Namibia

Project Focus: National Penicillin Supply Chain Task Force to strengthen the National Programme

Project Leader: Dr Tangeni Auala

Grant Received: USD 3000

Background:

Rheumatic heart disease (RHD) remains the most common cause of acquired cardiovascular disease in children and young adults in Africa. RHD is the cardiovascular sequela of acute rheumatic fever (RF), a consequence of untreated bacterial pharyngitis caused by Group A Streptococcus (GAS). It results in significant disability and premature mortality leaving more than 10% of affected individuals dead within a year of diagnosis.

The RHD Service in Namibia was established in the capital Windhoek in 2010. It serves as the national referral centre and facilitated the creation of the National RHD Register and Namibia’s participation in the Global Registry for Rheumatic Heart Disease (REMEDY). The registry revealed that in Namibia RHD patients are young and predominantly female; the majority live over 700 km away from the centrally located RHD Service and present with advanced disease. It also showed there is inadequate delivery of essential interventions such as secondary prophylaxis with penicillin. This research led to the elaboration of the National Programme for Prevention and Control of RF and RHD in March 2014 which incorporates the PASCAR-driven “Beat RHD A.S.A.P.” model and the creation of the National Advisory Committee for RF and RHD in Namibia in April 2015, a historic milestone for Africa.

RF and RHD and its sequela are entirely preventable and the most cost-effective measure for disease prevention and control is primary and secondary prevention with high quality benzathine penicillin G (BPG) and oral phenoxymethyl penicillin. The variable supply of high quality penicillin in Namibia is presents a challenge to eradication of RF and RHD. Since the establishment of the RHD Service, there have been several occasions when penicillin (both injectable and oral) was not available in Namibia. If Namibia hopes to achieve a reduction in mortality from RF/RHD by 25% by 2025 and eradicate the disease in our lifetime, the issue of penicillin security needs to be addressed NOW.

Activities

2.1 Namibian Penicillin Task Force

In June 2017 RHD Clinic Namibia was awarded a PASCAR/WHF small grant for the Namibian Penicillin Task Force. Funds were transferred to Namibian Children’s Heart Foundation. During July and August 2017, numerous consultative meetings with various stakeholders were held to assess the actual situation regarding penicillin security in Namibia, gauge interest and commitment and to seek endorsement from key directorates within the Ministry of Health and Social Services of Namibia (MoHSS).
On Monday, 25 September 2017, the Inaugural Meeting of the Namibian Penicillin Task Force was held under the authority of the Minister of Health and Social Services Hon. Dr Bernard Haufiku. This task force met as part of the Namibian National Program for the Prevention and Control of Rheumatic Fever and Rheumatic Heart Disease that was launched in March 2014. This meeting is the first of many that will investigate and work toward securing the penicillin supply chain from manufacturer to patient in Namibia.

At this first meeting twenty-one (21) representatives from stakeholders at the supplier/distribution end of the chain attended. The meeting was chaired by Dr Chris Hugo Hamman, and in attendance was the Honorable Minister Dr Bernard Haufiku, Permanent Secretary Dr Andreas Mwoombolaof MoHSS and representatives from the Directorates of Primary Health Care, Tertiary and Clinical Services (Central Medical Stores, Pharmaceutical Services); the National Advisory Committee for RF and RHD; Namibia Medicines Regulatory Council, local pharmaceutical suppliers and distributors of penicillin and hospital pharmacists from the state and private sector.

The Honorable Minister Dr Haufiku inaugurated the meeting with a speech that reiterated the concern that RF and RHD, an entirely preventable disease, continues to have such a devastating impact nationally and globally. He commended the RHD Service for their involvement in collaborative research and the development of the National Programme for the Prevention and Control of Rheumatic Fever and Rheumatic Heart Disease. He shared Namibia’s participation in co-sponsorship of the draft Resolution on ‘Rheumatic Fever and Rheumatic Heart Disease’ during the 141st meeting of the WHO Executive Board; that has been recommended for adoption at the 71st World Health Assembly (May 2018, Geneva). He emphasized the importance of uninterrupted penicillin supply chain for the prevention and control of RF and RHD and stressed that efforts should be increased to raise awareness about RF, RHD, its sequela and how to prevent it; better surveillance and rigorous research; improved advocacy for resource allocation and engagement with policy makers. He encouraged a productive and informative deliberation and expressed that the task force had the full support of his office to investigate and address the breaks in the Namibian penicillin supply chain.

Following the inaugural speech, Drs Tangeni Auala, Christopher Hugo Hamman and Ndatiyaroo Agapitus gave introductory talks on RF and RHD, the Addis Ababa Communiqué and the Penicillin Supply Chain respectively to set the tone for interactive sessions. Participants were also provided with hard copies of the Addis Ababa communiqué, the REMEDY and REMEDY Outcomes paper for their perusal.
These talks were followed by a lively, informative and honest discussion between stakeholders about the nature of the penicillin supply chain and what processes would be required to secure it in Namibia. Several obstacles were identified, one being the lack of awareness about RF and RHD amongst the public, practitioners, prescribers and policymakers. Concerns were expressed about the limited number of sites producing the active propriety ingredient (API) globally, how to ensure that the penicillin imported is of high quality, registration of penicillin by Namibia Medicines Regulatory Council and the limitations in ordering because of large batch amounts required and need for forecasting within the country.

It was also emphasized that the National Program for the Prevention and Control of Rheumatic Fever and Rheumatic Heart Disease could learn from HIV/TB/Malaria National Programmes. Attendees were delegated to investigate and provide feedback to the group. The meeting agreed that the going forward the Penicillin Task Force would consist of the representatives nominated from the following:

1. Ministry of Health and Social Services
   - Directorate: Primary Health Care Services: Non-Communicable Disease Section
   - Directorate: Tertiary and Clinical Services: Division: Pharmaceuticals and Central Medical Stores
   - Namibia Medicines Regulatory Council
   - Directorate: Finance Procurement and Management Unit
2. Pharmaceutical Suppliers and distributors
3. Pharmacists: Private and State
4. Prescribers: medical doctors and nurses
5. Patients

The Penicillin Task Force met early in 2018 with terms of reference and memorandum of understanding and work on the infographic that illustrates all the links in penicillin chain and responsible parties and relevant stakeholders.

2.2 World Heart Day

World Heart Day 2017 in Namibia was commemorated with a ‘Healthy Heart Awareness and Screening Week’. This was a collaborative effort between the MOHSS and the Office of the Prime Minister of Namibia. The week culminated with a health walk on Friday morning 29 September 2017 in the capital Windhoek where people living with RHD, their families, health care practitioners and the community marched along Independence Avenue waving banners, distributing pamphlets and chanting to raise awareness about RF/RHD and the importance of penicillin. At the end of the march there were festivities and refreshments arranged by RHD Ambassadors including a short skit illustrating a patient suffering from acute rheumatic and being taken by his community to the nearest for medical attention and penicillin!
2.3 Compilation of Feedback report

The feedback for the delegates is provided in the way of a “Feedback pack”. This consists of a thank you note from the office of the Minister on behalf of the RHD Namibia team with pictures of each delegate at the meeting as a token of appreciation for their participation. Included in the pack are the full minutes of the inaugural meeting for review and accountability. Lastly it includes the invitation to serve for those nominated to the task force.

2.4 KAP Survey Planning

The volunteers for the KAP Survey consist of Medical students from the University of Namibia School of Medicine and medical interns located at different hospitals throughout Namibia. Planning began with PowerPoint teaching presentations with the students on RF and RHD with discussions on the importance of penicillin. This was contextualized with brief discussions of the key findings of REMEDY and the key points of the Addis Ababa Communiqué. Finally, the KAP survey was introduced and the students briefed on how to administer the survey. The locations were outlined and chosen as well as the transport and data capture plan.

Next Steps

From March 2018 – May 31st

1. Acceptance of Feedback report and invitations to serve by all stakeholders
   a. Minutes of meeting have been finalised and distributed
2. KAP Data collection and analysis
   a. As of February, student volunteers have been recruited and trained
   b. Data collection and capture has started
3. KAP Survey Report Compilation
4. Think Tank meeting with prescribers, pharmacists and patients
   a. 1std week of April 2018
5. PTF: "The way forward": Sustainability and Action Plan Meeting
   a. Dependent of Ministers availability )1st 2 weeks of April)
6. Creation of the Penicillin Chain Info graphic
   a. Underway- delegated to RHD Ambassador and Medical Students under supervision of Dr Auala and Agapitus with assistance of volunteer graphic designer
7. Media Coverage of Project
8. Compilation and Dissemination of Project summary to the local Medical Fraternity
9. Compilation of Final Reports for all stakeholders and PASCAR/WHF

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Nigeria

Project Focus: National Round Table to galvanise government and non-government organisations

Project Leader: Dr Fidelia Bode-Thomas

Grant Received: USD 3000
Nigerian Cardiac Society Task Team

Our main implementation strategies outlined in the project proposal were to:

1. Identify liaison persons in all the 36 states who would engage with their SMOH and invite them to a national roundtable meeting on RHD prevention and control.
2. Seek audience with the Hon. Minister of Health and secure his permission to:
3. Convene a national roundtable conference on RHD prevention and control.
4. Present the resolutions of the roundtable to the National Council on Health (NCH) for consideration and adoption as national policy.

Implementation of the grant:
During the actual implementation, certain opportunities presented themselves which worked to our advantage while on the other hand we encountered some obstacles that resulted in delays and hence the inability to adhere to our time-line. The major obstacles may warrant a change in strategy, still geared toward the eventual aim of having a national policy document on RHD prevention and control.

Our major RHD advocacy activities during the grant period were to:

1. Partner with the Nigerian Medical Association for the execution of this RHD advocacy programme, after dialoguing with the national and state leaders during the course of their national meeting that held in August 2017.
2. Identify liaison persons in all the 36 states of the Federation and also the Federal Capital Territory (FCT). These in turn constituted their respective state RHD task teams that included both cardiologists and non-cardiologists (highlighting the partnership between the NCS and the NMA).
3. Advocacy materials were prepared and sent to all the state teams. So far, 22 of the 36 (about 60%) states and the FCT have been able to embark on their advocacy visits. They were generally received with great enthusiasm and helpful suggestions were made on how such a policy could be successfully implemented. The last visit was undertaken early in December by the FCT task team.

Abuja Federal Capital Territory RHD Task Team

4. Advocacy visit to the FMOH by the national RHD task team. We had audience with the director of public health and were well received. We highlighted the various developments concerning RHD control on the international level requested the FMOH to partner with us in convening the roundtable. Despite several reminders we are still awaiting a response from the Hon. Minister to have audience with us or to go ahead with plans for the roundtable.

5. The National task team has in addition engaged with several other stakeholders including:
a) A Senator and member of the House of Senate Committee on Health
b) UNICEF Nigeria
c) GE Healthcare Nigeria
d) The National Primary Healthcare Development Agency
e) Heart Hope Club – a patient support group

Outstanding activities and Challenges encountered

1. We still have 15 (40%) states outstanding, whose task teams have not been able to dialogue with their SMOH. The challenges / obstacles encountered have varied from non-response by the SMOH, to absence of the state commissioner, to disease outbreaks and other local problems that have occupied the attention of the SMOH.

2. We have also not been able to convene the roundtable because we have not received a response from the Hon. Minister. During our audience with the Department of Public Health in October 2017, the Director had expressed willingness of the FMOH to partner with us in convening the roundtable. A report of our meeting with a recommendation that our request be granted, has been submitted to the minister for his approval, but we have not received further information from the FMOH.

New strategy

In view of the delays we have experienced especially from the FMOH, we propose to re-strategise as follows:

1. To intensify our advocacy efforts at the state level so that we visit all the outstanding SMOH and enlist their support for a RHD control policy document to be presented at the next NCH meeting.

2. To work with the 2 states that presented memos on the subject matter to the National Council on Health Meeting that held in late October 2017. We understand that the item was noted. We propose to collaborate with the 2 states (Katsina & Akwa Ibom) to repackage and re-submit a draft policy on RHD control to the next NCH meeting for approval.

Conclusion and Request

Our RHD advocacy project has made significant impact at the state and federal levels; however we do not yet have a national policy document on RHD control.

We wish to apply for a no-cost extension of the project (by another 6 months) to enable us complete the advocacy at state levels and present a draft policy on RHD control to the NCH by collaborating with the interested states.

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Sudan

Project Focus: Workshop to encourage integration of training programmes in MoH of poor provinces

Project Leader: Prof Sulafa Ali

Grant Received: USD 2000
Rheumatic Heart Disease: Integration into Ministry of Health Programs in Kordofan states

The workshop was conducted on **Wednesday 13 December 2017** at the Federal Ministry of Heath Main Hall.

The workshop was attended by 30 people including 7 from Kordofan States, Federal MOH officials, PASCAR president, Sudan Heart Society president and members, World Health Organization, Non Governmental Organizations and Media people.

**Attendees:**

- Minister of Health in North Kordofan (NK), Dr. Abdullah Faki
- WHO – Sudan: Dr. Mai Eltigani
- Director of Health Planning in NK, Dr. Amal Khalil
- Focal RHD person in NK (Family Physician) Dr. Hawaa Othman
- Director of Health in South Kordofan (SK) Dr. Mohamed Mudawi
- Director of Curative Medicine and Head of IMCI in SK Dr. Seifeldeen Ahmed
- Director of Health in West Kordofan (WK) Dr. Yousuf Rabih
- Assistant Director of Health WK Dr. Mohamed Ibrahim
- Director of NCD of FMOH Dr. Naeima Wageealla
- FMOH (5)
- Director of National Insurance Fund: Dr. Al Mugeera
- President of PASCAR: Dr. Saad Subahi
- President of Sudan Heart Society: Dr. Kamal Al Omda
- Members of National Committee of RHD Control (2)
- Al Masar Organization for Rural Development
- Sudanese American Medical Association representatives
- Sdaqat Organization representatives
- Media

**Proceedings:**

Dr. Abdullah Faki, Minister of Health in NK gave a briefing about the health plans in NK and the achievement of health coverage for children below 5 years. Health insurance coverage is 46%. His government supported RHD screening and as results showed a very high prevalence of RHD. He confirmed that they can integrate RHD in MOH programs. He confirmed that there is close collaboration between the 3 states as well as White Nile state and he announced that Kordofan Center for RHD will be launched in January to serve these states.

WHO –Sudan NCD focal person Dr. Mai Eltigani: RHD has been eliminated from developed countries; we need a program for RHD control which can easily be achieved with use of antibiotics, it should be based on a register.

Dr. Kamal Al Omda: RHD is a major killer for Sudan youth and disease needs more prevalence studies to evaluate other areas in Sudan like the Eastern region. Sudan Heart Society supports RHD Control.
Dr. Saad Subahi, President of PASCAR gave a briefing about PASCAR 7 Key actions; this workshop supports decentralization of services.

Prof Sulafa Ali gave a talk about the Sudan RHD Program and the availability of an evidence-based package for training of health workers. This package can be integrated into the running MOH programs. She pointed out that Kordofan was chosen because of echo screening as well as register based findings of a very high prevalence. We need to start a sentinel site there in accordance to PASCAR recommendations of decentralization of services.

Dr. Naeima Wageealla from NCD department in FMOH gave a talk on integration of NCD into primary health care, a WHO supported program. She confirmed that RHD has been included in this package which will be implemented in 7 states in Sudan including North Kordofan.

Discussion:

- RHD burden in Kordofan is high and needs to be addressed
- National insurance coverage is 46% which facilitates services; they confirmed their partnership and desire to participate in RHD control in Kordofan by supporting Kordofan RHD Centre
- Benzathine penicillin with good quality is highly needed and this should be discussed with Medical Supply Fund. Negotiation has already started this week
- The practice of using dilute benzathine penicillin to perform skin testing was discussed and it was agreed that this practice is not evidence based and should be abandoned
- Barriers: the need for good quality benzathine penicillin quality and the administration kit (lidocaine and adrenalin) and training of medical assistants as there is a lot of fear among health workers.
- The need to include sore throat in IMCI was emphasized
- The role of non-governmental organizations is vital, they all agreed to support Kordofan Centre and screening programs, more partnerships are needed with informal (e.g. whatsapp group) societies that can be utilized to raise funds. SAMA, Al Masar and Sadagat organization representatives spoke on their commitment to support RHD
- The role of media was discussed and national level campaigns are recommended

Recommendations:

1. RHD Training package can be inserted into the current MOH programs in Kordofan states while waiting for official integration from Federal ministry of health
2. NCD package for primary health care need to include all the RHD Training material
3. There is a need to include sore throat in IMCI as the original IMCI does include it and recommends benzathine penicillin for treatment
4. Good quality benzathine penicillin needs to be available as soon as possible
5. Partnership should be enforced with more organizations like UNICEF and others
6. Media campaigns for public awareness need to be intensified, starting form Kordofan but to be nation-wide
7. Support to Kordofan Centre by National Insurance as well as charity organizations
Media Coverage:

A media conference including 3 newspapers and Sudan News Agency (SUNA) was conducted and the news appeared as headlines in 2 news paper and as reports in 3 including online versions.

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Zimbabwe

Project Focus: Hold a Satellite meeting at a medical conference with stakeholders including MoH

Project Leader: Prof Jonathan Matenga

Grant Received: USD 2000

Background:

The University of Zimbabwe College of Health Sciences (UZCHS) Rheumatic Heart Diseases (RHD) group implemented the PASCAR grant. The aim of the award was to advocate for the eradication of RHD in Zimbabwe through dissemination and promotion of the African Union Communiqué on National Programmes for the Prevention and control of RHD in Zimbabwe. The AU Communiqué spells out the 'roadmap' of seven key actions that need to be taken by governments to eliminate Acute Rheumatic Fever (ARF) and eradicate RHD in Africa.
RHD in Zimbabwe context

While RHD has almost disappeared in economically developed countries, it still remains a common cardiovascular cause of hospitalisation and mortality in Zimbabwe. Complications of Acute Rheumatic Fever (ARF) and RHD are major causes of heart failure, stroke and death among Zimbabwean adults and children, in spite of the fact that these are preventable and treatable conditions. Recurrent ARF may lead to progressive scarring and permanent damage of heart valves (RHD). In 2004, 20.5% of children and 30% of adults hospitalized with heart failure at Harare and Parirenyatwa hospitals were a result of RHD. Gapu (2015), in his study noted that children often presented late with established RHD and cardiac failure in Harare. Among in-patients, 9/16 (56.3%) had ARF only, 7/16 (43.8%) recurrent ARF with RHD, and 15 established RHD. The commonest valve lesions were mitral regurgitation (26/31) and aortic regurgitation (11/31). Munyandu (2015) carried out an echocardiography audit of patients referred with heart murmurs, stroke and heart failure. The study revealed that out of the 308 echocardiograms that were performed, 236 (76.6%) of these were abnormal and rheumatic heart disease was diagnosed in 16% of them. The commonest valve lesion was mitral regurgitation and half of the patients had surgical indications for the valvular lesions. Cardiac surgery is not available in the country. Therefore, there is need to come up with strategies of eradicating ARF and RHD in the country.

The Ministry of Health and Child Care (MoHCC) endorsed the World Health Organisation (WHO) recommendations on penicillin monthly prophylaxis for children diagnosed with RHD until the age of 21. Unfortunately prevention activities by way of penicillin injection had been abandoned totally because of economic situation, unavailability of penicillin and change in attitude of health workers. This project thus set out to;

- Disseminate the AU Communiqué on National Programmes for the Prevention and control of RHD;
- To present the results of the RHD/ARF studies which have been conducted in the country,
- To highlight the epidemiology of RHD/ARF as well as map the way forward on the formation of the RHD Association of Zimbabwe,
- To act as an advocacy group in the country.

Outcomes

The AU Communiqué on National Programmes for the Prevention and control of RHD and the initiatives being carried out by the RHD team in Zimbabwe were presented at two major congresses which are held annually in the country. These congresses attract clinical practitioners at all levels and are organised by the secretariat for medical associations in the country.

Zimbabwe Medical Association (ZiMA) Congress

The ZiMA Congress is an annual event where all the medical practitioners both general and physicians come together discussing medical issues and challenges in Zimbabwe. Presentations were made by the RHD team at the 2017 ZiMA Congress on the 19 of August 2017 in Harare. In attendance were general practitioners, physicians and representatives from the MoHCC and representatives from other UN Agencies and NGOs e.g. WHO and UNICEF. Local health authorities i.e. City Health and Provincial Health Institutions were represented by their directors.

Presentations made at ZiMA Congress

- The RHD Epidemiology by Dr Fana from UZCHS
- Rheumatic Heart Disease Routine Data Collection by Dr Manangazira, Director of Epidemiology MoHCC
- RF and RHD in Children by Dr Gapu from National University of Science and Technology (NUST)
The presentations covered Epidemiology of Rheumatic Fever, Rheumatic Heart Disease, Primary and Secondary prevention and the administration of Benzathine penicillin. Case presentations on the role of RHD in Strokes and heart failure were made. Prof J. Hakim the AU Communiqué and lead the discussion.

During the meeting the Director of Epidemiology and Disease Control, Dr Manangazira was interviewed by the Zimbabwe Broadcasting Corporation.

National Physicians Association of Zimbabwe Congress (NaPAZ)

As a result of the feedback at the ZiMA Congress, follow up presentations were held at the National Association of Physicians of Zimbabwe Congress from 31 August to 2 September 2017. NaPAZ is a grouping of specialist physicians. The RHD team talked about the RHD PASCAR initiative and highlighted the importance of RHD in heart failure in Zimbabwe at the Congress. For the full programme of the event click (http://napaz.org.zw/) Below are photos of the congress;

Part of the participants during the ZiMA Congress in the main arena

The two platforms provided lively discussions because of the interest of the audiences. During the discussions there was a general agreement that the country need to advocate and resume prophylaxis and to scale up the dissemination of routine data capture of RHD/ARF in provinces.

Key Stakeholders

- RHD team (UZCHS and MoHCC)
- MoHCC
- Local Health Authorities (City clinics etc)
Ministry of Primary and Secondary Education
WHO
UNICEF

Radio and Talk Shows

Star FM Zimbabwe Radio talk show
Dr Munyandu one member of the RHD team had a talk show on Star FM Zimbabwe radio on the 11th of September from 1130am – 1200 noon. The talk show was very popular with listeners asking a lot of questions via the radio WhatsApp platform. Star FM Zimbabwe is the first commercial radio station and number one in the country by market share, leading in information and entertainment (http://starfm.co.zw/).

Capitalk FM Radio talk show
Dr Bwakura and Dr Fana had a talk show on Capitalk FM radio on the 18th of September 2017 during the Health Matters slot from 1800 – 1900 hours. During this one hour slot, the duo discussed the causes, cases and prevention methods for RHD. Capitalk Radio is the only talk radio station in Zimbabwe, currently with coverage in Harare only (http://www.capitalkfm.com/index).

Print and Electronic Media

The RHD initiatives were also disseminated via print and electronic platform in Zimbabwe and beyond. This allows a wider coverage of such initiatives and will open up for further partnerships beyond the country.

Local weekly tabloid - Kwayedza
The article in local dialect is talking about the efforts being made in Zimbabwe to control RHD. It also summaries resolutions made during the Addis Ababa meeting. The tabloid is in local language. For more information, click http://www.kwayedza.co.zw/zimyorwisa-denda-remoyo/.

RHD Action
RHD Action a global movement to reduce the burden of RHD in vulnerable populations of all ages throughout the world has featured the Zimbabwe RHD presentations at the ZiMA Congress. For more information, click http://rhdaction.org/news/towards-eradicationrhd-zimbabwe.

Business weekly
A weekly newspaper published an article written by Dr Munyandu on RHD. For more information, click http://ebusinessweekly.co.zw/rheumatic-heart-disease/.
Challenges

Zimbabwe is going through an Economic challenge, which has resulted in rampant poverty, unemployment and crowding. This has impacted negatively on the MoHCC monthly penicillin prophylaxis programme. In addition, financial constraints have limited the mobility of the RHD Team to meet one of their key prevention strategy of having meetings widely in the country to talk about the RHD card, which is no longer functional.

The RHD Team has anticipated to form a stand-alone association for RHD, however after the meetings held, it was agreed that to have a chapter under the Heart Association as a stand-alone association has cost implications for it to be fully functional.

Looking into the future

The PASCAR RHD Project has provided a platform to advocate for the control of RHD in Zimbabwe, however much work still needs to be done. Key among them is the following:

- Continuous advocating for the reintroduction of RHD card and secondary prevention of RHD at any health gathering that may take place
- Ensuring that the MoHCC management meetings of Head of Departments which takes place several times a year, put RHD on their Agenda
- Hold further RHD national stakeholders meetings to review progress and to come up with new initiatives that will help eradicate RHD in Zimbabwe
- Lobby for the creation of RHD registers at all provincial, district and major hospitals in the country
- Continuous use of the media both conventional and social to inform the public about RHD prevention i.e. newspapers, publish articles, radio etc.

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