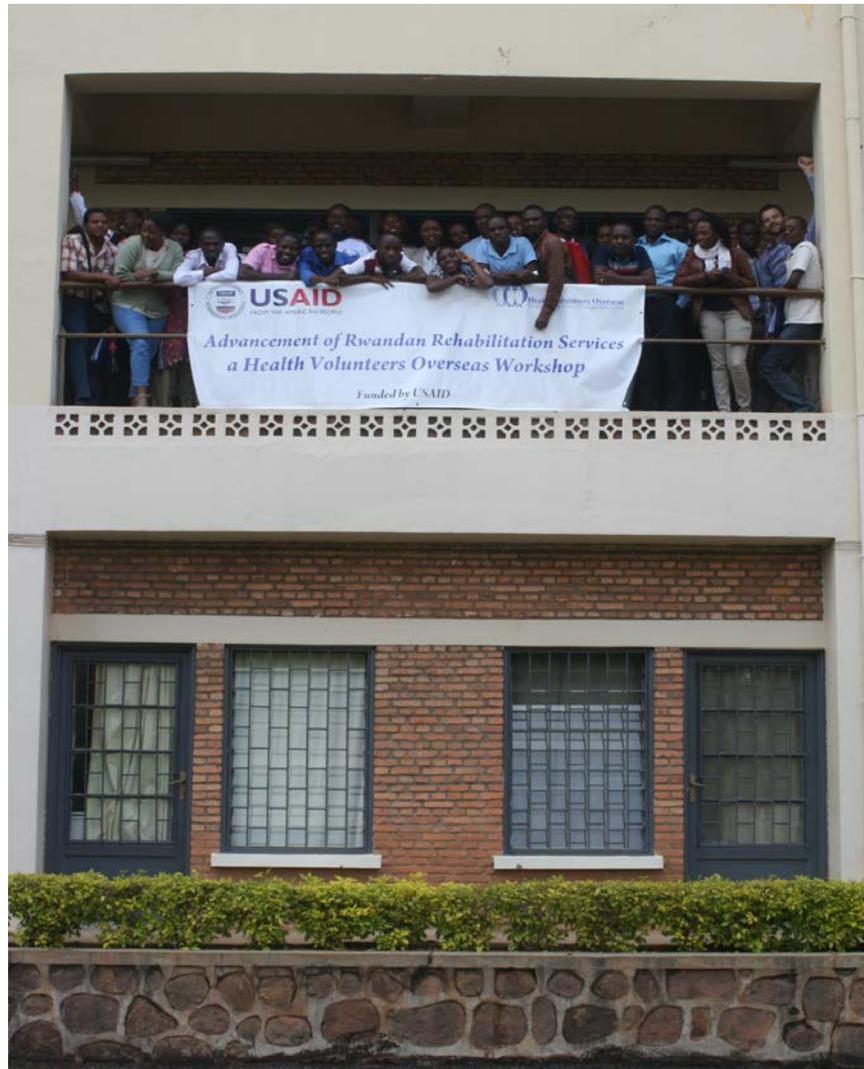




**Advancement of Rwandan Rehabilitation Services
Grant # SPANS-028
Funded by USAID, through World Learning
March 1, 2013 – May 31, 2015
FINAL REPORT**



Health Volunteers Overseas

Advancement of Rwandan Rehabilitation Services Project

Final Report – SPANS -028

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Acronyms

AKR – Rwanda Physiotherapy Association

ARRSP – Advancement of Rwandan Rehabilitation Services Project

CPD – Continuing Professional Development

HVO – Health Volunteers Overseas

ICF – International Classification of Function

IPE – Inter-Professional Education

KHI – Kigali Health Institute

LI – The Leadership Institute

MOH – Ministry of Health

NGO – Non-governmental organization

PSFS – Patient Specific Functional Scale

PT – Physical Therapist or Physiotherapist

RAHPC – Rwanda Allied Health Professions Council

TAG – Technical Advisory Group

UR-CMHS – University of Rwanda, College of Medicine and Health Sciences

USAID – US Agency for International Development

VAT – Value Added Tax

WCPT – World Confederation for Physical Therapy

WHO – World Health Organization



Advancement of Rwandan Rehabilitation Services Project
Final Report - SPANS-028
A grant agreement with World Learning/USAID
Executive Summary

In March 2013 Health Volunteers Overseas (HVO) was awarded USAID grant funding through World Learning in order to implement the *Advancement of Rwandan Rehabilitation Services Project*. The grant was for a limited timeframe of 27 months, through May 2015.

In a Rwanda Ministry of Health census conducted in 2010, out of a population of 11 million, there were 522,850 people with disabilities. Yet, the World Confederation for Physical Therapy (WCPT) estimated that there were only 160-200 physical therapists practicing in the country.

The University of Rwanda, College of Medicine and Health Sciences physiotherapy (PT) faculty had little opportunity to upgrade their skills, unless they left the country to study. The first PT bachelor's degree class graduated in 2010. Due to such a recent change, a majority of the clinicians in the country were trained at the diploma level, and no organized continuing education programs were developed post-graduation. In August 2013, however, the Rwanda Allied Health Professions Council (RAHPC) developed a policy requiring continuing professional development (CPD) credits in order to maintain physical therapy licensing.

HVO's two major goals for the *Advancement of Rwandan Rehabilitation Services Project* were:

1. Provide continuing professional development (CPD) courses to Rwandan rehabilitation professionals in order to upgrade rehabilitation standards and improve services provided to those with disabilities.
2. Increase the awareness of the profession of physical therapy among the general public and other health care professionals in order to increase utilization of rehabilitation services and reach under-served populations.

The primary project method was the provision of a series of continuing education courses for physiotherapists offered in Kigali and Butare. Instruction was provided by HVO volunteers, all professional physical therapists, and Rwandan co-teachers, who had been selected from PT faculty and clinics, and received intensive training. Topics covered were rehabilitation for spinal

musculoskeletal diagnoses, therapeutic exercise for extremity musculoskeletal disorders, neurological diagnoses, and pediatric diagnoses. A mini-course was offered in respiratory rehabilitation. The course series culminated with “The Leadership Institute”, which addressed management approaches, proposal development, and advocacy to strengthen the physiotherapy profession and promote availability of services for individuals with disabilities. Participants in this course developed project proposals to address physiotherapy needs in the country, and were given guidance on how to pursue funding to implement the projects.

The major strength of this grant was the involvement of 168 physiotherapists in the Continuing Education courses with an average of 3 course areas per physiotherapist.

The implementation of practical skills was observed during more than 300 clinical visits where individualized feedback and teaching were provided in the setting in which the participant was practicing. The clinical site visits allowed instructors to adjust teaching to match the practice context and to build awareness of physiotherapy in the community.

In a survey completed by the participants from the Leadership Institute, participants reported that they believed that their skills had improved and listed the areas where they felt they had most improved as: 1) Using outcome measures, 2) assessment and evaluation, 3) practical clinical skills, 4) clinical decision making and 5) functional focus of management. They also listed the benefits to patients with the most frequent benefits described as 1) quicker recovery, 2) improved standards of rehabilitation care, 3) increased active treatment and patient involvement, and 4) functional improvement.

The Rwanda Physiotherapy Association and the Rwanda Allied Health Professions Council (RAHPC) are committed to continue to organize continuing professional development (CPD) courses. The Chair of the RAHPC has also encouraged participants in the Leadership Institute to submit their project activities for CPD credit which will provide incentive to follow through with the projects.

The University of Rwanda College of Medicine and Health Sciences physiotherapy faculty hope to mentor participants in implementing the Leadership Institute projects, with the goals of publication and presentation at local and international conferences. HVO clinical experts, who have been involved in the grant project, have agreed to provide professional mentorship for the Leadership Institute projects from a distance.

The Rwandans are poised and committed to move the physiotherapy profession to the next level.

Submitted: July 2015



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Introduction

In March 2013 Health Volunteers Overseas (HVO) was awarded USAID grant funding through World Learning in order to implement the *Advancement of Rwandan Rehabilitation Services Project*. The grant was for a limited timeframe of 27 months, through May 2015.

The Rwandan government, through its plan of action, *Rwanda Vision 2020*, planned for a transition from humanitarian assistance to sustainable development. The Ministry of Health (MOH), in their 2009 Health Sector Strategic Plan, noted (pg 25) that, “more emphasis needs to be put on the quality of trained professionals and their distribution over the country” and specifically noted the “shortage of staff for disabled care” (pg 8). In a MoH census conducted in 2010, out of a population of 11 million, there were 522,850 people with disabilities. Yet, the World Confederation for Physical Therapy (WCPT) estimated that there were only 160-200 physical therapists practicing in the country.

The University of Rwanda, College of Medicine and Health Sciences merged in 2013 with the Kigali Health Institute (KHI). At that time, all expatriate faculty members (as many as 5 at one point) were no longer supported. The Physiotherapy (PT) faculty had little opportunity to upgrade their skills, unless they left the country to study in South Africa or elsewhere. KHI had offered a diploma program in physical therapy which transitioned to a bachelor’s degree in 2006, with the first class graduating four years later. Due to such a recent change, a majority of the clinicians in the country were trained at the diploma level, although KHI offered a bridging curriculum to enable therapists to earn their bachelor’s degree. No organized continuing education programs were developed post-graduation. In August 2013, however, the Rwanda Allied Health Professions Council (RAHPC) developed a policy requiring continuing professional development (CPD) credits in order to maintain physical therapy licensing.

HVO's two major goals for the *Advancement of Rwandan Rehabilitation Services Project* were:

1. Provide continuing professional development (CPD) courses to Rwandan rehabilitation professionals in order to upgrade rehabilitation standards and improve services provided to those with disabilities.
2. Increase the awareness of the profession of physical therapy among the general public and other health care professionals in order to increase utilization of rehabilitation services and reach under-served populations.

Management

Four HVO staff members were involved in the project.

In Rwanda, Project Manager, Bernard Bariyanga, served as the local HVO liaison, providing volunteer support and handling all program logistics (inviting participants, arranging for printing of course materials, preparing the training site, etc.) as well as local financial management.

His direct contact in the US was Project Director Linda James who provided daily administrative management and support for the project, with financial management provided by Laura Tyson, HVO's Director of Finance. Overall grant management was provided by HVO's Executive Director, Nancy Kelly.

Coordination with the field was handled through email and Skype calls. Only two staff trips were permitted in the grant, so Ms. James traveled to Rwanda to help set up the project in 2013 and then to close it down in 2015. On the initial visit, Ms. James interviewed candidates for the Project Manager position, and one was subsequently hired upon confirmation from USAID. Some nine months later, she left the position for medical reasons, and Mr. Bariyanga was hired, after an interview process conducted through email and Skype calls.

Technical responsibility for the project activities was handled by Project Coordinator Monika Mann, a physical therapist who was hired as a consultant to serve on the project. She handled the recruitment of the HVO volunteers who taught the courses and worked with them in the months prior to their departure to help prepare them and assist with their curriculum development. Once the volunteers arrived in Rwanda, she held weekly Skype calls with them, to discuss the trainings and modify them as needed. Over the course of the grant, Ms. Mann made four trips-- the initial assessment, two trips in the second year as new courses were ready to begin, and at the completion of the project. These trips proved crucial in building relationships with the university, the Rwanda Physiotherapy Association, and the Rwanda Allied

Health Professions Council. They were also very helpful at the start of new courses, to orient volunteers, meet the new co-teachers, and set expectations.

The Technical Advisory Group (TAG) was composed of two physical therapists, both of whom are physical therapy faculty and administrators at the university level. Julia Chevan, PT, PhD, MPH, OCS, had worked in Rwanda on a Fulbright fellowship, and brought extensive knowledge of the country and partners to the project. Kim Dunleavy, PT, PhD, OCS, had worked on previous USAID-funded projects with HVO. Both reviewed the quarterly reports and the volunteers' feedback, and periodic conference calls were held with the Project Coordinator and Project Director to modify the project as needed. Dr. Chevan accompanied Ms. Mann on one of the visits mid-way through the project, to assess the progress and to begin developing the final course on leadership. Dr. Dunleavy traveled to the project at the end for a final review.

Office space was provided by the University of Rwanda and was located near the office of the department head for physical therapy, on the main campus. The trainings were located in classrooms just down the hall, so the HVO office was centrally located with easy access to university colleagues, officials, and facilities.

Program Accomplishments by Results

Program implementation approach and methodology:

The Project Coordinator conducted an on-site needs assessment and a Steering Committee was formed, made up of Rwandan physiotherapy leaders, practitioners, and faculty members. At the start of the project, the following information was gathered from meetings and interviews:

- Rwandan physiotherapists had sparse and sporadic Continuing Professional Development (CPD) opportunities.
- Teaching at the university level focused on didactic training with less hands-on skills training.
- Because physiotherapy is a new profession in Rwanda, with the first class of diploma physiotherapists graduating from the university in 1997, a lack of awareness of the profession was contributing to under-utilization.
- A decreased understanding of both the scope of physiotherapy and indicators for referral to the discipline was present in the general public and among other health professionals.
- Although there is only approximately one physiotherapist for every 65 thousand people in Rwanda, physiotherapists were not able to find jobs, with a lack of funding for physiotherapy jobs in the country.
- There was a need to improve clinical decision making skills among the professional physiotherapists.
- There was a need to develop active treatment techniques such as therapeutic exercise, home programs, manual therapy, and functional training.

- Although physiotherapists were familiar with the International Classification of Function (ICF), many were treating the patient's diagnosis without emphasis on return to optimal function and participation in society.
- Physiotherapists were not regularly advocates for themselves and their profession.
- Outcome measures were not used to objectively determine progress.

Based on the information gathered in the needs assessment, the program was designed to offer four clinical courses that would address the key topics that had been identified in the assessment – spine, therapeutic exercise, neurology, and pediatrics. Respiratory issues were also identified as an area of need but that is a very specialized field in the US, and therefore was not an area of primary emphasis due to the difficulty of finding instructors with expertise in the field. However, a mini-course was held on the topic. Four pillars of knowledge were emphasized in each of the courses:

1. Clinical decision making, utilizing outcome measures
2. Active treatment techniques, as opposed to modalities
3. Clinical skills building, with hands-on practicums
4. Return to Function, using WHO's International Classification of Function (ICF) as a model

In order to reach as many therapists as possible, and minimize disruption to patient care, it was determined that holding the trainings on a Friday and Saturday one to two times per month over a duration of 3-5 months would work best. (Friday work schedules are usually a half day, since there is a national plan to use that time for physical exercise). Courses were scheduled in both urban and rural locations so that therapists in under-served, outlying regions would benefit from the trainings.

HVO volunteers, all of whom are licensed health care professionals, were recruited specifically for the skills needed in the identified topic areas. In the months prior to their departure for Rwanda, they worked on developing the course curriculum, with input from the Project Coordinator and the Technical Advisory Group.

In Rwanda, therapists were identified by the UR-CMHS faculty and the Steering Committee to serve as co-teachers for each course. When the HVO instructors arrived, the co-teachers received intensive training in the topic area which was to be presented, so that they were able to develop an expertise in that topic. Once the first cohort of participants had been trained, the co-teachers took responsibility for teaching the course.

In selecting the co-teachers, preference was given to the UR-CMHS Department of Physiotherapy faculty in order to help further the dissemination of materials taught and to mentor pedagogical methods including:

- Interactive teaching
- Guided group activities
- Case-based instruction
- Combined didactic and hands-on instruction

When the training sessions were underway on the weekends, the HVO volunteers spent the week conducting clinical site visits to work with the therapists individually, in addition to modifying course content to better address the therapists' needs, and training the co-teachers in upcoming skill sessions. Over the course of the project, the volunteers conducted more than 300 clinical site visits with the participants. This often involved extensive travel in some rather remote areas, but it allowed the instructors to work individually with the therapists to:

- Ensure that concepts and techniques learned in the classroom setting were integrated into clinical practice;
- Reinforce the use of outcome measures;
- Increase awareness of physiotherapy through discussions with hospital directors; and
- Discuss management and advocacy strategies in order to empower department heads to advocate for more physiotherapy positions, thereby increasing access to rehabilitation services for under-served people with injuries and disabilities.

Project activities:

Goal 1: Provision of continuing professional development courses

- In 2013, all health professions in Rwanda were required to participate in continuing professional education in order to improve scientific knowledge, expand services, improve patient confidence, increase competitiveness of the Rwandan health care systems, and improve health care outcomes.¹ The primary project method was the provision of a series of continuing education courses for physiotherapists offered in Kigali and Butare, and covered topics in rehabilitation for spinal musculoskeletal diagnoses, therapeutic exercise for extremity musculoskeletal disorders, neurological diagnoses, and pediatric diagnoses. A mini-course was offered in respiratory rehabilitation, a skill requested by the therapists that one of the volunteers was able to offer. The course series culminated with "The Leadership Institute", which addressed management approaches, proposal development, and advocacy to strengthen the

physiotherapy profession and promote availability of services for individuals with disabilities.

- At the completion of each course, the course content and lesson plans were compiled in an e-manual, which was provided to the UR-CMHS Physiotherapy Department and each of the course's co-teachers. At the end of the grant period, there were 6 manuals, which can be used on their own, or together as part of a full series of continuing education. As the course content was designed to be culture-neutral, the manuals can be used in other countries and cultures.

Goal 2: Outreach activities to increase awareness of physiotherapy, augment professionalism, and work toward increased appropriate referrals to physiotherapy

- Several inter-professional presentations were offered. Project Coordinator Monika Mann, PT, gave a presentation on Clinical Decision Making at a faculty meeting for all department heads at the University of Rwanda, College of Medicine and Health Sciences. HVO volunteer Michael Bradbury, DPT, lectured on the team approach to treating patients with spinal cord injuries at the International Spinal Cord Symposium, which was held in Kigali in 2014. A workshop on inter-professional education (IPE) strategies was held for UR-CMHS faculty members and led by HVO volunteer Maureen Pascal, PT, DPT, NCS.
- Two of the Rwandan co-instructors had abstracts accepted to present at the World Confederation of Physical Therapy. One of these presentations presented the format of the first course with the co-teacher in the spinal course listed as an author. The HVO course instructor, the Project Coordinator, and the TAG were co-authors and provided input to develop the poster presentation. Another co-instructor presented her research from university studies with mentorship from HVO instructors. Both co-instructors, along with two other Rwandan members of the Steering Committee, travelled to Singapore to present at the conference in May 2015, with funding from other sources.
- The acquisition of knowledge and skills introduced in the continuing education courses was supported by clinical supervision at participants' practice sites. In addition to supporting learning and application in the Rwandan practice context, the visits from the HVO instructors also resulted in increasing awareness of the profession at the hospital level. There was onsite training of the heads of physiotherapy departments at over 20 hospitals throughout the country. The training participants also introduced the HVO volunteers to administrators and other professionals resulting in visibility and awareness of physiotherapy advancements in practice.

- Active learning projects were planned and developed during the culminating grant activity (The Leadership Institute). In addition to discussion and presentation of topics related to advancing the presence of physiotherapy in Rwanda during the courses, participants identified projects which they proposed to improve awareness in the community, as well as with government and stakeholder audiences. The projects were presented in the final course with a summary in the closing ceremonies.

The Leadership Institute was held April – May 2015 and 69 leaders in Rwandan physiotherapy attended the three sessions which were taught in two cohorts held in Kigali. Participants were selected based on the leadership positions they held or based on their potential, with the recommendation of their course instructors. The course objectives were to: 1) increase awareness of the profession of physical therapy and 2) ensure the sustainability and amplification of concepts and techniques taught in the ARRSP. Classes addressed styles of leadership, strategies for advocacy, and proposal development. In small groups, the therapists developed project proposals to address professional needs that aligned with the course objectives. Possible funding sources were discussed, with the hope that some of the projects would be fully developed and funded after the grant ended. The projects are:

- Increasing Awareness of Physiotherapy Services among Physicians through Inter-Professional Training in Rwandan District Hospitals
- Improvement of Community Utilization of Physiotherapy Services through Inter-Professional Education
- Establishment of a Website for Individuals Seeking Physiotherapy Services and for Physiotherapists
- Community Outreach to Children with Disabilities and their Families
- Fall Prevention for Older Adults
- Preventing Non-Communicable Diseases through Promotion of Activity and Exercise
- Standardization of Physiotherapy Assessment Documentation
- Establishment of Clinical Guidelines for Physiotherapy Services
- Developing Recommendations for Setting up a Private Practice
- Improving Awareness of the Role of Physiotherapy for Prevention and Treatment of Workplace Injuries among Public and Private Policymakers in Rwanda
- Postural Education and Ergonomics Assessment
- Utilization of Appropriate Ergonomics in the Working Environment

Each group presented a proposal to address the identified needs to the full class, followed by lively feedback sessions. An overview of each project was presented at the grant closing ceremony for representatives of USAID, the University of Rwanda, and the Rwanda Physiotherapy Association.

Results achieved:

Goal 1. Advancing rehabilitation standards through CPD

Impact – Number of Participants

The major strength of this grant was the involvement of 168 physiotherapists in the continuing education courses with an average of 3 course areas per physiotherapist, reaching more than the number of physiotherapists employed in clinical positions. (See Table 1) The major core content courses were offered over a period of 4-5 sessions, allowing physiotherapists to develop and integrate the new or updated information into their clinical practice. While the project work plan called for four CPD classes to be offered in both urban and rural areas, this was surpassed with six courses offered.

The application of content was also supported through a total of 302 site visits conducted: 283 to build on clinical courses (Spine 83, Extremities 67, Neurology 73, Pediatrics 60) and 19 for the Leadership Institute. An average of 3 site visits per participant was reported by the individuals responding to the final evaluation survey. (See Table 5) The advancement of standards is therefore likely to impact the Rwandan physiotherapy profession and the patients receiving services due to the breadth and depth of the education.

Response from Neurology Course participant on final course evaluation, about the value of the clinic visits from HVO Instructors:

It was helpful to have an instructor, so that we discuss about some difficult cases and we get some ideas about management of neurological conditions. We learned some new techniques in practical with the patient not a model. It is good for a follow up and evaluation. It helps the authority of hospital to know the importance of physio. For authority it was interesting to hear that there is visitor in physio (ed: dept), which is not common.

Impact – Distribution of Physiotherapist Participants

The first three clinical courses, which were offered over a longer period of time, were offered in Butare as well as Kigali which made it easier for physiotherapists from outside Kigali to attend the courses, and for clinical site visits to be conducted in rural areas. Approximately half the

participants were from areas classified as rural according to the United Nations Statistics Division (areas other than the administrative centers of the provinces, and cities of Kigali, Nyanza, Ruhanga and Rwamagana).² (See Table 1) As the environment in Rwanda is very hilly, transportation and accessibility are a major limitation for individuals with disabilities in the rural areas. It was therefore important to have participation of physiotherapists from around the country and from rural areas attending the courses to promote standards in the areas where patients are seen closer to their homes. The transportation and organization of site visits to the rural regions was extensive but this was a highly valued component of the grant and an area for future grants which warrants consideration for support of learning, formative evaluation of teaching, and an option for increasing awareness.

Linn Harding, MA, PT, OCS, HVO's Therapeutic Exercise instructor, visited two therapists in district hospitals and reported:

We spent 8 hours in the Land Rover on day one, mostly on rough, 4wd roads. The country is spectacularly beautiful with numerous waterfalls and Lake Kivu in the far distance. We were unable to determine our elevation but it was very high with huge views in all directions.

The visits were great! Both (PTs) are in a department of one person, and if they go on vacation, there is no physio. They are in district hospitals; one serves about 300,000 people and the other serves far fewer and is more difficult to access. Both physios were very appreciative of the visit and of our courses and told me how important the courses have been to them. They are young, without much experience, and have no colleague to confer with. Both had included the PSFS (Patient Specific Functional Scale) in their initial evaluation and progress notes and used them routinely. Both physios had prepared four patients for the visit and they were great cases.

The Project really is important to many of these physios here and they place a very high value on it. They nearly always ask about future courses as they see this as the primary method of increasing the quality of their patient management skills.

Impact – Knowledge and perceived improvement

- All participants completed pre- and post tests with mean percent improvements in scores ranging from 21% to 65%. (Training in Pediatric Rehabilitation was cited as a high priority, both in the initial needs assessment and also through informal conversations

with physiotherapy faculty and leaders in Rwanda. Clinical observations revealed that Rwandan physiotherapists were not familiar with family-centered rehabilitation nor the basics of best practices in pediatrics. The data showed a mean percent improvement of 52% in pre/post test scores in pediatrics (54% pre, 82% post) demonstrating a significant increase in the knowledge base).

- In a survey completed by the participants from the Leadership Institute, participants reported that they believed that their skills had improved and listed the areas that they felt had improved the most (See summary of indicators, Tables 6 - 9). The most frequently listed were: 1) Using outcome measures, 2) assessment and evaluation, 3) practical clinical skills, 4) clinical decision making and 5) functional focus of management. They also listed the benefits to patients with the most frequent benefits described as 1) quicker recovery, 2) improved standards of rehabilitation care, 3) increased active treatment and patient involvement, and 4) functional improvement. All of these outcomes met the goals listed by the Rwanda Allied Health Professions Council for CPD provision.¹
- All participants were taught the Patient Specific Functional Scale. They repeatedly offered feedback stating that they are using the scale to track patient outcomes. The scale has now been integrated into the evaluation form at CHUK, the largest public hospital in the country (and the teaching hospital connected with UR-CMHS).
- The implementation of practical skills was observed during clinical visits where individualized feedback and teaching were provided in the setting in which the participant was practicing. The clinical site visits allowed instructors to adjust teaching to match the practice context. In addition, volunteers recorded their observations of indicators of the overall themes. (See Table 4). The areas in which participants needed more assistance were: selecting treatment to address functional problems, modification of treatment based on assessment, patient education, use of comprehensive documentation to communicate with other professionals, and use of outcome measures. These areas were reflected in the final survey as areas of improvement. (Tables 8 & 9)

Comment from a Head of PT Department - one of the major hospitals

There are 9 PTs in the Dept and all of them attended a minimum of 3 ARRSP courses.

Before taking the courses we didn't grade pain. Instead in the assessment we just wrote 'Pain'. Now we use the 0 – 10 pain scale so that we can measure changes in pain so we can tell if the patient is improving or not.

We never used Functional Outcome Scales previously. We now use the Patient Specific Functional Scale. It helps us in formulating goals: Now we focus more on needs of patient rather than just the physiotherapist's expectations. Using the PSFS has also helped us with our Clinical Decision Making. If a patient is progressing, we continue with the same treatment, but if they are not, then we change the treatment. We now use more therapeutic exercises and education as part of our treatments.

Goal 2: Increase awareness of physiotherapy services to improve care for individuals with disabilities.

- The short timeframe of the grant made the second goal more challenging; however, the number of physiotherapists reached during the training, the clinical site visits, and the use of the Leadership Institute projects were all grant activities that contributed to improving awareness.
- The multi-pronged approach of offering courses at both rural and urban sites, as well as covering transportation and lodging costs for rural physiotherapists to attend the courses, meant that rural physiotherapists were able to access the CPD courses.
- During interviews with selected physiotherapy department heads, improvements in skills and practice standards were thought to have contributed to their confidence in being able to deliver inter-professional educational in-services on the role of physiotherapy as a professional provider. The opportunity to participate in the courses was mentioned as upgrading the status of the profession for other professionals who did not have such an opportunity to improve their standards. Improved outcomes also resulted in patients communicating satisfaction to administrators and physicians, with increased referrals and elevated professional status.

Interview with Head of PT Department

All therapists in the department attended 3-4 courses each and he reported changes in practice after their attendance, with notable improvement in re-assessments. He also noted that the therapists are using more therapeutic exercise and hands-on skills, relying less on modalities. The therapists are now more focused on treating functional deficits and using ICF. The patients now need fewer treatments than before to reach their goals.

- Improvements in documentation also resulted in improved inter-professional team communication and awareness of the role of physiotherapy. Some of these changes may also have been as a result of recent accreditation requirements -- including improved documentation, use of clinical guidelines and statistical records.

- These positive improvements increased the ability to motivate for additional physiotherapy positions. All the heads of departments reported the need for additional physiotherapists. The district hospitals also face problems with positions only available at lower pay levels. Recent physiotherapy graduates are unemployed and, in some cases, volunteering with the hope of gaining relevant experience. The relevant services for individuals with disabilities or those who need rehabilitation are therefore limited due to a lack of positions in the public sector at all levels, but particularly at the local and district levels. While one of the aims of the grant was to promote professional awareness it was not possible to establish if there were changes in awareness which resulted in increased workforce availability due to the short grant timeframe and limited methods of collecting impact data.
- The Leadership Institute projects were proposed by the participants with the goal of improving awareness amongst the community, medical professionals, administrators, private sector and relevant ministries. These projects have not been implemented at this point but the goal is that some of these initiatives will promote further development of services. Of importance is that the participants believe the projects will contribute to an increase in awareness in the future as noted on the final survey.

Follow up and sustainability of program:

- The Rwanda Physiotherapy Association and the Rwanda Allied Health Professions Council are committed to continue to organize CPD courses. There is a relatively recent requirement for Allied Health professionals to complete 60 credits of continuing professional development biannually. The Rwanda Physiotherapy Association representative has indicated that they intend to work with local NGOs, other sources in Africa such as South African universities, and HVO to organize further courses to continue to build the standards of physiotherapy in Rwanda. Key stakeholders (faculty, administrators and representatives of the AKR) have also indicated that they believe that the Rwandan leaders are ready to take on the challenge of moving the Physiotherapy Association and the profession to the next level - building on the base provided by the grant.
- All courses, with the exception of the single weekend Respiratory course, included 2 Rwandan co-instructors who received additional training and participated in delivery of the course material. A total of ten co-teachers were trained, half of whom were members of the UR-CMHS physiotherapy faculty, and the other half of whom were leading physiotherapy clinicians. Each of the three longer courses was repeated 3 times allowing the co-instructors to develop confidence and receive feedback while teaching selected sections of the courses. Faculty members are now incorporating

elements of both the ARRSP course content and pedagogy in their classes. The co-instructors who were interviewed believed that they could teach sections of the courses independently. The co-instructors are therefore likely to be able to teach CPD courses in the future and will be able to pass on the information to students and other physiotherapists. Two non-faculty co-teachers are currently in the process of applying for faculty positions in the UR-CMHS physiotherapy department.

Interview with a co-teacher & part-time lecturer in Physiotherapy Dept UR-CMHS

Since co-teaching, I have self-confidence in my ability to teach. I've learned that it is important to be interactive with course participants to get their attention, and that teaching is not just talking in front of a screen. Also, with the climate of involving participants they felt freedom to stop the presenter to ask a question.

I learned how to combine theoretical teaching with active skill labs.

Dream is to one day become a full-time academic.

- The participants in the Leadership Institute have been encouraged by the Chair of the RAHPC to submit their project activities for CPD credit which will provide incentive to follow through with the projects. Stakeholders interviewed and participants in the Leadership Institute indicated sincere gratitude for the intensive and extended course opportunities which provided practical skills and clinical reasoning training, with support for application during clinical site visits.
- The University of Rwanda College of Medicine and Health Sciences physiotherapy faculty hope to mentor participants in implementing the Leadership Institute projects, with the goals of publication and presentation at local and international conferences. HVO clinical experts, who have been involved in the ARRS project, have agreed to provide professional mentorship for the Leadership Institute projects from a distance if needed.
- A prototype website was developed for physiotherapists, as well as consumers, for one of the Leadership Institute projects. The group has applied for funding to expand and improve the website.
- While some of the Leadership Institute groups have applied for small grant funding, a follow-up grant would provide incentive for participants to implement the projects. A short to medium term evaluation of the impact of the Leadership Institute projects would provide valuable information about the projects, which was a unique and innovative method to increase awareness and provision of rehabilitation services. One element of the project that was consistently highlighted by the participants was the simple aspect of working and learning together, and getting to know therapists from

across the country. As a result, class participants have started two *What's App* user groups in order to consult with each other on utilization of concepts and techniques learned in the ARRSP courses. One group deals specifically with pediatric physiotherapy and the other relates to concepts learned in all the courses.

- The president of the ARRSP Steering Committee has stated that the committee will continue to function, to assess the work of the grant and to determine how to move forward and build upon the accomplishments of the project.

Summary of indicators:

1. The number of participants and courses offered are included in Tables 1 & 2. A survey was completed by the LI participants on completion of the course. Participants were asked to complete anonymous Likert Scale and open-ended qualitative questions. Fifty-five physiotherapists completed the survey.
2. A summary of the clinical site visit observations is included in Table 4. The areas in which participants required the most overall assistance during the clinical visits were selecting treatment to address functional problems, modification of treatment based on assessment, patient education, use of comprehensive documentation to communicate with other professionals, and use of outcome measures. These areas were reflected in the final survey as areas of improvement. (Tables 8 & 9)

Problems Encountered and Solutions

Key problems/challenges faced in management and program:

- The timeframe for the grant was extremely short, and delayed grant approval led to a late start for project activities.
- As a volunteer-based program, attempting to recruit volunteers to serve for six months proved difficult and restricted the number of qualified and experienced volunteers. There was also a need for some flexibility with some unexpected illness for two scheduled volunteers.
- There was a need for more administrative presence on the ground, especially in the beginning of the program. The short timeframe and condensed nature of the grant as well as numerous challenges ensuing from changes in local regulations and key contacts required flexibility of funding line items as the grant methods evolved. While the Project Director and Coordinator were communicating regularly with local staff, stakeholders, volunteers and Rwandan physiotherapy groups, an intensive project of this nature would have benefited from consistent monitoring on the ground. Future projects might

need some flexibility of funding for coordination and investigation of options to provide on-the-ground presence for technical and administrative coordination.

- Costs for housing and transportation in Rwanda were high.
- Logistical issues were faced with obtaining visas, tax status and registration as an NGO in Rwanda. Visa regulations in Rwanda are very complicated and time-consuming, requiring “job” postings for volunteer positions. As a result, HVO clinical experts traveled on 90-day tourist visas. However, in November 2014 the policy changed and tourist visas were only valid for 30 days, requiring volunteers to cross one of the borders every month, in order to extend their stay.
- The Rwanda Tax Authority would not permit VAT exemption, as HVO was not a direct grant recipient of USAID funding. Repeated requests to USAID for a waiver were not resolved until April 2, 2015, less than two months before the grant was to end.
- Without a VAT exemption, planned equipment purchases were not possible and supplies were scaled back.
- Costs for clinical site visits and course costs for participants were higher than expected although the expenditures were of great value and highly recommended for future projects.
- Government regulations seemed to require per diem and transport costs for all meetings. While this was budgeted for training participants, it was not anticipated for routine meetings.
- Formal protocols required multiple levels of clearance, signatures and specific wording for invitations, necessitating much of the Project Manager’s time.
- The rapid progression of the profession and consistent demands on university faculty to obtain doctoral degrees, participate in research, outside projects and teaching responsibilities results in multiple stresses for some of the best and brightest in the profession. These leaders were often not available due to being out of the country or involved in other projects.
- HVO had proposed to open discussions with the University of Rwanda, College of Medicine and Health Sciences and the Ministry of Health about UR-CMHS becoming an East African Regional Rehabilitation Education Center, as that concept had been considered. Although this was discussed on several visits, plans changed when the East African Community chose Rwanda as the Center of Excellence in e-Health and Biomedical Engineering. UR-CMHS received multi-million dollar funding to offer a degree program in biomedical equipment and maintenance, and to build and develop a gait analysis lab.

How these problems were resolved:

- The delay in project approval pushed the start date back even further, due to the academic summer break, so the courses were taught on three out of 4 weekends a month, with modification of curricula, co-teacher training, and clinic visits made during the week.
- The Project Coordinator was able to recruit additional volunteers for shorter timeframes and key volunteers were able to cover responsibilities for those volunteers taken sick. An American physiotherapist who was stationed in Rwanda with his physician wife was also able to cover some courses.
- Considerable time and effort were required to balance the expenditures to match funding timelines as well as address barriers related to local logistical restrictions.
- Since purchasing locally was cost prohibitive and import taxes would be imposed on shipments, volunteers carried equipment and supplies into the country, using extra baggage.
- Despite the technology that will be employed at UR-CMHS with the new Center of Excellence, HVO continued to stress with university administrators the importance of developing physical therapy skills and promoting the profession to adequately address rehabilitation needs throughout the country.

Financial Position

The total budget for the 27-month grant was \$736,345. A budget modification was done midway, in June 2014, to shift funds from Travel to Personnel and Programs. That was necessary because the amount of staff time spent on compliance with Rwandan regulations was far greater than anticipated. Program costs were also much higher than anticipated due to a large number of the training participants coming from distant areas and requiring transport and lodging costs.

At the conclusion of the grant, expenditures were within the budget total and no line item exceeded the 10% of the total grant budget.

Two line items exceeded the line amount budgeted. Program activities, as explained above, exceeded the budget, as did Other Direct Costs. Expenses in that category were higher for several reasons. Bank fees in Rwanda were much higher than anticipated, with the fees on wire transfers taking a large toll on the account. In the last three months of the grant period, the Rwandan government required publication of an NGO's program closing to be nationally published twice in three newspapers. Those fees, which came to \$900, had not been anticipated. To ensure that program needs were adequately addressed, funds were re-allocated

from the Travel line item to Programs and Other Direct Costs, while still remaining within the budget total guidelines.

Documentation of Shared Learning

Copies of the e-manuals developed for the continuing education courses will be submitted to World Learning and USAID. Included with this submission is a copy of the poster that was presented at the 2015 WCPT conference in Singapore.

Recommendations to World Learning for Improvements of the Grant Management Process

It was a pleasure working with World Learning. They were very professional in their work, and responded in a timely manner to questions and concerns that arose.

It was unfortunate that the proposal submission timeframe was so short (30 days) and fell during the summer months, when offices are short-staffed. Of greater concern, though, was the grant approval process, which extended so long that three months of the anticipated 30-month project time were lost. These issues seem to have been on the part of USAID rather than World Learning.

Footnotes:

1. Continuing professional development (CPD) policy - Rwanda Allied Health Professions Council. August 2013.
2. Definition of urban and rural areas in Rwanda. Demographic and Social Statistics Branch, Statistics Division, Department of Economic and Social Affairs, United Nations.

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Appendix I

Table 1: Summary of Project Details

Number of training courses	6
Number of physiotherapists attending courses	168
Number of physiotherapists registered with the Rwanda Allied Health Professions Council	254
Physiotherapists reporting being employed in clinical positions - reported to Council	142
Number of Clinical Visits	302
Participants from Rural Areas ²	80 (48%)

Table 2: Continuing Professional Development Courses

COURSE	DATES	Number of Cohort Groups	Number Class Sessions per Group	Number participants	Number Rwandan Co-teachers
Spinal Rehabilitation	September 2013 – March 2014	3	5	67	2
Therapeutic Exercise	April 2014 – August 2014	3	4	81	2
Neurological Rehabilitation	September 2014 – December 2014	3	4	90	2
Pediatric Rehabilitation	January 2015 – March 2015	2	4	65	2
Chest Physiotherapy mini-course	January 29 – 30, 2015	1	1	24	0
Leadership Institute	April 2015 - May 2015	2	3	69	2

Table 3: Pre & Post Test Scores

Course*	Number Taking Pre-Test	Mean Pre-Test Score	Number Taking Post-Test	Mean Post-Test Score	Mean Percent Improvement
Spinal Rehabilitation	56	73%	55	88%	21%
Therapeutic Exercise	65	62%	71	77%	24%
Neurological Rehabilitation	75	29%	77	48%	65%
Pediatric Rehabilitation	63	54%	62	82%	52%

**The Chest Physiotherapy mini-course and the Leadership Institute were structured differently and did not include a standard pre/post test assessment.*

Table 4: Clinical Site Visit Observations throughout the Grant Period*

	Independent	Done with assistance	Not Done
Determined functional problems	78	20	2
Identified impairments leading to functional problems	68	30	2
Selected treatment addressing functional problem	48	51	1
Determined if referral required to another medical professional	90	6	4
Safely performed assessment and treatment	67	29	4
Comprehensive documentation	46	12	42
Modified treatment based on assessment	44	54	2
Home exercise instruction	74	19	7
Patient education and prevention	53	23	23
Use of outcome measures	18	21	61

**Clinical site visits were conducted during all the long-term ARRSP courses in order to ensure that didactic information taught in the classroom was being applied with patients in the clinical setting. Observations reported may have been at the beginning or end of the courses and do not reflect overall outcomes.*

Table 5: Demographics of Leadership Institute (LI) Outcome Survey
 Completed by 55/69 LI participants (n=55)

Years of experience	
Mean (years)	6.7 (SD 4.6)
Range (years)	0.5-27
Degree	
Diploma	7
Bachelors	40
Masters	7
Number who attended courses	
Leadership Institute	55
Spine	28
Therapeutic Exercise	28
Neurological Rehabilitation	37
Pediatrics	24
Chest	14
Mean Number of courses attended	
Mean Number of courses attended	3
Mean Number of clinical site visits	
Mean Number of clinical site visits	3

Tables 6-10 – Results of Leadership Institute Final Survey
 (Completed by 55/69 participants)

Table 6: Grant Outcomes (n=55)

*Likert scale from 0-10/10 (0/10 = not at all, 5/10 = somewhat, 10/10 = great deal)

<i>As a result of attending the CPD courses do you believe that:</i>	Mode*	Mean (SD)*
Quality of Physiotherapy care has improved in Rwanda?	8	6.4 (1.5)
Rehabilitation services have improved for people with disabilities?	8	7.8 (1.5)

Table 7: Improvements in Patient Care

Quicker recovery	40%
Improved standards of rehabilitation practice	31%
Increased patient involvement and active treatment	29%
Functional improvement	24%
Patient satisfaction	20%
Improved outcomes	18%
Improved patient education	18%
Decreased cost	11%

Table 8: Improvements in Physiotherapy Skills

*Likert scale from 0-10/10 (0/10 = not at all, 5/10 = somewhat, 10/10 = great deal)

<i>As a result of attending the Advancement of the Rwandan Rehabilitation Services courses how much do you feel your evaluation and treatment of patients has improved for the following:</i>	Mode*	Mean (SD)*
Clinical Decision Making	8	7.9 (1.1)
Active treatment techniques	8	7.8 (1)
Practical clinical skills	8	8.2 (0.9)
Evaluating functional activities	8	8.4 (1.1)
Setting functional improvement goals	8	8.3 (1.2)
Functional activity education	9	8.1 (1.2)
Using outcome measurements	7	7.8 (1.4)
Adjusting treatment based on patient improvement	9	8.2 (1.1)

Table 9: Changes in Patient Management

Outcome	% of Respondents Indicating a Change
Using outcome measures	66%
Assessment/evaluation	36%
Functional focus (activity assessment, goals, treatment, education)	28%
Practical clinical skills	26%
Clinical Decision making	25%

Table 10: Awareness of Physiotherapy in Rwanda

*Likert scale from 0-10/10 (0/10 = not at all, 5/10 = somewhat, 10/10 = great deal)

	Mode*	Mean (SD)*
How much do you think awareness of Physiotherapy In Rwanda has increased as a result of the ARRS CPD courses?	7	6.4 (1.6)
Do you believe that the Leadership Institute projects will result in increasing awareness in Physiotherapy in Rwanda	8	7.8 (1.5)

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Appendix II

List of HVO Volunteer Course Instructors

Spinal Rehabilitation

September 2013 – March 2014

Antoinette P. Sander, PT, DPT, MS, CLT-LANA

**A Therapeutic Exercise Approach to Orthopedic
Problems of the Extremities**

April 2014 – August 2014

Linn Harding, MA, PT, OCS

Frances Markovic, PT

**The Evaluation and Treatment of Neurological
Conditions**

September 2014 – December 2014

Michael J. Bradbury, DPT

Ben Braxley, PT, DPT, NCS

Frances Markovic, PT

Pediatric Rehabilitation

January 2015 – March 2015

Kathryn Volz Clark, PT, MS, MPT

Lori M. Kohls, PT, DPT, PCS

Cara N. Whalen, PT, DPT, CHES

Respiratory Rehabilitation

January 29 – 30, 2015

Lori M. Kohls, PT, DPT, PCS

The Leadership Institute

April 2015 – May 2015

Maureen Romanow Pascal, PT, DPT, NCS

Ben Braxley, PT, DPT, NCS