Republic of Rwanda
Ministry of Health

Rwanda Biomedical Centre
Healthy People, Wealthy Nation

Rwanda NCD Alliance

REGIONAL NCD CONFERENCE 2022

"SHAPING AN EAST AFRICA FREE OF NCDS THROUGH PEOPLE-CENTERED INTERVENTIONS AND TRANSFORMATIVE DEVELOPMENT"

KIGALI-RWANDA, 24-25 NOVEMBER 2022

Forward

Prof. Joseph MUCUMBITSI,
Chairperson, Rwanda NCD Alliance
President, East Africa NCD Alliance

- **Honorable Minister of Health Dr. Daniel NGAMIJE,**
- **Honorable Member of the Parliament, Social Affairs and Human Rights Commission**
- **Director General of Rwanda Biomedical Center Prof Claude MAMBO MUVUNYI,**
- **WHO country Director, Dr Brian CHIROMBO**
- **Lord mayor of the city of Kigali, Pudence RUBINGISA**
- **Heads of private sector, civil society and patient groups,**
- **Distinguished Guests and participants,**
- **Ladies and Gentlemen.**

On behalf of the Rwanda Non Communicable Diseases (NCD) Alliance, the NCD Alliance East Africa and the entire organizing committee of the Regional NCD Conference 2022, it is my pleasure and a great honor to give you a warm welcome, and introduce you to this first regional gathering on NCDs.
Allow me first to express my gratitude for all the efforts made by different actors to make this conference possible. I would like to recognize the Rwanda Ministry of Health and Rwanda Biomedical Center, for their essential contribution, together with other partners, leading the journey and guiding us through the whole process of planning. I would also like to acknowledge the support from different key partners like WHO and UNICEF Rwanda, Africa Medical Supplier, SD-Biosensor, Christian Blind Mission, Medtronic LABS, Partners in Health, global NCD Alliance, East Africa NCD Alliance, to mention a few.
Of course, the conference would not succeed without high profile international and national speakers and panelists and I want to thank them all for their commitment and support.

We wanted this regional NCD conference to be a distinctive platform that brings together different NCDs stakeholders including government representatives, international agencies, private institutions, academicians, international, regional and local civil society and People Living with NCDs (PLWNCDs) organizations from across the region and beyond.
We are so happy to welcome delegates, not only from the six National Alliances, members of the East African NCD Alliance, but also from NCD Alliances of Ethiopia, Senegal, Ghana, Cameroon and Malawi, as well as the African NCD Network, Danish NCD Alliance and global NCD Alliance. We value very much all local participants from different stakeholder and partner institutions and organizations, including PLWNCDs, our key advocates.

We propose a wide range of sessions and topics, including WHO global NCD targets 2030, the Best Buys and Pen-plus strategies, the availability of NCD services, innovation and technology for NCDs and best practices. We expect participants to learn, discuss, reflect, share lived experiences and come up with recommendations for regional policies, strategies, solutions and innovations towards people centered prevention, control and equitable access to quality care for NCDs in East Africa and beyond.

At Rwanda NCD Alliance, we are grateful for such opportunity to be hosting this regional conference for the very first time and we wish, together with the other members of NCD Alliance East Africa, that it can become a bi-annual event, rotating among the EAC countries and why not, in other African Countries.

I would like to wish to all participants, in the room for virtual, rich and fruitful discussions, and to our guests from abroad, a wonderful stay in the country of a thousand hills.

Thank you for your kind attention!

Welcome to Rwanda

Murakaza neza mu Rwanda! Karibu Rwanda

Concept note

1. Background:

Non Communicable Diseases affect more than 70% of the population worldwide with incidence and prevalence projected to increase with the aging population over the years. According to WHO, just 14 countries are on track to achieve SDG target 3.4, to reduce by one-third the premature mortality of NCDs through prevention, treatment and promote mental health and well-being by 2030 thus broadening the gap between the high and low and middle income countries. Unlike developed countries, Africa faces the double burden of communicable and non communicable diseases making the fight even harder. The prevalence and exposure to major risk behaviors, such as excessive alcohol consumption, tobacco use, low physical activity, and unhealthy diet are increasing in socioeconomic status and will require explicit interventions beyond economic development or access to curative care alone. More work needs to be done at the policy and institutional levels as controlling NCDs will require an all-of-society approach.

The Regional NCD Conference is building upon the previous National NCD Conference organized by the Rwanda NCD Alliance in collaboration with Rwanda Biomedical Centre with and other partners in Kigali-Rwanda on the 25-26th November 2021 at Lemigo-Hotel during which commitments for going beyond the national level were pledged and heard. Also, inspired by the ongoing work of national NCD Alliances in the East African region, the regional NCD Conference aims at bringing together regional stakeholders for policy shaping and innovation, knowledge sharing and nurturing discussions towards improved access to quality NCDs prevention and control interventions in the region

Being the first regional NCD Conference, this gathering will be convened in Kigali-Rwanda on 24th-25th November 2022 under the patronage of the Ministry of Health with the theme “Shaping an East Africa free of NCDs through people centered interventions and transformative development”. Over 500 delegates from the EAC countries and beyond are expected in Kigali.

2.Rationale:

NCDs are still flagged as a high concern of public health and this can be attributed to their prevalence and impact on the social and economic sectors. Moreover, People living with NCDs are on the edge of facing enormous healthcare expenditures due to the accessibility and affordability of their care, all resulting in an increase of morbidity and mortality data associated with NCDs. With the emerging evidence, there is a need to move beyond care and start prioritizing NCDs interventions, allocating resources towards stemming the rising tide of NCDs, globally, regionally and locally. Fortunately, progress has been made on the front of building strong global frameworks to enhance the prevention and control of NCDs and its associated risk factors but there is a daunting task for all governments to work collaboratively with all relevant stakeholders and sectors to ensure sustained solutions. This will require efficient health systems that provide the entire population with access to good quality services, technologies and also cost effective interventions. It also requires multiple alternative financing streams to protect people from financial hardship and impoverishment from health care costs. The regional NCD Conference will therefore focus on unveiling the roundabouts of these frameworks and delegates will also get updates on key achievements and innovation realized in the past years and how these can be sustained, in addition to sharing best practices in key areas that include service delivery, knowledge and awareness creation, advocacy and policy issues, training, research, monitoring and evaluation as well as financial sustainability issues.

3. Objectives:

The regional NCD conference aims at bringing different stakeholders together to share, learn, network and discuss about NCDs as trending global burden, silent killer and economic disrupter in order to come up with solutions, resolutions and recommendations for the East Africa region, shaping the way toward the same goal of making the East African region free from NCDs. We want this gathering to be a source of NCD regional solutions which will be recognized and endorsed by the East Africa Community.

3.1 General objective:

To create a space for stakeholders to envision an EAC free from NCDs through sustainable innovative interventions.

3.2 Specific objectives:

- To share and discuss the best practices and explore new innovative approaches of moving forward the NCD Agenda in the EAC region.
- To advocate for prioritization of NCDs in EAC through the enforcement of different policies and resource allocation.
- To advocate for recognition of meaningful involvement of PLWNCDs in EAC as essential partners in planning and implementation of NCDs programmes.
- To identify challenges, roles and responsibilities of different stakeholders in the fight against NCDs.
- To share new evidence in NCDs prevention and control.

The regional NCD Conference 2022 is being conducted as a hybrid event combining delivery, participation and interaction between virtual and in person activities and is featuring plenary and panel discussions, oral and poster presentation, side events, exhibition booth stand, social and networking programs to engage different actors from different backgrounds in the NCDs space in order to ensure maximum interaction, outcomes and experiences sharing.
It is focusing on the following diseases areas:

- Cardiovascular diseases
- Cancer diseases
- Diabetes, Asthma and metabolic diseases
- Injuries and disabilities
- Mental health.

To be comprehensive, the conference program will be organized under the 3 main tracks listed below:

A.Policies interventions in the area of NCDs.

In the Political Declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases (A/RES/73/2), governments committed to scale up efforts and actions in the fight against NCDs "to provide strategic leadership by promoting greater policy coherence and coordination through whole-of-government and health-in-all-policies approaches and by engaging stakeholders in an appropriate, coordinated, comprehensive and integrated, bold whole-of-society action and response". Through this, it is intended to raise the priority on how to scale up mechanisms of action to effectively prevent and control NCDs, to engage both actors and partners to

exchange knowledge on how to achieve the SDG 3 target particularly 3.4 and 3.8 and finally to increase the visibility on the different leadership responsibilities involved in this fight. We intend to discuss this through:

1.Global and Regional NCDs policies and regulations

The review of the WHO Global NCD Action Plan 2013-2020 as a follow up on commitments made by Heads of State and Government in the United Nations Political Declaration on the Prevention and Control of NCDs (resolution A/RES/66/2) recognized the primary role and responsibility of Governments in responding to the challenge of NCDs and the important role of international cooperation to support national efforts through benchmarking current progress in implementation of the global targets in different countries(1) (2).
Following, the WHO Global NCD Compact 2020-2030 was released aiming at accelerating progress on the prevention and control of NCDs. It seeked to ensure that policies and programmes are adopted to improve NCD outcomes and save the lives of people living with NCDs. It is a high-profile flagship initiative of the WHO Department for Noncommunicable Diseases, bringing together Heads of State and Government to encourage WHO Member States to adopt best-practice policies on the prevention and control of NCDs. Leveraging on the above, this sub theme will further assess the progress status on the implementation of the different frameworks and policies developed in the different countries of the EA region as recommended by WHO.

2. Regional integration, intergovernmental and cross border interventions for NCDs

The studies that reviewed the status of the NCDs response in East African countries are based on the monitoring instruments available, mainly the East African NCD Alliance benchmark survey in 2017 and the WHO NCD progress monitors in 2017 and 2020. Both showed common challenges in laws governing tobacco and alcohol taxation, road traffic injuries prevention, and the provision of preventive, curative and rehabilitative care for NCDs which is highly needed. Consequently, regional coordination among the member states of the EAC for integration of policies around those shared common challenges and laws is in need to ensure sustainable high-quality and high-impact policies(3).

With that said, Through this session, the regional NCDs conference will review and tackle challenges presented by member countries toward setting a clear roadmap that will set a common ground for regional policies that will facilitate different NCD programs and interventions.

3.NCDs financing and resources allocation

Economies are being depleted of resources directly or indirectly by reducing productivity, human capital whilst increasing healthcare costs from serious illness, disability, death and NCDs themselves being the cause and consequences of poverty. Out of pocket payment for health expenses have pushed an estimated 100 million people worldwide into extreme poverty, yet today NCDs remain the largest most internationally underfunded public health issue globally, where most lives could be saved or improved(2).

Financing policy options that establish sustainable and equitable health financing include:

a. Shift from reliance on user fees levied on ill people to the protection provided by pooling and prepayment, with inclusion of non-communicable diseases in services.

b. Implementation of universal health coverage with combination of traditional and innovative financing strategies giving priority to combination of cost effective, curative,

and palliative care interventions

c. Develop local and national initiatives for financial risk protection and other forms of social protections for all people employed and those in the informal sector.

d. Building on WHO best buys, decision makers need to prioritize policy options that bring the greatest possible health benefits from limited available resources and maximize outcomes for allocated resources whilst removing low value interventions.

4. Building resilient health systems

Strengthened health systems for comprehensive care of all patients living with NCDs require access without discrimination through determined set of promotive, preventive, curative, rehabilitative and palliative basic health services while ensuring continuity of care. Via comprehensive care we can reduce the need for hospitalization, costly high technology interventions and premature death.
For this intervention to be effective and efficient, priority should be given to community-led health initiatives and health workers; ensuring reliable medical and diagnostic supplies; fostering evidence-based practice; and raising additional revenue to boost health system financing within the region, including for health infrastructure development, basing on WHO's 7 policy recommendations on building resilient health systems based on primary health care(4)

5. East Africa NCDs Alliances partnerships: Opportunities and challenges

East Africa NCDs alliance partnership follows the footsteps forged by partner countries for regional integration in past years with improvement of quality of life of East African as an end goal. In addition to geographic proximity, the nature of NCDs' risk factors like air pollution, infectious diseases, unhealthy diet, excess alcohol are not inherent to one country. The culture and challenges faced in relation to financing, building resilient health system have made the challenges and opportunities faced by our people more similar than different; the notion that policies in other sectors other than health have far-reaching effects on health outcomes, stresses the idea of implementing policies that take into account the social determinant of health controlled in other areas like finance education, agriculture, urban planning and transportation henceforth we need to build on existing partnership in other sectors to collaboratively fight against NCDs.

6. National NCD coordination mechanisms: experience from EAC countries.

Based on WHO global coordination mechanism to facilitate and enhance coordination of activities, multi-stakeholder engagement and action across sectors at the local, national, regional, and global levels to contribute to implementation of WHO Global NCD action plan, many countries in the east African community developed their national coordination mechanisms. In this session country representatives will discuss national NCD coordination mechanisms experiences from different EAC countries through shared values and goals(3).

B. Science and technology:

Science and technology are playing a big role in growing the interconnectivity of people around the world, affecting service decentralization through e-consultations and tele-medicines. It is changing the landscape of disease prevention and control thus becoming increasingly central in fighting against NCDs. COVID-19 has shed more light on the urge

and need to develop e-health solutions, education and more, to build digitalized health systems, adapted to the current trends. Moreover, this can not be achieved without being backed up by evidence based data to strengthen information systems.

1. Increasing the availability of evidence based data to inform policy development, monitoring and evaluation for NCDs

In the information age with current technological advancement, PLWNCDs can increasingly access information to learn about new issues, change how they perceive problems and solutions or validate their existing perspectives and they expect the same from government or NGO's working with them(5). Policymakers require accurate and reliable information collected with the right motivation and use valid research methodology suitable for settings. Studies in cost-analysis are required to identify cost-effective interventions. Operational research and health systems research are important for health systems strengthening and effective development, implementation, monitoring and evaluation of policies(6).

2. Embracing/Integrating technology and digital health innovations to strengthen the response to NCDs in East Africa.

Digital health encompasses the use of information and communications technologies (ICT) in all their forms for health. This includes electronic health records showing patients' health histories, mobile apps designed to raise awareness about diseases and internet connected devices such as those that allow doctors to monitor patients' blood glucose levels remotely.

What these technologies have in common is that they can fundamentally change the cost-quality equation of healthcare and empower patients, health providers, governments, and other stakeholders with the information and tools they need to manage their own health, deliver better care and strengthen the underlying health system, thereby radically expanding access and improving outcomes(7).

Investing in digital health to strengthen entire health systems can accelerate efforts to combat NCDs, and by the same token, investing in digital health specifically to combat NCDs can have wider health system benefits(8).

3. Leveraging the use of technology in achieving resilient healthcare systems for future emergencies

Ultimately, technology via digital health is a catalyst in transforming how healthcare is delivered and experienced, as it allows LMICs to move from disease armory in healthcare to an integrated, resilient health system. With that in the background, covid-19 have exposed how vulnerable our health systems and health care delivery based on face to face physical contact between patient and health care provider can be but on the other hand the pandemic spurred the use of new technology and digital solutions by both healthcare professionals and PLWNCDs. These innovations were also proved to be cost effective in the long run and can be emergencies and pandemic proof that provide little to no disruption in future crises. A smooth integration and scalability of existing solutions to our healthcare systems poses challenges but also opportunities to empower our healthcare providers but mostly the PLWNCDs(9).

4. Trade and investment for healthy lifestyle

There is nothing intrinsically unhealthy about international trade and investment, but it can also lead to health-enhancing or health-damaging outcomes related to social, economic,

or regulatory changes on the specific agreements. Health services trade could improve the quality of care in many countries, but it could also increase privatization in such services and crowd out access for low-income populations(10). However more importantly food trade can increase the availability, and even the affordability, of healthy foods but it can also flood markets with obesogenic (and more readily affordable) food products and as result subsidizing health foods, products, and funds NCD's policy whilst taxing unhealthy foods and beverage was suggested as a one of the solutions(11).
Henceforth a need for discussion on the role of trade and trade policy in the fight against NCDs challenges and opportunities including all stakeholders from national health institutions, private, NGOs and public to collaboratively develop, implement policy in trade and lifestyles that fosters healthy communities.

5. NCDs and communicable diseases.

Globally, morbidity and mortality rates caused by communicable diseases have decreased since the last decades of the 20th century(3). However, most low-income and middle-income countries (LMICs) still struggle with a high communicable diseases burden, due to the lack of financial resources of the often-fragile healthcare systems. Meanwhile, the new norms of nutritional and behavioral habits (e.g., increased fast food consumption, alcohol intake and tobacco use) has caused a rapid increase in the burden of non-communicable diseases (NCD), such as diabetes, cancer, and cardiovascular diseases(12).
Double-Burden of Disease" or the "Epidemiological Transition" is a newly described insidiously growing global phenomenon, however, posing a special challenge to both developed and low and middle income countries. Double burden of disease simply means the coexistence of communicable and noncommunicable or chronic diseases. Building on the existing communicable diseases framework we need to integrate NCDs health promotion, prevention, and treatment with communicable diseases services to reduce the cost of inaction(13).

6. Mental Health and disabilities.
Based on the world disability report, published data shows that 66.5% of all lived years are lived with NCD in LMIC(14). As the NCD's progresses, a large number of people with the diseases are likely to develop impairments to name a few like diabetes which is associated with complications that lead to amputations and visual impairment. Additionally, many people who already have impairments are more likely to develop NCDs(15). On the other hand, mental health surveys and studies globally found a significant association between NCDs and mental health disorders(16). Traditionally people with mental health and disability are met with stigma that add up to the existing burden of living in an environment that limits their participation. As a novel concept integration mental health, disability and NCDs initial studies have shown that the benefits of integrated care of people living with those conditions goes beyond high-income nations where the expenses of chronic diseases and mental illnesses are rising but also to low- and middle-income nations where these conditions are disproportionately undertreated(17).

With different efforts that are being put in place to advance mental health in particular, the regional NCD conference is hosting discussion to address the remaining gaps in integrating mental health in the existing NCDs framework and role of increasing public awareness around chronic diseases and mental health.

C. Community interventions:

NCDs need to be addressed from the grassroots level. Healthcare providers, Civil Society Organizations and PLWNCDs can play a role in educating the community if they are empowered and facilitated to collaborate with local leadership to raise awareness for NCDs prevention, control and care.

1. Designing subnational and community centered strategies and transformative interventions in the fight against NCDs.

It is a common practice in developed countries to have community-based health interventions (CBHI) in noncommunicable disease (NCD) prevention(18). However, developing countries prioritize these resources for communicable disease prevention and maternal and child health. In the recent past, developing countries experienced epidemiological transition. Increase in the share of NCDs in total disease burden calls for a community-based approach proven to be effective against NCDs in encouraging behavior change but also taking initiatives and acting on issues including health affecting the communities. Learning from existing subnational and community centered strategies in communicable disease, maternal and child health we need to strengthen existing ones and create new ones where there are not.

2. Bringing together healthcare providers, CSOs, People living with NCDs and other stakeholders to address NCDs.

Addressing NCDs risk factors and challenges in a rapid and effective manner needs to understand the multi sectoral nature of those challenges, risk factors and policies affecting them. In that regard, an inclusive panel session with key representatives from the government, civil society, private sectors, youth representatives and NGOs to identify priorities, roles and responsibilities of various stakeholders and the way forward for each stakeholder.

Through this session the regional NCDs conference will highlight the important role CSOs and PLWNCDs play in raising the profile of NCDs and implementation of different programs designed for NCDs response. Their effective capacity building is pivotal for their role in advocacy for better care, holding accountable government, monitoring as well as disseminating progress and impact.

3. Empowerment and meaningful involvement of PLWNCDs: Nothing for us, Without us.

As the slogan goes, the idea that policies should be decided on behalf of someone else without full and direct participation of members affected by the policy is reprehensible. People living with NCDs should be at the forefront of the fight against NCDs. Leaning on people-centered care, our approach should be tailored to people, not the diseases by ensuring that efforts are community-based and sustainable, and help people better engage with the health system to give our region best chances of success.

4.Availability and accessibility of NCDs care in the EAC.

Investment in effective management of NCDs is of great importance. Approach to NCDs management starting from detecting, screening, and treating these diseases, and providing access to palliative care for people in need, using primary health care approach to provide High impact essential NCD interventions to strengthen early detection and timely treatment.

Evidence shows such interventions are excellent economic investments because, if provided early to patients, they can reduce the need for more expensive treatment(19). Since the member countries of the EAC are faring different in NCDs care, the conference will provide a platform for learning from initiatives by countries in east African communities in availing and increasing access to care.

5. Expected outcomes:

- Increased learning and knowledge among different stakeholders on the different innovative approaches in fighting NCDs.
- Strengthened support networks within the EAC through joining the efforts and actions for better impact on NCDs in the country and region.
- Meaningful involvement and engagement of PLWNCDs in planning and implementation of NCDs programmes.
- Stronger support among health care professionals, government officials, regional NCD Alliances and people living with NCDs for ongoing NCDs education that facilitates the attainment of established standards and competencies.
- More coordination and joint support from donors and governments, reducing the risk of funding gaps for NCDs.

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NCD Conference Agenda

Time	Activity/ Topic	Assignee(s)
Day 1 - Thursday 24th November 2022		
07:00 AM-08:00 AM	Arrival and Registration	Secretariat
08:00 AM-09:00 AM	**Breakfast**	
	OPENING CEREMONY	
09:00 AM-10:15 AM	Introduction	**MCs:** Caroline AKOPE AISU Geoffrey BEINGANA
	Why a Regional Conference on Non-Communicable Diseases (NCDs)	Prof. Joseph MUCUMBITSI Chairperson of Rwanda NCD Alliance
	WHO Targets for NCDs 2030: Is Africa on track?	Prof Jean Marie DANGOU, **WHO Afro NCD Coordinator**
	Welcome remarks	Lord Mayor Pudence RUBINGISA
		City of Kigali Mayor
	Official opening remarks by the Guest of Honor	Dr. Tharcisse MPUNGA, **Minister of State in Charge of Primary Health Care**
	Testimony of a person living with NCD	Dr. Joseph RUKELIBUGA

	Traditional show	Inkindi N'Amariza
10:15 AM-10:30 AM	**Group photo**	
10:30 AM-10:40 AM	**Keynote speech 2:** EAC regional Framework for integration of NCDs policies, strategies and interventions.	Prof. Kaushik RAMAIYA President Elect NCD Alliance East Africa
10:40 AM-11:25 AM	**Panel Discussion 1:** Situation of the NCD response in the East African Countries • Dr Francois UWINKINDI, **NCDs Division Manager Rwanda Biomedical Center** • Dr Rutahigwa Elisa, **Vice Chairperson of the NCD Parliamentary Forum of Uganda** • Dr Ephantus Maree: **Head of NCD Department, MoH Kenya** • **MOH Tanzania Representative** • Prof François NDIKUMWENAYO**; President of Burundi NCD Alliance**	<u>Moderator:</u> Dr. George Msengi
11:25 AM-11:35 AM	Keynote speech: **Mental Health situation in Africa**	**Prof. Stefan JANSEN; Director of Research & Innovation CMHS, University of Rwanda**
11:35 AM-12:25 PM	**Mental Health, and Disabilities** • Dr Yvonne KAYITESHONGA: Division Manager of Mental Health at RBC: **Situation of Mental Health in Rwanda** • Mr. Subhash SINHA, Regional Manager at East Africa ICRC: **Rwanda Rehabilitation Strategy** • Mrs. Eugenie Mukantagwera, Country Manager Christian Blind Mission: • Mr. Vincent MURENZI, Humanity and Inclusion:	Moderator: Augustin Mulindabigwi

12:25 PM-01:30 PM	**Lunch**	
01:30 PM-02:30 PM	**Presentations: Availability and accessibility of NCDs services in the East African Countries.** • Prof Kaushik RAMAIYA, Board Member WDF: **Experience with diabetes care in East Africa** • Marc HAGENIMANA, Cancer Unity at RBC: **Situation of cancer care in Rwanda** • Dr Christian NTIZIMIRA, ACREOL: **Palliative care situation in Rwanda and in the region.** • Dr Maria KIDNER, Team Heart: **Specialized cardiac education and care in East Africa.** • Mr Josphat SAMOEI, PATH**: Access to NCD Medicines and Commodities in East Africa** • Mr Fabrice SHEMA, Africa Medical Supplies: **The role of the private sector in managing NCDs.**	*Moderator:* Nathalie BILLE
02:30 PM-03:15 PM	**Keynote speech:** Challenges and innovative solutions for financing Universal Health Coverage for NCDs in Africa**,**	**Dr. Andrea FEIGL: Health Finance Institute,**
02:30 PM-03:15 PM	Panel Discussion: **NCD financing, unhealthy commodities and health taxation.** • Labram Musah MASSAWUDU, Ghana NCD Alliance **Taxation of sugar sweetened beverages and Policies on Alcohol use reduction in Africa** • Mr Spencer BUGINGO: • Elinami MUNGURE, Global Health Advocacy Incubator – **Taxation of Trans fats** • Martin MUCHANGI, Amref Health Africa**: The burden, impact on health especially NCDs and the strategies to fight climate change and air pollution in the East African region and beyond**	*Moderator:* Alphonse MBARUSHIMANA

3:15 PM-3:30 PM	Keynote speech 3: **Strategies for health systems strengthening and integration of NCDs into UHC**.	**Dr Brian CHIROMBO WHO Office Rwanda**
03:30 PM - 04:15 PM	Presentations: • Dr Gene BUKHMAN, NCDI Poverty Network: **The PEN Plus scale up experience in Africa.** • Dr. Evariste NTAGANDA, Head of Unit, Rwanda Biomedical Centre - **Community interventions for NCDs.** • Dr Frederick KATEERA, Partners In Health, Rwanda **Comprehensive NCD care integration and task shifting: The case of PIH Rwanda** • Beatrice THEURI, MSF-Belgium-Kenya Mission - **Community engagement and integration of NCDs into Primary Health Care.** • Dr. Brian KWIZERA, ICAP Global Health **Integration of NCDs and HIV services**	Moderator: Janvier KABOGO
04:15 PM Onwards	**Kigali City Tour (on registration)**	
Day 2 - Friday 25th November 2022		
08:30 AM-09:15 AM	**Arrival/Breakfast**	
09:15 AM-09:30 AM	Wrap up of day 1 sessions	MCs: Dr. Thaina NDIZEYE Mr. Jean Claude MUTABAZI

09:45 AM-09:55 AM	Keynote speech: **Digital transformation of the Healthcare system: Case of Rwanda**	Mr. Jean-Baptiste BYIRINGIRO **Rwanda MOH Chief Digital Officer**
09:55 AM-10:45 AM	Panel Discussion 4: **Embracing/Integrating technology and digital health innovations to strengthen the response to NCDs in East Africa.** • Eric ANGULA, Head of Strategic Partnership, Africa-Medtronic Labs. • Placide Habinshuti, Senior Manager, Partners In Health, Rwanda**.** • Dr. Charles KAMOTHO, Founder & CEO Daktari Africa. • Dr. Calliope SIMBA SANTIJE, Chief Medical Officer at Babyl Rwanda.	Moderator: Andrea Manongwa
10:45 AM - 11:00 AM	Keynote speech: **Situation and challenges of research on NCDs in Africa**	**Prof. Cristina Stefan Director: Institute of Global Health Equity Research**
11:00 AM - 11:45 AM	Panel Discussion: **Research priorities for NCDs and data availability to support advocacy, policies and programs development.** • Prof Rulisa Stephen; **CEBHA+ Rwanda** • Prof Andrew SWAI, President of Tanzania NCD Alliance: **Data availability and priorities for research on NCD in the East Africa** • Dr. Vincent CUBAKA**,** Director of Research and Training at Partner in Health: **Research to support the fight against NCDs in Rwanda: Insights from PIH contribution**	*Moderator:* **Grace Dubois**

11:45 AM-12:30 AM	Abstract presentations: 1. Using Health Digital System (NCD tracker) for early case detection and real-time case follow-up 2. Prevalence and socio-demographic associations of diet and exercise risk-factors for non-communicable diseases in Bo, Sierra Leon	MCs
	3. An Adapted Collaborative Care Model to Manage the Co-morbidities of Depression and Chronic Non-Communicable Diseases in Rwanda.	
12:30 PM-01:30 PM	**Lunch**	
01:30 PM-01:45 PM	Release of the Policy brief on Integrated People centered care and Integration of NCDs and HIV	PLWNCDs
01:45 PM-01:55 PM	Presentation: **Capacity building for Civil Society Organizations in shaping national and regional strategies for NCDs.**	**Prof Gerald YONGA, Chair Africa NCD Network**
01:55 PM-02:05 PM	Presentation: **Meaningful involvement of People Living with NCDs and their role in shaping national and regional strategies for NCDs.**	**Cristina Parsons Perez, Capacity Development Manager, NCD Alliance**
02:05 PM-02:50 PM	Panel Discussion: **Role of Civil Society and PLWNCDs in achieving people centered interventions for NCDs** • Cristina PARSONS PEREZ, Capacity Development Manager, NCD Alliance • Prof Joseph MUCUMBITSI, President of the East Africa NCD Alliance	*Moderator:* Ferdinand M. SONYUY

	• Prof Gerald YONGA, President of Africa NCD Network • Ida Rose NDIONE, Executive Director, Senegal NCD Alliance	
02:50 PM-03:50 PM	**Best practices in NCDs prevention and care:** • Florence UWAMWEZI, Slim and Fit - **Experience with Obesity management in women** • Bo Danielsen**,** Vice/President Dental Health Without Borders: Oral Health and NCDs: **Experience with dental health programs in schools.** • MUGUME James**,** Health Alert Organization**: Skin Cancer prevention in people with albinism** • **Hobabagabo Arsene**, Rwanda Diabetes Association: **Nutritional and Psychological status among Type 1 Diabetes patients** • Mrs. Caroline AKOPE AISU, Secretariat EANCDA: **Media engagement for NCD awareness and Advocacy: Experience from EA NCD Alliance** • **Mr. SEBUTARE Elias (Health Builders):** Involvement of rural communities in prevention and early detection of NCDs.	MCs
03:50 PM-04:00 PM	Conference Highlights and Recommendations	Organizing committee
04:00 PM-04:10 PM	Vote of Thanks	Chairperson of Rwanda NCD Alliance
04:10 PM-04:20 PM	**CLOSING CEREMONY**	Guest of Honor: Prof. Claude MAMBO MUVUNYI

		Rwanda Biomedical Centre DG
06:30 PM Onwards	**Gala Night sponsored by Africa Medical Supplier - SD BIOSENSOR** **(On Invitation)**	

Abstracts

1.Prevalence and socio-demographic associations of diet and exercise risk-factors for non-communicable diseases in Bo, Sierra Leone

Author: Dr Tahir Bockarie

Background:
This cross-sectional study investigated the prevalence and socio-demographic correlates of dietary and physical activity risk behaviours amongst adults in Bo District, Sierra Leone.

Methods:
Adults aged 40+ were recruited from 10 urban and 30 rural sub-districts in Bo. We examined risk factors including: <150 minutes of moderate and vigorous-intensity physical activity (MVPA) weekly, physical inactivity for >3 hours daily, <5 daily portions of fruit and vegetables, and salt consumption (during cooking, at the table, and in salty snacks). We used logistic regression to investigate the relationship between these outcomes and participants' socio-demographic characteristics.

Results:
1,966 eligible participants were included in the study. The prevalence of behavioural risk factors was 83.1% for <5 daily portions of fruit and vegetables; 40.8% and 91.9% for adding salt at the table or during cooking, respectively and 30.6% for eating salty snacks; 22.4% for MVPA <150 minutes weekly, and 43.9% for being physically inactive >3 hours daily. Most MVPA was accrued at work (nearly 24 hours weekly). Multivariable analysis showed that urban individuals were more likely than rural individuals to consume <5 daily portions of fruit and vegetables (Odds Ratio (OR) 1.06, 95% Confidence Interval (1.00-1.11)), add salt at the table (OR 1.86 (1.80-1.92)), eat salty snacks (OR 2.03 (1.97-2.11)) and do MVPA <150 minutes weekly (OR 1.17 (1.13-1.22)). Male individuals were more likely to add salt at the table (OR 1.25 (1.21-1.29) and consume salty snacks (OR 1.36 (1.32-1.41)) than female individuals but were less likely to report the other behavioural risk-factors examined).

Conclusion: Dietary risk factors for NCDs are highly prevalent, particularly among urban residents of Bo District Sierra Leone. Our findings show that forthcoming policies in Sierra Leone need to consider modifiable risk factors for NCDs in the context of urbanization.

2.An Adapted Collaborative Care Model to Manage the Co-morbidities of Depression and Chronic Non-Communicable Diseases in Rwanda

Authors: Madeleine Mukeshimana1, Holli A. DeVon[2] **Authors Affiliation:**
1 Associate Professor, University of Rwanda
2 Professor, University of Illinois, Chicago

Background: The World Health Organization (WHO) has recommended the implementation of the Collaborative Care Model (CCM) in all countries to manage the comorbidities of depression and chronic non-communicable diseases. This model uses a multidisciplinary team composed of mental and physical health care focused clinicians to care for patients with co-morbidities.
In Rwanda, patients with the co-morbidities of depression and chronic NCDs still receiving fragmented care. This means that patients need to travel from a medical hospital for their physical condition and to a mental health hospital for their depression. Fragmented care is

associated with financial costs for transportation and meals; fatigue; and duplication of tests and drugs. Also, many patients are not aware of their mental health condition because they consult with medical specialists for their physical problems such as diabetes; hypertension; renal disease; and heart disease. Medical health care professionals often don't have the time or the training to assess the mental health condition of their patients. Therefore, the opportunity to adapt the CCM in the Rwandan content was the aim of our study. The purpose of this paper is to describe the Adapted CCM in the African context: Case of Rwanda.
Methods: A research-practice partnership method and an iterative process in which researchers and health care professionals collaborate to identify a health problem and propose the solution was used to adapt and test the CCM in Rwandan. Qualitative content analysis was used to analyze the data
Results: Three structural components to the model were adapted including the addition of a registered nurse to the team, relocation of the CCM to the district level, and consultation with a psychiatrist every 3 months instead of every week. Barriers of the model implementation in African context, case of Rwanda were found and categorized into two types: those related to the patients and those related to providers.
Conclusions: Initial evaluation of the Adapted CCM in Rwanda shows promise of adapting and using the CCM model in African context to care for patients with Co-morbidities.

3.Using Health Digital system (NCD Tracker) for Non-Communicable Diseases early case detection and real-time case management follow-up in Rwanda.

Principal author: Simon Pierre Niyonsenga (RBC)
Co-authors: Adolphe Kamugunga (HISP Rwanda); Dr. Francois Uwinkindi (RBC); Jean Paul Mutali (HISP Rwanda); Jean Paul Hategekimana (HISP Rwanda); Brian O'Donnell (UiO); Muhammed Semakula (RBC).

Background

According to national NCDs prevalence data, the number of patients with NCDs enrolled in different health facilities under follow-up in Rwanda is low at 12%. This means that 88% of patients with NCDs are still in the community and remain undiagnosed and/or unreported. Rwanda Biomedical Centre (RBC) through its NCDs Division in collaboration with partners, has organized an intensified NCDs screening in all Health facilities for eligible people; the target population is from 35 years of female and 40 years of male. Previously data for NCDs screening were recorded on paper registers, the digitization process intends to provide accurate and real-time data for better follow-up and management of NCDs at all levels.
Methods

DHIS2 is customized to generate a unique patient identification number for the authentication of individual information to avoid duplication, which may lead to poor planning. To achieve the digitalization goal, the following milestones were attained: (1) Integrated NCD Tracker with the National Population Registry (NPR), (2) After enrolment, the screening starts: data is entered in the NCD screening stage, the clinician adds measurements and DHIS2 provides the status and action to be taken to existing NCDs protocols, (3) Outcomes and actions to be taken are triggered by configured DHIS2 program rules, (4) The tracker is configured in case of a positive case (Hypertension or Diabetes) to activate the stage for confirmation, (5) A dashboard for each tracked disease is configured in the NCD tracker for decision-making. The diagnosis is confirmed at Health Facility while the screening can be done during outreach programs and the tracker focuses on selected diseases: Hypertension, Diabetes,

and Obesity, which is in addition to the Cancer registry linked to CANREG5.

Results

(1) NCD Tracker assists clinicians to minimize errors by providing outcomes, actions to be taken, and statistics at the end of the day.
(2) It also enables follow-up of positive cases and referral to any clinic or hospital, helping increase coverage of NCD treatment.
(3) In addition, this NCD tracker, using a question about COVID-19 vaccination status and using a program rule to decide and guide accordingly, has an impact on the coverage for NCD cases who are vaccinated for COVID-19.
(4) Community checkup is annual, Cohort is built and followed up, and many measures are taken accordingly.
(5) For most people screened for NCDs, the number of people who tested positive and knew their status was very low.

Conclusion

DHIS2 NCD Tracker is extremely useful as a tool to track NCDs cases. Moreover, it serves in the creation of community NCDs cohorts as well as timely case management. Most importantly, it contributes to overall health outcomes through NCDs early case detection, treatment, and reduction of case fatality rate.

4. Rwandan diabetic patients' needs and expectations to develop their first diabetes self-management smartphone application (Kir'App) and the users' experiences after 3 months of Kir'App use. A pre- and post- qualitative research project

Authors: Claudine B. Kabeza, Lorenz Harst, Peter E.H. Schwarz and Patrick Timpel.

Introduction

Knowledge of and coping with diabetes are still poor in some communities in Rwanda. Nonetheless, owing to the increasing popularity of smartphones in Rwanda, almost 75% of the entire population currently has access to the internet. And although it has been shown that smartphone applications can support diabetes self-management, there was no diabetes self-management application available in Rwanda until April 2019. Based on the findings of the assessment of the needs and expectations of potential users, 'Kir'App' was developed to fill that void, then a follow up study was conducted to evaluate users' experiences after 3 months of use of the first Kir'App prototype.

Methods

For the assessment of the needs and expectations of Rwandan diabetic patients to develop their first diabetes self-management smartphone application, convenience sampling was used to recruit study participants at the Rwanda Diabetes Association. For the evaluation of users' experiences after 3 months of use, the participants of the previous study were interested to take part in the follow up study. Semi-structured, in-depth, face-to-face interviews were conducted. The findings were analyzed thematically using Mayring's method of qualitative content analysis. Both deductive and inductive approaches were used to analyze transcripts of the users' experiences according to the original categories and subcategories of the assessment study.

Results and Discussions

The needs and expectations assessment study included 21 participants with either type 1 (female = 5, male = 6) or type 2 (female = 6, male = 4) diabetes. Participants' age ranged from 18 to 69 years with a mean age of 35 and 29 years, respectively. 14 among the 21 participants participated in the evaluation of users' experiences. Their age ranged from 19 to 70 years, with a mean age of 34.4 years. In the assessment study; eight main themes were identified. These were (1) diabetes education and desired information provision; (2) lack of diabetes knowledge and awareness; (3) need for information in crisis situations; (4) required monitoring and reminder functions; (5) information on nutrition and alcohol consumption; (6) information on physical activity; (7) coping with burden of disease, through social support and network; **(8) app features.**
In the evaluation of users' experiences; seven of the eight original themes and one additional theme were subjoined: diabetes education and desired information provision; increased diabetes knowledge and awareness; monitoring and reminder functions; nutrition; physical activity; coping with burden of disease; app features; use behavior and usability.
Overall, participants stated that the app increased their diabetes knowledge and assisted them with their diabetes self-management.

Conclusion
The assessment of Rwandan diabetic patients' needs and expectations to develop their first diabetes self-management smartphone application provided recommendations that were used to design the features of Kir'App. The evaluation of users' experiences after 3 months of Kir'App use showed that the first prototype of Kir'App meets the overall needs and expectations of participating Rwandan diabetics.

5.Knowledge of emergency complications of diabetes mellitus and hypertension among patients visiting district hospital NCD clinic in Kigali

Authors: Niyomugaba Fulgence, Mbonyintwari Donatien, Ntambara Francois Xavier, Gahamanyi Jean Claude, Twiringirimana Jean de Dieu.
Introduction: Non communicable diseases (NCDs) are long duration and slow progression diseases that are not passed from one person to another. 60% of global deaths are due to NCDs in which 80% of these deaths occur in Low middle income countries (LMICs). NCDs include many conditions in which 3 are highly prevalent including hypertension, diabetes and cancers. In Rwanda, hypertension is highly prevalent at 15.3% while diabetes is 3.16% of population. Hypertension and diabetes have different complications including diabetic ketoacidosis (DKA), Hyperosmolar hyperglycemic state (HHS), Stroke and heart failure. This study was intended to identify the knowledge of patients about emergency complications of hypertension and Diabetes mellitus who attend NCD clinics in Kigali city.
Methodology: The study was a descriptive cross-sectional study which was carried out at Masaka and Kibagabaga District hospital (DH) in June 2020. Data were collected after obtaining consents form and then filling questionnaires, data were recorded using MS excel and analyzed by using IBM SPSS software 26.
Results: in total participants were 67 in which 57.8% were from Masaka DH while 42.2% were from kibagabaga DH. Women were more than male, 57.8% and 42.2 respectively. 53.1% had hypertension, 21.8% had diabetes while 25% had both conditions. Majority of respondents were married with an age range of 55 to 65 years. Among people with diabetes, 50% knew hypoglycemia and hyperglycemia as emergency complications of diabetes, 10% knew hypoglycemia alone while 20 % knew hyperglycemic emergency only. 20% reported no known diabetic emergency. Regarding hypertension, complications tested were stroke, heart diseases and acute kidney injury (AKI). Only 32 % knew both 3 complications while 66% knew stroke only. For heart conditions and AKI, they are 52% and 46% respectively. 42% knew both stroke and heart conditions. 8% didn't know any complication of hypertension. Acute

signs of diabetes complications were assessed and we found that 100% of Diabetic patients know polydipsia and weakness as early warning signs. Among hypertensive symptoms, visual problems were known by 90% of the population and swallowing difficulties was least known. The overall score for all conditions' knowledge was that 42.1 % scored low, 32.8 scored high and 25% scored moderate
Conclusion: our studies' findings correlate with other studies that were carried out in different settings, mainly LMICs. Population has low to moderate knowledge about emergency complications of NCDs while it has been proven that knowledge has a high impact in prevention. This means that they have a high risk of getting these conditions. Increasing public awareness and in hospital education will improve population knowledge and lead to better prevention of the complications of NCDs. Our study is limited to 2 hospitals. We need to evaluate the situation generally in Rwanda and also have the assessment from rural areas.

6.Enhancing NCDs patients' follow-up ownership to curb early complications and maintain quality of life in Rwanda. A prospective case study

Authors: D. Sabushimike, M. N. Tuyizere, R. Muragire

Background
Non-communicable diseases (NCDs) kill 41 million people each year, equivalent to 71% of all deaths globally, more than 15 million people die from NCDs between the ages of 30 and 69 years; 85% of these premature deaths occur in low- and middle-income countries. WHO has identified four major behavioral risk factors which are tobacco use, physical inactivity, the harmful use of alcohol, and unhealthy diets all of which increase substantially the risk of dying from NCDs. Simple lifestyle measures have been shown to be effective in preventing or delaying the onset of NCDs. However, many people are unmotivated or find it difficult to modify their risk behaviors, despite their awareness of the associated health hazards. Surprisingly, some previous studies showed that many smokers continued to smoke even after receiving a diagnosis of cancer, diabetes, or cardiovascular diseases.

Methods
A prospective cohort study will be used to gather information between motivated and non-motivated groups. The study will be conducted in Kigali City and purposive random sampling technique in choosing exposed and non-exposed groups will be used. However, NCD Clinics within two Health centers will be randomly selected and among the two NCD clinics, one group of NCD patients will be selected to get motivation while the other did not. Thereafter, the data regarding visit attendance, medicine adherence, and quality of life will be collected using Kobo tool box tools with programmed questionnaire installed, and for the analysis and data cleaning, we will use STATA V.16 to determine the odds of two groups via regression analysis and other Bivariate analysis to determine statistical significance of outcome and exposures regarding NCD follow-up ownership and commitment.

Results

Anticipated Results of the project(Highlighted keys):

The raised visit attendance, improved drug adherence, and quality of life is expected in the motivated group compared to the group without any motivational exposure

Discussions
Focusing on study Rationale:

WHO identified 4 major behavioral risk factors(tobacco smoke, physical inactivity ,harmful alcohol use, etc..) and which are substantially at risk of dying from NCDs. Furthermore, literature showed that lifestyle measures to be effective in preventing and delaying the onset of NCDs. However, many people are unmotivated people/find it difficult to modify their life behavior despite the awareness of associated hazards in addition to people who are persistently smoking even after NCDs Diagnosis.

It is in this regard that we need to conduct this study to find the level of the outcome against the level of exposure by initiating the project of engaging and motivating NCDs patients in their treatment plan and rewarding the best adheres.

7. Addressing socio-economic impact of Covid-19 pandemic on accessing routine NCD care for post heart valve replacement patients in Rwanda

Authors: Leslie Kaze1, Erneste Simpunga2, Christiance Mwamikazi1, Diane Musabyemariya1, Josee Uwamariya1, Ceeya Bolman1
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Background

Covid-19 has been a threat not only to the health of people living with non-communicable diseases (PLWNCDs) but also to their access to regular care. PLWNCDs are more likely to get COVID-19 and experience severe illness and death than people without NCDs. In addition, the World Health Organization (WHO) reported that in a survey of 155 countries, more than half experienced service disruptions for NCD prevention and treatment services due to the covid-19 pandemic. Similar to other low-and-middle income countries, in Rwanda, loss of income and movement restrictions during the pandemic posed socio-economic challenges to accessing post-cardiac surgery follow up services for patients with valve replacement. To address these challenges, Team Heart (TH) put in place a taskforce and plan to track and support this group of patients to ensure continuity of care during the pandemic. The objectives of this intervention were:

1. To locate all post-op patients around the country
2. To ensure that all post-op patients continue to attend their monthly check-up and take medications despite the lockdown.
3. To provide basic education on covid-19 and its prevention

Method

From TH's database and patient snowball information, an initial round of outreach calls was done to locate all patients known to have had heart valve surgery and where they receive follow-up care. This group of patients continued to receive monthly check-in calls to track their appointment attendance, access to medication, international normalized ratio (INR) values, and warfarin dosage. Team Heart collaborated with RBC and NCD clinics to ensure continued provision of follow-up care by staying in close contact with all 24 testing sites and working closely with RBC to mitigate supply disruption of medication and testing consumables. RBC and TH also worked together in engaging local authorities to ensure patients' movement clearance while TH provided financial support to cover any costs when needed. Data collection was initially done and stored using google forms and excel spreadsheets but were later transferred on Redcap. Lastly, covid-19 prevention and vaccination information were provided to contacted patients.

Results

A total number of 241 patients who had undergone heart valve surgery were reached. Majority of them (83.8%) had mechanical valve(s) replacements and received routine monthly check-ups. Continued monthly calls were able to reach on average 150 (74.2%) patients due to challenges including cell phone network, lack of cell phone, etc. Majority of the followed patients remained willing to continue their routine care despite their fear of the pandemic and challenges they faced to reach care. Patients in need were provided financial support to cover costs such as transportation, medication, food, and hospitalization.

Conclusion

The Covid-19 pandemic posed an immense risk on the health of PLWNCDs including post-cardiac surgery patients in Rwanda due to their underlying conditions and its risk of disrupting access to

their routine care. While it was crucial to ensure health system resilience by ensuring continued provision of care, it was equally important to address socio-economic pandemic-related challenges that patients faced to access the available care.

8. ECHOCARDIOGRAPHY TRAINING AMONG HEALTHCARE PROVIDERS IN RURAL RWANDA

Authors: Josee Uwamariya1, Olivier hagumakubana2, Gedeon Ngoga3, Evariste Ntaganda4, Leslie Kaze1, David Adams1, Ceeya Bolman1

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Corresponding author: Josee Uwamariya, Email: josee.uwamariya@teamheart.org, Tel: 0788310169, Team Heart Inc

Background

Specialists shortage is a serious concern in many developing countries and contributes to suboptimal healthcare delivery. Rwanda has less than 10 cardiologists country-wide and only few of them are based in public institutions where patients are referred to from district hospitals. The limited number of cardiologists country-wide limit access to echocardiographic tests risking late diagnosis of heart diseases. To address this gap, the Rwanda Biomedical Center (RBC) in collaboration with Team Heart (TH) convened a clinical placement mentorship for non-communicable disease(NCD) nurses and physicians working at district hospital. The mentorship program aimed to equip and improve cardiac ultrasound skills of these health providers to promote prevention and early diagnosis and treatment of heart conditions with a focus on rheumatic heart disease (RHD) and congenital heart disease (CHD).

Method

RBC selected NCD nurses who have received basic echo training and were qualified for intermediate echo training. TH brings skilled sonographers from the USA to provide a 5 days intermediate training at selected district hospitals. One month before the training, an NCD nurse designated at the hospital of training, led a community screening in rural areas around the hospital to identify asymptomatic children with heart disease. Children with suspected heart conditions were invited for a full echo review during the training. On the first day of the training, an echo baseline knowledge pretest was administered followed by a theoretical training and four days of practice. During practice trainees under the supervision of a trainer rescreened, proposed a diagnosis and a treatment plan for identified children from the community and hospital in patients with suspected and confirmed heart conditions

respectively. Each ultrasound examination was followed by a group discussion to allow trainees and trainers to share ideas and ask questions on the medical findings. At the end of the training, a post training test is administered to evaluate knowledge improvement.

Results

In 2022, we conducted 2 training sessions in April and September 2022 at Kibungo and Ruhengeli district hospitals. In total we trained 15 NCD nurses, 7 internists, 1 pediatrician, and 3 physicians. The trainees received a pre and post-test to evaluate their knowledge improvement. The average score was 30% and 90% for pre- test and post-test respectively, with a significant increase of 59%. While only 35% of participants passed the pre-test, everyone passed the post-test. We screened 175 patients.

Conclusion

Given the scarcity of cardiologists, echo training for health providers at district hospitals is a step closer to expanding access to early diagnosis and treatment of cardiac diseases. Participants are equipped with echo skills to provide deep echo review, propose a diagnosis and initiate treatment for patients suspected to have heart disease. However, the training need remains wide calling for continued training and mentorship. Future interventions include the creation of master trainers and the use of technology to ensure continued mentorship.

9. Cardiovascular diseases prevention, early detection and screening in Children living in Ngoma District.

Authors: Olivier Hagumakubana1, Josee Uwamariya2, John Gahima1, Gedeon Ngoga3, Evariste Ntaganda 4, Leslie Kaze2, David Adams2, Ceeya Bolman2

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Background

Children with heart disease are at risk for poor growth and malnutrition compared to healthy children. A study in India reported that 82.53% of children with congenital heart disease are underweight, and 58.72 % are stunted. Data from Ngoma district health unit in the Eastern province of Rwanda revealed that 4271 children aged 1 to 14 suffered malnutrition from 2017 to June 2021. The high number of malnutrition in the Ngoma district prompted the need to conduct echocardiography screening among malnourished children and children presenting symptoms of heart condition. Screening aimed to identify children with heart disease at early stages and link them to care for further management and follow-up.

Method

This was a cross-sectional study among malnourished children younger than 15 years old. Our target population was grouped into two categories. The first category involved malnourished children enrolled in malnutrition programs since 2017. The second category involved children presenting signs and symptoms of heart disease. The NCD nurse have worked with the district health unit, nutritionists, and community health workers to identify our target population from the communities (CHW). The NCD nurse trained 1098 CHWs from different communities about the signs and symptoms of rheumatic heart disease (RHD) and congenital heart disease (CHD). In addition to training CHWs, he organized a radio talk show on Izuba Radio, a local broadcast agency followed by more than 2 million people,

primarily located in the East of Rwanda. The purpose of the talk show was to increase public awareness of RHD and CHD and encourage parents to take children presenting symptoms and signs of RH to the health center. Children with CHD and RHD symptoms identified in the community were given an appointment to visit their respective HC for echocardiography screening. The screening was led by an NCD nurse using a portable Lumify echocardiography to screen children. Suspected children were requested to visit Kibungo district hospital to meet cardiologists for full echo review, further management, and follow-up.

Results

The NCD nurse delivered three awareness campaigns on radio and TV Izuba where he conveyed prevention messages, symptoms of heart disease, and the importance of early diagnosis of heart disease. 1098 CHWs were trained on heart disease signs, symptoms, and prevention. In total, the NCD nurse screened 1205 children from the community. Of 1205, 63 children were suspected of having heart disease and received a full echo review from a cardiologist. Their full echo findings were as follows: 12.6 % (n= 8) had RHD, 68.2 % (n=43) had Congenital heart diseases, and 19.2% (n=12) had other cardiovascular problems, including valves stenosis, cardiomyopathies, and valves regurgitation without valves morphological changes

Conclusion

Community screening is crucial for early case detection, elimination of preventable heart conditions and achieving universal health coverage. NCD nurse-led community screening should be reinforced to increase awareness on heart disease and detect heart conditions earlier among vulnerable populations living in rural areas.

10. Building relationships: Specialized Cardiac Education for Nurses

Author: Dr Maria Kidner

Background: To increase earlier diagnosis, earlier referrals, and evidenced based treatment for cardiac diseases in Rwanda, Team Heart, Inc and the University of Rwanda, School of Nursing and Midwifery (UR-SONM) have a Memorandum of Understanding to develop and implement Rwanda's first formal advanced nursing education for cardiology.

The "Specialized Cardiac Nursing training program: Training of Trainers" conceptual design began in September 2020 and the course was launched to six UR-SONM mastered-prepared graduates March 2022. This training is focused on the classroom knowledge, skills, and attitudes required for high-quality cardiac nursing care and the processes developed for a technical course that is culturally centered and linguistically appropriate for learners where English is the 3rd or 4th language. The emphasis is on cardiac NCDs and acute care of cardiac decompensation with advanced nursing assessments, interdisciplinary teamwork, and critical thinking. Subsequently, role transition, and Specialized Nurse role development is core with advocacy, mentorship, and stakeholder development for the participants with emphasis on the future of nursing in Rwanda.

Methods: This nursing education utilized the nursing theory of P. Benner, "Novice to Expert." The course competencies are built upon the 2020 American College of Cardiology document on the Nurse Practitioner required competencies for cardiology care that are appropriate for the near future needs of cardiac care in Rwanda. This course is a comprehensive cardiology course developed for the translation of knowledge and skills through lectures, case scenarios, interactive discussions and activities, bedside mentored clinical work, participation in Team Heart surgical screenings and post operative care. Knowledge and skills include EKG education by pathophysiology, Chest x-ray, lab data, comprehensive history & physical exams, and critical thinking decision-making.

Results: The first cohort of trainees (mastered prepared nurses) are both from academic institutions and from Hospital- based institutions to ensure sustainability of this program for both institutions at the same time. It is expected that these nurses become the course educators and Specialized Cardiac Nurse role models for the program's sustainability for Rwanda improving NCD outcomes. As this Cardiac nursing education program is developed, a new nursing role in Rwanda should be considered: Specialized Cardiac Nurse or the Advanced Practice Nurse role should be considered through legal, political, and regulatory processes for role and title protection, scope of practice, job description-recognition-and pay, and full practice authority to maximize this education translation into clinical practice and support the cardiac needs of the patients of Rwanda.
Conclusion: Cardiologist and Cardiac surgeons cannot provide the highest quality care without well-trained nurses who can assess and recognize physical changes, make clinical decisions, decrease delays in care, and work as an effective cardiac team member.

SHINING A SPOTLIGHT ON NCDS PREVENTION, EARLY DETECTION AND SCREENING

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Background

Non-communicable diseases (NCDs) are diseases that are not transmitted from one person to another. The four main types of NCDs are cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes. NCDs are leading causes of above 70% of all deaths globally, are said to be the biggest and silent killer because they progress slowly and lead to serious conditions after long duration and affect population's health, finance and economy of the country. NCDs is still a public health challenge in all regions of the world including Rwanda where it is leading causes of above 42% of all deaths and their risk factors are categorized as self-management, genetic factors, environmental factors, factors of medical conditions, and socio-demographic factors. However NCDs are still prevalent, their management has received considerable attention in different public health sectors, and then this study aimed at shining a spotlight on NCDS prevention, early detection and screening.
Methodology
Consulted and used different resources regarding NCDs and interviews were conducted with NCDs healthcare providers as well as to identify strategies for prevention and control of NCDs.

Results

As results tobacco use, harmful use of alcohol, unhealthy diets, and physical inactivity were major prevailing modifiable risk factors among respondents and basing on lifestyle and health medical history of respondents; the lack of personal threat realization, limited knowledge, inadequate health education, health care and financial constraints appeared as key barriers to the self-management of NCDs among reached participants.

Conclusion

Despite the limited scope of the research, achieving a healthy people in a nation free from preventable NCDs, whole health sectors workers up to community health workers ought to be trained and equipped on NCDS screening and early detection hence they should help in screening and monitoring and providing community information regarding improving lifestyle and reducing modifiable risk factor on NCDS. Also, improvement and involvement of community health will play role via improving lifestyle of community members and reducing modifiable risk factors on NCDS through culturing community on regular health centers visit

for screening and checkups, doing physical exercises, drinking and eating healthy, stopping harmful alcoholism and avoiding smoking habit. Therefore our region will be shaped free from NCDs through people centered interventions and Transformative development

12. DEPRESSION AND ANXIETY AMONG PATIENTS WITH DIABETES TYPE 1 AND 2 AND HYPERTENSION

Case study: Muhima District Hospital, Biryogo Health Center

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Introduction: The link between physical and mental health is complicated. Patients with chronic conditions, such as non-communicable diseases, may experience a variety of negative emotions, increasing their risk of mental health disorders, such as depression and anxiety.

Method: This study used a convenient sample of 106 people from Muhima district hospital and Biryogo health center to analyze the link between diabetes and hypertension, as well as the presence of depression and anxiety symptoms. Patients with diabetes type 1 or 2 and hypertension, or just diabetes or hypertension, were among those who took part in the study.
SPSS version 25 was used to conduct the analysis.

Cronbach's alpha was used to analyze the reliability of depression and anxiety symptom measurements: all tools have a good coefficient (≥ 0.80) except for Patient Health Questionnaire (0.710) and Generalized Anxiety Disorder (0.758) and this value is accepted

Result: The findings of this study revealed that there is no significant relationship between the combination of diabetes and hypertension and the existence of depression and anxiety. The HSCL A t value is -1.69, and GAD7 is -0.19. Because of the low percentage of patients with anxiety and depression in our sample, HSCL-D is -1.23, PHQ9 is 0.81, and BDI is 0.40. For example, on GAD 7, 65 percent of patients have no anxiety, and on BDI 90 percent of patients have no depression. Age has a negative significant relationship with depression and anxiety, but gender has a positive effect. Being a man is linked to anxiety GAD7 (t value 2. 09) and depression PHQ9 (t value 2. 09). (t value 2.17).

Conclusion: There is no link between the combination of diabetes and hypertension and the presence of depression and anxiety symptoms, while gender and occupation moderate the symptoms, allowing health care providers to identify and treat symptoms early in chronic non communicable disease patients.

ABBREVIATIONS : HSCL-A: Hopkins Symptom Checklist Anxiety HSCL-D: Hopkins Symptom Checklist Disorder GAD7: Generalized Anxiety Disorder-7 PHQ9: Patient Health Questionnaire-9

13. Title: Road Users' Perspectives on Pedestrian Road safety and related Interventions

Background: In our daily life, everyone is a pedestrian as each journey starts and ends by foot and is commonly used before engaging in other modes of transport and pedestrian fatalities remain high. In 2019, worldwide, 270,000 pedestrians died as a consequence of unsafe driving or due to pedestrian behavior. The less protected road users are highly exposed to road injuries and fatalities compared to protected ones. Therefore, their safety

should be prioritized in both road design and road traffic crash prevention strategies. We aim to understand the road users' perceptions of the status of pedestrian safety and interventions to promote pedestrian safety in Kigali, Rwanda,
Methodology: This was a qualitative study where the Focus Group Discussion (FGD) data collection method was used to gather information from pedestrians, bicycle riders, motorcyclists, public transport car drivers, and private car drivers to better understand the road users' perspectives on challenges and opportunities in the design and implementation of pedestrian safety interventions. Five Focus Groups Discussions were conducted and a purposive sampling method was used to select the study participants, which implies the selection of participants based on their knowledge, experience on that specific subject and their ability to provide a relevant response. The thematic analysis framework and NVIVO software were used to analyze the FGD recordings.
Results: A total of 32 road users participated in the five FGDs. The majority of participants were male, accounting for 91 % of participants (n = 29). Three main themes emerged from the five FGDs, including pedestrian safety concerns, community awareness of and participation in road safety interventions, and perceived priority areas for pedestrian safety intervention. The pedestrian road safety concerns in the community were further grouped into four sub-themes, including the social environment, physical environment, human, and vehicle challenges. Regarding the community's awareness of and participation in road safety interventions, the road users demonstrated a good understanding of the ongoing road safety interventions in their community such as the road environment modification, enforcement, road safety education campaigns, and helping children to cross the roads near schools. Furthermore, participants believed that the maximum benefit in reducing Road Traffic Crashes could be achieved by a continuous enhancement of law enforcement, improvement of the road environment, and education of all road users including pedestrians and bicyclists.
Conclusion: The study gave an insight on the road users knowledge and perspective on the pedestrians' safety measures. The study highlights the importance of the consultative session before the implementation of the safety intervention in the community.

Key points on disability and adolescent mental health.

The Government of Rwanda continues to make significant progress in developing and strengthening disability-inclusive policies, programmes and wider participation of persons with disabilities. The mental health of adolescents is a crucial issue, as it has an impact not only on the health of the generation in this age group but also for them in their future adult years. UNICEF works to ensure that children with disabilities and their families have access to all the services and support they need in their communities. Survey on discriminatory attitudes and social norms towards children with disabilities In Rwanda (2021) showed that stigma and discrimination remain major challenges faced by children with disabilities.

Malnutrition and disability are inherently linked, with the former both a cause and a consequence of the latter, and people with disabilities are at increased risk of being malnourished[1]. Children, adolescents, and women of childbearing age with disabilities have poorer overall nutritional status than their peers without disabilities. Children with disabilities were particularly vulnerable to malnutrition. Hence, UNICEF with its partners mainstreaming the nutritional needs of children with disabilities as part of an integrated Health, Nutrition, and WASH programs that targets young children, adolescent girls, and pregnant and lactating women by strengthening the capacity of government health workers and increasing community demand for nutritional services for its targeted populations in existing nutrition activities.

UNICEF has collaborated with the government of Rwanda, Civil Society Organizations (CSOs) including Organizations of Persons with Disabilities (OPDs) and other partners in advancing the rights of children with disabilities, leading to some notable achievements including strengthening disability inclusion programming with a particular focus on increasing access to equitable services for children with disabilities in the areas of health, education, child protection, gender, human rights, and social protection.

UNICEF supported to ensure 620 children with hearing impairment in 4 districts (Nyagatare, Nyarugenge, Huye and Nyabihu) were pre-screened, assessed, and 580 hearing aids distributed to 295 children including 152 boys and 143 girls which improved their livelihoods; a range of assistive technology devices 36 wheelchairs, 24 Kaye Walkers, 50 adjustable elbow crutches and 1,240 digital hearing aids were procured and delivered to the needy children with disability. Health care providers in all hospitals capacities have been enhanced to support to children and adolescents with mental health needs in Rwanda, public awareness raised on mental health promotion and prevention for adolescents and young people and supported delivery of school-based mental health interventions.

185 MOH staff (70 male and 115 female) were trained on the early detection of children with disabilities. Participants included 12 national trainers and 173 healthcare providers (directors of nursing, midwives, neonatal nurses, and community health supervisors) from 48 hospitals. This will help to reinforce reporting to Rwanda's Civil Registration and Vital Statistics (CRVS) system and make it easier to monitor children with disabilities. Rwanda has at least 1 trained staff per health facility to provide adolescent mental health services (46 mental health professionals from District and Provincial hospitals, 521 nurses from health centers. School based awareness raising sessions were conducted to reaching 1,485 schoolteachers and 16,031 school children.

Urgent needs and future priorities: i)strengthening coordination and geographic convergence to increase the effectiveness and efficiency of the interventions ii) a cross-sectoral integrated community-based social services and support model for children with disabilities and their families, to be modeled in the selected communities, impact

documented and replicated in different districts to accelerate disability inclusion services in country and iii) Strengthening interventions on NCDs including disability and mental health in children and adolescent.

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[1] Kuper et al., 2014; Groce et al., 2013a:2013b

Africa Medical Supplier Ltd (AMS) is a medical distribution company that provides medical equipment, hospital furniture, Rapid Diagnostic tests, Medical consumables along with pharmaceuticals products for all medical conditions especially for Non-Communicable Diseases - NCDs (Diabetes, Cardiovascular diseases, Respiratory diseases, Kidney diseases, severe injuries, among others). We deliver, install and provide aftersales services countrywide to public institutions, private pharmacies, NGO's, and international agencies in order to contribute towards the improvement of the health system in Rwanda.

Our mission is to provide high quality health products and equipment that are affordable to health institutions throughout Rwanda and across the region, while ensuring that we provide world class service.

Our vision and strategies in the country gives us a competitive advantage to increase our product portfolio and build strong relationships with our partners and clients.

We value greater opportunities to collaborate directly with manufacturing companies to achieve long term mutual goals, in order to ensure that the end users have access to high quality affordable products for their health care needs. In this regard, our working relationship with world class manufacturers has given us the ability to refine our marketing strategy, and has positioned us as the primary health care distributor in Rwanda.

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