Bach Mai Hospital, Workshop Manager
No.	**Viet Ortho**
23	Mr. Olivier Pierron, General Director P&O
No.	**VietCOT P&O School**
24	Mr. Dang Xuan Khang Deputy Director VietCOT School
25	Mr. Nguyen Hai Thanh P&O Vice Director VietCOT School

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