

AMR AMBASSADORS PROGRAM FOR YOUNG PEOPLE IN AFRICA



IMPACT REPORT

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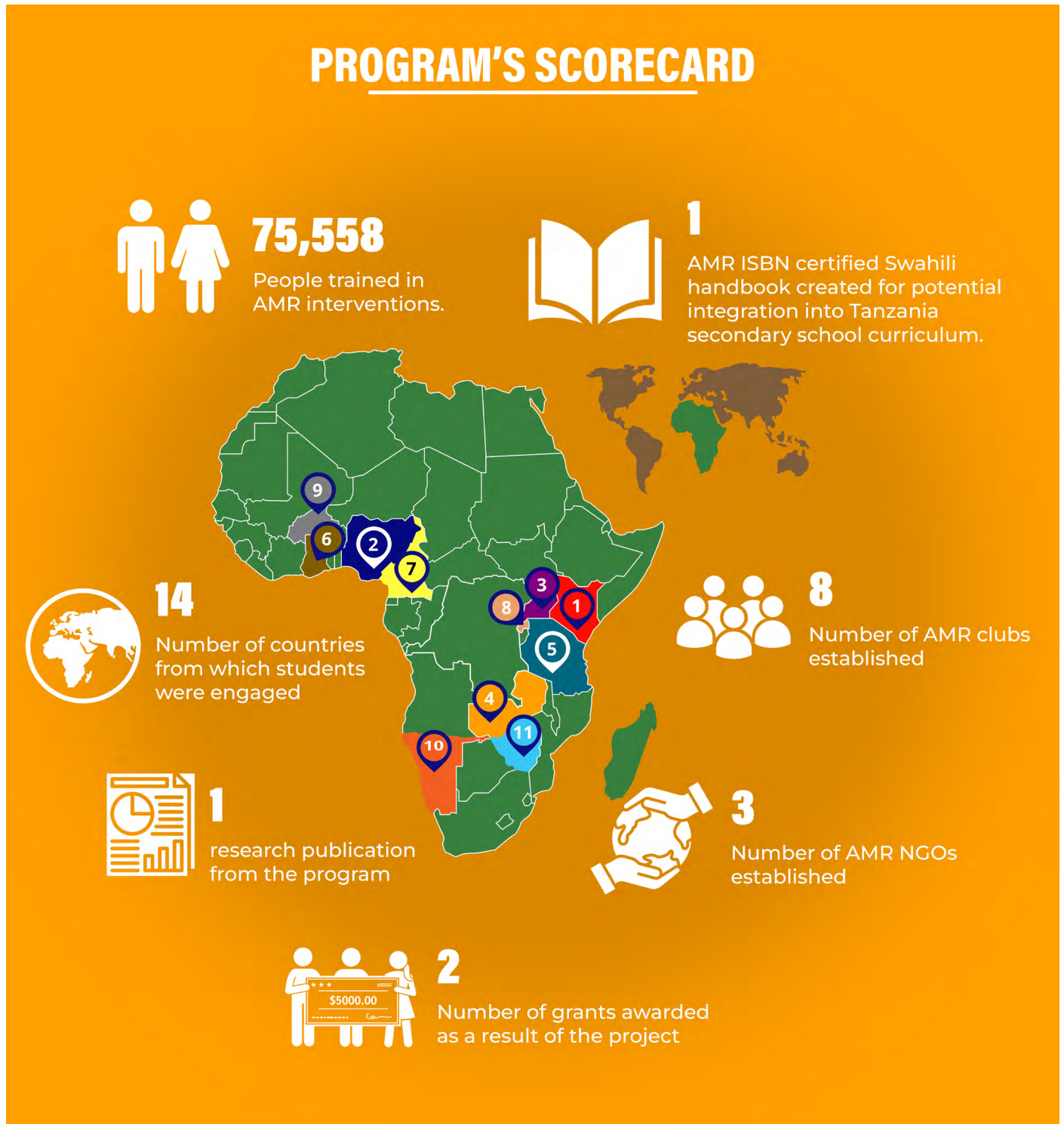
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Background

The AMR Ambassadors Program for Young People in Africa was an 18-month fenced fellowship program that sought to empower tertiary level students from different institutions in the African continent to design and implement catalytic interventions for addressing Antimicrobial Resistance and related drivers.

Since mid-July 2022, the AMR Ambassadors Program for Young People in Africa has been an interesting experience and a wonderful journey. Through the program, a lot of AMR work has been spearheaded in 11 countries in Africa as described in the metrics below serving as a great baseline to scale up, and also establish the sustainable engagement of AMR interventions that takes on a multidisciplinary Approach, and have a keen focus on grassroots engagement while at the same time fostering shared learning through the building of a resilient AMR Ambassadors network in the Africa continent. We immensely thank PAR Foundation for giving us the opportunity to transform this project into. The report shares metrics of the outputs and outcomes achieved so far in the entire project for the period of July 2022 to December 2023. It is good to note that some projects are still ongoing and therefore the report does not capture the entire output/ impact spectrum of the project.




Influence of the Program on AMR Engagement


One of the key outcomes of the AMR Ambassadors Program is increased visibility on the role of tertiary-level students and the youth in the fight against Antimicrobial Resistance. The key sections with figures have been italicized for easier tracing during reading.

SUMMARY OF AMR ENGAGEMENT FROM THE PROJECT


TOTAL: 75,588




876
Open Access Webinar Recordings




29,907
Engagement from AMR Interventions carried out by the Program Participants




39,419
AMR Engagement from Social Media Activities/Interventional media campaign



779
Engagement from Events Invited to Speak on Antimicrobial Resistance



39,419
AMR Engagement from Social Media Activities/Interventional media campaign



779
Engagement from Events Invited to Speak on Antimicrobial Resistance

1. Open Access Webinar Recordings

The lectures in phase 1 of the program were led by leading global, and local experts in the different spheres of Antimicrobial Resistance. There were very informative looking at Antimicrobial Resistance from their different expertise areas brings about a multidisciplinary approach. There was a total of **32 lectures, webinars, and workshops**. These were complemented by student-led sessions, discussions, and asynchronous learning from different materials shared. Out of these, 30 are now open access to anyone interested in learning more on AMR with consent and go-ahead from the experts involved and are housed in a repository in our Youtube

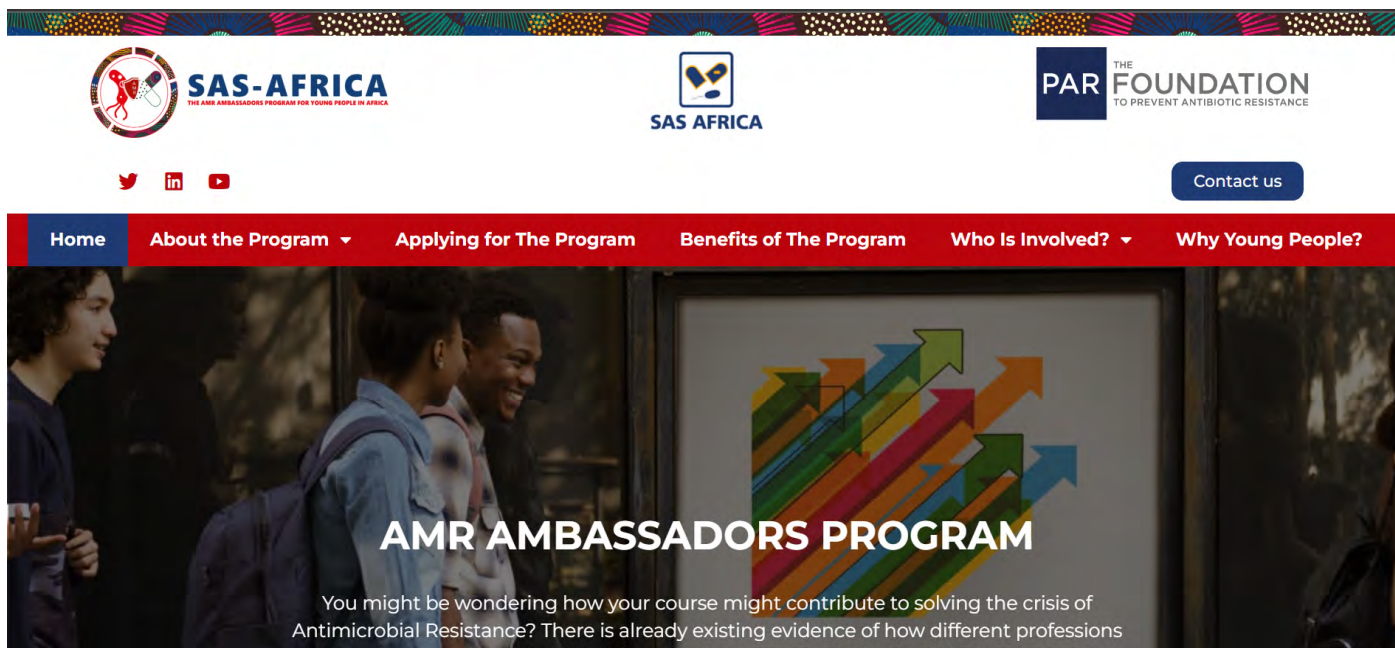
Current Figures: **876 people** have already watched the lectures, and workshops.



The screenshot shows the YouTube channel page for 'Students' Against Superbugs Africa'. The channel has 278 subscribers and 71 videos. A text box at the bottom of the video thumbnails states: "SAS Africa YouTube channel where all the webinar recordings were uploaded".



2. Ambassadors Program Website, and Promotional videos:



Ambassadors Program Website

The website and promotional videos designed to share more details about the existence of the program have a lot of information about AMR. This was because the program was targeting non-medical students too and it was important to explain some basics about AMR; showcase its burden and the need for collaborative action. This is reflected in their applications where many applicants shared that the website and videos helped them gain a basic understanding of AMR and prompted them to act by applying for the course. This was an awareness activity to by itself increase the visibility of AMR among students within the African continent.

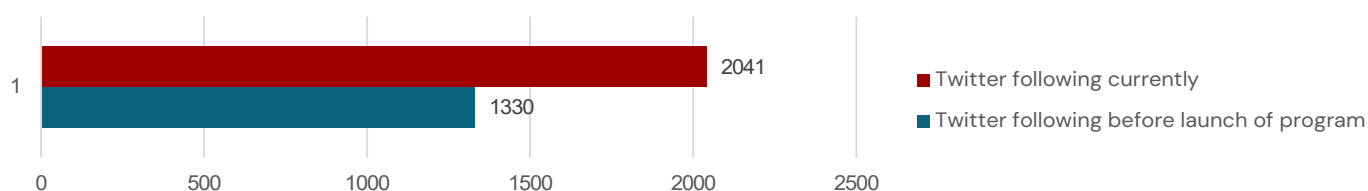
Cumulative Website traffic visits and Reach of Program’s Videos: 4607 people

3. Engagement on AMR prompted by Social Media Activity

Since the inception of the AMR Ambassadors Program, many people frequent the SAS Africa social media handles to learn more about AMR, current news, and opportunities affiliated with AMR. This is very high for the Twitter platform. An increase in our Twitter following indicates that many people will now have access to AMR information through our platform, and pool more people, and organizations to engage with us.

Since August when we announce the program in August Twitter traffic has increased progressively, and from the explanation offered above is also an indicator of increased visibility in AMR.

Twitter Account Growth

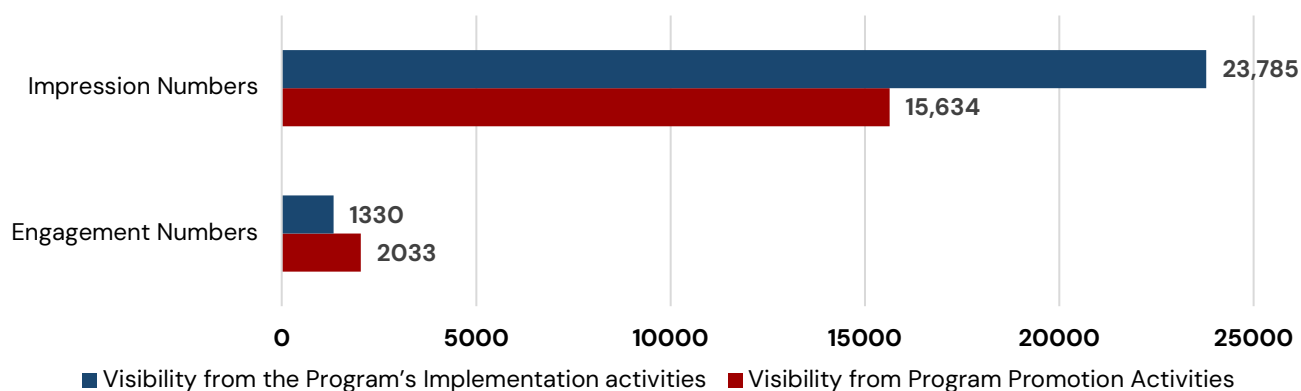


Social Media Reach involving the program activities

- Increased visibility of the AMR, creating awareness and increasing interest.
- Has inspired many students and early career professionals to have an interest in engaging in AMR activities.
- Has increased our support and stakeholders’ base for AMR professionals who learn about our activities through social media, and thus become interested in engaging and supporting the cause.

Total	
Engagement Numbers	Impression Numbers
3363	39,419

AMR Engagement from Social Media Activities/Interventions



4. Engagemnt from Events Invited to Speak on Antimicrobial Resistance

Number of People Engaged

114

Invited to present on the Correlation of AMR and Sexually Transmitted Infection at a Sexual and Reproductive Health event featuring participants from at least 5 Kenyan universities mostly club and association leaders at Mt. Kenya University, Kenya

320

Invited to share about the AMR Ambassadors Program during a two-day National AMR Symposium and to engage in an expert panel discussing the role the youth can play in curbing Antimicrobial Resistance at Radisson Blu Hotel, Nairobi Kenya (*In attendance were government officials, developmental partners, research institutions, academia, and other key stakeholders involved in policymaking and AMR research in Kenya*)

300

Invited to present at a 3-day Youth Summit at AMREF University, Nairobi, Kenya, on how to better capacitate tertiary level students and early career professionals to be active AMR stewards in the fight against Antimicrobial Resistance

N/A

Invited to offer a lecture on Antimicrobial Stewardship in a 3-course training by International Pharmaceutical Students Association, African Regional Chapter

45

Invited by Students Coalition for Health (SCOFOH) to present a webinar on the Basics of AMR, and how the students could take action to intervene

5. Engagement from AMR Interventions carried out by the Program Participants.

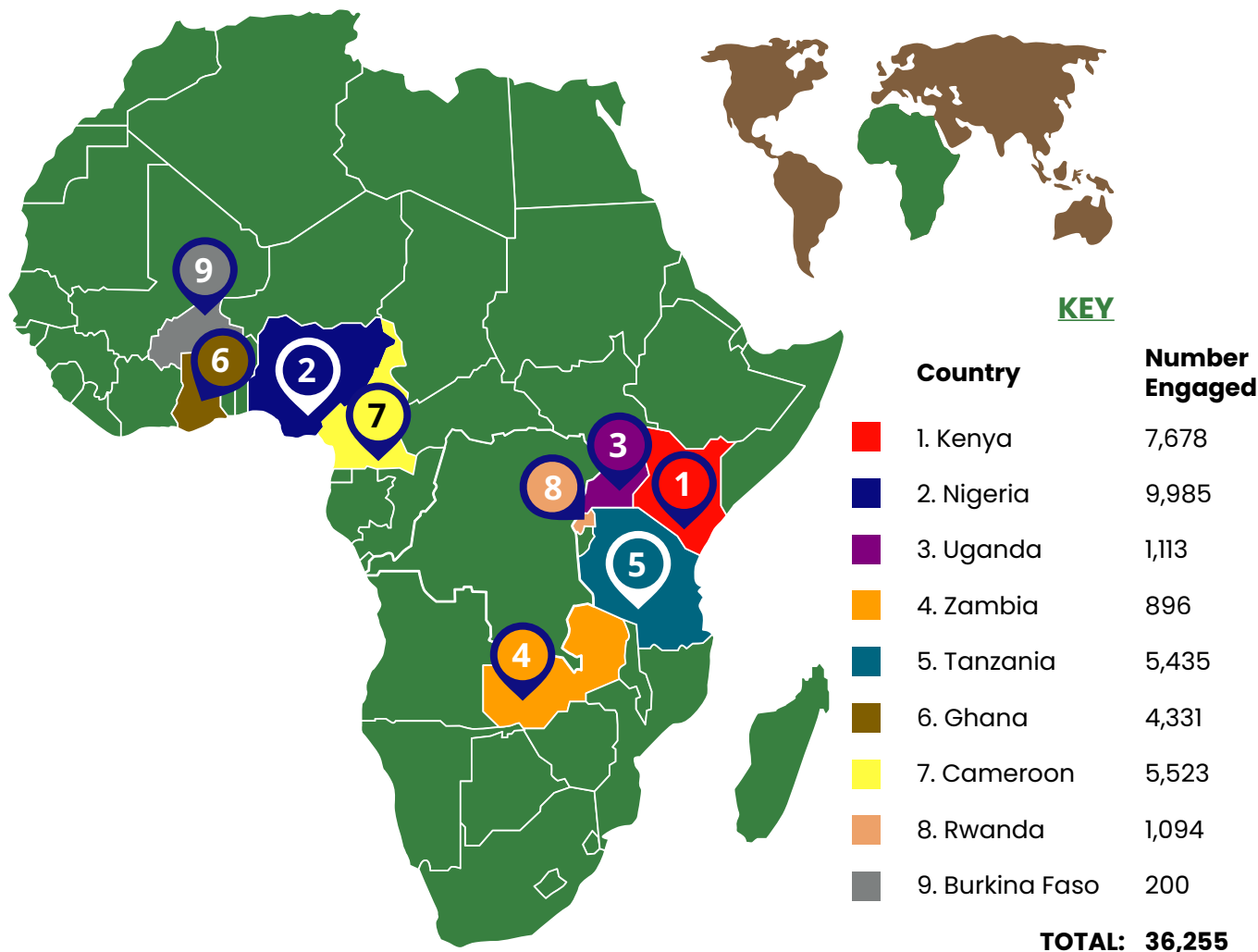
One of the key outcomes of phase 1 of the program was to see the participants engaged in AMR interventions in their respective countries and communities which went a long way in improving the visibility of AMR in their respective countries. This was a key indicator of the effectiveness of the program to promote multidisciplinary engagement and trigger grassroots interventions as envisioned. With further training and engagement in phase 2, we believe that the participants will be able to set up sustainable structures and drive more catalytic work on AMR.

Summary of the number of People Impacted during Phase 1, Phase 2, and Phase 3 of the AMR Ambassadors Program

AMR Projects and Interventions Initiated by AMR Ambassadors Program Participants

a. Summary of Phase 3 Interventions

Phase 3 focused more on creation of structures and institutions and research for sustainable engagement rather than campaigns and outreaches. The number of people engaged was fewer but the engagement was in great depth and extensive to ensure a catalytic outcome, those engaged will go forth to engage others. Each team was offered both seed funding and technical support in terms of developing a strategy and project management to implement their project in best practice.



Name of initiative	Objective	Quantitative Reach (depth of engagement varies depending on the structure of the project)
Ghana		
Project RESIST Ghana	Establishments, and registration of a sustainable structure, non-profit entity, AWARE Ghana, aimed at capacitating tertiary students in Ghana to be active advocates in mitigation of AMR in their different institutions through a multidisciplinary approach	250
CAFA Young Ambassadors	Establishment, and registration of an AMR club at University of Ghana, and pioneering pilot AMR mitigation community projects in Accra city, Ghana	179
Total		429
Nigeria		
Usmanu Danfodiyo University Young AMR Stewards	Establishment of an AMR club Usmanu Danfodiyo University to capacitate students in the university of AMR through a multidisciplinary approach, and to pilot community intervention in Sokoto	1,000
AMR Stewards Club Calabar University	Development of an AMR academy and club at Minna University to capacitate students through a multidisciplinary approach and to initiate AMR interventions in their neighbouring university community	1,963
Microwarriors AMR Initiative Nigeria	Developing an onsite platform, grassroots AMR outreach strategy in primary and secondary schools, and club for collaborative and multidisciplinary engagement in AMR in Nigeria	600
Flemings AMR Club University of Minna	Promoting sustainable engagement in AMR among students of Minna University through formation, registration, and piloting outreach activities of the club	83
Total		3,646
Tanzania		
Tanzanian Workshop against Antimicrobial resistance (TAW-AMR) team	Piloting and Testing Innovative Approaches AMR Community Engagement in AMR in urban Areas	250
Tanzanian School Secondary AMR clubs and Handbook Project	Evaluating the effectiveness of an Educational Handbook and Training Protocol on AMR in Enhancing Secondary School Students' confidence and engagement in AMR Initiatives	N/A
Total		250
Kenya		
Solving Resistance AMR Team	Implementation of a pilot that builds on the Health and Hygiene lessons in the primary school curriculum to educate students about Antimicrobial Resistance in Kenya	216
Integrating AMR studies as online unit at JKUAT University	Pilot program aimed at developing evidence and best practices on institutionalization of AMR into the university's curriculum	49
Total		265
Uganda		

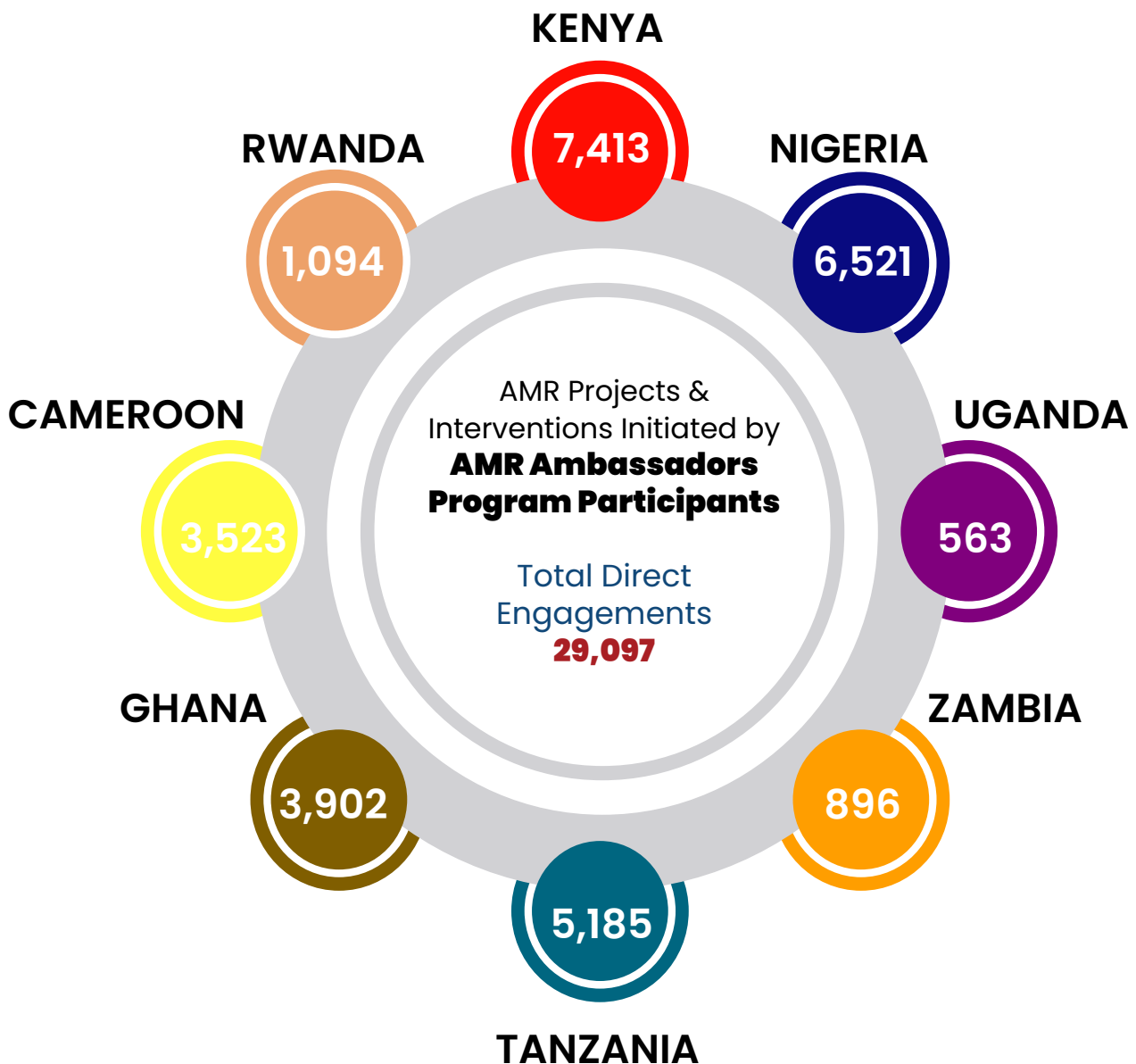
Makerere University Antimicrobial Stewardship Club	Establishment of an AMR club Makerere university to capacitate students in the university of AMR through a multidisciplinary approach, and promote AMR mitigation interventions within the Kampala university	550
Evidence-based structured engagement of students' AMR at Busitema University	Generating evidence/investigating motivators, factors and barriers that hinder active students' engagement in AMR	N/A
Total		550
Burkina Faso and other Francophone Countries		
Supporting Francophone AMR Youth leadership program	Effectively engage young people in Francophone West Africa in the fight against Antimicrobial Resistance	200
Total		200
Cameroon		
AMR Showtime Project	Developing and pretesting a sustainable framework on mainstream AMR media engagement	2,000
Total		2,000
Overall Total		7,340

Reach per Country Description in Phase 1 and Phase 2

a. Country Summary in Phase 1 and Phase 2

Phase 1 and phase 2 of the program mainly focused on capacity building of the program's fellows. Phase 1 was focused more on technical learning on AMR, related topics and other cross-cutting topics in global health to ensure the fellows have a good background and technical knowledge on AMR. The fellows were also equipped with different critical skills through targeted interventions. This was a multi-method capacity building program that incorporated various strategies such as; remote learning, pursuing an AMR course from University of Manchester, virtual discussions, group projects, webinars, workshops with invited experts and some social and interactive events.

Phase 2 involved further capacity building and simulation learning. The fellows underwent further training on project management, monitoring and evaluation, systems thinking, design thinking, entrepreneurship and research. The programs were equipped with skills for designing and implementing projects. The simulation projects provided a platform for the fellows to design projects and also idea on how the professional expertise/background can contribute in AMR mitigation within their settings.





COUNTRY: TANZANIA

Number of Teams	3
Number of People Engaged	5,185

TEAM 1: Project: AMR Club Sokoine University of Agriculture, Tanzania

Intervention	Number Engaged
AMR Education Session at Abood FM, a national radio station in Tanzania	3,000
AMR Sensitization Radio Show at SUA FM, a regional radio station in Morogoro, Tanzania	1,500
AMR educational activities at a Mbuyuni Secondary School in Morogoro Tanzania	50
AMR Awareness at a Funga Funga Elderly Home, Morogoro, Tanzania	30
On-Campus AMR Awareness Activities in collaboration with several Sokoine University Student Clubs and Association	120
Participation, and Presenting at the Tanzania National AMR Symposium	150
Total Number Engaged	4,850



Members of AMR Club Sokoine University of Agriculture, Tanzania during AMR Sensitization Radio Show



TEAM 2: Liberate My Ignorance AMR Project

Intervention	Number Engaged
AMR Awareness of Primary School Children in the Kilimanjaro Region of Tanzania	50
AMR Awareness among Market Traders in Kilimanjaro town, Tanzania	160
On-Campus AMR Awareness Activities in collaboration with several Rotaract Clubs of Kilimanjaro Christian Colleges and Mwenge University	100
Total Number Engaged	310



A member of the Liberate My Ignorance AMR Project demonstrating Handwashing at a Primary School Children in the Kilimanjaro Region of Tanzania

TEAM 3: AMR Let's Get Aware Project; Tanzania

Intervention	Number Engaged
Carried out a Study to Investigate the Knowledge levels among university students studying in Dar es Salaam, Tanzania	25
Total Number Engaged	25



COUNTRY: UGANDA

Number of Teams	2
Number of People Engaged	563

TEAM 1: Rethink! Misuse of Medicine Project

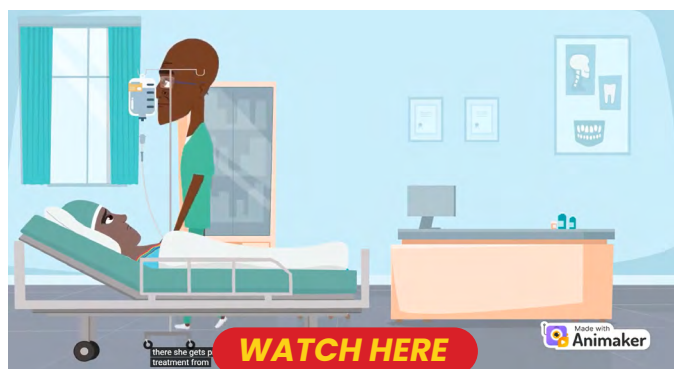
Intervention	Number Engaged
Multidisciplinary Webinar on Antimicrobial Resistance among Students at Makerere University, Uganda	99
On-Campus Skit Performance for AMR Awareness Targeting Care Groups at Makerere University Halls of Residence	80

Total Number Engaged **179**

Team 2: Fighting the Invisible War Project

Intervention	Number Engaged
Educative Video to raise awareness on AMR among Makerere University Students	124
A Pilot Study on The Knowledge, and Practices of Antimicrobial Stewardship Among Makerere University Students in preparation for a Large-Scale Study.	Reached: 260 Participants of the Study: 109

Total Number Engaged **384**



A PILOT STUDY ON THE KNOWLEDGE AND PRACTICES OF AMR STWARDSHIP AMONG MAKERERE UNIVERSITY STUDENTS

KARUNA ASANI
NANTONGO JENNIFER
SEGAWA MICHEAL COLLINS
(HELIODOR)

READ HERE





COUNTRY: GHANA

Number of Teams	1
Number of People Engaged	3,902

TEAM: AMR – The Silent Pandemic Project

Intervention	Number Engaged
Social Media (WhatsApp) AMR Awareness Campaign	250
AMR Education Session at Radio Universe, a national radio station in Ghana	3500
AMR Secondary Schools Awareness Campaign	52
Youth AMR Seminar in Kumasi Ghana	100
Total Number Engaged:	3,902



Members of the AMR – The Silent Pandemic Project during an AMR Education Session at Radio Universe, a national radio station in Ghana





COUNTRY: RWANDA

Number of Teams	2
Number of People Engaged	1,094

Team 1: Empowering the Community for Prevention of Antimicrobial Resistance (AMR) Through One Health Approach in Nyagatare District, Rwanda

Intervention	Number Engaged
A Research Study on Empowerment of The Community for Prevention of Antimicrobial Resistance Through One Health Approach In 4 diary Milk collection centers (MCC) in Nyagatare District, Rwanda	85
AMR Education, and Training of Rational Antimicrobial use among Daily Farmers in Nyagatare District	55
On-Campus AMR Education Training among the University of Rwanda Students	60
Total Number Engaged:	200



Empowering the Community for Prevention of Antimicrobial Resistance (AMR) Through One Health Approach in Nyagatare District, Rwanda

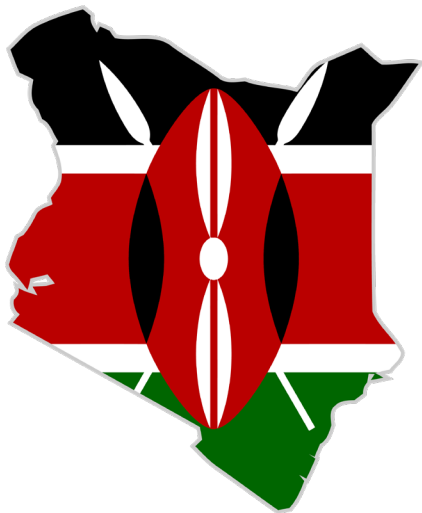


Team 2: AMR Patient Education at Hospitals in Rwanda

Intervention	Number Engaged
Training a Multidisciplinary group of students to help in the Implementation of the Project	27
AMR Patient Education at CHUB, University Teaching Hospital of Butare, Rwanda	489
AMR Patient Education at Kabutare District Hospital, Huye District in Rwanda	378
Total Number Engaged:	894



AMR Patient Education at Hospitals in Rwanda



COUNTRY: KENYA

Number of Teams	2
Number of People Engaged	7,413

Team 1: Bugs Begone Project

Interventions	Number Engaged
AMR Sensitization Session at Gachororo Secondary School in Kiambu, Kenya	60
Social Media AMR Education Series (WhatsApp groups, Instagram stories, Twitter threads, Sharing YouTube Videos)	1,500
Total Number Engaged:	1,560



Members of the Bugs Begone Project conducting an AMR Sensitization Session at Gachororo Secondary School in Kiambu, Kenya



Team 2: Project: AMR Awareness Campaign in Nairobi City

Interventions	Number Engaged
On-Campus AMR Training for Students to conduct AMR Walk	223
AMR Public Awareness and Education Walk in Nairobi City	3,000
Post-Walk AMR Sensitization Webinar for University Students	130
Social Media Engagement in AMR Activities	2,500
Total Number Engaged:	5,853



AMR Sensitization Webinar
Theme: "Preventing Antimicrobial Resistance Together"

TOPICS OF DISCUSSION

- Role of Students in Ensuring Prudent Use of Antimicrobial Agents
- Burden of AMR in Kenya - How bad is it?
- National Policies, Strategies and Guidelines on AMS and AMR containment

Niharika Mukherjee
President
SOHIC - FHS, UoN

Dr Ndinda Kusu
Country Project Director
MTaPS Program, MSH

Silvanus Manyala
Moderator
NUPSA Chairperson

Saturday
19 November
10 AM

Register via <https://bit.ly/AMRSensitizationWebinar> | Certs will be provided

CONNECT WITH US @nupsauonbi

World Antimicrobial Awareness Week
Theme: "Preventing Antimicrobial Resistance Together"
18th - 24th November

World Antimicrobial Awareness Week (WAAW) is a global campaign that is celebrated annually to improve awareness and understanding of AMR and encourage best practices among the public. One Health stakeholders and policymakers, who all play a critical role in reducing the further emergence and spread of AMR.

Activities Outline

- Activity 1: Champions Training (Nov 11 | 2 PM)
- Activity 2: AMR Sensitization Walk (Nov 18 | 10 AM)
- Activity 3: AMR Webinar (Nov 19 | 5 PM)
- Activity 4: Social Media Campaign (Nov 18-24)
- Activity 5: AMR Debate (Nov 26)

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Frame 1: University students conducting an AMR Public Awareness and Education Walk in Nairobi City

Frame 2: AMR Sensitization Webinar flyer

Frame 3: WAAW Week Activities Flyer





COUNTRY: ZAMBIA

Number of Teams	1
Number of People Engaged	896

Team 1: Each One Teach One: AMR Educative Project

Intervention	Number Engaged
AMR Sensitization Radio Show on Daylight Business Radio Station located in Kitwe District, Zambia	90
AMR Educative Session for students at Dominican Convent Secondary School in Ndola, Zambia)	300
AMR Educative Session at KCM Nchanga Secondary Trust School in Chingola District in Zambia)	410
Qualitative Survey among Secondary School Students to Assess their knowledge, attitude, and perception of AMR after training	96

Total Number Engaged: 896



Members of the Each One Teach One: AMR Educative Project engaging secondary school students in various schools on AMR Educative Sessions

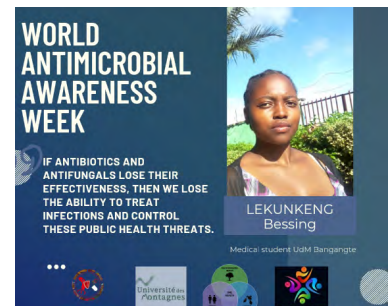
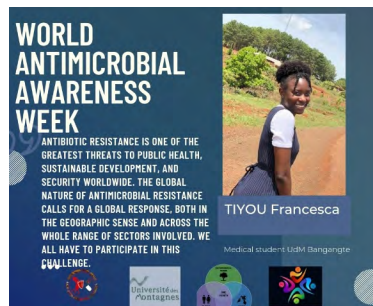
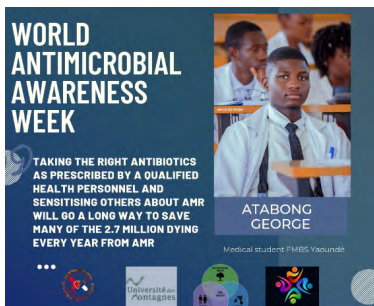


COUNTRY: CAMEROON

Number of Teams	2
Number of People Engaged	3,523

Team 1: Cameroon Social Media AMR Sensitization Project

Interventions	Number Engaged
Survey to Evaluate Knowledge, Attitude, and Perception of Antimicrobial use among university students in Cameroon	103
Social Media AMR Awareness Campaign (WhatsApp Education, LinkedIn, Facebook, and Twitter)	450
Total Number Engaged	553



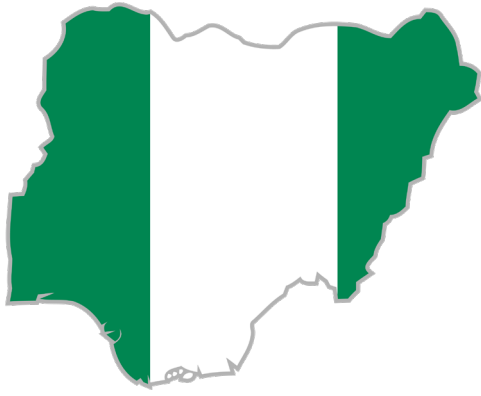
Flyers with key WAAW Week messages from members of the Cameroon Social Media AMR Sensitization Project

Team 2 :Make the Unaware Aware; The AMR Watch Awareness Campaign

Interventions	Number Engaged
AMR Watch social media (WhatsApp) Campaign	190
AMR Watch Educative Flier Campaign	2,600
AMR Sensitization forum at St Jude’s Higher institute of Nursing and Biomedical Science	80
AMR Sensitization session at Hibmat, and Biaka Universities Institute of Buea	100
Total Number Engaged	2,970



Members of the Make the Unaware Aware; The AMR Watch Awareness Campaign



COUNTRY: NIGERIA

Number of Teams	5
Number of People Engaged	6,521

Team 1: The Flemming's awareness campaign

Intervention	Number Engaged
AMR Sensitization Sessions for High School Students in Minna	70
On-Campus AMR Sensitization session for University Students at Federal University of Minna (physical events and placing AMR fliers at strategic sites within the university)	1,000
AMR Sensitization Radio Show on Search FM Radio Station in Minna City, Nigeria	1,800
Public AMR Awareness Campaign in Religious settings in Minna	100
Lobbying for the institution of AMR interventions to Minna State Government Officials and other relevant stakeholders	<i>no quantitative measurables result yet</i>
Social Media AMR Campaign (Twitter and Instagram)	2,500
Total Number Engaged	5,470



Members of The Flemming's awareness campaign conducting an AMR Sensitization Sessions for High School Students in Minna

Team 2: AMR Secondary School Rally in Calabar, Nigeria

Interventions	Number Engaged
AMR Sensitization Campaign in a Junior Secondary School in Calabar, Nigeria	170
Total Number Engaged	170



Team 3: Team Hexagon AMR Community Awareness in Ibadan, Nigeria

Intervention	Number Engaged
Survey to determine the knowledge level of AMR among the Public in Streets of Ibadan	11
Street and Market place AMR awareness events	40
Total Number Engaged:	51

Team 4: Extraordinary Pacesetters Small Community Project, Minna, Nigeria

Intervention	Number Engaged
AMR Sensitization Session at Bosso Secondary School in Minna State, Nigeria	100
Total Number Engaged:	100

Team 5: UDUYARS Preventing AMR Together Team

Intervention	Number Engaged
AMR Sensitization Session, and Setting up an AMR Club at Caliphate College of Health Technology in Sokoto, Northern Nigeria	300
On-Campus AMR Educative event, Play and Drama Presentation, and Health Awareness Campaign at Usmanu Danfodiyo University, North East Nigeria	400
Total Number Engaged	730



Members of The UDUYARS Preventing AMR Together Team conducting an AMR Sensitization Session at Caliphate College of Health Technology in Sokoto, Northern Nigeria

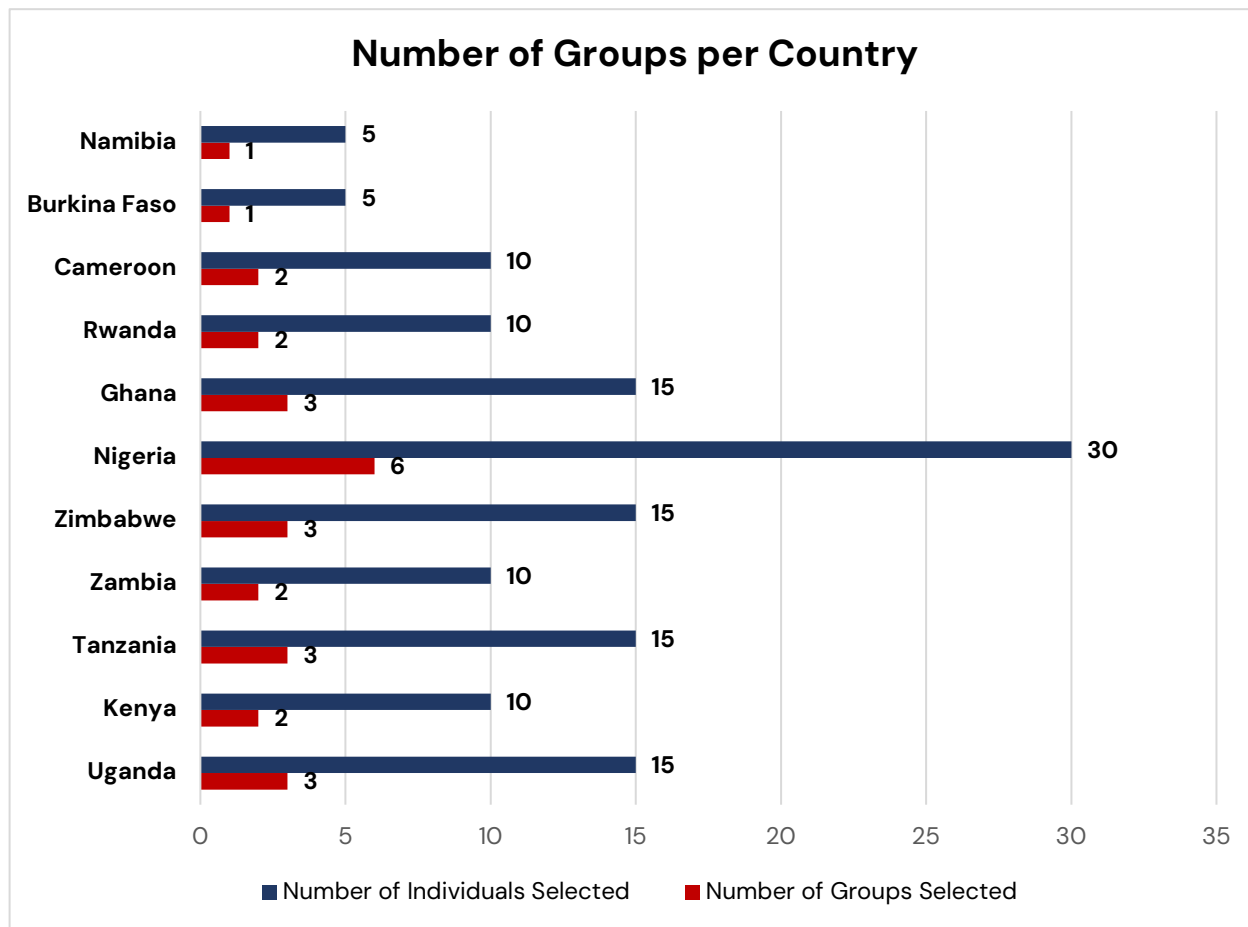


Members of The Flemming's awareness campaign conducting an On-Campus AMR Educative event at Usmanu Danfodiyo University, North East Nigeria

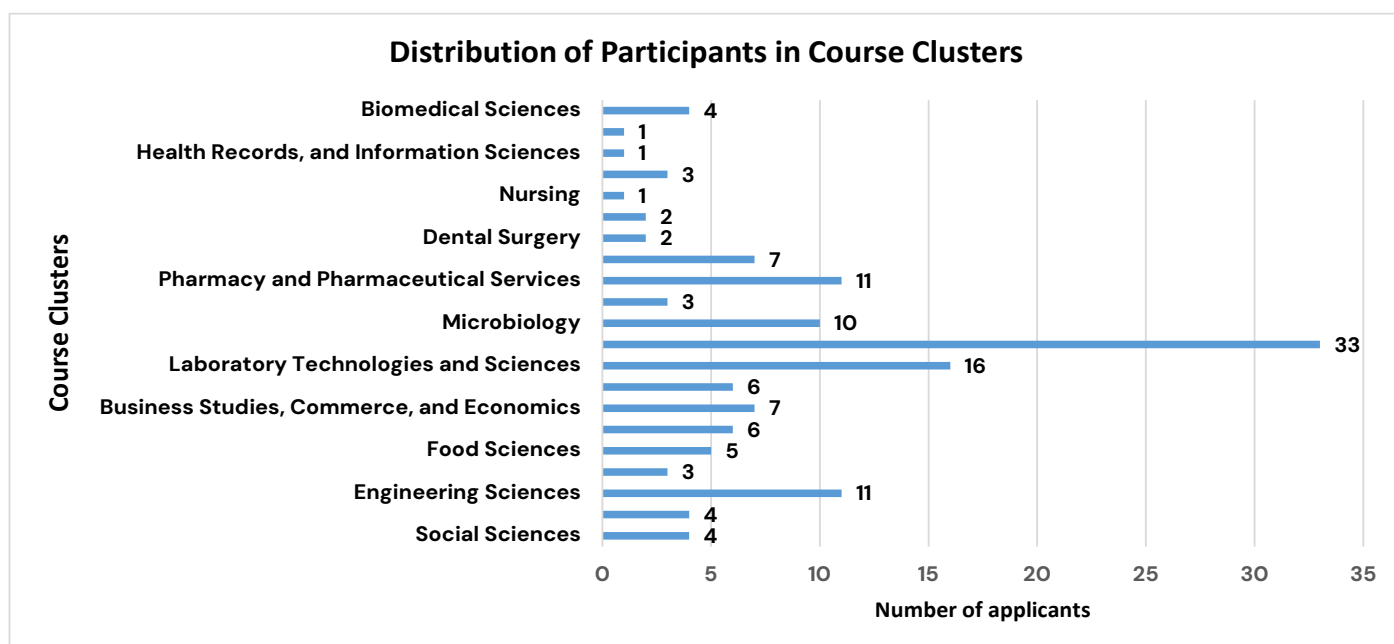


Part 2: Number of participants in your projects.

Distribution Per Country of Participants Engaged in Phase 1 of the Program



Distribution of students in Course Clusters



To get this classification, similar courses were classified into clusters in consideration of the similarity of most of the course units. This was to get representation from different professional backgrounds since multidisciplinary engagement in Antimicrobial Resistance was one of the key considerations of the program. As showcased, in the column graph above, indeed multidisciplinary engagement was attained with participants in the program being from diverse course backgrounds.

More Information on the Analysis of Program Participants can be obtained [here](#)

Influence of the Program on Change of Practices.

This indicator is useful as a useful measurement of the outcome of the project. Preliminary data obtained from Phase 1 feedback sessions structured as focused group discussions showed that:

1. 75 % of participants enrolled in the program reported intentionally adjusting their health-seeking practices to ensure rational use of antimicrobials
2. 65% of participants in the program reported to:
 - a. Engaging in intentional efforts and investing their time and resources to actively promote the rational use of antimicrobials in their local communities
 - b. Embracing best practices and advocating for the same among colleagues in their areas of practice i.e., placements, rotations, attachments, and clinical rotations to ensure that antibiotics are used rationally.

To note:

1. Since the program is still under implementation this information is not conclusive, and there are indications that the statistics may transition to more positive numbers as participants continue engaging in the program and appreciating the serious threat of AMR. A post-program evaluation which will be analyzed alongside the baseline done at the beginning of the program will offer more clear quantitative data.
2. Rational use of antimicrobials involves a lot of behavioral change, health systems strengthening and alignment, and other contextual social, economic, and political factors that are unique for different communities. Being a catalytic project, one of the end outcomes is that the participants will lead initiatives, and work that will lead to im-

proved health systems, increased political lobbying, and policy strengthening, engagement of more stakeholders in AMR, increased awareness, and subsequent behavior change which will have a huge contribution to the rational use of antibiotics in the 11 African countries engaged in the program. The extent of this can be determined in a Longitudinal Study a couple of months or year after the implementation of the programs

Influence of the Program in shifting views on Use of Antimicrobials

Phase 1 of the program had 33 participants pursuing Medicine and Surgery and 2 Dental Surgery patients who are set to become future prescribers. It also involved 11 pharmacy students who will also likely engage in antibiotic prescribing and dispensing in their career practice. This was a total of 44 students making up 32.8% of participants involved in Phase 1 of the Project. As per their curriculum, most of these students engaged in clinical rotations, attachments, and placements as part of their day-to-day training.

From preliminary data of feedback discussions and surveys to determine their takeaways from phase 1 of the program, they report having embraced best practices and advocating for the same among colleagues in their areas of practice i.e., placements, rotations, attachments, and clinical rotations to ensure that antibiotics are used rationally.

Some of the main outcomes noted were:

1. 15 medical students who were engaged in clinical rotations between October - December reported being cognizant, and more of antimicrobials prescribing patterns in their clinical teaching settings during the ward rounds.
2. After engaging in the program, they were more intrigued by reviewing patient files, and assessing whether the management of the patients was:
 - a. Informed by the prescribed investigation, and diagnosis protocols
 - b. Management with antimicrobials was as per the local or World Health Organization guidelines.
3. 6 pharmacy students who were doing their academic placements in health facilities reported having actively been involved in actively planning and implementing their health facilities' activities during World Antimicrobial Awareness Week 2022.

To note:

This data was from the total participants who reported engaged in clinical placements and rotations during Phase



1 of the program extracted from qualitative feedback sessions. The other medical students were not involved in clinical placements at the time of implementation of phase 1 of the program representing thus it is not comparative.

Research Outputs

The project is ongoing and no peer-reviewed article has been published so far. However, there is ongoing progress as indicated below:

1. 1 manuscript was submitted to JAC-AMR, a peer-reviewed journal focusing on the use of gamification as an education platform to promote awareness of AMR. Awaiting feedback from peer review.
2. We are working on a manuscript to assess the level of multidisciplinary engagement in past AMR work and research efforts
3. We are working on qualitative exploratory research to determine the best strategies to apply when engaging tertiary students in AMR

Movement Building and Establishment of Credible Networks on the African Continent

The project has a dual approach since it aims at building a movement at the tertiary institutions level from different disciplines and countries thereby equipping emerging early career professionals with information and skill-sets for mitigating Antimicrobial Resistance while at the same time ensuring that this directly replicated into active grassroots engagements at their local levels.

Achieving this requires building a diverse, and resilient network of relationships among the students, key AMR experts from diverse backgrounds, and organizations that surpass existing boundaries. This is aimed at:

1. Creating greater connectivity, information sharing, and learning
2. Promoting collective action through advocacy, education, and the formation of new AMR initiatives.
3. Building a community well aligned in championing AMR interventions and making AMR priority issues among relevant stakeholders

Key Outcomes Attained in regards to networking



Influence of the Program on the AMR Policy and Research Landscape

1. Invitation to join, and support AMR committees spearheaded by the National AMR Secretariat in Kenya, and the invitation to conferences to present our work, and also share expertise on how to best engage tertiary level students and early career professionals in AMR.
2. Development partners such as USAID MTAPS under Management Sciences for Health have also expressed interest in collaborating with us in a potential AMR program targeting healthcare students in Kenya through a systems approach. USAID MTAPS works closely with the government of Kenya through the Ministry of Health, and the Ministry of Agriculture to set up Antimicrobial and Diagnostic Stewardship structures within the country.
3. United Nations Children's Fund (UNICEF) which is a key developmental partner of the Government of Kenya recognized our work during World Antimicrobial Awareness Week and expressed a lot of interest in working with us.
4. Potential Partnership with Mediae to improve visibility of AMR in Kenya. Media work revolved around a delicate balance of entertainment and education producing pioneering and inspirational media to supply vital knowledge in forms that can be widely accessed and understood. Their programs have impacted millions of people in Kenya and East Africa, and they have a huge influence on policies on health and social issues.

Catalytic Impact of the Program

1. Supported and inspired 18 teams engaged in the program (details provided in part 1) to plan, and actively implement their AMR projects within their local communities as a baseline for establishing more sustainable projects, initiatives, and organizations in their different countries
2. Inspired and supported students from Zimbabwe in their AMR work. Currently advising them in establishing a youth AMR organization in their country, Young Stewards Against Antimicrobial Resistance, to drive kickstart more AMR interventions in their country.
3. Inspired participants in the program from Burkina Faso to establish and register an AMR organization, Soldats de l'Antibioresistance, to improve engagement of tertiary level students and early career professionals in AMR within Francophone African countries in who are at times left out due to language barriers.
4. Inspired, and currently supporting students, and early career professionals from a Latin American organization, Je-Latino America to kickstart AMR programs within their organization.
5. Supported the restructuring of Manchester University AMR Short Course, and its incorporation as a free-access course in the University's Blackboard platform. Currently, the program participants are taking the course as a pilot.



Participants from Zimbabwe



Key Capacity Building Interventions in

Phase 2 of the Program

Phase 2 of the AMR Ambassadors Program aimed at equipping the fellows of the program with transferable skills such as project management, leadership, teamwork, and sustainable relationship building to build the competency and capacity in initiating and implementing AMR mitigation interventions in a best practice approach. This phase of the program also aimed at nourishing their creative and critical thinking skills to ideate and develop feasible innovative interventions in the AMR space that can address some of the looming gaps. The activities in phase 2 built up, and reinforced the knowledge, skills, and insights garnered in phase 1 of the program, and also to further trigger interest to pursue a career or further studies affiliated with AMR mitigation.

The phase began with a training webinar featuring various sessions:

1. **Igniting Youth Entrepreneurship in Africa: the BUILD Approach.**

The guest speaker for the session was Amy Chao, an alumni of African leadership academy and a celebrated youth entrepreneur. The training workshop can be accessed [here](#).

2. **An Introduction to the Basics of Project Management**

The guest speaker for the webinar was Rabia Khan, Strategy Advisor to SAS Africa, and founder Data Impact for Change. The training workshop can be accessed [here](#).

3. **Applying Systems Thinking in Developing Impactful and Sustainable AMR Interventions**

The guest speaker was Dr. Hyfa Ali, then Public Health Consultant, and currently Assistant Professor, Global Public Health Institute. The training workshop can be accessed [here](#).

4. **Key Aspects of Project Monitoring and Evaluation.**

The guest speaker was Rabia Khan, Strategy Advisor to SAS Africa, and founder Data Impact for Change. The training workshop can be accessed [here](#).

5. **Prioritizing an Impactful Career Choice; The Effective Altruism Approach**

The guest speakers for the training session were; Cecilia Tilli, Muhamad Putera, and Surbi Bharadwaj of the Effective Altruism Community. The training workshop can be accessed [here](#).

The fellows engaged in teams whose members had similar interests and preference working in a certain area. This information was obtained through consultations and a feedback survey with the fellows. Each team elected a team leader among themselves and delegated specific roles among the team members to ensure that each member actively participated. Each team was then paired with a mentor, an expert in the team's focus area, who supported them in ideating, and designing their project as well as connecting them with relevant stakeholders in the field, and guiding them on platforms they could share their work.

As the team's engagement continued, it was augmented by synchronous and asynchronous learning (expert lectures, remote resources, and brief assignments) on design thinking, systems thinking, business canvas model, project management (Theory of change & log frame), monitoring and evaluation, and basics on research methodologies. The entire program took place for 15 weeks, and culminated with a project pitch event to an expert panel at the end of the program where the different teams received guidance on how to improve the design of their project as well as go about its implementation.

15 major interest areas were identified by the fellows and there was a total of 15 teams in phase 2 guided by 18 mentors with some groups having 2 mentors. The mentors were experts from diverse institutions such as academia, civil society organizations, private sector, and international organizations. We were glad to have representation from some of the international organizations in the quadripartite such as World Health Organization, and Food and Agriculture Organization. One of the teams also received mentorship from the World Bank AMR team. Each team had an average of 5 - 7 members, the number was small to enable effective mentorship as well as build meaningful relationships and high-quality interactions that extend beyond the program for collaborative engagement.

The topics addressed by each team:

1. Anthropology of AMR, Behavior Change models
2. Legal Frameworks, and Policy Making, Lobbying
3. Advocacy, Politics, and Political Lobbying
4. Global Governance of AMR, Formulation, costing, Implementation, and Evaluation of National Action Plans.
5. Architecture, Design, and Building Sciences & Infection Prevention and Control
6. Computer Science, Coding, Data Sciences (AI,

Machine learning etc.). healthcare technologies.

7. Health Justice, Equity, Ethics, Access to Medicines
8. AMR communication, and leveraging on media platforms
9. Creative engagement of children, and young people in AMR
10. Food Safety, food chains, Nutrition, and food technology
11. Health Systems Strengthening, Healthcare financing, and Universal Health Coverage.
12. Antimicrobial Stewardship in healthcare and community settings
13. Antimicrobial use in Animals, Animal Health, Biosecurity, and farming systems
14. Infection Prevention, and Control
15. Diagnostic Stewardship (microbiology, sample collection, Isolation, identification, susceptibility tests, emerging technologies, and improving access to diagnostics.

Simulated Projects Awarded Grants for transition to implementation stage

1 of the 15 teams got funding to implement their simulated project. The team's phase 2 project focused on science communication. The team was led by Zakariya'u Dauda under the mentorship of Robin Berghaus, then CARB-X Communications Manager. The team received a grant from [Boston University's Scicommers Network](#) to design AMR education materials and strategies targeted towards underserved populations in Nigeria. One of the other team leaders, George Gitau, also contextualized the team's projects to Kenya's setting. He received a grant from [the Pollination Project](#), an organization in the United States, to implement a research study project focused on understanding nexus between food safety and AMR and developing and pretesting a training module for street food vendors in Nairobi, Kenya. The project is named "Kicking Superbugs out of our Food".

In-Depth Evaluation of Phase 3 of the Project

Initiatives implemented by fellows in phase 3 of the program.

Each team was offered both seed funding and technical support in terms of developing a strategy and project management to implement their project in best practice.

Name of initiative	Country	Objective	Quantitative Reach (depth of engagement varies depending on the structure of the project)
Ghana			
Project RESIST Ghana	Ghana	Establishments, and registration of a sustainable structure, non-profit entity, AWARE Ghana, aimed at capacitating tertiary students in Ghana to be active advocates in mitigation of AMR in their different institutions through a multidisciplinary approach	250
CAFA Young Ambassadors	Ghana	Establishment, and registration of an AMR club at University of Ghana, and pioneering pilot AMR mitigation community projects in Accra city, Ghana	179
Total			429
Nigeria			
Usmanu Danfodiyo University Young AMR Stewards	Nigeria	Establishment of an AMR club Usmanu Danfodiyo University to capacitate students in the university of AMR through a multidisciplinary approach, and to pilot community intervention in Sokoto	1000
AMR Stewards Club Calabar University	Nigeria	Development of an AMR academy and club at Minna University to capacitate students through a multidisciplinary approach and to initiate AMR interventions in their neighbouring university community	1963
Microwarriors AMR Initiative Nigeria	Nigeria	Developing an onsite platform, grassroot AMR outreach strategy in primary and secondary schools, and club for collaborative and multidisciplinary engagement in AMR in Nigeria	600
Flemings AMR Club University of Minna	Nigeria	Promoting sustainable engagement in AMR among students of Minna University through formation, registration, and piloting outreach activities of the club	83
Total			3646
Tanzania			

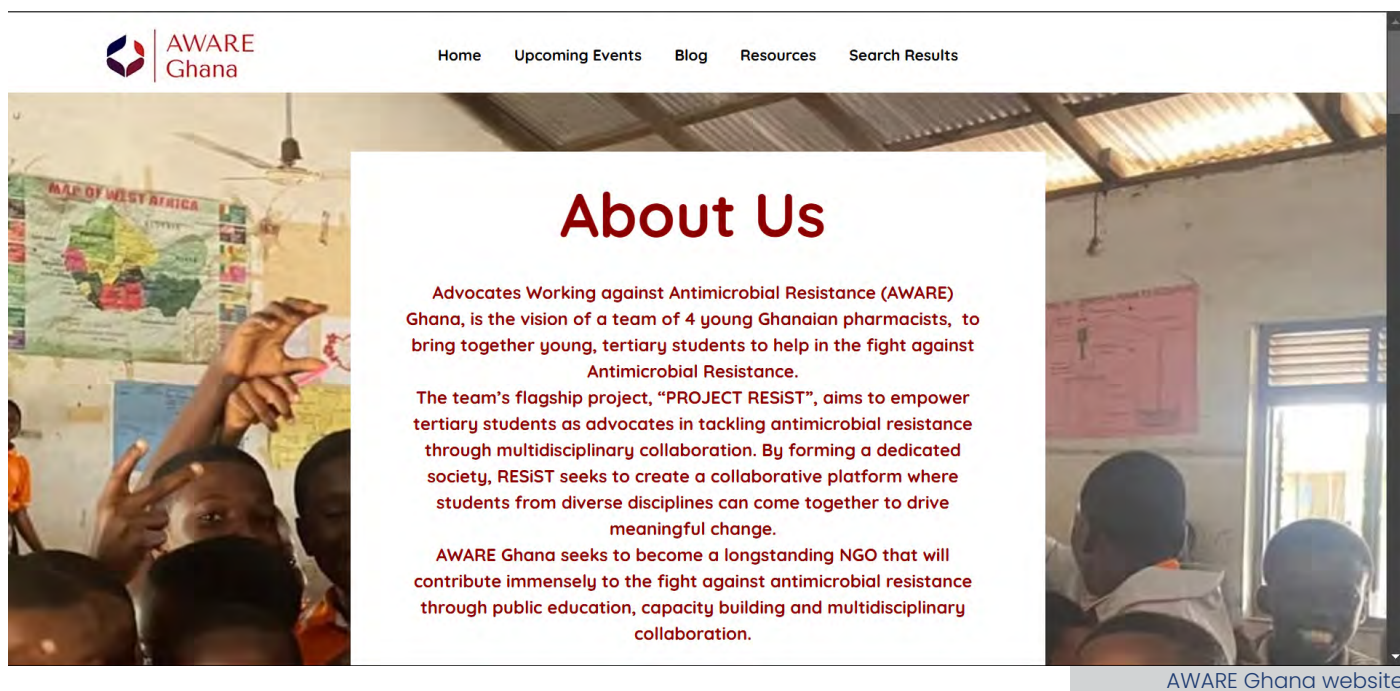
Tanzanian Workshop against Antimicrobial resistance (TAW-AMR) team	Tanzania	Piloting and Testing Innovative Approaches AMR Community Engagement in AMR in urban Areas	250
Tanzanian School Secondary AMR clubs and Handbook Project	Tanzania	Evaluating the effectiveness of an Educational Handbook and Training Protocol on AMR in Enhancing Secondary School Students' confidence and engagement in AMR Initiatives	N/A
Total			250
Kenya			
Solving Resistance AMR Team	Kenya	Implementation of a pilot that builds on the Health and Hygiene lessons in the primary school curriculum to educate students about Antimicrobial Resistance in Kenya	216
Integrating AMR studies as online unit at JKUAT University	Kenya	Pilot program aimed at developing evidence and best practices on institutionalization of AMR into the university's curriculum	49
Total			265
Uganda			
Makerere University Antimicrobial Stewardship Club	Uganda	Establishment of an AMR club Makerere university to capacitate students in the university of AMR through a multidisciplinary approach, and promote AMR mitigation interventions within the Kampala university	550
Evidence-based structured engagement of students' AMR at Busitema University	Uganda	Generating evidence/investigating motivators, factors and barriers that hinder active students' engagement in AMR	N/A
Total			550
Burkina Faso and other Francophone Countries			
Supporting Francophone AMR Youth leadership program	Burkina Faso and others	Effectively engage young people in Francophone West Africa in the fight against Antimicrobial Resistance	200
Total			200
Cameroon			
AMR Showtime Project	Cameroon	Developing and pretesting a sustainable framework on mainstream AMR media engagement	2000
Total			2000
Total			7,340

1. Project RESIST Ghana

The team's objective was to establish a sustainable structure that can enhance AMR engagement of tertiary students in Ghana. After wide consultations, and technical support, the team decided to register a non-profit entity called, Advocates Working Against AMR (AWARE) Ghana which was incorporated as a non-profit Company Limited by Guarantee on 16th August 2023. The founding team was also able to secure a pool of AMR experts to be their mentors.

After setting up the structures of the organization, the team begun conducting outreach activities in different parts of Ghana especially in the Accra region, and **has so far been able to comprehensively capacitate 250 students in Ghana.** The founders of the organization are currently strengthening their organization structure and developing a strategy to reach out to different tertiary institutions in different regions of Ghana. The team also conducted several activities such as awareness campaigns, training webinars, and a radio show during World AMR Awareness Week 2023. Currently, the team is applying for grants to scale up their work in Ghana.

Website: [AWARE Ghana](#)



AWARE Ghana website

2. Establishment of Makerere University Antimicrobial Stewardship Club in Uganda

The AMR Combatants team established a sustainable AMR club within Makerere University with sufficient structure, support and networks to promote awareness and engagement of AMR among students from different programs within Makerere University fostering multidisciplinary engagement. The founding team have also been mentoring other students in other universities within Uganda which led to the development of the Uganda Youth Consortium Antimicrobial Stewardship.

Since its registration, and acknowledgement by the university, the club has initiated several initiatives such conducting awareness activities during the WAAW WEEK. As a result of their good work, they were invited to the National AMR conference organized by National One Health Platform, and also helped organized and attended the National Inter University AMR Championship event. The club also has a dancing team for public awareness on AMR. The club's leadership are working on expanding their reach within the university and extending their education and awareness sessions to the surrounding Kampala community, and the AMR Combatants team that established the club reported gaining a lot of skills in the process. **The club currently has 50 members and has actively engaged and impacted 550 students from Makerere.** The club is now a well anchored entity in Makerere University with capacity to engage in AMR comprehensively.



Launch party for the Makerere University Antimicrobial Stewardship Club in Uganda

3. Microwarriors AMR Initiative for Nigerian Students

The Microwarriors established a virtual AMR engagement platform among Nigeria tertiary level students and early career professionals. The team also couple the virtual platform to promote remote collaborations, multidisciplinary engagement, and planning of grassroot interventions. The team also develop a structure for educating primary and secondary school on AMR, and are working on establishing clubs in secondary school in Minna where their host university, Federal University of Minna is located. The team has also managed to extend the Microwarriors online platform to University of Abuja, University of Ibadan, and Kwara State university.

The Microwarriors Initiative's Secondary School Awareness Campaign was implemented through a series of awareness and interactive workshops. The educational content was tailored for understanding of the students, and curated to enhance their engagement optimally through creative pedagogical approaches. Evaluation to inform effectiveness of the delivery approaches and improve them from findings obtained. The team is now planning on how to introduce establish AMR clubs in secondary schools in Minna town. The team also had a pilot session at one of the primary schools in Minna. The initiative now has a website to host AMR learning materials, showcase their work, and connect with relevant stakeholders. The website will also serv as a platform where interested members can join the initiative. The team to a partnership with Millenium Fellowship team at Minna university. ***So far, the team has educated 100 secondary school students and 500 members of the public.***

Link to website: <https://microwarriors.org/>



Members of the Microwarriors AMR Initiative engaging students



Members of the Microwarriors AMR Initiative engaging students

4. Usmanu Danfodiyo University Young AMR Stewards (UDUYARS) team

The UDUYARS team begun their project by building an organizational structure, and registering an AMR club at Usmanu Danfodiyo university. After its registration the club embarked on promoting understanding of proper AMR use and awareness of AMR among students studying at medical courses, those studying non-medical courses, and students in secondary schools, and those in primary schools. Different approaches and curated learning materials were used for each target group.

After the club's registration, the team went about onboarding members into the club and currently it has 98 fully reg-

istered members from different disciplines. The team also organized a series of webinars to train the newly registered members on AMR. The club has also established a partnership with the student union of Usmanu Danfodiyo university, and has also converged several AMR experts, and faculty lecturers to serve as an advisory group. Another significant achievement was that the club was accepted into the Quadripartite Multi Stakeholder Platform hosted by Food and Agriculture Organization and was invited to attend the AMR Plenary session held in Rome from 14th – 16th November. The team has also organized a social media campaign called “UDUYARS AMR Myth and Facts campaign”. The club has also organized grassroot outreaches to educate primary and secondary school in Sokoto on AMR. ***So far, the club has been able to engage 400 people in their activities and virtual through social media campaigns they have been able to reach 600 people.***

To increase the reach of their awareness efforts and members in the club, the club has partnered with the university’s press board to help publicize its activities.



Members of the UDUYARS



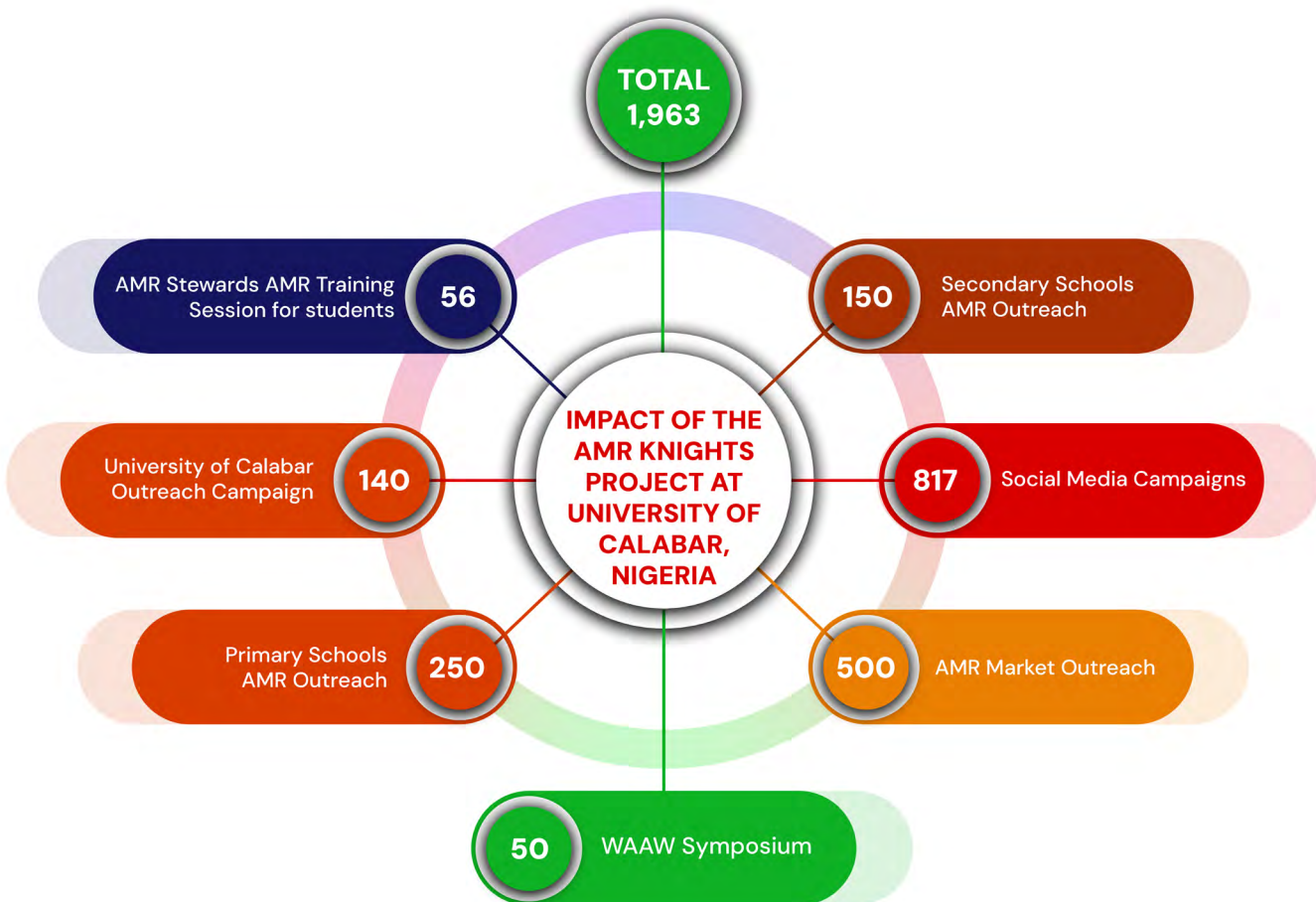
Members of the UDUYARS engaging students

5. AMR Knights Project at University of Calabar, Nigeria

The AMR Stewards club at University of Calabar project which was carried out by AMR Knights focused on creating a sustainable initiative that can generate an AMR movement at the University of Calabar in Nigeria, and the community around the university environs. The AMR knights team formed and registered the AMR Stewards Club with the university’s administration. The team also carried out a campaign inviting students at the university to join the club. The AMR Stewards team started its engagement by forming strategic partnerships with various organizations such as; Ateb Foundation, Go Clean initiative, Student Union Government of the University of Calabar, Nigerian Medical Students Association Committee on Public Health, National Association of Akwaibom Medical Students Association, and Pharmaceutical Association of Nigerian Students.

The club’s initial project was the setting up an academy to educate tertiary level students at the university about AMR in from a non-technical approach, and encourage them to join the club. This was done both physical, and virtual strategies. The AMR lessons were delivered in Pidgin English relatable with most of the students in the university. The projects sustainable and longevity comes from its registration, and recognition by university as a legal entity credited with engaging in AMR mitigation efforts within and outside the university with ability to independently source for resources.

The project versatile approach led to the different initiatives listed below and their reported reach.



Some of the feedback from the individuals engaged was evaluated through qualitative evaluation. Below is a quote from one of the beneficiaries.

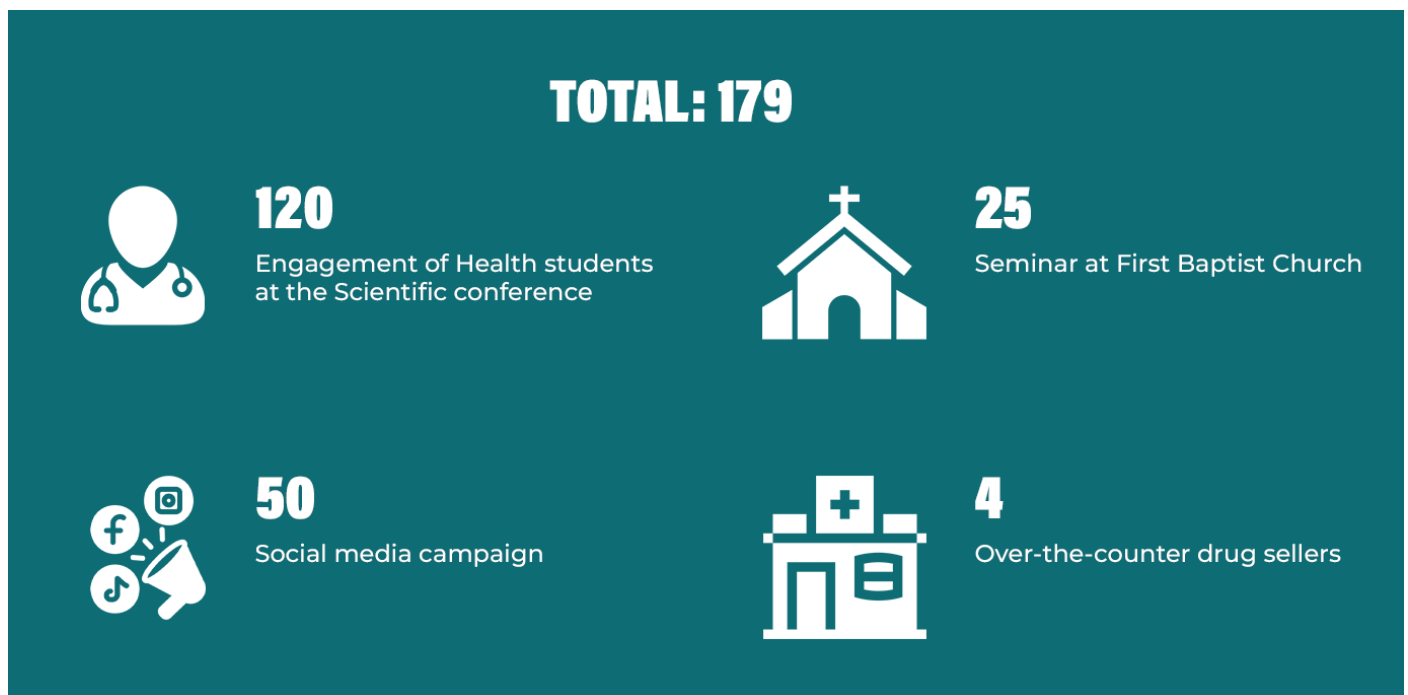
“The ongoing training has been an area of which I pick so much interest. I will be so honest that before now, I use to be a victim of abusing antibiotics especially the ampicillin. This program has been an eye opener to me for having a broader understanding of antimicrobial resistance. At the end of the program, I will ensure knowledge gained will be utilized effectively amongst my peers. Trust me a good number of us have little or no knowledge about this concept.” Dooyum Terseer, Public Health.



6. Creation of the CAFA Young Ambassadors, University of Ghana

This project had a multifaceted approach which involved formation of AMR club at university of Ghana, registration of the club within the institution, development of structures within the club such as a constitution, recruitment of members and carrying out AMR mitigation activities both in the university and in the Accra area of Ghana. Some of the target groups for the activities were; medical students at the university of Ghana, the youth by targeting churches within the Volta region of Ghana, educating pharmaceutical technicians engaged in over-the-counter sale of antimicrobials and also social media engagement. Formation of the club, its registration, and institutionalization within the university was a sustainable initiative since the club will outlive its founders and will allow continuous engagement of students at the university in AMR activities.

The pharmacies to be visited were selected through a collaborative approach with the community identifying 4 of the most frequently visited. Social media campaigns involved sharing AMR awareness messages and also sharing some of their grassroots projects to inspire other students. The church outreach projects served as a pilot to investigate how to best engage religious congregations on AMR in approaches that would promote sharing of the information with peers, friends, and the community. Below is a breakdown of the different initiatives and the reach of the engagements:



A member of the CAFA Young Ambassadors engaging a pharmacy attendant in Ghana

7. Tanzania Workshop Against Antimicrobial Resistance (TAW-AMR) Project, Dar es Salaam region, Tanzania.

The project aimed at piloting and Testing Innovative Approaches AMR Community Engagement in AMR in urban Areas in Tanzania. The project was implemented in Dar es Salaam and Pwani region. It involved piloting various AMR awareness activities to generate evidence on how to improve engagement of the community in the focus areas on AMR. The project involved engaging secondary school students, mainstream media sensitization, and campaigns in religious settings such as churches. The team was able to forge strategic partnerships with various organizations such as Afya Toon, TBC, and Azam Tv. In engaging the secondary schools, the team develop simple learning materials curated for the target audiences.

The project is being implemented using in implementation research model and the findings of the study will be critical in informing how to engage the youth in AMR among urban settings in Tanzania. In the secondary school engaged, the team collaborated with teachers, and the students in forming clubs for sustainable engagement. So far, the team has been able to comprehensively engaged and **educate 250 students from 2 secondary schools in the Dar es Salaam region.**



Highschool students listening to an AMR session facilitated by the TAW-AMR team

8. Community AMR Showtime Project and initiation of AMR education sessions at Université des Montagnes (Mountain University), Cameroon

The AMR Showtime project aimed at developing a sustainable framework that could guide on engagement of mainstream media in Cameroon. The pilot project ran from September to December 2023 featuring 12 programs, and was aired in French. In each episode a guest was invited to educate the audience, in this case, members of the public, a particular area related to AMR within the One Health realm. The guests were experts in the sessions they presided and earlier preparations were made to ensure that the information shared was easy to understand and relatable to the audience. It was an interactive session through a dialogue approach with the audience sharing feedback on their experiences in AMR. The showtime targeted the population of Bangangte locality in West region of Cameroon where the majority of the population are farmers and it has a large youthful population.

To sustain their radio program engagement, the team also comprehensively educated the journalists who support them in running the program. The team has also been educating children learning in primary schools within Bangangte town. The team has also been in discussion with the radio management on how to make the radio program permanent featuring every last quarter of the year with a team of students. Many students have shown interest in the radio show and they are being trained to ensure there is an effective transition of students who run the Radio program yearly. The showtime audio recordings are also shared in various social media platforms and WhatsApp groups to increase reach to university student in Université des Montagnes, and other students in Cameroon and other Francophone countries. There also plans to create a podcast session for Francophone audience as a legacy project for the founders of the AMR showtime. **The show has reached over 2000 members of the public.**



Community AMR Showtime Project and initiation of AMR education sessions at Université des Montagnes (Mountain University), Cameroon

9. Bugs Begone project: Integrating an AMR course into the general units' course curriculum and in healthcare students' curriculum at JKUAT University, Nairobi, Kenya

This project which is still ongoing takes a two-pronged sustainable approach. The first major project involves integration of an AMR course into the general course curriculum for all university students studying at Jomo Kenyatta University of Agriculture and Technology. The second sub-project focuses on generating evidence on the systematic approach and best practices strategies that Kenya universities can adopt when integrating AMR into their curriculum. In many tertiary level institutions in Kenya, there are several general courses that every student at the university has to pursue. Examples include: HV/AIDS course, Introduction to Entrepreneurship, Development Studies and Communication Skills.

The project began with a comprehensive needs assessment mixed-method study to determine the knowledge gap among students studying in the various departments within College of Health Sciences. Consultations were also done among various lecturers on the best pedagogical approaches that could be utilized to deliver the course. The study's finding also provided insights and informed the content and structure of the AMR course to ensure that it aligned with the student's needs and preferences. However, after consultations with the Principal, College of Health Sciences, and other senior academicians, there was a consensus to have two AMR courses. One that is very technical targeting healthcare students in the university, and one that with general concepts targeting all other students pursuing different disciplines at the university.

The institutionalization of AMR course through the general course platform will enable a wider reach of AMR educa-

tion, and will be a sustainable process. It will also serve as a pilot and a center of excellence that other universities in Kenya, and other countries can learn from. The evidence degenerated from this project will be provide a compelling case for the institutional adoption of the AMR studies, and also serve as a guiding framework on how to institutionalize AMR learning in tertiary level institutions in Kenya. As at the end of 2023, the project was at the course development stage. So far, 43 students from different disciplines in the university, 3 lectures who are experts on AMR, and 3 key administrators are being engaged (Principal College of Health Sciences, Dean of Students, and Deputy Vice Chancellor, Academic Affairs).



Members of the Bugs Begone project

10. Supporting Francophone AMR Youth leadership program started by the AMR Ambassadors Fellowship team; AJRAM

One of the teams engaged in the project from Burkina Faso, [Soldat's De Antibiotic Resistance](#), were able to strengthen their AMR organization, Actions des Jeunes contre la Résistance aux Antimicrobiens, and through the program we were able to support them financially and technically

in launching an AMR leadership program among Franco-phone countries which is a similar model to AMR Ambassadors Program. The program has 200 participants from 12 Francophone countries (Algeria, Burkina Faso, Benin, Cote d'Ivoire, Guinea, Mali, Central African Republic, Democratic Republic of Congo, Chad, Togo, Mauritania and Niger).

The program which is currently in phase 2 has 200 participants.

11. Strengthening AMR programs in primary schools in urban informal settlements in Nairobi.

Children in urban informal settlements are at a great risk of drug resistant infections due to the deplorable conditions they live in such as poor access to water, poor sanitation infrastructure and poor housing and high poverty level s which contribute to irrational use of antibiotics. The new CBC curriculum adopted in Kenya has integrated water, sanitation, and hygiene in the curriculum. The team developed age-appropriate learning materials that can supplement the WASH concepts in the CBC curriculum, educate primary school students at the selected facility and also equipped them with infrastructure such as small tanks and handwashing stations where they could practice the concepts learnt. The Solving Resistance team was assisted by volunteers who were first trained on AMR, and pedagogical approaches through a Training of Trainers (Tot) approach. To ensure sustainable engagement at the school, the team will be supported by the school' administration in starting an AMR club, and an outreach program to educate other people in the school's neighbouring community. 12 teachers were educated on AMR and guided on how they could incorporate AMR concepts into the existing WASH curriculum, and transition the theoretical skills taught into actual interventions such as water harvesting and handwashing through the tools shared. A total of 204 children from Pre-unit, PP1, PP2, Grade 1, Grade 2, Grade 3, Grade 4, Grade 5, Grade 6, and Grade 8 are involved in the project.



Participants conducting an AMR programs in primary schools in urban informal settlements in Nairobi

12. Establishment of a sustainable AMR Club, and community AMR interventions at The Federal University of Minna.

The project involved development of an AMR university campus club at Federal University of Minna Nigeria. The project aimed at developing sustainable structures of the club, registering it with the university's administration, recruiting members, training them, and initiating pilot AMR outreaches among other students within the university and the neighbouring communities. The club marked a significant milestone, where they engaged a distinguished university professor at the university who will be the club's patron. The professor will be instrumental in the club's growth enabling them collaborate with influential relevant organization, resource mobilization, and guiding the leaders of the club.

The club initial target group are the youth since they comprise a huge majority of Niger's state population. The Fleming founding team, who are soon graduating have selected a new team to lead the club's activities to ensure a sustainable transition. The team has also purchased several tools such as a sound system that will support them in their AMR campaigns in the communities.

The club is working on a model that will guide the development of AMR clubs within secondary schools in Minna city, and also support AMR interschool competitions in the Niger State. The leaders of the club are also working on an AMR club platform where different AMR clubs from other universities can collaborate in their club engagements. The club also has a presence on social media platforms; LinkedIn, and Instagram, and will begin the AMR community outreaches in the first quarter of 2024. The club has so far engaged with 83 students.

Research Projects

13. Evidence-based informed AMR of students at Busitema University

The research study is aimed to understand the factors that drive medical students to engage in extra curricular activities, and into a more specific context, AMR club's activities. The evidence generated will enable adoption of effective evidence-based strategies that can be used to drive greater student engagement such as sustainable engagement of students in AMR clubs' activities. It will also help understand establish levels of knowledge and awareness of AMR translate into students' active participation in AMR related activities, and if not, some of the underlying factors that could be undermining the correlation. Given the similar context in most universities in Uganda, and other universities in Africa, the evidence generated from the study will also be used to guide future establishment of student-led groups in other settings within the African continent. As of the end of 2023, the project was at the data collection stage.

PLOS ONE

RESEARCH ARTICLE

Medical students' knowledge, attitudes, and motivation towards antimicrobial resistance efforts in Eastern Uganda

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Abstract

Introduction

Learning beyond the classroom is important for holistic engagement in antimicrobial resistance (AMR) mitigation. Extracurricular interventions can catalyze multidisciplinary engagement and inspire innovative solutions. This study aimed to determine the knowledge, attitudes, and motivations influencing medical students' engagement in AMR Club initiatives at Busitema University, Uganda.

Methodology

This was a descriptive cross-sectional study conducted at Busitema University among undergraduate students pursuing Bachelors of Medicine and Surgery, Bachelor of Science in Nursing, and Bachelor of Science in Anesthesia and Critical care. Data collection was performed using a semi-structured, pre-tested questionnaire and administered to the participants. The Bloom's cut-off method was used to analyse the knowledge of the participants, while bivariate analysis was conducted using the chi square test. Multivariable logistic regression analysis was used to identify factors independently associated with students' engagement in AMR club activities.

Results

Of the 193 study participants, 71.5%(n) demonstrated sufficient knowledge about antimicrobial resistance (AMR), as determined using Bloom's cutoff categories ($\geq 60\%$ classified as sufficient, $<60\%$ as insufficient), with an average knowledge score of 68.18% (SD ± 16.12).

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14. Tanzania School Secondary AMR clubs and Development of Handbook Project. Kilimanjaro region, Tanzania.

As of December 2023, this was an ongoing project aimed at evaluating the effectiveness of a collaboratively designed educational Handbook and training protocol on AMR in enhancing secondary school students' confidence and engagement in AMR Initiatives such as active participation in AMR clubs within the institution. The project being implemented through an implementation research design involves development of handbooks through a collaborative process where key stakeholders are engaged. It also involves development of a training protocol that can be used to deliver the AMR learning in through an approach that fosters understanding, confidence, ownership of the problem, and active engagement among secondary school students in Tanzania. The pilot project is being implemented at Mawenzi Secondary School, a mixed-gender day and boarding school with a diverse and high students population located in Kilimanjaro region. The handbook and training protocols will be improved based on the findings from the pilot, which will be followed by a scaleup and piloting in other schools with different characteristics in other regions of the country to improve the knowledge base, develop curated learning materials, and build a case for institutionalizing AMR learning in secondary school institutions in Tanzania with the pre-tested materials.



Tanzania's prime minister viewing the Misondo handbook during a summit in Tanzania (Right), Program participants and other students (Left).

Misonondo



Coverpage of the already published handbook, "Misonondo"



CONCLUSION

The 18 months of the program were marked by immense learning and further catalyzed the growth of a youth movement of tertiary level students, and early career professionals keen on implementing AMR interventions. The program has helped us generate a lot of evidence and insights on how we can sustainably engage many more young people within the African continent in their different institutions and local communities. We hope to apply the lessons in future programs. We extend appreciate to the program advisors for the critical support in designing and delivering the program. We also appreciate all the trainers and mentors who provided valuable lessons to the fellows. A sincere gratitude to the fellows for investing a huge portion of their time for 18 months to engage in the program. We hope you gained immense lessons from the program.

Footnote: These AMR Ambassadors Program for Young People was implemented by [Students Against Superbugs Africa](#) through a grant for the [Foundation to Prevent Antibiotic Resistance](#). The project was implemented by the following staff from Students Against Superbugs Africa: [Daniel Warungi](#), [Anastacia Sebbowa](#), [Gathai Mundia](#), and [Jimmy Nkaiwuatei](#). The program's advisory council consisted of: [Rabia Khan](#), [Dr. Francesca Chiara](#), [Edwin Panford](#) and was supported by over 40 AMR experts that can be accessed [here](#) from the program's website.

We thank all organizations featured below for supporting implementation of the program.



AMR AMBASSADORS PROGRAM FOR YOUNG PEOPLE IN AFRICA

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