ASSESSMENT OF ARMENIA/ WRF PROJECT For the War Victim's Fund Contract HRN-6004-C-00-5004

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EXECUTIVE SUMMARY

* The original target group (earthquake amputees) and the additional target group of war amputees have received prostheses.

* There is excess prosthetic capacity in Armenia.

* Prosthetic training for the five senior Armenian prosthetists is complete.

* The workshop is not financially self-sustainable.

* The workshop provides the only free prostheses in Armenia; all other facilities require unofficial payments.

* The Ministry of Labor and Social Welfare would probably siphon off funds and/or supplies if there were no international "cover" for the workshop.

* There is a potentially embarrassing problem with defective US-made components.

* There is no general orthotic service for adults available in Armenia (or Azerbaijan or Georgia); orthotic training has not been provided by WRF.

* By eliminating trips and economizing, there should be $100,000 left at the termination date of 9/30/96 which would allow a six month no-cost extension.

RECOMMENDATIONS

For existing grant:

1). Drastically reduce spending rate: travel should be only for closeout of grant, TDYs eliminated, purchases minimized, and Armenian coordinator cut to half time to allow maximum carryover of funds.

2). A no-cost extension should be given to allow the project time for transition -- probably six months

3). USMC defective knees should be returned with strong protests from WRF and USAID with demand for cash refund -- workshop should return to use of Otto Bock knees.

4). Immediately cease training in prosthetics -- current expatriate advisor can be terminated as soon as practicable.

5). Recruit orthotics instructor and begin concentrated orthotics training as soon as possible [see technical analysis for detailed explanation].

6). Begin changeover to Armenian NGO status.

7). Armenian coordinator should concentrate efforts on seeking other donors for split funding (UN, ECHO, Armenian Diocese in US and a Swedish donor already contacted).

8). USAID should fund costs of 25 arm amputees from Tbilisi to come to Yerevan center for prostheses -- not available in Georgia.

For follow-on:

1). Use Save the Children Fund (SCF) or similar international NGO as interface with Ministry to protect program.

2). USAID funding should be for a fraction of total cost on descending scale -- e.g., 40% first year, 20% second year, then out.

3). Grant should be to workshop as an Armenian NGO -- WRF is no longer needed and its elimination greatly reduces costs.

4). Strong effort should be made to seek certification for senior prosthetists.

DISCUSSION

In response to a major earthquake in 1988 three internationally-funded prosthetic programs were begun in Yerevan. At the time, the only existing prosthetic service was provided by a small Soviet facility which continues to operate. As often occurs in emergency response situations, there was little or no consideration given to coordination or sustainability. A small facility in temporary container facilities was started by the German Red Cross specializing in pediatric prosthetics. A very large elaborate facility designed to train personnel for the Soviet Caucasus was built by GTZ with an emphasis on long term academic training including a year training in Germany followed by three year academic training in Yerevan. The WRF facility, located in an old building which also houses the old ex-Soviet facility, began in 1989 with an emphasis on providing immediate service to amputees and with on-the-job, rather than academic training. It now makes about 200 prostheses/year.

The methodologies of the four entities vary widely. The ex-Soviet facility provides traditional hand-crafted leather and metal devices which are quite heavy and not considered to be of modern Western standards. It is the only facility which is sustainable with no external funding. The German Red Cross and the GTZ facilities use an expensive German system with imported Otto Bock components. The WRF facility (at the urging of USAID) has attempted to lower the cost of devices by fabricating some components locally and using less expensive US components. This appropriate technology approach has had mixed success in acceptance compared with the German technology compounded by serious problems reported with some US-made components -- particularly knees made by the US Manufacturing Company [see technical analysis]. The lack of continuity and disparate methodologies employed by the various WRF instructors over the years has also led to some difficulties and gaps in the training of the WRF students. Nonetheless, the remaining senior WRF students have an excellent hands-on knowledge of prosthetics, although their formal theoretical base is somewhat lacking. Some orthotic skills have not been taught despite promises to the students and the recommendation of the 1992 evaluation [Chapnick/Quigley, 11/92], “Initiate a comprehensive orthotics training program in any new grant....” and the follow-up report [Chapnick/Jimenez, 6/93], “...orthotic training has been minimal and interrupted by WRF staff changes during the life of the project”.

Both the German Red Cross and GTZ have formally ended their projects. The German Red Cross facility is now funded by the European Community Health Organization (ECHO). GTZ has formally turned over its facility to the Ministry of Labor

and Social Welfare but retains a senior technical advisor on-site, and funds about 50 patients per year each from Georgia and Tajikistan (Armenian patients are funded by the Ministry) -- total production is about 200/year. In addition to these facilities in Yerevan, there are also two recently opened satellite facilities -- one in Gyumri (the site of the earthquake) and one in Nagorno Karabakh (the location of the recent fighting and a heavily mined area). These two facilities began operation in late 1995 utilizing equipment originally provided by GTZ and kept in locked containers for more than five years. The Team visited the Gyumri facility which is housed in the Joint Distribution Committee (JDC) children's hospital along with the orthotic facility originally funded by JDC. Staffed by a GTZ-trained prosthetist, the facility is abundantly equipped and well maintained. The director claims there are 230 amputees in the area and that they are making ten prostheses per month. Security and logistic reasons prohibited a visit to the Nagorno Karabakh facility which received half the amount of equipment as Gyumri. The Team was told that the facility has a German Red Cross-trained prosthetist and a technical staff of four. They claim to have produced 35 prostheses since opening in December 1995. While access to these centers may still be difficult for indigent amputees in remote rural areas, there is no large unmet demand for prosthetic service in Armenia. Indeed, there is surplus capacity (the GTZ chief prosthetist is expecting a decline in production in 1996) which is being partially filled by hard currency patients from Georgia and Tajikistan -- this is a controversial subsidy for the ex-GTZ center.

Initially, each center in Yerevan worked independently with the largest number of patients treated at the WRF center -- the GTZ center did not treat patients until their students had completed three years of training. In August 1994 the Ministry began a coordinated screening and referral system in which doctors, social workers and prosthetists from the WRF and ex-GTZ centers meet every Tuesday in the hospital and assign patients to the appropriate facility. While this system has obvious advantages, there is resentment at the WRF facility because the ex-GTZ facility gets the hard currency patients and the WRF facility (which had started to generate a hard currency business with foreign patients) has been told by the Ministry to discontinue the practice. The WRF Armenian coordinator believes that this is due to the refusal by WRF to have the hard currency flow through the Ministry. All services at the WRF center are provided free of charge to Armenian patients. Although it was not possible for the Team to verify, there are widespread rumors that the ex-GTZ facility prosthetists require illegal payments from Armenian patients. The WRF prosthetists believe that they treat virtually all of the indigent patients and that little or no service to indigent patients would exist in Armenia if the WRF facility were to cease operation. The extremely low salary paid by the Government ($6-$8/month) contributes to an apparently widespread practice of payoffs

and bribes to receive social services. This practice exists informally throughout the society despite signs which declare a policy of free service. The lack of market pricing for service has several impacts: patients prefer the fancier (and more expensive) Otto Bock prostheses; prosthetists are not conscious of prices and unnecessarily use overly expensive supplies and equipment; and the service is denied the possibility of seeking self-sustainability.

The WRF project has survived despite a number of serious constraints:

1). USAID management and funding of the program has been sporadic and lacking clear goals. Started as an earthquake relief effort in Soviet Armenia, the changes in USAID managers among the NIS task force, the Europe Bureau, the War Victims Fund and the Mission have led to lapses and inconsistencies. Funding has expired, extensions granted, and termination plans changed several times. The program pre-dates the Mission, is not within Mission priorities, and has been an inherited "step-child" with little management.

2). Unlike other international prosthetic organizations (e.g., ICRC or GTZ) the WRF does not have a philosophy or methodology which is consistently applied. Lacking a staff of prosthetists, WRF has contracted a number of individuals of varying quality and different methodologies. The long term advisors have generally not been highly qualified and none has been capable of teaching orthotics. Several left early, and other, more well-qualified instructors would only serve for short periods. WRF appears to have chosen instructors based on their willingness to serve in Armenia rather than their appropriateness for the job. There is no evidence of any professional oversight or clear strategy for training from WRF. The result has meant that training was interrupted, changed by each instructor and never fully implemented.

3). The Armenian staff of the WRF center has resisted integration with the GTZ facility -- the key recommendation of the 1992 evaluation. While real issues exist about the degree of acceptance they might have received and the questioned ethics of the Armenian prosthetists at the GTZ facility, there was also resistance to a loss of autonomy and the jobs of senior managers (particularly the Armenian coordinator) in any combination. At this point in the life of the project, integration is less likely since the WRF senior prosthetists would be juniors in the GTZ system because of their lack of academic background. There is also serious question that the Ministry could or would take on the doubled cost of a combined center with

many more indigent patients.

4). Questions have been raised about the transparency and level of corruption in the Ministry. The Ministry has sought control of project funding and supplies, prohibited the facility from seeking hard currency foreign patients unless the money flowed through the Ministry, and there are allegations of attempts to appropriate large equipment items (e.g., a generator) for the personal use of high Ministry officials. There is serious question if the facility could survive as an independent Armenian entity serving indigent patients without charge without the presence of an official expatriate to interface with the Ministry.

Despite these obstacles, the WRF facility is today the largest supplier of prostheses to Armenians (particularly the indigent) and has a core staff of dedicated Armenian prosthetists who have excellent patient skills and practical experience. The project is not self-sufficient financially and cannot be unless it receives sponsored patients (most probably from neighboring countries). The Armenian Government claims to spend 400,000 DM/year for imported components from Germany for use in the ex-GTZ facility for Armenian patients. The Ministry claims that this amount is straining their budget and increasing it to support the WRF facility is impossible. There is some talk (unverifiable) that the Ministry and the ex-GTZ facility also "profit" from the high price paid by GTZ for foreign patients sent from Georgia and Tajikistan.

Facing another possible termination date for USAID funding on 9/30/96, the WRF Armenian coordinator has approached the UN, ECHO and a Swedish donor for continuing support. The possibility exists for joint financing. The Team believes that any extension of funding should include the long recommended and often interrupted orthotic training program. With the exception of pediatric orthotics at the ex-HOPE project and limited specialized spinal cord assistance at the Red Cross hospital, no general orthotic service is available for adults in Yerevan. This training program would normally last a year, but it is possible to conduct a concentrated course for the five senior Armenian prosthetists in as short as six months if a highly trained orthotic specialist could devote full time to orthotic training. The senior Armenian prosthetists have been repeatedly promised orthotic training and some form of certification.

A second group of students was recruited two years ago. These so-called juniors were originally told they were only expected to be trained to the technician level. However, the next WRF expatriate prosthetist is attempting to bring them up to professional level. The Team believes the recruitment of a second class of seven was a

mistake, largely prompted by the inability of the WRF expatriate prosthetist at the time to teach anything to the seniors. At this point in the project, attempting to bring the juniors to professional level is ill-advised. The Team believes that the juniors should be told they are only being trained to the technician level, even though this may well mean several will leave the program.

TECHNICAL ANALYSIS

NEEDS

The needs of the amputees in Armenia seem to be fully served. There are no reported "waiting lists" and amputees are treated as they arrive. There is no unmet need from the 1988 earthquake or from the war in Karabakh.

While the five prosthetics workshops in Armenia more than serve the needs of the estimated 3,000 amputees, four of them depend upon outside funding. If all donors left, it is likely that only the ex-Soviet facility would remain. WRF funding is due to end in September, 1996, GTZ has committed only to July, 1998. The small pediatric project at Marasch Hospital (formerly German Red Cross, and now ECHO) is being funded for only six months at a time. The Team was told that ECHO was not planning to renew funding after the current grant.

TRAINING -- PROSTHETICS

There are 12 students in the WRF program -- 5 seniors and 7 juniors. The seniors have been in the program since its inception in 1989, and the juniors since 1994. The training has concentrated on prosthetics, with a large number of long and short term instructors sent by WRF. The quality of instructors has varied from very good to very bad, and each brought a different methodology. The education program has no curriculum or timetable, no set procedures or guidelines. Each instructor taught at his own comfort level with much repetition and conflicting methodologies.

As a result of the lack of a clear curriculum, it is unlikely that the seniors will be able to receive certification from the International Society of Prosthetics and Orthotics (ISPO) or any other international recognition. This is a major concern of the seniors who believe they have been short-changed after seven years.

Despite the training shortcomings, the seniors have become independent capable

prosthetists and treat about 200 patients annually. The seniors want to continue training, but all are becoming disenchanted -- some have left for jobs in the US and South Africa, and the remaining 5 are quite openly angry.

The current expatriate instructor, Andreas Vossberg, has developed a training curriculum which he is just beginning to implement. The curriculum appears well designed and uses physicians and therapists as well as prosthetists as instructors. This very ambitious program is too late for the seniors, and too late in the project's life for the juniors. There is no justification for the continued services of an expatriate prosthetist.

The Team recommends that NO additional prosthetic training be offered in the project. The five seniors are fully trained in prosthetics and no additional prosthetists are needed to meet the demand in Armenia. Two tiers of personnel should be developed: the five senior prosthetists who exercise judgement regarding all aspects of patient care, attend clinics, go to hospitals, and cast and fit patients; the juniors will be bench workers who specialize in the fabrication of prostheses but do not see patients except on a very limited basis to make repairs. Bench workers will not be trained as prosthetists -- this will eliminate the need for extensive further training and better utilize the skills of the seniors by removing the need for them to do fabrication. The seven juniors have been told that they will receive full prosthetic training, and some may leave because of this change.

TRAINING -- ORTHOTICS

Although orthotics training and services were repeatedly promised and recommended in both the 1992 and 1993 evaluations, it has not begun. None of the long term WRF instructors, including the current expatriate, is an orthotics instructor. The senior students are as upset at this major gap in their education as they are about the lack of certification.

The lack of attention to orthotics is a major problem. With the exception of pediatric orthotics at the ex-HOPE project and very limited orthotics for spinal cord injuries at the Red Cross hospital, NO general orthotic treatment for adults is available in Armenia, Georgia or Azerbaijan. Thus availability of general adult orthotics would make the program unique in the Caucasus region and increase the chances for sustainability.

In industrialized nations orthotic needs outnumber prosthetic patients 10:1. However, since orthoses have not been available, hospitals and physicians will have to be informed of the need for rapid referral of patients. Patients with paralysis or fractures

which are not braced will develop contractures which make them unbraceable after several years. The program would need to identify patients with recent pathologies (strokes, fractures, back injuries) to receive early treatment.

Orthotics in many ways is more difficult than prosthetics because of the wide variety of pathologies and possible biomechanical solutions. However, it is easier to train a prosthetist to become an orthotist than vice-versa, so the seniors have a good foundation.

ESTABLISHING AN ORTHOTICS TRAINING PROGRAM

1). Program content -- concentrate on the biggest problems in the area. The program should lead to a certificate.

2). Program duration -- The availability of funding and a quality instructor will be key determinants. One year is recommended -- six months is the absolute minimum.

3). Students -- This training should be offered to the seniors only. Juniors can be trained separately as assistants and bench workers. Some seniors should commit to specializing in orthotics instead of prosthetics and can be given advanced training.

4). Instructor -- The candidate must be a highly qualified certified orthotist with a minimum of five years of clinical experience. He/she should be approved by Mel Stills, C.O. (former ISPO president) and Michael Quigley, C.P.O., before hiring. He/she must commit to complete the course (6-12 months in Yerevan).

5). Materials and supplies -- Orthotics teaching manuals from an accredited US school and copies of the American Academy of Orthopedic Surgeons (AAOS) "Atlas of Orthotics" for each student. Some orthotic supplies are already available in Yerevan. Most raw materials are similar to those used in prosthetics and should be readily available.

6). Program initiation -- In order to provide the new instructor a good start, it is recommended that Michael Quigley arrive with the candidate and spend 2-3 weeks. This will help explain the unique needs in the area, help with teaching and clinical service, serve as a consultant via E-mail, and work with Mel Stills of ISPO on certification of the program. This will help assure the continuity so lacking in

the prosthetic training in this project.

7). Clinical services -- Students must apply their new knowledge to patients in a controlled setting -- first by watching, then assisting and finally by treating patients. Patients will be selected to suit the pathology being studied. Care must be taken to avoid a full production mentality which will interfere with the concentrated teaching curriculum.

8). Effect on prosthetic services -- A concentrated orthotics training program for the seniors will reduce their time for prosthetic service. The seniors profess to be prepared to work longer hours to accommodate, but this will be a continuing concern.

CURRENT STATE OF CLINICAL SERVICES

The five seniors have very high technical capability. Despite the lack of a coordinated curriculum, they have learned well and provide quality service.

Prosthetic design is similar to that in industrialized countries. All patients are hand-casted, custom fitted and aligned. Both endo- and exo-skeletal systems are used with SACH feet. Preparatory prostheses with copolymer plastic are used on new amputees for 3-6 months. Acrylic laminate definitive sockets are then made from new casts and measurements.

Many of the amputees are “difficult” cases because of the poor amputation surgery found in Armenia. Below knee amputations with 2" and 12" length are as common as good amputations. Other complications such as flexion contractures, adherent scar tissue, neuroma and open sores are also common. The prosthetists face these problems daily and do very well without the availability of silicones, polyurethanes and other new materials commonly used in industrialized countries.

Attempts have been made to make the project less costly, and thus more sustainable by in-country manufacture of components and by the use of US-made components. Local manufacturing has proceeded fairly well, and a few of these parts were shown to the Team. Titanium pylons are readily accessible at low cost, and tube adaptors were made to fit these larger diameter (34 mm) pylons. Other manufactured components included pyramid adaptors, and a variety of Staats adaptors. The project experienced serious problems in attempting to reduce costs by changing its supplier of

manual lock knee components from German Otto Bock Company to the United States Manufacturing Company (USMC).

The locking knee should lock when the amputee stands to prevent buckling. They are used primarily for older patients with strength or balance problems or for double amputees, when a fall could produce serious injury. The USMC knee has two faults: side-to-side motion where none should exist; and accidental unlocking, or failure to lock securely, resulting in buckling. Prosthetists at the project have spent many hours attempting to repair or replace defective knees. The USMC knees should not be used in the future, and a cash refund should be sought from USMC. Complaints about the USMC knees have been made to the Ministry and the Selection Committee which assigns amputees.

All other programs in Armenia use the Otto Bock knee, and the Team recommends a return to the use of Otto Bock knees both for dependability and availability of repair service at the other centers in the country.

GEORGIA

The International Committee of the Red Cross (ICRC) has lower limb prosthetic workshops in Tbilisi and Gagra. Both projects have five year commitments and were initiated about two years ago, although the Abkhazia workshop was up and running faster than the one in Tbilisi. The Gagra workshop has about 200 registered amputees (about 83% war-related) and has cut its waiting list down to less than 50. The Tbilisi workshop has 782 amputees registered (about 36% war-related) and has a waiting list of over 600 which is still growing. The Tbilisi workshop has a production capacity of 15-20/month which means a multi-year wait for patients with lower priority. First priority is given to war-victims, all of whom will be treated by the end of 1997.

The ICRC Georgia prosthetics director, Bernard Montagne, is not overly concerned with the length of the waiting list since many lower priority patients already have old Soviet-style prostheses. Since the ICRC system is very different from that used by WRF, it is not practical to send patients to Yerevan. However, the ICRC/Baku workshop has excess capacity and is just completing dormitory facilities which will allow ICRC to send patients by bus or ICRC plane to Baku to help lower the waiting time. Montagne is consciously limiting the size of the Tbilisi facility to a level which would be more easily absorbed by the Ministry.

There is a Ministry of Social Security prosthetic workshop in Tbilisi which has no components and no funds. It is limited, therefore, to repairs of old Soviet style prostheses.

The ICRC does not do arm prostheses or any orthoses. The Tbilisi workshop has 25 registered arm amputees (including 4 double amputees). These patients can be treated at the WRF facility and should be funded by USAID. Despite the incompatibility of the ICRC and WRF systems, there is no other service available for these arm amputees. The WRF facility can handle about 5 of these patients every two or three weeks, and they can be housed at the hospital which is one block from the workshop.

With the exception of these arm amputees, there is no further assistance needed from USAID.

AZERBAIJAN

The ICRC prosthetic workshop in Baku has a five year commitment and was initiated two years ago. It has a production level of 50/month and has eliminated its waiting list in Baku. ICRC is just completing construction of a dormitory for 30 patients in its building as well as offices to house the Azeri Red Crescent which will operate the dormitory. The director, Miguel Fernandez, has now visited about half the district capitals and will shortly complete his circuit of the country to inform amputees in rural areas of the free service available in Baku.

There is a Ministry of Social Security prosthetic facility in Baku which the Team visited. It is well equipped and overly staffed, but has no components and no funds, and thus can treat only patients who can pay.

As noted above, ICRC is discussing the mechanics of sending waiting list patients from Tbilisi to Baku to utilize some of the excess capacity. The Baku center is now treating some patients from Tajikistan as well.

There is no action required from USAID for prosthetics in Azerbaijan, however, any USAID visitor to Baku is urged to visit the center to see a textbook example of a great prosthetics project.

Appendices