



To work in Rwanda, one must first obtain permission from the proper government authority and make certain to align the strategy of the project with the goals of the Government of Rwanda and Rwandan Ministry of Health.

## GLOBAL GRANTS COMMUNITY ASSESSMENT RESULTS

Use this form to report community assessment findings to The Rotary Foundation when you apply for a global grant.

Assessing the strengths, weaknesses, needs, and assets of the community you plan to help is an essential first step in designing an effective and sustainable global grant project. See [Community Assessment Tools](#) for full instructions and helpful tips.

This form will help you report the results of your community assessment, and it's required when you apply for any humanitarian or vocational training team grant. Complete a separate form for each beneficiary community (e.g., school, health care system, or village), using information that is both current and specific to each community. Remember, you can't use global grant funds to cover the cost of doing an assessment, but you can use district grant funds.

### COMMUNITY OVERVIEW

Describe the characteristics (such as geographic information, main sources of income, population size, and access to education and health services) of the specific community where this project will take place.

The 'community' in this project is nurses working in Rwandan five District 52 Health Centers (HCs) in the project sites chosen by the Ministry of Health in Rwanda.

#### Background

**Rwanda population:** Currently the 2024 population of Rwanda is 14 million with 67% of the population under 25 years old. Roughly 7 million children are of age for peak incidence of Rheumatic Heart Disease (RHD). 17.7% of the population live in urban settings.

**Healthcare:** Healthcare is provided in health posts, health centers, district hospitals, provincial hospitals, and national hospitals. Health posts (680) and Health Centers (499) are the primary sites for 80% of the Rwandan population to receive healthcare. The point of entry for Healthcare is typically at the District Hospital level or lower. Private facilities exist for those who can pay. Health posts are often staffed with non-medical personnel, or a nurse. Health Centers (HC) are managed by nurses who handle the entire clinical practice and make decisions without the support of a

physician. Most of the health post and health centers are in poor rural and urban settings. District, provincial and national hospitals are higher in the healthcare hierarchy and are staffed with physicians and nurses.

**Nursing education:** The 1994 Rwandan Genocide disrupted all healthcare within the country with significant deaths rates among those who taught and provided healthcare. Subsequently, the government built a decentralized health care system through the development of autonomous districts accountable for reaching the national healthcare goals. In 2022 the Rwandan government placed eradication of RHD as a healthcare priority (Ezekwesili et al., 2022 in Global Cardiac Surgery Capacity Development in Low and Middle Income Countries, Sustainable Development Goals Series, [https://doi.org/10.1007/978-3-030-83864-5\\_35](https://doi.org/10.1007/978-3-030-83864-5_35)).

This VTT focuses on Health Center nurses who manage a wide range of diseases and carry out comprehensive and complex tasks. They conduct consultations, decide which laboratory tests to do, determine the treatment and medications plans, when to conduct follow-up, who to refer to a higher-level healthcare facility and who to send home. These tasks differ from nurses' tasks in hospitals, where nurse's duties primarily consist of providing bed-side care and assisting physicians.

Health Centers are primarily staffed by nurses with an *A2-level training* (A2-nurses) who make up over 80% of all nurses in Rwanda. Since 1962, A2-nurses were trained through a 3-year *secondary* school education (High-school), with a focus on human biology and needed skills for tasks, such as suturing. The *A1-level nurse* has 3 years of nursing school after secondary school, leading to an advanced, certified diploma in nursing. A1-nurses represent less than 10% of the total nurses in Rwanda. *A-0 level nurses* have a four-year university education. Nurses with an A-0 level are primarily trained to work in hospitals, teach, or become administrators. A very few A-0 trained nurses work at Health Centers. Rwanda began a *graduate-level nursing program* in 2017. However, none of the nursing education provided, even in the graduate-level nursing program, provides knowledge and skills to prepare a nurse to assess (history, physical, labs/tests, and differential diagnoses), diagnose, treat, and follow up patients for primary and chronic care and medication management for RHD as needed in Health Center settings. Nurses are not trained to use a stethoscope, yet Health Center nurses are required to diagnose and treat heart failure patients. Health Center nurses neither have access to nor the skills to use stethoscopes or otoscopes.

**The District Hospitals (DH) and the surrounding areas:** In 2023, the Ministry of Health extended a request to Team Heart (for further information on Team Heart, see the section on Team Heart below) for assistance in strengthening care delivery, particularly in cardiac diseases. It is with collaboration between the Rwanda Biomedical Center and the Ministry of Health and with Team Heart's leadership and the collaboration of the Deputy Generals at each District Hospital as well as local stakeholders, that we will be able to implement this grant in 2024.

The 'community' in this project is nurses working in Rwanda's five District Hospitals and the Health Centers (HCs) in the project sites chosen by the Ministry of

Health. The District Hospitals selected by the Minister of Health include: **Byumba in the north, Kabagyi in the south, Kibagabaga in Kigali, Kibogora in the West, and Rwamagana in the East.** These hospitals represent about 10% of the District Hospitals in Rwanda and these facilities have a catchment area of 1.2 million people.

One of the sites, Kibagabaga is in the Gasabo District. It includes both urban and rural populations with some higher levels of education, health care and employment. Per capita, the income is higher than at other sites in the project. In Team Heart's school age study of RHD in 2011, the schools close to Kibagabaga and the city had decreased numbers of rheumatic heart disease than those in more rural settings.

Rwamagana has a smaller urban presence, but the district is largely dependent on subsistence farming in agriculture and raising livestock. Local governments are very active and engaged and provide initiatives and connect co-ops. Because of the close distance to Kigali, there is also more opportunity for trade, education and health care partnerships.

The three remaining sites, Kabagyi, Byumba and Kibogora are more rural and further from Kigali center. There are a range of economic challenges and subsistence agriculture and working for others is very common. People earn only enough to support the immediate needs of the family with little opportunity to save money or provide a cushion for the costs of major illness such as rheumatic heart disease. Patients at risk for rheumatic heart disease are found in lower economic levels with demographic profiles and lifestyles aligning with poverty, such as over-crowding, food insecurity, and lack of access to health care. At these three sites, there is a higher prevalence of rheumatic heart disease because of the lower economic status of individuals and families. Kibogora has an additional risk for cardiomyopathy development. Kibogora services a population with direct access of Lake Kivu for food Fish. The lake has significant levels of copper, lead, cadmium, chromium, manganese, mercury exceeding EPA standards. Heavy metals damage the heart creating heart failure. Our educational program includes a discussion on heart failure. The conference at Kibogora will have additional information to help the nurses understand the exposure, pathology, and assessments needed to diagnose cardiomyopathy (same symptoms as RHD).

**Our Rwandan Partner, Team Heart, Inc.:** In acknowledging the overwhelming deficit in cardiac care in Rwanda, Team Heart was founded in 2006 as a United States 501(c)(3) non-profit solely dedicated to cardiac disease in Rwanda. The organization was established with the support of the Rwandan Ministry of Health and Rwanda Heart Foundation and initially served as a source of humanitarian cardiac care in Rwanda by coordinating visiting teams of U.S. volunteer healthcare professionals for diagnostics, skill transfer, and care delivery. Over the past several years, the focus of Team Heart's work has shifted towards mentorship of local healthcare workers, particularly physicians and nurses. Team Heart's goal is for Rwandans to be self-sufficient in providing medical personnel to diagnose and treat rheumatic heart disease including valve replacement surgery.

In 2011 Team Heart and local partners screened school age children and found moderate findings of 7.5/1000 of school age children previously undiagnosed in the Gasabo District in a randomized echocardiographic-screening (Mucumbitisi, Prevalence of rheumatic valvular disease in Rwandan school children: echocardiographic evaluation using the World Heart Federation criteria., CJSA, February 2017 ). The authors found that the prevalence of RHD increased with the children’s distance from Kigali. This had been expected, but unconfirmed and it acknowledges a disparity in health care for school-age children.

Since 2014, Team Heart has worked closely with Rwanda Biomedical Center and partners to increase skills transfer and mentoring for cardiac care. In 2022, Team Heart partnered with the University of Rwanda (UR) School of Nursing to develop and implement the Specialized Cardiac Nurse (SCN) course as the first advanced-practice cardiology nursing educational program in Rwanda. It was through the SCN program that Team Heart and the University of Rwanda partnered with the Lander Rotary Club and completed a pilot project for this grant: Rwandan Nurses Saving Lives February 17-18, 2023.

This VTT/Global Grant aligns with the nursing education Team Heart will be implementing within their 2024 activities for the five identified District hospitals. The population served by these district hospitals is 1.2 million people. The country’s nine cardiologists periodically travel to the five district hospitals in this VTT. The country has developed a Noncommunicable Disease (NCD) nurse role through the Rwandan Biomedical Center. The NCD nurses receive training in cardiac, renal, and liver diseases and are the primary healthcare professional providing care at the District Hospital level and higher. Team Heart has been influential in providing education to the NCD nurses pertaining to the use of echocardiograms. In our VTT we will be training two NCD nurses from each District Hospital to become Certified Conference Presenters of the training. This way the hospital Director Generals can use the NCD nurses to train their staff at a later date.

#### Project

This Global Grant (GG) is a Vocational Training Team (VTT) to provide Rheumatic Heart Disease (RHD) knowledge and skills to Health Center (HC) nurses. A key component of the VTT is the education and mentoring of nurses to become Certified Conference Presenters so future conferences can be taught by these presenters. This increases project sustainability. HC nurses were chosen as the target audience for this training as they are front-line healthcare nurses that see children with sore throats and symptoms of acute rheumatic fever, rheumatic heart disease and heart failure.

### **COLLECTING COMMUNITY ASSESSMENT DATA**

When you conducted the assessment, who in the community did you speak to?  
At least two different community representatives and beneficiaries who are not involved

in Rotary (such as teachers, doctors, or community leaders) should be included in the discussions.

Needs Assessment Data came from three areas: 1). The Specialized Cardiac Nurse Project implemented by Team Heart and the University of Rwanda School of Nursing in Rwanda from March 2022-February 2023. 2) The Lander Rotary Club Pilot Project Rwandan Nurses Saving Lives, conducted in February 2023. And 3) Data collected from Team Heart's data collection through their operations in Rwanda.

#### Part 1 Needs Assessment Data – Specialized Cardiac Nurse Project

The post-master degree training, *Specialized Cardiac Nurse (SCN)* was developed to fill the knowledge gap identified by the visiting humanitarian cardiac teams providing open heart surgery. The University of Rwanda's masters in Nursing program is in specific tracts (critical care, oncology, peri-operative, med-surg, and leadership). There were discussions concerning a possible cardiology tract. The SCN program fulfilled the pilot aspect for an advanced practice nurse role in cardiology. The lead trainer on this VTT participated in the SCN as project director and senior consultant. Results of the SCN conference formed a baseline needs assessment for this Global Grant/Vocational Training Team.

Six post-master degree students were selected to participate in the SCN training. Three of the SCN students were Faculty for the University of Rwanda Master degree program in nursing and three were nurses in Intensive Care Units (ICU) in National Level hospitals. These SCN students provided the needs assessment data from their own experience and they gathered data from twelve Non-Communicable Disease (NCD) nurses in three different District Hospitals.

The data they gathered included the screening and treatment of cardiac patients and cardiac knowledge and skills. They self-reported their own data and interviewed 12 NCD nurses and reported a significant knowledge and skills gap, a clear demonstration of the lack of skills in taking medical histories, and an inability to conduct physical exams at the district hospitals as well as on the graduate level. These clinical experiences and the awareness gained by the SCN trainees of the need to provide knowledge to frontline nurses led to the creation of the pilot project: Rwandan Nurses Saving Lives that was conducted by the Lander Rotary Club in February 2023.

#### Part 2A Needs Assessment Data – Lander Rotary Club Pilot Project Rwandan Nurses Saving Lives

During the pilot project, 32 Health Center nurses identified the need to provide education to community health workers (CHW) so those workers could encourage parents to bring sick children to the Health Center. Therefore, this Global Grant will include a 4-hour seminar for community health workers and school teachers. School teachers were added because the pilot study participants also thought that providing education to teachers, who talk to students, would add to the overall community awareness that a sore throat could cause heart disease and all sore throats should be seen by the nurse at the Health Center. In Rwanda, RHD is often diagnosed at an

advanced stage after patients have severe valvular disease leading to serious complications resulting in significant disabilities or death. The training of Health Center Nurses, Community Health Workers and school teachers can help lead to earlier identification and treatment of RHD.

Part 2B Needs Assessment Data – Lander Rotary Club Pilot Project Rwandan Nurses Saving Lives on VTT Conference Design. The VTT Conference Design was strongly impacted by the Pilot Project Assessment.

Describe what members of the community said matters to them during the assessment.

Nurses from the health centers in the Pilot conference were asked to share their thoughts about the conference two months after the conference. A unique aspect of the conference is a two-month post conference virtual mentorship. The nurses provided several ideas for conference improvement to be implemented. These insights were:

1. Simplify the manual, including less detail, for the nursing level of NCD and Health Center nurses.
2. Present training in the language that allows the best learning: this is often Kinyarwanda and French, English is also used in parts of the country.
3. Continue the PowerPoint format as it is effective.
4. Continue the skills day (skills practice sessions) as they are effective and greatly appreciated.
5. Simplify the pre and post conference test as it was too complex.
6. Continue the virtual mentorship as it is a key component to helping the nurses sustain use of the knowledge and skills, plus the mentorship increased the nurse's confidence in the care they provided to patients.
7. Provide a better light source for throat evaluations.
8. Educate teachers and community health workers as they are the ones who would encourage parents to seek health care instead of traditional medications.

Participants shared many stories about conference impact. The following are some quotes from the Health Center nurses who attended the Pilot conference.

“After attending the conference, I gained the knowledge and skills, I can take a full history and head to toe assessment and I make decision according to findings. Diagnostic tests are still a challenge there are not available. For strep throat, after the conference we give Peni V 250 mg BID for 10 days, but before the conference we gave Peni V 250 mg BID for 5 days. Therefore, the course was very helpful!”

“I was thinking that what I was doing was a standard stared [of care ] but after conference I have got something and skills which orient to making decision according to objective data and subjective data from this I used to make a decision whether I can manage a client who meet with GAS [Group A Streptococcus infection] or refer a client

at time so that there was no a client who meet any complication from GAS.”

“I am more confident than before the conference, before the conference I could not do the full assessment like heart auscultation, but now after the conference I can identify normal heart sound and abnormal heart sounds. I can now use the stethoscope very well to save life.”

“Through health education the nurses will inform the community the signs and symptoms of strep throat, its risk factors, preventive measures, the importance of completing the antibiotics prescribed, to avoid traditional healers and to advocate early for the clients with RHD for surgical interventions.”

“From the knowledge and skills gained during the conference, I feel more confident and I can do holistic care to all the patients I receive. I can properly use the stethoscope to auscultate the heart and the lungs I can save lives.”

“It is very self-explanatory, I am confident enough to examine and diagnose the patients after the conference but previously I was not able to manage even the simple case of ST [Strep Throat], even its diagnosis was not possible for me. After the conference with the mentorship, I am confident to manage the patients with ST and refer the patients with complications of ST and any other sign which may not be manageable at HC.”

“I found one patient after using the stethoscope, who have a mitral murmur after conducting cardiac ultrasound at the hospital they confirmed RHD [Rheumatic Heart Disease] now she is under follow-up in the NCDs clinic.”

“Before mentorship, I was not able to identify the patient with ST or ARF [Acute Rheumatic Fever] and how can assess those patients, After the conference and mentorship I am confident enough to assess and diagnose patients with ST and give them the correct treatments. As I have skills, I tried to train the rest of my colleagues so that we should have the same skills and the same management of ST. Now I’m trying to use a stethoscope confidently by auscultating the abnormal heart and lung sounds but previously we did not even use it. And if found abnormal findings I give transfer the patients with full confidence of my findings.”

### Part 3 Needs Assessment Data – The Work of Team Heart

Team Heart in Rwanda hosts volunteer surgical teams four times per year for Rheumatic Heart Disease valve replacement/repairs. The teams screen over 250 symptomatic children for each surgical time for the ten slots available. Most of the children are too sick to handle surgery. Current data from Team Heart’s work in the District Hospitals is those District Hospitals using echocardiograms to diagnose RHD identify an average of 15 new cases per month. This brings an estimate of 300-600 cases in the country of symptomatic RHD per month.

In addition, in the early planning, Team Heart spoke to physicians and nurses in interviews. Team Heart staff members also talked to RHD patients in a focus group November 9, 2023, and they visited with families in less structured meetings during

hospital visits. All of these interactions proved valuable in obtaining helpful information. Team Heart also worked closely with the post-operative patient's recovery support group who shared qualitative information.

The information obtained from the interviews, focus groups and visits included stories of patients and families from diagnosis of RHD to stabilization, recovery care and post-operative recovery. They gained insights into on how nursing can impact and improve the process. The stories reinforced the difficulty of initial diagnosis and the lack of healthcare personnel linking repetitive strep throat to heart disease.

In addition, Team Heart works closely with the Rwandan Biomedical Center (RBC) cardiology department in sharing and reviewing community impact on past and future projects. The RBC is the entity who determined the five Level II training centers (also District hospitals) with the greatest need for additional education and support for improving cardiovascular health and well-being of their communities.

When in the last year did the discussions occur?

July- December 2022 and April-May 2023

What methods did you use to collect information from community members (such as community meetings, interviews, or focus groups)?

Data collected on the nursing knowledge gap (Part 1) was collected one-on-one interviews with the SCN master-prepared nurses and the NCD nurses in district hospitals.

Data collected on the need to educate community health workers and teachers (Part 2A) was collected in post-conference evaluations of the pilot program training health center nurses.

Part 2B was collected by an evaluator conducting post-conference assessments with a written instrument after the Pilot Project

Part 3 was collected through various means including patient screenings, focus groups, anecdotal visits with families, and anecdotal visits with physicians and nurses.

## **TARGET POPULATION**

Who will benefit directly from the project? List the groups that will benefit (such as schools, hospitals, vocational training centers, cooperatives, or villages).

This is a knowledge and skills educational nursing conference whose primary target population is Health Center nurses. These are frontline nurses seeing patients in their communities where Streptococcus pyogenes infections, acute rheumatic fever, heart failure, and rheumatic heart disease should be assessed, diagnosed, referred,



and managed.

In addition, we are extending an invitation to the Nursing Schools associated with these Level II training centers to send one faculty member to attend the train-the-presenter conference. Each participant (The two NCD nurses from each hospital and one nursing faculty of each Nursing School) will receive electronic copies of the manual PDFs and all PowerPoints to facilitate additional conference presentations.

All trainees:

-6 Rwandan medical experts, five nurses and one physician will be trained and serve on the Vocational Training Team as the core team

10 NCD nurses from the district hospitals and 5 nursing school faculty will become Certified Conference Presenters (along with the core team) leaving 21 conference presenters in the country at the end of the grant.

--up to 175 Health Center nurses, who will complete the full 2-day conference of knowledge (day 1) and Skills (day 2), and all of whom are trained to use and are given stethoscopes and otoscopes

up to 65 district hospital nurses and physicians, who will complete the knowledge day (day 1) and whom are gifted a stethoscope

-up to 180 community health workers and school teachers. These individuals see sick children before referral to health centers and are usually non-medical personnel.

While the Health Center nurses are the primary beneficiaries, their patients, Community Health Workers and School Teachers are also beneficiaries, as well as the families and children they serve. To leverage the grant funds and maximize the benefits of the VTT, nursing faculty and district hospital staff will also be trained and will be beneficiaries. The catchment for these five district hospitals is 1.2 million people.

Describe the process of how the beneficiaries were identified.

The Rwandan government, through the cardiology department of the Rwandan Biomedical Center (RBC), identified five, level-two training hospitals that are designated to receive extra cardiology education and support in 2024. These hospitals are on the District level and each facility has a catchment area of 11 to 24 Health Centers. Our four educational conferences will include all of the Health Centers of the level-two training centers designated by the RBC. The RBC Cardiology Department will invite a nurse from each Health Center and CHWs as an invited participant. The two NCD nurses from each District Hospital to become Certified Conference Presenters are identified by the District Hospital Director general and verified by RBC. The nursing faculty will be identified by the school Deans. Teachers will be identified through each community as set forth by governmental policy.

## **COMMUNITY STRENGTHS, NEEDS, PRIORITIES, AND PROJECT DESIGN**

Describe the community's strengths and resources.

**Nurses desire to learn:** Instructors in SCN and the Lander Rotary Club pilot program state that they have observed Rwandan nurses in clinical settings since 2014 and one of their strengths is the desire to learn and the ability to implement what they learn. While it is true that the current formal education for nurses does not include taking a history and completing a physical exam, once trained and supported, nurses demonstrate the ability to use what they have been taught.

There is an opportunity for nurses to provide community education. Health center nurses can then provide community education during community monthly gatherings on Strep Throat, Acute Rheumatic Fever, Heart Failure and Rheumatic Heart Disease.

**Core Train-the Presenter Team:** The core team members were selected from Rwandans based on their current expertise and established working relationships with the U.S. VTT Conference experts. Each Rwandan core member has proven knowledge and desire to help Rwandan nurses. They are dedicated and determined to commit the time required for personal knowledge, skills, and confidence growth. Plus, they recognize the commitment required to be an advocate for the conference and the content (such as the importance of Rwanda adopting the intramuscular Penicillin injection as a route of administration that nurses can safely administer in rural settings).

**Relationship with RBC:** This VTT's Rwandan cardiac partner is Team Heart, Inc. Team Heart is a US 501(c)(3) organization dedicated to the development of surgical treatment of RHD. They have been in Rwanda since 2006 and have established trusted working relationships with government organizations and hospitals throughout Rwanda. Team Heart has worked with the Rwandan Biomedical Center (RBC) Cardiology Department to facilitate and mentor cardiology education for physicians and nurses for many years. It is through this trusting relationship that RBC has identified five, level-two training centers (District Hospitals) as the 2024 training sites for all of Team Heart's activities concerning RHD. This is a significant relationship that has taken years to build this level of trust.

**Strong Partnerships:** Completing an international project on this level cannot be accomplished without strong partnerships. First is the Rotary International partnership between the Lander Rotary Club and the Kigali Rotary Club. Next is a partnership with Team Heart. Lander's club member, and project designer, Maria Kidner has worked with Team Heart over several years to help design and implement the SCN education program and the Rwandan Nurses Saving Lives pilot project. Team Heart provided all of the conference operations and were fiduciary in all expenses. Team Heart is located in Kigali, Rwanda, and employs full-time Rwandan staff. The partnership with the University of Rwanda has been developed through Team Heart and its work in developing educational opportunities for physicians and nurses to improve

cardiac knowledge, skills, and confidence. An anticipated long-term outcome of this GG is the integration of this conference into the nursing curriculum in all government nursing school. Our engagement and relationship building with the Nursing Schools associated with the level II hospitals we are working with in Rwanda will be key into implementing this goal.

**Technology to do mentorship:** Although not all Health Center nurses have access to a computer, all have access to a cell phone. Good cell phone coverage for the country was a priority of President Kagame. In the pilot project, the virtual mentorship was conducted via WhatsApp and it worked very well to provide a platform where the group could discuss clinical issues. Travel distances were too great to have the SCN to conduct site visits.

Describe any challenges and gaps in the community's behaviors, skills, and knowledge.

- There are many challenges for a Rwandan Health Center nurse working in a low-income country. Overall, these nurses are working in rural areas on limited nursing education – especially education for clinical diagnosis, pharmacology management, and comprehensive physical exams combined with critical thinking.
- Adding a requirement of a physical exam on each patient creates an additional challenge for busy nurses.
- Nurses in the Health Centers lack physician support and guidance. Most Rwandan nurses believe stethoscopes are for physicians only.
- When a nurse uses a stethoscope, she or he often receives both lateral and vertical abuse/jealousy remarks.
- Most educational efforts are focused on District, Provincial, and National level hospital staff. This neglects opportunities for education and mentorship to the Health Center nurses.
- Providing education and mentorship is very expensive. Funding is required to provide the education, mentorship process, and the equipment (stethoscopes, otoscopes, and educational tool kits).
- The educational conference manual needs to be written specifically for the A2 nurse and in English as a third language.
- The educational conference materials for the Community Health Workers needs to be translated in Kinyarwanda.
- There are no current educational tool kits to allow nurses to provide an evidence-based and consistent education to patients and families that are culturally correct and in Kinyarwanda to aid understanding.
- Educational gap: the transition from new knowledge to expert clinical skills follows a pattern. This conference uses the Nursing theory of P. Benner

(1983) novice to expert. This model uses novice, advanced Beginner, competent, proficient, expert levels for knowledge and skills translated into clinical practice. It is a challenge to design a support structure to help the Health Center nurses transition from novice to competent within 2 months.

- The core team of Train-the Presenter should progress from advanced beginner to expert within 12 months of mentorship from the U.S. content experts.
- The Core Team members are working fulltime in their nursing jobs.
- The Non-Communicable Nurses at District Hospitals are currently at the novice level and the goal is for them to reach the competent (or higher) level not only in conference content, but also the ability to teach others.
- The process of identifying and inviting the CHW and teachers is a new process.

What issues will the project address, and how does the community currently address those issues?

**Stethoscopes-** Worldwide, nurses use stethoscopes to assess patients. Currently, in Rwanda, it is felt that stethoscopes are for physicians only. The Rwandan Biomedical Center Cardiologist and lead for Non-Communicable Diseases in Rwanda, Dr. Everist, provided the closing remarks at the pilot program. He encouraged every nurse to use their stethoscope. We use our nurses' empowerment module to help each nurse to know how to respond to any verbal abuse/jealousy and the nurse-presenters all share stories about using a stethoscope. Lastly, during the mentorship period, discussions on stethoscopes emphasize that the stethoscope is a critical component of the skills and practice needed.

**Lack of Physical Exam** – Each module in the training materials has a section devoted to a history and physical exam supporting the module topic. Currently Rwandan nursing education does not include a history and physical examination. The conference has a full day dedicated to physical assessments on Day 2-the Skills day. During the mentorship, case scenarios are used to facilitate clinical application of the history and physical. Many of our pilot participants suggested adding a third day to added practice clinical scenarios to practice and discuss their new knowledge and skills. Many also suggested refresher courses to be offered. Although excellent suggestions, currently there is a financial constraint to increase the conference to include a third day. Yet, as we review the outcome data, a third day will be considered to the future 2025 Rwandan Nurses Saving Lives.

**Vertical and Lateral abuse/jealous remarks** - The conferences within this Global Grant/VTT have a nursing empowerment module and the entire conference is built on using positive reinforcement. Currently, the education culture in Rwanda often uses negative reinforcement and nursing is rarely involved in finding solutions to problems. However, the pilot participants responded quickly to positive reinforcement and empowerment. Many have already shared their knowledge and skills to the other

HC nurses at their workplace. To understand one's responses to vertical and lateral abuse is to first understand the person's perception and why such remarks are made. We give them ideas for positive responses and how to grow trust in their working environments.

**Knowledge and Skills Gap-** The entire conference is designed to bridge this knowledge and skills gap. According to the three University of Rwanda School of Nursing faculty attending the SCN program, Rheumatic Heart Disease is not covered in general nursing schools under the supervision of the University of Rwanda. It is our hope that the Nursing Schools connected to these Level II training centers will participate in our invitation for a faculty member to attend the cohort #1 NCD Certified Train-the-Presenter training. The Deans from these schools will be involved in our stakeholder meetings.

Provide the specific details of the project design and how it will solve these issues.

To help build habits of history taking and physical exams, this conference provides two months of virtual mentorship to help each nurse become more comfortable with physical exams including the clinical diagnosis of StrepThroat, using a stethoscope, and teaching staff and patients. In addition, we end the day of knowledge-instruction with a module on Nursing Empowerment. This module is designed to help the Health Center nurses recognize that they are important people in the health care community, that nursing is a profession that helps people, and that nurses should use stethoscopes in their assessments.

To bridge the knowledge and skills gap, the 15 hours conference format is easy to understand and engaging with lectures, brainstorming, small group work, and skills practice. Participant responses to these sections in the Pilot conference showed nurses particularly valued the skills practice sessions. The Pilot conference was reviewed by the University of Rwanda School of Nursing and granted 17 hours of Continuing Professional Development (CPD). It is anticipated that the redesigned 2024 course will be awarded 15 hours of CPD (the Pilot project hosted a working dinner). To help the nurse-participant teach additional staff, each participant receives a manual written in English as a third language and it includes culturally-appropriate graphics to help explain topics.

To help remind the nurse what to say for patient education, a flip chart with culturally appropriate graphics is given to the nurses. These flip charts are written in Kinyarwanda.

To help the nurses build relationships, the nurses work in teams during the conference. All conference activities are done in these teams so friendships can be started and fostered. These teams become their virtual mentorship group following the conference. These nurses work in remote areas. Developing a network of nurse-friends becomes part of the mentor process as nurses reach out when he or she has a question

or needs help with a diagnosis.

To help reinforce conference information, the Rwandan core train-the-presenters team is looking at ways to provide a quarterly newsletter to the Health Center nurses and the possibility of refresher courses. Health Centers are provided a center computer provided by the Minister of Health. The Core Team is looking for ways they can develop educational materials to be sent via the HC computer.

Describe the long-term plan for the project (such as oversight, financial responsibilities, and expected behavior change) after Rotary's involvement ends.

The long-term plan to address the clinical diagnosis of strep throat for early detection of Rheumatic Heart Disease and other cardiovascular diseases hinges on government plans in Rwanda as the healthcare system is run by the government. The Ministry of Health partners with our cooperating partner, Team Heart. Team Heart was invited by the Ministry of Health to Rwanda in 2007 to assist in building cardiac surgery to address the burden of rheumatic heart disease. This partnership is now entering its seventeenth year with a MOU with the Minister of Health to provide cardiology care and education in Rwanda. Team Heart provides the access points for this VTT.

Team Heart has an existing MOU (and has had three past MOUs) to address these needs. Specifically, the MOU describes Team Heart's role as "developing a sustainable and comprehensive cardiac care program through capacity building, including the training and mentoring of health care professionals for cardiac surgery and the diagnosis and treatment of rheumatic heart disease and other cardiovascular diseases." Team Heart conducts their work with many partners and many grants and their own funding. Our work together is just one aspect of their work which Rotary can enhance by training healthcare providers in this VTT model.

Expected behavior changes:

Community Health Workers and School Teachers – increased referrals to health centers and referrals made earlier in the disease cycle.

Health Center Workers – use of diagnostic tools, patient history taking and other health care treatment processes for earlier identification of strep throat and rheumatic heart disease and referral to District Hospitals.

Non-Communicable Disease Nurses – provide training for Health Center Workers and Community Health Workers and School Teachers and with the support of the District Hospital Director General, further training for nurses and physicians and nurses at the District Hospitals.

School of Nursing Faculty – each of these District Hospitals are level II training centers and have a School of Nursing attached. As a courtesy, faculty will be invited to the NCD Nurse training so that they may consider the Rwandan Nurses Saving Lives curriculum for inclusion in the School of Nursing curriculum.

Core Training Team – the increase in knowledge, skills, and advocacy will make this team experts within Rwanda for further training in the country.